IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF WISCONSIN

URIEL PHARMACY HEALTH AND WELFARE PLAN; URIEL PHARMACY, INC.; HOMETOWN PHARMACY; AND HOMETOWN PHARMACY HEALTH and WELFARE BENEFITS PLAN, on their own behalf and on behalf of all others similarly situated, Plaintiffs, v. ADVOCATE AURORA HEALTH, INC. and AURORA HEALTH CARE, INC., Defendants.	Case No. 2:22-cv-610 **FILED UNDER SEAL**

PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION TO EXCLUDE THE EXPERT TESTIMONY OF JEFFREY J. LEITZINGER

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INTRODUCTION

Advocate Aurora Health, Inc. and Aurora Health Care, Inc. (together, "AAH") imposed an anticompetitive restraint called the "All Plans" clause on Wisconsin employers, unions, and local governments (the "Class"). As AAH's own executives described it, AAH [redacted] including [redacted] that required all AAH facilities to [redacted] regardless of whether they actually provided the best value. Ex. 4, AAHEDWI00450873 at 882; Ex. 5, AAHEDWI00756315 at 318. To quantify the extent to which the All Plans clause inflated the prices paid by the Class, Plaintiffs proffered the expert testimony of Dr. Jeffrey J. Leitzinger. Dr. Leitzinger is a veteran antitrust economist with 40 years of relevant experience, including as the plaintiffs' expert in the case against Sutter Health, which challenged similar hospital contracts and settled for $575 million. Here, Dr. Leitzinger calculated that the All Plans clause raised AAH's prices by [redacted] and harmed all or virtually all Class members.

Dr. Leitzinger's opinions readily satisfy Rule 702 and *Daubert*. They are based on standard econometric tools, established economic theory, and extensive record evidence. As in *Sutter* and dozens of other antitrust cases, he used a multiple regression model that compared AAH's prices to those of two "yardsticks"—[redacted] He chose those two systems as benchmarks because of their similarities to AAH's facilities in Wisconsin, based on record evidence ([redacted]), the report of Plaintiffs' clinical quality expert ([redacted]), and economic data about the markets in which AAH and the yardsticks operate. Dr. Leitzinger controlled for many other variables that might explain the pricing variations between AAH and

the benchmarks. He applied this model to claims data with over 58 million hospital procedures over more than 4 years, concluding that the All Plans clause raised AAH's prices by [redacted] and that all or virtually all Class members paid overcharges. These results, which he cross-checked with other econometric analyses and record evidence, were statistically significant at the highest levels, and they will aid the jury in assessing the impact of AAH's anticompetitive conduct.

AAH provides no basis for excluding Dr. Leitzinger's opinions. AAH does not challenge his credentials or deny that his yardstick regression is the type of analysis courts regularly permit in antitrust cases. Instead, AAH raises the sorts of "arguments about how the selection of data inputs affect the merits of the conclusions produced by an accepted methodology [that] should normally be left to the jury." *Manpower, Inc. v. Ins. Co. of Pa.*, 732 F.3d 796, 808 (7th Cir. 2013). Longstanding precedent, from the Supreme Court on down, establishes that "[a]n economist need not account for every possible variable in order for a regression analysis to be admissible." *Fond Du Lac Bumper Exch., Inc. v. Jui Li Enter. Co., Ltd.*, 2016 WL 756568, at *3 (E.D. Wis. Feb. 26, 2016) (Adelman, J.) (citing *Bazemore v. Friday*, 478 U.S. 385, 400 (1986)).

AAH's criticisms also fail on their own terms, including because AAH offers no quantitative evidence for many of its claims, despite having submitted 300 pages of economic expert testimony. For example, AAH argues that Dr. Leitzinger chose the wrong yardsticks (but doesn't say which he *should* have used), and that he should have controlled for certain variables in different ways (but doesn't show that *any* of these proposed changes would change his results). Dr. Leitzinger anticipated and explained why his approach was more appropriate than what AAH's expert suggested. Many of AAH's assertions—[redacted]—are rebutted by *AAH's own statements*, both in ordinary course documents and under oath. AAH is

free to make its arguments, but it must use "the traditional and appropriate means of attacking" an opposing expert—"[v]igorous cross-examination" at trial and "presentation of contrary evidence." *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 596 (1993).

BACKGROUND: DR. LEITZINGER'S REGRESSION MODEL AND OPINIONS

Dr. Leitzinger opined that the All Plans clause (*i.e.*, the "Challenged Conduct") raised prices by approximately [redacted] that Plaintiffs and the Payors in the Class[1] suffered aggregate damages of [redacted], and that all or virtually all Class members suffered impact by paying overcharges. Dr. Leitzinger's econometric analysis confirms extensive record evidence showing that the Challenged Conduct increased prices and that these increases broadly affected the market and Class members. *See* Ex. 1, Leitzinger Rep. ("LR1") ¶¶19-62; Ex. 2, Leitzinger Rebuttal ("LR2") ¶¶120-34. His opinions were corroborated by two other experts whose opinions Defendants do not challenge: Dr. David Dranove, a preeminent health care economist and professor at Northwestern University, and Dr. Patrick Romano, a physician, researcher, and professor at University of California, Davis School of Medicine. LR2 ¶¶30, 60, 63, 101 (citing these reports); Pls.' Class Cert. Mem., ECF No. 218, §II (citing expert and record evidence). They are also consistent with the opinions of *Shaw* expert Dr. Louis F. Rossiter. As that consensus reflects, Dr. Leitzinger's expert opinions are based on industry-standard econometric tools, accepted economic theory, and reliable data and documentary evidence. They readily satisfy Rule 702 and *Daubert*.

I. Well-Accepted Methodologies Show the Challenged Conduct Inflated Prices

Dr. Leitzinger began by reviewing extensive evidence "that the effect of the Challenged

[1] "Payors" include (1) commercial health insurers that offer coverage for fully-insured plans, and (2) self-funded Plan Sponsors that pay claims on behalf of their members, typically employees and their families. Ex. 3, Dranove Rep. ("DR1") ¶9 & n.1.

Conduct was inflated prices." LR1 ¶19. This evidence includes [redacted] *Id.* ¶¶20-25, 41-42.

Dr. Leitzinger then performed statistical "yardstick" regression analyses to quantify the extent to which the price inflation was caused by the Challenged Conduct. *Id.* ¶¶26-40. A yardstick regression is an econometric analysis widely used in antitrust cases to estimate the effects of challenged conduct. The analysis compares the prices being studied to the prices of a similar "yardstick" seller, while controlling for the salient factors other than the challenged conduct that could account for price differences. The remaining difference is the effect of the challenged conduct. *Id.* ¶¶28-30. *See* ABA Section of Antitrust Law, *Proving Antitrust Damages: Legal and Economic Issues* (3d. ed. 2017) ("ABA Treatise") at 93-94.

To study AAH-WI prices (the prices inflated by the Challenged Conduct), Dr. Leitzinger used as a yardstick [redacted]. LR1 ¶31.[2] [redacted], *e.g.*, [redacted] LR2 ¶¶82-83; LR1 ¶31. [redacted]. LR1 ¶31. [redacted] *Id.* ¶¶35-37. These controls were informed by Dr.

[2] Aurora, based in Wisconsin, [redacted] LR1 ¶10. [redacted]

Leitzinger's study of the markets at issue and academic economics literature, as well as decades of experience designing regression analyses to assess impact and damages in antitrust cases.

Dr. Leitzinger's regression analyzed claims data produced by Network Vendors for 58 million procedures representing over $25 billion in payments. *Id.* ¶32. Using this massive data set of actual hospital prices, Dr. Leitzinger compared AAH-WI's prices for each procedure during the Class Period to [redacted] prices for the same procedures and, after controlling for other factors that may affect prices, determined the extent to which the Challenged Conduct inflated prices. *Id.* ¶¶35-40. Dr. Leitzinger calculated that the Challenged Conduct increased AAH-WI's prices by [redacted], with statistical significance at the [redacted] level of confidence. *Id.* ¶40 & at Ex. 4. The model contains a very high "adjusted R-squared" of [redacted] (measured on a scale of 0 to 1), which means that [redacted]. *Id.* ¶61. In econometric terms, that [redacted] *Id.*

Dr. Leitzinger ran an alternative yardstick regression that corroborated his findings. The alternative yardstick compared AAH-WI's prices to those at [redacted] that did not use the All Plans provision. *Id.* ¶¶43-45. Dr. Leitzinger chose the [redacted] yardstick because [redacted]." *Id.* ¶43; LR2 ¶91. The model showed a [redacted] overcharge, statistically significant at the [redacted] level of confidence. LR1 ¶45 & at Ex. 6. This finding corroborates the finding from the [redacted] yardstick and likely

understates the Challenged Conduct's effects because [redacted] prices are likely inflated by the "umbrella effects" from being located near AAH-WI. *Id.* ¶43 & n.71.

II. Dr. Leitzinger Used Standard Methodologies to Calculate Class Damages

Dr. Leitzinger calculated aggregate Class damages of [redacted]. *Id.* ¶¶46-48. He first multiplied the [redacted] overcharge percentage by the amount paid by Class members in the available data, yielding [redacted] in overcharges. *Id.* ¶46. Second, because two small Network Vendors did not produce claims data, Dr. Leitzinger calculated the total overcharges attributable to purchases under those associated contracts by applying the [redacted] overcharge to those Network Vendors' claims volume. *Id.* ¶¶46-47. The total damage amount is [redacted]. *Id.* ¶48.

III. All or Virtually All Class Members Were Injured

Dr. Leitzinger concluded, based on overwhelming common evidence, "that all or virtually all Class members suffered antitrust injury (that is, at least some overcharges)." *Id.* ¶9.c; *id.* ¶¶49-64. He first relied on record evidence that, even setting aside his statistical work, proves Class-wide impact. Specifically, [redacted]. *Id.* ¶¶49-54; LR2 ¶¶120-21.

Dr. Leitzinger confirmed the finding of widespread impact with a well-established statistical methodology called "in sample prediction." The in-sample methodology provided additional statistical evidence of an overcharge for [redacted] of Class members—*i.e.*, evidence they paid more than the price the regression predicts would have been charged in a world without the Challenged Conduct. LR1 ¶¶56-60. Dr. Leitzinger found this high level of Class-wide impact even after incorporating adjustments AAH's expert baselessly suggested. *See* LR2 ¶¶6-14, 61-71, 127-34. Further supporting the Class-wide impact finding, [redacted]

[redacted] LR1 ¶55 & at Table 2; *see* LR2 ¶¶66-71 (refuting criticisms). "In sum, all of the statistical and record evidence in this case [led Dr. Leitzinger] to conclude that all or nearly all Class members were impacted." LR2 ¶134.

ARGUMENT

Dr. Leitzinger's opinions satisfy Rule 702 because they are based on standard econometric tools, accepted economic theory, and reliable evidence. They will assist the jury in determining the extent to which AAH's anticompetitive conduct inflated prices across Eastern Wisconsin. AAH's motion offers no basis for exclusion. Instead, AAH raises a hodgepodge of arguments that courts long have made clear go to weight, not admissibility—arguments about yardstick comparability, omitted variables, and interpretation of evidence. Many of those arguments are purely lawyer-driven, with no support in the record or AAH's own expert reports. AAH may use "the traditional and appropriate means of attacking" an opposing expert—"[v]igorous cross-examination" and "presentation of contrary evidence," *Daubert*, 509 U.S. at 596—but none of its arguments warrant preventing the jury from hearing Dr. Leitzinger's testimony. His regression "methodology is commonly accepted as a way of estimating damages in antitrust cases, … he accounted for numerous factors other than anti-competitive conduct in an attempt to isolate the effects of the alleged anti-competitive conduct, his analysis is based on [millions] of pieces of transactional data, and he has implemented and run his methodology." *Fond du Lac Bumper Exchange, Inc. v. Jui Li Enter. Co., Ltd.*, 2016 WL 3579953, at *11 (E.D. Wis. June 24, 2016) (Adelman, J.). His analysis thus "serves as a sufficiently reliable method for establishing that damages can be proven on a class-wide basis." *Id.*

I. AAH's Efforts to Liken This Case to *Aspirus* Fail

AAH cites *Team Schierl Companies v. Aspirus, Inc.*, 2025 WL 3687939 (W.D. Wis. Dec.

19, 2025), an astounding 32 times, but it is inapposite. *Aspirus* involved different legal claims in different healthcare markets; Dr. Leitzinger employed different analyses; and the record evidence here dispels the *Aspirus* court's two reasons for excluding Dr. Leitzinger's yardstick model there.

Aspirus involved an alleged price-fixing conspiracy between Aspirus and dozens of independent outpatient providers in a large swath of rural, north-central Wisconsin. *Id.* at *3. The allegedly inflated prices were charged by a diverse array of providers ranging in size from large health systems to individual private practices and ranging in quality from top to bottom. *Id.* This meant there was no one system that could be used as a benchmark; instead, Dr. Leitzinger used a composite benchmark consisting of *all* Wisconsin providers outside of Aspirus's service area. *Id.* By contrast, Dr. Leitzinger's yardstick models here each compare AAH-WI to just one other hospital system ([redacted]), and he explains in detail why both selections are appropriate. *See infra* Argument §II.A.

The *Aspirus* court excluded Dr. Leitzinger's testimony for two reasons. First, the court held that his model did not account for quality, and Dr. Leitzinger admitted quality might explain some of the price differences between Aspirus and the yardstick providers. 2025 WL 3687939, at *7. Second, there was evidence that some of the yardstick providers engaged in the alleged price-fixing, yet Dr. Leitzinger did not re-calculate with the "tainted" providers removed. *Id.* at *6.

Neither of these defects exists here.[3] As to quality, [redacted] LR1 ¶31c & n.42 (quoting Ex. 6, Skogsbergh Tr. 166). AAH's designee explained

[3] In addition, the *Aspirus* court erred in holding that these flaws in *Aspirus* rendered Dr. Leitzinger's model fundamentally unreliable; as the cases cited below make clear, the court should have admitted the testimony and allowed the defendant to make its "omitted variable" and "tainted yardstick" arguments to the jury. *See infra* Argument §II.A.2.

that [redacted] and that [redacted] [redacted] including "[redacted] Ex. 6, Skogsbergh Tr. 41:4-14, 204:7-10; *see also* LR1 ¶58 (noting Defendants do not dispute that AAH-WI and [redacted] have similar quality). Unlike in *Aspirus*, Plaintiffs here submitted an unrebutted expert report on clinical quality finding no meaningful difference in quality between AAH-WI and [redacted]. LR1 ¶31(d)(viii). This evidence, along with other record evidence discussed in the reports and below, supports Dr. Leitzinger's conclusion that quality differences cannot explain the differences between AAH-WI's and [redacted] prices, or between AAH-WI's and [redacted] prices. *Id.* ¶¶31, 60; LR2 ¶¶55-60. Nothing like this quality evidence existed in *Aspirus*, so AAH ignores it.

With respect to "taint" in the yardstick, it was central to *Aspirus*'s holding that a key insurer (Anthem) testified that five providers in the yardstick engaged in the same price-fixing conduct. *Aspirus*, 2025 WL 3687939, at *5. But here *the same Anthem witness* testified that "[redacted]." Ex. 33, Lathers Tr. 272:9-15. [redacted] Ex. 34, Squier Tr. 122:8-123:17. Likewise for the [redacted] yardstick, AAH's executive in charge of contracting stated that [redacted] Ex. 26, AAHEDWI00573958 at 958, and AAH's former CEO went even further in AAH's 30(b)(6) testimony: [redacted] Ex. 6, Skogsbergh Tr. 257:8-259:24; Ex. 7, Stip. of Designated 30(b)(6) Testimony. The record evidence makes clear that the yardsticks here are free of any taint. *See infra* Argument §II.A.2.

AAH repeatedly implores the Court to unthinkingly conclude that *Aspirus* governs this case. It does not—both the challenged conduct and Dr. Leitzinger's yardstick models

fundamentally differ, and the evidence the *Aspirus* court found crucial points in the opposite direction here. AAH's heavy reliance on an inapt case underscores the weakness of its arguments. *See, e.g.*, *In re Nw. Airlines Corp. Antitrust Litig.*, 197 F. Supp. 2d 908, 914 (E.D. Mich. 2002) ("[T]he admissibility or exclusion of [an expert's] testimony in other cases has no bearing whatsoever on the Court's inquiry in the present case.").

II. Dr. Leitzinger Reliably Measured the Effect of the Challenged Conduct

Dr. Leitzinger used a yardstick regression analysis, "a proven statistical methodology." *Manpower*, 732 F.3d at 808. *Fond Du Lac*, 2016 WL 756568, at *1 (noting, in antitrust class action, "[m]ultiple regression analysis … is a widely accepted economic methodology"); *Paper Sys. Inc. v. Mitsubishi Corp.*, 193 F.R.D. 601, 615-16 (E.D. Wis. 2000) (Adelman, J.) (crediting regression in certifying antitrust class). He applied that method with "soundness and care," *Schultz v. Akzo Nobel Paints, LLC*, 721 F.3d 426, 431 (7th Cir. 2013), explaining his methodological choices and conforming to accepted econometric principles.

A. Dr. Leitzinger's Yardsticks Are Proper and Reliable

AAH says that Dr. Leitzinger's yardsticks purportedly "differ from Aurora Wisconsin in fundamental ways" due to "a pre-existing difference in prices and payment structures" before 2005 (when the Challenged Conduct began), and that the yardsticks were purportedly "tainted by the same conduct that Plaintiffs claim is anticompetitive." Mot. at 11. Both arguments are factually unsupported and legally insufficient to justify excluding Dr. Leitzinger's testimony.

1. Dr. Leitzinger's Yardsticks Are Comparable and Reliable

Experts are given considerable leeway in selecting a yardstick. "[A] perfect comparator is not required," and "whether the proxy is reasonably comparable is usually a question for the trier of fact." ABA Treatise at 94-95 ("[O]nly a reasonable approximation is necessary for damages." (citing cases)). If the expert offers a "'rational connection' between the data and [his] choice of

… benchmark," a factual dispute about the degree of comparability is "'a matter to be explored on cross-examination.'" *Vanzant v. Hill's Pet Nutrition Inc.*, 2023 WL 6976988, at *10 (N.D. Ill. Oct. 23, 2023); *see Lees v. Carthage Coll.*, 714 F.3d 516, 526 (7th Cir. 2013); *In re Keurig Green Mountain Single-Serve Coffee Antitrust Litig.*, 2025 WL 354671, at *11 (S.D.N.Y. Jan. 30, 2025) (collecting cases). Thus, an expert's choice of yardstick is grounds for exclusion only if it is "so deficient that the comparison is manifestly unreliable and cannot logically advance a material aspect of the proposing party's case." *In re Blood Reagents Antitrust Litig.*, 2015 WL 6123211, at *22 (E.D. Pa. Oct. 19, 2015). Beyond those rare cases, "courts have been reluctant to determine comparability before trial" because "it involves weighing facts." *In re Prograf Antitrust Litig.*, 2014 WL 7641156, at *3 (D. Mass. Dec. 23, 2014).

As set forth above (Background §II), Dr. Leitzinger detailed his reasons for choosing [redacted] and [redacted] as yardsticks, including that both are comparable to AAH-WI in numerous material respects. Contrary to AAH's suggestion, he did not simply compare AAH-WI to the yardsticks and attribute any price difference to the Challenged Conduct—he added numerous control variables to account for other potential, lawful explanations for price differences. *Id.*[4] Given those reasoned explanations, AAH's comparability quibbles go to weight, not admissibility. Moreover, AAH's comparability arguments are factually unsupported.

AAH's "preexisting price differential" argument fails. AAH challenges both benchmarks because, AAH says, there were price differences between them and AAH-WI when the Challenged Conduct began in 2005. Mot. at 12. Like AAH's other arguments, even if true this would go to weight rather than admissibility. *See, e.g.*, *Moehrl v. Nat'l Ass'n of Realtors*,

[4] Given these explanations, *City of Rockford v. Mallinckrodt ARD, Inc.*, 2024 WL 1363544 (N.D. Ill. Mar. 29, 2024), on which AAH heavily relies, *e.g.*, Mot. at 10, 13-14, is inapposite. That *was* the rare case where the expert's choice of yardstick was "fundamentally unreasoned," because he did not make "any effort" to ensure comparability. *Id.* at *20.

2023 WL 2683199, at *9 (N.D. Ill. Mar. 29, 2023) (argument about differences that "predate the adoption of the Challenged Restraints" goes to weight). Regardless, the studies AAH says show that its early 2000s prices were above market do not support that claim, and AAH is wrong that any pre-existing differences are unaccounted for.

First, AAH is wrong that Dr. Leitzinger did not account for pre-existing price differences. Dr. Leitzinger's model controls for numerous economic and structural conditions that existed both before and during the Challenged Conduct. LR1 ¶¶35-37. Those conditions are not controlled for in the studies on which AAH relies, and to the extent those conditions led to pre-existing price differences, AAH makes no showing that Dr. Leitzinger's controls do not account for them. *See* LR2 ¶24.

Second, Dr. Leitzinger correctly concluded that AAH's supposed evidence of pre-existing price differences is unreliable. *See id.* ¶¶15-24. Regarding [redacted], AAH relies on two sources that [redacted] *See* Mot. at 12 (citing Defs.' Ex. 24, AAHEDWI01645637 at 662-63, 665). But AAH itself, in contemporaneous emails, called [redacted]" and an "[redacted]" Ex. 28, AAHEDWI01587785 at 786-87; *see* Ex. 27, AAHEDWI00311317. As Plaintiffs detail in their motion to exclude defense expert Jonathan Orszag, ECF No. 212 ("Orszag *Daubert*"), [redacted]

[5] In AAH's cited case, *CDW LLC v. NETech Corp.*, 906 F. Supp. 2d 815 (S.D. Ind. 2012), the excluded expert relied on "a group" of benchmarks "in the Great Lakes region" averaged together and failed to "compare the Indianapolis branch to the actual experience of any other business entity." *Id.* at 824. [redacted] makes the same error. *See* LR2 ¶¶17-20. By

[redacted]. *See* Orszag *Daubert* (ECF 212) at 2-3, 8-9, 11-14. Because of these flaws, [redacted]'. Yet AAH now asks the Court to rely on that very same Mercer Study to throw out Dr. Leitzinger's entire model. [redacted]: the 2003 presentation does not say anything reliable about AAH-WI's 2003 prices relative to [redacted]. *See* LR2 ¶¶17-20, 23; *see also* Orszag *Daubert* (ECF 212) at 2-3, 8-9, 11-14 (detailing additional flaws).

AAH's second document is a 2005 GAO Report (Defs.' Ex. 54 ("GAO Report")) that none of its experts even cited, much less analyzed, meaning that Dr. Leitzinger had no reason to discuss it in his rebuttal report. There is a reason no expert in this case considered the GAO Report worth mentioning: [redacted], it does not control for many relevant factors or say anything about AAH specifically. In a press release issued soon after the GAO Report, AAH noted that "[redacted]." Ex. 8, AAHEDWI01571755 at 755-56 (emphasis added); *see also* Ex. 9, AAHEDWI01585711 ([redacted]). [redacted]: the GAO Report does not control for the factors Dr. Leitzinger controlled for, *e.g.*, insurer bargaining power, place of service, funding type, and it does not even control for factors the GAO Report itself says might explain regional price differences. *Compare* GAO Report 35 (identifying factors), *with id.* at Table 11 (listing controls).[6]

Neither of AAH's two cited studies ([redacted] or the GAO Report) reliably supports AAH's arguments about pre-existing price differences, let alone justifies exclusion.

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contrast, Dr. Leitzinger appropriately compared AAH-WI directly to AAH-IL.

[6] The GAO Report also looks at price data for only one insurance plan type, whereas Dr. Leitzinger considers prices for all plan types. GAO Report 47. This was another issue [redacted]" Ex. 10, AAHEDWI01585715.

As to the [redacted] benchmark, AAH relies on a report from Milliman that purportedly "showed that a pre-existing rate difference existed between Aurora and the Ascension system." Mot. at 12 (citing Defs.' Ex. 25, AAHEDWI01428224). Dr. Leitzinger and Dr. Dranove have shown this report does not support the proposition. LR2 ¶¶21-23; Ex. 11, Dranove Rebuttal Rep. ("DR2") ¶¶179-84.[7] The Milliman report "[redacted] LR2 ¶21. In addition, the reported percentages for [redacted] are facially incomplete—there is a "comparison between a subset of 2-3 [redacted] inpatient hospitals (formerly called [redacted]) and AAH WI [but] [redacted] is a system with over a dozen Wisconsin hospitals." *Id.* "[D]ifferences in payment levels between a subset of [redacted] hospitals and AAH WI in 2003 do not support a claim of preexisting price differences as to all AAH WI hospitals and [redacted] *Id.*

AAH's "capitation" argument fails. Most hospital services are billed on a fee-for-service basis, with Payors paying set rates for each service performed. In contrast, in capitated health plans, Payors pay a fixed, per-member fee each month that covers a specified list of services in any quantity. LR1 ¶33. Services not listed are billed separately, on a fee-for service basis. *Id.* Capitation does not exist in Wisconsin but is used by a small percentage of plans [redacted]—so to ensure an apples-to-apples comparison of only fee-for-service prices, [redacted] from his regression. *Id.* ¶33; Ex. 12, Leitzinger Tr. 192:18-193:10. AAH does not argue that he should have included them.

[7] For example, Dr. Dranove showed that "[redacted]." DR2 ¶182.

AAH instead faults Dr. Leitzinger for failing to examine whether the use of capitation by [redacted] might have "exerted downward pressure" there on fee-for-service prices, which *might* explain Dr. Leitzinger's overcharge findings. *See* Mot. at 14-15. Yet AAH makes no effort to show that it does—in their 300 pages of expert testimony, AAH's experts did not even *mention* capitation. This makes AAH's claim that Dr. Leitzinger "failed to re-evaluate his [capitation analysis] in the face of evidence from defendants' expert[s]," *id.* at 15 (quoting, of course, *Aspirus*), extremely misleading. AAH's argument is precisely the kind of "unsubstantiated assertion" on which "a defendant may not rest an attack." *Hemmings v. Tidyman's Inc.*, 285 F.3d 1174, 1188 (9th Cir. 2002); *In re Linerboard Antitrust Litig.*, 497 F. Supp. 2d 666, 678 (E.D. Pa. 2007) ("Merely pointing to economic conditions that may affect the dependent variable is not enough to call into question the reliability of an econometric model."); *Vanzant*, 2023 WL 6976988, at *10 (so long as benchmark not "chosen arbitrarily," challenges to choice of benchmark appropriate for cross-examination but do not justify exclusion).

AAH's speculation also contradicts its own 30(b)(6) testimony. AAH's designee was asked to name *all* the reasons "[redacted], other than the Challenged Conduct. The designee did not mention [redacted] *See* Ex. 6, Skogsbergh Tr. 97:9-18 (designated as 30(b)(6) testimony by stipulation). The AAH executive in charge of managed care contracting in Wisconsin and [redacted]. *See* Ex. 13, Klein Tr. 367:11-21. Their testimony is thus [redacted]. Consistent with that testimony, AAH's former Wisconsin contract negotiator referred to [redacted]. Ex. 30, Muzi Tr. 46:16-24.

AAH's capitation argument also ignores that Dr. Leitzinger's [redacted] regression compared [redacted] without capitation and still finds a large, statistically significant overcharge. LR1 ¶45. Not only does AAH's capitation argument not even apply to this Wisconsin-only model, but Dr. Leitzinger's cross-state comparison to [redacted] refutes AAH's speculation that capitation could explain the overcharge.[8]

Lastly, the *Sutter Health* court rejected a nearly identical argument that Dr. Leitzinger's yardstick in that case was invalid because of different rates of capitation among the yardstick hospitals. Ex. 14, Guerin Calvert 2d Corr. Expert Decl. ¶¶222-23. The court treated such speculation exactly as the Court should here: "[T]here are an infinite number of variables one *might* employ to model explanations aside from the [challenged conduct]…. [W]ithout evidence that a given selection is inconsistent with practice in the discipline, a court [will not] second-guess an expert's selection." Ex. 15, Order Granting Class Cert., at 27-28 (emphasis in original).

2. Dr. Leitzinger's Yardsticks Are Not "Tainted"

To force a comparison to *Aspirus*, AAH redefines the Challenged Conduct to mean any kind of "system-wide contracting," and then argues that the yardsticks are tainted. Mot. at 15-16. That is wrong. First, there is a big difference between "system-wide contracting" and the All Plans provision. System-wide contracting is simply where a hospital system seeks to include all its providers in a given network, typically by offering a lower price. All Plans is a contractual provision requiring [redacted]

[8] To cover for its lack of evidence, AAH again cites the 2005 GAO Report, which states that areas with less capitation have higher prices. Mot. at 14 n.9. But the Report does not suggest that capitation causes lower prices; it uses capitation only as a proxy for *insurer negotiating power*, which it concludes may affect prices. *See* GAO Report 3 ("[W]e used HMO capitation as a proxy measure for … ability to negotiate prices."). Dr. Leitzinger controls for insurer negotiating power, LR1 ¶37b; *infra* Argument §II.B.1.d, and thus fully accounts for this.

Neither [redacted] nor [redacted] had contractual language that, like All Plans, [redacted]." LR1 ¶5.[9] Anthem's corporate representative testified that normally when an insurer tries to create a "tiered" network, it would not look at a system as a whole, but instead, would "look at the providers individually" and determine whether "they practice at a very high level but are efficient in their cost." Ex. 33, Lathers Tr. 67:5-68:17. While she named [redacted] as a system for whom some (but not all) top-performing providers could be placed in a network's top tier, she testified that "with the language in the Aurora contract, we could not rate those individual providers. We couldn't really even really rate Aurora because Aurora needed to be in Tier 1 at all times." *Id.* This was caused by All Plans, and "[redacted] *Id.* 272:9-15. Neither did [redacted], as [redacted] head of contracting confirmed: [redacted] Ex. 32, Anderson Tr. 177:13-16; *see also* Ex. 6, Skogsbergh Tr. 185:10-13 [redacted] Ex. 26, AAHEDWI00573958 at 958 (AAH executive stating that [redacted]).

AAH provides *no* evidence that either AAH-IL or [redacted] had All Plans, and thus, that the yardsticks are tainted. AAH cites system-wide contracts for the yardstick hospitals, *see* Mot. at 15-16 & nn.10-11, but none of these contracts has a provision akin to All Plans, *i.e.*, [redacted]

[9] Similarly, and contrary to AAH's mischaracterization (Mot. at 15), Plaintiffs' liability expert, Dr. Dranove, did *not* define Challenged Conduct as merely system-wide contracting but instead "[redacted]" DR1 ¶11 (emphasis added).

[redacted] DR2 ¶156 & nn.247-50; *id.* at Table B.2. Otherwise, AAH cites contracts from Network Vendors whose members are not in the Class or Dr. Leitzinger's data sets, and therefore could not "taint" his model. LR1 ¶¶6, 8, 17, 46.[10]

B. AAH's "Omitted Variable" Arguments Do Not Warrant Exclusion

"An economist need not account for every possible variable in order for a regression analysis to be admissible." *Fond Du Lac*, 2016 WL 756568, at *3. "While the omission of variables from a regression analysis may render the analysis less probative than it otherwise might be, it can hardly be said, absent some other infirmity, that an analysis which accounts for the major factors must be considered unacceptable as evidence." *Id.* (quoting *Bazemore*, 478 U.S. at 400); *Ploss v. Kraft Foods Grp., Inc*., 637 F. Supp. 3d 561, 576 (N.D. Ill. 2022) (collecting Seventh Circuit cases). Experts can disagree about the best way to measure something as complex as hospital prices; those disagreements are left for the jury.

Contrary to AAH's suggestion, Mot. at 8, the 2023 amendment to Rule 702 did not change this long-established law. *See Sater v. Repub. Servs. of Ind. Transp. LLC*, 2026 WL 872361, at *2 (N.D. Ind. Mar. 30, 2026) (amendment did not invalidate any Seventh Circuit precedent). The amendment notes that not *every* challenge to expert testimony goes to weight, but it confirms that once the court finds the expert "has a sufficient basis" for his opinions to assist the jury, "any attack by the opponent will go only to the weight of the evidence." Fed. R. Evid. 702 advisory committee's note (2023); *accord Manpower*, 732 F.3d at 808.

[10] Even if the benchmarks were tainted (they are not), this Court and others have found that plaintiffs' yardsticks need not be entirely free of challenged conduct, as the existence of challenged conduct in the yardstick would increase prices in the yardstick and so result in lower damages, which benefits the defendant, not plaintiffs. *See Fond Du Lac*, 2016 WL 756568, at *2 ("Even if his benchmark period contains some anti-competitive conduct, it would only render his overcharge estimate conservative."); *In re Keurig*, 2025 WL 354671, at *34 (collecting cases). The *Aspirus* court's decision to depart from this consensus was wrong and based on its improper crediting of defense testimony on a disputed factual issue about the challenged conduct's effects.

1. Dr. Leitzinger Accounted For All Major Variables

Dr. Leitzinger accounted for all four factors AAH claims are missing from his model. *See* Mot. at 18-24. Dr. Leitzinger (1) controlled for quality through his choice of yardstick; (2) controlled for reputation in exactly the way the Seventh Circuit has advised; (3) explained why controlling for "willingness to pay" would have been econometrically inappropriate and why he controlled for hospital competition in a different way; and (4) controlled for insurer bargaining power with a control variable. At best, AAH quibbles with *the way* Dr. Leitzinger accounted for these factors, not whether he did, but such arguments "go[] to the probative weight of the analysis rather than to its admissibility." *Manpower*, 732 F.3d at 808; *see Ploss*, 637 F.Supp.3d at 576 (collecting cases). AAH offers no evidence that its preferred approach would eliminate Dr. Leitzinger's overcharge finding, much less produce a more reliable model. "[A] party cannot successfully challenge the admissibility of a regression analysis by simply pointing to a laundry list of possible independent variables that were not included." *Resco Prods. v. Bosai Mins. Grp.*, 2015 WL 5521768, at *5 (W.D. Pa. Sep. 18, 2015).[11]

a. Quality

AAH argues that Dr. Leitzinger's regression is flawed because it "does not include any control variable for quality." Mot. at 19. A defendant, however, must "make a showing that the factors it contends ought to have been included would weaken the [overcharge] showing." *Sobel v. Yeshiva Univ.*, 839 F.2d 18, 34 (2d Cir. 1988). AAH makes no such showing. It does not identify any "quality" variable it says Dr. Leitzinger should have included, and it does not show that adding such a variable would eliminate the overcharge finding. Absent any "evidence that an

[11] The requirement that a defendant substantiate an assertion of error is not inconsistent with plaintiffs' overall burden to show that the proffered opinion is reliable. Plaintiffs must establish reliability by a preponderance of the evidence. Fed. R. Evid. 702. A preponderance standard weighs *evidence*, and a bare assertion that a variable is missing and would matter is not *evidence*.

omitted variable … is likely to affect the result of the regression analysis," *In re Polypropylene Carpet Antitrust Litig.*, 93 F. Supp. 2d 1348, 1365 (N.D. Ga. 2000), AAH's argument fails.

Regardless, Dr. Leitzinger's model *does* control for quality through its choice of benchmarks, rather than as a separate "control variable." Ex. 12, Leitzinger Tr. 225:13-226:4 ("[redacted]."); LR2 ¶55. Control variables are needed only to account for major *differences* between the treatment and control group. *See* ABA Treatise at 93; *see also* LR2 ¶¶81-84. AAH's own expert said: "The goal is to … find [a yardstick] as similar as possible and to make appropriate adjustments to take into account any *remaining differences*." Ex. 16, Orszag Tr. 82:17-21 (emphasis added). Here, no separate variable was needed because the record evidence "[redacted] LR1 ¶39.

AAH does not dispute that it is proper to control for quality by selecting a yardstick with similar quality, but claims (incredibly) that Dr. Leitzinger's quality assessment was "based on anecdotal evidence." Mot. at 20. Dr. Leitzinger's quality assessment rests, first, on the Expert Report of Dr. Romano—the only quality expert in the case—who opined that the quality of care at AAH-WI was similar to [redacted] and who also concluded, based on his experience and extensive literature, that quality differences do not drive prices. Ex. 17, Romano Rep. ("RR1") ¶¶2-10, 41, 50. AAH did not move to exclude Dr. Romano's report, did not proffer a quality expert, and does not mention his name in its brief. An unrebutted analysis built on extensive data by a leading clinical quality expert is not "anecdotal" simply because AAH wishes it didn't exist.

Dr. Leitzinger also based his assessment on *Defendants' own 30(b)(6) testimony*: AAH's CEO, speaking for the company, testified that differences in rates between AAH-WI and [redacted]

[redacted] LR1 ¶31c & nn.42 (quoting Ex. 6, Skogsbergh Tr. 166). He further testified that [redacted] and that [redacted] including [redacted] *Id.* ¶31d (quoting Ex. 6, Skogsbergh Tr. 41:4-14, 204:7-10).

Similarly, for his [redacted] yardstick, Dr. Leitzinger did not need an explicit control variable for quality because [redacted] *Id.* ¶43. These quality metrics were not "anecdotal," *contra* Mot. at 20, but quantitative measures from the [redacted]. *Id.* ¶43 n.75. AAH's experts did not dispute Dr. Leitzinger's assessment that [redacted] and AAH-WI are similar in quality and offered no quality metrics of their own.

AAH notes that Dr. Leitzinger used a separate "quality" variable in the *Sutter Health* case, Mot. at 20-21, but that made sense because the yardstick there was not, as here, a hospital system of similar quality. The *Sutter Health* yardstick included 342 different hospitals of varying quality. *See* Defs.' Ex. 57, ¶¶55, 63; *cf. Blue Cross & Blue Shield United of Wis. v. Marshfield Clinic*, 152 F.3d 588, 594 (7th Cir. 1998) (discussing need for quality variable when comparing one hospital to the "statewide average"); *see also Aspirus*, 2025 WL 3687939, at *6 (same).

Finally, Dr. Leitzinger's decision to control for quality by selecting yardsticks of similar quality is bolstered by the other experts here and in the *Shaw* case. Prof. Rossiter examined the same evidence and likewise concluded that his regression controlled for quality by using [redacted] and [redacted] as yardsticks. *See* Ex. 18, Rossiter Tr. 124:8-17, 134:5-21, 160:16-163:1. Dr. Romano agreed: [redacted]

[redacted] Ex. 19, Romano Rebuttal ¶29.

b. Reputation for Quality

AAH argues that Dr. Leitzinger's regression should be excluded because it does not include a control variable for "reputation." Mot. at 21-22. This argument has the same flaws as the last one. AAH offers no evidence that including a "reputation" variable would eliminate the overcharge finding and does not even identify any "particular variable" Dr. Leitzinger should have included. *Sobel*, 839 F.2d at 34. AAH offers no evidence that [redacted]—have different reputations in the first place. If anything, AAH-WI has a *worse* reputation: AAH's CEO testified that [redacted] Ex. 6, Skogsbergh Tr. 41:4-12.

Second, Dr. Leitzinger controlled for reputation in the way prescribed by the Seventh Circuit in *Marshfield*, 152 F.3d at 588. The Court explained that it is important to control for reputation when analyzing a hospital's price *per patient* (which is what the *Marshfield* plaintiff measured) because a hospital with a better reputation may attract sicker patients who need more procedures, raising the average price per patient. *Id.* at 594. Here, however, Dr. Leitzinger does not analyze price *per patient*—nor does AAH say he should—but rather, he analyzes price *per procedure*, which is the same for each patient regardless of how many procedures are needed. LR1 ¶39; *see Marshfield*, 152 F.3d at 594 (noting that expert should have analyzed "price per service"). Thus, any reputation-driven differences in patient mix "would have no effect on [Dr. Leitzinger's] analysis." LR1 ¶39. *Marshfield* supports Dr. Leitzinger's methodology.[12]

[12] AAH claims that in *Aspirus*, Dr. Leitzinger "recognized that a provider's reputation for providing high-quality care can affect rates." Mot. at 21. However, as Dr. Leitzinger explained in his deposition, when he [redacted]

c. Willingness To Pay

AAH incorrectly argues that Dr. Leitzinger's model is unreliable because it does not use "willingness to pay" ("WTP") as a control. While WTP is one valid measure of hospital market power when used properly, Dr. Leitzinger was correct not to use it as a control in his regression. As explained by Dr. Dranove—who co-created WTP (DR1 ¶110)—the WTP for AAH-WI is inflated by the Challenged Conduct, and "when attempting to measure a program's causal effect, it is inappropriate to control for factors that are themselves caused by the program." DR2 ¶203 & n.321. Accordingly, "[t]o estimate the effect of the Challenged Conduct on prices, it would not make sense to control for [WTP]." *Id.* ¶203. AAH ignores this and offers no basis to disbelieve Dr. Dranove about how to use his own measure reliably.

Instead of using an inappropriate WTP variable, Dr. Leitzinger used a different measure—"Patient Flow HHI"—to control for the competitive conditions faced by each hospital system. LR1 ¶37c; LR2 ¶65. Patient Flow HHI uses zip-code-level market share data to quantify how much competition each hospital system faces within its service area, which in turn may affect each system's bargaining power. *Id.* Thus, contrary to AAH's claim that Dr. Leitzinger's model does not capture cross-state differences in competitive conditions, Mot. at 22, Patient Flow HHI does exactly that; it controls for the conditions facing each system's facilities.

Patient Flow HHI is used extensively in the economic literature for ***exactly this purpose***, with higher HHI (*i.e.*, less competition) associated with higher prices. *See* LR1 ¶37c n.60 (citing studies); Ex. 20, Ghiasi et al., *The Impact of Hospital Competition on Strategies and Outcomes of Hospitals*, J. OF HEALTH CARE FIN. 44(2) (Dec. 2017) (literature review finding the "majority

[redacted] Ex.12, Leitzinger Tr. 247:4-16. As already explained, every expert who addressed the issue of quality in this case agreed there is no meaningful difference between AAH-WI and the yardstick hospital systems.

of studies (about 88%) used [HHI] to measure hospital competition"). Furthermore, *AAH's own expert here*, Mr. Orszag, used Patient Flow HHI in his price regression in the *Sutter Health* litigation. Mr. Orszag testified that Patient Flow HHI is "an appropriate measure to use as a measure of competition," Ex. 22, *Sidibe* Trial Tr. at 4205, and that the literature is "indifferent" between HHI and WTP, *id.* at 4211. Another example is *Rozema v. Marshfield Clinic*, 977 F. Supp. 1362 (W.D. Wis. 1997), where, as here, the defendant argued that a price regression did not reliably control for market power. The court rejected the argument given the expert's use of "a HHI [] variable that measures the relative distribution of market shares." *Id.* at 1373, 1381.

Because Dr. Leitzinger's approach is well-grounded in the literature and the caselaw, exclusion on this basis would be improper. *See Rutledge v. Walgreen Co.*, --- F.4th ---, 2026 WL 2015284, at *10 (2d Cir. July 13, 2026) (holding "the [district] court went beyond its proper role as gatekeeper by excluding experts whose testimony was consistent with the methodologies actually employed in their field").

AAH's quibbles with Patient Flow HHI go to weight and not admissibility, *Manpower*, 732 F.3d at 808, but are unfounded regardless. Patient Flow HHI is built from market share data, *see* LR1 ¶37c, and AAH counsel's unscientific and unsupported suggestion to instead use uncalibrated market share numbers, Mot. at 22, contradicts the literature (which extensively uses HHI), AAH's expert's past work (which used HHI), and the caselaw cited above (which approved HHI). Across five expert economists in this case and *Shaw*, none of them suggested using market share instead of HHI as AAH's counsel now floats. AAH's criticism of HHI also rings hollow because in the very next section of its brief, [redacted] tals. *See* Mot. at 23-24 & n.13.

AAH also "conducted no robust test" to show that including WTP or a direct "market share" measure would have affected the regression's overcharge finding. *FHFA v. Nomura Holding Am., Inc.*, 104 F. Supp. 3d 441, 504 (S.D.N.Y. 2015). It offers only a hypothetical about "a small provider that obtains a similar portion of claims from the same ZIP codes in which [AAH-WI] operates," Mot. at 22, but it provides no evidence that its hypothetical bears any resemblance to the facts here. Where, as here, "an expert reliably applies a scientifically accepted methodology on an issue that is reasonably subject to debate, it is for the jury to decide the opinion's correctness." *Rutledge*, 2026 WL 2015284, at *19.

d. Insurer Concentration

AAH says "Dr. Leitzinger's model warrants exclusion because it does not control for insurer concentration." Mot. at 23. It argues that [redacted] is dominated by a single insurer, [redacted] with an [redacted] share and purportedly such strong bargaining leverage that it can demand lower prices, and that this explains the price difference between the two states. *Id.*

This argument is meritless. Dr. Leitzinger accounted for bargaining leverage with an explicit control variable, "Network Vendor Share," that measures each insurer's market share. This variable behaves precisely as AAH says it should: "[redacted]" LR2 ¶52; *see* LR1 ¶37b. AAH eventually recognizes as much, retreating to a narrower position in a footnote. [redacted]—in fact, the very HHI variable it claimed was insufficient two pages earlier. Mot. at 23-24 & n.13. AAH cites nothing for the proposition and its experts do not support it. *See* Defs.' Ex. 7, Orszag Rep. ¶85 (discussing insurer concentration and market shares but not taking position in AAH's brief); *cf.* Leitzinger Tr.

188:25-189:6 (explaining why he chose insurer share over insurer HHI).

* * *

In sum, a court should "not strike an expert report simply because the expert did not rely on the particular assumptions or data [the opposing party] thought was necessary. Those issues are more properly addressed through 'vigorous cross-examination [and] presentation of contrary evidence.'" *Am. Soc'y for Testing & Mats. v. Pub. Resource Org., Inc.*, 2016 WL 7839128, at *2 (D.D.C. Sept. 21, 2016) (quoting *Daubert*, 509 U.S. at 596); *see Von Duprin LLC v. Major Holdings, LLC*, 12 F.4th 751, 772 (7th Cir. 2021) (similar). Dr. Leitzinger addressed each factor AAH disputes and made reasoned methodological choices that multiple other experts endorse. AAH's bare assertions and "what-ifs" do not support exclusion.

III. AAH's "False Positive" Argument is Baseless and Does Not Justify Exclusion

AAH's argument that Dr. Leitzinger's model produces "false positives" is based on supposed "placebo" tests run by Mr. Orszag. As detailed in Plaintiffs' Orszag *Daubert*, ECF 212 at 17-25, these "placebo" tests are unreliable and inadmissible, and thus do not provide any basis to exclude Dr. Leitzinger's opinions.

Even if they were admissible, Mr. Orszag's flawed tests do not undermine Dr. Leitzinger's reliability. Courts reject *Daubert* arguments based on "false positive" results where, as here, plaintiffs have evidence that the "placebo" groups may have been tainted. *See* Orszag *Daubert* at 19-20 (showing that placebo groups were tainted[13]). For example, in *Mr. Dee's Inc. v. Inmar, Inc.*, 2021 WL 4224720 (M.D.N.C. Sept. 16, 2021), the court rejected a "false positive" argument because "Plaintiffs have identified means by which anticompetitive conduct could have tainted" the placebo transactions. *Id.* at *22. The court did not find that the placebo groups

[13] Unlike taint in an overcharge regression's yardstick, which merely makes the overcharge estimate conservative (*i.e.*, lower), taint in a "placebo" makes it impossible to treat the results as a "false" positive.

transactions *were* tainted, but just that plaintiffs put forth evidence they may have been, which was enough to send the expert disagreement to the jury. *Id.* Other courts have held the same.[14] AAH, in contrast, cites no case excluding an expert on the basis of alleged "false positives."[15]

Mr. Orszag's "placebo" tests also are unhelpful because he did not properly select his placebo hospitals. Whereas Dr. Leitzinger selected yardsticks that he ensured were comparable to AAH-WI, *supra* at Argument §II.A.1; LR2 ¶¶74-75, 79-84, Mr. Orszag failed to consider, let alone show, that his placebo hospital systems were sufficiently comparable to the [redacted] and [redacted] yardsticks—and indeed, the three systems differ on several dimensions. Orszag *Daubert* at 20-23; LR2 ¶¶59, 72-92 & nn.73, 75, 84, 91. Because Mr. Orszag's "placebo" test treats all the uncontrolled differences between the placebo groups and the yardsticks as part of the purported false positive "overcharge," there is no way to know whether his result is a "false" positive. *See* LR2 ¶¶80, 86-88. As Mr. Orszag previously acknowledged, comparing dissimilar hospitals without controlling for their differences will "likely reveal price differences that have nothing to do with the challenged conduct." Orszag *Daubert* at 21.

AAH flouts established econometrics by arguing that because Dr. Leitzinger's model cannot be indiscriminately applied to other hospitals, "Dr. Leitzinger does not control for all factors affecting rates unrelated to the Challenged Provisions." Mot. at 25–26. There's a reason AAH cites nothing, not even its own experts, for this proposition: it is wrong. Price regressions

[14] *See City of Phila. v. Bank of Am. Corp.*, 2023 WL 6160534 (S.D.N.Y. Sep. 21, 2023); *In re EpiPen Mkt., Sales Pracs. & Antitrust Litig.*, 2021 WL 2577490, at *23 (D. Kan. June 23, 2021); *In re Packaged Seafood Prods. Antitrust Litig.*, 332 F.R.D. 308, 326 (S.D. Cal. 2019); *In re Mushroom Direct Purchaser Antitrust Litig.*, 2015 WL 5767415, at *14 (E.D. Pa. July 29, 2015).

[15] The courts denied motions to exclude in *U.S. v. Mire*, 725 F.3d 665 (7th Cir. 2013), and *Kleen Prods. LLC v. Int'l Paper*, 2017 WL 2362567 (N.D. Ill. May 31, 2017). AAH also cites *In re Rail Freight Fuel Surcharge Antitrust Litig.*, 725 F.3d 244 (D.C. Cir. 2013), but there, the D.C. Circuit remanded for consideration of a "false positive" argument, and the district court denied the *Daubert* motion. *In re Rail Freight Fuel Surcharge Antitrust Litig.*, 292 F. Supp. 3d 14, 58 (D.D.C. 2017); *see Mr. Dee's*, 2021 WL 4224720, at *21-22 (distinguishing *Rail Freight*).

are not one-size-fits-all formulas that automatically apply to every hospital in America. *See* LR2 ¶¶78-89; Ex. 12, Leitzinger Tr. 202:13-204:20, 208:2-210:16, 221:1-224:22. They are designed for the specific comparison being tested. *Id.*; Orszag *Daubert* at 22-23. A regression comparing AAH-WI to [redacted] will look different from one comparing AAH-WI to a rural hospital in Alabama—each regression would require different designs and controls. *See* Ex. 16, Orszag Tr. 167:14-18, 170:24-175:14 (agreeing with this proposition); *see also* LR2 ¶¶78-89. Courts thus reject "false positive" arguments that apply regression models in ways they were "not designed to be used." *Green Mountain*, 2025 WL 354671, at *56.

AAH argues that because Dr. Leitzinger declined to endorse Mr. Orszag's placebo exercise, his model is not "testable." Mot. at 26. But the "testability" question is whether a model is *capable of* being objectively tested, not whether Mr. Orszag's placebo exercise does so. *Zenith Elecs. Corp. v. WH-TV Broad. Corp.*, 395 F.3d 416, 419 (7th Cir. 2005). The Seventh Circuit has said that a regression like Dr. Leitzinger's is testable and objective. *Id.*; *see Ultima Servs. Corp. v. U.S. Dep't of Agric.*, 2023 WL 3211860, at *8 (E.D. Tenn. May 2, 2023) (same).[16]

Even if Mr. Orszag's "false positive" analysis were admitted, Plaintiffs have raised substantial "questions with a foundation in the record to mitigate the explanatory power of [the] false positive analysis," so it "at most goes to [] weight." *Mushroom*, 2015 WL 5767415, at *14; *accord EpiPen*, 2021 WL 2577490, at *23.

IV. AAH's Remaining Arguments Fail

A. Dr. Leitzinger's BCBS IL Data Processing is Reliable

AAH says Dr. Leitzinger "misreads" [redacted] data, purportedly using the wrong field

[16] AAH faults Dr. Leitzinger for not naming a suitable placebo test alternative on the spot at deposition, Mot. at 26, but *Daubert* does not require this. Regardless, Dr. Leitzinger performed numerous other robustness checks for his models. LR1 ¶¶60, 63; LR2 §§II, V, VIII.

to calculate amounts [redacted] paid to AAH. Mot. at 27. But Dr. Leitzinger used the very "eligible amount" field that [redacted] told Plaintiffs should be used. LR2 ¶6 (citing Ex. 24, [redacted] Data000001 (questions sent to [redacted]) and Ex. 25, [redacted] Data000004 ([redacted]). AAH provides no basis to require Dr. Leitzinger to ignore what [redacted] said about its own data. *See id.* ¶¶7-8, 14.[17]

Even if accepted, AAH's argument would not justify exclusion because Dr. Leitzinger also provided calculations using the field AAH says should be used, which yielded damages of [redacted] and [redacted] LR2 ¶¶9-13 & at Exs. 5A, 5B. Thus, even if the jury ultimately decides Mr. Orszag's data treatment is preferable, the jury will have impact and damages opinions based on that treatment to guide their decision. There is certainly no basis to exclude any of these calculations that incorporate Mr. Orszag's preferred data treatment.[18]

B. Dr. Leitzinger's Damages Extrapolation is Reliable

Dr. Leitzinger's 58-million-claim line data set did not include every single claim paid during the Class Period. The largest Network Vendors produced claims data—all of which went into Dr. Leitzinger's model—but two small Network Vendors, accounting for just 3% of Class payments, did not produce claims data. LR1 ¶47 & n.77. So Dr. Leitzinger extrapolated, using

[17] *See Manpower*, 732 F.3d at 808 ("[A]rguments about how the selection of data inputs affect the merits of the conclusions produced by an accepted methodology should normally be left to the jury."); *Corzo v. Brown Univ.*, 2025 WL 2753400, at *7 (N.D. Ill. Sept. 29, 2025) (same); *Walsh Constr. Co. II, LLC v. Lexington Ins. Co.*, 2026 WL 1140255, at *4 (N.D. Ill. Apr. 28, 2026) (citing *Manpower* for same proposition post-amendment to Rule 702).

[18] *See, e.g.*, *In re JUUL Labs, Inc., Mktg. Sales Pracs. & Prods. Liab. Litig.*, 609 F. Supp. 3d 942, 1014-15 (N.D. Cal. 2022) (denying *Daubert* motion where expert's reply included "further analysis … in response to defendants' criticism," to incorporate" additional factors); *Cason-Merenda v. Detroit Med. Ctr.*, 2013 WL 1721651, at *8 (E.D. Mich. Apr. 22, 2013) (similar).

straightforward math, from the data he had to estimate damages for this additional 3% of payments. *Id.* ¶¶47-48. He used AAH's own documents to identify [redacted] in Class payments not already reflected in the data. Dr. Leitzinger applied the [redacted] overcharge to that figure, yielding [redacted] in additional damages. *Id.* ¶¶47-48. Such extrapolation is common and widely accepted,[19] and it is no basis for exclusion given the flexibility Plaintiffs have to prove damages in this antitrust case. *See, e.g.*, *Loeb Indus., Inc. v. Sumitomo Corp.*, 306 F.3d 469, 490 (7th Cir. 2002). Even if the Court were to exclude these additional damages, this would merely reduce damages from [redacted] to [redacted]n. *See* LR1 ¶¶47-48; *id*. at Exs. 5A, 5B.[20]

C. Dr. Leitzinger's Two-Step Analysis is Reliable and Admissible

AAH's challenge to Dr. Leitzinger's two-step analysis, Mot. at 30, is based on its flawed yardstick challenge and fails for the same reasons. The "two-step method has been 'broadly accepted' as a reliable means to show antitrust impact across a class." *Corzo*, 2025 WL 2753400, at *5 (citing cases). The reliability of Dr. Leitzinger's two-step analysis was further confirmed by his robust bootstrap analysis which found "[redacted]." LR2 ¶¶132-33.[21]

CONCLUSION

Plaintiffs respectfully request that the Court deny AAH's motion.

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[19] *See, e.g.*, *In re Urethane Antitrust Litig.*, 768 F.3d 1245, 1251-52 (10th Cir. 2014) (permitting expert's antitrust damages estimate by extrapolating overcharge estimate using "sample data from roughly 50% of class sales"); *Jones v. Varsity Brands, LLC*, 2024 WL 967653, at *11-12 (W.D. Tenn. Mar. 6, 2024) (similar).

[20] If the Court excluded Dr. Leitzinger's extrapolated damages and ruled that AAH's BCBS IL arguments must be credited, damages would be [redacted]. LR2 ¶10 & at Ex. 5A.

[21] Leitzinger's bootstrap analysis is not untimely. "[T]he very purpose of a reply report [is] to refute a defendant's expert's arguments and to provide further support, rather than abandoning, one's initial opinions." *Kleen Prods. LLC v. Int'l Paper*, 306 F.R.D. 585, 592 (N.D. Ill. 2015) (denying motion to strike analysis included in damage expert's reply report). Here, Dr. Leitzinger's bootstrap analysis refutes Mr. Orszag's flawed criticisms. LR2 ¶¶128-33.

Dated: August 3, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on August 3, 2026, I caused a true and correct copy of the foregoing, with redactions for information designated as confidential, to be filed with the Court via the CM/ECF system, which will send a Notice of Electronic Filing to all counsel of record. In addition, a true and correct copy of the sealed version will be served upon counsel of record for AAH via email.

Dated: August 3, 2026

/s/ David F. Sorensen
David F. Sorensen

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF WISCONSIN

URIEL PHARMACY HEALTH AND WELFARE PLAN; URIEL PHARMACY, INC.; HOMETOWN PHARMACY; AND HOMETOWN PHARMACY HEALTH and WELFARE BENEFITS PLAN, on their own behalf and on behalf of all others similarly situated, Plaintiffs, v. ADVOCATE AURORA HEALTH, INC. and AURORA HEALTH CARE, INC., Defendants.	Case No. 2:22-cv-610

DECLARATION OF SARAH R. ZIMMERMAN IN SUPPORT OF PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION TO EXCLUDE THE OPINIONS OF JEFFREY J. LEITZINGER

I, Sarah R. Zimmerman, subject to the penalties of perjury, do hereby declare that I am an associate in the law firm Berger Montague PC, counsel for Plaintiffs. I am an attorney duly authorized to practice law in the State of Pennsylvania and am admitted to this Court. I submit this Declaration in support of Plaintiffs' Opposition to Defendants' Motion to Exclude the Opinions of Jeffrey J. Leitzinger.

I declare under penalty of perjury that the following is true and correct:

1. The following documents, attached hereto, are cited in Plaintiffs' Memorandum of Law in Support of their Opposition to Defendants' Motion to Exclude the Opinions of Jeffrey J. Leitzinger. Many of these documents are being filed under seal because they contain

information that was designated as confidential under the protective order in this case, by either a party or nonparty.

2. Attached as Exhibit 1 is a true and correct copy of the Expert Report of Jeffrey J. Leitzinger, Ph.D. dated November 21, 2025 (filed under seal).

3. Attached as Exhibit 2 is a true and correct copy of the Expert Rebuttal Report of Jeffrey J. Leitzinger, Ph.D. dated March 23, 2026 (filed under seal).

4. Attached as Exhibit 3 is a true and correct copy of the Expert Report of David Dranove, Ph.D. dated November 21, 2025 (filed under seal).

5. Attached as Exhibit 4 is Managed Care Overview (AAHEDWI00450873-898) (filed under seal).

6. Attached as Exhibit 5 is Advocate Aurora Health Future Back: Core Team Working Session (AAHEDWI00756315-58) (filed under seal).

7. Attached as Exhibit 6 is an excerpt of a true and correct copy of the transcript of Jim Skogsbergh's deposition dated June 26, 2025 (filed under seal).

8. Attached as Exhibit 7 is a true and correct copy of the Joint Stipulation of Designated 30(b)(6) Testimony, dated October 31, 2025.

9. Attached as Exhibit 8 is a true and correct copy of The SEIU's Untruths (AAHEDWI01571755-56) (filed under seal).

10. Attached as Exhibit 9 is a true and correct copy of Email from Ed Howe to Tim Sheehy dated September 14, 2005 (AAHEDWI01585711) (filed under seal).

11. Attached as Exhibit 10 is a true and correct copy of Email from Ed Howe to Mark Amborius dated September 15, 2005 (AAHEDWI01585715) (filed under seal).

12. Attached as Exhibit 11 is a true and correct copy of the Expert Reply Report of David Dranove, Ph.D. dated March 23, 2026 (filed under seal).

13. Attached as Exhibit 12 is an excerpt of a true and correct copy of the transcript of Jeffrey Leitzinger's depositions dated Apil 20, 2026 (filed under seal).

14. Attached as Exhibit 13 is an excerpt of a true and correct copy of the transcript of Richard Klein's deposition dated May 9, 2025 (filed under seal).

15. Attached as Exhibit 14 is a true and correct copy of the Second Corrected Expert Declaration of Margaret E. Guerin Calvert in Support of Defendants' Opposition to Class Certification, *UEBT v. Sutter Health*, No. CGC-14-538451 (Sup. Ct. Cal. Dec. 29, 2017).

16. Attached as Exhibit 15 is a true and correct copy of the Order Granting In Part Motion To Strike, Granting Class Certification, and Setting Case Management Conference, *UEBT v. Sutter Health*, No. CGC-14-538451 (Sup. Ct. Cal. Aug. 14, 2017).

17. Attached as Exhibit 16 is an excerpt of a true and correct copy of the transcript of Jonathan Orszag's deposition dated March 5, 2026 (filed under seal and also publicly, with redactions).

18. Attached as Exhibit 17 is a true and correct copy of the Expert Report of Patrick S. Romano, M.D., M.P.H. dated November 21, 2025 (filed under seal).

19. Attached as Exhibit 18 is an excerpt of a true and correct copy of the transcript of Louis Rossiter's deposition dated April 17, 2026 (filed under seal).

20. Attached as Exhibit 19 a true and correct copy of the Expert Rebuttal Report of Patrick S. Romano, M.D., M.P.H. dated March 23, 2026 (filed under seal).

21. Attached as Exhibit 20 is a true and correct copy of *The Impact of Hospital Competition on Strategies and Outcomes of Hospitals: A Systematic Review of the U.S. Hospitals 1996-2016*, Akbar Ghiasi, et al. (Journal of Health Care Finance, 2017).

22. Attached as Exhibit 21 is a true and correct copy of *The Effects of Multi-Hospital Systems on Hospital Prices*, Glenn Melnick & Emmet Keelerc (Journal of Health Economics, 2006).

23. Attached as Exhibit 22 is an excerpt of a true and correct copy of the transcript of trial proceedings in *Sidibe v. Sutter Health*, No. 12-cv-4854-LB (N.D. Cal. March 7, 2022).

24. Attached as Exhibit 23 is a true and correct copy of the Expert Report of Jonathan Orszag dated January 20, 2026 (filed under seal).

25. Attached as Exhibit 24 is a true and correct copy of Questions About BCBSIL_025485 – BCBSIL_025506 (BSBSILData000001-02) (filed under seal).

26. Attached as Exhibit 25 is a true and correct copy of Email from Thomas Hardy to Yinka Onayemi dated May 5, 2025 (BSBDILData000004) (filed under seal).

27. Attached as Exhibit 26 is a true and correct copy of Email from Titus Muzi to Richard Klein dated December 4, 2018 (AAHEDWI00573958-64) (filed under seal).

28. Attached as Exhibit 27 is a true and correct copy of Redefining Value: The 4Square & its Impact on Advocate Aurora North and the Business Community (AAHEDWI00311317-23) (filed under seal).

29. Exhibit 28 is a true and correct copy of Metro Milwaukee Health Care: Studies On Costs How We Can Turn the Tide (AAHEDWI01587785-809) (filed under seal).

30. Exhibit 29 is a true and correct copy of Mercer Study (AAHEDWI01501491-502) (filed under seal).

31. Exhibit 30 is an excerpt of a true and correct copy of the transcript of the deposition of Titus Muzi dated June 2, 2025 (filed under seal).

32. Exhibit 31 is the Corrected Expert Declaration of Dr. Robert D. Willig in Support of Defendants' Opposition to Class Certification, *Sidibe v. Sutter Health*, No. 12-cv-4854-LB (N.D. Cal. Nov. 8, 2018).

33. Exhibit 32 is an excerpt of a true and correct copy of the transcript of Jeff Anderson 30(b)(6) deposition dated June 11, 2025 (filed under seal).

34. Exhibit 33 is an excerpt of a true and correct copy of the transcript of Andrea Lathers's 30(b)(6) deposition on May 27, 2025 (filed under seal and also publicly, with redactions).

35. Exhibit 34 is an excerpt of a true and correct copy of the transcript of Jeffrey Squier's deposition dated September 24, 2025.

This declaration was executed on the 3rd day of August, 2026.

/s/ Sarah R. Zimmerman
Sarah R. Zimmerman

Exhibit 1

FILED UNDER SEAL

Exhibit 2

FILED UNDER SEAL

Exhibit 3

FILED UNDER SEAL

Exhibit 4

FILED UNDER SEAL

Exhibit 5

FILED UNDER SEAL

Exhibit 6

FILED UNDER SEAL

Exhibit 7

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN

URIEL PHARMACY HEALTH AND WELFARE PLAN, on their own behalf and on behalf of all others similarly situated,

Plaintiffs,

v.

ADVOCATE AURORA HEALTH, INC. AND AURORA HEALTH CARE INC.,

Defendants.

Case No. 2:22-cv-610-LA

PATRICK SHAW; DEBRA SHAW; AND HALEY SHAW, on their own behalf and on behalf of all others similarly situated,

Plaintiffs,

v.

ADVOCATE AURORA HEALTH, INC. AND AURORA HEALTH CARE INC.,

Defendants.

Case No. 2:24-cv-157-LA

STIPULATION OF DESIGNATED 30(b)(6) TESTIMONY

All parties to the above-captioned actions stipulate that the following testimony may be used for any and all purposes as though it were offered by Defendants in the context of a deposition occurring pursuant to Federal Rule of Civil Procedure 30(b)(6):

- **Topic 4[1]:**
  - **4(1):** Lenz Tr. 98:2-101:9, 223:10-225:11, 236:17-237:16; Stahlkopf Tr. 215:7-217:3; Muzi Tr. 85:21-86:15
  - **4(2):** Hanson Tr. 44:5-14, 68:14-69:7; Turkal Tr. 215:11-217:17

[1] The Topics herein refer to those listed in the Notices of Rule 30(b)(6) Deposition that the *Shaw* Plaintiffs served on Defendants on August 8, 2025 and the *Uriel* Plaintiffs served on Defendants on September 2, 2025, as modified by the parties' negotiations and the Court's order issued on October 9, 2025, Dkt. No. 80.

- **4(3):** Turkal Tr. 210:18-211:16; Klein Tr. 361:18-363:7

- **Topic 9:**

  - **9(b):** Bahr Tr. 52:5-12, 113:16-21; Bahr (Reopened) Tr. 23:11-21, 24:14-25:5; Bard Tr. 46:24-47:2, 51:8-14, 77:20-23, 119:12-15; Klein Tr. 190:1-2; Powder Tr. 185:19-186:9; Turkal Tr. 46:9-19, 46:23-47:13, 251:21-252:2

  - **9(c):** Bahr Tr. 12:2-13:25, 42:16-24, 79:4-22; Fields Tr. 28:16-32:23, 38:19-40:10, 61:14-25, 62:11-63:17

- **Topic 12:** Klein Tr. 163:10-164:8, 164:15-166:9, 261:7-262:8, 262:18-264:2, 264:15-265:2, 265:6-19; Skogsbergh 257:8-259:14

- **Topic 13:** Powder Tr. 43:14-45:14, 49:4-50:6, 51:1-52:5, 60:20-61:22, 64:15-65:1, 116:11-117:10; Skogsbergh Tr. 41:5-43:15, 79:21-82:16, 90:2-95:12, 97:9-18, 108:6-111:17, 165:2-169:17, 204:7-207:10; Klein Tr. 363:10-365:8; Turkal Tr. 23:1-24:21, 149:4-150:12, 150:19-151:21

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Exhibit 8

FILED UNDER SEAL

Exhibit 9

FILED UNDER SEAL

Exhibit 10

FILED UNDER SEAL

Exhibit 11

FILED UNDER SEAL

Exhibit 12

FILED UNDER SEAL

Exhibit 13

FILED UNDER SEAL

Exhibit 14

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Superior Court of California,
County of San Francisco
12/29/2017
Clerk of the Court
BY:BOWMAN LIU
Deputy Clerk

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

UFCW & Employers Benefit Trust, on behalf of itself and all others similarly situated,

Plaintiffs,

v.

Sutter Health, et al.,

Defendants.

CASE NO. CGC 14-538451

Assigned for all purposes to
Hon. Curtis E.A. Karnow, Dept. 304

SECOND CORRECTED EXPERT DECLARATION OF MARGARET E. GUERIN CALVERT IN SUPPORT OF DEFENDANTS' OPPOSITION TO CLASS CERTIFICATION

Hearing Date: October 26, 2016
Time: 2:00 p.m.

Complaint Filed: April 7, 2014
Trial Date: None Set

PUBLIC / REDACTED

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE CITY AND COUNTY OF SAN FRANCISCO

UFCW & Employers Benefit Trust, on behalf of itself and all others similarly situated, Plaintiffs, vs. **Sutter Health; Sutter East Bay Hospitals; Sutter West Bay Hospitals; Eden Medical Center; Sutter Central Valley Hospitals; Mills-Peninsula Health Services; Sutter Health Sacramento Sierra Region; Sutter Coast Hospital; Palo Alto Medical Foundation for Healthcare, Research and Education; and Sutter Medical Foundation,** Defendants.	Case No. CGC-14-538451 Assigned for all purposes to: Hon. Curtis E.A. Karnow Dept. 304

CORRECTED EXPERT DECLARATION OF MARGARET E. GUERIN CALVERT

April 14, 2017
Corrected: May 10, 2017

Highly Confidential – Attorneys' Eyes Only

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I. INTRODUCTION

I.A. Qualifications

1. I am Margaret E. Guerin-Calvert, a Senior Consultant with Compass Lexecon, an independent subsidiary of FTI Consulting, Inc., which specializes in antitrust and applied microeconomics. I am a founding director of its predecessor, Compass (Competition Policy Associates). I am also President and Senior Managing Director of FTI's Center for Healthcare Economics and Policy, a business unit that specializes in healthcare economics and applied microeconomics. I am an industrial organization economist, which is the branch of economics that involves the study of firms, industries, consumer behavior, and pricing.

2. I have worked as an economist in the public and private sectors on issues related to competition and competition policy involving a variety of industries since 1979. I served as Assistant Chief of the Economic Regulatory Section of the Antitrust Division, U.S. Department of Justice, where among other matters I had primary responsibility for healthcare matters and market power analyses, as Economist at the Federal Reserve Board, and as an Adjunct Lecturer at Duke University Institute of Policy Sciences. I have testified as an economic expert in a number of healthcare antitrust cases, including several hospital merger cases, which required testimony concerning, among other issues, market definition and market power. I have also conducted research and published in a broad array of areas including in hospital competition issues. I have worked on a wide array of matters related to damages and class certification, and have testified at deposition or trial on these issues. My research includes extensive empirical studies of pricing, price variation, and major factors driving costs and explaining variation in hospitals. My credentials and experience, which encompass more than three decades of work in antitrust and regulatory policy, including qualification as an expert economist in the U.S., Canada, and New Zealand, and almost 20 years in healthcare antitrust and policy, are set out in my Curriculum Vitae attached as Appendix A.[1]

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[1] Compass Lexecon bills for my time at a rate of $985; neither Compass Lexecon's nor my compensation is contingent on my opinions or the outcome reached in this matter.

I.B. Assignment

3. I have been asked by counsel for Sutter Health, Sutter East Bay Hospitals, Sutter West Bay Hospitals, Eden Medical Center, Sutter Central Valley Hospitals, Mills-Peninsula Health Services, Sutter Health Sacramento Sierra Region, Sutter Coast Hospital, Palo Alto Medical Foundation for Healthcare, Research and Education, and Sutter Medical Foundation (collectively "Defendants" or "Sutter") to evaluate whether Plaintiff and its expert Dr. Jeffrey J. Leitzinger[2] have (i) demonstrated that evidence common to members of the putative class can be used to show that all or nearly all putative class members were injured by Sutter's allegedly anticompetitive conduct, and (ii) demonstrated that the aggregate amount of overcharges can be calculated using a common, class-wide methodology. For purposes of this analysis, I have been asked to accept that the allegedly anticompetitive conduct occurred, but I do not assume that the alleged conduct was effective in raising prices anticompetitively for healthcare services.

4. I reviewed materials customarily used by economists in evaluation of these issues, including public and proprietary data and information; and documents and testimony provided in discovery. Appendix B includes a listing of materials relied upon; I incorporate by reference materials cited in this report and/or in the Leitzinger Declaration or its back-up. It is my understanding that discovery is ongoing, and I reserve the right to amend or supplement my report to respond to additional information or additional opinions offered by Dr. Leitzinger.

II. SUMMARY OF OPINIONS

5. I assessed whether the theoretical and empirical analyses presented by Dr. Leitzinger are consistent with economic theory and marketplace realities, and whether the proposed methodologies and analyses are capable of determining injury reliably, using common evidence and with sufficient precision and statistical significance. I reach the following conclusions:

6. *Dr. Leitzinger's analyses are fundamentally flawed for purposes of addressing class certification issues because they inappropriately aggregate products into a single*

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[2] Corrected Expert Declaration of Jeffrey J. Leitzinger, Ph.D., submitted February 10, 2017, corrected March 14, 2017 (hereinafter "Leitzinger Declaration").

product. Most notably, he mistakenly treats all inpatient and all outpatient services as a single product, assuming that any impact to prices would be the same across these varied services. Among other flaws, Dr. Leitzinger constructed a model that relies on aggregate data and thus is incapable of measuring the impact separately for inpatient services and outpatient services, much less for any services within these two highly aggregated categories, which may be subject to substantially different competitive pressures. His model thus implicitly assumes that each line of service faces the same supply and demand factors that affect their prices. This critical assumption renders his model unreliable and creates the potential for conflicts among class members.

7. Dr. Leitzinger's model focuses on inpatient hospital services, yet outpatient services account for the vast majority of putative class member claims; indeed many putative class members purchased predominantly or exclusively outpatient services. Inpatient and outpatient services differ in many ways including their pricing, the nature and complexity of the services, the extent of competition, and the way in which Sutter negotiates and sets prices. Dr. Leitzinger's model must account for these fundamental differences in the products, including their demand and supply factors, and pricing to demonstrate common impact. Dr. Leitzinger's analyses, however, are completely unable to disentangle these effects across even these two product categories. Instead, his model measures only an average across all of these services, which necessarily masks any variation of impact across services *and* would find impact where no impact exists. Dr. Leitzinger's failure to properly consider the differences between inpatient and outpatient services renders his conclusions unreliable.

8. *Dr. Leitzinger fails to articulate any plausible theory of harm for how some or all of the alleged unlawful contract provisions affected the prices paid by putative class members, the timing of any such impact, and whether any such impact can be demonstrated using common evidence.* All of Dr. Leitzinger's analyses are predicated (without verification) on UEBT's theory that Sutter's alleged conduct effectively eliminated narrow or tiered networks for putative class members. This assumption is completely at odds with marketplace reality, and renders all of Dr. Leitzinger's analyses unreliable for purposes of demonstrating impact or assessing damages. First, Kaiser, one of the largest narrow networks in Northern California, and an important competitor of

Sutter (and of the Network Vendors), is completely absent from Dr. Leitzinger's impact and damages modeling despite the fact that putative class members, including UEBT and CalPERS, offered Kaiser as health plan options for their members. Second, Dr. Leitzinger fails to consider that Sutter did in fact participate in narrow networks and tiered products. Dr. Leitzinger conducts his analyses in a way that does not allow him to distinguish among putative class members who could or did avail themselves of such alternatives, and those members would have been affected differently than other class members.

9. *The facts and data refute that common evidence can be used to demonstrate that all or nearly all class members would be impacted.* An analysis of how Sutter set charges and prices, of Sutter's contract prices, and of the actual transaction prices paid by self-funded payors demonstrates that Sutter's prices, and the trends in Sutter's prices varied substantially across several dimensions: (a) categories of services such as inpatient and outpatient services, (b) different services within inpatient and outpatient categories, (c) different Sutter hospitals, (d) different time periods, and (e) different Network Vendor contracts. Therefore demonstrating the impact of Sutter's challenged conduct on a particular procedure, at a particular Sutter hospital, for self-funded payors contracting through a particular Network Vendor, at a particular point in time, would not demonstrate impact for all other claims. For example, demonstrating impact to prices for an inpatient service at a hospital would not demonstrate impact to all other inpatient services at that hospital, or to all inpatient services across all hospitals, or across network vendors or across time. Nor would demonstrating impact on inpatient services at one hospital establish impact on outpatient services at that hospital or on outpatient services across hospitals, across network vendors, or across time. Rather, one would need to analyze separately claims that differ on one or more of these important dimensions to determine whether Sutter's conduct had any impact on those specific claims. In other words, it is not feasible to demonstrate impact using common evidence.

10. *Dr. Leitzinger fails to demonstrate a reliable method to show that "all or nearly all" putative class members were overcharged; his evaluation of the Sutter contracts, his modified regression analysis, and his limited analysis of the Network Vendor claims data are flawed and unreliable.* First, Dr. Leitzinger does not offer a method to demonstrate common impact across all services. As noted above, he assumes that impact

would be common across all services—e.g., he assumes that any impact on inpatient prices would lead to the same or similar impact on prices for outpatient and other services. As the facts and data show, that assumption is unsupported. Instead, Dr. Leitzinger first claims that any impact on prices would be common across network vendors because of "parity." He conducts a comparative analysis of contract prices, but substantially overstates the degree of "parity" that his results demonstrate, not to mention that this does not show common impact across hospitals, across services, or across time.

11. Second, Dr. Leitzinger's relies on a modified regression in an attempt to show that average reimbursement ratios for all services were higher. That regression fails for the same reasons as his damages regression fails – it measures only average impact across services and does not measure impact on any specific lines of services (or specific payors, or specific Network Vendors). Putting aside its flaws, it finds that the effects of Sutter's conduct varied substantially across Sutter hospitals, thus demonstrating that impact is not common. Moreover, that same regression finds that the challenged conduct caused Sutter to *reduce* its prices at three Sutter hospitals, not increase its prices which is Plaintiff's theory. These results are yet another reason why the modified regression is unreliable.

12. Third, Dr. Leitzinger's limited analysis of procedure-level reimbursement rates in the claims data is flawed. Among other reasons, it relies on his flawed price proxy and fails to control for the factors that Dr. Leitzinger himself believes are important drivers of hospital pricing (and therefore cannot distinguish a simple difference in average prices from an overcharge). That analysis, therefore, does not show that the challenged conduct had any impact on the actual services he examined.

13. *Dr. Leitzinger's regression analysis is fundamentally flawed and incapable of measuring even the aggregate impact of Sutter's challenged conduct, let alone impact on individual putative class members.*

14. Dr. Leitzinger's regression is his attempt to demonstrate that common evidence can be used to assess whether the challenged conduct had an impact and amount of damages. But the regression does not achieve either result. There are numerous flaws, some of which I summarize here.

15. First, as noted above, he uses highly aggregated data which is incapable of informing an analysis of class issues; the regression model assumes rather than proves common impact. He relies on data that combines revenue from a number of difference services (e.g., inpatient, outpatient). His model therefore cannot measure impact separately for inpatient or outpatient services; instead, it measures only average impact across all of these services, masking any variation across services and likely finding impact where none exists. For example, if a self-funded payor paid a $1,000 overcharge on an inpatient procedure but no overcharge on an outpatient procedure, Dr. Leitzinger's model would find that the average overcharge for both procedures is $500, when no overcharge existed for outpatient services. As discussed below, his model cannot be fixed to avoid this flaw. In sum, his model is not a common method to measure impact across individual services (or even categories of services) or across Class members.

16. His model also aggregates data for all hospitals and network vendors and thus measures only average changes in reimbursement rates across all services, across all hospitals, or across all network vendors. And he makes no effort to control for time, and thus assumes that the impact would be same each year over the entire 14-year class period. As shown below, wide variation in prices exists across these dimensions, which show that any impact would not be common.

17. The aggregated nature of his data means the accuracy of that assumption cannot be tested. Indeed, the revenue data upon which he relies cannot be separated into different services, which means that the regression *cannot* be respecified in a way that could separately measure the impact on the different services. Where assumptions can be tested, the assumption of common impact is soundly rejected – overcharges even as measured by his model differ substantially across Sutter hospitals and across years in the damages period. For some hospitals, and for some years, measured overcharges are negative and/or statistically insignificant

18. Second, Dr. Leitzinger does not actually analyze impact on prices. Instead, he constructs what he calls a "reimbursement rate," which in actuality is a ratio of total net revenue for all sources to billed charges for two categories of revenue (inpatient and outpatient services). His reimbursement rate is neither a true reimbursement rate for a

given service or a proxy for price. His regression model thus cannot reliably identify any effect of Sutter's challenged conduct on Sutter's *prices*.

19. Third, his modeling of whether Sutter's "reimbursement rate" are increasing disproportionately to those of other hospitals, including non-comparable hospitals (his so-called difference-in-difference methodology) is fundamentally flawed and unreliable. The control group that he uses as a benchmark to assess the effect of Sutter's conduct (all other California hospitals) is inappropriate. His analyses also fail to account for the many factors that explain differences in Sutter's pricing across time, across its hospitals, and between Sutter and other hospitals; and thus the regression cannot isolate the alleged impact from these competitively benign factors.

20. *The diversity of the putative class on numerous important dimensions creates the potential for economic conflicts among class members.* Class members differ substantially in their size and bargaining power, the timing of their claims at Sutter hospitals, their relationships with Network Vendors, their mix of inpatient and outpatient services, and the geographic footprint of their members and their claims. These differences, and the substantial differences in the potential effects of the challenged conduct across these dimensions, create the potential for economic conflicts. For example, class members with claims concentrated in particular years may have substantially different views as to the appropriate methodology to measure damages. Dr. Leitzinger's damages model yields substantially different overcharges during the different years in the class period, yet he applies the same damages percentage for each year. Some putative class members with claims concentrated in low-damages years may prefer a methodology, such as Dr. Leitzinger's, that estimates an average overcharge effect across all years. Others with claims concentrated in higher-damages years may prefer a methodology that allows the effect of the conduct to vary over time.

III. OVERVIEW OF UEBT'S ALLEGATIONS AND DR. LEITZINGER'S OPINIONS

III.A. UFCW & Employers Benefit Trust ("UEBT")

21. UEBT provides benefits, including health plans, to employees covered by a collective bargaining agreement between Northern California locals of the United Food and Commercial Workers union ("UFCW") and grocery companies, including Kroger,

Raley's, Safeway, and Save Mart.[3] UEBT is managed by a Joint Board of Trustees, including representatives from both employers and unions.

22. UEBT's health plans cover more than 60,000 enrollees in its self-funded health plans, including employees, retirees and dependents.[4] UEBT provides both an Active Health Plan for active employees and a Retiree Health Plan for retired employees.[5] UEBT offers different levels of benefits to enrollees based on criteria including length of employment.

23. During the Class Period, UEBT offered a variety of health plans to its beneficiaries, including both self-funded plans and fully-funded plans, and plans with HMO and PPO options.

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[3] "Employer Contacts", UFCW& Employers Benefit Trust, available at https://www.ufcwtrust.com/EmployerContacts.aspx, accessed April 10, 2017.

[4] *UFCW & Employers Benefit Trust v. Sutter Health; Sutter East Bay Hospitals; Sutter West Bay Hospitals; Eden Medical Center; Sutter Central Valley Hospitals; Mills-Peninsula Health Services; Sutter Health Sacramento Sierra Region; Sutter Coast Hospital; Palo Alto Medical Foundation for Healthcare, Research and Education; and Sutter Medical Foundation,* No. CGC-14-538451, Class Action Complaint, (Superior Court of the State of California for the City and County of San Francisco, April 7, 2014) (hereinafter "Complaint"), ¶ 32.

[5] See for example, UEBT0024998; UEBT0002681; and UEBT0002691.

24. Exhibit 1 presents an overview of the different health plans offered by UEBT during the Class Period.

25. *Self-funded plans*. In September 2000, UEBT contracted with Anthem Blue Cross to use its PPO plan.[6] Beginning in September 2009, UEBT switched its network vendor from Anthem to Blue Shield. Specifically, UEBT used Blue Shield's Shared Advantage PPO product.[7]

26. *Fully funded plans*. In addition to these self-funded health plans, UEBT also offered fully-funded health plans. During the Class Period, UEBT contracted primarily with Health Net and Kaiser for this type of plan.[8] Notably, UEBT offered a narrow network to its members throughout the Class Period – in the form of Kaiser.

III.B. Putative class

27. UEBT seeks to certify a class (the "Putative Class") defined as:[9]

> [A]ll self-funded health plans that are considered citizens of California for purposes of 28 U.S.C. [Sec] 1332(c)(1) or (d)(10) and that compensated Sutter for general acute care hospital services or ancillary products at any time from January 1, 2003 to the present ["Class Period"] at prices set by contracts between Sutter and Aetna, Anthem, Blue Shield, Cigna,

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[6] Administrative Service Agreement between UFCW Northern California Health and Welfare Trust Fund (Client) and Retail Clerks Employers Benefit Plans of Northern California (TPA) and BC Life & Health Insurance Company, effective September 2000 (unsigned) (UEBT0025853 – 5883) ("2000 Anthem-UEBT Service Agreement"), pp. 1-2.

[7] Combined Shared Advantage & Shared Advantage Plus Agreement By and Between California Physicians' Service D/B/A Blue Shield of California and UFCW & Employers Benefit Trust, September 1, 2009 (signed 1/22/2010) (UEBT-0000001 – 74) (hereinafter "2009 Blue Shield-UEBT Service Agreement"), pp. 1, 9.

[8] As shown in Exhibit 1, in 2000 and 2001 UEBT also had fully-funded plans with Anthem and PacifiCare.

[9] Memorandum in Support of Plaintiff UEBT's Motion for Class Certification, Superior Court of the State of California in and for the County of San Francisco, Case No. CGC 14-538451 (hereinafter "Class Certification Brief"), fn. 1. This definition differs in several respects from the definition contained in the Complaint:

> All Self-Funded Payors that are considered citizens of California for purposes of 28 U.S.C. §1332 and compensated Sutter for general acute care hospital services or ancillary products during any period that Sutter has utilized an All-or-Nothing, Anti-Incentive or Price Secrecy Term in one or more agreements with Network Vendors (the "Class Period").
>
> (Complaint, ¶ 126).

PacifiCare or United Healthcare.

28. UEBT does not define "general acute care hospital services" or "ancillary products" in either its Complaint or its Class Certification Brief, or identify which particular services are included. In deposition, Dr. Leitzinger explained that he included *all* inpatient services, outpatient services, and emergency room services provided at a Sutter acute care hospital.[10]

29. Dr. Leitzinger identifies 1,584 putative class members.[11] The putative class includes many different types of entities that differ from each other in numerous ways, including size, location, and geographic distribution of employees: large corporations such as Oracle, Chevron, Apple, Google, and PG&E; small companies and businesses like Berkeley Bowl Produce and Artichoke Joe's Casino; governmental entities (some of which are very large) such as the City and County of San Francisco, CalPERS, University of California, California Highway Patrol, Stanislaus County, El Dorado County, and County of Del Norte; labor unions; local school districts with employees concentrated in the district's locality; and even other hospitals, such as Dignity Health. These putative class members' claims paid to Sutter range in size from 1 claim to over 58,000 claims during the Class Period.

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[10] Deposition of Jeffrey Leitzinger, Ph.D., March 15, 2017 (hereinafter "Leitzinger Deposition"), pp. 55-57 and 59. See also Leitzinger Declaration ¶ 28 ("Using the claims data provided in this case by Aetna, Anthem, Blue Shield, Cigna, and UnitedHealth, I have identified entities that paid for inpatient, outpatient, or emergency room healthcare services or ancillary products at any one of Sutter's hospitals between 2003 and July 2016.") I note that ER visits include a variety of different procedures, and that only a portion of ER visits result in admission to a hospital (which would then be classified as an inpatient service if it involved an overnight stay).

[11] Leitzinger Declaration, ¶ 28 and Exhibit 5. Dr. Leitzinger identified entities that, based on the Network Vendor claims data, paid for inpatient, outpatient, or emergency room services at a Sutter hospital during the Class Period. Counsel for UEBT provided Dr. Leitzinger with a subset of those entities which they identified as "California citizens." (Leitzinger Declaration, ¶ 28) Dr. Leitzinger did not include a file in his backup materials that identifies these specific 1,584 entities. To do so, I used Dr. Leitzinger's code to export information associated with these entities (group_name_xnv and group_id_xnv) to a separate file. I then matched these entities with the entities listed in the spreadsheet "NV5 parented CA_Citizen.xls" which Dr. Leitzinger produced in his backup materials, in order to identify address information. I then sorted this file by the group_id_xnv field. I provided this file to counsel for Sutter. A true and accurate copy of this file is attached as Appendix C.

III.C. UEBT's allegations and theory of anticompetitive effect

30. UEBT alleges that during the Class Period:[12]

> Sutter employed its market power to impose and enforce anticompetitive contract provisions that restricted the ability of health plans to financially motivate patients to select more cost-effective providers. By sheltering its providers from price competition, Sutter was able to impose substantial illegal overcharges that have persisted for well over a decade.

31. More specifically, UEBT challenges specific provisions in systemwide agreements between Sutter and each of six large network vendors (*i.e.*, Aetna, Anthem, Blue Shield, Cigna, PacifiCare, and United Healthcare).[13] UEBT alleges that these specific provisions enabled Sutter to leverage its alleged market power in some specific geographic markets to restrict competition in other geographic markets and thereby anticompetitively raise Sutter's prices.[14] UEBT's theory of anticompetitive harm is that Sutter, by its alleged refusal to allow network vendors to exclude some or all of Sutter's hospitals from a given network, precluded narrow network formation by the Network Vendors. UEBT also alleges that Sutter precluded vendors from placing a Sutter hospital in a lower tier, and finally that Sutter refused to let vendors disclose Sutter's negotiated rates to payors. UEBT's theory is that, but-for the contract provisions, Network Vendors would have created and offered narrow networks that excluded some (or maybe all) allegedly more costly Sutter hospitals and/or tiered networks that placed allegedly more costly Sutter hospitals in higher tiers. Had Network Vendors been able to do so, UEBT posits, Sutter would have reduced its prices at its allegedly more costly hospitals.[15]

32. UEBT refers to these various allegations as follows in the next paragraphs:

33. *"All or Nothing."* UEBT alleges that Sutter's "early 'systemwide' contracts" with three Network Vendors included provisions that expressly required that the Network

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[12] Class Certification Brief, p. 1.

[13] Class Certification Brief, pp. 4-10. I use "Network Vendor" (capitalized) to refer specifically to these six network vendors identified in the Class Definition. United acquired PacifiCare in 2005, but continued to market certain PacifiCare plans until 2011. (Declaration of Janet Lundbye, Regional Vice President of Network Strategy for the West Region at United HealthCare, February 6, 2017 (hereinafter "Lundbye Declaration"), ¶ 4 and Leitzinger Declaration, ¶ 25.).

[14] See, e.g., Complaint, ¶¶ 16-22.

[15] See, e.g., Complaint, ¶¶ 105, 112, 119.

Vendor "include all [Sutter] Providers in the Plan, unless the parties mutually agree otherwise."[16] UEBT claims that this specific provision allowed Sutter to leverage alleged market power in particular geographic markets to restrict competition in other geographic markets.[17] UEBT points to different language in the Cigna and PacifiCare/United contracts that it claims serves the same purpose.

34. As explained by Sutter, these provisions were designed to protect against two potentially opportunistic practices by payors, and to require payors to notify Sutter before making any such changes. Specifically, Sutter explains the provisions were intended to ensure that the parties agreed which providers would participate in the Network Vendor's products and prevent a payor – during the term of a contract – from unilaterally changing Sutter's status from in-network to out-of-network so as to change the benefit of the bargain that Sutter had struck. The provisions were also intended to limit the ability of payors to develop whole new benefit designs and networks for a product, to be offered at the same discounted rates in prevailing contracts, without notification to Sutter of the changes. Such changed designs could result in reduced volumes for Sutter compared to what was anticipated when the contract was negotiated.[18]

35. This language was removed from later contracts.[19] UEBT alleges that, after dropping that term, Sutter introduced "a less overt, but equally powerful, means of forcing the Network Vendors to include all Sutter providers in their offerings: a provision requiring payment of allegedly punitive 'Non-Participating Rates' for any Sutter provider not included in a Network Vendor's network."[20] UEBT alleges that these non-participating or "non-par" rates, which were introduced in 2005, represented 95% of billed charges.[21] Without citing to any supporting analysis, UEBT alleges that these were

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16 See, e.g., Class Certification Brief, Appendix A; Complaint, ¶¶. 16-22.

17 See, e.g., Complaint, ¶ 21.

18 Declaration of Melissa Brendt, Vice President and Chief Contracting Officer for Sutter Health, (April 13, 2017) (hereinafter, "Brendt Declaration"), ¶ 34.

19 Sutter Network Vendor contracts.

20 See, e.g., Class Certification Brief, p. 6.

21 Network Vendors negotiated different non-par rates over time. For example, in 2005, Blue Shield agreed to 95% of billed charges, but Anthem agreed to Sealed by Orde of billed charges specifically for its Power Advantage HMO members (effective May 2005). Later, Anthem agreed to Sealed by O of billed charges,. (Fifth Amendment to the 2002 Blue Shield Systemwide

high enough to eliminate any net benefit from narrow networks and effectively "force" Network Vendors to include all Sutter hospitals in their networks even where not required to by the Sutter contract,[22] and thereby eliminate any benefit they would have received from creating a narrow network without certain Sutter hospitals.

36. *"Anti-Tiering."* Some of Sutter's contracts with Network Vendors provided that Sutter was to be treated as an "equal member" of the provider network and as such that members would "not be financially penalized at the benefit level or design for accessing Sutter Providers."[23] Later contracts with Network Vendors stated that Sutter providers "have not agreed to participate in any tiered product," and that if a payor desired such a product, the parties "shall meet and confer."[24] UEBT alleges that this provision prohibited network vendors from designing networks where Sutter could be placed in higher tiers (to account for Sutter's allegedly higher prices).[25] As explained by Sutter, the purpose of these provisions was, similar to the purpose of the provisions with respect to narrow networks, to (i) ensure that the parties agreed to Sutter's participation status and (ii) prevent a vendor from changing the economics of the deal during the life of the contract after the contract was signed.[26]

37. *"Price Secrecy."* Some of Sutter's contracts prohibited Sutter and the Network Vendor from disclosing the other contract parties' confidential information without first receiving written authorization.[27] UEBT alleges that this provision effectively prohibited Network Vendors from publishing information about Sutter's contract prices in price comparison tools and as a result restricted price competition between providers.

III.D. Dr. Leitzinger's opinions

38. Dr. Leitzinger was asked by counsel for UEBT to: [28]

Agreement, at DEF000013701; Eighth Amendment to the 2001 Blue Cross of California Systemwide Agreement at DEF000013423;

[22] See, e.g., Class Certification Brief, pp. 5-6.

[23] See, e.g., Class Certification Brief, Appendix A.

[24] See, e.g., Class Certification Brief, Appendix A.

[25] See, e.g., Class Certification Brief, pp. 7-8.

[26] Brendt Declaration, ¶¶ 34-36.

[27] See, e.g., Class Certification Brief, Appendix A.

[28] Leitzinger Declaration, ¶ 6.

> Determine whether the aggregate amount of overcharges incurred by the proposed Class as a result of the alleged anticompetitive conduct can be calculated on a class-wide, formulaic basis, and
>
> Determine whether evidence that is common to members of the proposed Class can be used to show that all or nearly all proposed Class members likely incurred at least some overcharge.

39. Importantly, Dr. Leitzinger has not been asked to offer, and has not offered, any opinions about the scope of the relevant antitrust markets, whether Sutter Health has market power in any of these markets, or whether any of the challenged conduct had an anticompetitive effect.[29] Dr. Leitzinger was not asked to, nor does he articulate any specific theory of harm as to the reason for impact or extent of impact and injury on putative class members. Thus, in undertaking his analysis of overcharges and impact on a common basis, Dr. Leitzinger presents no economic theory of harm – other than to indicate that any and all of the contract provisions (he cannot isolate which ones or at which times) would have resulted in some increases in Sutter prices relative to those of other hospitals.

40. To calculate the aggregate amount of overcharges, Dr. Leitzinger conducted what he refers to as a "difference-in-differences"[30] regression analysis using average "reimbursement rates" (which is really a reimbursement ratio that he calculates as total annual commercial net revenues divided by total annual commercial billed charges)[31] at Sutter hospitals as compared to those of other California hospitals. He estimated the extent to which this difference in average rates of Sutter hospitals relative to those of other hospitals varied between the period 1998-2002 (the "Pre-Class Period") and 2003-2015 (the "Class Period").[32] From the results of this regression analysis, Dr. Leitzinger concludes that Sutter Health's average reimbursement ratio increased 7.1 percentage

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[29] Leitzinger Deposition, pp. 30-32, 34, 36-37.

[30] A difference-in-differences analysis considers the percentage change in a variable from one period to the next, and compares the percentage change in the variable for one firm (e.g., Sutter) as compared to other firms (e.g., other California hospitals). As discussed in Section VII, the method depends importantly on finding a similar cohort of firms to use for comparison purposes.

[31] In the remainder of this report, I use the more appropriate term "reimbursement ratio" to refer to what Dr. Leitzinger labels a "reimbursement rate."

[32] Leitzinger Declaration, ¶ 8.

points more than the average reimbursement ratio for non-Sutter hospitals prices during the class period. He then translates that 7.1 percentage point figure into a percentage increase estimate and concludes that average reimbursement ratio prices were "inflated on average by 15.4 percent" throughout the entire class period.[33]

41. Dr. Leitzinger estimates that the Putative Class paid an aggregate "overcharge" equal to $508 million by applying this estimated average 15.4 percent overcharge to every claim paid by putative class members to a Sutter hospital included in the data provided by the Network Vendors, which includes inpatient, emergency department, and outpatient services.[34]

42. Dr. Leitzinger concedes that this regression analysis is incapable of assessing whether all or nearly all class members were impacted by Sutter's challenged contract terms — that is, he concedes that the regression cannot measure common impact.[35] He thus conducts a second set of analysis, based upon several categories of what he characterizes as "evidence common to Class members," (including a modified regression) and from that concludes that "all or nearly all Class members likely suffered at least some overcharges."[36]

IV. THE HEALTH CARE INDUSTRY IS COMPLEX

IV.A. Market participants

43. I provide some background on the health care industry because it is far more complicated than Dr. Leitzinger's analysis depicts; his failure to properly account for the fact that the industry (and the pricing of hospitals in particular) is so complex is a major deficiency in Dr. Leitzinger's analysis.

44. Healthcare is particularly complex and dynamic, both generally and in California, with many changes in supply and demand conditions ongoing over the Class Period at

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[33] Leitzinger Declaration, ¶ 8.

[34] Leitzinger Declaration, ¶ 8.

[35] Leitzinger Deposition, pp. 149-150 ("I don't think that the regression model by itself…shows commonality…I think you need more – more evidence – more information than just the model result itself." Dr. Leitzinger identified that additional information as "Exhibit 8 and the other information and analysis that I describe in the common impact section.")

[36] Leitzinger Declaration, ¶ 8.

virtually every level of the marketplace. In this section, I describe some of the primary market participants and products that are at issue in this case.

45. *Network Vendors ("NVs")*. The managed care payor community in California includes a number of large health insurers or health plans, including Aetna, Anthem Blue Cross ("Anthem"), Blue Shield of California ("Blue Shield"), Cigna, PacifiCare and United HealthCare ("United"). In addition to offering insurance, these insurers assemble networks of providers (hospitals, outpatient facilities, ambulatory surgery centers, physicians and others) for their commercial products and negotiate with providers to establish prices.[37] To be consistent with Dr. Leitzinger's terminology, I will refer to these insurers as Network Vendors.[38] Among other things, Network Vendors offer "fully insured" products to employers including insurance and network services (these include HMO, PPO and other products with different benefit designs).[39] Under a fully-insured product, the Network Vendor assumes the financial risk for providing health care benefits in exchange for a premium paid by the employer. They also offer "self-insured" products, under which they provide administrative and other services and make their provider network available under contracts including administrative services only contracts ("ASO") in exchange for a fee.

46. Network Vendors compete with each other to "win" customers that include, for example, large, medium, and small group employers. The dimensions of this competition include the extent of provider networks, benefit design (e.g., HMO or PPO products and coverage of particular services[40]), price (including premiums and out-of-pocket costs), and other services.

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[37] Typically only network vendors would be negotiating contracts with Sutter, although some self-funded payors may negotiate directly. As I discuss herein, Kaiser has in the past negotiated with Sutter.

[38] I use the term Network Vendors (capitalized) to refer to the six network vendors specifically referenced in the class definition.

[39] In the later years of the Class Period, the Network Vendors also offered Medicare Advantage products.

[40] HMO products typically involve some restrictions on providers (e.g., a requirement to use a primary care provider as a gatekeeper for access to all other services) or in the number and type of providers in the network. They typically have lower premiums than do PPO products which tend to be more all-inclusive of providers and therefore offer far broader choice. Even HMO networks in the late 1990s and 2000s in California became broader and more inclusive

47. In addition to the large insurers, other entities also sell access to provider networks they have put together. These smaller network vendors include MultiPlan, Capp Care and Interplan (now known as HealthSmart).[41] They are different from the large Network Vendors in that they do not offer insurance products.

48. California is particularly unique in having Kaiser as the pre-eminent "narrow" network offering in many California communities, and in Northern California in particular. Kaiser is a narrow network because it (largely) includes only Kaiser physicians, clinics, and hospitals and offers a broad set of locations for these services in many cities, including San Francisco and Sacramento.[42] Kaiser competes directly with Network Vendors and their products (HMO and PPO) for employer groups, with wins and losses across the period. On the hospital side, Kaiser also competes directly with Sutter and other hospital providers for commercial patients.

49. *Self-Funded Payors ("SFPs")*. Self-funded payors (also referred to as self-insured payors or self-funded/insured health plans) tend to be (but are not always) larger employers that self-insure and contract with Network Vendors to access the Network Vendor's products and provider networks and for claims processing and other administrative services. In contrast to the fully-insured model discussed above, in the self-funded model, the employer assumes the financial risk of payment for the provider services; the Network Vendor does not underwrite that risk. In general, the self-funded payer pays the discounted prices that Network Vendors have negotiated with providers.

50. Employers may simultaneously offer both self-funded and fully-funded plans to their employees. These different product offerings are often accompanied by different incentives or subsidy structures whereby the employer covers a greater or lesser amount of premiums, deductibles or co-pays depending on the member's choice of product.[43]

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of hospitals. See, e.g., Konetzka, Zhu, Sochalski, and Vopp, "Managed Care and Hospital Cost Containment," *Inquiry*, Spring 2008, Vol. 45, No. 1, pp. 98-111.

[41] Brendt Declaration, ¶ 3.

[42] Exhibit 21 and Exhibit 22 provide a map of Kaiser locations and data and information on the substantial volume of discharges and patients at Kaiser locations.

[43] For a listing of the different plan options provided by one of the putative class members, see: https://www.calpers.ca.gov/page/active-members/health-benefits/plans-and-rates.

51. *Providers.* Providers include the persons and entities that provide the health care, including, but not limited to doctors, hospitals, outpatient facilities, clinics, and laboratories. Hospital operations changed considerably over the time period in question with an increasing proportion of hospitals joining systems.[44] Examples of large hospital systems in California include Sutter and Dignity Health. Among the many factors driving the foundation of systems are: (a) the ability of systems to cover the overall costs and financial support in any given year for the system as a whole, and to sustain healthcare delivery in financially challenged environments (e.g., more rural areas); (b) the benefits of common infrastructure such as information technology, management systems, overhead, and contracting, supply and resource management and economies of scale in contracting; and (c) the advantage of operating efficient and effective networks including hub-and-spoke systems where tertiary care can be handled in fewer hospitals.[45] Increasingly, systems tend to provide contracting services for their hospitals as well as for employed physicians and other services.

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[44] AHA data illustrate that a large number of hospitals and increasing share of hospitals were affiliated with systems over the 1990s to the present. See, American Hospital Association. "Trendwach Chartbook 2016, Organization Trends, Chart 2.4: Number of Hospitals in Health Systems, 2004-2014." 2016. Available at http://www.aha.org/research/reports/tw/chartbook/ch2.shtml (accessed April 12, 2017). See also, American Hospital Association. "Trendwach Chartbook 2007, Organizational Trends, Chart 2.4: Number of Hospitals in Health Systems, 2000-2005." 2007. and American Hospital Association. "Trendwatch Chartbook 2002, Chart 2.5: Number of Hospitals in Health Systems." 2002: 27. As of 1990, there were approximately 1,600 hospitals in systems. By 1014, there were more than 3,000 hospitals in systems. Only about 1900 of 5,000 community hospitals in the US are not in a "system," which the American Hospital Association defines as "a multi-hospital or diversified single hospital system." AM. HOSPITAL ASS'N, FAST FACTS ON US HOSPITALS 2 (2013), *available at* http://www.aha.org/ research/rc/stat-studies/101207fastfacts.pdf.

[45] Porter, Michael E. and Thomas H. Lee. "The Strategy That Will Fix Health Care." Harvard Business Review. October 2013. Available at https://hbr.org/2013/10/the-strategy-that-will-fix-health-care (accessed April 23, 2017); Anthony Shih et al., The Commonwealth Fund, Organizing the US Health Care Delivery System for High Performance 17 (2008); Toby Singer et al., The Pro-Competitive Benefits of Hospital Mergers, Hospitals & Health Networks (Sept. 25, 2012), http://www.hhnmag.com/hhnmag/HHNDaily/HHNDailyDisplay.dhtml?id=3070004128; Catherine DesRoches, Dustin Charles, Michael Furukawa, Maulik S. Joshi, et al., Adoption of Electronic Health Records Grows Rapidly, But Fewer than Half of US Hospitals had at least a Basic System in 2012, 32 HEALTH AFFAIRS 8 (2013):1-9.

52. *Consumers*. Consumers include the individuals who receive the health care and services and are ultimately responsible to pay the provider for at least some portion of the services.[46] To defray health care costs, consumers may obtain insurance health care benefits through their employer (either through a fully-funded or self-funded plan) or from another payor. A large number of consumers obtain coverage through government programs such as MediCal or Medicare. Under many insurance or health plans, individuals may be required to pay some portion of premiums, as well as "out-of-pocket" expenses such as deductibles, co-pays or co-insurance.

IV.B. Hospital pricing

53. Hospitals use a variety of cost-based and market-based methods to assign values to resources used in the delivery of care – for example, bandages, IVs, procedures, and transfusions. Each element has a designated code and value, such that all of the resources used to treat individuals for an episode of care can be accounted for. A hospital's "chargemaster" is effectively the data repository for all of the assigned values, and the charges associated with a specific episode of care will include the values multiplied by units aggregated to some measure of cost for the episode of care. Hospitals periodically reset their chargemasters by refining the individual codes or level at which the costing is done.

54. Network Vendors negotiate agreements with providers that often include significant overall discounts from these estimates of provider charges. In general, a provider offers an effective discount, among other reasons, in exchange for an expected volume of business resulting from being part of a provider network. All else being equal, the larger the expected volume of business, the larger the discount. The methodology for expressing the negotiated net payment can take one or more of several forms including:

- a percent of chargemaster charges (also referred to as billed charges);
- a per-diem (per day), which is fixed amount for a patient day in the hospital (generally differing depending on the level of care required, as indicated by bed type, e.g., a medical/surgical bed, an ICU bed, etc.);[47]

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[46] In some circumstances, the commercial insurer who negotiates the contracts on behalf of its enrollees for coverage and for provider networks may be considered the consumer.

[47] Per diem payments may be subject to carve-outs for particularly high-cost items and services, such as surgical implants. In some cases, the per diem amount would vary by day.

- a case rate, which is a set rate for a particular collection of services; and
- a DRG-based rate, which includes some base rate with adjustments

IV.C. Sutter

55. Sutter is a not-for-profit health system, headquartered in Sacramento, California, which serves over 100 cities and towns in Northern California.[48] Sutter today includes 24 general acute care hospitals, 34 outpatient surgery centers, a large number of specialty centers (including, for example, six cardiac centers, nine cancer centers, and nine neonatal intensive care units), and a network of 5,500 physician members.[49]

56. As shown in Exhibit 2, Sutter's hospitals vary on many dimensions including their size and the scope of services. Measures of size include average daily census ("ADC"), a measure of average occupancy of the hospital, and licensed or staffed beds. Sutter hospitals range in size from 44 beds (Memorial Hospital Los Baños) to 691 beds (California Pacific Medical Center). They range in location from small rural towns like Lakeport to the largest urban areas in Northern California (San Francisco and Sacramento).

57. Hospitals can be categorized by the scope of services they offer. For example, four of Sutter's hospitals are considered by Sutter to be tertiary care hospitals, and provide specialty care services such as cardiac surgery, neonatal intensive care, transplants, or burn care, or which contain at least 20 intensive care or cardiac/coronary care unit beds.[50] Three of Sutter's general acute care hospitals are designated Level II Trauma Centers (Sutter Roseville Medical Center, Memorial Medical Center, Modesto, and Eden Medical Center) and two are Level IV Trauma Centers (Sutter Coast Hospital and Sutter Lakeside Hospital).[51]

58. Hospitals with very advanced services tend to have higher costs per patient due to the specialized technology and equipment, as well as the severity of care and resources required to treat patients. Exhibit 2 shows some relevant measures, which include case

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[48] http://www.sutterhealth.org/employment/who-we-are.html.

[49] Brendt Declaration, ¶ 14; http://www.sutterhealth.org/about/news/news_facts.html. (accessed April 12, 2017)

[50] Brendt Declaration, ¶ 7.

[51] Brendt Declaration, ¶ 7; http://www.sutterhealth.org/orthopedics/trauma-services.html (accessed April 11, 2017).

mix index ("CMI"), a simplified yet commonly used measure that reflects the acuity of service offerings for inpatient services, and statistics reporting the number of different diagnosis-related groups ("DRGs") offered at each hospital.[52] As shown in Exhibit 2, and charted in Exhibit 2b, hospitals such as CPMC offer a very large number of different DRGs, while community hospitals offer far fewer.

59. Exhibit 2 shows a diverse set of Sutter hospitals, which is consistent with the highly differentiated aspects of healthcare. Sutter hospitals differ from each other; there is no "average" or typical Sutter hospital. Sutter hospitals also differ from other California hospitals along these dimensions, with some hospitals serving as better comparators for Sutter hospitals than others.

60. During the Class Period, the methodology used by Sutter to set its charges changed more than once. In the early part of the period, each Sutter hospital set its own charges.[53] Starting around 2005, Sutter began to standardize the methodology across its hospitals using what it referred to as the "ABC" methodology where:[54]

Sealed by Order of the Court on 11/09/17.

61. Even after standardization, there is still considerable variation between the Sutter hospitals in their specific charges based on hospital-specific factors.[55]

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[52] There are over 700 different DRGs, which represent a code for discrete services and primary diagnosis of the patient; these range from uncomplicated deliveries to heart transplants. See American Health Lawyers Association. "Diagnostic-related group (DRG)." Available at https://www.healthlawyers.org/hlresources/Health%20Law%20Wiki/Diagnosis-related%20group%20(DRG).aspx (accessed April 13, 2017). A listing of DRGs and their descriptions can be found at https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2017-IPPS-Final-Rule-Home-Page-Items/FY2017-IPPS-Final-Rule-Tables.html?DLPage=1&DLEntries=10&DLSort=0&DLSortDir=ascending.

[53] Declaration of Jeff Sprague in Support of Defendants' Opposition to UEBT's Motion for Class Certification, (hereinafter "Sprague Declaration"), ¶ 5. Mr. Sprague is Chief Financial Officer of Sutter Health.

[54] Sprague Declaration, ¶ 6.

[55] See, for example, "Sutter Health ABC Update," July 11, 2007 (DEF000152963.ppt), showing variations in 2007 charges across Sutter hospitals for selected procedures ranging from [redacted]% for an MRI brain w/o contrast (where charges ranged from $[redacted] at CPMC to $[redacted] at Los

V. IMPACT CANNOT BE DEMONSTRATED RELIABLY USING CLASS-WIDE EVIDENCE

62. UEBT seeks to certify a class of nearly 1,600 self-funded payors, which paid over 1 million claims for over 700 different inpatient procedures and nearly 4,500 different outpatient procedures reimbursed at different prices at 23 different Sutter hospitals, through contracts with six different Network Vendors, over a period of 14 years. Dr. Leitzinger argues that, despite this tremendous diversity in the claims at issue, a common methodology can demonstrate impact for all or nearly all putative class members, i.e., that all or nearly all class members paid for services the price of which was allegedly inflated by Sutter's challenged conduct.

63. As demonstrated throughout this report, Dr. Leitzinger's analyses are flawed, unreliable, and unsupported by industry realities and the data produced in this case. Sutter's prices varied substantially across inpatient and outpatient services, across different services within the inpatient and outpatient categories, across different Sutter hospitals, across time, and across different Network Vendor contracts. Therefore, demonstrating the impact of Sutter's challenged conduct on a particular procedure, at a particular Sutter hospital, for self-funded payors contracting through a particular Network Vendor (and in some cases even for a particular product), at a particular point in time, would ***not*** demonstrate impact for all other claims. Rather, one would need to analyze separately claims that differ on one or more of these important dimensions to determine whether Sutter's conduct had any impact on those specific claims.

64. For example, one class member, Raypak Incorporated Health & Dental Trust, is in the class by virtue of a *single* inpatient claim for a vaginal delivery with complications at Alta Bates Summit Medical Center (Alta Bates Campus) in 2013. The Network Vendor was Anthem and the allowed amount (the amount that was paid to Sutter) was $18,855. Another class member, Moorpark Unified School District, is in the putative class by virtue of a *single* outpatient claim for an emergency room ("ER") visit at Novato Community Hospital in 2004. The Network Vendor was Blue Shield and the allowed amount on the claim $[Sealed by Order of] Determining whether Sutter's challenged conduct had an

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Banos) to [Sealed by]% for a basic metabolic panel (where charges ranged from $[Sealed] at Marin General to $[Sealed by] at Modesto).

impact on these two putative class members (much less the rest of the class) cannot be reliably done using common evidence, for reasons I explain below.

65. To determine whether each class member was injured by the alleged conduct, Dr. Leitzinger must be able to estimate increases in prices from the alleged conduct for both inpatient and outpatient services *individually*, while controlling for all of the other factors that also influence the prices of these services over the same time period. These other factors (as discussed above) involve a complex array of demand and supply conditions at multiple levels of the healthcare sector. In the above example, Dr. Leitzinger would need to show that the contract terms caused the price set in Anthem's contract for vaginal delivery with complications at Alta Bates in 2013 to be higher than it otherwise would have been. By contrast, for Moorpark, the expert would need to show that the contract terms caused the price set in Blue Shield's contract for ER services to be higher than they otherwise would have been. As discussed below, Sutter priced inpatient services differently from outpatient services and from ER services, and also changed the pricing methodology for both over time.

66. Dr. Leitzinger has failed to measure impact on the prices of different services both within a category of services (e.g., inpatient, outpatient) and across those categories, and therefore, he has failed to prove that impact can be demonstrated reliably using class-wide evidence.

67. In this section, I first demonstrate through analysis of Sutter's contract pricing, and of the actual prices paid according to the Network Vendor claims data, that an individualized inquiry is required to assess any effect of the challenged conduct on the actual prices paid for specific claims. The claims data produced by the Network Vendors contains millions of records which contain extensive details on each transaction paid for by self-funded payors at Sutter hospitals and other California hospitals, including the actual amount paid, the characteristics of the service provided, and other details.[56]

68. In the next section, I explain the flaws in Dr. Leitzinger's analysis that incorrectly lead him to the opposite conclusion.

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[56] The Network Vendors produced data for the following periods: Aetna (2003-2016), Anthem (2006-2016), Blue Shield (2000-2016), Cigna (2002-2016), and United (2004-2016).

V.A. Measuring common impact

69. Whether an individual Class member was impacted will depend among other things on (i) the service the Class member purchased (e.g., inpatient, outpatient, ER) and whether the price for that service was impacted, (ii) the hospital from which the Class member purchased the service and whether the price at that specific hospital was impacted, (iii) the Network Vendor product through which the Class member purchased the service and whether the price for the service that Network Vendor negotiated was impacted, and (iv) the point in time that the Class member purchased the service.[57]

70. The fact that UEBT, which obtained services at Sutter hospitals via its contract with the Blue Shield Shared Advantage/Shared Advantage Plus PPO product, paid a case rate for a specific procedure such as a vaginal delivery at Sutter's California Pacific Medical Center ("CPMC") in 2012 will not show that Moorpark overpaid for ER services in the example above. In fact, as shown in this section, demonstrating impact on that case rate will not provide any evidence that

- a case rate under the Shared Advantage Plus product for a *different* inpatient procedure at CPMC in 2012 was impacted;
- the price under the Shared Advantage Plus product for an *outpatient* surgery at CPMC in 2012 was impacted;
- the case rate under the Shared Advantage Plus product for the inpatient delivery at a *different* Sutter hospital (e.g., Alta Bates) in 2012 was impacted;
- the price under the Shared Advantage Plus product for *outpatient* services at a *different* Sutter hospital (e.g., Alta Bates) in 2012 was impacted;
- the price under an Anthem, Aetna, Cigna, or United product for *any* service at CPMC (or at any other Sutter hospital) was impacted in 2012; or
- a case rate under the Shared Advantage Plus product for a vaginal delivery at CPMC in *2005* was impacted.

V.B. A fundamental flaw that permeates his analysis is the failure to separately analyze inpatient services and outpatient services, not to mention ER and other services

71. General acute care hospitals provide a wide range of services, including inpatient, outpatient, and ER services. Some hospitals also provide trauma services and tertiary

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[57] The prices at which Class members purchase the service are typically ones negotiated by the Network Vendor under a specific contract for a particular product (e.g., HMO or PPO plan) for which the Class member has contracted with the Network Vendor. A given hospital may be "in-network" in which case the price is typically the negotiated price; it may be out-of-network, in which case the price may be determined separately by the given hospital.

services. These services differ substantially on a number of dimensions, including the nature and complexity of the service, the set of rivals that Sutter competes with for the provision of these services (both including general acute care hospitals and other facilities), the way in which Sutter sets prices for these services, and other factors. Each of these factors can influence the relative prices of services and changes in relative prices over time. Dr. Leitzinger's analysis must be able to take into account and isolate the alleged effect of the challenged conduct from all other factors that drive outpatient (inpatient) price changes.

72. This distinction is critical: Roughly 90% of the claims on which Dr. Leitzinger calculates damages are claims for outpatient or ER services (despite the fact that the complaint does not reference outpatient competition factors, which are very different from inpatient competition factors, as I discuss below). In addition, the putative class members differ substantially in the relative prevalence of inpatient and outpatient claims at Sutter hospitals as compared to other providers.

73. As shown in Exhibit 3a, over 400 putative class members (27%) meet the class definition only by virtue of outpatient claims at Sutter hospitals, and over 50 putative class members (4%) meet the class definition only by virtue of inpatient claims.[58] The notion that 27% of the putative class members meet the class definition only by virtue of outpatient claims, when combined with the fact that Dr. Leitzinger truly does not address competitive or other issues associated with outpatient claims, and the fact that outpatient claims have been priced much differently than inpatient claims over the Class Period, is an enormous defect in Dr. Leitzinger's approach.

V.B.1. The nature and complexity of services differs between inpatient and outpatient

74. Another important reason for distinguishing between inpatient and outpatient services is the substantial differences in the nature and complexity of inpatient and

[58] Exhibit 3b shows the distribution of class members by total payments, rather than number of claims, and similarly shows the substantial portion of putative class members with only outpatient claims.

outpatient services. Exhibit 4 shows the most common inpatient procedures (by number of claims) at Sutter hospitals in the Network Vendor claims data.[59]

75. Each DRG has a case weight, which measures the acuity of care. DRGs with case weights of 1 or below are lower-severity; while those with case weights of 3 or above are high acuity or severity. Inpatient services involve at least an overnight stay, and may have much longer lengths of stay. Inpatient services may be elective, urgent, or emergency, depending on the patient's circumstances. Not all hospitals offer all services; for example, tertiary and quaternary services include services such as cardiac surgery and transplants offered primarily at tertiary hospitals and not at local community hospitals. Not all hospitals have trauma centers. Exhibit 5 shows the distribution of inpatient claims at Sutter hospitals in 2015 by DRG case weight. As the exhibit shows, a large fraction of claims were of lower severity (with case rates of l or lower) but other claims were of very high acuity or severity, with DRG case weights above 5.

76. Exhibit 6 shows the most common outpatient procedures (by number of claims) at Sutter hospitals in the Network Vendor claims data. Outpatient procedures may include surgeries using less invasive measures (e.g., arthroscopic knee surgery) as well as a host of imaging procedures (e.g., mammograms) and procedures that consumers obtain infrequently (e.g., colonoscopy). Some outpatient services (e.g., chemotherapy) are ones where a patient may receive multiple treatments, while others such as adenoid removal or cataract surgery may be a one-time surgery. These are differentiated from inpatient services in the amount of time involved, the severity of the care and the location of care delivery.

77. As the exhibit shows, there is a very diverse set of outpatient procedures that were provided at Sutter hospitals (and this is a very small fraction of the 4,475 outpatient procedures for which the putative class is seeking damages).

78. Among the most important differences between inpatient and outpatient services is the amount of resources involved to provide the services, and thus their costs, which factor into prices. For example, the mean inpatient claim at a Sutter hospital in the Aetna

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[59] This is consistent with the most recent data available on the OSHPD website (https://www.oshpd.ca.gov/HID/MS-DRG-Pivot.asp). To be clear, this is different than the OSHPD Hospital Annual Financial Data that Dr. Leitzinger relied upon.

data in 2015 had an allowed amount of $26,481 while the mean outpatient claim had an allowed amount of $1,981. The difference in the median claims was even more pronounced: $14,416 for inpatient claims and only $543 for outpatient claims. Similar differences exist throughout the Class Period.

79. To demonstrate the range of claims involved in the Class Period, it is useful to look at the number of claims in any given year. In 2015 alone, the claims at issue cover over 550 different inpatient procedure codes, ranging from a normal newborn to a heart transplant, and 2,167 different outpatient (CPT) codes. Dr. Leitzinger lumps *all* of these procedures together to find an "average" overcharge on combined inpatient and outpatient services. As discussed below, because of the aggregate data he uses, his regression is incapable of measuring impact of a particular inpatient procedure, and he also cannot measure the impact on inpatient services as a whole separately from any impact on outpatient services.

80. Inpatient services also vary with regard to the health condition of the patient; for example, patients with co-morbidities are higher risk patients and may require more extensive care than patients without these co-morbidities. These differences affect the care required even for the same DRG, and could likely result in more procedures, longer stays, and higher costs than patients with better health. Some hospitals are thought to provide more specialized care for such high risk patients and may attract more of them.

V.B.2. The extent of competition differs between inpatient and outpatient

81. In general, individual hospital services are not substitutes for one another. With respect to inpatient services, for example, patients do not substitute between heart surgery and hip replacement based on changes in relative prices. However, under appropriate circumstances, economists may evaluate clusters of services offered by a hospital where the products are frequently offered together and the competitive conditions are similar.[60]

82. This is not to say that it is appropriate to group together <u>all</u> services offered by a general acute care hospital (e.g., inpatient, outpatient, ER) under the logic of cluster

[60] See, e.g., Market Definition in Antitrust, pp. 279-280. For example, in the context of merger evaluation, economists may define relevant markets that are based on clusters of inpatient services in order to evaluate which hospitals are close competitors and alternatives for the hospitals involved in a merger.

markets noted above. It is particularly inapt without any consideration of whether competitive conditions are similar across the products (e.g., inpatient and outpatient services); which in this instance they are not. The Complaint, however, simply identifies the relevant product market to be "the cluster of general acute care hospital services, and the ancillary products provided in connection with those services, that are made available for purchase, in whole or in part, out of the funds of Self-Funded Payors" and therefore implicitly groups together any and all services.[61] The Complaint provides no analysis to support such a very broad cluster. I note that the cluster as defined by Plaintiff is at odds with recent Federal Trade Commission ("FTC") complaints involving hospital competition. For example, in *FTC v. Reading Health System, et al.*, the FTC defined general acute care *inpatient* services, and then several discrete and separate *outpatient* services markets (e.g., outpatient ear, nose, and throat ("ENT") surgical services) and evaluated prospective competitive effects in each of these several different markets.[62] The majority of litigated hospital merger cases have defined inpatient and outpatient services as separate markets. As an ABA monograph on market definition explains "virtually all analyses treat inpatient and outpatient hospital services as separate markets."[63] Dr. Leitzinger does not identify situations where these services have been examined as a single market. Yet, Dr. Leitzinger effectively assumes, contrary to market realities, that the same factors drive inpatient and outpatient demand and supply and their pricing and that a single model can capture both pricing relationships

83. Demand for outpatient services is differentiated from inpatient services in that it is often for preventative care, for testing, for evaluative services, or for minor surgeries. Outpatient services may be provided in free standing facilities – including physician offices – and often involves very high volume of services of limited type in facilities designed for those services. By contrast, a majority of inpatient services involve far greater severity of care and specific needs, as well as an overnight hospital stay.

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[61] Complaint, ¶ 71.

[62] Complaint, *Reading Health Sys.*, FTC File No. 121-0155 (Nov. 16, 2012), available at https://www.ftc.gov/sites/default/files/documents/cases/2012/11/121116readingsurgicalcmpt.pdf.

[63] See, for example, Market Definitions in Antitrust, p. 289.

84. In addition, outpatient and inpatient services have changed substantially during the Class Period, with fundamental shifts in what is provided in each of these categories. Since the 1990s there has been a substantial shift to performing some services in outpatient settings, leading to substantial growth in freestanding outpatient settings.[64]

85. Ambulatory surgery centers ("ASCs") are a particularly notable example of the extensive changes in outpatient services and the role of competitors other than hospitals. As explained in a 2009 study by RAND, "over the last 20 years, there has been enormous growth in the number of ambulatory surgery centers (ASCs), nationally and in California" and "ASCs compete directly with hospitals in the provision of profitable outpatient surgery services." [65] In 2006, 473 ASCs accounted for 1.1 million outpatient surgery encounters of the 2.9 million outpatient surgery encounters in California (with 360 hospitals accounting for 1.7 million outpatient surgery encounters).[66]

86. ASCs and hospitals perform many of the same outpatient surgeries. In 2006, the top six outpatient surgery procedures for hospitals were also the top six outpatient surgery procedures for ASCs.[67] Many of these are also among the top outpatient procedures paid for by putative class members at Sutter hospitals. Yet Dr. Leitzinger does nothing to investigate the extent to which ASCs affected the pricing of Sutter and other California hospitals.

87. Moreover, there are facilities other than ASCs that compete with hospitals for outpatient services. Laboratory testing is another category in which hospitals compete with a variety of non-hospital rivals. As explained by one 2009 study:[68]

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64 See, e.g., Beth Kutscher, "Outpatient Care Takes the Inside Track", Modern Healthcare (Aug. 4, 2012, 12:01 AM), http://www.modernhealthcare.com/article/20120804/MAGAZINE/308049929

65 Vogt, William B. and John A. Romley, California Ambulatory Surgery Centers: A Comparative Statistical and Regulatory Description, 2009 (hereinafter "Vogt & Romley (2009)"), p. ix. See also U.S. Department of Health & Human Services, Agency for Healthcare Research & Quality, AHRQ, AHRQ Publication No. 07-0007, Ambulatory Surgery in U.S. Hospitals, 26–40 (2007), available at http://archive.ahrq.gov/data/hcup/factbk9/factbk9.pdf.

66 Vogt and Romley (2009), p. 10.

67 Vogt and Romley (2009), p. 11 and Table 1.

68 The Lewin Group, "Under the Microscope: Trends in Laboratory Medicine," April 2009, p. 8.

> Hospitals, physician offices, independent labs operated by nonprofit entities or for-profit corporations, public health departments, nursing homes, and other facilities all do lab testing. Lab test sites and the entities that perform tests are expanding and diversifying along with dramatic changes in the types of tests. This diversification has improved consumer access to lab services and has enabled health care providers to increase their scope of services, competitiveness, and revenue.

88. The study estimated that in 2007, hospitals accounted for only 4% of labs in the United States, meaning that hospital laboratories face considerable competition from non-hospital laboratories.[69]

89. The Network Vendors recognize the important differences even for different procedures within the inpatient and outpatient categories. Mr. Joyner of Blue Shield testified:[70]

> A. They are major logical categories of services at inpatient and outpatient. So instead of looking at – it's valuable to look at a blended number, but it's also can be more insightful to look at a more granular way of looking at the services.
>
> Q. Why is that?
>
> A. Just it helps you understand what's driving the result. So you might see a hospital that's very high cost and you might be able to figure out that they are high cost say in surgical, but low cost in maternity, say.

V.B.3. Sutter's pricing methodology differs substantially between inpatient and outpatient

90. Starting in the late 1990s, rather than conducting twenty separate managed care negotiations as they had done previously, Sutter began negotiating systemwide agreements with certain network vendors that covered all Sutter providers.[71] The larger the expected volume of the Network Vendor, generally, the better terms that Sutter was willing to offer. For this reason, Sutter's contracts with larger Network Vendors like Blue Shield and Anthem typically receive higher discounts compared to Network Vendors like

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69 *Id.*

70 Deposition of David Sean Joyner, March 20, 2017 (hereinafter "Joyner Deposition"), p. 160. Mr. Joyner was Senior Vice President at Blue Shield

71 Brendt Declaration, ¶ 8.

Cigna and even higher discounts compared to small network vendors such as Interplan or Multiplan.[72] These contracts typically covered both inpatient and outpatient services.[73]

91. During the relevant period, most outpatient services and all emergency and trauma services were billed at a percentage of charges (e.g., Sealed % of charges), which generally did not change over time for a given contract. Some outpatient procedures shifted to case rates later in the period (at different times for different hospitals).

92. Sutter's discounted rates for inpatient services, however, are set differently. Before 2005, the most common form of rates for inpatient services was "per diem" rates (with a fixed rate per day depending on the level of care required). The exceptions were Sutter's rural hospitals, where the negotiated rates have always taken the form of a percentage of billed charges.

93. Per diem rates typically were subject to a "stop-loss" threshold.[74] Specifically, if the actual charges accruing for the service being provided (i.e., the charges set forth in the chargemaster that would have been charged absent the negotiated per diem rate) exceeded the stop-loss threshold, the per diem rate fell away and the entire service was billed at a specific negotiated percentage of billed charges.[75]

94. Beginning around 2005, Sutter changed its payment methodologies for some inpatient services from per diems to case rates for some hospitals. Sutter piloted the use of "case rates" in 2005 with Health Net at two facilities and with United Healthcare at four facilities.[76] The following year, Aetna piloted case rates at three facilities. Between 2007 and 2008, depending on the Network Vendor and the hospital, Sutter adopted case rates and by 2008, most of the hospitals had converted to case rates for inpatient procedures for most of the Network Vendors.

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[72] Brendt Declaration, ¶ 14.

[73] I note that contract negotiations include a range of trade-offs by the payor and the health system, with the overall negotiated amounts reflecting a variety of factors having to do with specific needs of each, term of contract, and how changes are reflected over time.

[74] Brendt Declaration, ¶ 20.

[75] Brendt Declaration, ¶ 20.

[76] Brendt Declaration, ¶¶ 22-23; Declaration of Jon Chason (April 13, 2017) (hereinafter "Chason Declaration"), Exhibit 7. Mr. Chason is Vice President of Managed Care Analysis of Sutter Health.

95. Before the transition to fixed case rates for specific services, from 2004 through about 2007, a little over Sealed % of Sutter's net revenue from inpatient services was billed as a percentage of charges. Around 2008, that percentage decreased as more services and more hospitals were transitioned to case rates. By 2014, that percentage had decreased to about Sealed %.[77] On the other hand, Sutter's net revenue from outpatient services was almost entirely billed as a percentage of charge throughout the period, constituting Sealed % or more of Sutter's net revenue between 2004 and 2014.[78]

96. Exhibit 7 shows the contract rates from 2000 through 2016 for three exemplar Sutter hospitals (Sacramento, CPMC, and Lakeside) for three selected categories of outpatient services (outpatient surgery, ER, and other outpatient services) and for some dimensions inpatient services pricing.[79]

97. As these exhibits show, for outpatient services, Sutter's contract rates i.e., the percent of billed charges) with each of the five Network Vendors were generally flat for the entire 2002 through 2016 period. For example, for CPMC, ER prices were constant at Sealed % (Aetna), Sealed % (Anthem), Sealed % (Blue Shield), and Sealed % (Cigna) of charges throughout the period. United prices were constant at Sealed % of charges from 2004 through 2006 and then dropped to Sealed % of charges. Rates for outpatient services at Lakeside were similarly flat for each Network Vendor over the same period. Specifically, Blue Shield's and Anthem's rates for outpatient surgery, ER and other outpatient services remained at Sealed % of charges from 2002 to 2016 while Cigna's rates for the same three categories stayed constant at Sealed % of charges during the same period. Aetna's rates started at Sealed % of charges in 2000 before dropping to Sealed % of charges thereafter, while United's rates remained constant at Sealed by % from 2004 to 2013 before rising to Sealed % of charges. The story was similar for Sutter Sacramento: even when rates for outpatient surgery procedures shifted largely to a case-rate structure around 2007, their rates based on a percent of

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77 Chason Declaration, ¶ 10 and Exhibit 7.

78 Chason Declaration, Exhibit 7.

79 United and PacifiCare shared a contract in 2007 but had different contract rates (Twelfth Amendment to the PacifiCare 2003 Systemwide Agreement). Starting in 2009, they shared the same contract rates (2009 United Systemwide Agreement).

billed charges continued flat from previous levels. Thus, there was no effective reduction in "discounts" from the pre-period to the Class Period for outpatient services at Sutter.

98. In contrast, from 2002 to 2015, Dr. Leitzinger's analysis shows Sutter's average reimbursement ratio (using the OSHPD data) increased from 36.5% to 51.8%.[80] Notably, this substantial increase calculated by Dr. Leitzinger is the source of much of his average overcharge percentage, which he then applies to *every* Sutter claim, including claims for all outpatient categories at Sutter hospitals, even though empirically, Sutter's outpatient pricing and associated discount stayed roughly the same during this period. This analysis shows the fundamental error in Dr. Leitzinger's methodology. He inappropriately takes an estimated change in an aggregated measure that combines inpatient and outpatient payments as compared to inpatient and outpatient charges (the reimbursement ratio), calculates the change in this over time and asserts the result represents a substantial reduction in Sutter's effective discounts for both outpatient and inpatient services. My analysis of actual contracted rates shows effectively no change in outpatient effective discount rates. Moreover, because Dr. Leitzinger testified that Sutter's billed charges (chargemaster charges) for outpatient and inpatient services were competitive over the period,[81] the conclusion from this analysis is that changes in outpatient "prices" at Sutter are not evidence of overcharges. At a minimum, Dr. Leitzinger should have studied inpatient and outpatient services separately.

99. For other claims, e.g., for a number of inpatient procedures such as various maternity procedures, reimbursements were based, not on a percentage of charges during the Class Period, but rather on per-diems and/or case rates.[82] Demonstrating that these rates were inflated would require a detailed investigation into those specific rates, which Dr. Leitzinger has not done.

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[80] Leitzinger Declaration, Figure 4.

[81] Leitzinger Declaration, ¶ 48 ("There is no claim in this case, or evidence I have seen, suggesting that the challenged contract practices affected billed charges at Sutter."); Leitzinger Deposition, pp. 170-173.

[82] Sutter's Lakeside, Amador, and Coast hospitals were exceptions, and generally reimbursed inpatient procedures based on a percent of charges throughout the Class Period. However, their reimbursement ratios for inpatient procedures remained generally flat over the period. (see, for example, Lakeside, as shown in Exhibit 7).

100. In fact these rates substantially differed across Sutter hospitals for the same procedure. For example, Cigna's case-rate contract price in 2008 for cardiac procedures (DRGs 216, 217, and 218) was $[redacted] at Mills Peninsula, which was about [redacted]% higher than the $[redacted] price at Memorial Medical Center, Modesto.[83]

101. Thus, an analysis of pricing in Sutter's contracts demonstrates that there were substantial differences in the methodologies that Sutter used for prices across services, across hospitals, and across time. This analysis demonstrates that the average trend in an aggregated reimbursement ratio for each Sutter hospital and for Sutter combined (like that Dr. Leitzinger relies on in his regression model) fails altogether to take into account these changes in methodologies and does not yield a reliable estimate of reimbursement ratio or change in it for specific categories of services or hospitals. It bears no resemblance to actual changes in net payments relative to charges or changes in them for specific categories of services charged by Sutter hospitals.

V.B.4. Trends in reimbursement ratios differ substantially for inpatient and outpatient services

102. An analysis of the claims data produced by the Network Vendors is consistent with the analysis of contract rates described in the previous subsection and further supports this conclusion – that the large increase in the average reimbursement ratio which Dr. Leitzinger measures for Sutter, bears little to no resemblance to actual reimbursement ratio (let alone prices) for actual claims for many services at many Sutter hospitals.

103. Exhibit 8 presents average Sutter reimbursement ratios (i.e., the same measure as Dr. Leitzinger uses in his overcharge analysis, but here measuring them in the actual Network Vendor claims data) for inpatient and outpatient claims from the claims data produced by Blue Shield and Aetna respectively.

104. As these exhibits show, the trends in both inpatient and outpatient reimbursement ratios were very different. Consistent with the discussion of Sutter's pricing methodologies above, the reimbursement ratio for outpatient claims generally hovered

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[83] Eighth Amendment to Cigna 2002 Systemwide Agreement at DEF000014209.

around Sealed% for both Aetna and Blue Shield, remaining relatively flat throughout the Class Period. In contrast, the average reimbursement ratio for inpatient claims, while substantially lower, increased during the Class Period from roughly 40% to 50% for Aetna and from roughly Sealed% to Sealed% for Blue Shield. The correlation between the inpatient and outpatient trends for Aetna was 0.41 and for Blue Shield was -0.17. These correlations suggest that inpatient and outpatient reimbursement ratio trends typically did not move together (indeed, for Blue Shield they moved in opposite directions), but rather were affected by different factors. This shows that Dr. Leitzinger's assumption that an impact to the inpatient ratios would impact outpatient ratios is inconsistent with the data.

105. As discussed in more detail later in the report, an increase in average reimbursement ratio does not necessarily mean that actual prices for specific transactions were increasing, but the difference in trends in reimbursement ratios strongly suggests that different factors are explaining the movement of these ratios. This supports the conclusion that demonstrating impact, for example, on an inpatient claim will not necessarily demonstrate impact on an outpatient claim.

V.B.5. For assessment of common impact and overcharge it is important to analyze inpatient and outpatient separately

106. Demonstrating impact will require different proof depending on how Sutter's contracts set prices for a specific claim. Claims for which the contracts established prices as a fixed percentage of charges will be different from claims for which the contracts set case rates, for example.

107. Dr. Leitzinger has concluded that the challenged conduct did not affect Sutter's chargemaster prices (i.e., that Sutter's charges were not inflated):[84]

> There is no claim in this case, or evidence I have seen, suggesting that the challenged contract practices affected billed charges at Sutter. In that regard, I have examined average commercial billed charges per patient day for inpatients and outpatients over time both at Sutter and at other California hospitals. I show those comparisons in Figure 3. They bear this out. There is no suggestion in these data that the implementation of the challenged contract practices impacted Sutter's billed charges.

[84] Leitzinger Declaration, ¶ 48.

108. During the class period, except in a few instances, the Network Vendors and Sutter did not renegotiate the size of the discount off billed charges for outpatient services and ER. As Exhibit 7 shows, the Network Vendors and Sutter agreed to keep the percentage of billed charges the same year after year. At times during the class period, Sutter and Network Vendors agreed to caps on the percentage year-over-year increases to the chargemasters.[85] Given his admission that chargemaster charges were not impacted necessarily means that the negotiated increases to charges were not impacted either.

109. Thus, under Dr. Leitzinger's theory, the only way to demonstrate impact for a claim where Sutter's price was determined based upon a percentage of charges would be to demonstrate that the specific percentage that Sutter charged was inflated. For Blue Shield, for example, as shown in Exhibit 7, outpatient surgery at CPMC was reimbursed at Sealed% or Sealed% of charges from 2000 (before the so-called "all or nothing" clause was introduced into that contract) to 2014 (at which point rates were switched to case rates). This pattern does not support Dr. Leitzinger's theory that Sutter's prices materially increased after imposition of the allegedly anticompetitive terms.

110. For Aetna, Emergency Room service at Sutter Medical Center Sacramento ("SMCS") was reimbursed at a steady Sealed% of charges from 2003 through 2017; prior to 2003, back to at least 2000, their reimbursement ratio term for Emergency Room was Sealed% of charges. That is, Aetna's rate actually *declined* from Dr. Leitzinger's pre-period to his Class Period (see Exhibit 7).

111. In short, in light of the way in which outpatient payments were set (percentage of billed charges) and given his admission that charges were not impacted at all by the conduct, Dr. Leitzinger has not demonstrated that outpatient services were impacted. The same is true with respect to other services priced as a percentage of billed charges (e.g., ER, Trauma, inpatient services charged after the stop-loss). A reliable analysis must analyze inpatient and outpatient services separately.

112. Putting aside its numerous flaws that render it unreliable, Dr. Leitzinger's modified regression suggests that prices at the three rural hospitals, which are based

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[85] See for example, Fifth Amendment to the 2002 Blue Shield Systemwide Agreement, at DEF000013702.

solely on a percentage of billed charges, are not impacted by the challenged conduct. In fact, Dr. Leitzinger's regression estimates that the challenged conduct resulted in reimbursement ratios at the three rural hospitals that were 8% *lower* than the average reimbursement ratios for non-Sutter hospitals. While my opinion is that the regression is unreliable, also its findings demonstrate that common proof cannot be used to demonstrate impact – instead the results suggest that at least some services billed as a percentage of billed charges (including, potentially outpatient services at all Sutter hospitals) were not impacted.

V.C. Variation within the inpatient and outpatient categories is yet another reason to analyze inpatient and outpatient separately

V.C.1. Trends in reimbursement ratios differ substantially for different procedures

113. The trends in average inpatient and outpatient actual reimbursement ratios based on actual prices in the claims data mask even further diversity at the individual procedure level. Exhibit 9 shows similar trends, based on claims data for Aetna and Blue Shield, for five of the most common inpatient procedures (including joint replacement, Cesarean sections, and vaginal delivery),[86] and five of the most common outpatient procedures (including lipid panel, emergency department visits, and mammography screening).[87]

114. Statistical tests confirm that the trends in actual reimbursement ratios based on the claims data for common procedures are not closely correlated with one another, and not closely correlated with Dr. Leitzinger's Sutter average reimbursement ratio from the OSHPD data. Exhibit 10 shows the correlations between the different price series for both Aetna and Blue Shield.

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[86] Specifically, the exhibit shows trends for: Major Joint Replacement or Reattachment of Lower Extremity without Major Complications or Comorbidities (470); Uterine & Adnexa Procedure for Non-Malignancy without Major Complications or Comorbidities (743); Cesarean Section with Major Complications or Comorbidities (765); Cesarean Section without Major Complications or Comorbidities (766); Vaginal Delivery without Complicating Diagnoses (775); Psychoses (885).

[87] Specifically, the exhibit shows trends for: Lipid Panel (80061); Assay Thyroid Stim Hormone (84443); Emergency Dept Visit (99283 and 99284); Screening Mammography Digital (G0202).

115. Even for outpatient services, which had much less variation in reimbursement ratio than inpatient services, the trends are not highly correlated. Moreover, diversity in prices for these procedures is even greater than diversity in reimbursement ratios. These differences across different procedures are particularly important because there are many putative class members that meet the class definition by virtue of claims for a relatively small number of procedures.

116. This results in putative class members being very differentially situated. Consider a few examples.

117. Monrovia Nursery Company Inc. is a putative class member by virtue of a single claim in 2015, for a chest x-ray at the Summit Campus of Alta Bates Summit Medical Center. The allowed amount for that claims was $187.

118. Similarly, Nixon Peabody LLP is a putative class member by virtue of four claims, all for screening mammography, at two Sutter Health facilities over the 2013 to 2016 period. The allowed amount for those claims ranged from $260 to $413.

119. In contrast, AeroVironment, Inc. is a putative class member by virtue of a single claim for arthroscopic shoulder surgery at Sutter Medical Center Sacramento in 2013. The allowed amount for that claim was $55,146.

120. The factors affecting the prices for x-rays and arthroscopic surgeries vary substantially. Only through an individualized inquiry would it be possible to determine whether these class members were impacted by the challenged conduct.

V.D. Dr. Leitzinger fails to properly account for the substantial variation in pricing across Sutter hospitals

V.D.1. Sutter's pricing methodology differed substantially across hospitals

121. As discussed above and shown in Exhibit 2, Sutter's hospitals differ widely on many important dimensions, including geographic location, size, services provided (e.g., presence of trauma center), and other factors. Sutter's hospitals also differ importantly in the extent of competition that they face.

122. These broad differences affected Sutter's pricing methodology which differed substantially between its hospitals during the Class Period in multiple respects.

123. First, Sutter set inpatient prices very differently at the rural hospitals (Amador, Coast, and Lakeside) than it did at other hospitals. As shown in Exhibit 7, whereas

inpatient prices at SMCS and CPMC were typically set as per diems or case rates (subject to stop loss provisions and other factors), inpatient prices at Lakeside were consistently set as a percent of billed charges throughout the damages period.

124. Second, as Sutter transitioned from one pricing methodology to another during the period, this transition typically did not occur at the same time at every Sutter hospital. As shown in Exhibit 7, SMCS had a pilot project with Aetna and United in 2006 applying case rates to a limited number of procedures (while most other inpatient procedures were reimbursed based upon per diems), and then moved largely to case rates by 2008. CPMC, in contrast, did not have the pilot program and moved to case rates slightly later in time depending on the Network Vendor.

125. In addition, stop loss provisions varied significantly across Sutter hospitals. For example, in 2006, the stop loss threshold in the Anthem contracts ranged from SeaSealed by Order of for Sutter Davis Hospital to SeaSealed by Order of at Alta Bates. This variation was even larger after the implementation of case rates. For example, in 2016, Anthem's stop loss thresholds ranged from SeaSealed by Order of the at Eden Medical Center to SealedSealed by Order of at Alta Bates. Similar disparities between the stop loss thresholds across Sutter hospitals were present in the contracts of the other network vendors as well. Similarly, in 2005 Cigna had stop loss thresholds ranging from Sealed by Order of the at Sutter Delta Medical Center to $Sealed by Order of at Memorial Medical Center – Modesto.

126. For a given procedure, prices also varied across Sutter hospitals. In fact these rates substantially differed across Sutter hospitals for the same procedure. For example, Cigna's case-rate contract price in 2008 for cardiac procedures (DRGs 216, 217, and 218) was $Sealed by Order of the at Mills Peninsula, which was about Sealed% higher than the $Sealed by Order of the price at Memorial Medical Center, Modesto.[88]

V.E. Sutter's contracts with the different Network Vendors differed in important respects.

127. The analysis is made even more complex by the fact that the conduct at issue involves contract negotiations between Network Vendors and each of the many inpatient and outpatient providers (such as a Sutter hospital and its outpatient facilities) and the

[88] Eighth Amendment to Cigna 2002 Systemwide Agreement at DEF000014209.

impact of the results of those negotiations on the prices for services obtained by the self-funded health plans. Self-funded health plans typically do not separately negotiate with providers (although they may in some circumstances), and instead use the effective "price schedule" of rates that the Network Vendor has negotiated on behalf of all of its plan customers.[89]

128. In addition to the complex array of market conditions and factors that could influence these negotiated prices, there is the fact that Self-funded Payors represent only a subset of the customers on whose behalf the Network Vendor is seeking to negotiate contracts at related reimbursements or prices to establish a network of providers supporting a specific set of plans or products. For any given Network Vendor, these health plan products may involve different benefit structures and premiums as well as different populations of members.[90] The Network Vendor-provider negotiations are complex ones because Network Vendors contract with providers for employers and consumers that seek fully-funded plans, and to form networks of providers that provide sufficient alternatives for a wide array of products, and not just for Self-funded Payors. Network Vendors are also in competition with each other and with Kaiser (who is a Network Vendor with a more limited network of providers). Network Vendors are influenced by these incentives and may make trade-offs in negotiations between and among providers and across a wide array of populations.

129. Negotiations between a Network Vendor and a given provider will reflect efforts to reach agreements that accommodate both sides of the negotiations.[91] The negotiations may result in trade-offs between prices for different procedures, in timing of price changes over what are typically longer term contracts; and in focus on overall reimbursements rather than individual service prices. Network Vendors may

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89 As noted elsewhere in this Report, these rates include many different methodologies for inpatient prices including per diems, case rates, or a percent of charges, and other methodologies for outpatient services such as a percent of charges. Effective payments required per service may differ among Network Vendors for many reasons.

90 For example, the product could be an HMO product with more limited network of providers and greater co-pay requirements, or a broader network of PPO products with more providers and higher premiums.

91 Deposition of Steve Melody (Anthem, March 21, 2017), pp. 44-45. Mr. Melody is President of the Medicaid Health Plan for Anthem (Melody Deposition, Exhibit 1).

accommodate with somewhat improved reimbursement for a variety of competitively benign factors. Testimony in this matter shows that these sorts of efforts existed in the negotiations between Sutter and the Network Vendors.

130. This complexity in the negotiated prices between entities other than the putative class members highlights a distinction from other class action matters involving transaction prices between the putative class member and the supplier. In this instance, the incentives of Network Vendors to accommodate in pricing or timing of price changes for competitively benign reasons and to the overall benefit of an individual Network Vendor across its many products and members may result in relative price differences between the various Network Vendors and their negotiated prices for a given provider and its services. These incentives may change over time, and result in changes in the resulting prices for a particular Network Vendor that are the ones relevant for "purchases" by a Self-Funded health plan.

131. As shown in Exhibit 7 and discussed in Section V.D above, Sutter introduced its new pricing methodology at different points in time for different Network Vendors. Thus, determining that there was impact for a particular Network Vendor that had that term in place in a particular year would not demonstrate impact for other Network Vendors.

132. As shown in Exhibit 11, the average reimbursement ratio, and the trend in average reimbursement ratio differed substantially among Network Vendors.

133. Cigna consistently had the highest reimbursement ratios, frequently 20 or more percentage points higher than the others for both inpatient and outpatient services. The trends differed substantially as well. Blue Shield's average reimbursement ratio for inpatient services increased from 30% in 2006 to over Sealed% by 2015. In contrast, United's rate hovered fairly consistently between Sealed% and Sealed% during that period. A statistical analysis confirms that these trends are not highly correlated.[92] Thus, these analyses

[92] For example, the correlation coefficient between Cigna's and Blue Shield's average reimbursement ratios over the 2003 to 2015 period is about 0.46, and the correlation of United's with the others' is always negative, between -0.30 and -0.35 (excluding Anthem, for which the data series is only four years). The correlations between outpatient ratios are even lower, and again excluding Anthem, never exceed 0.35 (between Blue Shield's and United's average reimbursement ratios).

further demonstrate that the effect of the conduct on prices at a single Network Vendor does not prove that the conduct impacted prices through a different Network Vendor.

134. Moreover, the transition typically did not occur at the same pace for each Network Vendor. For example, in 2007 the number of hospitals with case rates differed substantially across Network Vendors: Aetna (1 hospital), Anthem (10 hospitals), Blue Shield (7 hospitals), Cigna (14 hospitals), United (17 hospitals).[93]

VI. DR. LEITZINGER FAILS TO DEMONSTRATE THAT "ALL OR NEARLY ALL" PUTATIVE CLASS MEMBERS WERE OVERCHARGED

135. In the previous section, I explained that both Sutter's contract prices and the prices in the network vendor claims data demonstrate that there is tremendous diversity in Sutter's pricing (and the trends in its pricing) across categories (e.g., outpatient vs. inpatient), across procedures, across hospitals, across Network Vendors, and across time. Dr. Leitzinger does not reliably analyze any of this. (Indeed, Dr. Leitzinger's data analysis does not look at prices at all.) Instead, he conducted a limited analysis of Sutter's contracts, a modification of his regression analysis, and a limited analysis of the Network Vendor claims data to reach his conclusion that common evidence demonstrates that "all or nearly all" putative class members were overcharged. Specifically, Dr. Leitzinger claims that four types of evidence can be used to support his conclusions:[94]

> "(1) the common manner in which reimbursement paid by all Class members is determined,
>
> (2) evidence showing that parity across network vendors in reimbursement terms was both the objective and the perceived consequence of Sutter's contracting practices,
>
> (3) evidence from the Sutter provider agreements themselves showing a high degree of commonality in contract terms and evidence from my statistical analysis of reimbursement rates showing that overcharges existed broadly across Sutter hospitals, and
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> (4) claims experience from the network vendors showing that all or nearly all Class members paid higher average reimbursement rates for Sutter as compared with other California hospitals within at least one of the two principal categories of hospital service (inpatient or outpatient/emergency room)."

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93 Brendt Declaration, ¶ 24.

94 Leitzinger Declaration, ¶ 72.

136. Dr. Leitzinger's evaluation of each of these categories of evidence is flawed as I discuss below.

VI.A. Lack of commonality across self-funded payors contracting with a given Network Vendor

137. Dr. Leitzinger's first contends that:[95]

> every Class member utilizing a particular vendor network in a particular time had its reimbursement determined in the same way. This means that every Class member providing reimbursement for a particular service at a given Sutter hospital through a given network at a given point in time would pay the same amount.

138. He also points to the price schedules for different hospitals as evidence that the same prices for each hospital would apply to any putative class member who purchased services at that hospital under the product offered by a particular Network Vendor to which the list applies at a given point in time.[96]

139. As a general matter, it is true that, at a given point in time, every entity that accessed Sutter through a particular Network Vendor paid the same price listed in that Network Vendor's price schedule for a certain product and hospital, but that fact does not show that all or nearly all Class members were in fact impacted by the alleged wrongdoing—e.g., it does not demonstrate that each service was impacted by the alleged conduct; nor does it show that any impact on prices for a services was common across all hospitals or across all vendors. In fact, it demonstrates why individual inquiry is necessary. As discussed above, whether a class member was impacted will depend on (i) the specific service(s) that the class member purchased, (ii) the hospital at which they were purchased, (iii) the Network Vendor with which the class member had a contract and the product through which the payor accessed Sutter, and (iv) the time at which the class member purchased the product.

VI.B. Lack of "parity" across Network Vendor contracts

140. Recognizing that the impact on prices negotiated by one Network Vendor would not necessarily be the same as the impact on prices negotiated by the other Network

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[95] Leitzinger Declaration, ¶ 73.

[96] Leitzinger Declaration, ¶ 74.

Vendor, Dr. Leitzinger compared prices across Network Vendors and concluded that there was "parity in reimbursement terms across networks."[97]

141. First, he notes that Sutter "promoted—and sought to maintain—parity in reimbursement terms across networks," citing to a parity agreement between Sutter and Blue Shield. Between 2001 and 2005, Sutter and Blue Shield agreed that Sutter's contracted rates would be in parity with Anthem's rates for the same or similar products.[98] Beginning in 2005, Blue Shield no longer demanded parity rates and negotiated its own contracted rates.[99] Aetna received discounts in parity with Anthem in the early 2000s (meaning within [redacted]%), and like Blue Shield later negotiated its own contracted rates.[100] Cigna, PacifiCare, and United did not have similar parity agreements.[101]

142. Whether Sutter aimed for, or had agreed to, parity with certain Network Vendors does not demonstrate that the impact of the challenged conduct would be spread across Network Vendors, even where there was a parity agreement, let alone for the Network Vendors and time periods where there was no such agreement. An analysis of the actual outcomes of the negotiations (i.e., the actual contract prices) across the Network Vendors would be required.

143. Moreover, even if the prices were similar, that would not support the conclusion that all or nearly all prices were impacted. Dr. Leitzinger's analysis only looks at relative payments at a given point in time. It does not show how those payments changed over time; nor does his analysis evaluate whether the Network Vendor's prices are related to each other which is the more relevant analysis for evaluating the extent to which there was common impact of the challenged conduct across Network Vendors.

144. Dr. Leitzinger also conducted a comparison of Sutter's contract prices for Anthem to contract prices for each of the other network vendors, at two points in time (2005 and 2010), and concluded that for a large percentage of services, the prices of other Network

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97 Leitzinger Declaration, Section VI.B.

98 Brendt Declaration, ¶ 31.

99 Brendt Declaration, ¶ 31.

100 Brendt Declaration, ¶ 32.

101 Brendt Declaration, ¶ 33.

Vendors were within 10% (no more than 10% above and no more than 10% below) of Anthem's prices for the same services.[102] Dr. Leitzinger's conclusion is flawed and does not demonstrate that, if the challenged conduct impacted the prices for one Network Vendor, it affected the prices of other Network Vendors

145. First, Dr. Leitzinger chose to compare Network Vendor contracts in only two of the 14 years for which he calculates overcharges, which understates the variability in contract terms across Network Vendors. Indeed, when asked at deposition why he chose those two years, Dr. Leitzinger seemed to suggest it was *because* there was relatively less variation in the Network Vendor contracts in those years, explaining that they:[103]

> …were relatively clean in terms of seeming to fall in the middle between rounds of contract amendments with the network vendors and wouldn't be subject to catching one vendor having moved to another set of terms while the other vendor was still waiting for its turn.

146. As Dr. Leitzinger's explanation implies, there were in fact other years where the pricing terms differed substantially across Network Vendors. This was particularly true during Sutter's transition to case rates, which largely took place between 2005 and 2010. As shown in Exhibit 7, for example, in 2005, as part of a pilot program, United had moved certain inpatient services at SMCS to case rates. However, other Network Vendors still used per diems/stop loss and percentage of billed charges for inpatient services. The United contract rate for normal vaginal delivery was $Sealed by Orde per *case* at Sutter Medical Center - Sacramento. At the same time, Aetna's contract rate was $Sealed by Orde per *diem* for the same procedure. Dr. Leitzinger fails to account for Sutter's pilot programs and therefore completely ignores this example in his analysis. In 2007, Aetna's contract still set outpatient surgery prices as Sealed% of billed charges for SMCS, whereas Anthem, Blue Shield, Cigna, and United had moved to case rates. And the case rates differed across the network vendors. Additionally, between 2002 and 2004, Cigna's

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[102] Leitzinger Declaration, ¶ 76 ("My analysis of contract terms shows that Sutter did in fact maintain significant parity in network pricing contract terms"). Leitzinger Deposition, pp. 184-85.

[103] Leitzinger Deposition, pp. 182-183. He also testified that the "goal here was to get a year sort of towards the front end of the period and then a year more towards the back end of the period… It seems that just having a couple of years positioned in that way would be sufficient to understand – to learn what I could from that."

outpatient services were billed at Sealed% of billed charges at SMCS compared to SealSe Sealed Sealed Sealed- offered to Anthem and Blue Shield.[104]

147. In addition, Dr. Leitzinger's code for conducting this comparative analysis includes a filter that explicitly excludes circumstances where two Network Vendors were paying based on different pricing methodologies (e.g., one based on per diems and one based on percent of billed charges). For example, in 2005, prices for inpatient services at Memorial Hospital Los Baños were set based on a per diem basis in the Anthem contract, but as a percent of charges in the United contract. Dr. Leitzinger simply drops this comparison from his analysis, which effectively eliminates from his analysis the very source of differences between and among Network Vendors and the differences in prices driven by different methodologies that Sutter used.

148. Second, Dr. Leitzinger only looks at a subset of the contractual terms that determine prices. For example, as discussed above, prices for inpatient services were often set based on per diems, but where expenses exceeded the stop-loss threshold (which may vary by Network Vendor) prices reverted to a percentage of billed charges (which again may vary by Network Vendor). Dr. Leitzinger, however, only compared the per diems in this situation. For example, in 2005, Cigna's stop loss threshold across its plan types at five hospitals was $Sealed by Order of the Cas compared with Anthem's 2005 stop loss of SeaSealed by Order of the for these hospitals.[105] Dr. Leitzinger focuses only on the per diem rates, however, and so he finds that Cigna and Anthem were in parity for 2005 for some procedures, despite this large gap in the stop loss threshold. Thus, the 2005 contract alone shows the opposite of what Dr. Leitzinger concludes. Even in cases where the stop loss is

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[104] 2002 Cigna Systemwide Agreement at DEF000013846-847. 2001 Blue Cross of California Systemwide Agreement at DEF000013236-237; Second Amendment to the 2001 Blue Cross of California Systemwide Agreement at DEF000013306; Fourth Amendment to the Blue Cross of California Systemwide Agreement at DEF000013346. 2002 Blue Shield Systemwide Agreement at DEF000013544-545; First Amendment to the 2002 Blue Shield Systemwide Agreement at DEF000013600; Fourth Amendment to the 2002 Blue Shield Systemwide Agreement at DEF000013634.

[105] Fourth Amendment to the 2002 Cigna Systemwide Agreement at DEF000013997; Eighth Amendment to the 2001 Blue Cross of California Systemwide Agreement at DEF000013451-456.

similar in terms of the percentage or the threshold, actual prices will differ for any given claim depending on whether the stop loss threshold was reached.

149. Third, even Dr. Leitzinger's analysis, which is biased towards finding "parity" for the reasons discussed above, in fact confirms that there were substantial differences in contract prices across Network Vendors. His analysis shows, for example, that Cigna's inpatient contract prices were frequently higher than Anthem as analyzed. In 2010, for Sealed% of 3,128 inpatient comparison groups (DRG-hospital combinations), Cigna's contract prices were more than Sealed% higher than Anthem's. In 2005, for Sealed% of 344 inpatient comparison groups Cigna's contract prices were more than Sealed percent higher than Anthem's, (and Sea% were more than Sealed b percent below the Anthem price).

150. Similarly, Dr. Leitzinger finds that United's prices were substantially higher than Anthem's. Dr. Leitzinger alleges that "[w]hen averaged across plans, Sealed% of UnitedHealth prices were within +/- Sealed percent of Anthem's prices" for inpatient procedures. His method of averaging prices across plan types masks the fact that United's inpatient prices for certain sets of its products are substantially different from Anthem's prices. Dr. Leitzinger's own backup demonstrates that when evaluated separately, Sealed% of United's inpatient pricing for HMO and POS fall outside the +/- Sealed percent range of Anthem's prices. Even for its other products including PPOs, less than Sealed% of United's prices were within +/- Sealed percent of Anthem's prices. Moreover, as Dr. Leitzinger admits, in other years there was not parity between United's prices for inpatient services and Anthem's prices. In 2005, Sealed% of United's inpatient prices were more than Sealed% higher than Anthem's prices.

VI.C. Lack of common impact across Sutter hospitals

151. Dr. Leitzinger points to the results of his modified regression model as evidence that there was "broad impact" common across Sutter hospitals. I explain in detail in Section VII the many problems with Dr. Leitzinger's regression methodology that render it useless for evaluating the economic issues relevant to class certification (and for measuring aggregate overcharges). All the flaws in his primary damages model apply equally to his modified model. For example, like his primary model, his modified model is incapable of measuring the impact on inpatient services separately from outpatient or any other services.

152. For current purposes, it is sufficient to note that Dr. Leitzinger's own results from his modified regression in fact show *substantial* variation across groups of hospitals. Putting aside all of its numerous flaws, the regression estimates that increases in reimbursement ratios at three Sutter hospitals (Amador, Coast, and Lakeside) were actually lower than increases at other California hospitals that he used as his benchmark. Under his theory that his regression can measure impact (which it cannot), it shows that the challenged conduct caused Sutter to *lower* its prices at three hospitals in geographic markets where Plaintiff alleges that Sutter had market power.

153. For the other Sutter hospitals, the measured "overcharge" in his modified regression ranged widely, from 7% at Marin General Hospital to 45% at Memorial Medical Center Modesto. As a result, even under Dr. Leitzinger's measure, class members whose employees tended to frequent certain of these hospitals would have been "injured" in amounts completely different than other class members. Thus, using a "common" overcharge for each class member would be completely inappropriate.

VI.D. Lack of common impact as shown in the Network Vendor claims data

154. Dr. Leitzinger performed a limited analysis of the Network Vendor claims data to evaluate whether putative class members paid higher average actual reimbursement ratios at Sutter hospitals than at other hospitals. He compares the average reimbursement ratio for a particular procedure at Sutter hospitals, with the average reimbursement ratio paid for that same procedure at other hospitals.[106]

155. In a description motivating his analysis of the claims data Dr. Leitzinger asserts that his regression model:[107]

> …shows that, after accounting for other market factors, the reimbursement rates at Sutter hospitals were inflated during the period covered by the challenged contract restraints in a way that had not existed previously. That estimated reimbursement rate premium forms the basis for the

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[106] Dr. Leitzinger compares the average reimbursement ratio calculated for a specific purported class member for a specific service across all Sutter hospitals in a given year to the average reimbursement ratio, not by that same class member, but averaged across all class members, at all other hospitals in that year. This comparison of a specific class member's price on the one hand with an average of all class members prices on the other hand is inconsistent and yet another reason why this comparison does not reliably demonstrate common impact.

[107] Leitzinger Declaration, ¶ 80.

overcharge calculation described above.

156. This misstates the results of his regression. The regression estimates that Sutter's *average* reimbursement ratio, across all services, across all hospitals, and across all Network Vendors, was higher than the average reimbursement ratios of non-Sutter hospitals. It does not (and cannot given the data on which he relies) estimate that reimbursement ratios for individual services or groups of services (e.g., inpatient or outpatient) were higher than reimbursement ratios of non-Sutter hospitals. In short, the premise of his analysis in Section VI.D is wrong.

157. Putting aside his flawed premise, his analyses fail to show common impact for a number of reasons. Most importantly, his analysis does not purport to show that Sutter's prices for the DRGs and CPTs he studies were inflated by Sutter's challenged contract terms. Instead, he only analyzes whether Sutter's reimbursement ratios for these DRGs and CPTs were, on average, higher than average reimbursement ratios at non-Sutter hospitals. Such price comparisons, however, cannot show whether the higher prices were *caused* by the challenged conduct because they do not control for the many factors that can influence differences. Indeed, the premise behind the regression analysis Dr. Leitzinger relied on to measure aggregate overcharges, as discussed in more detail below, is that simply measuring differences in average prices, without controlling for other factors that might explain those differences, cannot reliably measure any impact or overcharge. As Dr. Leitzinger explains one needs to "select explanatory variables that can be used to account for market factors (other than the challenged conduct) that impact the variable of interest. As noted above, a proper list of explanatory variables allows the model to isolate the effect of the challenged conduct from other factors."[108]

158. Yet Dr. Leitzinger does not, in fact, "isolate the effect of the challenged conduct from other factors" in his analysis of the claims data. This is why he concludes only that "nearly all Class members *paid higher average reimbursement rates* for services obtained at Sutter hospitals (in at least one of two major service categories) than they paid for the same services at non-Sutter hospitals."[109] He does not conclude that that these prices were

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[108] Leitzinger Declaration, ¶ 56.

[109] Leitzinger Declaration, ¶ 8 (emphasis added).

higher as a result of the challenged conduct. In short, Dr. Leitzinger's claims data analysis does not and cannot demonstrate any impact of the challenged conduct, let alone class-wide impact.

159. Moreover, as previously noted, Dr. Leitzinger's analysis compares reimbursement ratios, not prices. The reimbursement ratio is not a good proxy for price, so the fact that Sutter's average reimbursement ratios were higher sheds little light even on whether average prices were higher.

160. To determine whether Dr. Leitzinger's reimbursement ratio is a good proxy for price, I analyzed the claims data at a more granular level than Dr. Leitzinger does, focusing on the average price that an individual self-funded payor paid for a particular DRG or CPT in a particular year, separately for Sutter hospitals and other hospitals (I refer to these observations as DRG-Year-Plan combinations). Looking at all claims in Dr. Leitzinger's analysis, the data show that Sutter's average *reimbursement ratio* was lower than the average reimbursement ratio of other hospitals for 24% of DRG -Year-Plan combinations. Performing the same comparison but using price (allowed amount) rather than reimbursement ratio, the data show that Sutter's average *price* was lower than the average price of other hospitals for 43% of DRG -Year-Plans. Thus, whereas Sutter's average reimbursement ratios were lower in only 24% of DRG-Year-Plan instances, Sutter's average prices were lower in 43% of the time. Dr. Leitzinger's reimbursement rate metric leads to the wrong conclusion about Sutter's relative prices in a large fraction of instances.

161. Exhibit 12 provides a more detailed picture of this phenomenon.

162. These charts plot each DRG-Year-Plan based on the difference in average reimbursement ratio (Sutter less non-Sutter, plotted on the x-axis) and the difference in average price (again, Sutter less non-Sutter, plotted on the y-axis).[110] If the difference in Dr. Leitzinger's reimbursement ratio is a good proxy for the difference in actual price, then this graph would show dots in a straight line moving from the bottom left of the graph, through the origin, to the top right of the graph. This, however, is not the picture

[110] These charts restrict the analysis to DRG-Year-Plans where both Sutter and all other hospitals had at least 10 claims. My conclusions are robust to the choice of the minimum number of claims for comparison. For outpatient, the plots show each CPT-Year-Plan.

that either of these graphs paint. Rather, they show, say, that if Sutter has a higher average reimbursement ratio (i.e., the dot is on the right side of the y-axis), it is still very likely to have a lower average price (i.e., the dot is below the x-axis), meaning that Dr. Leitzinger's reimbursement ratio is not a good proxy for price.

163. A statistical test confirms what these graphs suggest: that Dr. Leitzinger's reimbursement ratio is not a good proxy for price. The correlation between the difference in inpatient reimbursement ratio and the difference in inpatient price is 0.41, far below the 1.0 that would reflect perfect correlation. The correlation for outpatient is only 0.13, which is closer to a finding of no relationship whatsoever (a correlation of 0) than it is to perfect correlation. In sum, using actual prices demonstrates that Sutter's prices are frequently *below* the average of its competitors' prices, not higher as Dr. Leitzinger concludes without analyzing actual prices.

VII. DR. LEITZINGER'S REGRESSION ANALYSIS IS INCAPABLE OF MEASURING EVEN THE AGGREGATE IMPACT OF SUTTER'S CHALLENGED CONDUCT, MUCH LESS IMPACT ON INDIVIDUAL PUTATIVE CLASS MEMBERS

VII.A. Overview

164. To calculate class-wide damages, Dr. Leitzinger uses what he calls a "difference-in-difference" methodology. He uses "reimbursement rate" as a proxy for the actual prices paid, which he measures using the OSHPD Hospital Annual Financial Data, as the ratio of Commercial Net Revenue to Commercial Billed Charges, measured for each hospital for each year, aggregated across all of the various sources of hospital revenue, including inpatient, outpatient, ER, and other categories.

165. His difference-in-difference methodology effectively compares Sutter's average reimbursement ratio in a period he argues is prior to Sutter's imposition of its allegedly anticompetitive contract terms (a "control period") – namely 1998-2002 – to the average reimbursement ratio for all other CA hospitals (a "control group") in that same period. To simplify, he calculates an average rate for Sutter of 34.8% and an average rate for other CA hospitals of 36.7% - that is, Sutter's reimbursement ratio was 1.9 percentage points lower than average during this period.

166. He then performs the same comparison for the "damages" period during which he argues Sutter imposed its allegedly anticompetitive contract terms – namely 2003-2015. He calculates an average rate for Sutter of 46.1% and an average rate for other CA

hospitals of 35.3% – that is, he finds that Sutter's reimbursement ratio was, on average, 10.8 percentage points higher than other hospitals during the control period.

167. He then takes the difference between these two "differences." Sutter's reimbursement ratio relative to other hospitals increased from negative 1.9 percentage points to positive 10.8 percentage points, or an increase in the reimbursement ratio premium of 12.7 percentage points. Dr. Leitzinger controls for some factors that he believes might explain this gap, but then his regression attributes any remaining effect that is not explained by these control variables to the challenged conduct.

168. Because a difference-in-difference methodology of this type attributes all unexplained changes to the challenged conduct, the reliability of the estimates depends critically on the choice of a proper control group and a proper control period in which the challenged conduct did not occur. Specifically, a key assumption is that the outcome in the treatment group (here Sutter hospitals) and the control group (here all other California hospitals) follow the same time trend in the absence of the challenged conduct.[111] The assumption posits that the average change in the control group in the post treatment period represents the counterfactual change in the treatment group if there was no treatment.

169. As discussed in more detail in the sections that follow, Dr. Leitzinger's difference-in-difference regression analysis is fundamentally flawed in many key respects and is therefore incapable of reliably measuring aggregate overcharges, let alone demonstrating common impact.

170. Dr. Leitzinger relies upon aggregate financial data from OSHPD that is incapable of separately and accurately measuring the effect of the challenged conduct of different

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[111] See Cameron, A. Colin and Pravin K. Trivedi, *Microeconometrics: Methods and Applications*, Cambridge University Press, 2005 at p. 56 "The one-group before and after design makes the strong assumption that the group remains comparable over time. This is required for identifiability of β. If, for example, we allowed α to vary between the two periods, β would no longer be identified. Changes in α are confounded with the policy impact." See also Besley, Timothy and Anne Case, "Unnatural Experiments? Estimating The Incidence Of Endogenous Policies", *The Economic Journal*, 110 (November) at p. 15 and Blundell, Richard and Monica Costa Dias, "Alternative Approaches to Evaluation in Empirical Microeconomics," Institute for Fiscal Studies, December 2007 at p. 17

procedures, different categories of services (e.g., inpatient, outpatient), or different Network Vendors.

171. Dr. Leitzinger does not analyze actual prices for hospital services, but rather analyzes an aggregate reimbursement ratio, a poor "proxy" for price.

172. Dr. Leitzinger's choice of 1998-2002 as a control period and all other California hospitals as a control group was done without any supporting analysis to confirm that these are indeed proper controls.

173. Dr. Leitzinger fails to control for industry developments and other important factors that could cause Sutter's prices to move differently from those of Dr. Leitzinger's control group.

174. Dr. Leitzinger's regression model suffers from numerous other flaws.

175. I address each of these in more detail below.

VII.B. Dr. Leitzinger improperly relies on highly aggregated data, which is incapable of informing an analysis of class certification issues

VII.B.1. Dr. Leitzinger's regression cannot show common impact

176. Dr. Leitzinger concedes, as he must, that his regression *cannot* be used to show common impact—that is, that all or nearly all Class members were impacted.[112] Instead, he presents his regression solely as a "class-wide, formulaic" methodology to measure the "aggregate amount of overcharges."[113]

177. Among the many reasons why his regression model cannot show that all or nearly all class members were impacted is that it includes only a single parameter, which estimates a single average overcharge for all services over the class period. Constructing the regression model in this way imposes the assumption that the percentage point increase in reimbursement ratio is the same across all services (e.g., across all inpatient services, across all outpatient services, etc.), across all procedures within both inpatient

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[112] Leitzinger Deposition, pp. 149-150 ("I don't think that this regression model by itself…shows commonality…I think you need more – more evidence – more information than just the model result itself." Dr. Leitzinger identified that additional information as "Exhibit 8 and the other information and analysis that I describe in the common impact section.")

[113] Leitzinger Declaration, ¶ 6.

and outpatient categories, across all hospitals, across all Network Vendors, and across all years in the damages period.

178. This is inappropriate. As explained in the ABA monograph Econometrics:[114]

> The reduced-form pricing equation assumes that a conspiracy has the same effect on every purchaser and focuses on an average effect, which may hide variation across class members. If one is attempting to test whether there is an impact on all members of a proposed class, however, that assumption is not valid, as *it assumes the very proposition that is being tested*.

179. Similarly, the ABA monograph goes on to say:[115]

> Sometimes the prices used by economists are averages of a number of different prices charged to different customers or for somewhat different products. Using such averages can lead to serious analytical problems. For example, averages can hide substantial variation across individual cases, which may be key to determining whether there is common impact.

180. One of the most fundamental flaws in Dr. Leitzinger's analysis is that it effectively aggregates all Sutter's services (inpatient, outpatient, ER) into a *single* product. It assumes, without testing, that any impact would be the same across all services, assuming among other things that each of the services are priced the same and face the same demand and supply factors. For example, he does not explain why the impact on one inpatient procedure would cause the prices to change for another inpatient procedure. Nor does he explain why an impact on the price to an inpatient procedure or even all inpatient procedures would cause an impact to an outpatient procedure or all outpatient procedures. As discussed above in Section V, inpatient and outpatient must be analyzed separately due to the many different factors impacting their prices. Without specifying his model to measure any impact on specific services, his model is incapable of measuring the impact on inpatient services separately from outpatient services or any other category of services. *Instead, his model is measuring only an average across services, which necessarily masks any variation in impact across services.*

181. Importantly, as discussed below, his regression *cannot* measure even the average impact on only inpatient services separately from outpatient services. The reason is that

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[114] ABA Section of Antitrust Law, *Econometrics Legal, Practical and Technical Issues,* ABA Book Publishing, 2005 (hereinafter "ABA, Econometrics"), p. 222 (emphasis added).

[115] ABA, Econometrics, p. 220.

he relies on aggregated OSHPD data that does not allow one to disaggregate inpatient from outpatient services; nor can OSHPD data be disaggregated by individual procedure or by Network Vendor. The data can be disaggregated only on two dimensions – by Sutter hospital and by year – and as discussed further below, disaggregating demonstrates that there was *not* common impact on either of these dimensions.

182. If, for example, the challenged conduct only impacted inpatient services, but did not impact outpatient services, Dr. Leitzinger's regression model would still measure a positive aggregate overcharge. He would be unable to know from his regression results whether that positive overcharge was solely attributable to an effect on inpatient claims, or whether the challenged conduct affected both.

183. As discussed below, Dr. Leitzinger's modified, hospital group regression also proves that his regression cannot show common impact. That regression allows the effect of Sutter's conduct to vary by hospital group, and he found that the average impact varied significantly across hospital groups and that, for three Sutter hospitals, the challenged conduct actually led to *lower* prices.[116] In addition, as shown below, modifying Dr. Leitzinger's regression to allow the effect of the conduct to vary over time yields different effects over the 14-year damages period. These results are discussed further in Section VII.E.3.

VII.B.2. Dr. Leitzinger uses aggregated data from OSHPD

184. As noted, Dr. Leitzinger relies on Hospital Financial Data from OSHPD. These financial data report highly aggregated metrics, by year, for hospitals throughout California. All hospitals in California are required by OSHPD to submit financial information including balance sheets, incomes, revenues, and expenses for each fiscal year.[117] The data also include broad non-financial, utilization and facility information such as number of discharges, system affiliation, number of beds, etc. Though hospitals report revenue and utilization for several categories of payors such as third

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[116] Dr. Leitzinger does conduct one analysis that attempts to test whether this effect existed across all hospitals and finds that it did not (Leitzinger Declaration, Exhibit 8).

[117] "Reporting Requirements," Office of Statewide Health Planning and Development, available at <http://www.oshpd.ca.gov/hid/Products/Hospitals/AnnFinanData/Manuals/ch7000.pdf> (accessed April 12, 2017)

party/commercial, Medical, and Medicare, the level of aggregation is very high; for example, all "Other Third Party" (non-government) payors are combined into one of two categories (Managed Care and Traditional). The "Other Third Party" payment category also includes payments from Workers' Compensation (where prices are regulated), CHAMPUS, indemnity plans, to name a few.[118]

185. OSHPD does not divide the revenue by service type (e.g., inpatient, outpatient, etc.).[119] As a result, the aggregated revenue figure cannot be used to calculate or even estimate the actual price or reimbursement ratio of a particular service or category of services. For example, it cannot be used to calculate the prices or reimbursement ratios for an inpatient procedure because the revenue number includes inpatient, outpatient and other services. This is important because reimbursement ratios vary for different services and category of services (e.g., average reimbursement ratios for inpatient and outpatient services are different).

186. In short, as the hospital revenue reported to OSHPD is total revenue for all commercial products (HMO, PPO, etc.), all payment types (e.g., fee for service, per diem, case rates, capitation, etc.), and across all services (inpatient, outpatient, emergency department, etc.), isolating payments of a self-insured large employer or a fully-insured individual plan, or between services like inpatient and outpatient net revenues is not possible.

187. A comparison of the reimbursement ratio in the OSHPD data for Sutter Lakeside Hospital to contract rates for that hospital from Sutter's contracts and the actual transaction data from the Network Vendors demonstrates the serious flaws in the aggregate data. As shown in Exhibit 7, Sutter's contract rate with Blue Shield for both inpatient and outpatient services throughout the Class Period was Seated % of billed charges. Exhibit 13 compares the reimbursement ratio for Blue Shield claims at Lakeside

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[118] "Hospital Annual Financial Data, Selected Data File Documentation", Office of Statewide Health Planning and Development, p. 11, available at https://www.oshpd.ca.gov/HID/Products/Hospitals/AnnFinanData/SubSets/SelectedData/CY04/HAFDDoc2004.pdf (accessed April 12, 2017). See also: Chason Declaration, ¶ 4.

[119] See, for example: Antwi, Yaa Akosa, Martin Gaynor and William B. Vogt, "A Bargain at Twice the Price? California Hospital Prices in the New Millennium," NBER Working Paper Series, WP 15134, July 2009, at p. 4. See also: Chason Declaration, ¶ 4.

(separately for inpatient, outpatient, and all claims) from the Network Vendor data to the aggregate reimbursement ratio for Lakeside from the OSHPD data. As the exhibit shows, the Blue Shield claims data tracks very closely with the flat contract rate of Sealed% of billed charges. The OSHPD data however, bears no relationship to this, declining substantially throughout the damages period.

VII.B.3. Dr. Leitzinger's regression fails to accurately measure even average effects

188. Moreover, in addition to an inability to accurately determine common impact of the challenged conduct, the aggregate nature of the OSHPD data renders his regression unreliable even for measuring *average* effects. In other words, not only is Dr. Leitzinger's regression incapable of reliably demonstrating common impact (as he himself concedes), but it is incapable of even reliably measuring aggregate overcharges.

189. Because the data are aggregated, to the extent that different subgroups (e.g., inpatient and outpatient) have different reimbursement ratios, and the mix of those subgroups within the total are changing, the model could inaccurately measures this change in mix as an increase in prices.

190. Peter Anderson, Chief Strategy Officer at Sutter Health, testified about the problems with using aggregate OSHPD data:[120]

> Well, if I were doing an analysis, I would want to be far more specific than that ultra high level number because as our prior CFO used to say, you could have your head in the oven, your feet in the freezer, on average you're comfortable. And again, when you're dealing with that highest level of aggregation, you don't know what's going on necessarily.

191. Similarly, the ABA monograph explains:[121]

> In addition, average prices may combine the prices of different package sizes of the same product or of somewhat different products. When this happens, the average price paid by a customer can change when the mix of products that the customer buys changes—even if the price of no single product changed.

192. Here, Dr. Leitzinger is not merely aggregating "different package sizes of the same product" or "somewhat different products." Rather, he is aggregating the full range

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[120] Deposition of PMQ Peter Anderson, October 14, 2016 (hereinafter "Anderson Deposition"), p. 79. Mr. Anderson was Chief Strategy Officer of Sutter Health.

[121] ABA, Econometrics, p. 220.

of widely varying hospital services provided by general acute care hospitals, ranging from simple blood tests to heart transplants.

193. A simple example of reimbursement for inpatient and outpatient services demonstrates the flaw in this aggregation.

Average Reimbursement Ratio Can Increase Substantially Due Only to Changing Mix of Claims		
	Period 1	**Period 2**
Outpatient Reimbursement Ratio	75%	75%
Inpatient Reimbursement Ratio	50%	50%
Inpatient Share of Charges	80%	20%
Weighted Average Reimbursement Ratio	**55%**	**70%**

194. Assume that outpatient services are reimbursed at 75% of billed charges and inpatient services are reimbursed at 50% of billed charges. Assume further that (as was the case) there is a substantial shift in spending from inpatient services to outpatient services during the class period. All else being equal, because Dr. Leitzinger's "reimbursement rate" is a ratio, the average Sutter reimbursement ratio as measured by Dr. Leitzinger will increase as a result of the shift from lower-rate inpatient services to higher-rate outpatient services, even though individual prices did not change. In other words, Dr. Leitzinger's methodology would find overcharges even where there are none. Thus, by relying on aggregate OSHPD data, Dr. Leitzinger's model is susceptible to "false positives" where he is attributing an increase in reimbursement ratio to the challenged practices, even where prices for individual services were unchanged.

195. This problem infects Dr. Leitzinger's analysis in many ways. As discussed above, there was a shift in mix from inpatient to outpatient services during the period (which have higher reimbursement ratios), which contributed to his measured increase in Sutter's reimbursement ratio.

196. Another example of the complexity which is masked by Dr. Leitzinger's use of averages, and ignored when he attempts to control for the factors explaining Sutter's reimbursement ratios, is the effect of Sutter's contracts with Kaiser on Sutter's average reimbursement ratios. Starting no later than 1997, Kaiser had a contract with Sutter to allow Kaiser's members to obtain treatment for a select set of services at Sutter's Alta

Bates Medical Center.[122] Under the contract, the percent of billed charges paid to Sutter for Kaiser's members was less than Sealed %,[123] which is substantially lower than the average percent of charges stipulated in Sutter's other contracts.[124] I further understand that, at some point around 2010, the contract ended. Kaiser continued to use Sutter facilities, but at higher reimbursement ratios, and with less volume,[125] and therefore the downward pressure on Sutter's average reimbursement ratio was substantially reduced, and Sutter's average percent of billed charges increased. This increase has nothing to do with the challenged contract terms because Kaiser is not a member of the putative class. But by failing to account for Sutter's contract with Kaiser, Dr. Leitzinger's regression attributes this rise in average reimbursement ratio to the challenged contract terms.

197. Without accounting for the Kaiser effect, the Alta Bates reimbursement ratio increased by Sealed b percentage points more than that of non-Sutter hospitals. However, if one removes the Kaiser effect, the increase is only Sealed by percentage points more than that of non-Sutter hospitals. Thus, roughly one third of the effect that Dr. Leitzinger's approach measures for Alta Bates is driven by the failure to control for the mix of contracts at Alta Bates, and specifically the effect of the Kaiser-Alta Bates contract.[126]

VII.B.4. Dr. Leitzinger's use of OSHPD data is not justified by limited references to its use by others

198. Dr. Leitzinger attempts to justify his use of OSHPD data by pointing to evidence that the data have been used in by researchers, by Sutter, and by Network Vendors.[127] But none of this supports Dr. Leitzinger's use of the OSHPD data here. A critical point that Dr. Leitzinger fails to note is that relatively limited information on hospital prices is

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[122] Hospital Services Agreement among Kaiser Foundation Hospitals, The Permanente Medical Group, Inc., and Alta Bates Medical Center, January 1, 1997. I understand that Kaiser also had contracts with other Sutter hospitals.

[123] Chason Declaration, ¶ 9 and Exhibit 6.

[124] See Exhibit 7.

[125] Chason Declaration, ¶ 9.

[126] This analysis simply compares average reimbursement ratios and does not control for other factors, but demonstrates that the effect is substantial and biases Leitzinger's estimate of overcharges upward.

[127] Leitzinger Declaration, ¶ 46, fn. 109-111.

publicly available, whereas he had much more detailed information that he chose not to use in his regression analysis.

199. Academic researchers studying hospital pricing in California generally will not have access to non-public sources.[128] Indeed, in some instances, academic researchers have obtained access to Network Vendor claims data and used that data rather than the OSHPD data. As explained by Haas-Wilson and Garmon:[129]

> Our results…are of particular interest because they are based on the actual prices paid by multiple commercial insurers to hospitals. Claims data were collected directly from seven commercial insurers. Previously, only Capps and Dranove (2004) used actual prices to examine the impact of hospital mergers, but their data include the prices negotiated with only one insurer. Because hospitals tend not to publicize results of their negotiations with commercial insurers (or how much they are actually paid for their services), most studies are based on estimates derived from publicly available lists of hospital charges. Charges tend to be higher than the rates negotiated with commercial insurers.

200. Similarly, while Sutter has access to accurate information on its own pricing, it generally does not have such information on the pricing of its competitors.[130] Thus, when analyzing pricing relative to its competitors, it often has no choice but to use OSHPD.[131]

201. Notably, Dr. Leitzinger only cites to one document as evidence that the Network Vendors used OSHPD data. Unlike academic researchers and Sutter, Network Vendors have access to claims data which Dr. Leitzinger had access to here. The Network

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[128] See, Melnick, Glenn and Emmett Keeler. 2007. "The effects of multi-hospital systems on hospital prices," Journal of Health Economics, Vol. 26 pp. 400-413 at p. 403, who point out that data on actual net prices are "generally treated as confidential and as such are difficult to obtain."

[129] Haas-Wilson, Deborah and Christopher Garmon (2011), "Hospital Mergers and Competitive Effects: Two Retrospective Analyses, *International Journal of the Economics of Business*, Vol. 18, No. 1, February 2011, pp. 17-32 (hereinafter "Haas-Wilson and Garmon (2011)"), pp. 18-19.

[130] Chason Declaration, ¶ 2.

[131] Deposition of Carl Sotherland (November 9, 2016), pp. 30-34. Mr. Sotherland was director of Strategic intelligence at Sutter (p. 29); Anderson Deposition, p. 35, 59 and 63-64. Deposition of Melissa Lynn Brendt (July 13, 2016), pp. 95-96; Deposition of Jeff Sprague (November 28, 2016), pp. 39-40.

Vendors perform comparative pricing analysis using their own claims data.[132] Moreover, even the single document cited by Dr. Leitzinger does not appear to support his points. It does not appear to be a document generated by United, but rather a presentation from Optum, a consulting firm.[133] Neither the United declarant who cites to this document, Ms. Lundbye, nor Dr. Leitzinger provide any context for how if at all this presentation was used by United.[134]

202. And although OSHPD data has been used in pricing studies, it has not been used in the way that Dr. Leitzinger uses it—i.e., it has not been used to calculate a reimbursement ratio used to determine actual prices.

203. Dr. Leitzinger had access to a wealth of Network Vendor claims data, which includes the actual prices paid to Sutter for hospital services which he ignored in favor of OSHPD. The Network Vendors produced data on millions of individual claims for which they reimbursed, including extensive information about the services performed and detailed information about the actual prices paid.

204. When asked at his deposition why he did not use the claims data instead, Dr. Leitzinger pointed to three reasons, none of which are adequate justifications. First, he said that there was a "timing" issue in that he became aware of the OSHPD data before the claims data was produced, and implied that the claims data was not produced sufficiently far in advance of when he filed his report.[135] But he used the claims data for analyses in his report as well as putting together a list of class members. And I understand that Plaintiff requested and received more time to file its motion for class certification so that it could resolve data issues with Cigna.[136] Second, he said that "it

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[132] See, for example, "Sutter Health Observations on Relative Cost, February 16, 2006," Blue Shield, (BSC_UFCW-00045000-018 at 001): "Analysis based on 12 months HMO and PPO claims data…"

[133] UHC-00291232 at 234. Moreover, the document does not appear to rely on the same OSHPD data which Dr. Leitzinger does. The document says vaguely that the information was "derived" from OSHPD data, but does not specify which data. The page cited by Ms. Lundbye reports net inpatient revenue per day, which as discussed above is not available in the OSHPD data relied on by Dr. Leitzinger.

[134] Lundbye Declaration, ¶ 20.

[135] Leitzinger Deposition, pp. 82-84.

[136] Joint Case Management Statement, October 5, 2016, p. 1.

turns out it's a big job to match up hospital identification in the claims data to the hospital identification that's in the OSHPD data."[137] Academic researchers that have received access to insurer claims data have been able to do this type of matching however.[138] Finally, he testified that using claims data may "simply create a lot of claim-to-claim variability" and "just be a lot of noise."[139] This is a particularly misguided reason for not using the claims data to analyze class certification issues. It is exactly this "claim-to-claim variability" that an economist needs to account for to determine whether – despite such variability – it is possible to demonstrate impact and measure overcharges using common proof.[140]

VII.C. Dr. Leitzinger's dependent variable (reimbursement ratio) is an inaccurate "proxy" for actual prices

205. An additional, fundamental flaw of the OSHPD data is that they do not contain a measure of actual prices paid for hospital services. Dr. Leitzinger concedes this ("the OSHPD data do not include information specifically reflecting prices charged by different hospitals.").[141] In an attempt to get around that limitation, he instead constructs what he concedes is a "proxy" for pricing differences across hospitals.[142]

206. Dr. Leitzinger's dependent variable is not price – or even a "reimbursement rate" measure – that is negotiated specifically or generally by Network Vendors and providers. Nor is it a reasonable approximation of such prices or a measure used for academic research purposes. It is a ratio of estimated net commercial patient revenues for all inpatient, outpatient, ER, and other services combined and a hospital's charges for those same services.

207. I discuss the problems with aggregation inherent in this ratio above. Moreover, Dr. Leitzinger's reimbursement ratio may change either because the numerator of the

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[137] Leitzinger Deposition, p. 85.

[138] Haas-Wilson and Garmon (2011), pp.17-32.

[139] Leitzinger Deposition, pp. 84-85.

[140] Later in his deposition, Dr. Leitzinger added a fourth reason: that he could not use the claims data for the purposes of running his difference-in-differences regression because it did not go back far enough in time. (Leitzinger Deposition, p. 176)

[141] Leitzinger Declaration, ¶ 47.

[142] Leitzinger Declaration, ¶ 49.

ratio – revenues – changes, or if the denominator of the ratio – charges – changes. If a hospital's price for a service is fixed, but it decreases its chargemaster for that service, the reimbursement ratio will increase despite no increase in revenue.

208. Dr. Leitzinger's reimbursement ratio is not a generally accepted "proxy" for price in the academic literature. Nor is it used by industry participants to evaluate prices or price differences. The evidentiary record in this matter demonstrates that neither Sutter nor the Network Vendors use such a metric.

209. Dr. Leitzinger did not cite to any literature for the use of his aggregate reimbursement ratio as a proxy for price. I have examined the sparse literature that uses such ratios and they are for very different applications and purposes, and do not support its use for the purposes here.[143]

210. Consistent with all of these problems, as demonstrated above in Section VI.D and shown in Exhibit 12, an empirical analysis of the network vendor claims data confirms that his reimbursement ratio is a poor proxy. The analysis shows that differences in (or changes in) reimbursement ratio are not highly correlated with differences in (or changes

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[143] The articles cited by Dr. Leitzinger which rely on OSHPD data typically do not rely only on annual, hospital-level aggregate information from the Annual Hospital Financial Data, as Dr. Leitzinger does. Rather, to the extent these articles use this data, they typically combine them with different, discharge-level OSHPD utilization data to estimate a DRG-level reimbursement ratio. They also do not combine inpatient and outpatient services like Dr. Leitzinger does. (See, for example: Keeler, Emmett B., Glenn Melnick, and Jack Zwanziger. 1999. "The Changing Effects of Competition on Non-Profit and For-Profit Hospital Pricing Behavior." *Journal of Health Economics*, Vol. 18 pp.69-86; Ciliberto, Federico, and David Dranove. 2006. "The Effect of Physician-Hospital affiliations on Hospital Prices in California." *Journal of Health Economics*, Vol. 25 pp.29-38; Melnick, Glenn and Keeler, Emmett, "The effects of multi-hospital systems on hospital prices." *Journal of Health Economics,* 2007. I am familiar with the extensive academic literature that has attempted to determine sources of variation and cost and other drivers of hospital pricing for Medicare as well as commercially insured patients; and have contributed to it. See, Guerin-Calvert, Margaret E. and Guillermo Israilevich. "Assessment of cost trends and price differences for US hospitals." American Hospital Association. Retrieved June 12 (2011): 2012. That literature recognizes the difficulty in developing estimates of reimbursement for inpatient services for commercially insured patients, given the limitations of public data sources such as OSPHD and related data. Importantly for this matter, that literature notes that there are many unexplained sources of variation in commercial prices for inpatient services, including quality, and that different factors are key drivers for inpatient prices even among hospitals (e.g., academic medical centers versus community hospitals); and that these drivers are quite different than the drivers for outpatient services (which include far more facilities and different cost structures and demand conditions).

in) actual transaction prices. Thus, Dr. Leitzinger's use of reimbursement ratio can lead to inaccurate conclusions about any effect of Sutter's conduct on actual transaction prices.

VII.D. Dr. Leitzinger's regression analysis suffers from other methodological flaws

211. Even assuming that the reimbursement measure did reflect an appropriate dependent variable, Dr. Leitzinger's model fails altogether to capture the realities of drivers of price and changes in prices over time for inpatient and outpatient services, particularly where outpatient services are a composite of outpatient services and ER services. There are several fundamental flaws in the model which I set out in the following.

212. While this approach can be effective under some circumstances, the reliability of this approach depends critically on the appropriate choice of a control group, and more generally on the ability to control for all other potential explanations for differences between Sutter's reimbursement ratios and those of other California hospitals, which he has failed to adequately do.

VII.D.1. Dr. Leitzinger's regression analysis is unable to separately estimate the effects of individual challenged practices

213. UEBT is challenging several terms in Sutter's contracts with Network Vendors. Dr. Leitzinger, however, does not attempt to measure the impact of each contract term, but rather measures a single average effect across the entire damages period. Thus, his model is incapable of determining whether any individual term caused Sutter's prices to be inflated, let alone the portion of any inflation that may be attributable to that term. Dr. Leitzinger concedes this.[144] I understand that it is possible for the Court to conclude that some, but not all, of the challenged conduct is unlawful. Under this circumstance, Dr. Leitzinger's model could not shed any light on the impact of that subset of the challenged conduct that is found to be illegal.

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[144] Leitzinger Deposition, p. 92 ("Q: Is it correct to say that your regression does not isolate the effect individually of any of these specific contract language issues? In other words, the regression shows an effect in totality, not individually. A: That's correct").

VII.D.2. Dr. Leitzinger's difference-in-differences approach relies on an inappropriate control group and control period

214. A difference-in-difference methodology, like that used by Dr. Leitzinger relies critically on, among other things, choosing a proper control group, and a proper control period. Rather than specifically model the effect of interest (here, the effect of Sutter's challenged contract terms), the methodology assumes that the control group is similar to the treatment group with the exception of the effect of interest (here the challenged conduct).[145] Here, Dr. Leitzinger uses 324 other hospitals in California as a control group. His result, therefore, depends critically upon the assumption that these hospitals are similar to Sutter in important respects. That is, other than controlling for a very limited set of control variables, any differences in Sutter's pricing trends relative to those of this very large cohort group are assigned by Dr. Leitzinger to alleged anticompetitive pricing.

215. At the outset, the cohort group is flawed because Dr. Leitzinger fails to test whether geography, health and risks of the population, provision of very specialized surgery, or cost structures are common to the cohort group and Sutter.[146] In fact, Dr. Leitzinger's choice of control group is flawed, and is inconsistent with the way in which industry participants compare prices, inconsistent with the way other researchers evaluate cohorts.

216. Sutter and the network vendors compare specific Sutter hospitals to specific hospitals that are similar on key dimensions (geography, size, average daily census ("ADC"), etc.). Sutter compares its own hospitals against non-Sutter hospitals based on ADC, hospital size, geography, and type of service when comparing charges, for

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[145] In this setting, additional control variables are also typically included to account for the fact that usually, the control group and the treatment group are not identical but-for the effect of interest.

[146] Authors of retrospectives using difference-in-difference methods to estimate the effect of transactions encounter several problems in the attempted measurement in addition to cohort group challenges. For example, contracts may change at different times, making comparisons inapt and resulting in the appearance of significant differences in annual rates of change. There may be numerous factors that are changing that cannot easily be captured in the independent variables, such as quality or changes in services. Differences in terms of contracting in and of themselves may account of some of the observed differences in rates of change, yet the changes are actually competitively benign. Finally there is no single "competitive" rate. See, Haas-Wilson, Deborah, and Christopher Garmon. "Two hospital mergers on Chicago's north shore: a retrospective study." (2009).

example.[147] Even these cohort groups, however, may include a number of hospitals with different characteristics.[148]

217. As explained by Mr. Joyner of Blue Shield:[149]

> So the notion here is that it would inappropriate to compare hospitals, so we are in radically different markets against each other for relative costs. So their labor costs in rural California, final from a California would be very different from labor costs in downtown San Francisco, for example. So to compare two hospitals in those two radically different markets for labor, real estate, and so on, would be inappropriate. So to have a valid way of comparing hospitals against each other, these 31 cohorts were created, and mostly they were counties. In LA because LA is huge they were – LA was divided up into – into areas, and then in the rural areas the cohort might be a number of rural counties all together. And the cohort was again used as a way of trying to compare hospitals who face similar competitive environment and similar input costs in terms of labor, real estate, and other things.

218. Dr. Leitzinger points to the academic literature to support his use of a difference-in-difference approach.[150] Even the articles he points to highlight the importance of testing to ensure that the control group one uses is sufficiently similar to the treatment group so as not to erroneously attribute to the treatment (here to the challenged conduct) factors that simply reflect other differences between the control and treatment groups unrelated to the treatment itself.[151]

219. In their retrospective on two mergers using a difference-in-differences approach, Garmon and Haas-Wilson wrote, "Models designed to estimate the effect of a structural change, such as a merger, typically assume that the market is in equilibrium before and

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[147] Chason Declaration, ¶ 6. ADC is a measure of utilization, and is the average number of patients in the facility per day. See also Exhibit 17 to the Joyner Declaration.

[148] For example, the Blue Shield cohorts are based on geographic areas, and yet include hospitals of substantially different sizes and service mixes, and hence very different average prices. Generally, these cohorts included at least one or more hospitals that were higher priced than Sutter hospitals, and the Sutter hospitals had a wide range of prices.

[149] Joyner Deposition, pp. 158-159.

[150] Leitzinger Declaration, ¶ 44.

[151] See, for example, Waldfogel, Joel and Jeffrey Milyo. 1999. "The Effect of Price Advertising on Prices: Evidence in the Wake of 44 Liquormart." *American Economic Review*, Vol. 89, No. 5 pp.1081-1096.

after the structural change, but this may not always be true."[152] They note that factors such as the timing of contracts, whether the hospitals are in equilibrium (or the marketplace is) are fundamental factors whose differentials from fundamental assumptions impair the ability to draw any conclusions from the data. These issues affect Dr. Leitzinger's approach. Dr. Leitzinger also fails to account for the fact that cohort groups may be different for outpatient services than for inpatient services.

220. Several factors make the pre-period a particularly volatile and poor comparator for use as a benchmark for pricing. These are factors that lead potentially to differences in Sutter's reaction or response to market conditions from those of other hospitals, and difference in how they price. At some hospitals, capitated contracts were not profitable. Hospitals could be expected to renegotiate contracts in a competitive environment to achieve better returns, and hence its pricing may have changed at different rates or times than other hospitals. Among the most important of these are:

221. Medicare Reimbursement: The Balanced Budget Act of 1997 ("BBA") resulted in substantial reductions in reimbursements for hospitals. This resulted in increased pressure on hospital finances and the need to adjust services and or negotiated prices with other providers. The absolute and relative change in pricing was not necessarily symmetric; for example hospitals with graduate medical expense may have changed by less if they had more stable payments; hospitals with very low margins may have reacted much more rapidly to changes in Medicare funding.[153] Recent studies on the projected impact of ACA cuts in Medicare on over 3,000 hospitals found it difficult to estimate any systematic response of low or negative margin hospitals to such cuts, implying that Dr. Leitzinger's (implicit) assumption that all hospitals were impacted similarly by the BBA or responded to it similarly is unfounded. [154]

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[152] Deborah Haas-Wilson and Christopher Garmon, "Two Hospital Mergers on Chicago's North Shore: A Retrospective Study," FTC Working Paper No. 294, January 2009, p. 13.

[153] Hospitals experience substantially different impacts for the BBT and other pressures from costs and reacted in different ways. Robert Cunningham, "Hospital Finance: Signs Of 'Pushback' Amid Resurgent Cost Pressures," Health Affairs, March/April 2001.

[154] Effects of Medicare BBA spending reductions on the profitability of general acute care hospitals; Jerry Cromwell, Walter Adamache, Edward Drozd, "BBA Impacts on Hospital Residents, Finances, and Medicare Subsidies," Health Care Financing Review, Volume 28, Number 1, Fall 2006; Tamara Hayford, Nelson L, and Diorio A, "Projecting Hospitals' Profit

222. HMO/Capitated and Related Contracts: HMO products accelerated in penetration over the 1990s, and hospitals experimented with many different contract forms with Network Vendors in the late 1990s, including capitated arrangements. Many involved substantial losses and the conclusion that the prevailing "prices" were below appropriate levels of compensation for risks. Many times these resulted in substantial changes in the subsequent contracts with improved reimbursement or efforts to achieve improved reimbursements. For example, a study reviewing the impact of backlash over 1997 to the early 2000s, finds that strong backlash and reaction by states led to increases in costs of healthcare despite the 2001 recession, which states without backlash regulations had some negative trends.

223. HMO/PPO. Customer backlash at perceived limitations of HMO products in the late 1990s led to substantial shifts of consumers (and of Network Vendors) to PPO products.[155] The trend is important because PPOs tend to have higher prices due, among other factors to inability to offer larger volumes to the more limited number of providers and hence obtain lower reimbursements as in HMO products; and the reduced ability to manage consumers' utilization of healthcare services, which raises insurers' costs.[156] This macro-level trend potentially affects different hospitals differently depending on mix of HMO and PPO business; and also their response to changes in reimbursements offered.

224. Regulatory changes include IT, EHR, P4P, CMS regulations: There are several changes that required increased investment and capital costs for hospitals responding to federal regulatory changes; moreover, over the period there are requirements and incentives as well as penalties for hospitals regarding meaningful use requirements and other regulations governing Electronic Health Records ("EHR"). Literature demonstrates that hospitals adopted new IT platforms at very different rates; and thus faced different cost pressures.

Margins Under Several Illustrative Scenarios," September 2016, CBO Working Paper 2016-04, available at https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/workingpaper/51919-Hospital-Margins_WP.pdf.

[155] Konetzka, Zhu, Sochalski, and Vopp, "Managed Care and Hospital Cost Containment," *Inquiry*, Spring 2008, Vol. 45, No. 1, pp. 98-111.

[156] Konetzka, Zhu, Sochalski, and Vopp, "Managed Care and Hospital Cost Containment," *Inquiry*, Spring 2008, Vol. 45, No. 1, pp. 98-111.

225. Changes in product offerings by Network Vendors: Across the period there are changes in products. These all implicate the volume-reimbursement strategies of the provider-network vendor, and are complicated by the competition with Kaiser, which provided an expanding network of providers and locations with lower cost product offerings. Different product offerings are responsive to the diverse populations in California.

226. Changes in Inpatient and Outpatient Services: There are dramatic changes in the location of care provision in the United States and in California over the class period, with an increasingly large proportion of healthcare services provided in an outpatient setting. This is evidenced by expansion in the number of visits for outpatient services, the number of locations of care (by hospitals and by other competitors), and by the sets of services provided in outpatient settings previously provided in inpatient services. The resulting effect is a general decline in inpatient utilization, yet a significant increase in the complexity of care provided in an inpatient setting, providing a general increase in reimbursement or payments for care. These factors affect individual hospitals in substantially different ways, and affect relative prices in different ways as well. Generally, outpatient reimbursements per procedure are lower than for a comparable inpatient visit, and hospitals and Network Vendors may make different trade-offs in individual negotiations for the overall reimbursements. In addition, outpatient reimbursement methodologies changed substantially over the period, as I have discussed above.

227. Cost Trends: Cost trends and factors for inpatient services are fundamentally different than those for outpatient services, and utilization and draw areas may differ as well; changes in costs over time. including technology, pharma, labor, building and infrastructure, ER, changes in service mix, and shift in location of care, are well documented. These are more macro trends, as well as individual trends.[157]

[157] Guerin-Calvert, Margaret E. and Guillermo Israilevich. "Assessment of cost trends and price differences for US hospitals." American Hospital Association. 2012. See also, Institute of Medicine. Variation in health care spending: target decision making, not geography. Washington (DC): The National Academies Press; 2013.

228. Financial Pressures, Margins, Service Changes, Exit: The Pre-Class period and the early Class Period were marked by the exit and downsizing of many facilities across California and Northern California. Network Vendors had to accommodate these changes in providing network adequacy and provision for services, and may have been in different bargaining position relative to suppliers. This supply disruption is documented in the literature.[158]

229. Formation of Hospital Systems: A national trend has been underway since the late 1990s for the formation of systems of hospitals to provide scale and efficiency of operations; this has been accelerated with regulatory changes and the financial difficulties facing some hospitals in areas in which sustaining high fixed cost operations on limited volumes may be difficult.

230. Factors affecting ability to compare "prices" across Network Vendors and Providers and Time: Among the many factors that make such comparisons difficult are: different timing of contract changes; different trade-offs between inpatient and outpatient; whether rates are in equilibrium in pre-period or some comparison period for all hospitals; ability to accurately and precisely to adjust for intensity of resources and cases using aggregate measures such as CMI; price differences alone do not reflect market power; and different methods for determining price that make price comparisons inapposite.[159] In addition, health systems have different strategies with regard to pricing and differing abilities to accept more risk or to engage in pay-for-performance contracting. Some hospitals rely on prices that are reflected as a percent of charges and others make use of other methodologies.

231. Factors affecting underlying costs of individual providers: There are numerous factors influencing hospital and outpatient costs during the period, including wages, introduction of new technologies, costs of providing specific services, and the impact of

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[158] See, for example, Kirby, P., J. Spetz, L. Simonson-Mairuo, and R. Scheffler. "Hospital Service Changes in California: Trends, Community Impacts and Implications for Policy." Nicholas C. Petris Center on Health Care Markets and Consumer Welfare. Available at http://www. petris. org/docs/californiahospitals. pdf (2005). See also, Melnick, Glenn A., Amar C. Nawathe, Anil Bamezai, and Lois Green. "Emergency department capacity and access in California, 1990-2001: an economic analysis." Health Affairs (2004): W4.

[159] Haas-Wilson, Deborah, and Christopher Garmon. "Two hospital mergers on Chicago's north shore: a retrospective study." (2009).

further changes in reimbursements by government payors or programs on negotiated prices. Many of these are not accounted for by general price or cost indices.

232. Dr. Leitzinger's regression does not control for these factors.

VII.D.3. Dr. Leitzinger's regression controls do not fix the problem that his methodology aggregates inpatient and outpatient

233. Despite outpatient services accounting for 90% of the claims at issue in this case, Dr. Leitzinger's regression analysis is focused on attempting to model competition for inpatient services. His measures of hospital competition are limited to other general acute care hospitals. As discussed above, however, this is an especially poor measure of the competitive landscape for outpatient services, where hospitals are only one set of competitors along with ASCs, labs, physicians' offices and other facilities.

234. Moreover, services vary considerably within both the outpatient and inpatient categories. Dr. Leitzinger's measure of the complexity of services provided by each hospital (which would also be expected to substantially affect the price charged) is CMI which measures the complexity of the services provided to a hospital's *inpatient* patients. Dr. Leitzinger has no control for the complexity of outpatient services. The complexity of outpatient services varies widely, ranging from simple blood tests to outpatient surgery. Again, without properly controlling for the mix of services provided, Dr. Leitzinger's model is incapable of accurately measuring any effect caused by Sutter's challenged contract terms.

235. Factors driving increased demand for outpatient services such as changes in technology and availability of service locations are unaccounted for in his model. The only relevant measure of outpatient services in his model is the ratio of inpatient discharges to outpatient visits. As shown in Exhibit 14, however, the measure used by Dr. Leitzinger is roughly flat during the period while the ratio of inpatient charges to outpatient charges declines substantially. Whatever the control variable used, a simple inpatient/outpatient measure in his regression analyses cannot solve the fundamental aggregation problem discussed above – his model is incapable of separately considering the effect of the challenged conduct on inpatient and outpatient services.

VII.D.4. Dr. Leitzinger's regression model fails to control for important Sutter and industry changes that affected hospital pricing

236. As discussed above in Section IV, hospital pricing is affected by a complex set of regulatory, competitive, and other factors. Dr. Leitzinger does not isolate factors that predominantly affect inpatient services, such as changes in Medicare reimbursements, nurse staffing ratios, IT demands, changes in Medicare payments for admissions and readmissions, and cost factors associated with more advanced services. Moreover, his independent variables are incomplete and poor proxies for the many factors that account for changes in reimbursements that reflect quality of care, severity of care, and health of the population seen by a hospital.[160]

237. Dr. Leitzinger's model is substantially incomplete for these reasons. In this section, I do not attempt to discuss a full list of the variables which he has failed to consider and the implications of each. Rather I highlight a handful of examples to demonstrate how these factors can affect hospital pricing, and could lead Dr. Leitzinger to attribute a change or difference in reimbursement ratio to Sutter's conduct when in fact it was driven by a factor which he failed to control for in his regression.

VII.D.4.a) Systemwide contracting

238. Perhaps most fundamentally, Dr. Leitzinger is conflating Sutter's move to systemwide contracting with the challenged contract terms. Systemwide contracting is a standard practice in the hospital industries for systems with multiple hospitals. For many years, every Sutter hospital conducted its own negotiations and entered into separate contract with each Network Vendor covering just that single hospital. Starting in the late

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[160] I note for example that research that accounts for the quality of care provided and the tendency of tertiary hospitals to see sicker patients requiring more complex care explains more of price variation or price change than models that exclude these factors; quality is difficult to measure. See, for example, e.g., Geweke, John, Gautam Gowrisankaran, and Robert J. Town. "Bayesian inference for hospital quality in a selection model." Econometrica 71, no. 4 (2003): 1215-1238. and Guerin-Calvert, Margaret E. and Guillermo Israilevich. "Assessment of cost trends and price differences for US hospitals." American Hospital Association. Retrieved June 12 (2011): 2012.Failure to account for these changes can overstate the supposed effect of price changes due to events such as mergers. See, Gowrisankaran, Gautam. "Estimating the Impact of a Hospital Merger Using the Difference-in-Differences of Prices." International Journal of the Economics of Business 18, no. 1 (2011): 83-89.

1990s and early 2000s, Sutter centralized its contract negotiations and signed a single, systemwide contract covering all of its hospitals.

239. UEBT has not challenged Sutter's practice of centralizing negotiations. Yet Dr. Leitzinger has not separately attempted to model the effect of this change.[161]

VII.D.4.b) Dr. Leitzinger fails to account for differences in the way Sutter sets prices

240. As Dr. Leitzinger explains, his model assumes that differences in the pricing and charge methodologies could lead to different reimbursement ratios.[162] He claims that his model controls for that because (i) any differences in methodologies would be present in both the before and during period and (ii) the model includes fixed effects that would pick up "persistent differences" in reimbursement ratios. However, the model cannot control for *changes* to the pricing or charging methodologies that occurred during the class period. In other words, the he model assumes that inpatient and outpatient reimbursements change in the same way from contract to contract, and that there is consistency in the form of the reimbursement contract (e.g., percent of charges or per diems) from one period to the next such that comparisons can readily be made across periods for at least Sutter hospitals. As discussed above in Section V, the prices in Sutter's contracts evolved substantially during the Class Period.

VII.E. Sensitivity analyses of Dr. Leitzinger's regression model confirm these flaws and demonstrate that it is not robust

VII.E.1. Dr. Leitzinger has not provided any evidence of robustness checks

241. One test of the reliability of a regression model is the extent to which key results are robust to changes in methodology. "Report a sensitivity analysis" is one of the "Ten commandments of applied econometrics" according to a widely used econometrics textbook.[163] As the author explains, "…it is important to check if the empirical results are

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[161] Leitzinger Deposition, p. 107 ("Q: Okay, and just to be clear, your regression does not control for the impact on price, if any, of the fact that Sutter Health entered into systemwide agreements beginning in 2001, just that fact? A: Correct. It – it does not put to one side or isolate any effect that might have occurred in 2001 or 2002 as a result of that change".) By failing to isolate the effect, Dr. Leitzinger's regression model therefore inappropriate attributes any effect of systemwide contracting to the challenged conduct.

[162] Leitzinger Declaration, ¶¶ 47-51.

[163] Kennedy, A Guide to Econometrics (6th Edition), pp. 362, 366.

sensitive to the assumptions upon which the estimation has been based…For example, are the results sensitive to the sample period, the functional form, the set of explanatory variables, or measurement of or proxies for the variables?" [164]

242. Dr. Leitzinger did not report the results of any such results in his Declaration, nor did he provide the details on any such results in his backup materials to allow investigation and testing of those results.[165]

VII.E.2. Even according to Dr. Leitzinger's regression model, the challenged conduct did not inflate prices at all Sutter hospitals

243. As discussed extensively in the previous section, Dr. Leitzinger's regression analysis is fatally flawed and incapable of reliably measuring overcharges. It follows, then, that Dr. Leitzinger's slight modification of the same regression framework purportedly to show that there were overcharges across most of the Sutter hospitals are similarly flawed and cannot reliably be used to demonstrate that all Sutter hospitals charged inflated prices due to the challenged conduct.

244. Moreover, even setting aside those flaws, Dr. Leitzinger's own analysis demonstrates that not all Sutter hospitals charged inflated prices as defined by his regression. Exhibit 15 presents the results of Dr. Leitzinger's regression. Rather, he finds that reimbursement ratios for three of the 24 Sutter hospitals (Amador, Coast, and Lakeside, his Group 8) were lower than they would have been but-for the conduct.

245. One putative class member, San Benito Health Care, only paid for claims at Amador and therefore even under Dr. Leitzinger's model was not overcharged by Sutter.

246. Many other class members had a relatively large volume of claims at these three hospitals, and smaller volumes of claims at other hospitals, such that even under Dr. Leitzinger's analysis their total overcharges were less than or equal to $0. Specifically, I calculated the estimated overcharge based on Dr. Leitzinger's hospital group regression

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[164] Kennedy, A Guide to Econometrics (6th Edition), p. 366.

[165] Dr. Leitzinger testified at deposition that he performed several robustness checks (Leitzinger Deposition, pp. 165-167), but he did not discuss any of these analyses in his report, provide them in his backup materials, or describe them in any detail at his deposition.

results (see Exhibit 15), and found that seven purported class members would have had net negative overcharges.[166]

VII.E.3. Dr. Leitzinger's regression results are not robust across damages years

247. Dr. Leitzinger's regression model imposes the assumption that the effect of Sutter's challenged conduct is the same for every year. Specifically, Dr. Leitzinger estimates that the overcharge was 15.4%, and applies that overcharge to every claim in every year to calculate aggregate overcharges.

248. There are many reasons to expect that the effect of Sutter's challenged conduct was not the same in every year in the damages period. Sutter did not introduce all of the challenged practices at the same time, and nor did it introduce a given contract term into the contracts of every Network Vendor at the same time. Moreover, competitive conditions, regulatory constraints, and other factors change over time (and change in different ways for different geographic areas and different procedures). These changing circumstances could affect the extent to which Sutter's conduct has an effect.

249. Moreover, the distribution of claims by putative class members is heavily skewed towards the later years of the damages period. To the extent that the challenged conduct differed across the years, Dr. Leitzinger's model would apply an average effect that may be very different even than the average effect for the claims on which he is calculating damages.

250. Exhibit 16 shows that Dr. Leitzinger is calculating damages on only 13,211 claims in 2003 but 156,769 claims in 2013. This skewed distribution of claims makes ensuring that overcharges are measured accurately each year particularly important.

251. Relaxing the assumption that the effect of Sutter's conduct was the same in every year also demonstrates that the assumption in his model is inappropriate.

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[166] These include: County of Del Norte, Long Term Care Workers health Trust Fund, Open Door Community health Centers, Turning Point Foundation, The Sun Valley Group, San Benito Health Care, and even Sutter Coast Hospital, which Dr. Leitzinger includes among the putative class members. Even though Dr. Leitzinger includes Tides as a putative class member among his 1,584, in fact, this entity had only a single Sutter claim for which, according to the Cigna claims data had a zero "paid amount". Therefore its alleged damages will always be zero.

252. Exhibit 17 presents the results from a regression that allows for a separate effect of the challenged conduct in each damages year.

253. As the exhibit shows, the effects vary substantially by year, and in many years are not statistically significant. The calculated overcharge percentages range from a high of 30.0% in 2005 to *negative* 8.8% in 2014. The measured effects for 2007, 2008, 2010, 2012, 2013, 2014, and 2015 are not statistically significant.

VIII. THE DIVERSITY OF THE PUTATIVE CLASS CREATES THE POTENTIAL FOR ECONOMIC CONFLICTS ON MULTIPLE DIMENSIONS

254. According to Dr. Leitzinger, there are 1,584 entities that meet the class definition.[167] The evidence shows that UEBT[168] and the other putative class members vary widely across numerous dimensions, including size, geographic scope, time period, type of procedure, and network vendor through which they obtain their health plan products. As discussed above, establishing impact and damages using common evidence is not feasible. Further, the evidence shows that UEBT is quite different from most other putative class members.

255. Typically, an economist evaluating the issues of class certification will analyze the characteristics, purchases, and other aspects of the putative class members to evaluate whether important differences exist.

256. In this instance, however, Dr. Leitzinger provided no analysis of UEBT as the named Plaintiff, nor does he provide any comparison of UEBT with any of the other putative class members. The Leitzinger Declaration does not even mention any putative class members by name, much less present any data or analysis characterizing members of the putative class or how those class members are similar to UEBT.

257. My analysis illustrates many significant differences between UEBT and putative class members that could reflect important differences between and among them. I further conclude that that UEBT is not representative of the putative class.

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[167] Leitzinger Declaration, Exhibit 5.

[168] In his backup workpapers, Dr. Leitzinger identifies UEBT under the name "UFCW – Employers Benefit Plans." There are two other UFCW entities that appear as separate putative class members in his data: UFCW Unions & Drug Employer's Benefit Fund, and United Food & Commercial Workers Unions.

VIII.A. Differences in putative class member size and bargaining ability

258. There is substantial variability in the size of the putative class members in terms of the number of claims they have on which Dr. Leitzinger calculates damages. Exhibit 18 depicts a distribution of class members based on the number of inpatient and outpatient claims respectively.

259. As the exhibits show, a large number of class members meet the putative class definition by virtue of a relatively few claims (e.g., 139 different self-funded payors had only a single claim, inpatient or outpatient). Relatively few, however, had a large number of claims at Sutter hospitals. For example, the City and County of San Francisco had over 58,000 total claims. UEBT had over 35,000 claims, and CalPERS, had nearly 30,000 claims, but the vast majority of the putative class members have substantially fewer claims, which becomes an important issue, as I discuss below.

260. This difference in size is important. Large payors are in a position of greater bargaining power, and thus may be more likely to obtain special and unique terms from Network Vendors and/or providers. For example, in 2003, CalPERS requested that Blue Shield create a narrow network that excluded some Sutter facilities.[169] After negotiations with Blue Shield and CalPERS, Sutter agreed to participate in a CalPERS-only HMO product—i.e., it was not offered to any other Blue Shield customers. Not only was it offered only to CalPERS, but it also had different financial terms compared to other Blue Shield products.[170]

VIII.B. Differences in putative class members timing of accessing Sutter hospitals

261. The putative class members differ substantially in the period over which they have claims on which Dr. Leitzinger is calculating damages. The Class Period extends from 2003 to the present, which results in a situation where many class members only have claims for a limited number of those years, and their claims (and any damages associated with them) almost certainly vary quite substantially from other class members.

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[169] Brendt Declaration, ¶ 40, Joyner Declaration, ¶¶ 28-35.

[170] Brendt Declaration, ¶ 40; Fifth Amendment to the 2002 Blue Shield Systemwide Agreement, at DEF000013702 and DEF000013761.

262. Exhibit 19 shows the distribution of putative class members by the number of years for which they have claims.

263. As the exhibit shows, many class members are in the class by virtue of claims in a relatively narrow time window. Over 300 class members had claims in only a single year in the damages period. Another group of over 275 class members had claims in only two years.[171] Notably, in the data used by Dr. Leitzinger to measure damages, UEBT had Sutter claims in only 8 of the 14 year damages period.

264. As discussed in Section VII.E, a sensitivity analysis of Dr. Leitzinger's regression model demonstrates that the measured effect of the challenged conduct differs substantially across the years of the damages period. Estimated overcharges are generally higher and statistically significant in the early part of the damages period, while they are generally lower (or even negative) and/or statistically insignificant in the later part of the damages period.

265. Thus, class members with claims concentrated in particular years almost certainly have a different measure of damages from class members that accessed Sutter during other years (or throughout the time period). Dr. Leitzinger does not explain how he would treat these members for purposes of damages using common evidence, and his regression does not address this issue either.

266. For example, the 3 class members with claims only in 2005, would (at least according to Dr. Leitzinger's regression results) be entitled to an overcharge of 30%, nearly twice Dr. Leitzinger's average overcharge of 15.4% across the entire damages period. In contrast, the 35 class members with claims only in 2014 would have an overcharge of *negative* 8.8% in the year-by-year model in contrast to the 15.4% that Dr. Leitzinger's core model would award. Stated differently, the members with claims only in 2014 are not entitled to damages according to Dr. Leitzinger's model, yet his approach would award them damages based on a 15.4% amount.

267. Similarly, eighty putative class members meet the class definition only by virtue of claims in 2016. Dr. Leitzinger does not even have OSHPD data for 2016, and therefore

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[171] As noted above, none of the Network Vendors provided data for either 1998 or 1999. Only Blue Shield provided data for 2000-2001. The first year for which all network vendors provided claims data was 2009.

even relaxing the assumption of a constant overcharge across years cannot test whether these class members in fact suffered overcharges.

VIII.C. Differences in putative class members' relationships with Network Vendors

268. Among the putative class members, almost all, 1,404 of the 1,584, had all of their Sutter claims through a single network vendor, based on Dr. Leitzinger's claims data. As described above, UEBT used to service its Self-funded PPO plans through Anthem, but then switched to Blue Shield.

269. As discussed earlier, the Network Vendors had different narrow or tiered networks over the course of the class period. To the extent members of the putative class availed themselves of these narrow or tiered networks (or were or were not permitted to do so), those self-funded plans are in a different situation than other self-funded plans.

270. Notably, Dr. Leitzinger assumes (without evidence) that all Class members wanted narrower or tiered networks, when some are likely to have wanted all-inclusive networks from Network Vendors (at higher rates) because those class members intended to also offer narrow networks from Kaiser or from a different Network Vendor as well as an all-inclusive network. A class member that wanted a broad network would likely know that the costs would be higher than a narrow network. As a result, the effect of any alleged conduct on these Class members would be different than for Class member that sought a narrow or tiered network option from a Network Vendor.

VIII.D. Differences in mix of inpatient and outpatient services

271. As discussed above, there are numerous differences between inpatient and outpatient claims. Many class members are in the class only by virtue of outpatient claims. Many others are either in the putative class only by virtue inpatient claims or have a large majority of their total amounts paid at Sutter hospitals accounted for by inpatient claims. UEBT has substantial claims for both categories, yielding total overcharges of $12.4 million for inpatient claims under Dr. Leitzinger's methodology and $13.8 million for outpatient claims.

272. To the extent that the overcharge percentage is in fact much higher for one group than the other, combining inpatient and outpatient claims with a single average overcharge necessarily will disadvantage one group at the expense of the other. For

example, Sierra Pine, Ltd., whose only Sutter claims were inpatient, would prefer a methodology that is limited to inpatient were it the case that the overcharge on inpatient were greater than an overcharge on outpatient.

VIII.E. Differences in geographic dimensions

273. Putative class members also differ substantially in the geographic mix of their claims, and the geographic footprint across which their enrollees reside. Some have a large and broadly distributed membership, while others' members are much more localized.

274. UEBT had enrollees in its Blue Shield PPO plan residing in 57 of 58 California counties (the one exception being Mono County).[172] Similarly, CalPERS had covered lives in its self-funded PERS Select, PERS Choice and PERS Care Plans in all 58 California counties.[173] In contrast, all but two of County of Del Norte's 396 enrollees reside in Del Norte County, a relatively rural county in the northern-most part of the state,[174] while KLA-Tencor had more than 80 percent of enrollees in its PPO plan residing in the Counties of Alameda and Santa Clara.[175] This geographic concentration is consistent with the Network Vendor claims data. Clearly, a small entity whose enrollees reside and work almost entirely in a single rural county will be differently situated from one that spans thousands of members from across the state.

IX. DR. LEITZINGER'S CONCLUSION OF COMMON IMPACT IS IMPLAUSIBLE

275. Dr. Leitzinger's analyses are unreliable because they predicated on the assumption that the challenged conduct had a true impact on members of the putative class. Rather than testing to determine whether the challenged conduct impacted prices, his regression assumes it.

276. Among other things, Dr. Leitzinger has failed to consider whether Sutter had sufficient market power to affect competition for hospital services in one or more relevant markets. While I understand that there will be an opportunity to submit expert

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[172] UEBT0042540.

[173] CALPERS 01335 at 1362.

[174] DELNORTE000002.

[175] KLA0000244.

reports covering merits issues at a later point, these issues cannot be completely ignored in evaluating economic issues relevant to class certification because in order to determine whether all or nearly all class members were injured by the challenged conduct, and whether it is feasible to demonstrate any overcharges using a formulaic methodology – the assignment that Dr. Leitzinger has been tasked with – it is important to understand the antitrust theory underlying the allegations, and the specific competitive effects that are alleged. A proper model of impact and damages needs, at a minimum, to test a hypothesis specific to the alleged conduct, to determine if the challenged conduct had an impact on competition in the way that Plaintiff alleges.

277. Dr. Leitzinger has not performed *any* such analysis, as he conceded at his deposition.[176] He has not evaluated the proper relevant antitrust markets, or even explained how he might do so. As such, his analysis is unreliable.

IX.A. Dr. Leitzinger does not evaluate market power or otherwise support the premise of UEBT's theory

278. UEBT alleges that "Sutter employed its market power to impose and enforce anticompetitive contract provisions…"[177] While the Complaint makes assertions about relevant geographic markets, identifying 20 geographic areas for which they allege that "the relevant geographic markets are no larger than," neither UEBT nor Dr. Leitzinger has put forward specific evidence supporting these markets.[178] I note also that the Complaint does not address relevant geographic markets specifically with respect to outpatient services, as discussed above.

279. Dr. Leitzinger also completely ignores the presence of Kaiser in the marketplace. Kaiser represents a pre-eminent narrow network in Northern California and accounts for substantial volumes of inpatient and outpatient services. Generally, it represents about 35% or more in several of the areas in which Sutter operates, and it represents the largest

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[176] Leitzinger Deposition, pp. 30-32, 34, 36-37.

[177] See, e.g., Class Certification Brief, p. 1.

[178] Complaint, ¶¶ 79-91, identifying the following "Markets": San Francisco, San Francisco Peninsula, Inner East Bay, Outer East Bay, Lower East Bay, Santa Cruz Area, Tracy Area, Greater Modesto Area, Los Baños Area, Central Sacramento, Northeast Sacramento Suburbs, Auburn, Yuba City, West Sacramento Suburbs, Greater Vallejo Area, Santa Rosa Area, San Rafael Area, Lakeport Region, Jackson Area, Crescent City Area.

alternative to Sutter. More importantly, Kaiser is an HMO product that directly competes with Network Vendors' HMO (and even PPO) products, and represents a direct constraint on NVs and their pricing (which indirectly influences hospital reimbursements downward), and direct competitors with Sutter and other hospitals, putting pressure on their pricing. The presence of Kaiser in a market area means that Network Vendors risk losses if their prices are too different from Kaiser (which in turn lowers revenues for hospitals in the declining share Network Vendor product) and encourages hospitals to offer lower reimbursements to bring Network Vendors' premiums down. Kaiser represents a major competitive alternative and should have been considered as a factor in any theory of constraints on anticompetitive pricing. Indeed, UEBT itself is a clear example of this because UEBT offered Kaiser products to its members during the Class Period.

280. Further, an analysis of hospital inpatient discharge data is inconsistent with Sutter having substantial market power in these (or other properly defined geographic markets).[179]

281. For example, to identify some of the competitive alternatives available to and used by patients, I used commercially insured discharge data from OSPHD for 2014. The map in Exhibit 20 shows Sutter and other hospitals in Northern California, and Exhibit 21 specifically shows Sutter and Kaiser hospitals, by county. These maps show that that usually there are several hospitals located near Sutter hospitals.

282. In addition, by major metropolitan area (CBSA) and by county, for each geographic area, I identified the hospitals used by residents of the area, and calculated volumes and shares by hospital and health system. These are depicted in Exhibit 22 with summary measures that show the number of hospitals, the number of systems, the share of Sutter, Kaiser, and other hospitals (one version shows all hospitals, the other shows Sutter and Kaiser). As the map in Exhibit 21 shows, Sutter hospitals are frequently located near Kaiser hospitals.

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[179] To be clear, I am not conducting a formal analysis of market definition, but only presenting shares to shed light on the general competitive conditions in which Sutter operates.

283. This analysis shows considerable variation in the share of Sutter hospital(s) in the geographic areas. At the CBSA level, for only three of these geographic areas is Sutter's share above 30% (Clearlake, Amador County, and Crescent City) and for many areas Sutter's share is below 10%, which is completely inconsistent with Sutter possessing substantial market power.[180] These suggest that in the vast majority of areas there are large number of alternatives that are being used by consumers. In the few instances in which Sutter hospitals have larger shares, these are hospitals where the Sutter hospital is a sole provider in the area.

284. For areas accounting for much of the total Sutter volumes (e.g., the Bay Area), there are numerous alternatives. Kaiser's narrow network in particular is an important competitive presence in many geographic areas. In the two most highly populated areas where Sutter has a share between 20 and 25 percent (the San Francisco and Sacramento CBSAs), Kaiser has a much higher share between 35 and 40 percent. Looking across all CBSAs and counties with a Sutter hospital, Sutter's share of discharges originating in those counties is 29% and Kaiser's share is 27%. These alternatives are important for consideration, because the Plaintiff's theories rest on the constraints on Sutter's pricing which include the full scope of competitive alternatives.

IX.B. UEBT's theory is inconsistent with the fact that some putative class members did have narrow networks as options

285. The premise of Dr. Leitzinger's regression is that the contract terms prevented Network Vendors from creating networks that excluded some Sutter facilities or tiered networks that tiered certain Sutter facilities. The allegations that Dr. Leitzinger relies upon are contrary to the facts and rely on speculation about what might have happened. Sutter in fact participated in narrow networks with both fully insured and self-funded health plans.[181]

286. This evidence shows is inconsistent with UEBT's theory that Sutter did not participate in such networks. It also shows that the challenged conduct did not have common impact—Sutter participated in narrow networks with certain providers.

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[180] Analyzed at the county-level, Sutter's share is less than 30% in the large majority of California counties.

[181] Brendt Declaration, ¶¶ 37-46.

287. An important question is whether, without the restrictions, Network Vendors would have narrow networks and tiered products and offered them to all self-funded payers. Testimony by the network vendors indicates that whether a given network vendor would have created any customized products would depend on a number of factors, and that some vendors did not ask to do so. For example, Blue Shield did not create custom networks for small self-funded payers because of the costs.[182] Other network vendors could not recall ever asking Sutter to participate in a narrow network or a self-funded payer asking for one.[183]

IX.C. Dr. Leitzinger's assumption of a single effect is inconsistent with differences in timing of implementation in the Network Vendor contracts

288. Dr. Leitzinger has not explained why he would expect an impact of the conduct to begin in January 2003. As a threshold matter, as discussed above, Sutter in fact participated in narrow networks and tiered products after January 1, 2003. In fact, Blue Shield first asked Sutter to participate in a narrow network for CalPERS at the end of 2003.[184] Sutter agreed to participate in the CalPERS narrow network.[185]

289. In addition, Dr. Leitzinger conceded that his methodology is incapable of separately measuring any anticompetitive effect flowing from one of the challenged contract terms, but instead he is only measuring the collective effect of all of the

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[182] Joyner Deposition pp. 91-92 (it is not to create narrow networks for small self-funded payers because it is not "economically feasible. . . . The costs don't justify the – the size of the membership").

[183] See, e.g., Deposition of Michael Ramseier (March 30, 2017), at p. 29 (Mr. Ramseier testified that he could not recall any occasion when Anthem communicated with Sutter about a proposal from a self-funded payer for a narrow network); and at p. 28 ("Q: To your knowledge, did any self-funded payers ever ask Anthem for a narrow network?" "A: I don't know."); Lundbye Deposition p. 88 ("Q: Did you ever ask Sutter to create a narrow network for an individual ASO? A: Not that I – not that I can remember."); Melody Deposition, p. 29 (Mr. Melody testified that he could not recall any time that he communicated with Sutter about a specific proposal from a self-funded payer for a narrow network); Deposition of Aldo De La Torre (March 13, 2017), pp. 79 and 82-83 (Mr. De La Torre testified that he could not recall a conversation with Sutter regarding customers' desire for narrow network that excluded some Sutter hospitals). Mr. Ramseier is President and General Manager for Anthem Blue Cross in Colorado. Mr. De La Torre is Senior Vice President for Managed Care at the Community Medical Centers in Fresno and Chief Executive Officer of the Community Care Health Plan.

[184] Brendt Declaration, ¶ 40.

[185] Brendt Declaration, ¶ 40.

challenged contract terms.[186] In other words, his regression cannot isolate the impact of the so-called "all or nothing provision" from the so-called "anti-tiering" provisions.

290. Moreover, while Dr. Leitzinger implies that all of the challenged terms were introduced at or near the beginning of the Class Period, in fact, he acknowledges that "[t]he dates of each network vendor's first all-or-nothing provision varied." He details a four-year range for the inclusion of the alleged all-or-nothing terms from January 2001 through to when United Healthcare's contract first included the contract terms at issue, in January 2004.[187]

291. Critically, the "non-par" terms were not introduced until 2005 for Aetna, Anthem, Blue Shield, and PacifiCare, and not until 2007 for Cigna and United, a full four years after the start of the Class Period.[188] To the extent the "non-par" rates served as the deterrent to Network Vendors creating narrow network products, this would not have had such a deterring effect until 2005 or after, and this effect would have occurred later for two of them. Therefore, putative class members whose only Sutter claims were prior to 2005 would not have been subject to the same allegedly anticompetitive terms as those with later claims.

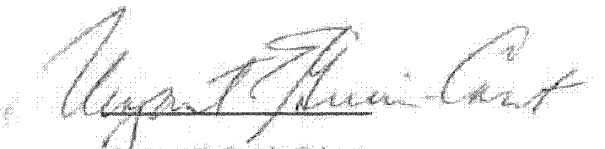
292. Moreover, the "price secrecy" terms would also be expected to affect different putative class members differently, depending upon, for example, the actions that each Network Vendor would have taken (or not taken) to disseminate additional information to payors (and the actions those payors would have taken to disseminate additional information to members) but-for the challenged contract terms.

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[186] Leitzinger Deposition, p. 92 ("Q: Is it correct to say that your regression does not isolate the effect individually of any of these specific contract language issues? In other words, the regression shows an effect in totality, not individually. A: That's correct").

[187] Leitzinger Declaration, ¶ 30.

[188] Joyner Declaration, ¶ 37; Declaration of Chandra Welsh (February 8, 2017), ¶ 17; Declaration of Benjamin Katz (February 6, 2017), ¶16; Melody Declaration, ¶14; Lundbye Declaration, ¶ 9. Ms. Welsh is Vice President for Network Management in Northern California at Aetna. Mr. Katz was a Vice President at Cigna.



Margaret E. Guerin Calvert
Dated: April 14, 2017
Corrected: May 10, 2017

Exhibit 1
UEBT Health Plans, 2000 - 2017

	Self-Funded		Fully-Funded			
	Blue Cross	Blue Shield	Blue Cross CaliforniaCare	Health Net	Kaiser	PacifiCare
	PPO	PPO	HMO	HMO	HMO	HMO
2000	X		X	X	X	X
2001	X		X	X	X	X
2002						
2003						
2004	X			X	X	
2005	X			X	X	
2006	X			X	X	
2007	X			X	X	
2008	X			X	X	
2009	X			X	X	
2010		X		X	X	
2011		X		X	X	
2012						
2013		X			X	
2014		X			X	
2015						
2016						
2017		X			X	

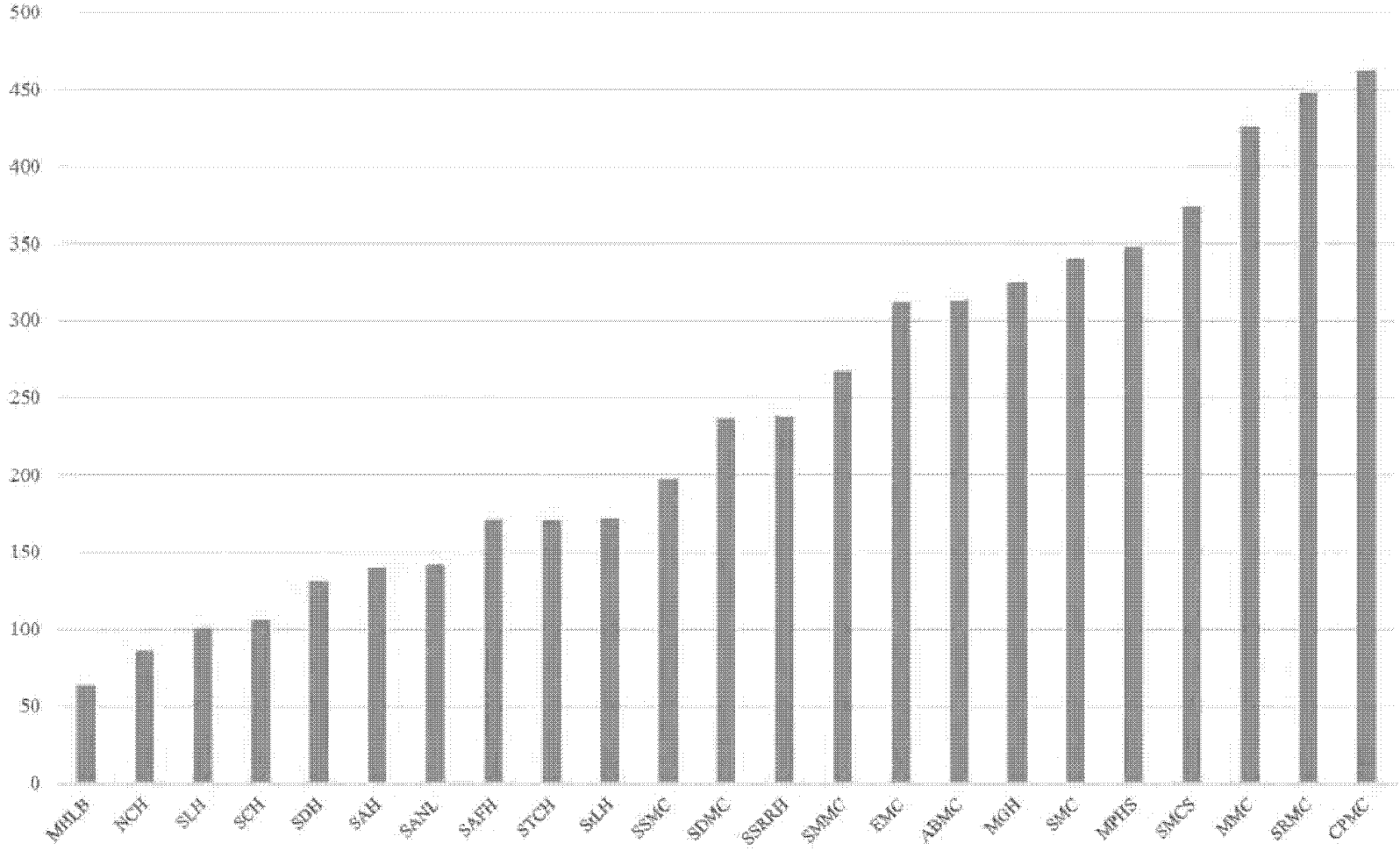
Notes: Plans listed were offered to active members. Plans offered to retirees differed in certain respects. Shaded rows indicate that UEBT has not produced plan descriptions for those years. UEBT switched from contracting with Anthem for their self funded PPO to contracting with Blue Shield in September, 2009.

Exhibit 2a Sutter Hospitals														
Hospital	Abbr	Years Sutter	County	Beds	CMI	Trauma Designation	Rural	Percent Medicaid	ADC	Inpatient Discharges	Outpatient Visits	Outpatient Visits to Inpatient Discharges Ratio	2002 DRGs with > 3 Discharges	2014 DRGs with > 3 Discharges
ALTA BATES SUMMIT MEDICAL CENTER - ALTA BATES CAMPUS	ABMC	1998-2015	Alameda	402	1 07	0	0	38%	223	17,025	81,714	5	316	313
ALTA BATES SUMMIT MEDICAL CENTER - SUMMIT HAWTHORNE	SMC	2000-2015	Alameda	326	1 68	0	0	27%	193	12,578	50,328	4	325	340
SAN LEANDRO HOSPITAL		2005-2013*	Alameda	93	1 48	0	0	27%	33	2,910	66,152	23	176	142
EDEN MEDICAL CENTER	EMC	1998-2015	Alameda	130	1 51	2	0	27%	104	8,044	49,194	6	269	312
SUTTER AMADOR HOSPITAL	SAH	1998-2015	Amador	52	1 19	0	1	22%	26	2,509	24,102	10	151	140
SUTTER DELTA MEDICAL CENTER	SDMC	1998-2015	Contra Costa	145	1 20	0	0	42%	84	8,199	62,384	8	182	236
SUTTER COAST HOSPITAL	SCH	1998-2015	Del Norte	46	1 14	0	1	32%	19	1,879	88,920	47	141	106
SUTTER LAKESIDE HOSPITAL	SLH	1998-2015	Lake	30	1 14	4	1	33%	18	1,686	29,508	18	135	101
MARIN GENERAL HOSPITAL		1998-2010	Marin	235	1 36	3	0	24%	113	8,774	195,222	22	311	325
NOVATO COMMUNITY HOSPITAL	NCH	1998-2015	Marin	47	1 44	0	0	16%	15	1,620	24,571	15	110	86
MEMORIAL HOSPITAL LOS BANOS	MHLB	1998-2015	Merced	44	0 89	0	1	55%	10	1,576	46,713	30	87	64
MERCY MEDICAL CENTER - MERCED		1998-2001	Merced	186	1 09	0	0	34%	115	10,755	224,236	21	205	267
SUTTER AUBURN FAITH HOSPITAL	SAFH	1998-2015	Placer	64	1 44	0	0	17%	31	3,404	56,749	17	210	171
SUTTER ROSEVILLE MEDICAL CENTER	SRMC	1998-2015	Placer	328	1 31	2	0	19%	230	19,768	88,265	4	324	448
SUTTER MEDICAL CENTER - SACRAMENTO	SMCS	1998-2015	Sacramento	523	1 63	0	0	41%	353	29,263	187,355	6	284	374
CALIFORNIA PACIFIC MEDICAL CENTER	CPMC	1998-2015	San Francisco	691	1 38	0	0	17%	408	25,606	100,400	4	394	462
CALIFORNIA PAC MED CTR-ST LUKES CAMPUS	StLH	2001-2015	San Francisco	174	1 16	0	0	41%	100	4,227	31,103	7	200	172
SUTTER TRACY COMMUNITY HOSPITAL	STCH	1998-2015	San Joaquin	82	1 07	0	0	31%	37	3,952	46,477	12	169	171
MILLS-PENINSULA MEDICAL CENTER	MPHS	1998-2015	San Mateo	300	1 32	0	0	14%	173	13,499	60,892	5	310	348
SUTTER SOLANO MEDICAL CENTER	SSMC	1998-2015	Solano	102	1 31	0	0	40%	47	4,119	42,183	10	208	197
SUTTER MEDICAL CENTER OF SANTA ROSA	SSRRH	1998-2015	Sonoma	84	1 24	0	0	35%	65	6,284	40,323	6	227	238
MEMORIAL MEDICAL CENTER - MODESTO	MMC	1998-2015	Stanislaus	413	1 49	2	0	25%	214	16,758	82,806	5	367	426
SUTTER DAVIS HOSPITAL	SDH	1998-2015	Yolo	48	0 95	0	0	29%	25	3,541	32,089	9	120	131

Notes: Figures are for 2015 A Trauma Designation of "0" indicates a hospital that is not designated as a trauma center

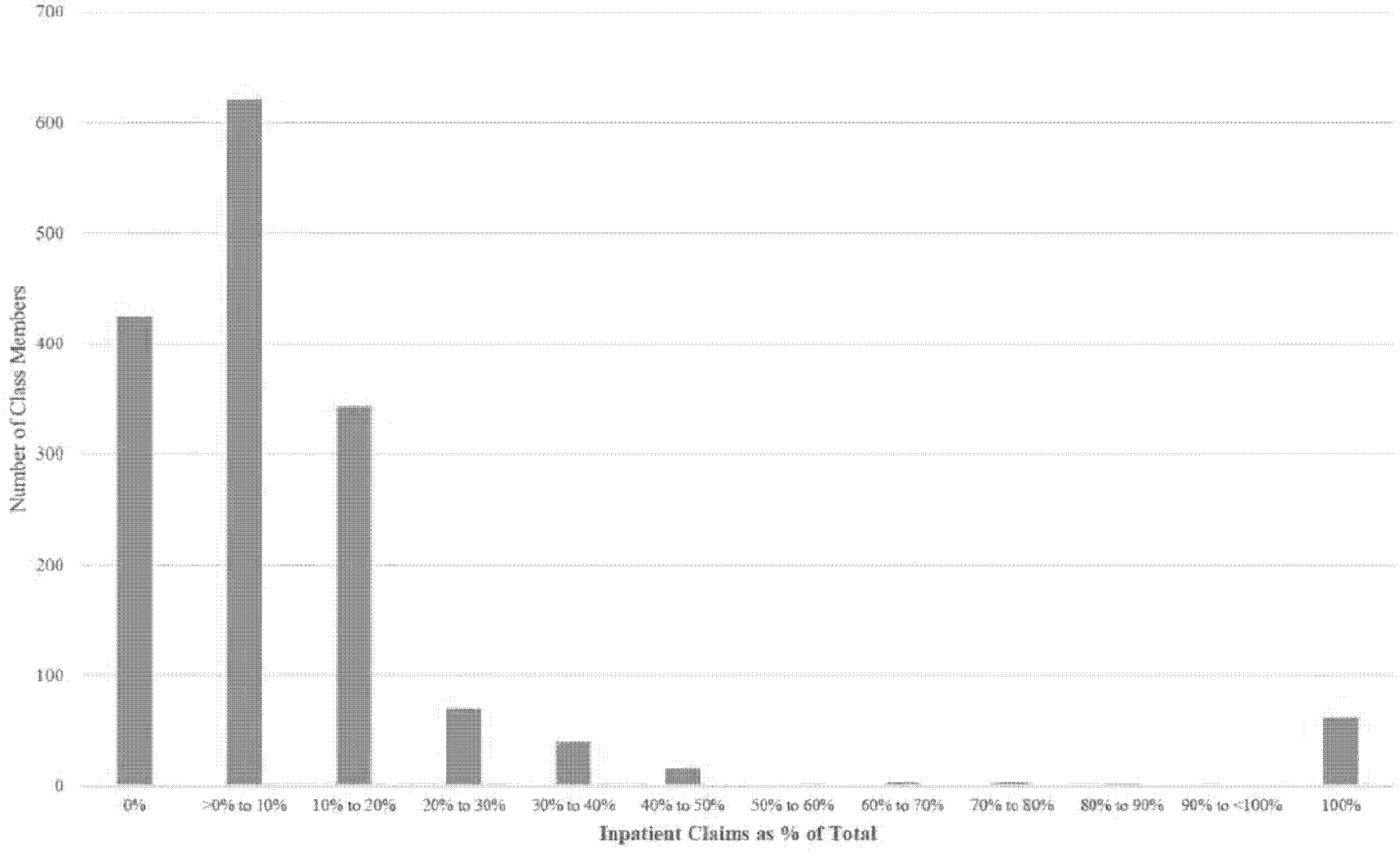
*San Leandro Hospital was operated but not owned by Sutter from 2005-2011 Its OSHPD financial data were reported as Eden Medical Center during this time period

Exhibit 2b
Number of Different DRGs with More than Three Discharges in 2014
By Hospital



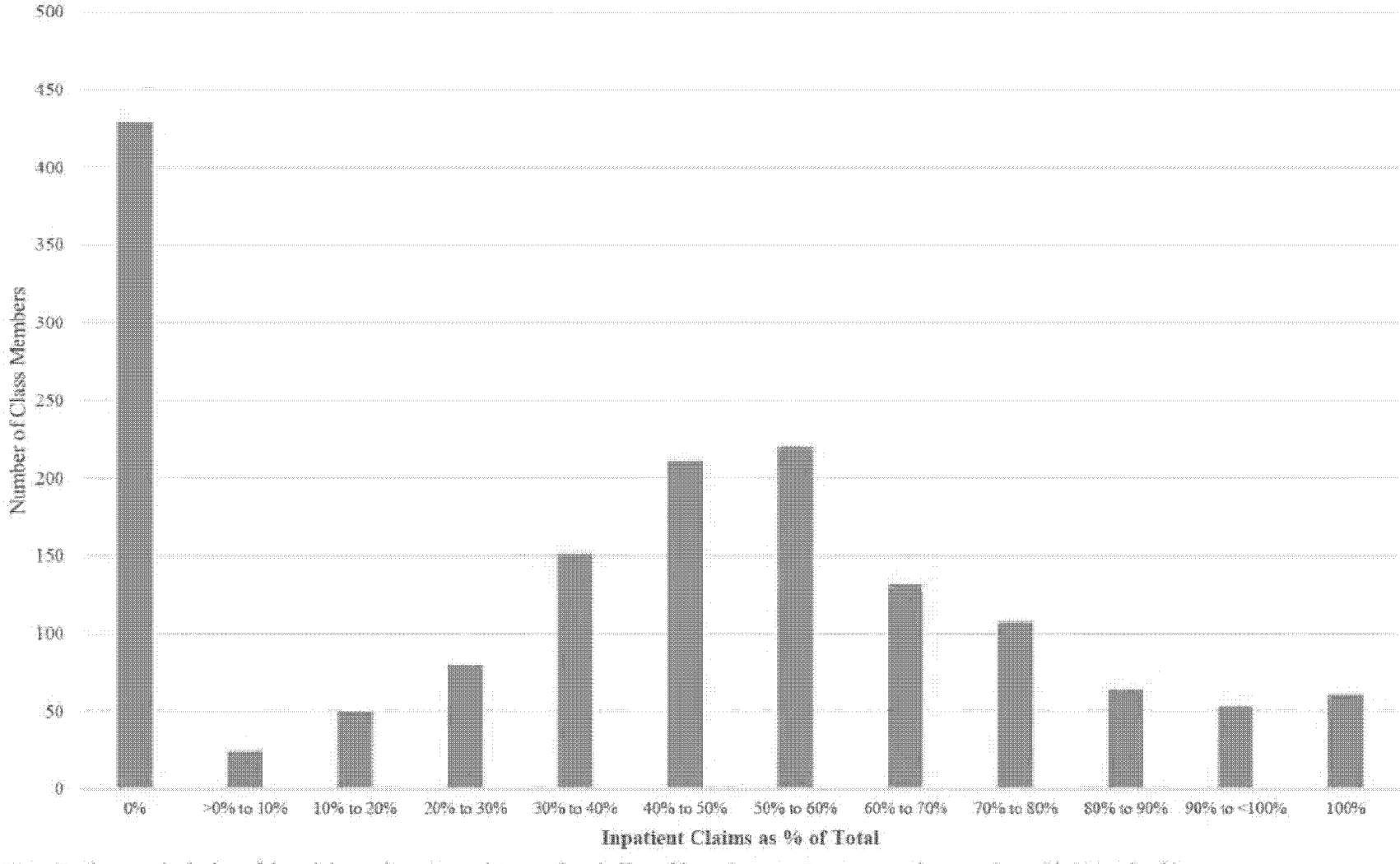
Note: SANL, MGH and SMMC were not affiliated with Sutter in 2014.
Source: OSHPD Discharge data.

Corrected Exhibit 3a
Distribution of Putative Class Members by Mix of Inpatient/Outpatient Claims



Note: Buckets are inclusive of the maximum but not minimum values indicated in each range.
Source: Leitzinger Claims Data backup.

Exhibit 3b
Distribution of Putative Class Members by Mix of Inpatient/Outpatient Payments



Note: Buckets are inclusive of the minimum but not maximum values indicated in each range. Ignores one class member with $0 total paid amount.
Source: Leitzinger Claims Data backup.

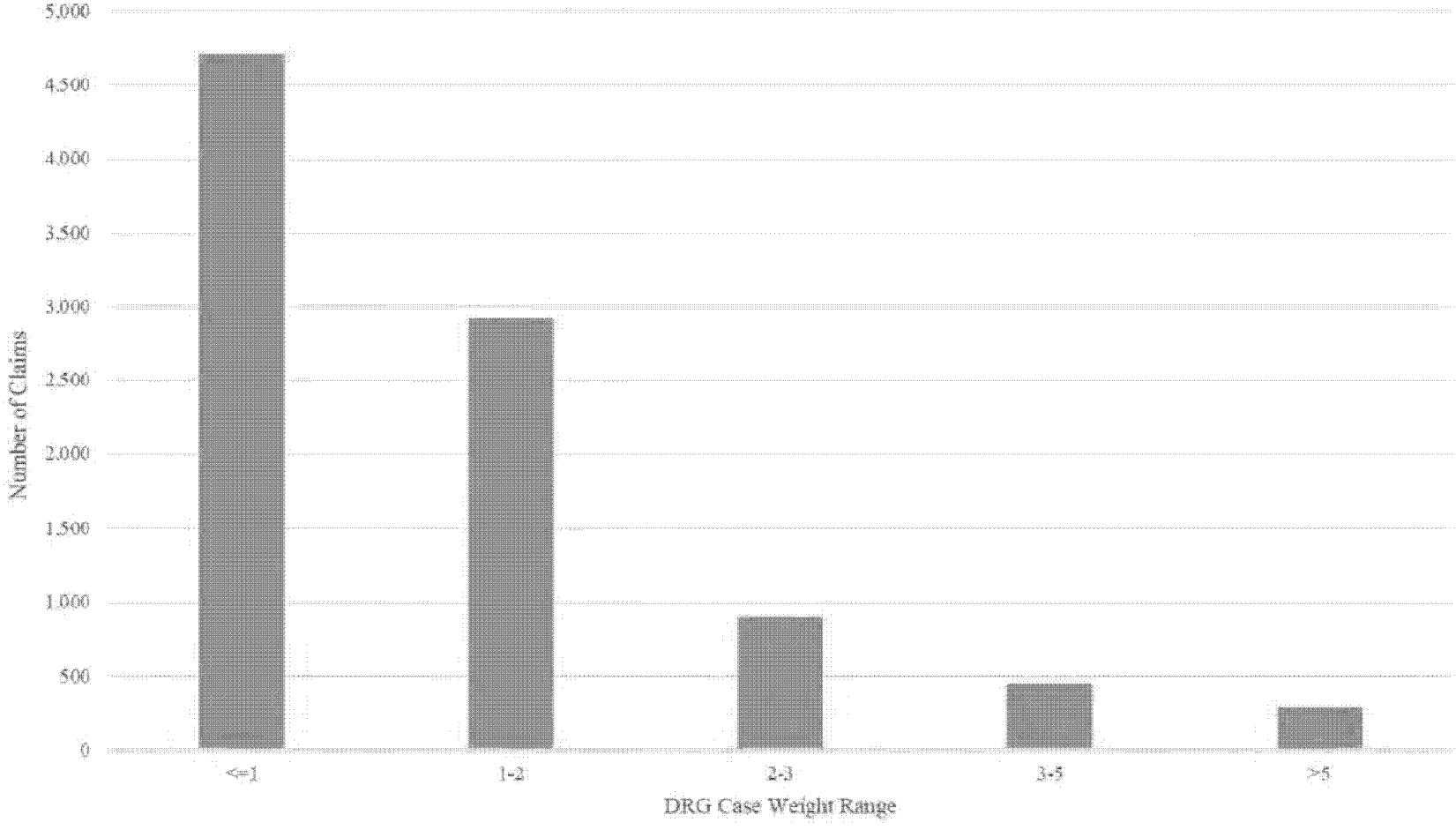
Exhibit 4
Top Inpatient Procedures (DRGs) by Number of Claims at Sutter Hospitals
2008-2016

Rank	DRG Number	Number of Claims	Average Allowed Amount per Claim	Description of DRG
1	775	9,813	Sealed by Order of the Court on 11/09	VAGINAL DELIVERY WITHOUT COMPLICATING DIAGNOSES
2	766	3,426		CESAREAN SECTION WITHOUT CC/MCC
3	795	2,943		NORMAL NEWBORN
4	470	2,094		MAJOR JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W/O MCC
5	765	2,054		CESAREAN SECTION WITH CC/MCC
6	774	1,767		VAGINAL DELIVERY WITH COMPLICATING DIAGNOSES
7	794	1,392		NEONATE WITH OTHER SIGNIFICANT PROBLEMS
8	743	1,158		UTERINE & ADNEXA PROC FOR NON-MALIGNANCY WITHOUT CC/MCC
9	871	1,099		SEPTICEMIA OR SEVERE SEPSIS WITHOUT MECHANICAL VENTILATION 96+ HOURS WITH MCC
10	392	961		ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS WITHOUT MCC
11	885	949		PSYCHOSES
12	792	811		PREMATURITY WITHOUT MAJOR PROBLEMS
13	790	695		EXTREME IMMATURITY OR RESPIRATORY DISTRESS SYNDROME, NEONATE
14	793	659		FULL TERM NEONATE WITH MAJOR PROBLEMS
15	872	618		SEPTICEMIA OR SEVERE SEPSIS WITHOUT MECHANICAL VENTILATION >96 HOURS WITHOUT MCC
16	343	587		APPENDECTOMY WITHOUT COMPLICATED PRINCIPAL DIAG WITHOUT CC/MCC
17	603	524		CELLULITIS WITHOUT MCC
18	791	515		PREMATURITY WITH MAJOR PROBLEMS
19	781	452		OTHER ANTEPARTUM DIAGNOSES WITH MEDICAL COMPLICATIONS
20	194	436		SIMPLE PNEUMONIA & PLEURISY WITH CC
21	621	426		O.R. PROCEDURES FOR OBESITY WITHOUT CC/MCC
22	897	420		ALCOHOL/DRUG ABUSE OR DEPENDENCE WITHOUT REHABILITATION THERAPY WITHOUT MCC
23	247	389		PERC CARDIOVASC PROC WITH DRUG-ELUTING STENT WITHOUT MCC
24	690	382		KIDNEY & URINARY TRACT INFECTIONS WITHOUT MCC
25	419	379		LAPAROSCOPIC CHOLECYSTECTOMY WITHOUT C.D.E. WITHOUT CC/MCC

Note: Claims are limited to those made in and after 2008, post the change in DRG definitions. CC refers to complications or comorbidities and MCC refers to major complications or comorbidities. Excludes Cigna because the Cigna claims data excludes DRG information.

Sources: Leitzinger Claims Data backup; List of Medicare Severity Diagnosis_Related Groups (MS-DRGS), Relative Weighting Factors - FY 2015 Final Table and Correction Notice available at <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2015-IPPS-Final-Rule-Home-Page-Items/FY2015-Final-Rule-Tables.html>.

Exhibit 5
Distribution of Sutter Inpatient Claims in 2015
By DRG Case Weights



Notes: Six claims associated with three DRGs (271, 274, 491) that did not match to a DRG weight were excluded. Claims with a blank DRG and Cigna claims were excluded.
Sources: Leitzinger claims data backup; List of Medicare Severity Diagnosis_Related Groups (MS-DRGS), Relative Weighting Factors - FY 2015 Final Table and Correction Notice available at <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/FY2015-IPPS-Final-Rule-Home-Page-Items/FY2015-Final-Rule-Tables html>

Exhibit 6
Top Outpatient Procedures (CPTs) by Number of Claims at Sutter Hospitals
2003-2016

Rank	CPT Number	Number of Claims	Average Allowed Amount per Claim	Description of CPT
1	89240	84,461		PATHOLOGY LAB PROCEDURE
2	76499	81,608		RADIOGRAPHIC PROCEDURE
3	99283	34,995		EMERGENCY DEPT VISIT (USUALLY, THE PRESENTING PROBLEM(S) ARE OF MODERATE SEVERITY)
4	G0202	23,777		SCREENING MAMMOGRAPHY DIGITAL
5	99284	20,553		EMERGENCY DEPT VISIT (USUALLY, THE PRESENTING PROBLEM(S) ARE OF HIGH SEVERITY)
6	99282	15,441		EMERGENCY DEPT VISIT (USUALLY, THE PRESENTING PROBLEM(S) ARE OF LOW TO MODERATE SEVERITY)
7	97100	14,007		{PHYSCIAL THERAPY}
8	91000	10,446		{ESOPHAGEAL INTUBATION AND COLLECTION OF WASHINGS FOR CYTOLOGY, INCLUDING PREPARATION OF SPECIMENS}
9	80061	9,636		LIPID PANEL
10	89399	9,335		{REPRODUCTIVE MEDICINE PROCEDURE}
11	99285	9,246		EMERGENCY DEPT VISIT (USUALLY, THE PRESENTING PROBLEM(S) ARE OF HIGH SEVERITY AND POSE AN IMMEDIATE SIGNIFICANT THREAT TO LIFE OR PHYSIOLOGIC FUNCTION)
12	71020	8,780		CHEST X-RAY 2VW FRONTAL&LATL
13	84443	8,413		ASSAY THYROID STIM HORMONE
14	80053	6,197		COMPREHEN METABOLIC PANEL
15	74177	5,336		CT ABD & PELV W/CONTRAST
16	92507	5,319		SPEECH/HEARING THERAPY
17	88305	4,414		TISSUE EXAM BY PATHOLOGIST
18	76700	4,356		US EXAM ABDOM COMPLETE
19	70450	4,289		CT HEAD/BRAIN W/O DYE
20	99211	3,975		OFFICE/OUTPATIENT VISIT EST
21	97110	3,720		THERAPEUTIC EXERCISES
22	59025	3,531		FETAL NON-STRESS TEST
23	97140	3,530		MANUAL THERAPY 1/> REGIONS
24	45378	3,490		DIAGNOSTIC COLONOSCOPY
25	82306	3,444		VITAMIN D 25 HYDROXY

Notes: Descriptions in brackets indicate that short description was not found in HCPC lookup file. Excludes Cigna because the Cigna claims data excludes CPT information
Source: Leitzinger Claims Data backup

Exhibit 7a
Sealed by Order of the Court on 11/09/17.

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna																	
Anthem																	
Blue Shield																	
Cigna																	
PacifiCare																	
United																	

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna																	
Anthem																	
Blue Shield																	
Cigna																	
PacifiCare																	
United																	

Aetna																	
Anthem																	
Blue Shield																	
Cigna																	
PacifiCare																	
United																	

Highly Confidential - Attorneys' Eyes Only

Exhibit 7a
Contract Rates at Sutter Lakeside Hospital

Inpatient Procedures																	
Network Vendor	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Aetna	Sealed by Order of the Court on 11/09/17.																
Anthem		Sealed by Order of the Court on 11/09/17.															
Blue Shield			Sealed by Order of the Court on 11/09/17.														
Cigna			Sealed by Order of the Court on 11/09/17.														
PacifiCare				Sealed by Order of the Court on 11/09/17.													
United					Sealed by Order of the Court on 11/09/17.												

Notes: 1) If no explicit rate was stipulated for a given year in the contracts, it was assumed that the prior years' rate applied.
2) Prior to changes in the contract pricing template around 2008, the "Outpatient Surgery" service category Sealed by Order of the Court on 11/09/17. ." In subsequent years, rates quoted for "Ambulatory Surgery - Scopes Procedures" and "Ambulatory Surgery - Additional Procedures" are tracked.
3) Moreover, in accordance with language in the later, generally post-2008 contracts, the "Emergency Room" service category Sealed by Order of the Court on 11/09/17. See e.g., 2012 Anthem Systemwide Agreement, Exhibit 14b (DEF000005824 - 6206 at 6120)).
4) Where a distinction is made in the contract, the PPO rate is used.
5) Percentages represent rates that were priced as a Sealed by Order of the Court on 11/09/17. .
6) Rates reported for a given year account for any mid-year changes that took place in that year.
7) United acquired PacifiCare in 2005 and the final contract that reported separate rates for PacifiCare was in 2008. Thereafter PacifiCare shared United rates.
8) Sealed by Orde provisions were not applicable to rural hospitals.
Sources: Sutter systemwide network vendor agreements and amendments.

Exhibit 7b
Contract Rates at California Pacific Medical Center

Outpatient Surgery

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna				Sealed by Order of the Court on 11/09/17.													
Anthem		Sealed by Order of the Court on 11/09/17.															s
Blue Shield	Sealed by Order of the Court on 11/09/17.																
Cigna			Sealed by Order of the Court on 11/09/17.														
PacifiCare		Sealed by Order of the Court on 11/09/17.															
United					Sealed by Order of the Court on 11/09/17.												

Emergency Room

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna				Sealed by Order of the Court on 11/09/17.													
Anthem		Sealed by Order of the Court on 11/09/17.															
Blue Shield	Sealed by Order of the Court on 11/09/17.																
Cigna			Sealed by Order of the Court on 11/09/17.														
PacifiCare		Sealed by Order of the Court on 11/09/17.															
United					Sealed by Order of the Court on 11/09/17.												

Other Outpatient Services

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna				Sealed by Order of the Court on 11/09/17.													
Anthem		Sealed by Order of the Court on 11/09/17.															
Blue Shield	Sealed by Order of the Court on 11/09/17.																
Cigna			Sealed by Order of the Court on 11/09/17.														
PacifiCare		Sealed by Order of the Court on 11/09/17.															
United					Sealed by Order of the Court on 11/09/17.												

Exhibit 7b
Contract Rates at California Pacific Medical Center

Inpatient Procedures

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna				Sealed by Order of the Court on 11/09/17													
Anthem		Sealed by Order of the Court on 11/09/17															
Blue Shield	Sealed by Order of the Court on 11/09/17																
Cigna			Sealed by Order of the Court on 11/09/17														
PacifiCare		Sealed by Order of the Court on 11/09/17															
United					Sealed by Order of the Court on 11/09/17												

Stop Loss %

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna				Sealed by Order of the Court on 11/09/17													
Anthem		Sealed by Order of the Court on 11/09/17															
Blue Shield	Sealed by Order of the Court on 11/09/17																
Cigna			Sealed by Order of the Court on 11/09/17														
PacifiCare				Sealed by Order of the Court on 11/09/17													
United					Sealed by Order of the Court on 11/09/17						Sealed by Order of the Court on 11/09/17						

Notes: 1) If no explicit rate was stipulated for a given year in the contracts, it was assumed that the prior years' rate applied
2) Prior to changes in the contract pricing template around 2008, the "Outpatient Surgery" service category Sealed by Order of the Court on 11/09/17 In subsequent years, rates quoted for "Ambulatory Surgery - Scopes Procedures" and "Ambulatory Surgery - Additional Procedures" are tracked
3) Moreover, in accordance with language in the later, generally post-2008 contracts, the "Emergency Room" service category Sealed by Order of the Court on 11/09/17 (See e g , 2012 Anthem Systemwide Agreement, Exhibit 14b (DEF000005824 - 6206 at 6120))
4) Where a distinction is made in the contract, the PPO rate is used
5) Percentages represent rates that were priced as a Sealed by Order of the Court on 11/09/17
6) Rates reported for a given year account for any mid-year changes that took place in that year
7) The "per diems" entries indicate a pricing structure that grouped procedures into broad categories and assigned largely per diem prices to these categories The reported reimbursement mechanism was the mechanism used to price the majority of inpatient service categories, some inpatient procedures were priced at case rates and percentage of billed charges
8) The "case rates" entries for inpatient procedures indicate a switch to a pricing structure that instituted largely case rate DRG level pricing for a number of procedures The reported reimbursement mechanism was the mechanism used to price the majority of inpatient service categories, some inpatient procedures were priced at per diem rates and percentage of billed charges
9) U Sealed by Cort quired PacifiCare in 2005 and the final contract that reported separate rates for PacifiCare was in 2008 Thereafter PacifiCare shared United rates
10) s percentages presented are Non-NICU, category I stop loss provisions
Sources: Sutter systemwide network vendor agreements and amendments

Exhibit 7c

Sealed by Order of the Court on 11/09/17.

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna																	
Anthem																	
Blue Shield																	
Cigna																	
PacifiCare																	
United																	

Emergency Room

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna																	
Anthem																	
Blue Shield																	
Cigna																	
PacifiCare																	
United																	

Other Outpatient Services

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna																	
Anthem																	
Blue Shield																	
Cigna																	
PacifiCare																	
United																	

Exhibit 7c
Sealed by Order of the Court on 11/09/17.

Inpatient Procedures

Aetna																		
Anthem																		
Blue Shield																		
PacifiCare																		
United																		

Stop Loss %

Network Vendor	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aetna																	
Anthem																	
Blue Shield																	
PacifiCare																	
United																	

Notes: 1) If no explicit rate was stipulated for a give year in the contracts, it was assumed that the prior years' rate applied

2) Prior to changes in the contract pricing template around 2008, the "Outpatient Surgery" service category Sealed by Order of the Court on 11/09/17. In subsequent years, rates quoted for "Ambulatory Surgery - Scopes Procedures" and "Ambulatory Surgery - Additional Procedures" are tracked

3) Moreover, in accordance with language in the later, generally post-2008 contracts, the "Emergency Room" service category Sealed by Order of the Court on 11/09/17. (See e.g., 2012 Anthem Systemwide Agreement, Exhibit 14b (DEF000005824 - 6206 at 6120))

4) Where a distinction is made in the contract, the PPO rate is used

5) Percentages represent rates that were priced as a [redacted]s

6) Rates reported for a given year account for any mid-year changes that took place in that year

7) The "per diems" entries indicate a pricing structure that grouped procedures into broad categories and assigned largely per diem prices to these categories. The reported reimbursement mechanism was the mechanism used to price the majority of inpatient service categories, some inpatient procedures were priced at case rates and percentage of billed charges

8) The "case rates" entries for inpatient procedures indicate a switch to a pricing structure that instituted largely case rate DRG level pricing for a number of procedures. The reported reimbursement mechanism was the mechanism used to price the majority of inpatient service categories, some inpatient procedures were priced at per diem rates and percentage of billed charges

9) United acquired PacifiCare in 2005 and the final contract that reported separate rates for PacifiCare was in 2008. Thereafter PacifiCare shared United rates

10) [redacted] percentages presented are Non-NICU, category I stop loss provisions. In years where pilot rates were applicable, the stop loss percentage applied to non-piloted services is reported

Sources: Sutter systemwide network vendor agreements and amendments

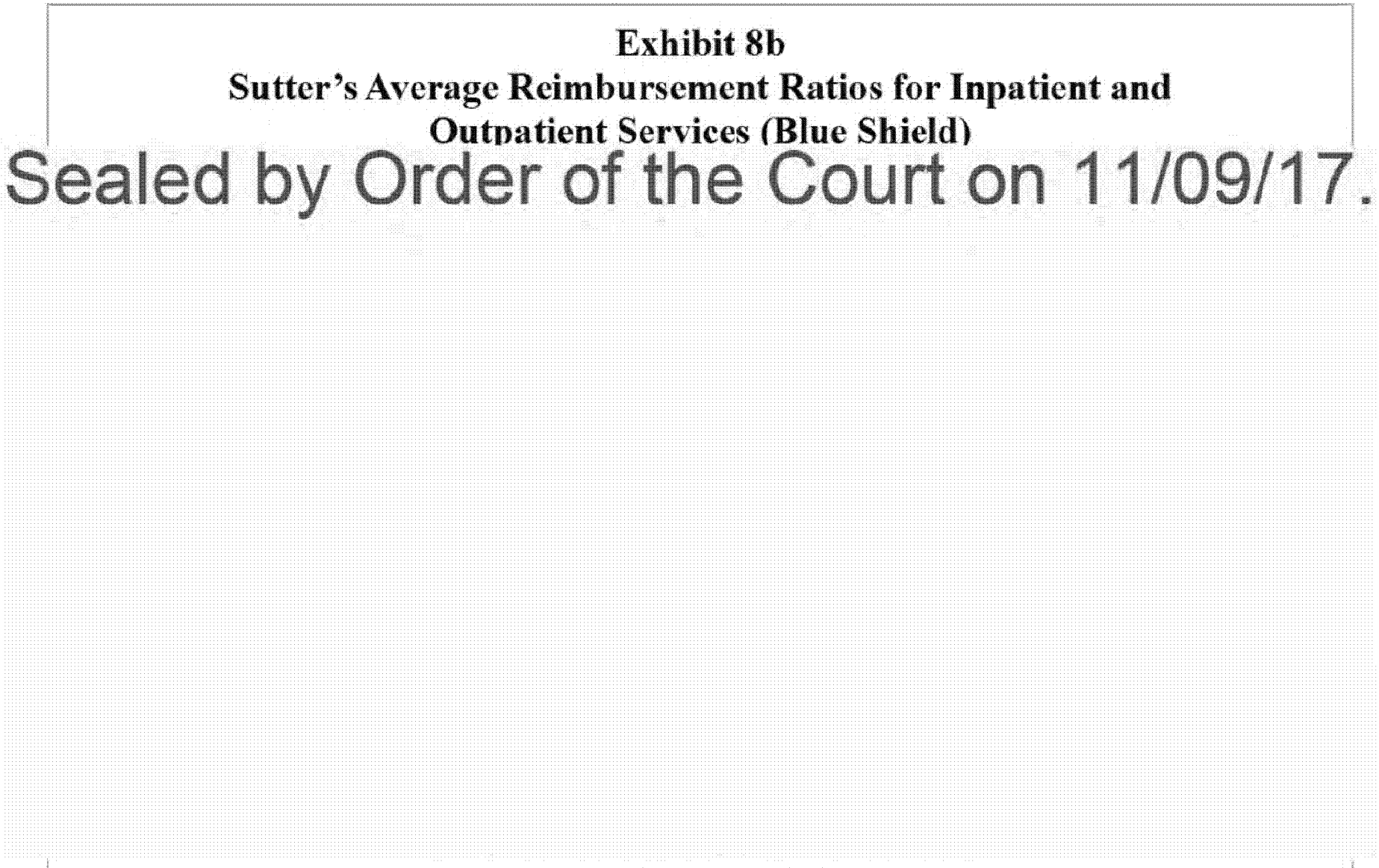
Exhibit 8a
Sutter's Average Reimbursement Ratios for Inpatient and Outpatient Services (Aetna)

Sealed by Order of the Court on 11/09/17.

Note: Limited to claims on which Dr. Leitzinger calculated damages.
Source: Leitzinger Claims Data backup.

Exhibit 8b
Sutter's Average Reimbursement Ratios for Inpatient and Outpatient Services (Blue Shield)

Sealed by Order of the Court on 11/09/17.



Note: Limited to claims on which Dr. Leitzinger calculated damages.
Source: Leitzinger Claims Data backup.

Exhibit 9a
Average Reimbursement Ratios for Top DRGs and CPTs at Sutter Hospitals
Aetna Claims, 2003-2015

Sealed by Order of the Court on 11/09/17.

Notes: Solid lines represent inpatient procedures. Dashed lines represent outpatient procedures. Prior to October 1, 2007, when the present day MSDRG coding structure was implemented, DRGs 430, 370, 371, 373 and 544 were converted to 885, 765, 766, 775 and 470.
Source: Leitzinger Claims Data backup.

Exhibit 9b
Average Reimbursement Ratios for Top DRGs and CPTs at Sutter Hospitals
Blue Shield Claims, 2003-2015

Sealed by Order of the Court on 11/09/17.

Notes: Solid lines represent inpatient procedures. Dashed lines represent outpatient procedures. Prior to October 1, 2007, when the present day MSDRG coding structure was implemented, DRGs 359, 370, 371, 373 and 544 were converted to 743, 765, 766, 775 and 470.
Source: Leitzinger Claims Data backup.

Exhibit 10a
Correlation of Average Sutter Reimbursement Ratios for Common Procedures (Aetna)

	DRG 470	*DRG 765*	*DRG 766*	*DRG 775*	*DRG 885*	*CPT 80061*	*CPT 84443*	*CPT 99283*	*CPT 99284*	*CPT G0202*	*Dr. Leitzinger's Sutter Average*
DRG 470											
DRG 765											
DRG 766											
DRG 775											
DRG 885											
CPT 80061											
CPT 84443											
CPT 99283											
CPT 99284											
CPT G0202											
Dr. Leitzinger' Sutter Averag											

Sealed by Order of the Court on 11/09/17.

Notes: 2003-2015. Prior to October 1, 2007, when the present day MSDRG coding structure was implemented, DRGs 430, 370, 371, 373 and 544 were converted to 885, 765, 766, 775 and 470.
Source: Leitzinger Claims Data backup.

Exhibit 10b
Correlation of Average Sutter Reimbursement Ratios for Common Procedures (Blue Shield)

	DRG 470	*DRG 743*	*DRG 765*	*DRG 766*	*DRG 775*	*CPT 80061*	*CPT 84443*	*CPT 99283*	*CPT 99284*	*CPT G0202*	*Dr. Leitzinger's Sutter Average*
DRG 470											
DRG 743											
DRG 765											
DRG 766											
DRG 775											
CPT 80061											
CPT 84443											
CPT 99283											
CPT 99284											
CPT G0202											
Dr. Leitzinger's Sutter Average											

Sealed by Order of the Court on 11/09/17.

Notes: 2003-2015. Prior to October 1, 2007, when the present day MSDRG coding structure was implemented, DRGs 359, 370, 371, 373 and 544 were converted to 743, 765, 766, 775 and 470.

Source: Leitzinger Claims Data backup.

Exhibit 11a
Sutter's Average Reimbursement Ratios for Inpatient Services Across Network Vendors

Sealed by Order of the Court on 11/09/17.



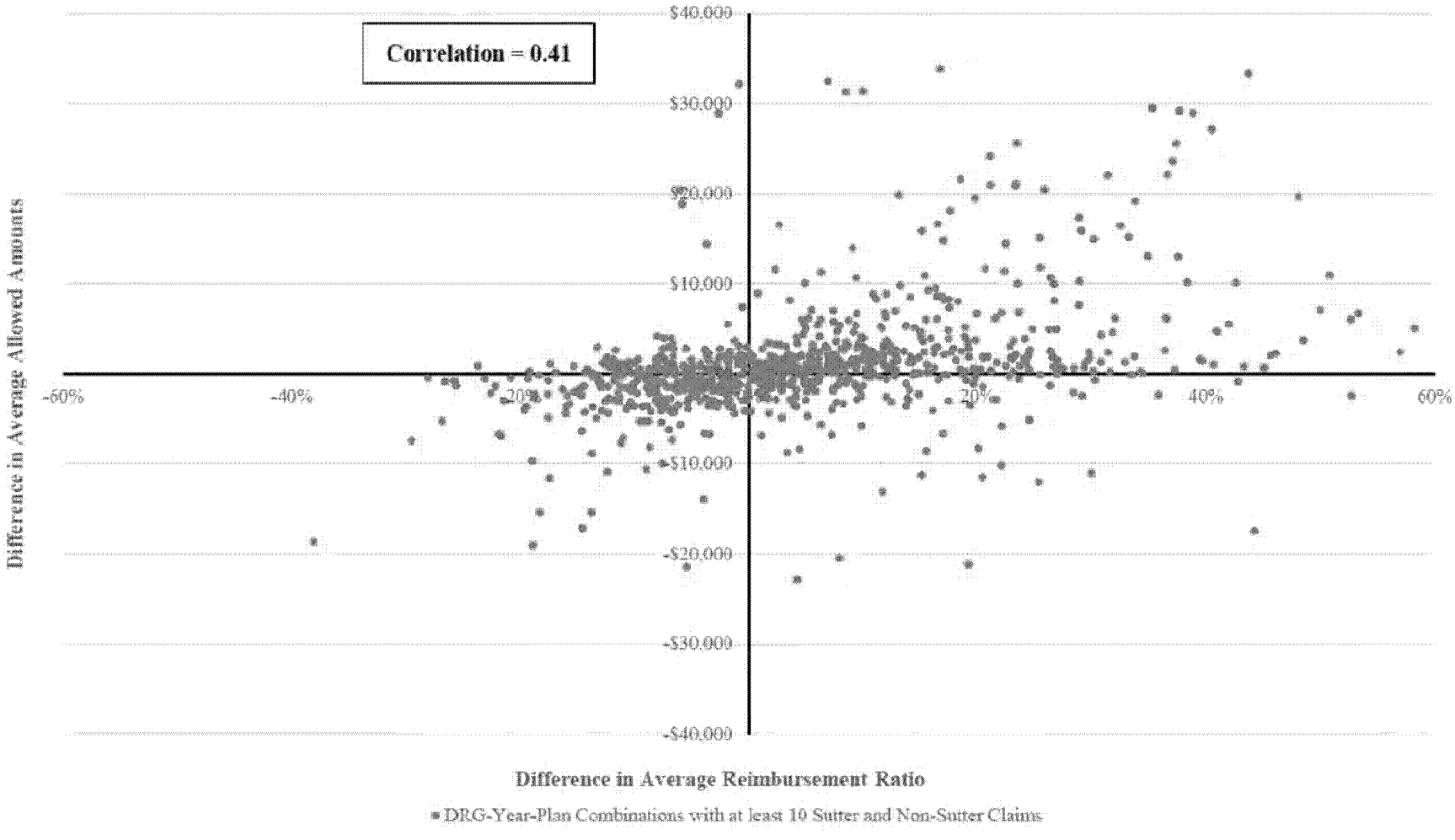
Note: Limited to claims on which Dr. Leitzinger calculated damages; Anthem series excludes years for which there were relatively few claims.
Source: Leitzinger Claims Data backup.

Exhibit 11b
Sutter's Average Reimbursement Ratios for Outpatient/ER Services Across Network Vendors

Sealed by Order of the Court on 11/09/17.

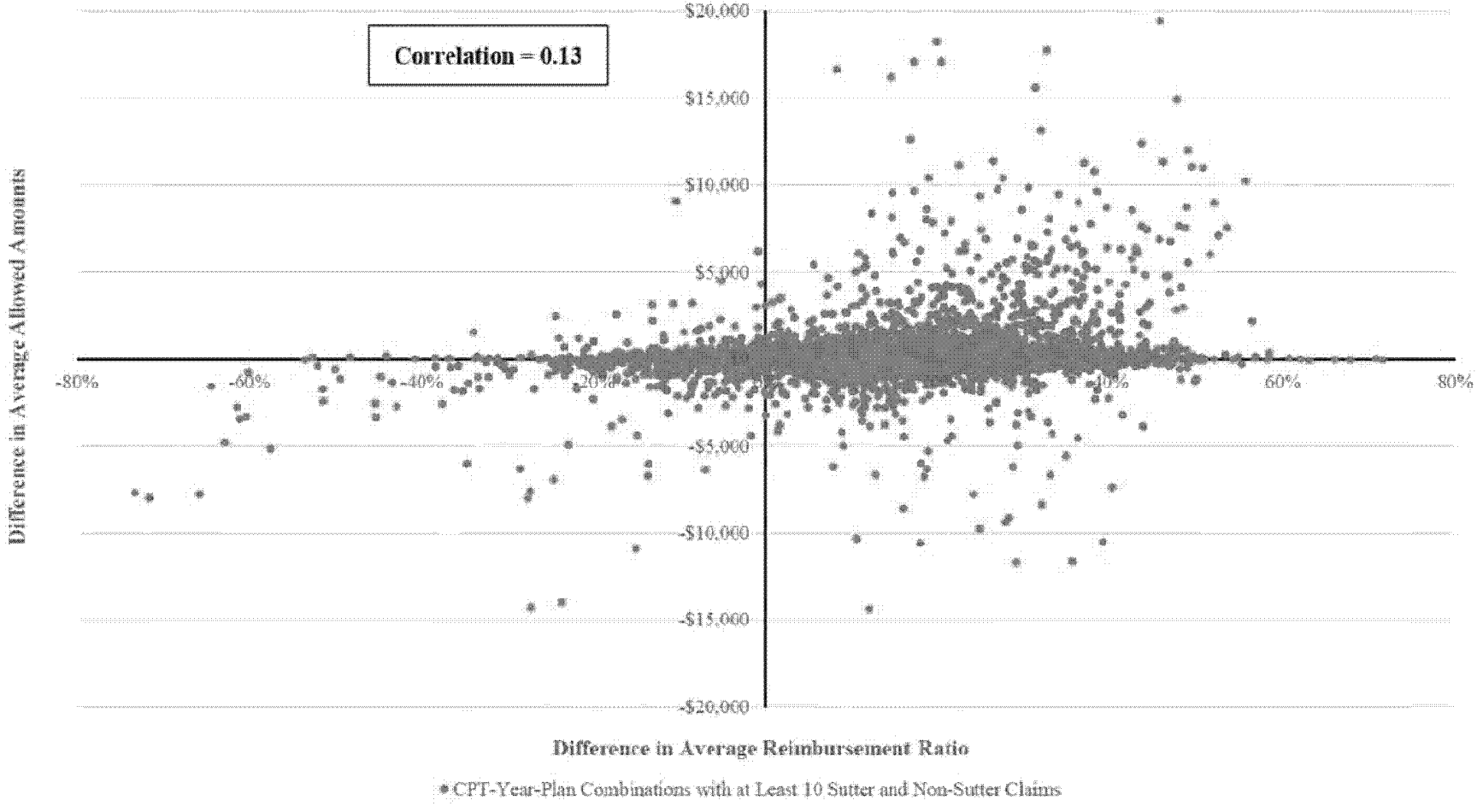
Note: Limited to claims on which Dr. Leitzinger calculated damages; Anthem series excludes years for which there were relatively few claims.
Source: Leitzinger Claims Data backup.

Exhibit 12a
Dr. Leitzinger's Reimbursement Ratio Is Not a Good Proxy for Inpatient Price



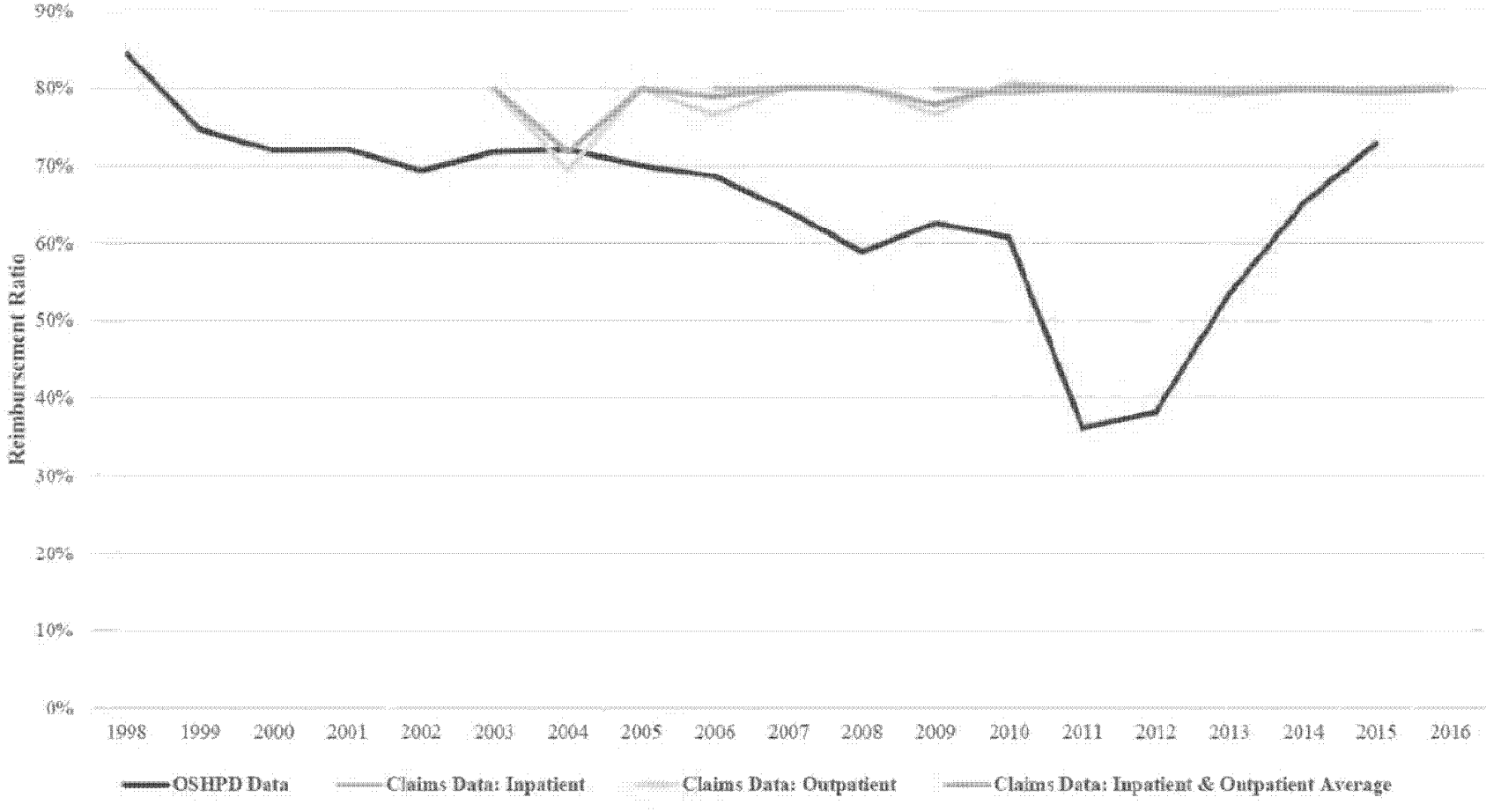
Notes: Differences are expressed as Sutter less non-Sutter. Seven of 871 DRG-Year-Health Plan ID Combinations fall outside the axis range.
Source: Leitzinger Claims Data backup

Exhibit 12b
Dr. Leitzinger's Reimbursement Ratio Is Not a Good Proxy for Outpatient Price



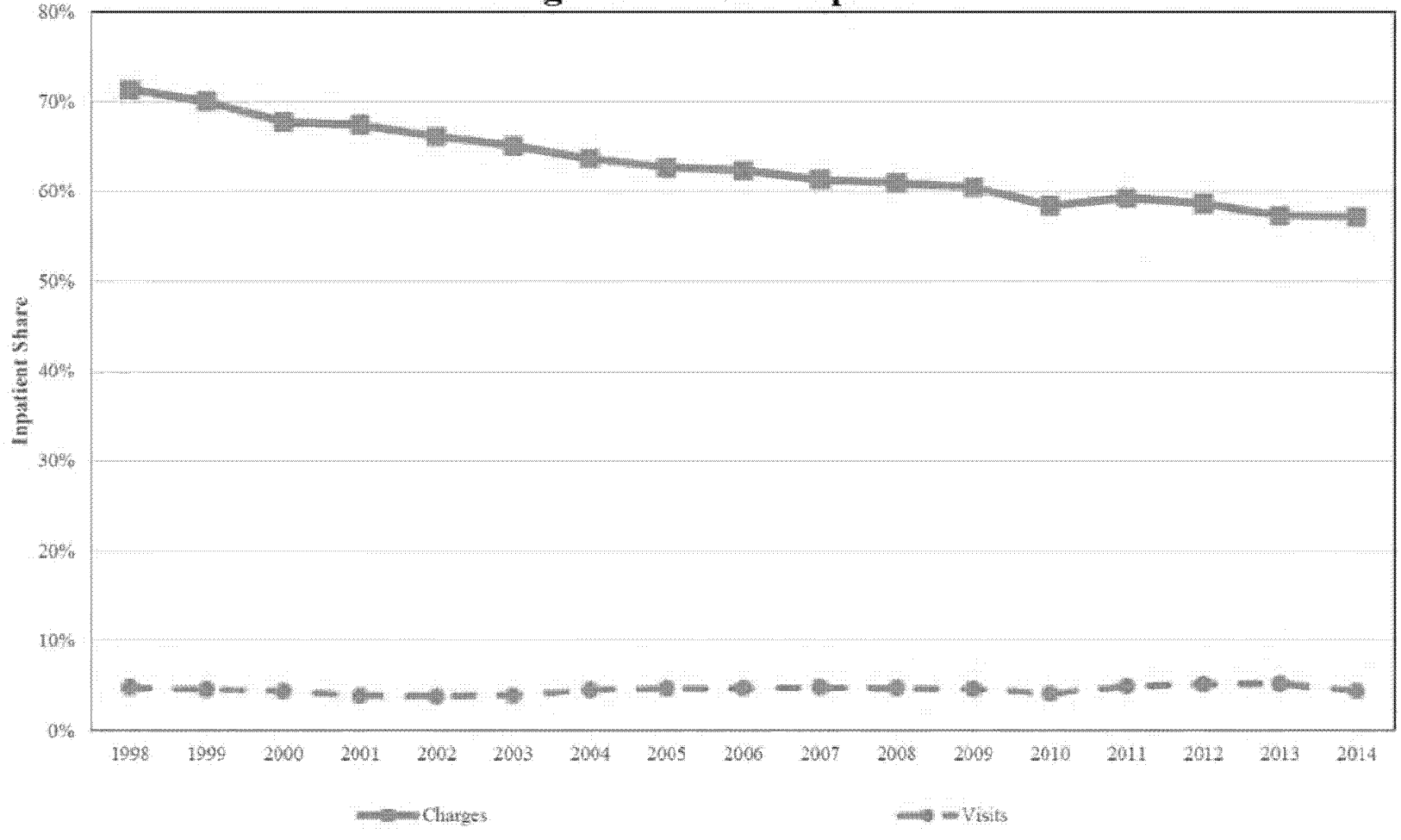
Notes: Differences are expressed as Sutter less non-Sutter. Eleven of 7,711 CPT-Year-Health Plan ID Combinations fall outside the axis range.
Source: Leitzinger Claims Data backup.

Exhibit 13
Sutter Lakeside Hospital's Average Reimbursement Ratio
Claims Data versus OSHPD



Note: The claims data shows the reimbursement ratio for Blue Shield claims.
Source: OSHPD Financial Data and Leitzinger Claims Data backup.

Exhibit 14
Inpatient Services Have Accounted for a Decreasing Share of Total Charges at Sutter Hospitals

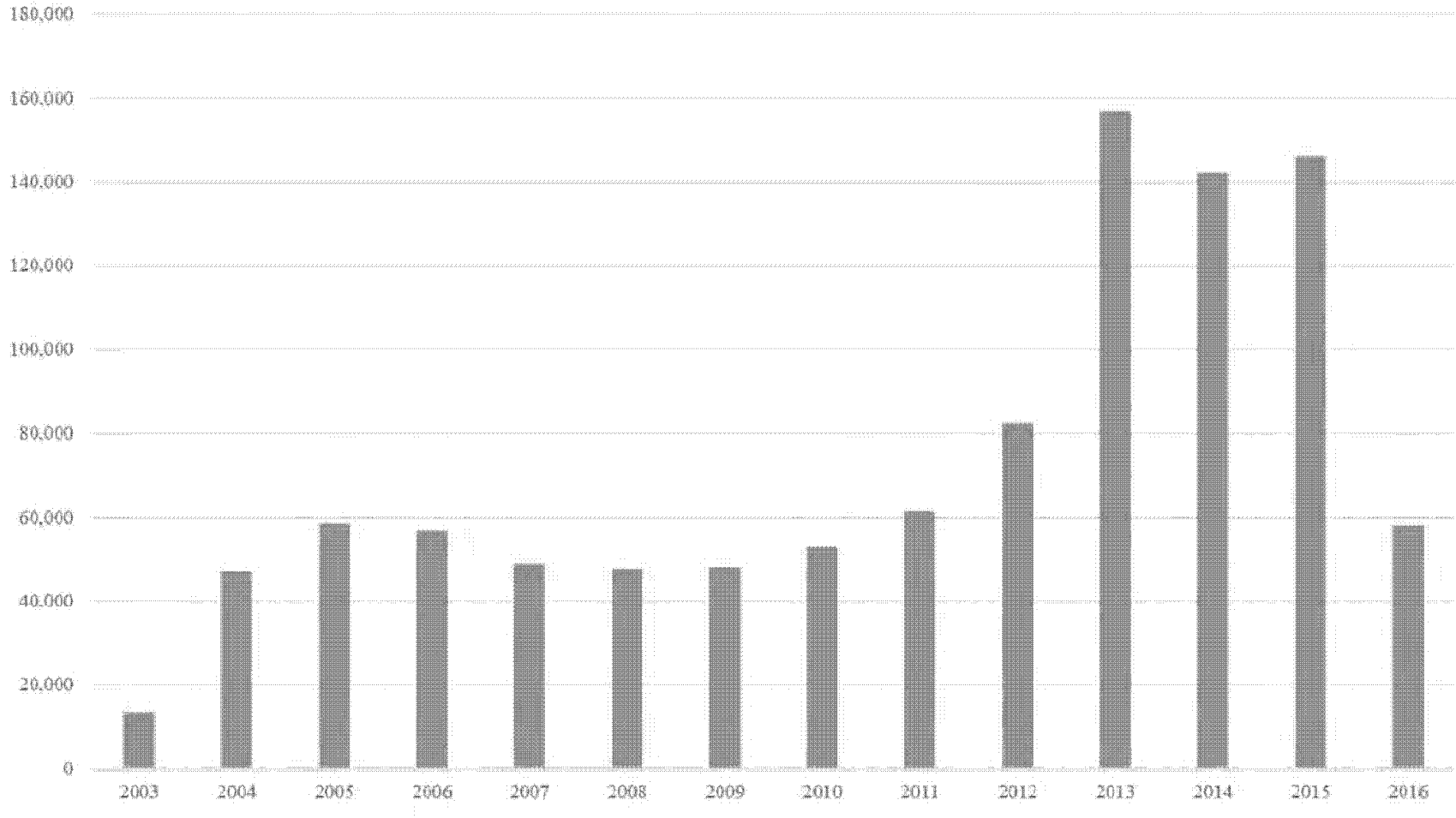


Source: OSHPD Financial Data

Exhibit 15 Dr. Leitzinger's Average Overcharge by Hospital Group			
Group	Hospitals	Coefficient	Overcharge
1	Sutter Medical Center - Sacramento	0.124***	31%
2	Memorial Medical Center - Modesto	0.207***	45%
3	California Pac Med Ctr-St Lukes Campus California Pacific Medical Center	0.0430***	8%
4	Mills-Peninsula Medical Center	0.0709***	15%
5	Alta Bates Summit Medical Center - Alta Bates Campus Alta Bates Summit Medical Center - Summit Hawthorne	0.0478***	15%
6	Sutter Auburn Faith Hospital Sutter Davis Hospital Sutter Roseville Medical Center	0.168***	33%
7	Eden Medical Center Novato Community Hospital San Leandro Hospital Sutter Delta Medical Center Sutter Medical Center Of Santa Rosa Sutter Solano Medical Center Sutter Warrack Hospital	0.0680***	16%
8	Sutter Amador Hospital Sutter Coast Hospital Sutter Lakeside Hospital	-0.0565**	-8%
9	Marin General Hospital	0.0332***	7%
10	Sutter Tracy Community Hospital	0.116***	21%
11	Memorial Hospital Los Banos Mercy Medical Center - Merced	0.179***	34%

Note: *** p<0.01, ** p<0.05, * p<0.01.

Exhibit 16
Total Putative Class Member Claims at Sutter Hospitals by Year



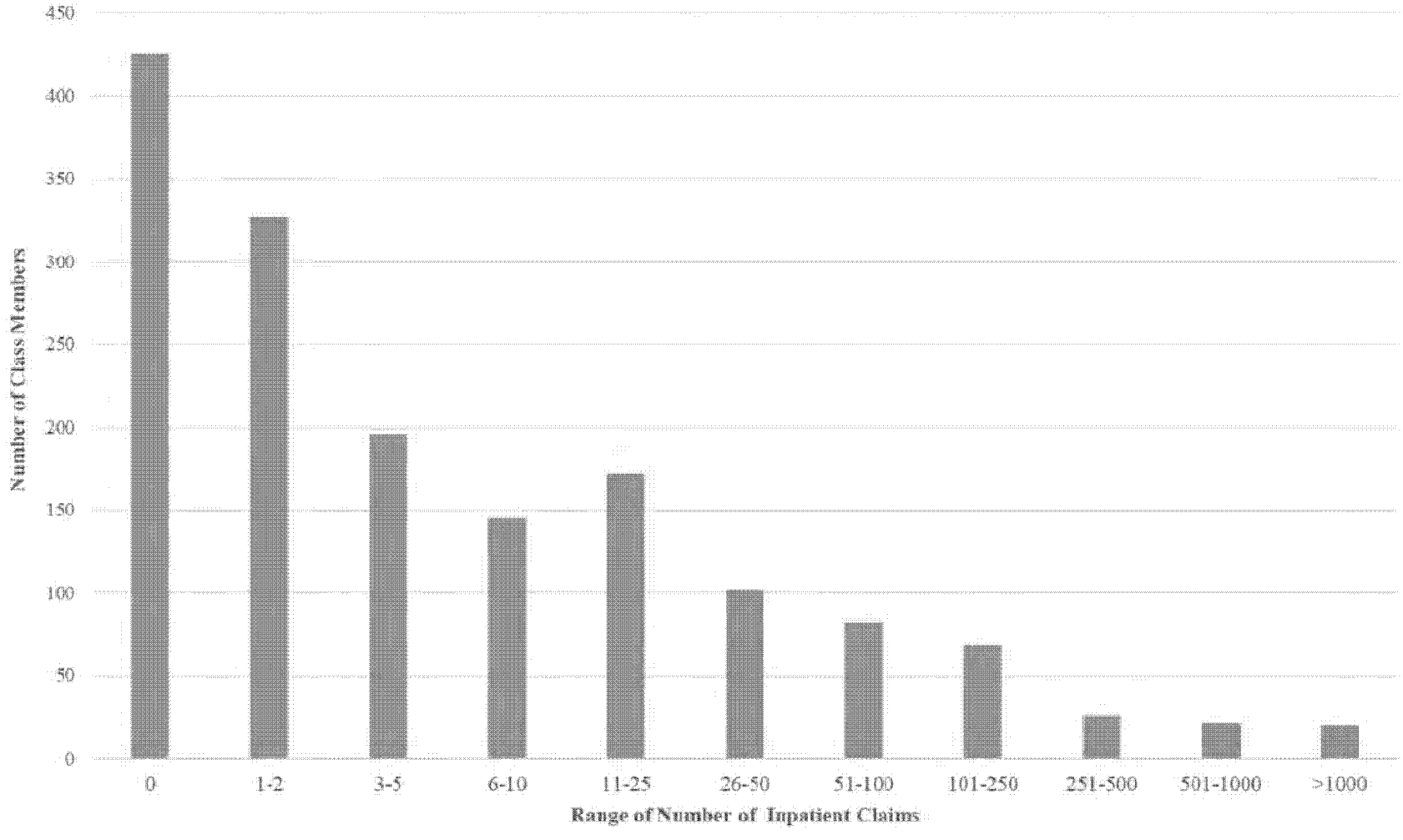
Notes: Includes inpatient and outpatient claims.
Source: Leitzinger Claims Data backup.

Exhibit 17 Dr. Leitzinger's Average Overcharge by Year		
Year	Coefficient	Overcharge
2003	0.0792***	19.2%
2004	0.0853***	19.9%
2005	0.13**	30.0%
2006	0.119*	27.1%
2007	0.0596	13.7%
2008	0.126	28.4%
2009	0.0781***	17.2%
2010	0.0585	12.0%
2011	0.0866*	18.5%
2012	0.0227	4.8%
2013	0.0550	11.6%
2014	-0.0443	-8.8%
2015	0.00146	0.3%

Note: *** p<0.01, ** p<0.05, * p<0.01.

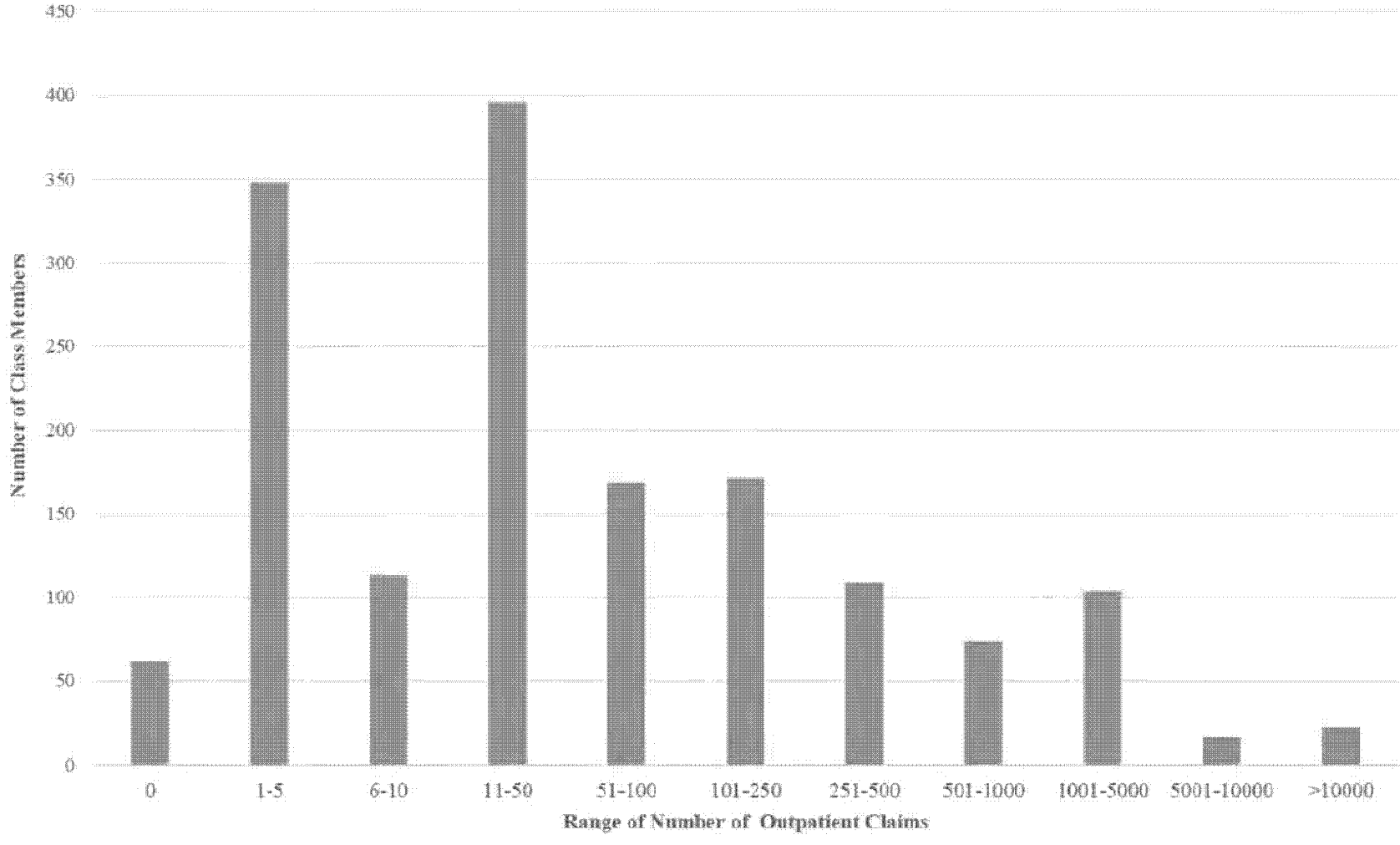
Sources: Leitzinger Declaration, ¶ 71 and backup.

Exhibit 18a
Number of Inpatient Claims at Sutter Hospitals by Putative Class Members



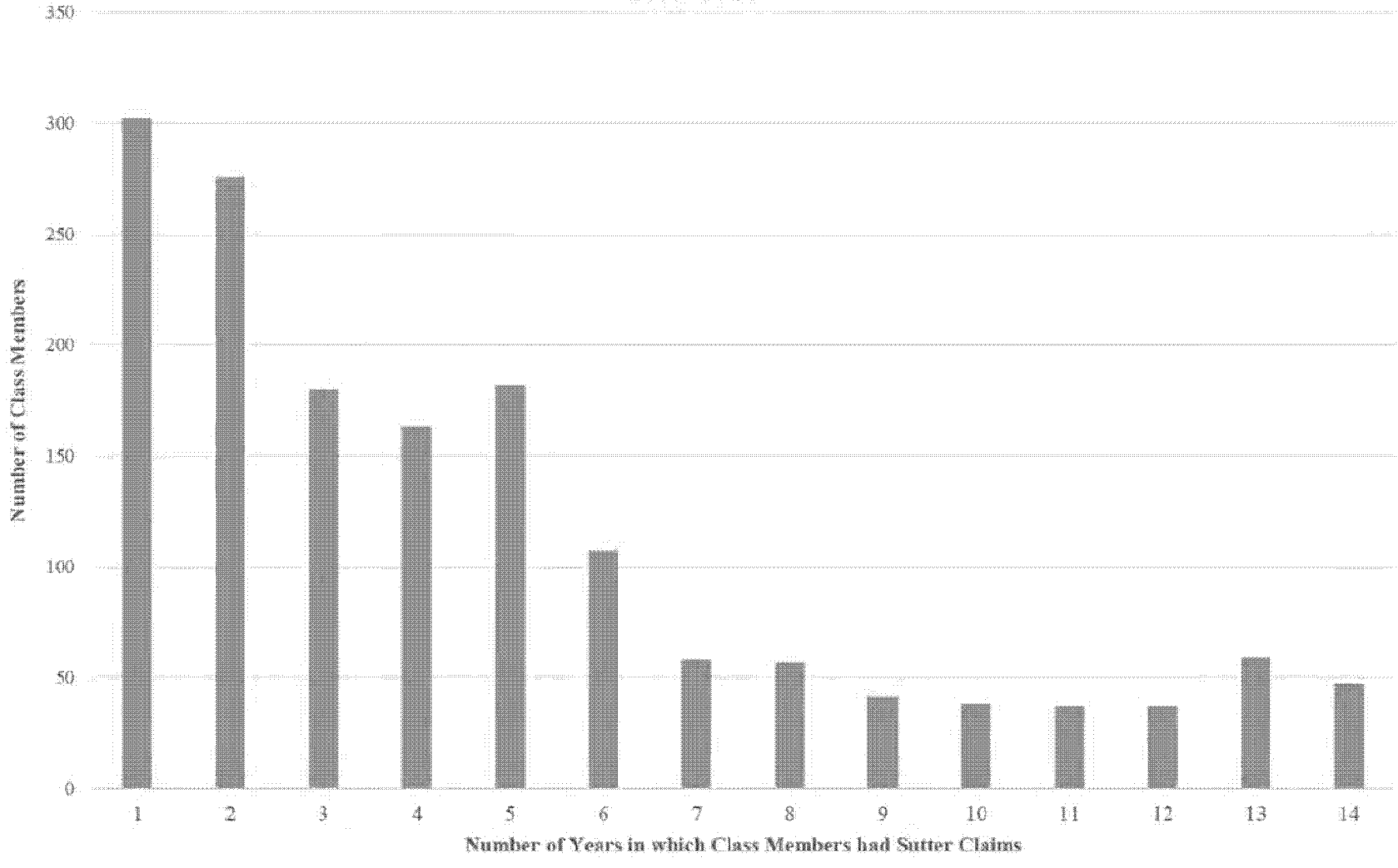
Source: Leitzinger Claims Data backup.

Exhibit 18b
Number of Outpatient Claims at Sutter Hospitals by Putative Class Members



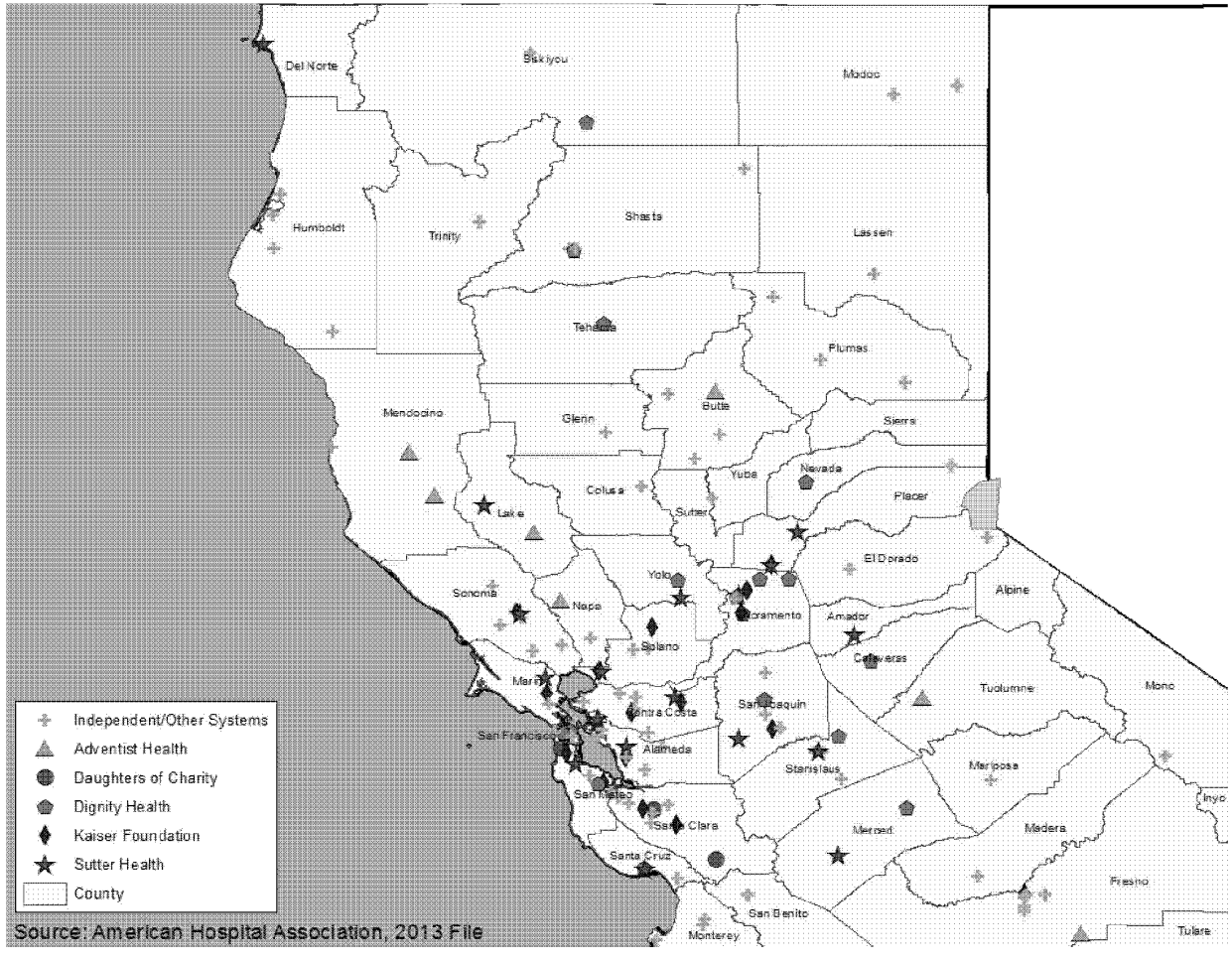
Source: Leitzinger Claims Data backup.

Exhibit 19
Number of Years in which Putative Class Members Had Sutter Claims
2003-2016



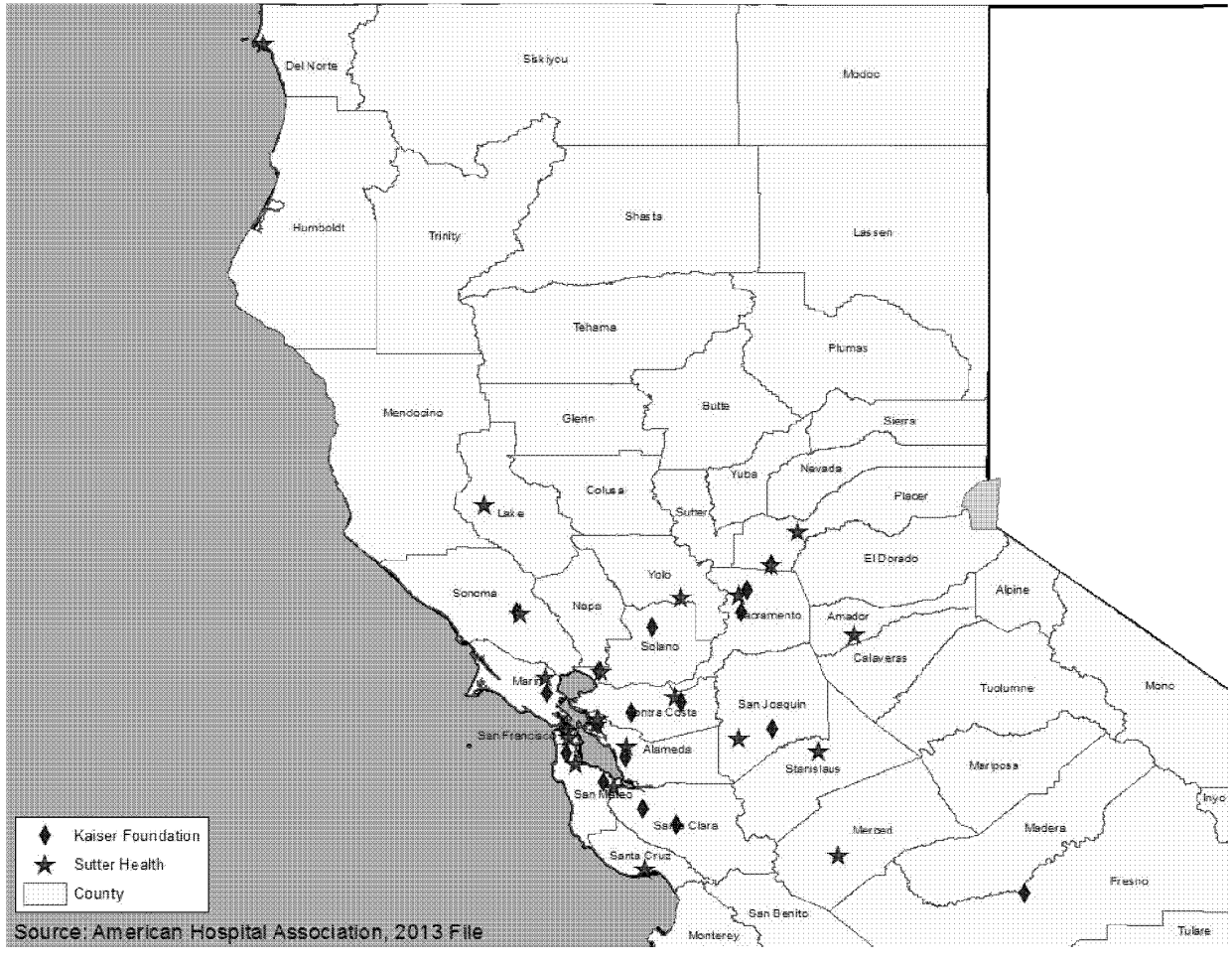
Notes: Includes inpatient and outpatient claims.
Source: Leitzinger Claims Data backup.

Exhibit 20
Sutter and Non-Sutter Acute Care Hospitals in Northern California Counties



Highly Confidential – Attorneys' Eyes Only

Exhibit 21
Sutter and Kaiser Acute Care Hospitals in Northern California Counties



Highly Confidential – Attorneys' Eyes Only

Corrected Exhibit 22a
Sutter, Kaiser, and Other Share of Inpatient Discharges by CBSA/County

CBSA/County Name	Acute Care Hospitals Located in CBSA/County (2015)			Discharges Originating in CBSA/County							
				2014				2003			
	Total	Sutter Hospitals	# of Systems in CBSA	Total	% Sutter	% Non-Sutter	% Kaiser	Total	% Sutter	% Non-Sutter	% Kaiser
Northern California											
San Francisco-Oakland-Hayward, CA	47	11	18	115,772	23 8%	76 2%	37 7%	177,247	31 7%	68 3%	28 7%
Sacramento--Roseville--Arden-Arcade, CA	15	4	6	53,112	22 6%	77 4%	37 2%	80,390	27 5%	72 5%	32 2%
San Jose-Sunnyvale-Santa Clara, CA	11	0	8	48,391	0 8%	99 2%	33 0%	79,264	1 0%	99 0%	30 4%
Fresno, CA	7	0	5	18,376	0 3%	99 7%	14 6%	27,355	0 3%	99 7%	15 3%
Stockton-Lodi, CA	7	1	7	15,279	11 2%	88 8%	31 4%	25,340	12 7%	87 3%	10 5%
Modesto, CA	5	1	4	11,694	28 0%	72 0%	26 5%	23,480	51 1%	48 9%	2 4%
Santa Rosa, CA	8	1	6	10,903	15 1%	84 9%	50 5%	17,501	18 9%	81 1%	35 0%
Vallejo-Fairfield, CA	5	1	3	10,035	12 0%	88 0%	57 6%	16,225	15 5%	84 5%	52 0%
Visalia-Porterville, CA	3	0	3	8,377	0 3%	99 7%	1 5%	12,100	0 2%	99 8%	0 9%
Salinas, CA	4	0	4	7,543	1 1%	98 9%	1 4%	14,257	0 9%	99 1%	1 1%
Santa Cruz-Watsonville, CA	2	0	2	6,010	19 2%	80 8%	4 7%	9,967	19 7%	80 3%	2 8%
Chico, CA	4	0	4	5,116	3 1%	96 9%	0 9%	7,161	3 5%	96 5%	1 2%
Merced, CA	2	1	2	4,632	11 7%	88 3%	5 5%	7,555	15 4%	84 6%	3 1%
Redding, CA	3	0	3	3,627	3 0%	97 0%	0 4%	5,948	1 7%	98 3%	0 5%
Napa, CA	2	0	2	3,295	3 5%	96 5%	43 2%	5,051	4 2%	95 8%	39 5%
Yuba City, CA	2	0	2	3,282	19 6%	80 4%	10 8%	5,200	9 3%	90 7%	5 6%
Madera, CA	1	0	1	2,769	1 0%	99 0%	16 1%	3,845	0 4%	99 6%	16 6%
Hanford-Corcoran, CA	2	0	1	2,651	0 3%	99 7%	3 5%	4,055	0 4%	99 6%	2 0%
Eureka-Arcata-Fortuna, CA	4	0	3	2,501	2 8%	97 2%	0 2%	2,876	3 8%	96 2%	0 3%
Truckee-Grass Valley, CA	2	0	2	1,877	14 7%	85 3%	4 2%	3,496	11 9%	88 1%	2 6%
Ukiah, CA	3	0	2	1,502	6 3%	93 7%	2 3%	2,540	9 1%	90 9%	3 0%
Sonora, CA	2	0	1	1,127	5 6%	94 4%	2 2%	1,673	6 8%	93 2%	1 4%
Clearlake, CA	2	1	2	1,065	32 9%	67 1%	8 5%	1,985	40 4%	59 6%	6 1%
Red Bluff, CA	1	0	1	981	2 0%	98 0%	0 8%	1,672	1 5%	98 5%	0 7%
Calaveras County	1	0	1	933	18 2%	81 8%	10 6%	1,562	15 7%	84 3%	4 0%
Amador County	1	1	1	848	52 8%	47 2%	18 6%	1,623	57 4%	42 6%	13 7%
Glenn County	1	0	1	560	3 2%	96 8%	0 0%	851	2 8%	97 2%	0 9%
Siskiyou County	2	0	2	485	1 6%	98 4%	0 4%	1,060	1 6%	98 4%	0 8%
Colusa County	1	0	1	446	11 4%	88 6%	3 1%	541	7 8%	92 2%	1 7%
Susanville, CA	1	0	1	370	1 1%	98 9%	0 0%	703	3 0%	97 0%	0 6%
Inyo County	2	0	2	368	0 0%	100 0%	1 1%	526	0 0%	100 0%	0 4%
Crescent City, CA	1	1	1	360	70 0%	30 0%	0 6%	682	79 3%	20 7%	0 0%
Mariposa County	1	0	1	297	9 4%	90 6%	5 4%	556	4 9%	95 1%	4 5%
Plumas County	3	0	3	245	3 3%	96 7%	0 4%	633	2 2%	97 8%	1 1%
Mono County	1	0	1	207	0 5%	99 5%	1 4%	288	0 0%	100 0%	1 0%
Trinity County	1	0	1	180	2 8%	97 2%	1 1%	261	2 7%	97 3%	2 7%
Modoc County	2	0	2	59	0 0%	100 0%	0 0%	162	4 3%	95 7%	0 0%
Sierra County	0	0	0	32	3 1%	96 9%	3 1%	73	5 5%	94 5%	0 0%
Alpine County	0	0	0	1	0 0%	100 0%	0 0%	30	0 0%	100 0%	0 0%
CBSA/Counties With Sutter Hospitals				**223,700**	**21.9%**	**78.1%**	**37.2%**	**352,028**	**29.2%**	**70.8%**	**27.0%**
Southern California											
Los Angeles-Long Beach-Anaheim, CA	105	0	47	305,943	0 0%	100 0%	21 2%	445,573	0 0%	100 0%	17 4%
Riverside-San Bernardino-Ontario, CA	38	0	23	106,563	0 0%	100 0%	25 1%	142,310	0 0%	100 0%	21 7%
San Diego-Carlsbad, CA	20	0	7	77,705	0 0%	100 0%	16 3%	103,741	0 0%	100 0%	17 6%
Oxnard-Thousand Oaks-Ventura, CA	10	0	7	21,028	0 0%	100 0%	9 1%	33,659	0 0%	100 0%	5 2%
Bakersfield, CA	10	0	8	19,477	0 0%	100 0%	2 1%	24,579	0 1%	99 9%	1 2%
Santa Maria-Santa Barbara, CA	5	0	3	7,751	0 1%	99 9%	0 2%	12,460	0 1%	99 9%	0 2%
San Luis Obispo-Paso Robles-Arroyo Grande, CA	4	0	2	5,389	0 4%	99 6%	0 2%	7,629	0 4%	99 6%	0 2%
El Centro, CA	2	0	2	2,890	0 1%	99 9%	0 6%	4,980	0 0%	100 0%	0 5%

Source: OSHPD Inpatient Discharge Data, 2003 and 2014, and American Hospital Association data 2015

Corrected Exhibit 22b
Sutter, Kaiser, and Other Share of Inpatient Discharges by County

CBSA/County Name	Acute Care Hospitals Located in County (2015)			Discharges Originating in County							
				2014				2003			
	Total	Sutter Hospitals	# of Systems in CBSA	Total	% Sutter	% Non-Sutter	% Kaiser	Total	% Sutter	% Non-Sutter	% Kaiser
Northern California											
SANTA CLARA	10	0	7	47,041	0 8%	99 2%	33 5%	76,684	1 0%	99 0%	31 0%
ALAMEDA	14	4	6	40,015	21 2%	78 8%	42 6%	64,187	31 6%	68 4%	31 7%
SACRAMENTO	8	1	4	34,456	18 4%	81 6%	40 9%	53,497	23 6%	76 4%	37 0%
CONTRA COSTA	9	1	5	29,995	13 3%	86 7%	43 3%	45,657	22 5%	77 5%	30 9%
SAN FRANCISCO	13	3	8	20,806	41 2%	58 8%	25 4%	28,449	51 1%	48 9%	21 2%
SAN MATEO	8	2	5	19,015	28 1%	71 9%	33 3%	28,901	31 5%	68 5%	27 1%
FRESNO	7	0	5	18,376	0 3%	99 7%	14 6%	27,355	0 3%	99 7%	15 3%
SAN JOAQUIN	7	1	7	15,279	11 2%	88 8%	31 4%	25,340	12 7%	87 3%	10 5%
STANISLAUS	5	1	4	11,694	28 0%	72 0%	26 5%	23,480	51 1%	48 9%	2 4%
SONOMA	8	1	6	10,903	15 1%	84 9%	50 5%	17,501	18 9%	81 1%	35 0%
SOLANO	5	1	3	10,035	12 0%	88 0%	57 6%	16,225	15 5%	84 5%	52 0%
PLACER	3	2	2	9,807	41 6%	58 4%	34 9%	13,022	49 8%	50 2%	27 2%
TULARE	3	0	3	8,377	0 3%	99 7%	1 5%	12,100	0 2%	99 8%	0 9%
MONTEREY	4	0	4	7,543	1 1%	98 9%	1 4%	14,257	0 9%	99 1%	1 1%
SANTA CRUZ	2	0	2	6,010	19 2%	80 8%	4 7%	9,967	19 7%	80 3%	2 8%
MARIN	3	1	3	5,941	19 0%	81 0%	34 4%	10,053	20 0%	80 0%	26 4%
BUTTE	4	0	4	5,116	3 1%	96 9%	0 9%	7,161	3 5%	96 5%	1 2%
MERCED	2	1	2	4,632	11 7%	88 3%	5 5%	7,555	15 4%	84 6%	3 1%
EL DORADO	2	0	2	4,531	12 2%	87 8%	23 8%	6,855	12 1%	87 9%	17 0%
YOLO	2	1	2	4,318	24 1%	75 9%	27 3%	7,016	31 1%	68 9%	20 1%
SHASTA	3	0	3	3,627	3 0%	97 0%	0 4%	5,948	1 7%	98 3%	0 5%
NAPA	2	0	2	3,295	3 5%	96 5%	43 2%	5,051	4 2%	95 8%	39 5%
MADERA	1	0	1	2,769	1 0%	99 0%	16 1%	3,845	0 4%	99 6%	16 6%
KINGS	2	0	1	2,651	0 3%	99 7%	3 5%	4,055	0 4%	99 6%	2 0%
HUMBOLDT	4	0	3	2,501	2 8%	97 2%	0 2%	2,876	3 8%	96 2%	0 3%
SUTTER	1	0	1	1,998	19 1%	80 9%	6 0%	3,297	9 2%	90 8%	4 2%
NEVADA	2	0	2	1,877	14 7%	85 3%	4 2%	3,496	11 9%	88 1%	2 6%
MENDOCINO	3	0	2	1,502	6 3%	93 7%	2 3%	2,540	9 1%	90 9%	3 0%
SAN BENITO	1	0	1	1,350	1 3%	98 7%	16 4%	2,580	1 0%	99 0%	12 7%
YUBA	1	0	1	1,284	20 3%	79 7%	18 1%	1,903	9 4%	90 6%	7 8%
TUOLUMNE	2	0	1	1,127	5 6%	94 4%	2 2%	1,673	6 8%	93 2%	1 4%
LAKE	2	1	2	1,065	32 9%	67 1%	8 5%	1,985	40 4%	59 6%	6 1%
TEHAMA	1	0	1	981	2 0%	98 0%	0 8%	1,672	1 5%	98 5%	0 7%
CALAVERAS	1	0	1	933	18 2%	81 8%	10 6%	1,562	15 7%	84 3%	4 0%
AMADOR	1	1	1	848	52 8%	47 2%	18 6%	1,623	57 4%	42 6%	13 7%
GLENN	1	0	1	560	3 2%	96 8%	0 0%	851	2 8%	97 2%	0 9%
SISKIYOU	2	0	2	485	1 6%	98 4%	0 4%	1,060	1 6%	98 4%	0 8%
COLUSA	1	0	1	446	11 4%	88 6%	3 1%	541	7 8%	92 2%	1 7%
LASSEN	1	0	1	370	1 1%	98 9%	0 0%	703	3 0%	97 0%	0 6%
INYO	2	0	2	368	0 0%	100 0%	1 1%	526	0 0%	100 0%	0 4%
DEL NORTE	1	1	1	360	70 0%	30 0%	0 6%	682	79 3%	20 7%	0 0%
MARIPOSA	1	0	1	297	9 4%	90 6%	5 4%	556	4 9%	95 1%	4 5%
PLUMAS	3	0	3	245	3 3%	96 7%	0 4%	633	2 2%	97 8%	1 1%
MONO	1	0	1	207	0 5%	99 5%	1 4%	288	0 0%	100 0%	1 0%
TRINITY	1	0	1	180	2 8%	97 2%	1 1%	261	2 7%	97 3%	2 7%
MODOC	2	0	2	59	0 0%	100 0%	0 0%	162	4 3%	95 7%	0 0%
SIERRA	0	0	0	32	3 1%	96 9%	3 1%	73	5 5%	94 5%	0 0%
ALPINE	0	0	0	1	0 0%	100 0%	0 0%	30	0 0%	100 0%	0 0%
Counties With Sutter Hospitals				**219,169**	**22.1%**	**77.9%**	**37.4%**	**345,173**	**29.6%**	**70.4%**	**27.2%**
Southern California											
LOS ANGELES	0	0	42	229,627	0 0%	100 0%	22 0%	322,554	0 0%	100 0%	20 9%
SAN DIEGO	0	0	7	77,705	0 0%	100 0%	16 3%	103,741	0 0%	100 0%	17 6%
ORANGE	0	0	10	76,316	0 0%	100 0%	18 7%	123,019	0 0%	100 0%	8 3%
RIVERSIDE	0	0	12	57,706	0 0%	100 0%	21 8%	71,336	0 0%	100 0%	19 5%
SAN BERNARDINO	0	0	14	48,857	0 0%	100 0%	28 9%	70,974	0 0%	100 0%	23 9%
VENTURA	0	0	7	21,028	0 0%	100 0%	9 1%	33,659	0 0%	100 0%	5 2%
KERN	0	0	8	19,477	0 0%	100 0%	2 1%	24,579	0 1%	99 9%	1 2%
SANTA BARBARA	0	0	3	7,751	0 1%	99 9%	0 2%	12,460	0 1%	99 9%	0 2%
SAN LUIS OBISPO	0	0	2	5,389	0 4%	99 6%	0 2%	7,629	0 4%	99 6%	0 2%
IMPERIAL	0	0	2	2,890	0 1%	99 9%	0 6%	4,980	0 0%	100 0%	0 5%

Source: OSHPD Inpatient Discharge Data, 2003 and 2014, and American Hospital Association data 2015

Appendix A

Appendix A

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EDUCATION

1976	A.B., Economics, Brown University
1979	M.P.A., (Masters in Public Affairs), Woodrow Wilson School of Public and International Affairs, Princeton University

PROFESSIONAL EXPERIENCE

2012-present	Senior Consultant, Compass Lexecon, and President, Center for Healthcare Economics and Policy and Senior Managing Director, FTI Consulting, Inc.
2008-2012	Vice Chairman and Senior Managing Director, Compass Lexecon (formerly Competition Policy Associates)
2003-2008	President, Competition Policy Associates (As of January 2006, also Senior Managing Director, FTI Consulting Inc.)
1994-2003	Principal, Economists Incorporated
1990-1994	Assistant Chief, Economic Regulatory Section, Economic Analysis Group, Antitrust Division, U.S. Department of Justice
1987-1990	Senior Economist, Economists Incorporated
1986-1987	Director of Analytical Resources Unit, Economic Analysis Group, Antitrust Division
1985-1986	Economist, Economic Analysis Group, Antitrust Division, U.S. Department of Justice
1982-1985	Economist, Financial Structure Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System

1979-1982	Economist, Economic Policy Office, Antitrust Division, U.S. Department of Justice
1976-1977	Research Associate, Energy Economics Group, Arthur D. Little, Inc.

TEACHING EXPERIENCE

1984	Adjunct Lecturer, Institute of Policy Sciences, Duke University
1984-1989	Executive Education for Top State Managers, conducted by The Institute of Policy Sciences, Duke University
1983	Lecturer, Board of Governors of the Federal Reserve System and American Institute of Banking
1979	Teaching Assistant, Princeton University

TESTIMONY

Investigation into the Competitive Marketing of Air Transportation, CAB

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In Re "Apollo" Air Passenger Computer Reservation System (CRS) MDL DKT. No. 760 M-21-49-MP

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Consent Order Proceeding before the Competition Tribunal, Canada Between The Director of Investigation and Research and Air Canada, Air Canada Services, Inc., PWA Corporation, Canadian Airlines International, and the Gemini Group Automated Distribution Systems Inc.

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Easy Gardener, Inc. v. Dalen Products, Inc.

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In Re: Cigarette Antitrust Litigation and related cases, *Holiday Wholesale Grocery Co., et al. v. Philip Morris Inc., et al*., MDL Docket No.: 1342 Civil Action No.: 1:00-cv-0447-JOF and *Artemio Del Serrone, Steven Ren, Heather Snay, Jon Ren, Keith Pine, and Bill Reed, on behalf of themselves and all others similarly situated v. Philip Morris Inc., R.J. Reynolds Tobacco Co., Brown & Williamson Tobacco Corp., Lorillard Tobacco Co., Liggett Group, Inc., and Brooke Group, Ltd.,* Case No. 00-004035 CZ, State of Michigan in the Circuit Court for the County of Wayne

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Report of Robert D. Willig and Margaret E. Guerin-Calvert to the NZCC *An Economic Assessment of Professor Tim Hazledine's Model of the Proposed Alliance Between Qantas and Air New Zealand*

Presentations by Robert D. Willig and Margaret E. Guerin-Calvert to the NZCC *An Economic Analysis of the Consumer Benefits and Competitive Effects of the Proposed Alliance Between Qantas Airways and Air New Zealand; Consumer Benefits*

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Budget Pest Prevention, Inc., et. al. v. Bayer Corporation, Bayer CropScience, L.P., and BASF Corporation, In the United States District Court for the Western District of North Carolina Asheville Division, Case No. 1:05-CV-90

National Recycling, Inc. v. Waste Management of Massachusetts, Inc., Browning-Ferris Industries, Inc., and SEMASS Partnership LP, United States District Court for the District of Massachusetts, Case No. 03-12174-NMG

In the Matter of Mechanical and Digital Phonorecord Delivery Rate Adjustment Proceeding, Testimony before the Copyright Royalty Board of the Library of Congress, Washington, DC, Docket No. 2006-3 CRB DPRA

In the matter of *United States v. ASCAP Application of America Online, Inc.; United States v. ASCAP, Application of RealNetworks, Inc.* and *United States v. ASCAP, Application of Yahoo! Inc.,* United States District Court Southern District of New York, Civil Action No. 41-1395 (WCC). May 4, 2007

Lockheed Martin Corporation, Plaintiff, v. *L-3 Communications Corporation*, *Mediatech, Inc*., Kevin Speed, Steve Flemming, and Patrick St. Romain, Defendants. *L-3 Communications Corporation*, Counterclaim and Third-Party Plaintiff, v. *Lockheed Martin Corporation,* Counterclaim Defendant, and Jack Kelly, Thomas Dorsey, Michael Homan, and Thomas Hull, Third-Party Defendants. US District Court for the Middle District of Florida, Orlando Division, Case Nc. 6:05-cv- 1580-Orl-31KRS, Expert Report August 15, 2007

Abbott Laboratories, an Illinois corporation, *Fournier Industrie et Sante*, a French corporation, and *Laboratoires Fournier, S.A.*, a French corporation, Plaintiffs, v. *Teva Pharmaceuticals USA, Inc.*, a Delaware corporation, Defendant; Civil Action No. 02-1512 (KAJ); *Teva Pharmaceuticals USA, Inc.*, a Delaware corporation, *Teva Pharmaceutical Industries, Ltd.*, an Israeli corporation, and *Novopharm, Ltd.*, a Canadian Corporation, Counterclaim Plaintiffs, v. *Abbott Laboratories*, an Illinois corporation, *Fournier Industrie et Sante*, a French corporation, and *Laboratoires Fournier, S.A.*, a French corporation, Counterclaim Defendants; *Abbott Laboratories*, an Illinois corporation, *Fournier Industrie et Sante*, a French corporation, and *Laboratoires Fournier, S.A.*, a French corporation, Plaintiffs, v. *Impax Laboratories, Inc.*, a Delaware corporation, Defendant; Civil Action No. 03-120-KAJ; *Impax Laboratories, Inc*., a Delaware corporation, Counterclaim Plaintiff, v. *Abbott Laboratories*, an Illinois corporation, *Fournier Industrie et Sante*, a French corporation, and *Laboratoires Fournier, S.A.*, a French corporation, Counterclaim Defendants.; *in re TriCor direct purchaser antitrust litigation*; Civil Action No. 05-340 (KAJ); *in re TriCor indirect purchaser antitrust litigation*; Civil Action No. 05-360 (KAJ)

State of California ex rel. Lockyer et al., Plaintiffs *v. Infineon Technologies AG et al.*, Defendants. Case No. C-06-04333 PJH US District Court for the Northern District of California, San Francisco Division *Natchitoches Parish Hospital Service District, on behalf of itself and all others similarly situated, Plaintiff, v. Tyco International, Ltd., Tyco International, (U.S.), Inc., Tyco Healthcare Group, L.P., The Kendall Healthcare Products Company,* Civil Action No. 05-12024 PBS.

Daniels Sharpsmart, Inc. v. Tyco International, (US) Inc., Tyco Healthcare Group, L.P., Becton Dickinson and Company, Novation, LLC, VHA, Inc., Premier Inc., Premier Purchasing Partners, and Consorta, Inc., United States District Court for the Eastern District of Texas, Texarkana Division, Civil Action No. 5:05-cv-169

In re Wellbutrin SR antitrust litigation (direct purchaser actions), Civil Case no. 2:04-cv-5525 (E.D. Pa.); *Sheet Metal Workers Local 441 Health and Welfare Plan, et al. v. GlaxoSmithKline, plc, et al. (indirect purchaser actions),* Civil Case no. 2:04-cv-5898 (E.D. Pa.); *Medical Mutual of Ohio, Inc. v. GlaxoSmithKline, plc, et al.,* Civil Case no. 2:05-cv-396 (E.D. Pa.)

In the Matter of the Form A Application by The Doctors Company, An Interinsurance Exchange, with Respect to the Acquisition of American Healthcare Indemnity Company, Hearing before the Insurance Commissioner of the State of Delaware, Docket No. 678

L-3 Communications Integrated Systems, LP, Plaintiff v. Lockheed Martin Corporation, Defendant, United States District Court for the Northern District of Texas, Dallas Division, Civil Action No. 3-07CV0341

DataTreasury Corporation v. Wells Fargo & Company, et al., Defendants, United States District Court for the Eastern District of Texas, Marshall Division, Civil Action No. 2:06CV-72(DF)

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Testimony before Pennsylvania Insurance Department regarding proposed affiliation between Highmark, Inc. and the West Penn Allegheny Health System (April 17, 2012) and Report (Economic Analysis Of Highmark's Affiliation with WPAHS and Implementation of an Integrated Healthcare Delivery System), April 2013.

In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division)

Commonwealth of Massachusetts, Plaintiff, v. Partners Healthcare System, Inc., South Shore Health and Educational Corp., and Hallmark Health Corp., Defendants, Civil Action No. 14-2033-BLS, Expert Declaration of Robert D. Willig and Margaret E. Guerin-Calvert

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"Eyes on the 1-800 Prize: IP Restrictions and Online Competition," Presentation at 65th ABA Section of Antitrust Law Spring Meeting, March 29-31, 2017. "Using Population Health Data for Facility Planning," Presentation at the Canadian Institute, Canadian Healthcare Infrastructure Conference, October 25, 2016.

"Mergers: Providers & Payers," Presentation at ABA Health Law Section, ABA Section of Antitrust Law and the AHLA 2016 Antitrust in Healthcare Conference, May 12-13, 2016.

"Consumerization of Healthcare", Presentation at Brown University's Consumerization of Healthcare Event, May 11, 2016.

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"Public Health, Public Policy, and the Law: Organizational Change in Healthcare" Presentation at Summer Institute on Health Policy, RWJF Center for Health Policy at Meharry Medical College, June 2014

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"Do Health Care Mergers Deliver Better Health Care?" Presentation at ABA Section of Antitrust Law Spring Meeting, March 2014

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"Assessing Hospital Mergers and Rivalry in an Era of Health Care Reform," (with Jeffrey Brennan) *Antitrust Magazine*, Summer 2013

Presentation at the ABA Retrospective Analysis of Agency Determinations in Merger Transactions Symposium, Washington, DC, June 2013

Signatory, Brief of Antitrust Economists as Amici Curiae before the Supreme Court, Federal Trade Commission v. Actavis, Inc., et al., No. 12-416 (February 28, 2013)

"The Direction and Economic Impact of Health Care Reform Post the Supreme Court Decision" Presentation at 2012 Ninth Circuit Judicial Conference, August 2012 (w/ Dawn Gideon, and Bruce Sokler)

Presentation to the Section of Antitrust Law Spring Meeting, March 2012, *Fundamentals – Antitrust Economics Analytical Tools*

Presentation at Pepper Hamilton's Annual Antitrust Developments Update CLE Event, Philadelphia, PA, December 2011, *Antitrust-Intellectual Property Regulatory and Litigation Update*

"Assessment of Cost Trends and Price Differences for U.S. Hospitals," (with Guillermo Israilevich), March 2011

"U.S. Antitrust Law Developments," *Canadian Competition Record*, Winter 2010

"A Critique of Recent Publications Claiming Provider Market Power," (with Guillermo Israilevich), October 2010

Presentation at the Antitrust Masters Course V, Section of Antitrust Law, American Bar Association, Williamsburg, VA, September 2010, *Using Economists and Other Experts*

"U.S. Antitrust Law Developments," *Canadian Competition Record*, Winter 2009

Presentation at the Georgetown Global Antitrust Enforcement Symposium, September 2009, *Monopolization and Dominance: How Will New Economic Thinking Affect Enforcement?*

Presentation to the Section of Antitrust Law Spring Meeting, March 2009, *Resources for Class Action Litigation: A Demonstration of Critical Issues and Techniques to Deal with them, An Economist's Perspective.*

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"The Role of the Economist/Economics in 'Proving' Coordinated Effects," the Milton Handler Annual Antitrust Review sponsored by the Association of the Bar of the City of New York. Published in *Columbia Business Law Review*. 2004 Milton Handler Antitrust Review, Colum. Bus. L. Rev. 345 Vol. 2005 (2).

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"Maximizing current and future network competition in payment systems" (with Janusz Ordover) before the American Bar Association, Antitrust Section, Antitrust Issues in High-Tech Industries Workshop, Scottsdale, AZ, February 25-26, 1999.

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"Networks and Network Externalities: What the Antitrust Lawyer Needs to Know: Concepts and Theory," before the American Bar Association, Antitrust Section, 45th Annual Spring Meeting, Washington, DC, April 10, 1997.

"Insights into Efficiencies from Analyses of Efficiencies in Hospital and Bank Mergers," before the American Bar Association, Antitrust Law Section, Washington, DC, November 7-8, 1996.

"Issues in Managed Care "Markets," before the American Bar Association Forum on Health Law and Antitrust Law Section (with Robert B. Greenbaum), New Orleans, Louisiana, October 24-25, 1996.

"Current Merger Policy: Banking and ATM Network Mergers," *Antitrust Bulletin*, Vol. XLI, No. 2, Summer 1996.

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"Assessing the Implications of Bank Merger Transactions after Interstate Banking and Branching Legislation: Lessons to Be Drawn From Bank Merger Cases and Analysis in the '90's," for presentation at ACI Third Annual Bank Regulation Conference, Washington, DC, March 16, 1995.

"Key Issues in Antitrust Analysis of Bank Mergers in the 1990's," for presentation at the Bank Mergers and Acquisitions Program Practicing Law Institute, September 12-13, 1994.

"Economic Issues in Network Merger Analysis," for presentation at Mergers: The Cutting Edge before the American Bar Association, 1994 Annual Meeting, New Orleans, August 9, 1994.

"Vertical Integration as a Threat to Competition Airline Computer Reservation Systems," in J. Kwoka Jr. and L. White, eds. *The Antitrust Revolution*, (2nd edition), 1993.

"The 1992 Agency Horizontal Merger Guidelines and the Department of Justice's Approach to Bank Merger Analysis," *Antitrust Bulletin*, Vol. XXXVII, No. 3, Fall 1992, (with Janusz Ordover).

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"New Rules of the Game: Modifying Bank Merger Analysis to Account for Regulatory Changes," presented at the Association of Public Policy and Management Conference, New Orleans, October 1984

"The Determinants of Thrift Institutions' Commercial Lending Activity," *Chicago Bank Structure and Competition Compendium*, September 1983, (with C. Dunham).
"How Quickly Can Thrifts Move into Commercial Lending?" *New England Economic Review*, November/December 1983, (with C. Dunham).

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Direct and Rebuttal Testimony in the *Investigation into the Competitive Marketing of Air Transportation*, at the Civil Aeronautics Board, August 1980.

National Benefits/Costs of Enhanced Oil Recovery Research Final Report, Arthur D. Little, Inc., submitted to the Energy Research and Development Administration, August 1976, (with F. Mansvelt-Beck and T. Rothermal)

OTHER PROFESSIONAL ACTIVITIES

Member, International Task Force, Section of Antitrust Law, American Bar Association and its Committees, including Healthcare and Pharmaceuticals

Member, American Economics Association

Member, American Health Lawyers Association

PAST PROFESSIONAL ACTIVITIES

Chair, Interagency Task Force on Bank Competition (at the U.S. Department of Justice, Antitrust Division)

Co-Chair, Economics Task Force, Member, Technology and Financial Resources Task Force, Chair of the Membership Committee, Transition Task Force Member, Chair of the Exemptions and Immunities Task Force, Council Member, Chair, Financial Markets and Institutions Committee, Member Advisory Board on Section Reserves, Long Range Planning Committee, Section of Antitrust Law, American Bar Association

TESTIMONY AT DEPOSITION OR TRIAL IN THE LAST FOUR YEARS

Federal Trade Commission and The State of Ohio v. ProMedica Health System, Inc., United States District Court for the Northern District of Ohio, Western Division, Case No. 3:11-cv-00047-DAK

Testimony before Pennsylvania Insurance Department regarding proposed affiliation between Highmark, Inc. and the West Penn Allegheny Health System (April 17, 2012) and Report (Economic Analysis Of Highmark's Affiliation with WPAHS and Implementation of an Integrated Healthcare Delivery System), April 2013.

In re: Cathode Ray Tube (CRT) Antitrust Litigation (United States District Court Northern District of California San Francisco Division)

Commonwealth of Massachusetts, Plaintiff, v. Partners Healthcare System, Inc., South Shore Health and Educational Corp., and Hallmark Health Corp., Defendants, Civil Action No. 14-2033-BLS, Expert Declaration of Robert D. Willig and Margaret E. Guerin-Calvert

Methodist Health Services Corporation v. OSF Healthcare System, United States District Court for the Central District of Illinois, Peoria Division, Case No: 13-cv-1054.

In re: Evanston Northwestern Healthcare Corporation Antitrust Litigation (United States District Court Northern District of Illinois Eastern Division)

Appendix B

Appendix B: List of Materials Relied Upon
Expert Declaration of Margaret E. Guerin-Calvert
UFCW & Employers Benefit Trust, et al., v. Sutter Health, et al.

Contents	Date
Expert Declarations and Backup Materials	
Corrected Expert Declaration of Jeffrey J. Leitzinger, Ph.D.	14-Mar-17
Expert Depositions and Exhibits	
Leitzinger, Jeffrey, Ph.D.	15-Mar-17
Depositions and Exhibits	
Sutter Health	
Anderson, Peter (Former Chief Strategy Officer)	14-Oct-16
Brendt, Melissa Lynn (Vice President and Chief Contracting Officer)	13-Jul-16
Sotherland, Carl (Former Director of Strategic Intelligence)	9-Nov-16
Sprague, Jeff (Chief Financial Officer)	28-Nov-16
Aetna	
Welsh, Chandra (Vice President for Network Management in Northern California)	12-Apr-17
Anthem Blue Cross	
De La Torre, Aldo (Former Vice President of Provider Engagement and Contracting, West Region)	13-Mar-17
Melody, Steve (President of the Medicaid Health Plan)	21-Mar-17
Ramseier, Michael (President and General Manager, Anthem Blue Cross and Blue Shield)	30-Mar-17
Lukins, Randy (Former Regional Director of Contracting for California)	30-Mar-17
Rothemel, Paige (Vice President & General Manager)	23-Mar-17
Blue Shield	
Joyner, David (Former Senior Vice President for the Large and Specialty Benefits Business Unit)	20-Mar-17
Cigna	
Katz, Benjamin (Vice President of Provider Network Solutions)	31-Mar-17
Hamilton, Scott (Vice President of Network Management)	31-Mar-17
United Healthcare	
Lundbye, Janet (Regional Vice President of Network Strategy for the West Region)	30-Mar-17
Declarations and Exhibits	
Sutter Health	
Brendt, Melissa Lynn (Vice President and Chief Contracting Officer)	13-Apr-17
Chason, Jon (Vice President, Managed Care)	13-Apr-17
Sprague, Jeff (Chief Financial Officer)	13-Apr-17
Aetna	
Welsh, Chandra (Vice President for Network Management in Northern California)	8-Feb-17
Anthem	
De La Torre, Aldo (Former Vice President, Provider Engagement and Contracting, California)	7-Feb-17
Lukins, Randy (Former Regional Director of Contracting for California)	6-Feb-17
Melody, Steve (President, Medicaid Health Plan for California)	7-Feb-17
Ramseier, Michael (President & General Manager)	6-Feb-17
Rothemel, Paige (Vice President & General Manager)	6-Feb-17
Blue Shield	
Joyner, David (Former Senior Vice President for the Large and Specialty Benefits Business Unit)	7-Feb-17
Barnes, Tracy (Director of Provider Contracting for Northern California)	7-Feb-17
Cigna	
Katz, Benjamin (Vice President of Provider Network Solutions)	6-Feb-17
Hamilton, Scott (Vice President of Network Management)	6-Feb-17

Appendix B: List of Materials Relied Upon Expert Declaration of Margaret E. Guerin-Calvert *UFCW & Employers Benefit Trust, et al., v. Sutter Health, et al.*			
	Contents		*Date*
	UnitedHealthcare		
	Lundbye, Janet (Regional Vice President of Network Strategy for the West Region)		6-Feb-17
	Health Net		
	Lacroix-Milan, Becky (Regional Vice President for Provider Network Management)		9-Feb-17
Legal			
	UFCW & Employers Benefit Trust v. Sutter Health; Sutter East Bay Hospitals; Sutter West Bay Hospitals; Eden Medical Center; Sutter Central Valley Hospitals; Mills-Peninsula Health Services; Sutter Health Sacramento Sierra Region; Sutter Coast Hospital; Palo Alto Medical Foundation for Healthcare, Research and Education; and Sutter Medical Foundation, No. CGC-14-538451, Class Action Complaint, (Superior Court of the State of California for the City and County of San Francisco)		7-Apr-14
	Memorandum in Support of Plaintiff UEBT's Motion for Class Certification		10-Feb-17
	Joint Case Management Statement		5-Oct-16
	Sutter Health's Amended Supplemental Objections and Responses to Special Interrogatories Propounded by Plaintiff UFCW & Employers Benefit Trust, Set One		23-Dec-16
	Plaintiff's Amended Responses to Defendants' First Set of Special Interrogatories		2-Dec-16
	Plaintiff's Responses To Defendants' Request for Production of Documents		7-Apr-17
	Plaintiff's Responses To Defendants' Second Set of Special Interrogatories		24-Mar-17
	Plaintiff's Responses To Defendants' Request for Production of Documents		24-Mar-17
Laws and Regulations			
	28 U.S.C. §1332		
Other Cases			
	Complaint, *In the Matter of Reading Health System and Surgical Institute of Reading,* FTC Matter Number 1210155, available at https://www.ftc.gov/sites/default/files/documents/cases/2012/11/121116readingsurgicalcmpt.pdf, accessed April 13, 2017		16-Nov-12
Agreements			
	Hospital Services Agreement among Kaiser Foundation Hospitals, The Permanente Medical Group, Inc., and Alta Bates Medical Center		1-Jan-97
	2001 Systemwide Agreement between PacifiCare and Sutter Health (DEF000014892)		Effective 1-Jan-01
	First Amendment to the 2001 Systemwide Agreement between PacifiCare and Sutter Health (DEF000014858)		Effective 1-Jan-01
	2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015015)		Effective 1-Jan-03
	First Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015003)		Effective 1-Mar-03
	Second Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015006)		Effective 1-Sep-03
	Seventh Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015303)		Effective 1-Jan-05
	Tenth Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015494)		Effective 1-Jan-06
	Twelth Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015535)		Effective 1-Jan-07
	Thirteenth Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015768)		Effective 1-Oct-07
	Fourteenth Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015771)		Effective 1-Jan-08
	Fifteenth Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015803)		Effective 1-Jan-08

	Contents		Date
	Sixteenth Amendment to the 2003 Systemwide Agreement between PacifiCare and Sutter Health (DEF000015806)		Effective 1-Mar-08
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	ABA Section of Antitrust Law, *Market Definition in Antitrust Theory and Case Studies,* ABA Book Publishing, 2012		
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	OSHPD Patient Discharge Data 2004 (OSHPD_2004.txt)		
	OSHPD Patient Discharge Data 2014 (OSHPD_2014.txt)		
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	Pivot Table		
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	Quality Data		
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All documents cited in the Expert Report of Margaret E. Guerin-Calvert, April 14, 2017, were also considered.			

Appendix C

Appendix C
Dr. Leitzinger's Purported Class List and Associated Addresses

group_id_xnv	group_address	group_city	group_state	group_name_xnv
ID1	2752 Walnut Ave	Tustin	CA	A J KIRKWOOD & ASSOCIATES INCORPORATED
ID10		SAN DIEGO	CA	ACTIVE NETWORK, LLC
ID100		VERNON	CA	ARCADIA INCORPORATED
ID1000	294 GREEN VALLEY RD	WATSONVILLE	CA	PAJARO VALLEY UNIFIED SCHOOL DISTRICT
ID1001		PLEASANTON	CA	PAK N SAVE
ID1002				PALANTIR TECHNOLOGIES
ID1002	100 HAMILTON AVENUE STE 300	PALO ALTO	CA	PALANTIR TECHNOLOGIES
ID1003		SUNNYVALE	CA	PALM INCORPORATED
ID1004	919 Iverson Street	Salinas	CA	PALMA SCHOOL
ID1005	2100 WEBSTER ST SUITE 119	SAN FRANCISCO	CA	PAN MEDICAL ENTERPRISES
ID1006	8775 Folsom Blvd	Sacramento	CA	PANATTONI DEVELOPMENT COMPANY INCORPORATED
ID1007	1683 WALNUT GROVE AVENUE	ROSEMEAD	CA	PANDA RESTAURANT GROUP INCORPORATED
ID1007		ROSEMEAD	CA	PANDA RESTAURANT GROUP INCORPORATED
ID1008				PANDORA MEDIA INCORPORATED
ID1008	2101 WEBSTER STREET	OAKLAND	CA	PANDORA MEDIA INCORPORATED
ID1009	TransAmerica Center	San Francisco	CA	PANTHEON VENTURES (US) LP
ID101		HIGHLANDS RANCH	CO	ARCADIS G&M INCORPORATED
ID101	630 PLAZA DRIVE SUITE 200	HIGHLANDS RANCH	CO	ARCADIS G&M INCORPORATED
ID1010	2002 PAPA JOHN'S BOULEVARD	LOUISVILLE	KY	PAPA JOHNS INTERNATIONAL INCORPORATED
ID1011	17935 MURPHY PARKWAY	LATHROP	CA	PAQ INCORPORATED
ID1012	8781 Sierra College Blvd.	Roseville	CA	PARAMOUNT EQUITY MORTGAGE INCORPORATED
ID1013	1130 Howard St	San Francisco	CA	PARKSIDE LENDING LLC
ID1014	390 NORTH ORANGE AVE., #2400	ORLANDO	FL	PARKWAY PROPERTIES INCORPORATED
ID1015	Four Embarcadero Center	San Francisco	CA	PARTNER FUND MANAGEMENT L P
ID1016		SAN FRANCISCO	CA	PASSPORT MANAGEMENT LLC
ID1017	811 Cherry Avenue	San Bruno	CA	PASTA POMODORO INCORPORATED
ID1017	8505 E ORCHARD ROAD	GREENWOOD VLG	CO	PASTA POMODORO INCORPORATED
ID1018	508 East E. Street	Wilmington	CA	PATRIOT ENVIRONMENTAL SERVICES INCORPORATED
ID1019	Pier 1, Bay 3	San Francisco	CA	PATTERN ENERGY GROUP
ID102	3424 WILSHIRE BLVD.	LOS ANGELES	CA	ARCHDIOCESE OF LOS ANGELES
ID1020	515 SOUTH FLOWER, 25TH FLOOR	LOS ANGELES	CA	PAUL HASTINGS LLP
ID1021	2211 NORTH FIRST ST	SAN JOSE	CA	PAYPAL HOLDINGS INCORPORATED
ID1021				PAYPAL HOLDINGS INCORPORATED
ID1022	376 AVENUE OF THE FLAGS	BUELLTON	CA	PEA SOUP ANDERSENS SANTA NEL
ID1023	1330 AVENUE OF THE AMERICAS, 7TH FL	NEW YORK	NY	PEARSON INCORPORATED
ID1023		NEW YORK	NY	PEARSON INCORPORATED
ID1024	2790 17 MILE DRIVE	PEBBLE BEACH	CA	PEBBLE BEACH COMPANY
ID1025	1400 PARK AVE	EMERYVILLE	CA	PEETS COFFEE & TEA INCORPORATED
ID1026	1640 SO LOOP ROAD	ALAMEDA	CA	PENSIONED OPERATING ENGINEERS H & W
ID1027	4305 HACIENDA DR.	PLEASANTON	CA	PEOPLESOFT INCORPORATED
ID1028	3111 WEST ALLEGHENY AVE	PHILADELPHIA	PA	PEP BOYS
ID1028	3111 WEST ALLEGHENY AVENUE	PHILADELPHIA	PA	PEP BOYS
ID1029	2055 Laurelwood Rd.	Santa Clara	CA	PERSISTENT SYSTEMS INCORPORATED
ID103	P O BOX 87	POINT ARENA	CA	ARENA UNION ELEMENTARY
ID1030	726 Main Street	Redwood City	CA	PERSONAL CAPITAL CORPORATION
ID1031	9125 RECHO ROAD	SAN DIEGO	CA	PETCO ANIMAL SUPPLIES INCORPORATED
ID1031	654 RICHLAND HILLS DRIVE	SAN ANTONIO	TX	PETCO ANIMAL SUPPLIES INCORPORATED
ID1032	955 MARINA BLVD	SAN LEANDRO	CA	PETERSON HOLDING COMPANY
ID1033	110 Corporate Place	Vallejo	CA	PETROCHEM INSULATION INCORPORATED
ID1034	910 East Hamilton Avenue	Campbell	CA	PHOENIX TECHNOLOGIES LTD
ID1035	12401 WASHINGTON BLVD	WHITTIER	CA	PIH HEALTH
ID1035	12401 WASHINGTON BLVD.	WHITTIER	CA	PIH HEALTH
ID1036		NASHVILLE	TN	PILLSBURY WINTHROP SHAW PITTMAN LLP
ID1037	1925 E. DOMINGUEZ STREET	LONG BEACH	CA	PIONEER NORTH AMERICA INCORPORATED
ID1038	1303 N RABE AVENUE #202	FRESNO	CA	PIPE TRADES DISTRICT COUNCIL 36 H&W TRUST
ID1039	600 California Street	San Francisco	CA	PIPELINE HEALTH HOLDINGS LLC
ID104		BEDFORD	NH	ARI HOLDINGS INCORPORATED
ID1040	8825 National Blvd.	Culver City	CA	PITCH INCORPORATED
ID1041	One Post St	San Francisco	CA	PIVOTLINK CORPORATION
ID1042	8505 E. ORCHARD RD.	GREENWOOD VLG	CO	PIXAR
ID1042		EMERYVILLE	CA	PIXAR
ID1043	ONE FLUOR DANIEL DRIVE BOX 20	SUGAR LAND	TX	PLANT PERFORMANCE SERVICES LLC
ID1044		WESTON	FL	PLATINUM EQUITY LLC
ID1044		SUNRISE	FL	PLATINUM EQUITY LLC
ID1045	9346 CIVIC CENTER DR., # 200	BEVERLY HILLS	CA	PLAYBOY ENTERPRISES INCORPORATED
ID1046	150 Almaden Blvd.	San Jose	CA	PLAYNEXT INCORPORATED
ID1047	380 WASHINGTON ST	OAKLAND	CA	PLAYWORKS EDUCATION ENERGIZED
ID1047				PLAYWORKS EDUCATION ENERGIZED
ID1048		PASADENA	CA	PLEASANT CARE CORPORATION
ID1049		WESTLAKE VILLAGE	CA	PLEASANT HOLIDAYS, LLC
ID105	575 Market St	San Francisco	CA	ARIA SYSTEMS INCORPORATED
ID1050	870 Maude Avenue	Sunnyvale	CA	PLX TECHNOLOGY INCORPORATED
ID1051	12243 BRANFORD STREET	SUN VALLEY	CA	PMC INCORPORATED & SUBSIDIARIES
ID1052		WALNUT CREEK	CA	PMI MORTGAGE INSURANCE COMPANY
ID1053		PLEASANTON	CA	POLYCOM INCORPORATED
ID1053	6001 AMERICA CENTER DRIVE	SAN JOSE	CA	POLYCOM INCORPORATED
ID1054		POMONA	CA	POMONA VALLEY HOSPITAL MEDICAL CENTER
ID1055	600 WEST GRAND	PORTERVILLE	CA	PORTERVILLE UNIFIED SCHOOL DISTRICT
ID1056		MIAMI	FL	POST BUCKLEY SCHUH & JERNIGAN INCORPORATED

ID1057	P O BOX 219	POTTER VALLEY	CA	POTTER VALLEY COMMUNITY
ID1058	150 Parkshore Drive	Folsom	CA	POWERSCHOOL GROUP LLC
ID1059		FORT WORTH	TX	PREFERRED PUMP & EQUIPMENT L P
ID106	12667 ALCOSTA BLVD	SAN RAMON	CA	ARMANINO LLP
ID106				ARMANINO LLP
ID1060	2355 CRENSHAW BLVD SUITE 200	TORRANCE	CA	PRESBYTERIAN INTERCOMMUNITY
ID1061		ISELIN	NJ	PRESIDIO LLC
ID1062	2790 E. Del Amo Boulevard	Rancho Dominguez	CA	PRICE TRANSFER INCORPORATED
ID1063	50 CALIFORNIA STREET #2525	SAN FRANCISCO	CA	PRIME ADMINISTRATION LLC DBA PRIME GROUP
ID1064	3300 E GUASTI ROAD 3RD FLR	ONTARIO	CA	PRIME HEALTHCARE SERVICES INCORPORATED
ID1065	3536 Arden Road	Hayward	CA	PRINCE OF PEACE ENTERPRISES INCORPORATED
ID1066	1311 W PRES GEORGE BUSH HWY	RICHARDSON	TX	PRINCESS CRUISES
ID1067	64 MERCER ST	PRINCETON	NJ	PRINCETON THEOLOGICAL SEMINARY
ID1068	2081 Faraday Avenue	Carlsbad	CA	PRO PERFORMANCE SPORTS LLC
ID1069	10 PPF Way	Mound House	NV	PRODUCTION PATTERN & FOUNDRY INCORPORATED
ID107	2317 Broadway Street	Redwood City	CA	ARRAYENT INCORPORATED
ID1070	1360 W. Pacific Coast Hwy	Long Beach	CA	PROGRESSIVE TRANSPORTATION SERVICES INCORPORATED
ID1071	721 AMERICAN AVE., SUITE 305	WAUKESHA	WI	PROHEALTH CARE INCORPORATED
ID1072		SAN DIEGO	CA	PROMETHEUS LABORATORIES INCORPORATED
ID1073	892 ROSS DRIVE	SUNNYVALE	CA	PROOFPOINT INCORPORATED
ID1074	435 Tasso Street, Suite 200	Palo Alto	CA	PROSPECT MANAGEMENT COMPANY II L L C
ID1075		SANTA ANA	CA	PROSPECT MEDICAL HOLDINGS INCORPORATED
ID1075	2355 CRENSHAW BLVD	TORRANCE	CA	PROSPECT MEDICAL HOLDINGS INCORPORATED
ID1076	800 West California Ave.	Sunnyvale	CA	PROTRIALS RESEARCH INCORPORATED
ID1077	2355 CRENSHAW BLVD, STE 300	TORRANCE	CA	PROVIDENCE HEALTH SYSTEM
ID1077	501 SOUTH BUENA VISTA STREET	BURBANK	CA	PROVIDENCE HEALTH SYSTEM
ID1078	1661 ALTON PKWY	IRVINE	CA	PRUDENTIAL OVERALL SUPPLY
ID1079	970 W. 190TH ST. #400	TORRANCE	CA	PT GAMING
ID108	4230 S. ELWOOD AVE	TULSA	OK	ARROW TRUCKING COMPANY & AFFILIATES
ID1080	701 WESTERN AVENUE	GLENDALE	CA	PUBLIC STORAGE MANAGEMENT
ID1080	701 Western Avenue	Glendale	CA	PUBLIC STORAGE MANAGEMENT
ID1081	5775 Las Positas Road	Livermore	CA	PURONICS INCORPORATED
ID1082	4320 Stevens Creek Blvd.	San Jose	CA	Q ANALYSTS LLC
ID1083	100 INNOVATION PLACE	SANTA BARBARA	CA	QAD INCORPORATED
ID1084	19300 GERMANTOWN ROAD	GERMANTOWN	MD	QIAGEN
ID1084		GAITHERSBURG	MD	QIAGEN
ID1085	5775 MOREHOUSE DRIVE	SAN DIEGO	CA	QUALCOMM
ID1086	18191 VON KARMEN AVE STE 450	IRVINE	CA	QUALITY SYSTEMS INCORPORATED
ID1087	224 AIRPORT PARKWAY, STE 300	SAN JOSE	CA	QUANTUM CORPORATION
ID1088	6501 Dumbarton Circle	Fremont	CA	QUARK PHARMACEUTICALS INCORPORATED
ID1089	1225 17th Street	Denver	CO	QUARK SOFTWARE INCORPORATED
ID109		SAN DIEGO	CA	ARROWHEAD GENERAL INSURANCE AGENCY INCORPORATED
ID1090	480 San Antonio Rd.	Mountain View	CA	QUBOLE INCORPORATED
ID1091	5 POLARIS WAY	ALISO VIEJO	CA	QUEST SOFTWARE INCORPORATED
ID1092		LOS ANGELES	CA	QUINN EMANUEL URQUHART & SULLIVAN LLP
ID1093		SUNNYVALE	CA	R S HUGHES COMPANY INCORPORATED
ID1094	4080 Campbell Ave.	Menlo Park	CA	R W ZUKIN CORPORATION
ID1095	245 PARK AVENUE	NEW YORK	NY	RABOBANK
ID1095	915 HIGHLAND POINTE DR STE 350	ROSEVILLE	CA	RABOBANK
ID1096	737 Bryant Street	Palo Alto	CA	RADAR MANAGEMENT LLC
ID1097	2234 COLONIAL BLVD	FORT MYERS	FL	RADIATION THERAPY SERVICES INCORPORATED
ID1098	1500 EXPO PARKWAY	SACRAMENTO	CA	RADIOLOGICAL ASSOCIATES OF SACRAMENTO MEDICAL GROUP
ID1099	SEE ADDRESS PAGE	WASHINGTON	DC	RAILROAD EMPLOYEES NATIONAL HEALTH & WELFARE PL
ID11		SANTA MONICA	CA	ACTIVISION PUBLISHING INCORPORATED
ID110	659 HUNTINGTON AVENUE	SAN BRUNO	CA	ARTICHOKE JOES CASINO
ID1100	1745 FOLSOM STREET	SAN FRANCISCO	CA	RAINBOW GROCERY COOPERATIVE I
ID1101	500 WEST CAPITOL AVENUE	WEST SACRAMENTO	CA	RALEYS
ID1101	500 WEST CAPITOL AVE	WEST SACRAMENTO	CA	RALEYS
ID1101				RALEYS
ID1102	2151 EASTMAN AVENUE	OXNARD	CA	RAYPAK INCORPORATED HEALTH & DENTAL TRUST
ID1103		PRINCETON	NJ	RCN TELECOM SERVICES LLC
ID1104	180 Grand Ave.	Oakland	CA	READING PARTNERS
ID1105	50 CALIFORNIA ST. 24TH FLOOR	SAN FRANCISCO	CA	RECOLOGY INCORPORATED
ID1106	2811 Wilshire Blvd.	Santa Monica	CA	RECONSERVE INCORPORATED
ID1107	400 Alabama Street	San Francisco	CA	RECURLY INCORPORATED
ID1108	1630 STEWART ST	SANTA MONICA	CA	RED BULL NORTH AMERICA INCORPORATED
ID1109	101 New Montgomery	San Francisco	CA	REDDIT
ID111	1344 CROSSMAN AVENUE	SUNNYVALE	CA	ARUBA NETWORKS
ID111	1344 Crossman Avenue	Sunnyvale	CA	ARUBA NETWORKS
ID1110		REDLANDS	CA	REDLANDS COMMUNITY HOSPITAL
ID1111	2610 CROW CANYON RD STE 200	SAN RAMON	CA	REDWOOD EMPIRE ELECTRICAL WORKERS HEALTH & WELFARE
ID1112	414 W. NAPA STREET	SONOMA	CA	REDWOOD EMPIRE MUNICIPAL INSURANCE FUND
ID1113	8505 E ORCHARD RD	GREENWOOD VLG	CO	REFRIGERATION SUPPLIES
ID1114	26021 Atlantic Ocean Drive	Lake Forest	CA	REFRIGERATION SUPPLIES DISTRIBUTOR
ID1115	2 CA PLZA, 350 S. GRAND #5100	LOS ANGELES	CA	RELIANCE STEEL & ALUMINUM COMPANY
ID1115	350 S. GRAND AVE., STE. 5100	LOS ANGELES	CA	RELIANCE STEEL & ALUMINUM COMPANY
ID1116	100 Cardinal Way	Redwood City	CA	RELYPSA INCORPORATED
ID1117	2801 SCOTT BLVD M/S SC 1300	SANTA CLARA	CA	RENESAS ELECTRONICS AMERICA INCORPORATED
ID1118	301 Howard St.	San Francisco	CA	RENESOLA AMERICA INCORPORATED
ID1119	4 Executive Circle	Irvine	CA	RENOVO SOLUTIONS LLC
ID112	6080 CENTER DRIVE STE 900	LOS ANGELES	CA	ARYZTA LLC
ID1120	10877 Wilshire Blvd.	Los Angeles	CA	RENTECH INCORPORATED
ID1120	1331 17TH STREET, SUITE 720	DENVER	CO	RENTECH INCORPORATED

ID1121	800 N. Haven Ave	Ontario	CA	REPLANET HOLDINGS INCORPORATED
ID1122	9001 SPECTRUM CENTER BLVD	SAN DIEGO	CA	RESMED INCORPORATED
ID1122		SAM DIEGO	CA	RESMED INCORPORATED
ID1123	17101 ARMSTRONG AVE	IRVINE	CA	RESOURCES CONNECTION LLC
ID1124	15 KOCH ROAD SUITE K	CORTE MADERA	CA	RESTORATION HARDWARE HOLDINGS INCORPOR
ID1124	15 KOCH ROAD, SUITE J	CORTE MADERA	CA	RESTORATION HARDWARE HOLDINGS INCORPOR
ID1125	1255 BATTERY ST., STE 450	SAN FRANCISCO	CA	RETA TRUST
ID1125	1 MARKET STEUART TOWER STE 210	SAN FRANCISCO	CA	RETA TRUST
ID1126		GARDEN GROVE	CA	RETAIL STORE SERVICES LLC
ID1128	355 S. Grand Avenue	Los Angeles	CA	RICHARDS WATSON & GERSHON
ID1129	1081 N CHINA LAKE BLVD	RIDGECREST	CA	RIDGECREST REGIONAL HOSPITAL
ID113		BURBANK	CA	ASCENT MEDIA CORPORATION
ID1130	282 Second Street	San Francisco	CA	RING2 COMMUNICATIONS LLC DBA LOOPUP
ID1131	3300 CORTEZ STREET	OXNARD	CA	RIO SCHOOL DISTRICT
ID1132	8700 WEST BRYN MAWR AVENUE	CHICAGO	IL	RIO TINTO GROUP
ID1132		SOUTH JORDAN	UT	RIO TINTO GROUP
ID1132	8309 WEST 3595 SOUTH	MAGNA	UT	RIO TINTO GROUP
ID1133				RISK MANAGEMENT STRATEGIES INCORPORATED
ID1133	8530 LA MESA BLVD STE 200	LA MESA	CA	RISK MANAGEMENT STRATEGIES INCORPORATED
ID1134	100 Bayview Circle	Newport Beach	CA	RIVER ROCK REAL ESTATE GROUP
ID1135		SAN FRANCISCO	CA	RIVERBED TECHNOLOGY INCORPORATED
ID1136	4800 MAGNOLIA AVE	RIVERSIDE	CA	RIVERSIDE COMMUNITY COLLEGE
ID1137	5549 Copley Drive	San Diego	CA	ROAD RUNNER SPORTS INCORPORATED
ID1138	29700 WOODFORD-TEHACHAPI RD	KEENE	CA	ROBERT F KENNEDY MEDICAL PLAN
ID1139	2613 CAMINO RAMON	SAN RAMON	CA	ROBERT HALF INTERNATIONAL INCORPORATED
ID1139		SAN RAMON	CA	ROBERT HALF INTERNATIONAL INCORPORATED
ID114	3530 WILSHIRE BLVD SUITE #1700	LOS ANGELES	CA	ASIANA AIRLINES
ID1140	15260 Ventura Blvd.	Sherman Oaks	CA	ROBERTSON TAYLOR
ID1141	2901 AIRPORT DRIVE	TORRANCE	CA	ROBINSON HELICOPTER COMPANY
ID1142	6020 Cornerstone Court	San Diego	CA	ROHM SEMICONDUCTOR USA LLC
ID1143	2655 BARHAM AVE	CORNING	CA	ROLLING HILLS CASINO
ID1143				ROLLING HILLS CASINO
ID1144	1550 N FRESNO AVE	FRESNO	CA	ROMAN CATHOLIC ARCHDIOCESE OF FRESNO
ID1145				ROMAN CATHOLIC BISHOP OF SAC
ID1145	1017 ELEVENTH STREET	SACRAMENTO	CA	ROMAN CATHOLIC BISHOP OF SAC
ID1145	2110 BROADWAY	SACRAMENTO	CA	ROMAN CATHOLIC BISHOP OF SAC
ID1146	212 NORTH SAN JOAQUIN STREET	STOCKTON	CA	ROMAN CATHOLIC BISHOP OF STOC
ID1146	1105 N LINCOLN STREET	STOCKTON	CA	ROMAN CATHOLIC BISHOP OF STOC
ID1146	212 N SAN JOAQUIN STREET	STOCKTON	CA	ROMAN CATHOLIC BISHOP OF STOC
ID1147	4440 ROSEWOOD DRIVE	PLEASANTON	CA	ROSS STORES INCORPORATED
ID1147	5130 HACIENDA DRIVE	DUBLIN	CA	ROSS STORES INCORPORATED
ID1148		ROSELAND	NJ	ROTHSTEIN KASS P A D B A ROTHSTEIN KA
ID1149	P O BOX 276	COVELO	CA	ROUND VALLEY UNIFIED SCHOOL
ID1150	2 CIRCLE STAR WAY	SAN CARLOS	CA	ROVI CORPORATION
ID1151	1524 Princeton Ave	Modesto	CA	ROYAL ROBBINS LLC
ID1152		RESEARCH TRIAN. PARK	NC	RTI INTERNATIONAL
ID1152	300 PARK OFFICE, HIGHWAY 54	RESEARCH TRIANGLE PARK	NC	RTI INTERNATIONAL
ID1152		NILES	OH	RTI INTERNATIONAL
ID1153	350 West Java Drive	Sunnyvale	CA	RUCKUS WIRELESS INCORPORATED
ID1154	501 SOUTH ALTA AVE	DINUBA	CA	RUIZ FOOD PRODUCTS INCORPORATED
ID1155	3010 N. SAN FERNANDO BLVD	BURBANK	CA	RYAN HERCO PRODUCTS
ID1156		REDWOOD CITY	CA	SABA SOFTWARE INCORPORATED
ID1157	1787 TRIBUTE ROAD SUITE E	SACRAMENTO	CA	SACRAMENTO INDEPENDENT HOTEL RESTAURAN
ID1158	11350 Kiefer Blvd.	Sacramento	CA	SACRAMENTO RENDERING COMPANY
ID1159		PLEASANTON	CA	SAFEWAY INCORPORATED
ID1159	5918 STONERIDGE MALL RD.	PLEASANTON	CA	SAFEWAY INCORPORATED
ID116		CONCORD	CA	ASSETMARK FINANCIAL INCORPORATED
ID1160	2455 TELLER ROAD	NEWBURY PARK	CA	SAGE PUBLICATIONS
ID1161	1715 NORTH BROWN RD	LAWRENCEVILLE	GA	SAGE SOFTWARE INCORPORATED
ID1161	1715 NORTH BROWN ROAD	LAWRENCEVILLE	GA	SAGE SOFTWARE INCORPORATED
ID1161	1715 N. BROWN ROAD	LAWRENCEVILLE	GA	SAGE SOFTWARE INCORPORATED
ID1162	4880 SANTA ROSA RD	CAMARILLO	CA	SALEM MEDIA GROUP
ID1163	50 FREMONT ST, SUITE 300	SAN FRANCISCO	CA	SALESFORCE COMPANY INCORPORATED
ID1164	10010 NORTH TORREY PINES ROAD	LA JOLLA	CA	SALK INSTITUTE FOR BIOLOGICAL STUDIES
ID1165		RIDGEFIELD PARK	NJ	SAMSUNG GROUP
ID1165		MILPITAS	CA	SAMSUNG GROUP
ID1166		MOUNTAIN VIEW	CA	SAMSUNG RESEARCH AMERICA, INC.
ID1167		UPLAND	CA	SAN ANTONIO REGIONAL HOSPITAL
ID1168				SAN BENITO HEALTH CARE
ID1168	911 SUNSET DRIVE	HOLLISTER	CA	SAN BENITO HEALTH CARE
ID1169			U	SAN DIEGO COUNTY SCHOOLS VEBA
ID117	333 Twin Dolphin Drive	Redwood City	CA	ASSIA INCORPORATED
ID1170	4545 VIEWRIDGE AVE #110	SAN DIEGO	CA	SAN DIEGO ELECTRICAL H & W TRUST
ID1171	7180 KOLL CENTER PARKWAY # 200	PLEASANTON	CA	SAN DIEGO UNITE HERE HEALTH
ID1171	2436 MARKET STREET	SAN DIEGO	CA	SAN DIEGO UNITE HERE HEALTH
ID1172	3355 Geary Blvd	San Francisco	CA	SAN FRANCISCO C & C (DBA MELS DRIVE IN)
ID1173	720 MARKET ST	SAN FRANCISCO	CA	SAN FRANCISCO ELECTRICAL
ID1174	770 Golden Gate Avenue	San Francisco	CA	SAN FRANCISCO FEDERAL CREDIT UNION
ID1175	325 Fifth St.	San Francisco	CA	SAN FRANCISCO PARKING INCORPORATED (DBA CITY PARK & SFO
ID1176	300 Page Street	San Francisco	CA	SAN FRANCISCO ZEN CENTER
ID1177	3828 W.CALDWELL	VISALIA	CA	SAN JOAQUIN VALLEY COLLEGE INCORPORATED
ID1177	3828 W CALDWELL	VISALIA	CA	SAN JOAQUIN VALLEY COLLEGE INCORPORATED
ID1178				SAN JOAQUIN VALLEY INSURANCE AUTHORITY

ID1178	2220 TULARE STREET 14TH FL	FRESNO	CA	SAN JOAQUIN VALLEY INSURANCE AUTHORITY
ID1179	400 Race Street	San Jose	CA	SAN JOSE MEDICAL GROUP INCORPORATED
ID118	825 26th Street	Paso Robles	CA	ASSOCIATED CONSTRUCTION & ENGINEERING INCORPORATED
ID1180	3546 S HIGUERA STREET	SAN LUIS OBIS	CA	SAN LUIS AMBULANCE
ID1181	170 GREAT OAKS BLVD	SAN JOSE	CA	SAN MATEO ELECTRICAL WORKERS 617
ID1182	170 GREAT OAKS BLVD	SAN JOSE	CA	SAN MATEO HOTEL & RESTAURANT EMPLOYEES TRUST FUND
ID1183		MILPITAS	CA	SANDISK CORPORATION
ID1183	951 SANDISK DRIVE	MILPITAS	CA	SANDISK CORPORATION
ID1184	10901 N. TORREY PINES RD	LA JOLLA	CA	SANFORD BURNHAM PREBYS MEDICAL DISCOVER
ID1185	2700 NORTH FIRST STREET	SAN JOSE	CA	SANMINA CORPORATION
ID1186	14700 WINCHESTER BLVD	LOS GATOS	CA	SANTA CLARA COUNTY CENTRAL FIRE PROTECTION DISTRIC
ID1187	400 Beach Street	Santa Cruz	CA	SANTA CRUZ SEASIDE COMPANY
ID1188	1600 S MAIN STREET, SUITE 215	WALNUT CREEK	CA	SATYAM COMPUTER SERVICES LTD
ID1189	1800 STANDIFORD AVENUE	MODESTO	CA	SAVE MART SUPERMARKETS
ID1189	1800 STANDIFORD AVE	MODESTO	CA	SAVE MART SUPERMARKETS
ID1189				SAVE MART SUPERMARKETS
ID1189	PO BOX 3689	MODESTO	CA	SAVE MART SUPERMARKETS
ID119	1 ASTELLAS WAY	NORTHBROOK	IL	ASTELLAS US LLC
ID1190		ORANGE	CA	SC FUELS
ID1191		HOUSTON	TX	SCI MANAGEMENT
ID1191	1929 ALLEN PARKWAY	HOUSTON	TX	SCI MANAGEMENT
ID1192	925 Commercial Street	Palo Alto	CA	SCITON INCORPORATED
ID1193	3601 W OLIVE AVENUE	BURBANK	CA	SCREEN ACTORS GUILD PRODUCERS
ID1194	4275 CAMPUS POINT COURT	SAN DIEGO	CA	SCRIPPS HEALTH
ID1195	3900 KILROY AIRPORT WAY #100	LONG BEACH	CA	SCS ENGINEERS
ID1196	920 DISC DR.	SCOTTS VALLEY	CA	SEAGATE US LLC
ID1196		CUPERTINO	CA	SEAGATE US LLC
ID1197	4330 PARK TERRACE DRIVE	WESTLAKE VILLAGE	CA	SECURITAS SECURITY SERVICES USA INCORPORATED
ID1197	4330 PARK TERRACE DR.	WESTLAKE VILL	CA	SECURITAS SECURITY SERVICES USA INCORPORATED
ID1198		CULVER CITY	CA	SECURITY INDUSTRY SPECIALISTS INCORPORATED
ID1199	5300 SOUTH 360 WEST SUITE 250	MURRAY	UT	SECURITY NATIONAL FINANCIAL CORPORATION
ID12	2100 PROFESSIONAL DRIVE	ROSEVILLE	CA	ACWA JPIA
ID120	4420 Rosewood Dr.	Pleasanton	CA	ASTEX PHARMACEUTICALS INCORPORATED
ID1200	21221 S. Western Ave.	Torrance	CA	SEIKO INSTRUMENTS USA INCORPORATED
ID1201	13412 WEST STAR DRIVE	SHELBY TWP	MI	SELECT STAFFING FAMILY OF STAFFING COMPANIES
ID1201	13412 WEST STAR DRIVE	UTICA	MI	SELECT STAFFING FAMILY OF STAFFING COMPANIES
ID1202	3036 THOMPSON AVE	SELMA	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1202	1 TILLER AVENUE	CARUTHERS	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1202	1111 VAN NESS AVE	FRESNO	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1202	29143 AUBERRY RD	PRATHER	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1202	700 N CENTER ST	WINTON	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1202	1300 17TH ST	BAKERSFIELD	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1202	151 S FIRST ST	KERMAN	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1202				SELF INSURED SCHOOLS OF CALIFORNIA
ID1202	2000 K STREET	BAKERSFIELD	CA	SELF INSURED SCHOOLS OF CALIFORNIA
ID1203	4900 Hopyard Rd.	Pleasanton	CA	SENSIBA SAN FILIPPO LLP
ID1204	1 California Street	San Francisco	CA	SENTIENT TECHNOLOGIES (USA) LLC
ID1205	525 MARKET STREET, 32ND FLOOR	SAN FRANCISCO	CA	SEPHORA USA INCORPORATED
ID1205	525 MARKET STREET	SAN FRANCISCO	CA	SEPHORA USA INCORPORATED
ID1206	10 Liberty Ship Way	Sausalito	CA	SERENA & LILY INCORPORATED
ID1207		HILLSBORO	OR	SERENA SOFTWARE INCORPORATED
ID1207	2345 NW AMBERBROOK DR STE 200	HILLSBORO	OR	SERENA SOFTWARE INCORPORATED
ID1208		SANTA CLARA	CA	SERVICENOW INCORPORATED
ID1209	3965 LANDMARK	CULVER CITY	CA	SERVICON SYSTEMS INCORPORATED
ID121	3970 Freedom Circle	Santa Clara	CA	ASTREYA PARTNERS INCORPORATED
ID1210	3116 WEST AVENUE 32	LOS ANGELES	CA	SEVEN WORLDWIDE INCORPORATED
ID1211	601 Montgomery Street	San Francisco	CA	SHAREHOLDER REPRESENTATIVE SERVICES LLC
ID1212	840 Battery St.	San Francisco	CA	SHARETHROUGH INCORPORATED
ID1213	350 HARTNELL AVE SUITE D	REDDING	CA	SHASTA TRINITY SCHOOLS INSURANCE GROUP
ID1214	505 Montgomery Street	San Francisco	CA	SHEA LABAGH DOBBERSTEIN CPA INCORPORATED
ID1215	2610 CROW CANYON ROAD	SAN RAMON	CA	SHEET METAL WORKERS
ID1216	1613NHARRISONPKWY#200MAILSTOPSH15	SUNRISE	FL	SHERIDAN HEALTHCORP INCORPORATED
ID1217	131 N EL MOLINA AVE	PASADENA	CA	SHOP IRONWORKERS LOCAL 790 H&W TRUST FUND
ID1218	900 Middlefield Rd	Redwood City	CA	SHOPKICK INCORPORATED
ID1219				SHORETEL INCORPORATED
ID1219	960 STEWART DRIVE	SUNNYVALE	CA	SHORETEL INCORPORATED
ID122	221 RUE DE JEAN, SUITE 200	LAFAYETTE	LA	ATC ASSOCIATES INCORPORATED
ID1220		REDWOOD CITY	CA	SHUTTERFLY INCORPORATED
ID1221	3055 Olin Avenue	San Jose	CA	SI BONE INCORPORATED
ID1222	One Embarcadero Center	San Francisco	CA	SIDEMAN & BANCROFT LLP
ID1223	2345 FLEETWOOD DRIVE	RIVERSIDE	CA	SIERRA ALUMINUM COMPANY
ID1224	1991 Tarob Court	Milpitas	CA	SIERRA MONITOR CORPORATION
ID1225	1075 E 20TH STREET	CHICO	CA	SIERRA NEVADA BREWING COMPANY
ID1226	19794 RIVERSIDE AVE	ANDERSON	CA	SIERRA PACIFIC INDUSTRIES
ID1227	3010 LAVA RIDGE CT, STE 220	ROSEVILLE	CA	SIERRAPINE LTD
ID1228	47467 Fremont Blvd.	Fremont	CA	SIGMA DESIGNS INCORPORATED
ID1229	156 Diablo Road	Danville	CA	SIGMA MANAGEMENT 8 LLC DBA SIGMA PARTNERS
ID123		PLANO	TX	ATLANTIC AVIATION FBO INCORPORATED
ID1230	633 BATTERY ST FLOOR 2	SAN FRANCISCO	CA	SIGN PICTORIAL & DISPLAY
ID1231	4670 Willow Road	Pleasanton	CA	SIGNATURE HOMES INCORPORATED
ID1232	21800 OXNARD STREET STE #600	WOODLAND HILL	CA	SILGAN CONTAINERS MANUFACTURING CORPORATION
ID1232	21800 OXNARD ST	WOODLAND HILL	CA	SILGAN CONTAINERS MANUFACTURING CORPORATION
ID1233	1140 E ARQUES AVE	SUNNYVALE	CA	SILICON IMAGE INCORPORATED

ID1234	150 W. Evelyn Avenue	Mountain View	CA	SILICON VALLEY DATA SCIENCE LLC
ID1235	2775 Sandhill Road	Menlo Park	CA	SILVER LAKE TECHNOLOGY MANAGEMENT LLC
ID1236	24625 Chianti Road	Geyserville	CA	SILVER OAK CELLARS DUNCAN OIL
ID1236	8505 E ORCHARD RD	GREENWOOD VLG	CO	SILVER OAK CELLARS DUNCAN OIL
ID1237		IRVINE	CA	SILVERADO SENIOR LIVING HOLDINGS INCORPORATED
ID1237	6400 OAK CANYON, SUITE 200	IRVINE	CA	SILVERADO SENIOR LIVING HOLDINGS INCORPORATED
ID1238	875 EAST COCHRAN STREET	SIMI VALLEY	CA	SIMI VALLEY USD
ID1239	4725 Enterprise Way	Modesto	CA	SIMILE CONSTRUCTION SERVICE INCORPORATED
ID124	26679 West Agoura Road	Calabasas	CA	ATLAS DATABASE SOFTWARE DBA ATLAS DEVELOP CORPORATION
ID1240	525 Almanor Ave	Sunnyvale	CA	SIMPLY HIRED INCORPORATED
ID1241	5956 W. LAS POSITAS BLVD.	PLEASANTON	CA	SIMPSON MANUFACTURING COMPANY INCORPO
ID1242	2901 DULUTH STREET	W SACRAMENTO	CA	SINGLEY ENTERPRISES
ID1243	155 Bovet Road	San Mateo	CA	SIOS TECHNOLOGY CORPORATION
ID1244	3101 N. FIRST STREET	SAN JOSE	CA	SK HYNIX AMERICA INCORPORATED
ID1245	225 S. SEPULVEDA BLVD	MANHATTAN BEA	CA	SKECHERS USA INCORPORATED
ID1246	27442 PORTOLA PKWY, SUITE 200	FOOTHILL RANCH	CA	SKILLED HEALTHCARE LLC
ID1246	27442 PORTOLA PKWY, STE. 200	FOOTHILL RANCH	CA	SKILLED HEALTHCARE LLC
ID1247	490 Division St.	Campbell	CA	SKYLINE ADVANCED TECHNOLOGY SERVICES
ID1248	155 5th Street	San Francisco	CA	SLACK TECHNOLOGIES INCORPORATED
ID1249	8105 IRVINE CENTER DR STE 1500	IRVINE	CA	SMILE BRANDS INCORPORATED
ID1249	100 SPECTRUM CENTER DRIVE	IRVINE	CA	SMILE BRANDS INCORPORATED
ID125	210 Porter Dr.	San Ramon	CA	ATLAS LIFT TECH INCORPORATED
ID1250		ALISO VIEJO	CA	SMITH MICRO SOFTWARE INCORPORATED
ID1251	139 Townsend Street	San Francisco	CA	SMULE INCORPORATED
ID1252	1050 LAKES DRIVE STE 225	WEST COVINA	CA	SO CA SOFT DRINK INDUSTRY & TEAMSTERS HEALTH &
ID1253	2200 PACIFIC HIGHWAY	SAN DIEGO	CA	SOLAR TURBINES INCORPORATED
ID1254	3055 CLEARVIEW WAY	SAN MATEO	CA	SOLARCITY
ID1255	847 GIBRALTAR DR., BLDG. 5	MILPITAS	CA	SOLECTRON CORPORATION
ID1256	39300 Civic Center Dr	Fremont	CA	SONATA SOFTWARE NORTH AMERICA INCORPORATED
ID1257	2207 BRIDGEPOINTE PARKWAY	SAN MATEO	CA	SONY MOBILE COMMUNICATIONS
ID1258		ATLANTA	GA	SONY MOBILE COMMUNICATIONS AB
ID1259	10202 WEST WASHINGTON BLVD.	CULVER CITY	CA	SONY PICTURES ENTERTAINMENT INC.
ID1259	10202 W WASHINGTON BLVD	CULVER CITY	CA	SONY PICTURES ENTERTAINMENT INC.
ID126	8505 E. ORCHARD RD.	ENGLEWOOD	CO	ATMEL CORPORATION
ID126	1600 TECHNOLOGY DR	SAN JOSE	CA	ATMEL CORPORATION
ID1260		TACOMA	WA	SOUND PHYSICIANS INCORPORATED
ID1261	400 E ORANGETHORPE AVE	ANAHEIM	CA	SOURCE REFRIGERATION & HVAC INCORPORATED
ID1261	800 EAST ORANGETHORPE AVENUE	ANAHEIM	CA	SOURCE REFRIGERATION & HVAC INCORPORATED
ID1262	3232 MCKINNEY AVE STE. 1000	DALLAS	TX	SOURCECORP
ID1263	P.O. BOX 34203	SEATTLE	WA	SOUTH BAY HERE TRUST
ID1264	4399 SANTA ANITA AVE #200	EL MONTE	CA	SOUTHERN CA PAINTING & DRYWALL H & W TRUST
ID1265	1300 CRESCENT GREEN	CARY	NC	SOUTHERN CALIFORNIA EDISON
ID1265	P.O. BOX 800	ROSEMEAD	CA	SOUTHERN CALIFORNIA EDISON
ID1266	8432 Stellar Drive	Culver City	CA	SOUTHERN CALIFORNIA GRAPHICS
ID1267	501 SHATTO PLACE 5TH FLOOR	LOS ANGELES	CA	SOUTHERN CALIFORNIA PIPE
ID1268		MIRAMAR	FL	SOUTHERN GLAZER S WINE & SPIRITS LLC
ID1269	533 SOUTH FREMONT AVE,	LOS ANGELES	CA	SOUTHWEST CARPENTERS HEALTH & WELFARE TRUST
ID1269	533 SOUTH FREMONT AVENUE	LOS ANGELES	CA	SOUTHWEST CARPENTERS HEALTH & WELFARE TRUST
ID127	1600 Seaport Blvd., Suite 200	Redwood City	CA	ATTENSITY AMERICAS INCORPORATED
ID1270	1213 San Mateo Avenue	San Bruno	CA	SOUTHWEST CONSTRUCTION & PROPERTY MANAGEMENT
ID1271	5241 SPRING MOUNTAIN ROAD	LAS VEGAS	NV	SOUTHWEST GAS CORPORATION
ID1272	1 ROCKET ROAD	HAWTHORNE	CA	SPACE EXPLORATION TECHNOLOGIES INC
ID1273	3825 FABIAN WAY	PALO ALTO	CA	SPACE SYSTEMS LORAL LLC
ID1273				SPACE SYSTEMS LORAL LLC
ID1273		PALO ALTO	CA	SPACE SYSTEMS LORAL LLC
ID1274	111 WOODMERE RD STE 200	FOLSOM	CA	SPARTA CONSULTING INCORPORATED
ID1275	100 Spear Street , Suite 1900	San Francisco	CA	SPC MANAGEMENT COMPANY INCORPORATED
ID1276	15853 Olden Street	Sylmar	CA	SPEARS MANUFACTURING COMPANY
ID1277	15130 CONCORD CIRCLE	MORGAN HILL	CA	SPECIALIZED BICYCLE COMPONENTS
ID1278	250 BRANNAN ST.	SAN FRANCISCO	CA	SPLUNK INCORPORATED
ID1279	ONE SPORT CHALET DRIVE	LA CANADA FLI	CA	SPORT CHALET INCORPORATED
ID1279		MERIDEN	CT	SPORT CHALET INCORPORATED
ID128		MOUNTAIN VIEW	CA	AUDIENCE INCORPORATED
ID1280	29400 W. WHITESBRIDGE ROAD	MENDOTA	CA	SPRECKELS SUGAR COMPANY INCORPORATED
ID1281	180 Redwood St.	San Francisco	CA	SPRIG INCORPORATED
ID1282	2722 MICHELSON DRIVE	IRVINE	CA	ST JOHN KNITS
ID1283	750 Battery St Ste 700	San Francisco	CA	STANDISH MANAGEMENT LLC
ID1284	1850 EMBARCADERO ROAD, MC5513	STANFORD	CA	STANFORD HEALTH CARE
ID1284	1850 EMBARCADERO ROAD	STANFORD	CA	STANFORD HEALTH CARE
ID1284	300 PASTEUR DR	STANFORD	CA	STANFORD HEALTH CARE
ID1284	1111 E STANLEY BLVD	LIVERMORE	CA	STANFORD HEALTH CARE
ID1284				STANFORD HEALTH CARE
ID1284	300 PASTEUR DRIVE RM 207	STANFORD	CA	STANFORD HEALTH CARE
ID1285		STANFORD	CA	STANFORD UNIVERSITY
ID1285	655 SERRA STREET	STANFORD	CA	STANFORD UNIVERSITY
ID1285				STANFORD UNIVERSITY
ID1285	855 SERRA STREET	STANFORD	CA	STANFORD UNIVERSITY
ID1285	3160 PORTER DRIVE	PALO ALTO	CA	STANFORD UNIVERSITY
ID1285	3160 PORTER DRIVE, SUITE 250	PALO ALTO	CA	STANFORD UNIVERSITY
ID1286	1010 10TH STREET STE 5900	MODESTO	CA	STANISLAUS COUNTY
ID1286	1010 10TH ST STE 5900	MODESTO	CA	STANISLAUS COUNTY
ID1287		BOSTON	MA	STATE STREET CORPORATION
ID1288	2610 CROW CANYON RD STE 200	SAN RAMON	CA	STATIONARY ENGINEERS LOCAL 39

ID1289	18100 VON KARMAN AVE SUITE 500	IRVINE	CA	STEADFAST INVESTMENT PROPERTIES INCORPORATED
ID129	4000 Executive Parkway	San Ramon	CA	AURIONPRO SOLUTIONS INCORPORATED
ID1290	4 HUTTON CENTRE DRIVE	SANTA ANA	CA	STEARNS LENDING LLC
ID1291	4000 East Third Street	Foster City	CA	STEELWAVE INCORPORATED
ID1292	560 Cottonwood Dr.	Milpitas	CA	STELLARTECH RESEARCH CORPORATION
ID1293		MILPITAS	CA	STELLUS TECHNOLOGIES INCORPORATED
ID1294	28 Liberty Ship Way	Sausalito	CA	STEVE & KATES CAMP LLC
ID1295	4 Embarcadero Center	San Francisco	CA	STOCKBRIDGE CAPITAL GROUP LLC
ID1296	6106 JEFFERSON ST NE STE B	ALBUQUERQUE	NM	STOCKTON TELECOM
ID1297	55 SOUTH MADISON STREET	STOCKTON	CA	STOCKTON UNIFIED SCHOOL
ID1298	6949 S. POTOMAC ST.	CENTENNIAL	CO	STOLLE MACHINERY COMPANY LLC
ID1299		LOUISVILLE	CO	STORAGE TECHNOLOGY CORPORATION
ID13	7301 John Galt Way	Arbuckle	CA	ADAMS GROUP INCORPORATED
ID130	111 MCINNIS PARKWAY	SAN RAFAEL	CA	AUTODESK INCORPORATED
ID1300	PO BOX 241448	CHARLOTTE	NC	STRATEGIC OUTSOURCING INCORPORATED
ID1301	500 3rd St.	San Francisco	CA	STRAVA INCORPORATED
ID1302	31 UPPER RAGSDALE DRIVE	MONTEREY	CA	STRONGWOOD INSURANCE HOLDINGS CORPORATION
ID1303	825 K Street	Sacramento	CA	STUDENTSFIRST
ID1304		NEW YORK	NY	SUMITOMO MITSUI BANKING CORPORATION
ID1305	757 NORTH MARY AVENUE	SUNNYVALE	CA	SUMMIT MICRO ELECTRONICS
ID1306	7777 GATEWAY BLVD.	NEWARK	CA	SUN MICROSYSTEMS INCORPORATED
ID1307		LAS VEGAS	NV	SUNBURST SHUTTERS
ID1308		AUSTIN	TX	SUNPOWER CORPORATION
ID1309		FRESNO	CA	SUNRISE MEDICAL (US) LLC
ID131	3333 FAIRVIEW ROAD, A162	COSTA MESA	CA	AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
ID131		COSTA MESA	CA	AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA
ID1310		SAN CLEMENTE	CA	SUNSTONE HOTEL PROPERTIES INCORPORATED
ID1311	575 Market Street	San Francisco	CA	SUNTECH AMERICA INCORPORATED
ID1312	1415 TRUXTUN AVENUE RM 212	BAKERSFIELD	CA	SUPERIOR COURT OF CALIFORNIA COUNTY OF KERN
ID1313	1480 DREW AVENUE #100	DAVIS	CA	SUPERIOR FARMS & AFFILIATES
ID1314		VAN NUYS	CA	SUPERIOR INDUSTRIES INTERNATIONAL INCORPORATED
ID1315		REDWOOD CITY	CA	SUPPORT COMPANY
ID1316	101 Lytton Avenue	Palo Alto	CA	SURVEYMONKEY INCORPORATED
ID1317	315 Pacific Ave.	San Francisco	CA	SUTHERLANDGOLD GROUP LLC
ID1318	800 E WASHINGTON BLVD	CRESCENT CITY	CA	SUTTER COAST HOSPITAL
ID1319	3251 E. IMPERIAL HIGHWAY	BREA	CA	SUZUKI MOTOR OF AMERICA INCORPORATED
ID132	1640 SOUTH LOOP ROAD	ALAMEDA	CA	AUTOMOTIVE INDUSTRIES WELFARE FUND
ID1320	4301 LA HACIENDA DR SUITE 210	PLEASANTON	CA	SVB FINANCIAL GROUP
ID1321		ATLANTA	GA	SWETT & CRAWFORD
ID1322		TUSTIN	CA	SWH CORPORATION DBA MIMIS CAFE
ID1323		SAN FRANCISCO	CA	SWINERTON INCORPORATED
ID1324	ONE SYBASE DRIVE	DUBLIN	CA	SYBASE INCORPORATED
ID1325		MOUNTAIN VIEW	CA	SYMANTEC CORPORATION
ID1326	2300 ORCHARD PARKWAY	SAN JOSE	CA	SYMMETRICOM INCORPORATED
ID1327	2475 HANOVER STREET	PALO ALTO	CA	SYMPHONY TECHNOLOGY GROUP LLC
ID1328	1600 Seaport Blvd.	Redwood City	CA	SYNACK INCORPORATED
ID1329	7707 Gateway Blvd	Newark	CA	SYNARC INCORPORATED
ID133	3698 Haven Ave.	Redwood City	CA	AUTONOMIC TECHNOLOGIES INCORPORATED
ID1330	1212 South Flower Street	Los Angeles	CA	SYNDERO INCORPORATED
ID1331	44201 NOBEL DRIVE	FREMONT	CA	SYNNEX CORPORATION
ID1332	690 E. MIDDLEFIELD ROAD	MOUNTAIN VIEW	CA	SYNOPSYS INCORPORATED
ID1333	1255 Treat Blvd	Walnut Creek	CA	SYSTEMS INTEGRATION SOLUTIONS INCORPORATED
ID1334	240 California Street	San Francisco	CA	TADICH GRILL INCORPORATED
ID1334	240 CALIFORNIA STREET	SAN FRANCISCO	CA	TADICH GRILL INCORPORATED
ID1335	2200 Powell St.	Emeryville	CA	TANIUM INCORPORATED
ID1336	400 W. ARTESIA BLVD.	COMPTON	CA	TAP AUTOMOTIVE HOLDINGS LLC
ID1337	222 Kearny Street	San Francisco	CA	TASTE INCORPORATED DBA VINO VOLO
ID1338	150 MAIN STREET	SALINAS	CA	TAYLOR FRESH FOODS INCORPORATED
ID1339	4900 N SCOTTSDALE RD	SCOTTSDALE	AZ	TAYLOR MORRISON INCORPORATED
ID134	350 W. TRIMBLE ROAD MS 90MC	SAN JOSE	CA	AVAGO TECHNOLOGIES INCORPORATED
ID134	1320 RIDDER PARK DRIVE AD 101	SAN JOSE	CA	AVAGO TECHNOLOGIES INCORPORATED
ID134	1320 RIDDER PARK DR, MS AD-101	SAN JOSE	CA	AVAGO TECHNOLOGIES INCORPORATED
ID1340	528 Ramona Street	Palo Alto	CA	TCMI INCORPORATED
ID1341	180 S. Washington St.	Falls Church	VA	TEAM PEOPLE LLC
ID1342	39420 LIBERTY ST. STE 260	FREMONT	CA	TEAMSTER BENEFIT TRUST FUND
ID1342	39420 LIBERTY ST STE 260	FREMONT	CA	TEAMSTER BENEFIT TRUST FUND
ID1342	39420 LIBERTY STREET STE 260	FREMONT	CA	TEAMSTER BENEFIT TRUST FUND
ID1343	1050 LAKES DRIVE STE 225	WEST COVINA	CA	TEAMSTERS & FOOD EMPLOYERS SECURITY TRUST FUND
ID1343	1000 SO FREMONT AVENUE	ALHAMBRA	CA	TEAMSTERS & FOOD EMPLOYERS SECURITY TRUST FUND
ID1344	1640 SOUTH LOOP ROAD	ALAMEDA	CA	TEAMSTERS 856 HEALTH & WELFARE
ID1345	2323 EASTLAKE AVE EAST	SEATTLE	WA	TEAMSTERS MISCELLANEOUS SECURITY TRUST
ID1346	1234 W OAK ST STOCKTON	STOCKTON	CA	TEAMSTERS RETIREE TRUST
ID1346	3244 BROOKSIDE RD	STOCKTON	CA	TEAMSTERS RETIREE TRUST
ID1347	2010 N First St	San Jose	CA	TECHNOLOGY CREDIT UNION
ID1348	3500 AMERICAN RIVER DRIVE	SACRAMENTO	CA	TEICHERT INCORPORATED
ID1349	1255 TREAT BLVD	WALNUT CREEK	CA	TELEDATA TECHNOLOGY SOLUTIONS
ID135	207 GOODE AVE, 5TH FLOOR	GLENDALE	CA	AVERY DENNISON CORPORATION
ID135	2017 GOOD AVE, 5TH FL.	GLENDALE	CA	AVERY DENNISON CORPORATION
ID1350		HIALEAH	FL	TELEMUNDO (GE)
ID1351	350 BARNES DRIVE STE 105	SANN MARCOS	TX	TELENETWORK PARTNERS LTD
ID1352	8875 WASHINGTON BLVD STE B	ROSEVILLE	CA	TELEPLAN HOLDING USA
ID1353		PLACENTIA	CA	TEMP POWER SYSTEMS
ID1354		DAYTON	OH	TERADATA CORPORATION

ID1355	TEREX CORPORATION	CINCINNATI	OH	TEREX CORPORATION
ID1356	8201 Southpark Lane	Littleton	CO	TERRACARE ASSOCIATES
ID1357		PALO ALTO	CA	TESLA MOTORS INCORPORATED
ID1358	3475 EAST FOOTHILL BOULEVARD	PASADENA	CA	TETRA TECH INCORPORATED
ID1359	P O BOX 92957	LOS ANGELES	CA	THE AEROSPACE CORPORATION
ID136	5200 GREAT AMERICA PARKWAY	SANTA CLARA	CA	AVIAT US INCORPORATED
ID1360		NEW YORK	NY	THE BANK OF TOKYO MITSUBISHI UFJ LTD
ID1360	1251 AVENUE OF THE AMERICAS	NEW YORK	NY	THE BANK OF TOKYO MITSUBISHI UFJ LTD
ID1361	1 Lombard St.	San Francisco	CA	THE BAY CLUBS COMPANY LLC
ID1362	3160 PORTER DRIVE, SUITE 250	PALO ALTO	CA	THE BOARD OF TRUSTEES OF THE LELAND STAN
ID1363	1705 MURCHISON DR	BURLINGAME	CA	THE CALIFORNIA TEACHERS ASSOC
ID1364	26901 MALIBU HILLS ROAD	CALABASAS HILLS	CA	THE CHEESECAKE FACTORY INCORPORATED
ID1364	26901 MALIBU HILLS ROAD	CALABASAS	CA	THE CHEESECAKE FACTORY INCORPORATED
ID1365	1221 BROADWAY	OAKLAND	CA	THE CLOROX COMPANY
ID1366		PLEASANTON	CA	THE COOPER COMPANIES
ID1367	185 GREENWOOD ROAD	NAPA	CA	THE DOCTORS MANAGEMENT COMPANY
ID1368		BOULDER	CO	THE GORES GROUP
ID1368	9800 WILSHIRE BOULEVARD	BEVERLY HILLS	CA	THE GORES GROUP
ID1369	500 HOWARD ST	SAN FRANCISCO	CA	THE GYMBOREE CORPORATION
ID1369	500 HOWARD STREET	SAN FRANCISCO	CA	THE GYMBOREE CORPORATION
ID1369				THE GYMBOREE CORPORATION
ID137	400 Chesapeake Drive	Redwood City	CA	AVINGER INCORPORATED
ID1370				THE HEFFERNAN GROUP
ID1370	1350 CARLBACK AVE 200	WALNUT CREEK	CA	THE HEFFERNAN GROUP
ID1371	2400 Sand Hill Road	Menlo Park	CA	THE HENRY J KAISER FAMILY FOUNDATION
ID1372	1 HORACE MANN PLAZA	SPRINGFIELD	IL	THE HORACE MANN COMPANIES
ID1373	1650 OWENS ST	SAN FRANCISCO	CA	THE J DAVID GLADSTONE INSTITUTES
ID1373	1650 OWENS STREET	SAN FRANCISCO	CA	THE J DAVID GLADSTONE INSTITUTES
ID1374	1200 GETTY CENTER DRIVE #400	LOS ANGELES	CA	THE J PAUL GETTY TRUST
ID1374		LOS ANGELES	CA	THE J PAUL GETTY TRUST
ID1374	1200 GETTY CENTER DR SUITE 400	LOS ANGELES	CA	THE J PAUL GETTY TRUST
ID1375	562 Britton Ave	Sunnyvale	CA	THE KINGS ACADEMY
ID1376	121 WAY POINTE RIDGE AVE # P34	LITTLE RIVER	SC	THE KLEINFELDER GROUP INCORPORATED
ID1377	1280 NORTH MCDOWELL BLVD	PETALUMA	CA	THE LAGUNITAS BREWING COMPANY
ID1377				THE LAGUNITAS BREWING COMPANY
ID1378	15661 RED HILL AVENUE, STE 201	TUSTIN	CA	THE MANAGEMENT TRUST
ID1379	2100 Q STREET	SACRAMENTO	CA	THE MCCLATCHY COMPANY
ID1379	2100 Q STREET	SACRAMENTO	CA	THE MCCLATCHY COMPANY
ID138	4140 Business Center	Fremont	CA	AVP TECHNOLOGY LLC
ID1380	308 Jessie St.	San Francisco	CA	THE MOSSER COMPANIES INCORPORATED
ID1381	80 FIFTH AVENUE,8TH FLOOR	NEW YORK	NY	THE NEW SCHOOL
ID1382		HEATHROW	FL	THE NEWPORT GROUP INCORPORATED
ID1383	7407 SOUTHFRONT ROAD	LIVERMORE	CA	THE PRODUCE EXCHANGE
ID1383	7407 Southfront Rd	Livermore	CA	THE PRODUCE EXCHANGE
ID1384	1980 Oakdale Ave	San Francisco	CA	THE REALREAL INCORPORATED
ID1385		WESTLAKE VILLAGE	CA	THE RYLAND GROUP INCORPORATED
ID1386	180 E. OCEAN BLVD. 10TH FL.	LONG BEACH	CA	THE SALVATION ARMY
ID1386		LONG BEACH	CA	THE SALVATION ARMY
ID1387	200 CORPORATE BLVD. STE 201	LAFAYETTE	LA	THE SCHUMACHER GROUP
ID1388	10550 N TORREY PINES RD	LA JOLLA	CA	THE SCRIPPS RESEARCH INSTITUTE
ID1389	621 SANTA FE	FRESNO	CA	THE SUN VALLEY GROUP
ID139	4 Orinda Way	Orinda	CA	AXA
ID1390	2200 Bridgeway Blvd, PO Box 5904	Sausalito	CA	THE SWA GROUP
ID1391	101 Montgomery Street, Suite 900	San Francisco	CA	THE TRUST FOR PUBLIC LAND
ID1392	25 ANAPAMU	SANTA BARBARA	CA	THE WALKING COMPANY
ID1393	7555 IRVINE CENTER DRIVE	IRVINE	CA	THE WET SEAL LLC
ID1394	11444 W OLYMPIC BLVD	LOS ANGELES	CA	THE WONDERFUL COMPANY
ID1395	6555 KATELLA AVE	CYPRESS	CA	THE YAMAHA COMPANIES
ID1396	47200 BAYSIDE PARKWAY	FREEMONT	CA	THEMIS COMPUTER
ID1397	1701 Page Mill Road	Palo Alto	CA	THERANOS INCORPORATED
ID1398	938 Tyler St	Benicia	CA	THERMA FLITE INCORPORATED
ID1399	901 MAIN STREET, SUITE 4700	DALLAS	TX	THR PROPERTY MANAGEMENT LP DBA INVITATION HOMES
ID14	691 SOUTH MILPITAS BLVD.	MILPITAS	CA	ADAPTEC INCORPORATED
ID140	P.O. BOX 1344	MINNEAPOLIS	MN	AZOA SERVICES CORPORATION
ID1400	114 Sansome St.	San Francisco	CA	THREDUP INCORPORATED
ID1401	23 JANIS WAY	SCOTTS VALLEY	CA	THRESHOLD ENTERPRISES LTD
ID1401				THRESHOLD ENTERPRISES LTD
ID1402	170 Harbor Way	South San Francisco	CA	THRESHOLD PHARMACEUTICALS INCORPORATED
ID1403		PALO ALTO	CA	TIBCO SOFTWARE INCORPORATED
ID1403	3303 HILLVIEW AVENUE	PALO ALTO	CA	TIBCO SOFTWARE INCORPORATED
ID1404		COSTA MESA	CA	TICKETS COMPANY
ID1405		SAN FRANCISCO	CA	TIDES
ID1406	100 PARK AVENUE 6TH FLOOR	NEW YORK	NY	TISHMAN CONSTRUCTION CORPORATION
ID1407	2160 GOLD STREET	ALVISO	CA	TIVO INCORPORATED
ID1407	2160 Gold Street	Alviso	CA	TIVO INCORPORATED
ID1408	2961 Mission Street	San Francisco	CA	TONIC NIGHTLIFE GROUP
ID1409	3575 REED AVE	W SACRAMENTO	CA	TONYS FINE FOODS
ID141	8480 Miralani Drive	San Diego	CA	B&M NOBLE COMPANY
ID1410	7400 NATIONAL DRIVE	LIVERMORE	CA	TOPCON AMERICA CORPORATION
ID1410				TOPCON AMERICA CORPORATION
ID1411	3330 LOMITA BLVD	TORRANCE	CA	TORRANCE HEALTH ASSOCIATION
ID1412	18305 E SAN JOSE AVE	CITY OF INDUSTRY	CA	TORRID LLC
ID1413	2 MUSICK	IRVINE	CA	TOSHIBA AMERICA BUSINESS SOLUTIONS, INC.

ID1414	9740 IRVINE BLVD	IRVINE	CA	TOSHIBA AMERICA INCORPORATED
ID1414	959 US HIGHWAY 46, SUITE 201	PARSIPPANY	NJ	TOSHIBA AMERICA INCORPORATED
ID1415	2441 MICHELLE DRIVE	TUSTIN	CA	TOSHIBA AMERICA MEDICAL SYSTEMS, INC.
ID1416		HOUSTON	TX	TOSHIBA INTERNATIONAL CORPORATION
ID1417	2300 Clayton Road	Concord	CA	TOWILL INCORPORATED
ID1418		TORRANCE	CA	TOYOTA MOTOR SALES USA INCORPORATED
ID1418	19001 SOUTH WESTERN AVENUE	TORRANCE	CA	TOYOTA MOTOR SALES USA INCORPORATED
ID1419	1477 DREW AVENUE, SUITE 101	DAVIS	CA	TRANSHUMANCE INCORPORATED
ID1419		SACRAMENTO	CA	TRANSHUMANCE INCORPORATED
ID142	8505 E ORCHARD RD	GREENWOOD VLG	CO	BABCOCK & BROWN
ID1420	590 MADISON AVE, 37TH FLOOR	NEW YORK	NY	TRAVELZOO INCORPORATED
ID1420	1100 Glendon Ave	Westwood	CA	TRAVELZOO INCORPORATED
ID1421	600 AIRPARK RD	NAPA	CA	TREASURY WINE ESTATES
ID1422	225 E JOHN CARPENTER FWY #1500	IRVING	TX	TREND MICRO
ID1423		LOS ALAMITOS	CA	TREND OFFSET PRINTING SERVICES INCORPORATED
ID1424	4160 DUBLIN BLVD STE 400	DUBLIN	CA	TRI COUNTIES WELFARE TRUST FUND
ID1425		WOODBURY	NY	TRI ED DISTRIBUTION INCORPORATED
ID1426		CHICAGO	IL	TRIBUNE
ID1427				TRICAL INCORPORATED
ID1427	8770 HIGHWAY 25	HOLLISTER	CA	TRICAL INCORPORATED
ID1427	PO BOX 1327	HOLLISTER	CA	TRICAL INCORPORATED
ID1428	717 AIRPORT BLVD	SOUTH SAN FRA	CA	TRICOR AMERICA INCORPORATED
ID1429	400 S. El Camino Real	San Mateo	CA	TRIDENT CAPITAL INCORPORATED
ID143	3132 KASHIWA ST	TORRANCE	CA	BACHEM INCORPORATED
ID143	3132 KASHIWA ST.	TORRANCE	CA	BACHEM INCORPORATED
ID1430	935 STEWART DRIVE	SUNNYVALE	CA	TRIMBLE NAVIGATION LIMITED
ID1431	1100 SAN LEANDRO BLVD,STE 400	SAN LEANDRO	CA	TRINET GROUP INCORPORATED
ID1432	983 University Ave	Los Gatos	CA	TRIPLE HS INCORPORATED DBA HT HARVEY & ASSOCIATES
ID1433		SAN FRANCISCO	CA	TRULIA INCORPORATED
ID1433	116 New Montgomery	San Francisco	CA	TRULIA INCORPORATED
ID1434	9390 Redwood Street	Las Vegas	NV	TRULINE CORPORATION
ID1434	9390 REDWOOD STREET	LAS VEGAS	NV	TRULINE CORPORATION
ID1434		MESA	AZ	TRULINE CORPORATION
ID1435	865 S FIGUEROA ST, SUITE 1800	LOS ANGELES	CA	TRUST COMPANY OF THE WEST
ID1435	865 S FIGUEROA ST #1800	LOS ANGELES	CA	TRUST COMPANY OF THE WEST
ID1436	815 Brazos Street	Austin	TX	TRUST FOR CONSERVATION INNOVATION
ID1437	8505 E. ORCHARD ROAD	GREENWOOD VLG	CO	TRUST FOR PUBLIC LAND THE
ID1438	2851 Junction Avenue	San Jose	CA	TSMC NORTH AMERICA
ID1438	8505 E ORCHARD ROAD	GREENWOOD VLG	CO	TSMC NORTH AMERICA
ID1439	2630 S HARBOR BLVD	SANTA ANA	CA	TTM TECHNOLOGIES
ID144	3020 OLD RANCH PARKWAY,STE 220	SEAL BEACH	CA	BAKERCORP
ID1440	270 University Avenue	Palo Alto	CA	TUNEIN INCORPORATED
ID1441	333 E CANAL DRIVE	TURLOCK	CA	TURLOCK IRRIGATION DISTRICT
ID1442	615 SOUTH ATWOOD STREET	VISALIA	CA	TURNING POINT FOUNDATION
ID1443				TUTOR PERINI CORPORATION
ID1443	15901 OLDEN ST	SYLMAR	CA	TUTOR PERINI CORPORATION
ID1443	15901 OLDEN STREET	SYLMAR	CA	TUTOR PERINI CORPORATION
ID1444	1882 HOLMES STREET	LIVERMORE	CA	TWE ENTERPRISES
ID1445	1185 AVENUE OF THE AMERICAS	NEW YORK	NY	TWENTY FIRST CENTURY FOX
ID1445	10 EAST 53RD STREET	NEW YORK	NY	TWENTY FIRST CENTURY FOX
ID1446	11333 Greenstone Avenue	Santa Fe Springs	CA	TWIN MEDICAL LLC
ID1447		SAN FRANCISCO	CA	TWITTER INCORPORATED
ID1448		BOURBONNAIS	IL	TYCO INTERNATIONAL MANAGEMENT COMPANY
ID1448	9 ROSZEL ROAD	PRINCETON	NJ	TYCO INTERNATIONAL MANAGEMENT COMPANY
ID1448		HARTFORD	CT	TYCO INTERNATIONAL MANAGEMENT COMPANY
ID1449		SAN FRANCISCO	CA	U A LOCAL 38 HEALTH & WELFARE TRUST
ID145	18500 Von Karman Ave	Irvine	CA	BANC OF CALIFORNIA INCORPORATED
ID1450	170 GREAT OAKS BLVD	SAN JOSE	CA	U A LOCAL 467 TRUST FUND
ID1450	1120 SOUTH BASCOM AVE	SAN JOSE	CA	U A LOCAL 467 TRUST FUND
ID1451	5841 NEWMAN COURT	SACRAMENTO	CA	U A LOCAL NO 447 HEALTH
ID1452	2222 BANCROFT	BERKELEY	CA	U C BERKELEY SHIP
ID1453	2727 NORTH CENTRAL AVE.	PHOENIX	AZ	U HAUL
ID1454	221 MAIN STREET #250	SAN FRANCISCO	CA	UA LOCAL 355 HEALTH & WELFARE TRUST
ID1455	1731 TECHNOLOGY DR STE 570	SAN JOSE	CA	UA LOCAL 393 HEALTH & WELFARE TRUST FUND
ID1456	54 CORPORATE PARK	IRVINE	CA	UABT LOS ALTOS
ID1457	1000 HARBOR BOULEVARD	WEEHAWKEN	NJ	UBS
ID1457	1000 HARBOR BLVD; 10TH FLOOR	WEEHAWKEN	NJ	UBS
ID1457	677 WASHINGTON BLVD.	STAMFORD	CT	UBS
ID1457		STAMFORD	CT	UBS
ID1457		WEEHAWKEN	NJ	UBS
ID1458				UFCW - EMPLOYERS BENEFIT PLANS
ID1458	1000 BURNETT AVE., STE 110	CONCORD	CA	UFCW - EMPLOYERS BENEFIT PLANS
ID1458	1000 BURNETT AVE STE. 110	CONCORD	CA	UFCW - EMPLOYERS BENEFIT PLANS
ID1458	P O BOX 9000	WALNUT CREEK	CA	UFCW - EMPLOYERS BENEFIT PLANS
ID1458	2200 PROFESSIONAL DR SUITE 190	ROSEVILLE	CA	UFCW - EMPLOYERS BENEFIT PLANS
ID1459	2220 HYPERION AVE	LOS ANGELES	CA	UFCW UNIONS & DRUG EMPLOYER'S BENEFIT FUND
ID1459				UFCW UNIONS & DRUG EMPLOYER'S BENEFIT FUND
ID1459	2220 HYPERION AVENUE	LOS ANGELES	CA	UFCW UNIONS & DRUG EMPLOYER'S BENEFIT FUND
ID146	180 MONTGOMERY STREET	SAN FRANCISCO	CA	BANK OF THE WEST
ID1460	6301 OWENSMOUTH AVENUE	WOODLAND HILL	CA	UMG RECORDINGS INCORPORATED
ID1461	15535 SANFERNANDO MISSION BLVD	MISSION HILLS	CA	UNICOM SYSTEMS INCORPORATED
ID1462	5200 SHEILA STREET	LOS ANGELES	CA	UNIFIED GROCERS
ID1463	800 SYLVAN AVENUE	ENGLEWOOD CLIFFS	NJ	UNILEVER

ID1463	100 VALLEY ROAD SUITE 101	MT. ARLINGTON	NJ	UNILEVER
ID1464	700 SYLVAN AVE	ENGLEWOOD CLIFFS	NJ	UNILEVER RETIREE PLAN
ID1465	54 CORPORATE PARK	IRVINE	CA	UNITED AGRICULTURAL BENEFIT
ID1466	620 NEWPORT CTR DRIVE, STE 500	NEWPORT BEACH	CA	UNITED CAPITAL FINANCIAL ADVISERS LLC
ID1467	6425 KATELLA AVENUE	CYPRESS	CA	UNITED FOOD & COMMERCIAL WORKERS UNIONS
ID1468	5555 WEST RENO	OKLAHOMA CITY	OK	UNITED HOLDINGS LLC
ID1469	21255 BURBANK BLVD., #400	WOODLAND HILLS	CA	UNITED ONLINE INCORPORATED
ID147	901 Battery Street	San Francisco	CA	BAR ARCHITECTS
ID1470	55 GLENLAKE PARKWAY	ATLANTA	GA	UNITED PARCEL SERVICE OF AMERICA INCORPORATED
ID1470	55 GLENLAKE PARKWAY	ATLANTA,	GA	UNITED PARCEL SERVICE OF AMERICA INCORPORATED
ID1470	55 GLENLAKE PARKWAY, N.E.	ATLANTA	GA	UNITED PARCEL SERVICE OF AMERICA INCORPORATED
ID1471	450 GLASS LANE SUITE B-2	MODESTO	CA	UNITED RENTAL INCORPORATED
ID1472	77 LIBERTY CORNER	FAR HILLS	NJ	UNITED STATES GOLF ASSOCIATION
ID1473		ADDISON	TX	UNITED SURGICAL PARTNERS INTERNATIONAL INCORPORATED
ID1474		HARRINGTON PARK	NJ	UNITED WATER
ID1475	1551 N. TUSTIN AVE., SUITE 650	SANTA ANA	CA	UNIVERSAL SERVICES OF AMERICA
ID1476	7999 GATEWAY BLVD	NEWARK	CA	UNIVERSITY HEALTHCARE ALLIANCE
ID1476				UNIVERSITY HEALTHCARE ALLIANCE
ID1476	855 OAK GROVE AVE STE 100	MENLO PARK	CA	UNIVERSITY HEALTHCARE ALLIANCE
ID1477	1111 FRANKLIN STREET	OAKLAND	CA	UNIVERSITY OF CALIFORNIA
ID1477		OAKLAND	CA	UNIVERSITY OF CALIFORNIA
ID1477				UNIVERSITY OF CALIFORNIA
ID1477	19528 VENTURA BLVD	TARZANA	CA	UNIVERSITY OF CALIFORNIA
ID1477	1111 FRANKLIN ST	OAKLAND	CA	UNIVERSITY OF CALIFORNIA
ID1477	300 LAKESIDE DRIVE	OAKLAND	CA	UNIVERSITY OF CALIFORNIA
ID1477	300 LAKESIDE DRIVE 6TH FLOOR	OAKLAND	CA	UNIVERSITY OF CALIFORNIA
ID1478	1111 FRANKLIN ST 10TH FLOOR	OAKLAND	CA	UNIVERSITY OF CALIFORNIA STUDENT HEALTH INS PLAN
ID1479	2130 FULTON STREET	SAN FRANCISCO	CA	UNIVERSITY OF SAN FRANCISCO
ID148		NEW YORK	NY	BARCLAYS BANK PLC
ID148	745 SEVENTH AVE- 18TH FLOOR	NEW YORK	NY	BARCLAYS BANK PLC
ID1480	3551 TROUSDALE PARKWAY #352	LOS ANGELES	CA	UNIVERSITY OF SOUTHERN CALIFORNIA(USC)
ID1480	3500 S FIGUEROA STREET STE 214	LOS ANGELES	CA	UNIVERSITY OF SOUTHERN CALIFORNIA(USC)
ID1481	3601 PACIFIC AVENUE	STOCKTON	CA	UNIVERSITY OF THE PACIFIC
ID1482		SUGARLAND	TX	UNOCAL
ID1483	1375 EUCLID AVENUE, SUITE 600	CLEVELAND	OH	URS CORPORATION
ID1483	9400 AMBERGLEN BLVD.	AUSTIN	TX	URS CORPORATION
ID1484	1000 Tower Ln.	Bensenville	IL	US GROUP CONSOLIDATOR INCORPORATED
ID1485	25124 SPRINGFIELD CT STE 200	VALENCIA	CA	US HEALTHWORKS HOLDING COMPANY INCORPORATED
ID1486	515 S. FLOWER STREET, 47TH FL	LOS ANGELES	CA	US TELEPACIFIC CORPORATION ON BEHALF
ID1488	120 VANTIS, STE 500	ALISO VIEJO	CA	UST GLOBAL INCORPORATED
ID1489	100 OCEANGATE SUITE 1500	LONG BEACH	CA	UTI, UNITED STATES, INC.
ID1489	400 SW 6TH AVENUE, 11TH FL	PORTLAND	OR	UTI, UNITED STATES, INC.
ID149	2170 SOUTH AVENUE	SOUTH LAKE TA	CA	BARTON HEALTHCARE SYSTEM
ID1490	15999 CYPRESS AVE	BALDWIN PARK	CA	UTU MTA TRUST FUND
ID1491	584 First Street East	Sonoma	CA	V2 WINE GROUP
ID1492	152 FRANK WEST CIRCLE, STE 100	STOCKTON	CA	VALLEY PACIFIC PETROLEUM
ID1492				VALLEY PACIFIC PETROLEUM
ID1493		VAN NUYS	CA	VALLEY PRESBYTERIAN HOSPITAL
ID1493				VALLEY PRESBYTERIAN HOSPITAL
ID1494	1549 COLUSA HWY	YUBA CITY	CA	VALLEY TRUCK & TRACTOR COMPANY
ID1495	4895 S. Airport Way	Stockton	CA	VAN DE POL ENTERPRISES INCORPORATED
ID1496	3100 HANSEN WAY,M/S E-460	PALO ALTO	CA	VARIAN MEDICAL SYSTEMS
ID1496	3100 HANSEN WAY	PALO ALTO	CA	VARIAN MEDICAL SYSTEMS
ID1496	3120 HANSEN WAY	PALO ALTO	CA	VARIAN MEDICAL SYSTEMS
ID1497	20715 Avenue 8	Richgrove	CA	VBZ PAYROLL SERVICE INCORPORATED
ID1498	12401 WEST OLYMPIC BLVD	LOS ANGELES	CA	VCA INCORPORATED
ID1498	12401 W.OLYMPIC BLVD	LOS ANGELES	CA	VCA INCORPORATED
ID1499	One Market Street	San Francisco	CA	VECTOR CAPITAL MANAGEMENT L P
ID15	345 PARK AVE, MAIL STOP A-9	SAN JOSE	CA	ADOBE SYSTEMS INCORPORATED
ID150	2425 Garcia Avenue	Mountain View	CA	BAVARIAN NORDIC INCORPORATED
ID1500	550 S. Winchester Blvd.	San Jose	CA	VECTRA NETWORKS
ID1501	40 POINTE DRIVE	BREA	CA	VENTURA FOODS LLC
ID1502	3301 WINDY RIDGE PKWY.	ATLANTA	GA	VENTYX INCORPORATED
ID1503	117200 GREAT OAKS WAY,STE 210	ALPHARETTA	GA	VERIFONE INCORPORATED
ID1504	350 ELLIS STREET, MAILSTOP MVCA-4N	MOUNTAIN VIEW	CA	VERITAS TECHNOLOGIES LLC
ID1504		MOUNTAIN VIEW	CA	VERITAS TECHNOLOGIES LLC
ID1505	2105 FOREST AVE	SAN JOSE	CA	VERITY HEALETH
ID1505		PASADENA	CA	VERITY HEALETH
ID1505	203 REDWOOD SHORES PARKWAY	REDWOOD CITY	CA	VERITY HEALETH
ID1506	6155 EL CAMINO REAL	CARLSBAD	CA	VIASAT INCORPORATED
ID1507	430 NORTH MCCARTHY BOULEVARD	MILPITAS	CA	VIAVI SOLUTIONS INCORPORATED
ID1508		CHESTERFIELD	MO	VICTOR TECHNOLOGIES GROUP INCORPORATED
ID1509				VICTOR TREATMENT CENTERS INCORPORATED
ID1509	1360 EAST LASSEN AVE	CHICO	CA	VICTOR TREATMENT CENTERS INCORPORATED
ID151	160 AIRWAY BOULEVARD	LIVERMORE	CA	BAY AREA AUTOMOTIVE GROUP WELFARE FUND
ID151	4160 DUBLIN BLVD SUITE 400	DUBLIN	CA	BAY AREA AUTOMOTIVE GROUP WELFARE FUND
ID1510	1305 Terra Bella Ave.	Mountain View	CA	VIMO INCORPORATED (DBA GETINSURED COM)
ID1511	1377 E LODI AVENUE	LODI	CA	VINO FARMS INCORPORATED
ID1512	4555 GREAT AMERICAN PARKWAY	SANTA CLARA	CA	VIOLIN MEMORY INCORPORATED
ID1513	4040 Civic Center Drive	San Rafael	CA	VIONIC GROUP LLC
ID1514	555 AIRPORT BLVD #200	BURLINGAME	CA	VIRGIN AMERICA INCORPORATED
ID1515		AUSTIN	TX	VISA INCORPORATED
ID1515		FOSTER CITY	CA	VISA INCORPORATED

ID1516		RANCHO CORDOVA	CA	VISION SERVICE PLAN
ID1517	2 Prudential Plaza	Chicago	IL	VISTA EQUITY PARTNERS
ID1518	2220 COLORADO AVENUE	SANTA MONICA	CA	VIVENDI
ID1519	39 TESLA	IRVINE	CA	VIZIO INCORPORATED
ID152	160 AIRWAY BLVD	LIVERMORE	CA	BAY AREA DELIVERY DRIVERS SECURITY FUND
ID152	4160 DUBLIN BLVD STE 400	DUBLIN	CA	BAY AREA DELIVERY DRIVERS SECURITY FUND
ID1520	6701 MOWRY AVENUE	NEWARK	CA	VM SERVICES INCORPORATED
ID1521	3401 HILLVIEW AVE.	PALO ALTO	CA	VMWARE INCORPORATED
ID1522	301 SOUTH TRYON STREET T-4	CHARLOTTE	NC	WACHOVIA CORPORATION
ID1523	2720 GATEWAY OAKS DR STE 250	SACRAMENTO	CA	WALTER R MCDONALD & ASSOCIATES
ID1523	2495 Natomas Park Drive	Sacramento	CA	WALTER R MCDONALD & ASSOCIATES
ID1524	2000 MOWRY AVE	FREMONT	CA	WASHINGTON HOSPITAL
ID1524				WASHINGTON HOSPITAL
ID1524	2500 MOWRY AVENUE	FREMONT	CA	WASHINGTON HOSPITAL
ID1525	750 CANYON DRIVE, SUITE 250	COPPELL	TX	WASHINGTON INVENTORY SERVICE DBA WIS
ID1526		HOUSTON	TX	WASTE MANAGEMENT HOLDINGS INCORPORATED
ID1527	One Maritime Plaza	San Francisco	CA	WATERSHED ASSET MANAGEMENT L L C
ID1528	9353 WAXIE WAY	SAN DIEGO	CA	WAXIES ENTERPRISES INCORPORATED
ID1529	541 Cowper Street	Palo Alto	CA	WEALTHFRONT INCORPORATED
ID153	300 LAKESIDE DR. 20TH FLOOR	OAKLAND	CA	BAY AREA RAPID TRANSIT DISTRICT
ID1530		REDONDO BEACH	CA	WEB SERVICE COMPANY INCORPORATED
ID1531	9303 NEW TRAILS DR., STE 200	THE WOODLANDS	TX	WEBBER LLC
ID1532	1751 Harbor Bay Parkway	Alameda	CA	WEBCOR BUILDERS
ID1532	8505 E ORCHARD RD	GREENWOOD VLG	CO	WEBCOR BUILDERS
ID1533	1000 WILSHIRE BLVD 9TH FLOOR	LOS ANGELES	CA	WEDBUSH SECURITIES INCORPORATED
ID1534	ONE FRONT STREET, SUITE 600	SAN FRANCISCO	CA	WELLS FARGO
ID1534	625 MARQUETT AVE N. N9311-170	MINNEAPOLIS	MN	WELLS FARGO
ID1534		MINNEAPOLIS	MN	WELLS FARGO
ID1535	24911 AVE STANFORD	VALENCIA	CA	WESCO AIRCRAFT
ID1536	500 WESTRIDGE DR	WATSONVILLE	CA	WEST MARINE PRODUCTS INCORPORATED
ID1537	682 Schofield Rd	San Francisco	CA	WEST STUDIOS LLC
ID1538	730 HARRISON STREET	SAN FRANCISCO	CA	WESTED
ID1539	530 SOUTH MAIN STREET	ORANGE	CA	WESTERN DENTAL SERVICES INCORPORATED
ID154	1120 SO BASCOM AVE	SAN JOSE	CA	BAY AREA ROOFERS HEALTH & WELFARE TRUST
ID154	170 GREAT OAKS BLVD	SAN JOSE	CA	BAY AREA ROOFERS HEALTH & WELFARE TRUST
ID1540	3355 MICHELSON DR SUITE 100	IRVINE	CA	WESTERN DIGITAL
ID1541		SAN DIEGO	CA	WESTERN INSURANCE HOLDINGS
ID1542	31120 WEST STREET	GOSHEN	CA	WESTERN MILLING LLC
ID1543	3404 STATE ROAD	BAKERSFIELD	CA	WESTERN OILFIELDS SUPPLY COMPANY DBA RAIN FOR RENT
ID1544	355 GELLERT BLVD STE 100	SAN FRANCISCO	CA	WESTERN TEAMSTERS WELFARE TRUST
ID1545	707 AVIATION BLVD	SANTA ROSA	CA	WESTERN WATER CONSTRUCTORS
ID1546	107 S. Riverside Drive	Modesto	CA	WESTLAND TECHNOLOGIES INCORPORATED
ID1547	16633 Ventura Blvd.	Encino	CA	WESTREC PROPERTIES INCORPORATED
ID1547	16633 VENTURA BLVD, 6TH FLOOR	ENCINO	CA	WESTREC PROPERTIES INCORPORATED
ID1548	P O BOX 4098	NORCROSS	GA	WESTROCK COMPANY
ID1548	501 SOUTH 5TH STREET	RICHMOND	VA	WESTROCK COMPANY
ID1549		NEW YORK	NY	WESTWOOD ONE INCORPORATED
ID155	365 LENNON LANE STE 250	WALNUT CREEK	CA	BAY AREA SURGICAL SPECIALISTS INCORPORATED
ID1550	1600 Huntington Drive	South Pasadena	CA	WHITTIER HOLDINGS INCORPORATED
ID1551	9401 SOUTH PAINTER AVE	WHITTIER	CA	WHITTIER UNION HIGH SCHOOL
ID1552	601 N. LAMAR	AUSTIN	TX	WHOLE FOODS MARKET
ID1553	220 WEST 20TH AVENUE	SAN MATEO	CA	WHOLESALE BEER DISTRIBUTORS INDUSTRY TRUST
ID1553	220 W 20TH AVE	SAN MATEO	CA	WHOLESALE BEER DISTRIBUTORS INDUSTRY TRUST
ID1554	345 CALIFORNIA STREET	SAN FRANCISCO	CA	WILBUR ELLIS COMPANY
ID1555	201 Wilshire Blvd	Santa Monica	CA	WILLIAM WARREN PROPERTIES
ID1556	151 UNION STREET	SAN FRANCISCO	CA	WILLIAMS SONOMA INCORPORATED
ID1557	1277 BLOSSER LN	WILLITS	CA	WILLITS UNIFIED SCHOOL
ID1558		PALO ALTO	CA	WILSON SONSINI GOODRICH & ROSATI
ID1559	737 SOUTHPOINT BLVD SUITE H	PETALUMA	CA	WINDSOR WILLITS COMPANY
ID156	50 California Street	San Francisco	CA	BBAM US LP
ID1560		SANTA FE SPRINGS	CA	WISMETTAC ASIAN FOODS
ID1561	9601 Wilshire Boulevard	Beverly Hills	CA	WME IMG LLC
ID1562		PLEASANTON	CA	WORKDAY INCORPORATED
ID1563	625 Market Street	San Francisco	CA	WORKSHARE TECHNOLOGY
ID1564		MILLBRAE	CA	WORLD JOURNAL SAN FRANCISCO
ID1565	1901 HARRISON STREET	OAKLAND	CA	WORLD SAVINGS
ID1566	151 FARMINGTON AVE, RS41	HARTFORD	CT	WORLD TRAVEL PROTECTION
ID1567		FEDERAL WAY	WA	WORLD VISION INTERNATIONAL
ID1567	800 West Chestnut Ave.	Monrovia	CA	WORLD VISION INTERNATIONAL
ID1568	300 WEST GREEN STREET	PASADENA	CA	WORLD WIDE CHURCH OF GOD
ID1569	1015 NORTH HOLLYWOOD WAY	BURBANK	CA	WRITERS GUILD INDUSTRY HEALTH FUND
ID1569	2900 W. ALAMEDA AVE STE 1100	BURBANK	CA	WRITERS GUILD INDUSTRY HEALTH FUND
ID157		LOS ANGELES	CA	BBCN BANK
ID1570	11221 JOHN WYCLIFFE BLVD	ORLANDO	FL	WYCLIFFE BIBLE TRANSLATORS
ID1571	1960 EAST GRAND AVENUE	EL SEGUNDO	CA	WYLE INCORPORATED
ID1572	6801 E LERDO HWY	SHAFTER	CA	Wonderful Orchards
ID1573	300 Park Avenue	San Jose	CA	XACTLY CORPORATION
ID1574	One World Trade Center	New York	NY	XAD INCORPORATED
ID1575		NORWOOD	MA	XCERRA CORPORATION
ID1576	101 Green St.	San Francisco	CA	XERO INCORPORATED
ID1577	2100 LOGIC DRIVE	SAN JOSE	CA	XILINX INCORPORATED
ID1578	2101 Corporate Center Drive	Thousand Oaks	CA	XIRRUS INCORPORATED
ID1579	851 Buckeye Court	Milpitas	CA	XL CONSTRUCTION CORPORATION

ID158	2761 FRUITLAND AVE	LOS ANGELES	CA	BCBG MAX AZRIA GROUP
ID1580	2000 SIERRA POINT PKWY STE 200	BRISBANE	CA	XOJET INCORPORATED
ID1581	3550 Mowry Avenue	Fremont	CA	YADAV ENTERPRISES INCORPORATED
ID1582		SUNNYVALE	CA	YAHOO! INCORPORATED
ID1582	701 FIRST AVENUE	SUNNYVALE	CA	YAHOO! INCORPORATED
ID1583	6600 ORANGETHORPE AVE.	BUENA PARK	CA	YAMAHA CORPORATION OF AMERICA
ID1584	475 Holger Way	San Jose	CA	YAMAICHI ELECTRONICS US A INCORPORATED
ID1585	10990 ROE AVE.	OVERLAND PARK	KS	YELLOW CORPORATION
ID1586	2805 Bowers Avenue	Santa Clara	CA	YESVIDEO INCORPORATED
ID1587		SALEM	VA	YOKOHAMA TIRE
ID1588	805 Veterans Blvd.	Redwood City	CA	YOUGOV AMERICA INCORPORATED
ID1589	14402 FRANKLIN AVE	TUSTIN	CA	YOUNGS HOLDINGS INCORPORATED
ID159	1311 W PRESIDENT GEORGE BUSH HWY	RICHARDSON	TX	BD BDIL
ID1590		HENDERSON	NV	ZAPPOS COMPANY INCORPORATED & ITS AFFILIATES
ID1591	1019 Market St	San Francisco	CA	ZENDESK INCORPORATED
ID1592	6000 CONDOR DR	MOORPARK	CA	ZODIAC POOL SOLUTIONS NORTH AMERICA INCORPORATED
ID1593	490 De Guigne Drive	Sunnyvale	CA	ZSPACE INCORPORATED
ID1594	9245 Research Drive	Irvine	CA	ZUMASYS INCORPORATED
ID1595	106 E. 6th Street	Austin	TX	ZYME SOLUTIONS INCORPORATED
ID1596				ZYNGA INCORPORATED
ID1596	699 8TH ST CONCOURSE LEVEL	SAN FRANCISCO	CA	ZYNGA INCORPORATED
ID16	1501 YAMATO RD	BOCA RATON	FL	ADT LLC
ID16	1501 YAMATO ROAD	BOCA RATON	FL	ADT LLC
ID160	2315 NORTH FIRST STREET	SAN JOSE	CA	BEA SYSTEMS
ID161	555 19th Street	San Francisco	CA	BEATS MUSIC LLC
ID162				BEBE STORES INCORPORATED
ID162	400 VALLEY DRIVE	BRISBANE	CA	BEBE STORES INCORPORATED
ID163	1 BECTON DRIVE	FRANKLIN LAKES	NJ	BECTON DICKINSON & COMPANY
ID163	ONE BECTON DRIVE	FRANKLIN LAKES	NJ	BECTON DICKINSON & COMPANY
ID164	4655 OLD IRONSIDE DR, STE 490	SANTA CLARA	CA	BEECHWOOD COMPUTING
ID165	240 3rd St.	Los Altos	CA	BEEPI INCORPORATED
ID166	569 S. Van Buren Street	Placentia	CA	BEJAC CORPORATION
ID167	2965 Woodside Rd.	Woodside	CA	BENCHMARK CAPITAL HOLDINGS COMPANY L L C
ID168		LOS ANGELES	CA	BERGELECTRIC CORPORATION
ID169	2020 OREGON ST	BERKELEY	CA	BERKELEY BOWL PRODUCE
ID169	2020 Oregon St	Berkeley	CA	BERKELEY BOWL PRODUCE
ID17	5008 AIRPORT RD	ROANOKE	VA	ADVANCE AUTO PARTS
ID170	1800 M STREET NW SECOND FLOOR	WASHINGTON	DC	BERKELEY RESEARCH GROUP LLC
ID171	800 Concar Dr	San Mateo	CA	BERTRAM CAPITAL MANAGEMENT LLC
ID171	800 Concar Drive	San Mateo	CA	BERTRAM CAPITAL MANAGEMENT LLC
ID172	102 S. 11th Ave.	Hanford	CA	BEST DEAL FOOD COMPANY INCORPORATED
ID173	P.O. BOX 4689	ARCATA	CA	BETTENDORF ENTERPRISES
ID174	2843 S MAPLE	FRESNO	CA	BETTS COMPANY
ID175	2525 E. EL SEGUNDO BLVD.	EL SEGUNDO	CA	BIG 5 CORPORATION DBA BIG 5 SPORTING G
ID176	3564 HIGHWAY 1	DAVENPORT	CA	BIG CREEK LUMBER COMPANY
ID176				BIG CREEK LUMBER COMPANY
ID177	1000 ALFRED NOBLE DRIVE	HERCULES	CA	BIO RAD LABORATORIES INCORPORATED
ID178	4040 Pike Lane	Concord	CA	BIOCARE MEDICAL LLC
ID179	13400 RIVERSIDE DRIVE, STE 210	SHERMAN OAKS	CA	BLACK ANGUS STEAKHOUSES LLC
ID179	13400 RIVERSIDE DR SUITE 210	SHERMAN OAKS	CA	BLACK ANGUS STEAKHOUSES LLC
ID18	1210 Elko Drive	Sunnyvale	CA	ADVANCED CHEMICAL TRANSPORT INCORPORATED
ID180	503 Canal Blvd	Point Richmond	CA	BLACK DIAMOND VIDEO INCORPORATED
ID181				BLACKHAWK NETWORK
ID181	6220 STONERIDGE MALL RD	PLEASANTON	CA	BLACKHAWK NETWORK
ID182	40 EAST 52ND STREET	NEW YORK	NY	BLACKROCK INCORPORATED
ID182	55 EAST 52ND STREET 26TH FLOOR	NEW YORK	NY	BLACKROCK INCORPORATED
ID183	405 MADISON AVENUE, STE 2100	TOLEDO	OH	BLOCK COMMUNICATIONS INCORPORATED
ID184	82 Pioneer Way	Mountain View	CA	BLOOMREACH INCORPORATED
ID185				BLUE SHIELD OF CALIFORNIA
ID185	50 BEALE STREET 19TH FLOOR	SAN FRANCISCO	CA	BLUE SHIELD OF CALIFORNIA
ID185	50 BEALE ST 19TH FLOOR	SAN FRANCISCO	CA	BLUE SHIELD OF CALIFORNIA
ID186	8800 GAINEY CENTER DRIVE #355	SCOTTSDALE	AZ	BLUESTAR RESORT & GOLF LLC
ID187	23161 Mill Creek Drive	Laguna Hills	CA	BLYTHECO INCORPORATED
ID188	955 Borra Place	Escondido	CA	BMT SCIENTIFIC MARINE SERVICES INCORPORATED
ID189	1675 Howard Street	San Francisco	CA	BMW of San Francisco
ID19		SANTA MONICA	CA	ADVANSTAR COMMUNICATIONS INCORPORATED
ID190	4300 Bohannon Dr.	Menlo Park	CA	BOARDVANTAGE INCORPORATED
ID191	1 Bair Island Road	Redwood City	CA	BOARDWALK AUTO CENTER INCORPORATED
ID192	7200 E. BRUNDAGE LANE	BAKERSFIELD	CA	BOLTHOUSE FARMS INCORPORATED
ID192				BOLTHOUSE FARMS INCORPORATED
ID193	1111 Sierra at Tahoe Rd.	Twin Bridges	CA	BOOTH CREEK SKI HOLDINGS INCORPORATED
ID193		TRUCKEE	CA	BOOTH CREEK SKI HOLDINGS INCORPORATED
ID194		AUGUSTA	GA	BORAL INDUSTRIES INCORPORATED
ID195	5005 Texas St.	San Diego	CA	BORREGO SOLAR SYSTEMS INCORPORATED
ID196	2610 CROW CANYON RD STE 200	SAN RAMON	CA	BRICK & ALLIED CRAFTS HEALTH & WELFARE TRUST
ID197		ANAHEIM	CA	BRIDGFORD FOODS CORPORATION
ID198	990 S. Broadway	Denver	CO	BRIERLEY ASSOCIATES
ID199	5855 OBISPO AVE	LONG BEACH	CA	BRIGHTON BEST INTERNATIONAL INCORPORATED
ID2	3 West Plumeria Drive	San Jose	CA	A10 NETWORKS INCORPORATED
ID20	19100 VON KARMAN AVENUE #600	IRVINE	CA	ADVANTAGE SALES & MARKETING
ID200	251 LONG LANE	CITY OF INDUSTRY	CA	BRIGHTON COLLECTIBLES LLC
ID200				BRIGHTON COLLECTIBLES LLC
ID200	14022 NELSON AVE	CITY OF INDUSTRY	CA	BRIGHTON COLLECTIBLES LLC

ID201	501 Folsom Street	San Francisco	CA	BRIGHTTALK INCORPORATED
ID202	5300 CALIFORNIA AVE.	IRVINE	CA	BROADCOM CORPORATION
ID203	1700 Seaport Blvd	Redwood City	CA	BROADVISION INCORPORATED
ID204	130 HOLGER WAY	SAN JOSE	CA	BROCADE COMMUNICATIONS SYSTEMS INCORPORATED
ID205	20813 Stevens Creek Blvd.	Cupertino	CA	BROMIUM INCORPORATED
ID206	1527 COLE BLVD	GOLDEN	CO	BROWN & CALDWELL
ID207	2602 MCGAW AVE	IRVINE	CA	BURKERT CONTROMATIC
ID208	3546 N RIVERSIDE AVE	RIALTO	CA	BURLINGAME INDUSTRIES INCORPORATED
ID209	1830 ROUTE 130 NORTH	BURLINGTON	NJ	BURLINGTON COAT FACTORY WAREHOUSE CORPO
ID21	13531 PRESTIGE PLACE	TAMPA	FL	ADVANTAGE WAYPOINT LLC
ID210	44 MONTGOMERY 39TH FLOOR	SAN FRANCISCO	CA	BUSINESS WIRE
ID210	101 California Street	San Francisco	CA	BUSINESS WIRE
ID211	500 COHASSET ROAD SUITE 24	CHICO	CA	BUTTE SCHOOLS SELF FUNDED PROGRAMS
ID212		SAN FRANCISCO	CA	BYER CALIFORNIA
ID213	14455 HIGHWAY 16	BROOKS	CA	CACHE CREEK CASINO RESORT
ID214	258 WEST 38TH ST. - 5TH FLOOR	NEW YORK	NY	CACHE INCORPORATED
ID215	14940 Proctor Avenue	Industry	CA	CACIQUE INCORPORATED
ID216	2655 SEELY AVENUE, BLDG. 5 MS 5A1	SAN JOSE	CA	CADENCE DESIGN SYSTEMS INCORPORATED
ID217	8300 St Helena Hwy	Rutherford	CA	CAKEBREAD CELLARS
ID218		IRVINE	CA	CALATLANTIC GROUP INCORPORATED
ID219	3595 Mt. Diablo Blvd.	Lafayette	CA	CALIFORNIA BANK OF COMMERCE
ID22	3201 SCOTT BLVD	SANTA CLARA	CA	ADVANTEST AMERICA CORPORATION
ID220	5331 Business Drive	Huntington Beach	CA	CALIFORNIA BOILER INCORPORATED
ID221	131 N EL MOLINO AVENUE # 330	PASADENA	CA	CALIFORNIA FIELD IRONWORKERS TRUST FUND
ID222	2030 V STREET	SACRAMENTO	CA	CALIFORNIA HIGHWAY PATROL
ID223	8505 E ORCHARD RD	GREENWOOD VLG	CO	CALIFORNIA MICRO DEVICES
ID224	1250 E LATHROP ROAD	LATHROP	CA	CALIFORNIA NATURAL PRODUCT
ID225	12181 BLUFF CREEK DR., 5TH FLR	PLAYA VISTA	CA	CALIFORNIA PIZZA KITCHEN INCORPORATED
ID226	LINCOLN PLAZA 400 Q STREET	SACRAMENTO	CA	CALIFORNIA PUBLIC EMPLOYEES RETIREMENT SYSTEM
ID227	111 W OCEAN BLVD	LONG BEACH	CA	CALIFORNIA RESOURCES CORPORATION
ID228	601 NORTH E STREET	SAN BERNARDIN	CA	CALIFORNIA SCHOOLS EMPLOYEE BENEFITS ASSOCIATION
ID229	1640 SOUTH LOOP RD	ALAMEDA	CA	CALIFORNIA SERVICE EMPLOYEES H&W TRUST FUND
ID23	900 HOPE WAY	ALTAMONTE SPRINGS	FL	ADVENTIST HEALTH SYSTEM
ID230	520 EAST HERNDON AVE	FRESNO	CA	CALIFORNIAS VALUED TRUST
ID230				CALIFORNIAS VALUED TRUST
ID230	520 E HERNDON AVE	FRESNO	CA	CALIFORNIAS VALUED TRUST
ID231		SAN JOSE	CA	CALIX INCORPORATED
ID232	101 CALIFORNIA ST. #3500	SAN FRANCISCO	CA	CALLAN ASSOCIATES
ID233	2025 E FINANCIAL WAY	GLENDORA	CA	CALPORTLAND COMPANY
ID233	2025 E. FINANCIAL WAY, STE.200	GLENDORA	CA	CALPORTLAND COMPANY
ID234	5801 Skylab Road	Huntington Beach	CA	CAMBRO MANUFACTURING COMPANY
ID235	1401 Blake Street	Denver	CO	CAMPOS EPC LLC
ID236	285 RIVERSIDE AVE SUITE 250	WESTPORT	CT	CANAAN PARTNERS
ID236	285 Riverside Avenue	Westport	CT	CANAAN PARTNERS
ID237		INGLEWOOD	CA	CANTWELL ANDERSON INCORPORATED
ID238	185 Berry Street	San Francisco	CA	CAPCOM USA INCORPORATED
ID239	400 S. HOPE ST., 22ND FLOOR	LOS ANGELES	CA	CAPITAL GROUP
ID239	400 S HOPE STREET, 22ND FLR	LOS ANGELES	CA	CAPITAL GROUP
ID239		LOS ANGELES	CA	CAPITAL GROUP
ID24	515 SOUTH FLOWER STREET 3RD FL	LOS ANGELES	CA	AECOM
ID24		CLEVELAND	OH	AECOM
ID240	1680 CAPITAL ONE DRIVE	MCLEAN	VA	CAPITAL ONE
ID240	1680 CAPITAL ONE DRIVE	MC LEAN	VA	CAPITAL ONE
ID241		SAN DIEGO	CA	CAREFUSION CORPORATION
ID242	14950 Heathrow Forest Pky	Houston	TX	CARGOLUX AIRLINES
ID242	270 LAWRENCE AVENUE, STE A	S SAN FRANCISCO	CA	CARGOLUX AIRLINES
ID243	770 S PLACENTIA AVE	PLACENTIA	CA	CARL WARREN & COMPANY
ID244	12121 SCRIPPS SUMMIT DR #400	SAN DIEGO	CA	CARL ZEISS INCORPORATED
ID244	5160 HACIENDA DR.	DUBLIN	CA	CARL ZEISS INCORPORATED
ID244		DUBLIN	CA	CARL ZEISS INCORPORATED
ID244	ONE ZEISS DRIVE	THORNWOOD	NY	CARL ZEISS INCORPORATED
ID244	ONE ZEISS DR.	THORNWOOD	NY	CARL ZEISS INCORPORATED
ID244		THORNWOOD	NY	CARL ZEISS INCORPORATED
ID244	12121 SCRIPPS SUMMIT DR. SUITE 400	SAN DIEGO	CA	CARL ZEISS INCORPORATED
ID245		MINNETONKA	MN	CARLSON INCORPORATED
ID246		MINNETONKA	MN	CARLSON WAGONLIT TRAVEL, INC.
ID247	1000 SANSOME STREET, SUITE 180	SAN FRANCISCO	CA	CARMEL PARTNERS INCORPORATED
ID247		SAN FRANCISCO	CA	CARMEL PARTNERS INCORPORATED
ID248	4600 E. WASHINGTON ST. #500	PHOENIX	AZ	CAROLLO ENGINEERS INCORPORATED
ID249	265 HEGENBERGER RD 100	OAKLAND	CA	CARPENTERS HEALTH & WELFARE TRUST FUND
ID25	10000 MING AVENUE	BAKERSFIELD	CA	AERA ENERGY SERVICES COMPANY
ID250	3000 Ocean Park Blvd.	Santa Monica	CA	CASESTACK INCORPORATED
ID251		FT. WORTH	TX	CASH AMERICA INTERNATIONAL INCORPORATED
ID252	680 IWILEI ROAD SUITE 510	HONOLULU	HI	CASTLE & COOKE INCORPORATED
ID253	121 SPEAR STREET, SUITE 300	SAN FRANCISCO	CA	CASTLIGHT HEALTH
ID254	200 CARILLON PARKWAY	ST. PETERSBURG	FL	CATALINA MARKETING CORPORATION
ID255	120 Chula Vista	Hollywood Park	TX	CATALINA RESTAURANT GROUP INCORPORATED
ID255	2200 FARADAY AVE., STE. #250	CARLSBAD	CA	CATALINA RESTAURANT GROUP INCORPORATED
ID256		NEWPORT BEACH	CA	CBRE SERVICES INCORPORATED
ID256		DALLAS	TX	CBRE SERVICES INCORPORATED
ID257	8700 BEVERLY BLVD	LOS ANGELES	CA	CEDARS SINAI HEALTH SYSTEM
ID258	220 CAMPUS LANE	FAIRFIELD	CA	CEMENT MASON
ID259	1001 Marina Village Pkwy	Alameda	CA	CENTER FOR THE COLLABORATIVE CLASSROOM

ID26	181 W HUNTINGTON DR STE 202	MONROVIA	CA	AEROVIRONMENT INCORPORATED
ID260	3 ENTERPRISE DRIVE	SHELTON	CT	CENTILLIUM COMMUNICATIONS INCORPORATED
ID261	1640 SOUTH LOOP ROAD	ALAMEDA	CA	CENTRAL COAST TRUST FUND
ID262	5 Lower Ragsdale Drive	Monterey	CA	CENTRAL COAST VNA & HOSPICE INCORPORATED
ID263	980 N Federal Highway	Boca Raton	FL	CENTRAL DYNAMICS CORPORATION DBA CENDYN
ID264	1340 TREAT BLVD #600	WALNUT CREEK	CA	CENTRAL GARDEN & PET
ID265	5215 ASHE RD	BAKERSFIELD	CA	CENTRE FOR NEURO SKILLS
ID266	3300 Tannery Way	Santa Clara	CA	CENTRIFY CORPORATION
ID267	904 CARIBBEAN DRIVE	SUNNYVALE	CA	CEPHEID
ID268	75 Hawthorne St.	San Francisco	CA	CERTAIN INCORPORATED
ID269	1120 Joshua Way	Vista	CA	CERTIFIED FOLDER DISPLAY SERVICE
ID27	39159 Paseo Padre Pkwy.	Fremont	CA	AGAMA SOLUTIONS INCORPORATED
ID270	200 N. SEPULVEDA BLVD. SUITE 1200	EL SEGUNDO	CA	CETERA FINANCIAL GROUP
ID271		HOUSTON	TX	CEVA
ID272	26040 YNEZ ROAD	TEMECULA	CA	CHANNELL COMMERCIAL CORPORATION
ID273		SAN FRANCISCO	CA	CHARLES SCHWAB & COMPANY INCORPORATED
ID273	211 MAIN STREET	SAN FRANCISCO	CA	CHARLES SCHWAB & COMPANY INCORPORATED
ID274	575 FLORIDA STREET	SAN FRANCISCO	CA	CHARLOTTE RUSSE INCORPORATED
ID275	420 Taylor Street	San Francisco	CA	CHARTBOOST INCORPORATED
ID276	1059 N STATE ST	UKIAH	CA	CHARTER ACADEMY OF THE REDWOOD
ID277	959 SKYWAY ROAD SUITE 300	SAN CARLOS	CA	CHECK POINT SOFTWARE TECHNOLOGIES INCO
ID278	600 SE Maritime Ave.	Vancouver	WA	CHEETAH MEDICAL INCORPORATED
ID279	1500 LOUISIANA, ROOM 13102	HOUSTON	TX	CHEVRON
ID279	6001 BOLLINGER CANYON	SAN RAMON	CA	CHEVRON
ID279	6001 BOLLINGER CANYON RD H3501	SAN RAMON	CA	CHEVRON
ID28	5301 STEVENS CREEK BLVD.	SANTA CLARA	CA	AGILENT TECHNOLOGIES INCORPORATED
ID280	10001 SIX PINES DRIVE,	THE WOODLANDS	TX	CHEVRON PHILLIPS CHEMICAL COMPANY LP
ID281		ORANGE	CA	CHILDRENS HOSPITAL OF ORANGE COUNTY
ID282	200 N. CONTINENTAL BLVD.	EL SEGUNDO	CA	CHINA AIRLINES LTD
ID282	200 N Continental Blvd	El Segundo	CA	CHINA AIRLINES LTD
ID282	200 N CONTINENTAL BLVD STE 100	EL SEGUNDO	CA	CHINA AIRLINES LTD
ID283	436 WALNUT STREET WA03N	PHILADELPHIA	PA	CHUBB
ID284	46536 RD 417	COARSEGOLD	CA	CHUKCHANSI ECONOMIC
ID285	170 WEST TASMAN DR.	SAN JOSE	CA	CISCO SYSTEMS INCORPORATED
ID285		SAN JOSE	CA	CISCO SYSTEMS INCORPORATED
ID286	140 W COLLEGE ST	COVINA	CA	CITRUS VALLEY HEALTH PARNERS
ID286				CITRUS VALLEY HEALTH PARNERS
ID287	1145 MARKET STREET, 2ND FLOOR	SAN FRANCISCO	CA	CITY & COUNTY OF SAN FRANCISCO
ID288	1500 E DUARTE ROAD	DUARTE	CA	CITY OF HOPE NATIONAL MEDICAL CENTER
ID289	8505 E ORCHARD ROAD	GREENWOOD VLG	CO	CITY OF LONG BEACH
ID289	333 W OCEAN BLVD 13TH FLR	LONG BEACH	CA	CITY OF LONG BEACH
ID29	240 COMMERCE	IRVINE	CA	AGILITY
ID290	2355 CRENSHAW BLVD STE 200	TORRANCE	CA	CITY OF SAN RAMON
ID291	100 SANTA ROSA AVE	SANTA ROSA	CA	CITY OF SANTA ROSA
ID291	100 SANTA ROSA AVENUE RM 9	SANTA ROSA	CA	CITY OF SANTA ROSA
ID292	22 EAST WEBER AVE	STOCKTON	CA	CITY OF STOCKTON
ID292	22 E WEBER AVE STE# 150	STOCKTON	CA	CITY OF STOCKTON
ID293	250 MAIN STREET	WATSONVILLE	CA	CITY OF WATSONVILLE
ID294	426 17th Street	Oakland	CA	CIVICSOLAR INCORPORATED
ID295		ORANGEBURG	NY	CLARINS USA INCORPORATED
ID296	200 EAST BASSE ROAD	SAN ANTONIO	TX	CLEAR CHANNEL
ID297	548 MARKET STREET	SAN FRANCISCO	CA	CLEARSLIDE INCORPORATED
ID298	1166 K STREET	BRAWLEY	CA	CLINICAS DE SALUD DEL PUEBLO
ID299	1001 PAGE MILL ROAD BLDG #2	PALO ALTO	CA	CLOUDERA INCORPORATED
ID3	130 Lytton Avenue	Palo Alto	CA	A9 COMPANY INCORPORATED
ID30	605 Coolidge Drive	Folsom	CA	AGREEYA SOLUTIONS INCORPORATED
ID300	101 Townsend Street	San Francisco	CA	CLOUDFLARE INCORPORATED
ID301				CLOVIS UNIFIED SCHOOL DISTRICT
ID301	1450 HERNDON AVENUE	CLOVIS	CA	CLOVIS UNIFIED SCHOOL DISTRICT
ID302	555 MARKET STREET 13TH FLOOR	SAN FRANCISCO	CA	CLUB ONE INCORPORATED
ID302		SAN FRANCISCO	CA	CLUB ONE INCORPORATED
ID302	555 Market Street	San Francisco	CA	CLUB ONE INCORPORATED
ID303	10 HUDSON YARDS, 19TH FLOOR	NEW YORK	NY	COACH INCORPORATED
ID304	P O BOX 1058	COACHELLA	CA	COACHELLA VALLEY WATER DIST
ID305		SANTA FE SPRINGS	CA	COAST ALUMINUM & ARCHITECTURAL INCORPORATED
ID305	10628 FULTON WELLS AVENUE	SANTA FE SPRI	CA	COAST ALUMINUM & ARCHITECTURAL INCORPORATED
ID306	1370 ADAMS AVE	COSTA MESA	CA	COAST COMMUNITY COLLEGE DISTRICT
ID306	1370 ADAMS AVENUE	COSTA MESA	CA	COAST COMMUNITY COLLEGE DISTRICT
ID307	5189A VERDUGO WAY	CAMARILLO	CA	COASTAL SCHOOLS EMPLOYEE BENEFITS ORGANIZATION
ID308	5100 PATRICK HENRY DRIVE	SANTA CLARA	CA	COHERENT INCORPORATED
ID309	800 COLLEGE AVENUE	WEED	CA	COLLEGE OF THE SISKIYOUS
ID31	3500 W. ORANGEWOOD AVE	ORANGE	CA	AIRCONDITIONING &
ID310	2575 OLIVE HILL RD	FALLBROOK	CA	COLOR SPOT NURSERIES INCORPORATED
ID310	2738 VIA INDUSTRIA STE 201	TEMECULA	CA	COLOR SPOT NURSERIES INCORPORATED
ID311	30977 SAN ANTONIO STREET	HAYWARD	CA	COLUMBUS MANAGEMENT, INC.
ID312	30977 San Antonio Street	Hayward	CA	COLUMBUS MANUFACTURING INCORPORATED
ID313	199 E. Webster Street	Colusa	CA	COLUSA REGIONAL MEDICAL CENTER INCORPORATED
ID314	1000 Town Center Drive	Oxnard	CA	COMMUNICATION INFRASTRUCTURE CORPORATION
ID315	4368 Spyres Way	Modesto	CA	COMMUNITY HOSPICE INCORPORATED
ID316	147 NORTH BRENT STREET	VENTURA	CA	COMMUNITY MEMORIAL HEALTH SYSTEM
ID317	3990 RUFFIN ROAD SUITE 100	SAN DIEGO	CA	CONAM MANAGEMENT CORPORATION
ID318		ADDISON	TX	CONCENTRA OPERATING CORPORATION
ID319	4030 Lake Washington Blvd	Kirkland	WA	CONCENTRIC ADVISORS INCORPORATED

ID32	2070 CLINTON AVENUE	ALAMEDA	CA	ALAMEDA HEALTH SYSTEM
ID32	15400 FOOTHILL BLVD BLDG C	SAN LEANDRO	CA	ALAMEDA HEALTH SYSTEM
ID320		FREMONT	CA	CONCENTRIX CORPORATION
ID321	100 N. Crescent Drive	Beverly Hills	CA	CONCORD MUSIC GROUP INCORPORATED
ID322	4000 MACARTHUR BLVD	NEWPORT BEACH	CA	CONEXANT SYSTEMS INCORPORATED
ID322	1901 MAIN STREET # 300	IRVINE	CA	CONEXANT SYSTEMS INCORPORATED
ID322	4000 MACARTHUR BLVD., K01-115	NEWPORT BEACH	CA	CONEXANT SYSTEMS INCORPORATED
ID323	731 Market Street	San Francisco	CA	CONNECTSOLUTIONS
ID324	2011 CRYSTAL DRIVE, SUITE 500	ARLINGTON	VA	CONSERVATION INTERNATIONAL
ID325	2 Waters Park Drive	San Mateo	CA	CONVIVA INCORPORATED
ID326		PLEASANTON	CA	COOPERVISION, INC.
ID327	2360 Technology Way	Hollister	CA	CORBIN PACIFIC INCORPORATED
ID328	149 Commonwealth Dr.	Menlo Park	CA	CORCEPT THERAPEUTICS INCORPORATED
ID329	395 OYSTER POINT BOULEVARD STE 415	SOUTH SAN FRANCISCO	CA	CORE MARK INTERNATIONAL INCORPORATED
ID33	612-A E. 6th Street	Austin	TX	ALAMO DRAFTHOUSE
ID330	40 PACIFICA, SUITE 900	IRVINE	CA	CORELOGIC INCORPORATED
ID331	6 HUTTON CENTRE DRIVE STE 400	SANTA ANA	CA	CORINTHIAN COLLEGES INCORPORATED
ID332	2010 MAIN ST. SUITE 600	IRVINE	CA	CORVEL CORPORATION
ID333	320 W PUEBLO	SANTA BARBARA	CA	COTTAGE HEALTH SYSTEM
ID334	981 H STREET STE 250	CRESCENT CITY	CA	COUNTY OF DEL NORTE
ID334	981 H STREET #250	CRESCENT CITY	CA	COUNTY OF DEL NORTE
ID335	508 N H STREET	IMPERIAL	CA	COUNTY OF IMPERIAL
ID335	940 MAIN ST STE 101	EL CENTRO	CA	COUNTY OF IMPERIAL
ID335				COUNTY OF IMPERIAL
ID336	1115 TRUXTUN AVE 5TH FLOOR	BAKERSFIELD	CA	COUNTY OF KERN
ID336	1115 TRUXTUN AVE 5TH FLR	BAKERSFIELD	CA	COUNTY OF KERN
ID337				COUNTY OF KINGS
ID337	1222 W LACEY BLVD	HANFORD	CA	COUNTY OF KINGS
ID338	579 LOW GAP ROAD	UKIAH	CA	COUNTY OF MENDOCINO
ID339	2566 TREASURE DR	SANTA BARBARA	CA	COUNTY OF ORANGE
ID339	10 CIVIC CENTER PLAZA, 4TH FLR	SANTA ANA	CA	COUNTY OF ORANGE
ID339	333 WEST SANTA ANA	SANTA ANA	CA	COUNTY OF ORANGE
ID339				COUNTY OF ORANGE
ID34	655 Montgomery Street	San Francisco	CA	ALBOURNE AMERICA LLC
ID340	700 H STREET, STE 5720C	SACRAMENTO	CA	COUNTY OF SACRAMENTO
ID341	575 ADMINISTRATION DR STE 116C	SANTA ROSA	CA	COUNTY OF SONOMA
ID342	2900 W BURREL AVE	VISALIA	CA	COUNTY OF TULARE
ID342	75 IRON POINT CIRCLE	FOLSOM	CA	COUNTY OF TULARE
ID343	381 E. Evelyn Avenue	Mountain View	CA	COURSERA INCORPORATED
ID344	8505 E ORCHARD RD	GREENWOOD VLG	CO	COVAD COMMUNICATIONS COMPANY
ID345	27071 ALISO CREEK RD STE 100	ALISO VIEJO	CA	COVENANT CARE CALIFORNIA LLC
ID346	PO BOX 105357	ATLANTA	GA	COX ENTERPRISES INCORPORATED
ID347	960 NORTH POINT PARKWAY SUITE 150	ALPHARETTA	GA	COYOTE LOGISTICS LLC
ID348		CUPERTINO	CA	CRC HEALTH CORPORATION
ID348	20400 STEVENS CREEK BLVD 6 FL	CUPERTINO	CA	CRC HEALTH CORPORATION
ID349	2000 AVENUE OF THE STARS	LOS ANGELES	CA	CREATIVE ARTISTS AGENCY LLC
ID35		CHICAGO	IL	ALCAN PACKAGING
ID350		SAN DIEGO	CA	CRICKET COMMUNICATIONS INCORPORATED
ID351	444 S. Cedros Avenue	Solana Beach	CA	CROSSFIT INCORPORATED
ID352	65 Enterprise	Aliso Viejo	CA	CROSSOVER HEALTH MANAGEMENT SERVICES INCORPORATED
ID353	650 California St.	San Francisco	CA	CROUSE & ASSOCIATES INSURANCE BROKERS INCORPORATED
ID354	3055 OAK ROAD	WALNUT CREEK	CA	CSAA INSURANCE SERVICES LLC
ID355	75 IRON POINT CIRCLE STE 200	FOLSOM	CA	CSAC EIA
ID356	550 Pilgram Drive	Foster City	CA	CSG CONSULTANTS INCORPORATED
ID357		SAN DIEGO	CA	CUBIC CORPORATION
ID358	1120 SO BASCOM AVE	SAN JOSE	CA	CUPERTINO UNION SCHOOL DISTRICT
ID358	1120 SOUTH BASCOM AVE	SAN JOSE	CA	CUPERTINO UNION SCHOOL DISTRICT
ID359	3240 Bayshore Blvd	Brisbane	CA	CUTERA INCORPORATED
ID36	2091 Stierlin Ct	Mountain View	CA	ALEXZA PHARMACEUTICALS
ID360	101 Montgomery Street	San Francisco	CA	CUTLER GROUP LP
ID361	695 GEORGE WASHINGTON HIGHWAY	LINCOLN	RI	CVS HEALTH
ID361	1675 BROADWAY #900	DENVER	CO	CVS HEALTH
ID361	ONE CVS DRIVE	WOONSOCKET	RI	CVS HEALTH
ID361	1301 DOVE STREET	NEWPORT BEACH	CA	CVS HEALTH
ID361		DENVER	CO	CVS HEALTH
ID361	245 SOCIAL STREET	WOONSOCKET	RI	CVS HEALTH
ID362	915 DEGUIGNE DRIVE, BENEFIT DEPT M/S 210	SUNNYVALE	CA	CYPRESS SEMICONDUCTOR
ID362		SAN JOSE	CA	CYPRESS SEMICONDUCTOR
ID363		PALO ALTO	CA	CYTYC CORPORATION
ID363		MARLBOROUGH	MA	CYTYC CORPORATION
ID364	101 Redwood Shores	Redwood City	CA	Cake Corporation
ID365	4185 Blackhawk Plaza	Danville	CA	D W MORGAN COMPANY INCORPORATED
ID366	6392 VIA REAL	CARPINTERIA	CA	DAKO NORTH AMERICA INCORPORATED
ID367	212 Avenida Fabricante	San Clemente	CA	DANA INNOVATIONS INCORPORATED
ID368	3280 EAST FOOTHILL BLVD. #400	PASADENA	CA	DANONE WATERS OF NORTH AMERICA INCORPORATED
ID369	12655 BEATRICE STREET	LOS ANGELES	CA	DATA ANALYSIS INCORPORATED
ID37	5400 INTERNATIONAL TRADE DR	HENRICO	VA	ALFA LAVAL
ID370	8505 E ORCHARD RD	GREENWOOD VLG	CO	DATAGATE INCORPORATED
ID371	PO BOX 7794	SAN FRANCISCO	CA	DATASAFE
ID371				DATASAFE
ID372	3055 ENTERPRISE COURT	VISTA	CA	DATRON WORLD COMMUNICATIONS INCORPORATED
ID373		DENVER	CO	DAVITA HEALTHCARE PARTNERS INCORPORATED
ID373	1627 COLE BLVD.	LAKEWOOD	CO	DAVITA HEALTHCARE PARTNERS INCORPORATED

ID374	TWO INGRAM BLVD.	LA VERGNE	TN	DBI BEVERAGE INCORPORATED
ID375	2420 Sand Hill Road #200	Menlo Park	CA	DCM
ID376		SAN CLEMENTE	CA	DEALERSOCKET INCORPORATED
ID377	205 N. WIGET LANE	WALNUT CREEK	CA	DEL MONTE FOODS INCORPORATED
ID378	12001 SOUTH HIGHWAY 99	MANTECA	CA	DELICATO FAMILY VINEYARDS
ID378	12001 SO HIGHWAY 99	MANTECA	CA	DELICATO FAMILY VINEYARDS
ID379	100 FIRST STREET	SAN FRANCISCO	CA	DELTA DENTAL OF CALIFORNIA
ID379	100 FIRST STREET 8TH FLR	SAN FRANCISCO	CA	DELTA DENTAL OF CALIFORNIA
ID379				DELTA DENTAL OF CALIFORNIA
ID38	1321 Ridder Park Drive	San Jose	CA	ALFA TECH CONSULTING ENGINEERS INCORPORATED
ID380	46101 Fremont Blvd	Fremont	CA	DELTA PRODUCTS CORPORATION
ID381	1555 Bayshore Hwy.	Burlingame	CA	DEMATTEI WONG ARCHITECTURE INCORPORATED
ID382	55 S YUMA ST	DENVER	CO	DENCO SALES COMPANY
ID383	41673 CORNING PLACE	MURRIETA	CA	DENSO
ID383	3900 VIA ORO AVE	LONG BEACH	CA	DENSO
ID384	1935 Camino Vida Roble	Carlsbad	CA	DESIGN SPACE MODULAR BUILDINGS INCORPORATED
ID385	1255 Treat Blvd.	Walnut Creek	CA	DESTINATION WEALTH MANAGEMENT
ID386	198 IVERNESS DRIVE WEST	ENGLEWOOD	CO	DEX MEDIA INCORPORATED
ID386		DFW AIRPORT	TX	DEX MEDIA INCORPORATED
ID387	600 MONTGOMERY ST 13TH FLOOR	SAN FRANCISCO	CA	DIAMOND FOODS INCORPORATED
ID387	1050 SOUTH DIAMOND STREET	STOCKTON	CA	DIAMOND FOODS INCORPORATED
ID388	1600N ROSE AVENUE	OXNARD	CA	DIGNITY HEALTH
ID388	2300 ADELINE DRIVE	BURLINGAME	CA	DIGNITY HEALTH
ID388	3400 DATA DRIVE	RANCHO CORDOVA	CA	DIGNITY HEALTH
ID388	170 ALAMEDA DE LAS PULGAS	REDWOOD CITY	CA	DIGNITY HEALTH
ID388	450 STANYAN ST	SAN FRANCISCO	CA	DIGNITY HEALTH
ID388	2355 CRENSHAW BLVD #300	TORRANCE	CA	DIGNITY HEALTH
ID388	185 BERRY ST SUITE 5100	SAN FRANCISCO	CA	DIGNITY HEALTH
ID388	185 BERRY STREET SUITE 300	SAN FRANCISCO	CA	DIGNITY HEALTH
ID388	2235 HAYES ST 4TH FLOOR	SAN FRANCISCO	CA	DIGNITY HEALTH
ID388	185 BERRY STREET, SUITE 300	SAN FRANCISCO	CA	DIGNITY HEALTH
ID388	3030 N CENTRAL AVE, SUITE 1402	PHOENIX	AZ	DIGNITY HEALTH
ID388	1700 MONTGOMERY STREET STE 300	SAN FRANCISCO	CA	DIGNITY HEALTH
ID389		SAN DIEGO	CA	DIOCESE OF SAN DIEGO
ID39		ALHAMBRA	CA	ALHAMBRA UNIFIED SCHOOL
ID39				ALHAMBRA UNIFIED SCHOOL
ID39	15 WEST ALHAMBRA ROAD	ALHAMBRA	CA	ALHAMBRA UNIFIED SCHOOL
ID390	8436 W 3RD ST SUITE 900	LOS ANGELES	CA	DIRECTORS GUILD OF AMERICA
ID391	5055 WILSHIRE BLVD STE 600	LOS ANGELES	CA	DIRECTORS GUILD OF AMERICA PRODUCER HEALTH PLAN
ID392		ENGLEWOOD	CO	DIRECTV
ID392	2250 E. IMPERIAL HWY	EL SEGUNDO	CA	DIRECTV
ID393	20225 NORTH SCOTTSDALE ROAD	SCOTTSDALE	AZ	DISCOUNT TIRE AMERICAS TIRE DISCOUNT TIRE DIREC
ID394		GLENDALE	CA	DISNEY WORLDWIDE SERVICES
ID394	2411 WEST OLIVE AVENUE, 7TH FLOOR	BURBANK	CA	DISNEY WORLDWIDE SERVICES
ID395	1640 SOUTH LOOP RD	ALAMEDA	CA	DISTRICT COUNCIL 16 NORTHERN CALIF H&W TRUST FUND
ID395	1640 SOUTH LOOP ROAD	ALAMEDA	CA	DISTRICT COUNCIL 16 NORTHERN CALIF H&W TRUST FUND
ID396	1430 DECISION STREET	VISTA	CA	DJO LLC
ID397	3240 Hillview Avenue	Palo Alto	CA	DOCOMO INNOVATIONS INCORPORATED
ID398	2000 VALE ROAD	SAN PABLO	CA	DOCTORS MEDICAL CENTER
ID399	221 MAIN STREET, SUITE 1000	SAN FRANCISCO	CA	DOCUSIGN INCORPORATED
ID4	428 University Ave	Palo Alto	CA	ACCEL MANAGEMENT COMPANY INCORPORATED
ID40	400 S El Camino Real	San Mateo	CA	ALIBABA COMPANY INCORPORATED
ID400		SAN FRANCISCO	CA	DOLBY LABORATORIES INCORPORATED
ID401	ONE DOLE DRIVE	THOUSAND OAKS	CA	DOLE FOOD COMPANY INCORPORATED
ID401	3059 TOWNSGATE RD STE 400	WESTLAKE VILL	CA	DOLE FOOD COMPANY INCORPORATED
ID402	17485 Monterey Road	Morgan Hill	CA	DOLPHIN ENTERPRISE SOLUTIONS CORPORATION
ID403		NORFOLK	VA	DOMINION ENTERPRISES
ID404	200 E BAKER ST SUITE 100	COSTA MESA	CA	DONAHUE SCHRIBER ASSET MANAGEMENT CORPORATION
ID404	200 EAST BAKER ST STE 100	COSTA MESA	CA	DONAHUE SCHRIBER ASSET MANAGEMENT CORPORATION
ID405	1351 South Sunset Street	Longmont	CO	DOT HILL SYSTEMS CORPORATION
ID406	8080 N. Palm Avenue	Fresno	CA	DOWLING AARON INCORPORATED
ID407		ONTARIO	CA	DPI SPECIALTY FOODS INCORPORATED
ID407	601 S. ROCKEFELLER AVENUE	ONTARIO	CA	DPI SPECIALTY FOODS INCORPORATED
ID408		REDWOOD CITY	CA	DPR CONSTRUCTION
ID409	1335 Park Center Drive	Vista	CA	DR BRONNERS MAGIC SOAPS
ID41	1875 S. Grant St.	San Mateo	CA	ALIENVAULT INCORPORATED
ID410	291 Utah Avenue	South San Francisco	CA	DRAEGERS SUPERMARKETS INCORPORATED
ID412		OAKLAND	CA	DREYERS GRAND ICE CREAM INCORPORATED
ID413	42745 Boscell Road	Fremont	CA	DRYCO CONSTRUCTION INCORPORATED
ID414	755 N. Mary Avenue	Sunnyvale	CA	DUARTE INCORPORATED
ID414	755 North Mary Avenue	Sunnyvale	CA	DUARTE INCORPORATED
ID415	10443 Bandley Drive	Cupertino	CA	DUCATI NORTH AMERICA
ID416	23301 WILMINGTON AVENUE	CARSON	CA	DUCOMMUN INCORPORATED
ID417	111 Sutter Street	San Francisco	CA	DWELL MEDIA LLC
ID418	1111 Bayhill Drive	San Bruno	CA	DYNAMIC SIGNAL INCORPORATED
ID419		MODESTO	CA	E & J GALLO WINERY
ID42	2560 ORCHARD PARKWAY	SAN JOSE	CA	ALIGN TECHNOLOGY INCORPORATED
ID420	1600 Norris Rd	Bakersfield	CA	E&B NATURAL RESOURCES MANAGEMENT CORPORATION
ID421	225 BROADWAY, 18TH FLOOR	SAN DIEGO	CA	EARL SCHEIB INCORPORATED
ID422	50 California Street	San Francisco	CA	EARTHJUSTICE
ID423		ATLANTA	GA	EARTHLINK INCORPORATED
ID424	1123 Coleman Avenue	San Jose	CA	EARTHQUAKES SOCCER LLC
ID425	3313 VINCENT RD #216	PLEASANT HILL	CA	EAST BAY DRAYAGE DRIVERS SECURITY FUND

ID425	1333 WILLOW PASS RD 200	CONCORD	CA	EAST BAY DRAYAGE DRIVERS SECURITY FUND
ID425	400 ROLAND WAY SUITE 2020	OAKLAND	CA	EAST BAY DRAYAGE DRIVERS SECURITY FUND
ID425	1234 W OAK STREET	STOCKTON	CA	EAST BAY DRAYAGE DRIVERS SECURITY FUND
ID426	1120 SOUTH BASCOM AVE	SAN JOSE	CA	EAST SIDE UNION HIGH SCHOOL DISTRICT
ID428	350 SALOMON CIRCLE	SPARKS	NV	EBARA INTERNATIONAL CORPORATION
ID428	51 MAIN AVENUE	SACRAMENTO	CA	EBARA INTERNATIONAL CORPORATION
ID429	2145 HAMILTON AVE	SAN JOSE	CA	EBAY INCORPORATED
ID429				EBAY INCORPORATED
ID43		MIAMI	FL	ALL AMERICAN SEMICONDUCTOR
ID430	1111 Third Ave	Seattle	WA	ECG MANAGEMENT CONSULTANTS LLC
ID431	5638 HOLLISTER AVE #200	GOLETA	CA	ECO VEBA TRUST
ID432	550 South Hope	Los Angeles	CA	ECON ONE RESEARCH INCORPORATED
ID433	8631 RUSH ST	ROSEMEAD	CA	EDISON INTERNATIONAL
ID433		ROSEMEAD	CA	EDISON INTERNATIONAL
ID433	8631 RUSH STREET	ROSEMEAD	CA	EDISON INTERNATIONAL
ID433	860 MORNINGSIDE	FULLERTON	CA	EDISON INTERNATIONAL
ID433				EDISON INTERNATIONAL
ID434	1245 JJ KELLEY MEMORIAL DRIVE	SAINT LOUIS	MO	EDWARD D JONES & COMPANY LLP
ID434	1245 J.J. KELLEY MEMORIAL DRIVE	ST. LOUIS	MO	EDWARD D JONES & COMPANY LLP
ID435	ONE EDWARDS WAY	IRVINE	CA	EDWARDS LIFESCIENCES CORPORATION
ID436	ONE EDUCATION STREET	CAMBRIDGE	MA	EF EDUCATION FIRST
ID437	4900 N. SCOTTSDALE RD STE 1000	SCOTTSDALE	AZ	EFUNDS CORPORATION
ID438	1350 W. Middlefield Rd.	Mountain View	CA	EGNYTE INCORPORATED
ID439	115 W Canon Perdido St	Santa Barbara	CA	EI PARTNERS LLC
ID44	2200 Camino Diablo	Walnut Creek	CA	ALL ENVIRONMENTAL INCORPORATED
ID440	75 IRON POINT CIRCLE	FOLSOM	CA	EIA SMALL GROUP PROGRAM
ID441				EIA/AMADOR COUNTY
ID441	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/AMADOR COUNTY
ID442	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/CITY OF HUNTINGTON BEACH
ID443	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/CITY OF IRVINE
ID444				EIA/CITY OF REDDING
ID444	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/CITY OF REDDING
ID445				EIA/CITY OF YUBA CITY
ID445	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/CITY OF YUBA CITY
ID446	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/COUNTY OF SANTA BARBARA
ID446				EIA/COUNTY OF SANTA BARBARA
ID447	330 FAIR LANE	PLACERVILLE	CA	EIA/EL DORADO COUNTY
ID447				EIA/EL DORADO COUNTY
ID448	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/HEALTH SMALL GROUP
ID449	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/MENDOCINO COAST DISTRICT
ID45				ALLEN LUND LLC
ID45	4529 ANGELES CREST HWY STE 300	LA CANADA	CA	ALLEN LUND LLC
ID450				EIA/MENDOCINO COAST DISTRICT HOSPITAL
ID451	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/RIVERSIDE SUPERIOR COURTS
ID452	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/SANTA BARBARA SUPERIOR
ID453				EIA/SMALL GROUP PROGRAM
ID453	75 IRON POINT CIRCLE	FOLSOM	CA	EIA/SMALL GROUP PROGRAM
ID454	1390 Willow Pass Rd	Concord	CA	EICHLEAY INCORPORATED
ID455	39000 BOB HOPE DRIVE	RANCHO MIRAGE	CA	EISENHOWER MEDICAL CENTER
ID456	330 FAIR LANE	PLACERVILLE	CA	EL DORADO COUNTY
ID457	8505 EAST ORCHARD ROAD	GREENWOOD VLG	CO	EL MODENO GARDENS
ID458	300 TECHNOLOGY SQUARE 3RD FLR	CAMBRIDGE	MA	ELAN PHARMACEUTICALS LLC
ID459	240 3rd St., Suite 200	Los Altos	CA	ELASTICSEARCH INCORPORATED
ID46	2525 DUPONT DRIVE	IRVINE	CA	ALLERGAN INCORPORATED
ID46	400 INTERSPACE PARKWAY	PARSIPPANY	NJ	ALLERGAN INCORPORATED
ID46	MORRIS CORPORATE CENTER III	PARSIPPANY	NJ	ALLERGAN INCORPORATED
ID460	2610 CROW CANYON RD STE 200	SAN RAMON	CA	ELECTRICAL WORKERS HEALTH & WELFARE TRUST FUND FOR
ID461	209 REDWOOD SHORES PARKWAY	REDWOOD CITY	CA	ELECTRONIC ARTS INCORPORATED
ID462	303 VELOCITY WAY	FOSTER CITY	CA	ELECTRONICS FOR IMAGING INCORPORATED
ID462		PITTSBURGH	PA	ELECTRONICS FOR IMAGING INCORPORATED
ID462	FORTY 24TH STREET	PITTSBURGH	PA	ELECTRONICS FOR IMAGING INCORPORATED
ID463	870 Hermosa Avenue	Sunnyvale	CA	ELIXIR MEDICAL CORPORATION
ID464		ALHAMBRA	CA	EMCORE CORPORATION
ID465	5700 WEST OAKS BLVD	ROCKLIN	CA	EMF BROADCASTING
ID466	1750 NORTH VINE STREET	LOS ANGELES	CA	EMI MUSIC INCORPORATED
ID467		ATLANTA	GA	EMPLOYBRIDGE LLC
ID468		SAN DIEGO	CA	ENCORE CAPITAL GROUP
ID469	9800 METRIC BOULEVARD	AUSTIN	TX	ENCORE MEDICAL CORPORATION
ID47	100 BAYVIEW CIR STE 400	NEWPORT BEACH	CA	ALLIANCE HEALTHCARE SERVICES
ID47		NEWPORT BEACH	CA	ALLIANCE HEALTHCARE SERVICES
ID47	100 BAYVIEW CIRCLE SUITE 400	NEWPORT BEACH	CA	ALLIANCE HEALTHCARE SERVICES
ID470	888 S. Figueroa Street	Los Angeles	CA	ENGINEERING EMPLOYEES SERVICES CORPORATION
ID471	4585 Pacheco Blvd.	Martinez	CA	ENGINEERING REMEDIATION RESOURCES GROUP INCORPORATED
ID472	1531 ESPLANADE	CHICO	CA	ENLOE MEDICAL CENTER
ID473	100 Montgomery Street	San Francisco	CA	ENOVITY INCORPORATED
ID474	1420 N MCDOWELL BLVD	PETALUMA	CA	ENPHASE ENERGY INCORPORATED
ID474				ENPHASE ENERGY INCORPORATED
ID475	27101 PUERTA REAL STE 450	MISSION VIEJO	CA	ENSIGN GROUP INCORPORATED
ID475	27101 PUERTA REAL SUITE 450	MISSION VIEJO	CA	ENSIGN GROUP INCORPORATED
ID476		DENVER	CO	ENSIGN UNITED STATES DRILLING INCORPORATED
ID477	1855 Gateway Boulevard	Concord	CA	ENTISYS SOLUTIONS INCORPORATED
ID478	590 Division Street	Campbell	CA	ENTREPRENEURIAL VENTURES INCORPORATED DBA PARROT CELLULAR
ID479	1240 BAYSHORE HIGHWAY	BURLINGAME	CA	ENVIRONMENTAL CHEMICAL CORPORATION

ID479	1240 Bayshore Highway	Burlingame	CA	ENVIRONMENTAL CHEMICAL CORPORATION
ID48	21600 Oxnard Street	Woodland Hills	CA	ALLIANT ASSET MANAGEMENT
ID480	380 NEW YORK STREET	REDLANDS	CA	ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTEINCORPORATED
ID481	2375 NORTHSIDE DR., STE. 360	SAN DIEGO	CA	EPLICA INCORPORATED
ID482	3840 KILROY AIRPORT WAY	LONG BEACH	CA	EPSON AMERICA INCORPORATED
ID483		REDWOOD CITY	CA	EQUINIX INCORPORATED
ID484	75 VALLEY STRM PARKWAY STE 200	MALVERN	PA	ERM GROUP INCORPORATED
ID485	5858 Horton Street	Emeryville	CA	ERNEST GALLO CLINIC & RESEARCH CENTER
ID486	53-973 Polk Street	Coachella	CA	ERNIE BALL INCORPORATED
ID487	5105 MANZANITA AVE	CARMICHAEL	CA	ESKATON PROPERTIES INCORPORATED
ID487	5105 MONZANITA AVE	CARMICHAEL	CA	ESKATON PROPERTIES INCORPORATED
ID488	237 S. Hillview Dr.	Milpitas	CA	ESS TECHNOLOGY INCORPORATED
ID489	1015 Corporation Way	Palo Alto	CA	ETON CORPORATION
ID49	1301 DOVE STREET SUITE 200	NEWPORT BEACH	CA	ALLIANT INSURANCE SERVICES INCORPORATED
ID490	2353 23rd St	Eureka	CA	EUREKA REHABILITATION & WELLNESS CENTER
ID491		EL SEGUNDO	CA	EVA AIRWAYS CORPORATION
ID492	1160 Battery Street	San Francisco	CA	EVEO INCORPORATED
ID493		PHOENIX	AZ	EWING IRRIGATION PRODUCTS INCORPORATED
ID494		FREMONT	CA	EXAR CORPORATION
ID495	475 ANTON BLVD., BLDG D	COSTA MESA	CA	EXPERIAN INFORMATION SOLUTIONS INCORPORATED
ID495	475 ANTON BLVD., BLDG. D	COSTA MESA	CA	EXPERIAN INFORMATION SOLUTIONS INCORPORATED
ID496		SAN JOSE	CA	EXTREME NETWORKS
ID496	3585 MONROE STREET	SANTA CLARA	CA	EXTREME NETWORKS
ID497	3431 HILLVIEW AVENUE	PALO ALTO	CA	F HOFFMANN LA ROCHE LTD
ID497	1 DNA WAY	SOUTH SAN FRANCISCO	CA	F HOFFMANN LA ROCHE LTD
ID498	1601 WILLOW ROAD	MENLO PARK	CA	FACEBOOK INCORPORATED
ID499	444 BRUCE STREET	YREKA	CA	FAIRCHILD MEDICAL CENTER
ID5				ACCO MANAGEMENT
ID5	130 E DANA ST	MOUNTAIN VIEW	CA	ACCO MANAGEMENT
ID50		MINNEAPOLIS	MN	ALLIANZ SE
ID50	5701 GOLDEN HILLS DRIVE	GOLDEN VALLEY	MN	ALLIANZ SE
ID50		NEW YORK	NY	ALLIANZ SE
ID50	650 NEWPORT CENTER DRIVE	NEWPORT BEACH	CA	ALLIANZ SE
ID50	1311 W PRESIDENT GEORGE BUSH HIGHWAY	RICHARDSON	TX	ALLIANZ SE
ID500		SAN FRANCISCO	CA	FAIRMONT SAN FRANCISCO
ID501		SAN JOSE	CA	FAIRMONT SAN JOSE
ID502		BOYES HOT SPRINGS	CA	FAIRMONT SONOMA MISSION INN & SPA
ID503		CHARLOTTE	NC	FAMILY DOLLAR STORES INCORPORATED
ID504	305 EAST CENTER AVE	VISALIA	CA	FAMILY HEALTHCARE NETWORK
ID505	13145 ADLER DRIVE	SANTA FE SPRINGS	CA	FAMSA INCORPORATED
ID506	489 S. El Camino Real	San Mateo	CA	FANHATTAN INCORPORATED
ID507		ROCHESTER HILLS	MI	FANUC AMERICA CORPORATION
ID508		FORT WORTH	TX	FARMER BROTHERS COMPANY
ID508	P O BOX 2959	TORRANCE	CA	FARMER BROTHERS COMPANY
ID509		LONG BEACH	CA	FARMERS & MERCHANTS BANK OF LONG BEACH
ID51	9000 Sunset Blvd.	West Hollywood	CA	ALLSAINTS USA LIMITED
ID510	6303 OWENSMOUTH AVE, 2ND FLOOR	WOODLAND HILLS	CA	FARMERS INSURANCE GROUP
ID510	6303 OWENSMOUTH AVE.	WOODLAND HILLS	CA	FARMERS INSURANCE GROUP
ID511		SAN DIEGO	CA	FEDERAL DEFENDERS OF SAN DIEGO INCORPORATED
ID512	3945 Freedom Circle	Santa Clara	CA	FERROTEC (USA) CORPORATION
ID513		SAN DIEGO	CA	FF PROPERTIES L P
ID514	1800 SW FIRST AVENUE, STE 180	PORTLAND	OR	FHC PROPERTY MANAGEMENT LLC
ID515	200 SEAPORT BOULEVARD	BOSTON	MA	FIDELITY INVESTMENTS
ID515	200 SEAPORT BLVD., Z1J	BOSTON	MA	FIDELITY INVESTMENTS
ID516	601 RIVERSIDE AVENUE	JACKSONVILLE	FL	FIDELITY NATIONAL FINANCIAL INCORPORATED
ID517	1370 Avenue of the Americas	New York	NY	FIDUCIAL INCORPORATED
ID518	601 CALIFORNIA ST, SUITE 210	SAN FRANCISCO	CA	FIELD RESEARCH CORPORATION
ID519	912 E WASHINGTON	JOLIET	IL	FILTRATION GROUP CORPORATION
ID519	912 EAST WASHINGTON STREET	JOLIET	IL	FILTRATION GROUP CORPORATION
ID52	19145 Gramercy Place	Torrance	CA	ALPINE ELECTRONICS OF AMERICA INCORPORATED
ID520		MILPITAS	CA	FIREEYE INCORPORATED
ID521	777 SAN MARIN DRIVE	NOVATO	CA	FIREMANS FUND INSURANCE COMPANY
ID522	620 MCMURRAY ROAD	BUELLTON	CA	FIRESTONE WALKER INCORPORATED
ID523	140 FOUNTAIN PARKWAY N,STE 410	ST. PETERSBURG	FL	FIRST ADVANTAGE CORPORATION
ID524	1 FIRST AMERICAN WAY	SANTA ANA	CA	FIRST AMERICAN FINANCIAL CORPORATION
ID525	12500 EAST BELFORD AVE	ENGLEWOOD	CO	FIRST DATA CORPORATION
ID525		ENGLEWOOD	CO	FIRST DATA CORPORATION
ID525	6855 PACIFIC STREET	OMAHA	NE	FIRST DATA CORPORATION
ID525	6855 PACIFIC STREET - AK 330	OMAHA	NE	FIRST DATA CORPORATION
ID526		SAN FRANCISCO	CA	FIRST REPUBLIC BANK
ID527	1855 GRIFFIN ROAD	DANIA BEACH	FL	FIRSTSERVICE RESIDENTIAL INCORPORATED
ID528	3161 MICHELSON DRIVE,SUITE 600	IRVINE	CA	FITNESS INTERNATIONAL LLC
ID529	800 UNIVERSITY BAY DR. STE 200	MADISON	WI	FLAD AFFILIATED CORPORATION
ID53	1200 Prospect Street	La Jolla	CA	ALTEGRIS SERVICES LLC
ID530	2241 LUNDY AVENUE	SAN JOSE	CA	FLEXTRONICS INTERNATIONAL USA INCORPORATED
ID531	1960 KELLOGG AVE	CARLSBAD	CA	FLOREXPO LLC
ID532		ALISO VIEJO	CA	FLUOR
ID532	6700 LOS COLINAS BLVD.	IRVING	TX	FLUOR
ID532	1520 SAWTELLE STREET	IDAHO FALLS	ID	FLUOR
ID533	1545 Francisco Street	Torrance	CA	FNS INCORPORATED
ID534	12345 EL MONTE ROAD	LOS ALTOS HILLS	CA	FOOTHILL DE ANZA COMMUNITY COLLEGE
ID535	933 MACARTHUR BLVD	MAHWAH	NJ	FOOTSTAR CORPORATION
ID536	160 Pine Street	San Francisco	CA	FORELL ELSESSER ENGINEERS INCORPORATED

ID537	3880 NO. MISSION RD	LOS ANGELES	CA	FOREVER 21
ID537	3880 NO. MISSION ROAD	LOS ANGELES	CA	FOREVER 21
ID537	3880 N. MISSION ROAD #3080	LOS ANGELES	CA	FOREVER 21
ID538	P O BOX 457	BOONVILLE	CA	FORT BRAGG UNIFIED SCHOOL
ID538	312 S LINCOLN ST	FORT BRAGG	CA	FORT BRAGG UNIFIED SCHOOL
ID539	899 Kifer Road	Sunnyvale	CA	FORTINET INCORPORATED
ID54	101 INNOVATION DRIVE	SAN JOSE	CA	ALTERA CORPORATION
ID54			U	ALTERA CORPORATION
ID540		MONTEREY PARK	CA	FORTISS LLC
ID540	2801 PROSPECT PARK DR	RANCHO CORDOVA	CA	FORTISS LLC
ID541	1000 DAVIS STREET	LIVINGSTON	CA	FOSTER FARMS
ID541				FOSTER FARMS
ID542	800 IRVINE CENTER DRIVE SUT400	IRVINE	CA	FOUNDATION 9 ENTERTAINMENT INCORPORATED
ID543	250 Middlefield Road	Menlo Park	CA	FOUNDATION CAPITAL LLC
ID544	PO Box 97	Oakley	CA	FOUNDATION CONSTRUCTORS INCORPORATED
ID545	2121 AVENUE OF THE STARS	LOS ANGELES	CA	FOX ENTERTAINMENT GROUP
ID545	2121 AVE OF THE STARS, 6TH FLR	LOS ANGELES	CA	FOX ENTERTAINMENT GROUP
ID546		SCOTTS VALLEY	CA	FOX FACTORY INCORPORATED
ID547	8505 E ORCHARD RD	GREENWOOD VLG	CO	FRANCISCO PARTNERS MANAGEMENT
ID547	One Letterman Drive	San Francisco	CA	FRANCISCO PARTNERS MANAGEMENT
ID548		SAN MATEO	CA	FRANKLIN TEMPLETON COMPANIES LLC
ID549	34175 ARDENWOOD BLVD., STE 201	FREMONT	CA	FREE FLOW PACKAGING INTERNATIONAL INCO
ID55	3345 Michelson Drive	Irvine	CA	ALTERYX INCORPORATED
ID550	220 West 1st Street	Los Angeles	CA	FREEBORDERS INCORPORATED
ID551	625 N. GRAND AVE	SANTA ANA	CA	FREEDOM COMMUNICATIONS INCORPORATED
ID552	4940 S. WENDLER DR	TEMPE	AZ	FREEDOM FINANCIAL NETWORK LLC
ID553	145 S STATE COLLEGE BLVD #200	BREA	CA	FRESH START BAKERIES HOLDINGS INCORPORATED
ID554				FRESNO CITY EMPLOYEES HEALTH & W TRUST FUND
ID554	2600 FRESNO STREET	FRESNO	CA	FRESNO CITY EMPLOYEES HEALTH & W TRUST FUND
ID555	1717 SOUTH CHESTNUT	FRESNO	CA	FRESNO PACIFIC UNIVERSITY
ID556	2727 E CENTRAL AVENUE	FRESNO	CA	FRESNO TRUCK CENTER
ID557		PLYMOUTH	MI	FREUDENBERG
ID557		CARPINTERIA	CA	FREUDENBERG
ID557		SHAKOPEE	MN	FREUDENBERG
ID558	One Maritime Plaza	San Francisco	CA	FRIEDMAN FLEISCHER & LOWE LLC
ID559	910 E. HAMILTON AVE, 6TH FLOOR	CAMPBELL	CA	FRIENDFINDER NETWORKS INCORPORATED
ID56	1245 Folsom Street	San Francisco	CA	ALTSCHOOL
ID560	660 3RD ST, FL 4	SAN FRANCISCO	CA	FROG DESIGN INCORPORATED
ID560	660 3RD ST FL 4	SAN FRANCISCO	CA	FROG DESIGN INCORPORATED
ID560	660 3RD STREET, 4TH FLOOR	SAN FRANCISCO	CA	FROG DESIGN INCORPORATED
ID561	7550 Interstate 10 West	San Antonio	TX	FROST & SULLIVAN
ID562	14682 TWIN PEEKS PL	POWAY	CA	FRYS ELECTRONICS INCORPORATED
ID562				FRYS ELECTRONICS INCORPORATED
ID562	600 E BROKAW ROAD	SAN JOSE	CA	FRYS ELECTRONICS INCORPORATED
ID563	1250 E ARQUES AVE M/S 321	SUNNYVALE	CA	FUJITSU
ID563	1260 EAST ARQUES AVE.	SUNNYVALE	CA	FUJITSU
ID564	757 WEST CALIFORNIA AVE	GLENDALE	CA	FULL THROTTLE FILMS INCORPORATED
ID565	167 2nd Ave	San Mateo	CA	FUNNY OR DIE INCORPORATED
ID566	16200 ADDISON ROAD, SUITE 270	ADDISON	TX	FUTUREWEI TECHNOLOGIES INCORPORATED
ID566		SANTA CLARA	CA	FUTUREWEI TECHNOLOGIES INCORPORATED
ID567	600 YOSEMITE BLVD.	MODESTO	CA	GALLO GLASS
ID567		MODESTO	CA	GALLO GLASS
ID568	2150 COLORADO AVE	SANTA MONICA	CA	GAME SHOW NETWORK LLC
ID569	1 HARRISON STREET	SAN FRANCISCO	CA	GAP INCORPORATED
ID57	1335 S. Acacia Ave	Fullerton	CA	ALTURA COMMUNICATION SOLUTIONS LLC
ID570		SAN DIEGO	CA	GARDEN FRESH RESTAURANT CORPORATION
ID571	10331 STANFORD AVE	GARDEN GROVE	CA	GARDEN GROVE UNIFIED SCHOOL DISTRICT
ID572	19080 LOMITA AVE	SONOMA	CA	GARY D NELSON & ASSOCIATES
ID573		PHOENIX	AZ	GATEWAY INCORPORATED
ID574	5345 ARMADA DRIVE	CARLSBAD	CA	GEMOLOGICAL INSTITUTE OF AMERICA
ID575	10210 GENETIC CENTER DR	SAN DIEGO	CA	GEN PROBE INCORPORATED
ID576	3191 TEMPLE AVE. SUITE 250	POMONA	CA	GENERAL ENVIRONMENTAL MGMT
ID577	2001 Broadway	Oakland	CA	GENERATION TUX
ID578	46723 Lakeview Blvd	Fremont	CA	GENMARK AUTOMATION INCORPORATED
ID579	1431 UNION AVENUE	BAKERSFIELD	CA	GEO DRILLING FLUIDS INCORPORATED
ID58	2930 GAY AVENUE	SAN JOSE	CA	ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT
ID580	41 Discovery	Irvine	CA	GHOST MANAGEMENT GROUP LLC
ID581	333 SOUTH GRAND AVE, 47TH FL	LOS ANGELES	CA	GIBSON DUNN & CRUTCHER LLP
ID582	333 LAKESIDE DRIVE	SAN MATEO	CA	GILEAD SCIENCES INCORPORATED
ID583	47669 Fremont Blvd.	Fremont	CA	GLASSPOINT SOLAR INCORPORATED
ID584	101 WORLD DRIVE	PEACHTREE CITY	GA	GLOBAL AVIATION HOLDINGS INCORPORATED
ID585	2600 GREAT AMERICA WAY	SANTA CLARA	CA	GLOBALFOUNDRIES US INCORPORATED
ID586	885 Moro Drive	Gilroy	CA	GO KIDS INCORPORATED
ID587	351 California St	San Francisco	CA	GOBALTO INCORPORATED
ID588	1011 ANDERSON DRIVE	SAN FRANCISCO	CA	GOLDEN GATE BRIDGE
ID588	1011 ANDERSON DRIVE	SAN RAFAEL	CA	GOLDEN GATE BRIDGE
ID588				GOLDEN GATE BRIDGE
ID589	245 Lytton Avenue	Palo Alto	CA	GOLDEN SAND RIVER CALIFORNIA CORPORATION
ID59	10365 KELLER AVENUE	RIVERSIDE	CA	ALVORD UNIFIED SCHOOL DISTRICT
ID590	3550 Mowry Avenue	Fremont	CA	GOLDEN STATE CAFE INCORPORATED
ID591	901 Rankin	San Francisco	CA	GOOD EGGS INCORPORATED
ID592	1225 WILSHIRE BLVD	LOS ANGELES	CA	GOOD SAMARITAN HOSPITAL
ID593		MOUNTAIN VIEW	CA	GOOGLE INCORPORATED

ID593	1600 AMPHITHEATER PKWY	MOUNTAIN VIEW	CA	GOOGLE INCORPORATED
ID593	1600 AMPHITHEATRE PARKWAY	MOUNTAIN VIEW	CA	GOOGLE INCORPORATED
ID594	1269 Howard St.	San Francisco	CA	GOORIN BROTHERS INCORPORATED
ID595	3000 Clearview Way	San Mateo	CA	GOPRO INCORPORATED
ID596	2011 E. Financial Way	Glendora	CA	GRACE COMMUNION INTERNATIONAL
ID597	2401 PLEASANT VALLEY ROAD	YORK	PA	GRAHAM PACKAGING COMPANY INCORPORATED
ID597	1300 NORTH 17TH ST, SUITE 1700	ARLINGTON	VA	GRAHAM PACKAGING COMPANY INCORPORATED
ID598	585 WEST BEACH STREET	WATSONVILLE	CA	GRANITE CONSTRUCTION INCORPORATED
ID599	101 A Innovation Place	Santa Barbara	CA	GRAPHIQ INCORPORATED
ID6	15231 AVENUE OF SCIENCE	SAN DIEGO	CA	ACCREDITED HOME LENDERS
ID60	935 TECHNOLOGY DRIVE SUITE 100	ANN ARBOR	MI	AMCOR LIMITED
ID60	6600 VALLEY VIEW STREET	BUENA PARK	CA	AMCOR LIMITED
ID60	10521 S. HIGHWAY M-52	MANCHESTER	MI	AMCOR LIMITED
ID600	3030 NW ALOCLEK DRIVE	HILLSBORO	OR	GRASS VALLEY USA LLC
ID600	400 PROVIDENCE MINE ROAD	NEVADA CITY	CA	GRASS VALLEY USA LLC
ID601	185 Berry St.	San Francisco	CA	GREE INTERNATIONAL INCORPORATED
ID602	540 E BRIDGE ST SUITE A	BRIGHTON	CO	GREENLEAF WHOLESALE FLORIST INCORPORATED
ID603	6 HIGH RIDGE PARK	STAMFORD	CT	GREENWICH ASSOCIATES LLC
ID604	1800 GATEWAY DRIVE STE 201	SAN MATEO	CA	GROUP INSURANCE TRUST CALIFORNIA SOCIETY OF CPA
ID605	1818 MARKET ST. STE 1834	PHILADELPHIA	PA	GROUP ONE TRADING LP
ID606		NORTHBROOK	IL	GRUBB & ELLIS COMPANY
ID607	1850 GATEWAY DRIVE, SUITE 500	SAN MATEO	CA	GUCKENHEIMER
ID607	3 LAGOON DRIVE SUITE 325	REDWOOD SHORES	CA	GUCKENHEIMER
ID608	1444 S ALAMEDA ST	LOS ANGELES	CA	GUESS INCORPORATED
ID609	1400A Seaport Blvd.	Redwood City	CA	GUIDESPARK INCORPORATED
ID61		CHESTERFIELD	MO	AMDOCS INCORPORATED
ID610	9160 GRAMERCY DRIVE	SAN DIEGO	CA	GUILD MORTGAGE COMPANY
ID611	222 E FOURTH STREET	RIPON	CA	GUNTERT & ZIMMERMAN CONST DIV INCORPORATED
ID612	100 N. SEPULVEDA BLVD STE 1600	EL SEGUNDO	CA	GUTHY RENKER LLC
ID613	3032 Market Street	Oakland	CA	H G H ELECTRIC INCORPORATED
ID613	8505 E ORCHARD RD	GREENWOOD VLG	CO	H G H ELECTRIC INCORPORATED
ID614	10910 DOMAIN DRIVE, SUITE 300	AUSTIN	TX	HANGER INCORPORATED
ID615		PARAMUS	NJ	HANJIN SHIPPING COMPANY LTD
ID616	4751 WILSHIRE BLVD SUITE 110	LOS ANGELES	CA	HANKEY INVESTMENT COMPANY LP
ID616				HANKEY INVESTMENT COMPANY LP
ID616		LOS ANGELES	CA	HANKEY INVESTMENT COMPANY LP
ID616	4751 WILSHIRE BLVD	LOS ANGELES	CA	HANKEY INVESTMENT COMPANY LP
ID617	3552 GREEN AVE	LOS ALAMITOS	CA	HANSEN & ADKINS AUTO TRANSPORT INCORPORATED
ID618	301 COMMERCE STREET	FORT WORTH	TX	HANSON BUILDING MATERIALS AMERICA, INC
ID619	13950 Yorba Avenue	Chino	CA	HANSON TRUSS INCORPORATED
ID62	747 WAREHOUSE STREET	LOS ANGELES	CA	AMERICAN APPAREL USA LLC
ID620	11975 EL CAMINO REAL, STE104	SAN DIEGO	CA	HARDAGE HOSPITALITY
ID621	8500 BALBOA BLVD	NORTHRIDGE	CA	HARMAN
ID622	1401 WILLOW PASS ROAD	CONCORD	CA	HARRIS & ASSOCIATES
ID623	555 CODINI AVE	MODESTO	CA	HARRIS MORAN SEED COMPANY
ID624	#1 UNION STREET	SAN FRANCISCO	CA	HART HOWERTON LTD
ID625		SAN ANTONIO	TX	HARTE HANKS INCORPORATED
ID626	1022 Bay Marina Drive	National City	CA	HARVEST MEAT COMPANY INCORPORATED
ID627	6425 Christie Avenue	Emeryville	CA	HARVEST PROPERTIES INCORPORATED
ID628	4 Orinda Way	Orinda	CA	HAWK RIDGE SYSTEMS LLC
ID629	3216 Nebraska Avenue	Santa Monica	CA	HBA INTERNATIONAL
ID63	601 Kettering Dr.	Ontario	CA	AMERICAN BOLT & SCREW
ID630				HCL AMERICA INCORPORATED
ID630		SUNNYVALE	CA	HCL AMERICA INCORPORATED
ID630	330 POTRERO AVE	SUNNYVALE	CA	HCL AMERICA INCORPORATED
ID630	330 POTRERO AVE.	SUNNYVALE	CA	HCL AMERICA INCORPORATED
ID631	2520 VENTURE OAKS WAY	SACRAMENTO	CA	HEALDSBURG DISTRICT HOSPITAL
ID631	1375 UNIVERSITY AVE	HEALDSBURG	CA	HEALDSBURG DISTRICT HOSPITAL
ID631				HEALDSBURG DISTRICT HOSPITAL
ID632	210 S. B Street	San Mateo	CA	HEALTH FIDELITY INCORPORATED
ID633	869 CHERRY ST	TULARE	CA	HEALTHCARE CONGLOMERATE ASSOC
ID633				HEALTHCARE CONGLOMERATE ASSOC
ID634	1400 Seaport Blvd	Redwood City	CA	HEARTFLOW INCORPORATED
ID635	1640 SOUTH LOOP ROAD	ALAMEDA	CA	HEAT & FROST INSULATORS LOC 16 HEALTH & WELFARE
ID636	7180 KOLL CENTER PARKWAY #200	PLEASANTON	CA	HEAT & FROST INSULATORS OF NO CA LOCAL 16 H&W PLAN
ID637		SAN FRANCISCO	CA	HELLER EHRMAN LLP
ID638	One Maritime Plaza	San Francisco	CA	HELLMAN & FRIEDMAN LLC
ID639	23845 MCBEAN PARKWAY	VALENCIA	CA	HENRY MAYO NEWHALL MEMORIAL HOSPITAL
ID64	8360 ELDER CREEK ROAD	SACRAMENTO	CA	AMERICAN BUILDING SUPPLY INCORPORATED
ID640	2100 Oakdale Ave.	San Francisco	CA	HERRERO BUILDERS INCORPORATED
ID641		CHATTANOOGA	TN	HEWLETT PACKARD ENTERPRISE COMPANY
ID641	5400 LEGACY DRIVE	PLANO	TX	HEWLETT PACKARD ENTERPRISE COMPANY
ID641	165 DASCOMB RD MAILSTOP DAS1-2/PV	ANDOVER	MA	HEWLETT PACKARD ENTERPRISE COMPANY
ID641				HEWLETT PACKARD ENTERPRISE COMPANY
ID641	5400 LEGACY DR	PLANO	TX	HEWLETT PACKARD ENTERPRISE COMPANY
ID641	5400 LEGACY DRIVE H1-6F-61	PLANO	TX	HEWLETT PACKARD ENTERPRISE COMPANY
ID642	600 COTTLE ROAD	SAN JOSE	CA	HITACHI GST
ID642	5600 COTTLE ROAD MS EDY/122	SAN JOSE	CA	HITACHI GST
ID643	1959 SUMMIT COMMERCE PARK	TWINSBURG	OH	HITACHI LTD
ID643	2845 LAFAYETTE STREET M/S 3466	SANTA CLARA	CA	HITACHI LTD
ID644	101 Embarcadero	San Francisco	CA	HITACHI RAIL USA INCORPORATED
ID645		CITY OF INDUSTRY	CA	HITCHCOCK AUTOMOTIVE RESOURCES
ID646		NEWPORT BEACH	CA	HOAG MEMORIAL HOSPITAL PRESBYTERIAN

ID647	1111 MAIN STREET, SUITE 710	VANCOUVER	WA	HOLLAND RESIDENTIAL
ID648	601 UNION ST. SUITE 2000	SEATTLE	WA	HOMESTREET INCORPORATED
ID649	19900 S. R. 739	MARYSVILLE	OH	HONDA NORTH AMERICA INCORPORATED
ID649	1919 TORRANCE BLVD.	TORRANCE	CA	HONDA NORTH AMERICA INCORPORATED
ID65	2000 N. CLASSEN BLVD.	OKLAHOMA CITY	OK	AMERICAN FIDELITY CORPORATION
ID650	19900 S. R. 739	MARYSVILLE	OH	HONDA U65 RETIREES
ID651	70 S First St.	San Jose	CA	HOPKINS & CARLEY
ID652	51 East Campbell Avenue	Campbell	CA	HOPTO INCORPORATED
ID653		CHANDLER	AZ	HORIZON DISTRIBUTORS INCORPORATED
ID654	4020 SIERRA COLLEGE DR.	ROCKLIN	CA	HORIZON WEST HEALTHCARE INCORPORATED
ID655	505 Montgomery Street	San Francisco	CA	HORSLEY BRIDGE PARTNERS LLC
ID656	3460 W. Bayshore Road	Palo Alto	CA	HORTONWORKS INCORPORATED
ID657		PEACHTREE CITY	GA	HOSHIZAKI AMERICA INCORPORATED
ID658	18305 E. SAN JOSE AVE	CITY OF INDUSTRY	CA	HOT TOPIC INCORPORATED
ID658		CITY OF INDUSTRY	CA	HOT TOPIC INCORPORATED
ID659	10250 CONSTELLATION BLVD	LOS ANGELES	CA	HOULIHAN LOKEY
ID66	GREAT AMERICAN TOWER	CINCINNATI	OH	AMERICAN FINANCIAL GROUP
ID660	680 N MCCARTHY BLVD SUITE 120	MILPITAS	CA	HOYA HOLDINGS INCORPORATED
ID660		SAN JOSE	CA	HOYA HOLDINGS INCORPORATED
ID660	680 N. MCCARTHY BLVD,SUITE 120	MILPITAS	CA	HOYA HOLDINGS INCORPORATED
ID661	1266 KIFER ROAD	SUNNYVALE	CA	HP INCORPORATED
ID661		AUSTIN	TX	HP INCORPORATED
ID661	14231 TANDEM BLVD	AUSTIN	TX	HP INCORPORATED
ID661	3800 QUICK HILL RD	AUSTIN	TX	HP INCORPORATED
ID661	3000 HANOVER ST	PALO ALTO	CA	HP INCORPORATED
ID662	8383 WILSHIRE BLVD SUITE 258	BEVERLY HILLS	CA	HRN SERVICES INCORPORATED
ID662	520 N. BRAND BOULEVARD	GLENDALE	CA	HRN SERVICES INCORPORATED
ID663	1 HSN DRIVE	ST. PETERSBURG	FL	HSN INCORPORATED
ID664	100 WEST CALIFORNIA BLVD	PASADENA	CA	HUNTINGTON MEMORIAL HOSPITAL
ID665	5450 GREAT AMERICA PARKWAY	SANTA CLARA	CA	HYPERION SOLUTIONS
ID666	222 West Las Colinas Blvd #700	Irving	TX	HYUNDAI MERCHANT MARINE (AMERICA) INCORPORATED
ID667	240 SECOND STREET	SAN FRANCISCO	CA	I A T S E LOCAL 16 HEALTH WELFARE TRUST
ID667	4160 DUBLIN BLVD SUITE 400	DUBLIN	CA	I A T S E LOCAL 16 HEALTH WELFARE TRUST
ID668	2000 AIRPORT RD	NAPA	CA	IASCO
ID669	4160 DUBLIN BLVD SUITE 400	POINT ARENA	CA	IATSE LOCAL 16 HEALTH WELFARE FUND
ID67	6080 CENTER DR STE 500	LOS ANGELES	CA	AMERICAN GOLF CORPORATION
ID67	2951 28TH STREET	SANTA MONICA	CA	AMERICAN GOLF CORPORATION
ID67	2951 - 28TH STREET	SANTA MONICA	CA	AMERICAN GOLF CORPORATION
ID670	1120 SOUTH BASCOM AVE	SAN JOSE	CA	IBEW LOCAL #332 HEALTH & WELFARE TRUST
ID670	170 GREAT OAKS BLVD	SAN JOSE	CA	IBEW LOCAL #332 HEALTH & WELFARE TRUST
ID671	1731 TECHNOLOGY DR STE 570	SAN JOSE	CA	IBEW LOCAL 234
ID672	2610 CROW CANYON ROAD STE 200	SAN RAMON	CA	IBEW LOCAL 595 HEALTH & WELFARE PLAN
ID673	170 GREAT OAKS BLVD	SAN JOSE	CA	IBEW NECA SOUND & COMM HEALTH & WELFARE TRUST
ID673	1120 SOUTH BASCOM AVE	SAN JOSE	CA	IBEW NECA SOUND & COMM HEALTH & WELFARE TRUST
ID674	130 West Union Street	Pasadena	CA	IDEALAB
ID675	863 Mitten Road	Burlingame	CA	IGENICA INCORPORATED
ID676	95 Enterprise Drive	Aliso Viejo	CA	IHI POWER SERVICES CORPORATION
ID677	770 TAMALPAIS DRIVE	CORTE MADERA	CA	IL FORNAIO AMERICA CORPORATION
ID677	770 TAMALPAIS DRIVE SUITE 400	CORTE MADERA	CA	IL FORNAIO AMERICA CORPORATION
ID678		GLENDALE	CA	IM DIGITAL
ID679	50 Rio Robles	San Jose	CA	IMMERSION CORPORATION
ID68	175 WATER STREET	NEW YORK	NY	AMERICAN INTERNATIONAL GROUP INCORPORATED
ID680	19500 JAMBOREE ROAD	IRVINE	CA	IMPAC MORTGAGE HOLDINGS INCORPORATED
ID681	4199 CAMPUS DRIVE, NINTH FLOOR	IRVINE	CA	IN N OUT BURGER
ID682	101 N. SEPULVEDA BLVD	EL SEGUNDO	CA	INFINEON TECHNOLOGIES AMERICAS CORPORATION
ID682		MILPITAS	CA	INFINEON TECHNOLOGIES AMERICAS CORPORATION
ID683		SANTA CLARA	CA	INFOBLOX INCORPORATED
ID684	6100 TENNYSON PARKWAY, STE 200	PLANO	TX	INFOSYS LIMITED
ID685	2311 SOUTH EASTERN AVENUE	LOS ANGELES	CA	INK SYSTEMS INCORPORATED
ID686	475 Brannan Street	San Francisco	CA	INMOBI INCORPORATED
ID687	4335 North Star Way	Modesto	CA	INNOV8 PARTNERS LLC
ID688	2730 SHADELANDS DR., SUITE 100	WALNUT CREEK	CA	INNOVATIVE TECHNICAL SOLUTIONS
ID689	8110 GATEHOUSE ROAD 2ND FLOOR	FALLS CHURCH	VA	INOVA MEDICAL GROUP
ID689			U	INOVA MEDICAL GROUP
ID69	10700 BREN RD W	MINNETONKA	MN	AMERICAN MEDICAL SYSTEMS
ID690		FOSTER CITY	CA	INOVANT
ID691	128 King Street	San Francisco	CA	INPOWERED INCORPORATED
ID692	444 De Haro Street	San Francisco	CA	INSIDEVIEW TECHNOLOGIES INCORPORATED
ID693	25741 Atlantic Ocean Dr	Lake Forest	CA	INSPIRIA INCORPORATED DBA AUDIOVISIONS
ID694	708 THIRD AVENUE, 4TH FLOOR	NEW YORK	NY	INSTITUTE FOR INTERNATIONAL RESEARCH
ID695		WESTCHESTER	IL	INSURANCE AUTO AUCTIONS INCORPORATED
ID696	155 Seaport Boulevard	Boston	MA	INTARCIA THERAPEUTICS INCORPORATED
ID697		NORRISTOWN	PA	INTEGRATED CIRCUIT SYSTEMS INCORPORATED
ID698	2975 STENDER WAY	SANTA CLARA	CA	INTEGRATED DEVICE TECHNOLOGY INCORPORATED
ID698	6024 SILVER CREEK VALLEY ROAD	SAN JOSE	CA	INTEGRATED DEVICE TECHNOLOGY INCORPORATED
ID699	200 Portage Ave	Palo Alto	CA	INTEGRATION APPLIANCE INCORPORATED
ID7	7515 Irvine Center Drive	Irvine	CA	ACCURATE BACKGROUND INCORPORATED
ID70	44200 Christy Street	Fremont	CA	AMERICAN PORTWELL TECHNOLOGY INCORPORATED
ID700		CHANDLER	AZ	INTEL CORPORATION
ID700		VISALIA	CA	INTEL CORPORATION
ID700	4100 SARA ROAD	RIO RANCHO	NM	INTEL CORPORATION
ID700	4500 SOUTH DOBSON ROAD	CHANDLER	AZ	INTEL CORPORATION
ID700	1900 PRAIRIE CITY ROAD	FOLSOM	CA	INTEL CORPORATION

ID700				INTEL CORPORATION
ID700		IRVINE	CA	INTEL CORPORATION
ID701	305 Walnut St.	Redwood City	CA	INTERANA INCORPORATED
ID702	222 NORTH SEPULVEDA BLVD #740	EL SEGUNDO	CA	INTERDENT SERVICE CORPORATION
ID703	340 Palladio Parkway	Folsom	CA	INTERLOC SOLUTIONS INCORPORATED
ID704	767 MONTEREY PASS ROAD	MONTEREY PARK	CA	INTERNATIONAL ARCHITECTURAL GROUP LLC
ID705	9295 PROTOTYPE DRIVE BLDG B	RENO	NV	INTERNATIONAL GAME TECHNOLOGY
ID705		RENO	NV	INTERNATIONAL GAME TECHNOLOGY
ID706	10883 THORNMINT RD.	SAN DIEGO	CA	INTERNATIONAL IRON PRODUCTS
ID707	580 CALIFORNIA STREET	SAN FRANCISCO	CA	INTERNATIONAL LONGSHORE & WAREHOUSE
ID708		RICHMOND	VA	INTERNATIONAL MISSION BOARD
ID709	1281 Pier G Way	Long Beach	CA	INTERNATIONAL TRANSPORTATION SERVICE
ID709	PO BOX 22704	LONG BEACH	CA	INTERNATIONAL TRANSPORTATION SERVICE
ID71		WALNUT CREEK	CA	AMERIT FLEET SOLUTIONS
ID710		PALM BAY	FL	INTERSIL CORPORATION
ID710	1650 ROBERT J. CONLAN BLVD.	PALM BAY	FL	INTERSIL CORPORATION
ID711		SAN JOSE	CA	INTERWOVEN INCORPORATED
ID712		MOUNTAIN VIEW	CA	INTUIT INCORPORATED
ID712		SAN DIEGO	CA	INTUIT INCORPORATED
ID712	7555 TORREY SANTA FE RD.	SAN DIEGO	CA	INTUIT INCORPORATED
ID712	2632 MARINE WAY	MOUNTAIN VIEW	CA	INTUIT INCORPORATED
ID713	950 KIFER ROAD	SUNNYVALE	CA	INTUITIVE SURGICAL INCORPORATED
ID714	458 Brannan Street	San Francisco	CA	INVITAE CORPORATION
ID715				IRVINE UNIFIED SCHOOL DISTRICT
ID715	5050 BARRANCA PARKWAY	IRVINE	CA	IRVINE UNIFIED SCHOOL DISTRICT
ID716	335 MADISON AVE.	NEW YORK	NY	ITOCHU INTERNATIONAL INCORPORATED
ID716	335 MADISON AVENUE, 22ND FLOOR	NEW YORK	NY	ITOCHU INTERNATIONAL INCORPORATED
ID717	777 Mariners Island Blvd.	San Mateo	CA	IXL LEARNING INCORPORATED
ID718		WALNUT	CA	J F SHEA COMPANY INCORPORATED
ID719	9330 BALBOA AVENUE	SAN DIEGO	CA	JACK IN THE BOX INCORPORATED
ID72	2280 Diamond Blvd	Concord	CA	AMERITAC INCORPORATED
ID720	155 NORTH LAKE AVE., #10 FL.	PASADENA	CA	JACOBS ENGINEERING GROUP INCORPORATED
ID721	801 First Street	Benicia	CA	JAE PROPERTIES INCORPORATED
ID722	6475 CHRISTIE AVE, SUITE 150	EMERYVILLE	CA	JAMBA JUICE COMPANY
ID723	26300 LA ALAMEDA, SUITE 400	MISSION VIEJO	CA	JAMES HARDIE BUILDING PRODUCTS INCORPORATED
ID724	4141 MACARTHUR BLVD	NEWPORT BEACH	CA	JAMES R GLIDEWELL DENTAL CERAMICS INCORPORATED
ID725		GARDENA	CA	JAPAN PACIFIC TRAVEL SERVICE INCORPORATED
ID726		ATLANTA	GA	JAS FORWARDING (USA) INCORPORATED
ID727	5175 South Soto Street	Vernon	CA	JAYA APPAREL GROUP LLC
ID729		PALO ALTO	CA	JAZZ PHARMACEUTICALS INCORPORATED
ID729	3180 Porter Drive	Palo Alto	CA	JAZZ PHARMACEUTICALS INCORPORATED
ID73		PISCATAWAY	NJ	AMERSHAM BIOSCIENCES CORP
ID730	1939 HILLMAN STREET	TULARE	CA	JD HEISKELL HOLDINGS LLC DBA JD HEISKELL & COMPANY
ID731	1768 AUTOMATION PARKWAY	SAN JOSE	CA	JDS UNIPHASE CORPORATION
ID732	1 JELLY BELLY LANE	FAIRFIELD	CA	JELLY BELLY CANDY COMPANY
ID733	5770 FLEET STREET	CARLSBAD	CA	JENNY CRAIG INCORPORATED
ID734	135 Main Street	San Francisco	CA	JOBSCIENCE INCORPORATED
ID735		SAN DIEGO	CA	JOHN BURNHAM LLC
ID736				JOHN MUIR HEALTH
ID736	1601 YGNACIO VALLEY RD	WALNUT CREEK	CA	JOHN MUIR HEALTH
ID737	4160 DUBLIN BLVD SUITE 400	DUBLIN	CA	JOINT BENEFIT TRUST
ID737	160 AIRWAY BLVD	LIVERMORE	CA	JOINT BENEFIT TRUST
ID738	2691 S. EAST AVE	FRESNO	CA	JORGENSEN & SONS INCORPORATED
ID739		HAMPSTEAD	MD	JOS A BANK CLOTHIERS INCORPORATED
ID74	ONE AMGEN CENTER DR. MS 37-1-C	THOUSAND OAKS	CA	AMGEN INCORPORATED
ID740	10561 WEST HIGHWAY 140	ATWATER	CA	JOSEPH GALLO FARMS
ID741		TORRANCE	CA	JTB AMERICAS LTD
ID742	350 Lorton Avenue	Burlingame	CA	JUMPSTARTMD INCORPORATED
ID743		SUNNYVALE	CA	JUNIPER NETWORKS INCORPORATED
ID744	1700 VALLEY ROAD	WAYNE	NJ	JVC AMERICAS CORPORATION
ID745		WAYNE	NJ	JVCKENWOOD USA CORPORATION
ID746	1474 Alexander Valley Rd	Healdsburg	CA	JVW CORPORATION DBA JORDAN VINEYARD & WINERY
ID747		RED BANK	NJ	K HOVNANIAN COMPANIES L L C
ID748	987 COMMERCIAL ST	SAN CARLOS	CA	K M INDUSTRIES HOLDING COMPANY
ID748		SAN CARLOS	CA	K M INDUSTRIES HOLDING COMPANY
ID749	27422 PORTOLA PARKWAY, SUITE 350	FOOTHILL RANCH	CA	KAISER ALUMINUM FABRICATED PRODUCTS
ID75	12400 HIGH BLUFF DRIVE	SAN DIEGO	CA	AMN HEALTHCARE INCORPORATED
ID75	6303 OWENSMOUTH AVE. SUITE 900	WOODLAND HILLS	CA	AMN HEALTHCARE INCORPORATED
ID75		SAN DIEGO	CA	AMN HEALTHCARE INCORPORATED
ID750	260 Sheridan Avenue	Palo Alto	CA	KAPOW TECHNOLOGIES INCORPORATED
ID751	1351 W STANDFORD AVENUE	ENGLEWOOD	CO	KARCHER NORTH AMERICA INCORPORATED
ID752	2275 E 37th Street	Los Angeles	CA	KAREN KANE INCORPORATED
ID753	2381 Rosecrans Ave.,	El Segundo	CA	KATCH LLC
ID754		BATTLE CREEK	MI	KELLOGG COMPANY
ID754	350 West Sepulveda Blvd	Carson	CA	KELLOGG COMPANY
ID755	2201 E. Dominguez Street	Long Beach	CA	KENWOOD USA CORPORATION
ID756	4738 Duckhorn Drive	Sacramento	CA	KEY BUSINESS SOLUTIONS INCORPORATED
ID757		ELMWOOD PARK	NJ	KEYENCE CORPORATION OF AMERICA
ID758	1400 FOUNTAINGROVE PKWY	SANTA ROSA	CA	KEYSIGHT TECHNOLOGIES INCORPORATED
ID759	44 TUNKHANNOCK AVE	EXETER	PA	KEYSTONE AUTOMOTIVE OPERATIONS INCORPO
ID76	1650 CORPORATE CIRCLE STE 200	PETALUMA	CA	AMYS KITCHEN INCORPORATED
ID760	P.O. Box 1630	Mountain View	CA	KHAN ACADEMY INCORPORATED
ID761	2128 Sand Hill Road	Menlo Park	CA	KHOSLA VENTURES LLC

ID762		ROLLING MEADOWS	IL	KIMBALL HILL HOMES
ID763	400 E. Jamie Court	South San Francisco	CA	KINESTRAL TECHNOLOGIES INCORPORATED
ID764	4900 PROSPECTUS DRIVE SUITE500	DURHAM	NC	KINETIC SYSTEMS INCORPORATED (KSI)
ID765	300 North Continental Blvd	El Segundo	CA	KINKISHARYO INTERNATIONAL
ID766		JERICHO	NY	KINTETSU WORLD EXPRESS (U S A) INCORPORATED
ID767	ONE TECHNOLOGY DRIVE	MILPITAS	CA	KLA TENCOR
ID768	2750 Sand Hill Road	Menlo Park	CA	KLEINER PERKINS CAUFIELD & BYERS LLC
ID769	9500 Topanga Canyon Blvd.	Chatsworth	CA	KNIGHTED SERVICES INCORPORATED
ID77	15378 AVENUE OF SCIENCE	SAN DIEGO	CA	ANACOMP INCORPORATED
ID770	14141 YORBA AVE.	CHINO	CA	KOMYO AMERICA COMPANY INCORPORATED
ID771	6101 W IMPERIAL HWY	LOS ANGELES	CA	KOREAN AIR LINES COMPANY LTD
ID771	6101 WEST IMPERIAL HIGHWAY	LOS ANGELES	CA	KOREAN AIR LINES COMPANY LTD
ID772		LOS ANGELES	CA	KORN FERRY INTERNATIONAL
ID773	215 WEST DAKOTA AVE	CLOVIS	CA	KRAZAN & ASSOCIATES INCORPORATED
ID774	6205 DISTRICT BLVD	BAKERSFIELD	CA	KS INDUSTRIES LP
ID775	5790 FLEET STREET #300	CARLSBAD	CA	KSL ASSOCIATE GROUP INCORPORATED
ID776	8611 BALBOA AVE	SAN DIEGO	CA	KYOCERA CORPORATION
ID776	225 SAND ROAD	FAIRFIELD	NJ	KYOCERA CORPORATION
ID777	690 Mission Street	San Francisco	CA	KZ MGT INCORPORATED
ID778	220 CAMPUS LANE	FAIRFIELD	CA	LABORERS HEALTH & WELFARE TRUST
ID779	4399 SANTA ANITA AVE STE 200	EL MONTE	CA	LABORERS HEALTH & WELFARE TRUST FOR SO CALIF
ID78	2695 EAST KATELLA AVE	ANAHEIM	CA	ANAHEIM ARENA MANAGEMENT LLC
ID780	4650 CUSHING PARKWAY	FREMONT	CA	LAM RESEARCH CORPORATION
ID781		MENLO PARK	CA	LANDEC CORPORATION
ID782	1500 CITYWEST BLVD STE 600	HOUSTON	TX	LANDMARK AVIATION
ID783	300 KIMBALL DRIVE 4TH FLOOR	PARSIPPANY	NJ	LANGAN ENGINEERING ENVIRONMENTAL SURVEYING & LA
ID784	13191 CROSSROADS PKWY N STE205	CITY OF INDUSTRY	CA	LAUNDRY & DRY CLEANING WORKERS H&W TR
ID785	7000 EAST AV BLDG 31B/MS-L-294	LIVERMORE	CA	LAWRENCE LIVERMORE NATIONAL SECURITY LLC
ID786	30 Liberty Ship Way	Sausalito	CA	LAYERS LLC (DBA PATXIS PIZZA)
ID787	P O BOX 457	BOONVILLE	CA	LAYTONVILLE UNIFIED SCHOOL
ID787	P O BOX 868	LAYTONVILLE	CA	LAYTONVILLE UNIFIED SCHOOL
ID788	1587 BENTLEY DRIVE	CORONA	CA	LDI MECHANICAL INCORPORATED
ID788	1587 Bentley Drive	Corona	CA	LDI MECHANICAL INCORPORATED
ID789	6405 MIRA MESA BLVD. SUITE 100	SAN DIEGO	CA	LEDCOR CONTRACTORS GROUP INCORPORATED
ID79	P O BOX 457	BOONVILLE	CA	ANDERSON VALLEY UNIFIED
ID790	3300 EDISON WAY	FREMONT	CA	LEES IMPERIAL WELDING
ID791	1050 Enterprise Way	Sunnyvale	CA	LEVEL 10 CONSTRUCTION
ID792	1155 BATTERY STREET	SAN FRANCISCO	CA	LEVI STRAUSS & COMPANY
ID793		ENGLEWOOD CLIFFS	NJ	LG GROUP
ID794	5791 VAN ALLEN WAY	CARLSBAD	CA	LIFE TECHNOLOGIES CORPORATION
ID795	21700 BARTON RD.	COLTON	CA	LINEAGE LOGISTICS LLC
ID795	17911 VON KARMAN AVE STE 400	IRVINE	CA	LINEAGE LOGISTICS LLC
ID796	1630 MCCARTHY BLVD	MILPITAS	CA	LINEAR TECHNOLOGY CORPORATION
ID796				LINEAR TECHNOLOGY CORPORATION
ID797	6 BRIGHTON ROAD	CLIFTON	NJ	LINENS N THINGS
ID798	2029 STIERLIN COURT	MOUNTAIN VIEW	CA	LINKEDIN CORPORATION
ID799	5140 West Goldleaf Circle, #400	Los Angeles	CA	LINQUEST CORPORATION
ID8	2200 Bridge Parkway	Redwood City	CA	ACERTA PHARMA LLC
ID80	221 MAIN STREET SUITE 1230	SAN FRANCISCO	CA	ANDRE BOUDIN BAKERIES INCORPORATED
ID800	333 Point San Bruno	S. San Francisco	CA	LITHOTYPE
ID801	6255 SUNSET BOULEVARD	HOLLYWOOD	CA	LIVE NATION ENTERTAINMENT INCORPORATED
ID801	7060 HOLLYWOOD BLVD 2ND FLOOR	LOS ANGELES	CA	LIVE NATION ENTERTAINMENT INCORPORATED
ID802	4340 Stevens Creek	San Jose	CA	LIVEWORLD INCORPORATED
ID803	26642 TOWNE CENTRE DRIVE	FOOTHILL RANCH	CA	LOANDEPOT LLC
ID804	4399 SANTA ANITA AVE #200	EL MONTE	CA	LOCAL 831 EMPLOYER HEALTH FUND
ID805	333 SOUTH ANITA	ORANGE	CA	LOGISTICS EXPRESS INCORPORATED
ID806		NEWARK	CA	LOGITECH INCORPORATED
ID807				LONG BEACH UNIFIED SCHOOL
ID807	1515 HUGHES WAY	LONG BEACH	CA	LONG BEACH UNIFIED SCHOOL
ID808	4399 SANTA ANITA AVE #200	EL MONTE	CA	LONG TERM CARE WORKERS HEALTH TRUST FUND
ID809	450 N. Baldwin Park Blvd	City of Industry	CA	LOS ALTOS FOOD PRODUCTS INCORPORATED
ID81	560 Divisadero St.	San Francisco	CA	ANGEL FOOD LLC
ID810	259 W SANTA CLARA ST	VENTURA	CA	LOST ARROW CORPORATION
ID811	1320 RIDDER PARK DR, MS AD-101	SAN JOSE	CA	LSI CORPORATION
ID812	4200 BOHANNON DRIVE	MENLO PARK	CA	LUCILE PACKARD CHILDRENS HOSPITAL STANFORD
ID813	540 SOUTH SANTA FE AVENUE	LOS ANGELES	CA	LUCKY BRAND DUNGAREES LLC
ID814	400 NORTH MCCARTHY BOULEVARD	MILPITAS	CA	LUMENTUM OPERATIONS LLC
ID815	1210 W OLIVE	FRESNO	CA	LYLES DIVERSIFIED INCORPORATED
ID816		SAN FRANCISCO	CA	M ARTHUR GENSLER JR & ASSOCIATES INCORPORATED
ID816	2101 WEBSTER STREET,SUITE 2000	OAKLAND	CA	M ARTHUR GENSLER JR & ASSOCIATES INCORPORATED
ID817	201 Spear Street	San Francisco	CA	MACFARLANE PARTNERS INVESTMENT MANAGEMENT LLC
ID819		SAN FRANCISCO	CA	MACROMEDIA INCORPORATED
ID82	2420 Camino Ramon	San Ramon	CA	ANNAMS SYSTEMS CORPORATION
ID820	201 Arch Street	Redwood City	CA	MAD APPAREL INCORPORATED
ID821	1855 OLYMPIC BLVD	WALNUT CREEK	CA	MADSEN KNEPPERS & ASSOC INCORPORATED
ID821				MADSEN KNEPPERS & ASSOC INCORPORATED
ID822		MARYLAND HEIGHTS	MO	MAGELLAN HEALTH SERVICES
ID823	2901 Bayview Dr.	Fremont	CA	MAHINDRA TRACTOR ASSEMBLY INCORPORATED (DBA MAHINDRA GENZE)
ID824	15 Paul Street	Brunswick	ME	MAINE WOOLENS LLC
ID825	14930 NORTHAM STREET	LA MIRADA	CA	MAKITA USA INCORPORATED
ID826	11355 W. OLYMPIC BOULEVARD	LOS ANGELES	CA	MANATT PHELPS & PHILLIPS LLP
ID827	3000 El Camino Real	Palo Alto	CA	MAP ROYALTY INCORPORATED
ID828	350 Holger Way	San Jose	CA	MAPR TECHNOLOGIES INCORPORATED

ID829	2101 Bert Drive	Hollister	CA	MARICH CONFECTIONERY COMPANY INCORPORATED
ID83	490 JARVIS DRIVE	MORGAN HILL	CA	ANRITSU COMPANY
ID830	250 BON AIR RD	GREENBRAE	CA	MARIN HEALTHCARE DISTRICT
ID831	123 Mission Street	San Francisco	CA	MARIN SOFTWARE
ID832	11332 NE 122nd Way	Kirkland	WA	MARKET LEADER LLC
ID832		SAN FRANCISCO	CA	MARKET LEADER LLC
ID833	MARSHALL WAY	PLACERVILLE	CA	MARSHALL MEDICAL CENTER
ID833	1100 MARSHALL WAY	PLACERVILLE	CA	MARSHALL MEDICAL CENTER
ID834	5488 MARVELL LANE BLDG 5	SANTA CLARA	CA	MARVELL SEMICONDUCTOR INCORPORATED
ID835	100 KENTUCKY STREET	GRIDLEY	CA	MARYS GONE CRACKERS INCORPORATED
ID836		ELK GROVE	CA	MATHESON TRUCKING INCORPORATED
ID836		SACRAMENTO	CA	MATHESON TRUCKING INCORPORATED
ID837	18764 Cox Avenue	Saratoga	CA	MATRIXX SOFTWARE
ID838		OAKLAND	CA	MATSON INCORPORATED
ID839	333 CONTINENTAL BLVD M1-0304	EL SEGUNDO	CA	MATTEL INCORPORATED
ID839		EL SEGUNDO	CA	MATTEL INCORPORATED
ID84	865 S. FIGUEROA SUITE 800	LOS ANGELES	CA	ANSCHUTZ ENTERTAINMENT GROUP INCORPORATED
ID84		LOS ANGELES	CA	ANSCHUTZ ENTERTAINMENT GROUP INCORPORATED
ID840	575 Florida Street	San Francisco	CA	MAXIMUS REAL ESTATE PARTNERS
ID841	15889 Slover Ave.	Fontana	CA	MAXZONE VEHICLE LIGHTING CORPORATION
ID842	2484 Sand Hill Road	Menlo Park	CA	MAYFIELD FUND LLC
ID843	220 Montgomery Street	San Francisco	CA	MAZZETTI INCORPORATED
ID844	757 N. ELDRIDGE PKWY	HOUSTON	TX	MCDERMOTT INVESTMENTS LLC
ID845	5700 LA POSITAS ROAD	LIVERMORE	CA	MCGRATH RENTCORP
ID846		SAN FRANCISCO	CA	MCKESSON CORPORATION
ID846	ONE POST STREET, 30TH FLOOR	SAN FRANCISCO	CA	MCKESSON CORPORATION
ID846	ONE POST STREET, 28TH FLOOR	SAN FRANCISCO	CA	MCKESSON CORPORATION
ID846	ONE POST STREET 30TH FLOOR	SAN FRANCISCO	CA	MCKESSON CORPORATION
ID847	17611 Armstrong Avenue	Irvine	CA	MCKINLEY EQUIPMENT CORPORATION
ID848	1211 Newell Ave.	Walnut Creek	CA	MCNAMARA LAW FIRM
ID849	2100 POWELL STREET	EMERYVILLE	CA	MEDAMERICA INCORPORATED
ID85	1600 WEST AVE J	LANCASTER	CA	ANTELOPE VALLEY HOSPITAL
ID850		SAN JOSE	CA	MEGAPATH GROUP INCORPORATED
ID850	2510 Zanker Rd.	San Jose	CA	MEGAPATH GROUP INCORPORATED
ID850		AUSTIN	TX	MEGAPATH GROUP INCORPORATED
ID851	1955 N. SURVEYOR AVENUE	SIMI VALLEY	CA	MEGGITT USA INCORPORATED & SUBSIDIARIES
ID851	1204 MASSILLON RD	AKRON	OH	MEGGITT USA INCORPORATED & SUBSIDIARIES
ID852	17360 BROOKHURST STREET	FOUNTAIN VALL	CA	MEMORIALCARE HEALTH SYSTEM
ID852	17360 BROOKHURST STREET	FOUNTAIN VALLEY	CA	MEMORIALCARE HEALTH SYSTEM
ID853	3935 Point Eden Way	Hayward	CA	MENDEL BIOTECHNOLOGY INCORPORATED
ID854	2240 OLD RIVER RD	UKIAH	CA	MENDOCINO COUNTY OFFICE OF
ID855	P O BOX 1154	MENDOCINO	CA	MENDOCINO UNIFIED SCHOOL
ID855				MENDOCINO UNIFIED SCHOOL
ID856	50 Valparaiso Avenue	Atherton	CA	MENLO SCHOOL
ID857	220 E 13th Street	Merced	CA	MERCED FACULTY ASSOCIATES MEDICAL GROUP INCORPORATED
ID858	8800 E. RAINTREE DRIVE STE.300	SCOTTSDALE	AZ	MERITAGE HOMES CORPORATION
ID859	4444 VIEWRIDGE AVE A	SAN DIEGO	CA	MERRY X RAY CORPORATION
ID86	13875 Cerritos Corp Dr.	Cerritos	CA	APEX COMPUTER SYSTEMS INCORPORATED
ID860	117 E. Colorado Blvd.	Pasadena	CA	METACLOUD INCORPORATED
ID861	261 W BEACH AVE	INGLEWOOD	CA	METAMORPHIX INCORPORATED
ID862	201 POTRERO AVE	SAN FRANCISCO	CA	METASWITCH NETWORKS CORPORATION
ID862	12007 Sunrise Valley Drive	Reston	VA	METASWITCH NETWORKS CORPORATION
ID863	1300 S Street, Suite B	Sacramento	CA	METAVERSE MOD SQUAD INCORPORATED
ID864	300 WEST HUNTINGTON DRIVE	ARCADIA	CA	METHODIST HOSPITAL OF SOUTHERN CALIFORNIA
ID865	9841 AIRPORT BLVD., SUITE 200	LOS ANGELES	CA	MEXICANA DE AVIACION S A DE
ID866	240 SECOND STREET	SAN FRANCISCO	CA	MFOW WELFARE FUND
ID867	1593 SPRINGHILL RD. #610	VIENNA	VA	MHM SERVICES INCORPORATED
ID868	1775 STORY RD	SAN JOSE	CA	MI PUEBLO FOODS
ID868	1745 STORY ROAD	SAN JOSE	CA	MI PUEBLO FOODS
ID869	17620 FITCH STREET	IRVINE	CA	MICREL INCORPORATED
ID870	1380 BORDEAUX DRIVE	SUNNYVALE	CA	MICROSEMI CORPORATION
ID871	360 Post Street	San Francisco	CA	MINAMI TAMAKI LLP
ID872	4051 BROAD STREET SUITE 220	SAN LUIS OBIS	CA	MINDBODY INCORPORATED
ID873	940 CANTERBURY PL, SUITE 100	ESCONDIDO	CA	MINISTRY EMPLOYEE BENEFITS
ID874	525 Almanor Ave	Sunnyvale	CA	MIRANTIS INCORPORATED
ID875		BURBANK	CA	MISC PRODS
ID876	702 E MONTECITO STREET	SANTA BARBARA	CA	MISSION LINEN SUPPLY
ID877		SAN DIEGO	CA	MITCHELL INTERNATIONAL INCORPORATED
ID878	5900-A KATELLA AVE	CYPRESS	CA	MITSUBISHI ELECTRIC US, INC.
ID879	6400 KATELLA AVE	CYPRESS	CA	MITSUBISHI MOTORS NORTH AMERICA, INC.
ID88	5020 SADLER PLACE	GLEN ALLEN	VA	APEX SYSTEMS INCORPORATED
ID880		JERSEY CITY	NJ	MIZUHO BANK LTD
ID881	4646 E VAN BUREN ST STE 400	PHOENIX	AZ	MOBILE MINI INCORPORATED
ID882	415 East Middlefield Rd	Mountain View	CA	MOBILEIRON INCORPORATED
ID883	2000 Sierra Point Parkway	Brisbane	CA	MODE MEDIA CORPORATION
ID884	3600 FAU Blvd	Boca Raton	FL	MODERNIZING MEDICINE INCORPORATED
ID885	339 N. Bernardo Ave.	Mountain View	CA	MOJO NETWORKS INCORPORATED
ID886	200 OCEANGATE STE 100	LONG BEACH	CA	MOLINA HEALTHCARE INCORPORATED
ID887	781 Lincoln Ave.	San Rafael	CA	MONITISE AMERICAS INCORPORATED
ID888	817 E MONROVIA PLACE	AZUSA	CA	MONROVIA NURSERY COMPANY INCORPORATED
ID888	18331 EAST FOOTHILL BLVD	AZUSA	CA	MONROVIA NURSERY COMPANY INCORPORATED
ID889	455 VALLEY DRIVE	BRISBANE	CA	MONSTER INCORPORATED
ID89	10 S ALMADEN BLVD 16TH FLOOR	SAN JOSE	CA	APIGEE CORPORATION

ID890	30801 SOUTH COAST HIGHWAY	LAGUNA BEACH	CA	MONTAGE HOTELS & RESORTS LLC
ID891	260 WESTGATE DRIVE	WATSONVILLE	CA	MONTEREY MUSHROOMS INCORPORATED
ID892	980 FREMONT STREET	MONTEREY	CA	MONTEREY PENINSULA COLLEGE
ID893	30 FLORY AVE	MOORPARK	CA	MOORPARK UNIFIED SCHOOL DIST
ID895		SAN FRANCISCO	CA	MORRISON & FOERSTER LLP
ID896	189 FULWEILER AVENUE	AUBURN	CA	MOTHER LODE HOLDING COMPANY
ID897	11365 VENTURA BLVD	STUDIO CITY	CA	MOTION PICTURE INDUSTRY HEALTH PLAN
ID898	30700 RUSSELL RANCH, STE 1000	WESTLAKE VILLAGE	CA	MOVE, INC.
ID898	30700 RUSSELL RANCH ROAD	WESTLAKE VILLAGE	CA	MOVE, INC.
ID899	1442 Walnut Street	Berkeley	CA	MOVEON ORG
ID9	47800 Westinghouse Drive	Fremont	CA	ACTELIS NETWORKS INCORPORATED
ID90		PHOENIX	AZ	APOLLO GROUP INCORPORATED
ID90	4635 EAST ELWOOD STREET	PHOENIX	AZ	APOLLO GROUP INCORPORATED
ID900	4675 MACARTHUR COURT, 9TH FL	NEWPORT BEACH	CA	MSC SOFTWARE CORPORATION
ID901	4900 Stoddard Road	Modesto	CA	MTC DISTRIBUTING
ID902	400 CALIFORNIA STREET	SAN FRANCISCO	CA	MUFG UNION BANK, N.A.
ID903	431 CROCKER STREET	LOS ANGELES	CA	MUTUAL TRADING COMPANY INCORPORATED
ID904	3000 Sand Hill Road.	Menlo Park	CA	MV MANAGEMENT XI
ID905	5910 N CENTRAL EXPWY STE #1145	DALLAS	TX	MV TRANSPORTATION INCORPORATED
ID905		DALLAS	TX	MV TRANSPORTATION INCORPORATED
ID906		BROOMFIELD	CO	MWH AMERICAS INCORPORATED
ID907	153 TECHNOLOGY DR SUITE 200	IRVINE	CA	MX HOLDINGS US INCORPORATED
ID908		NEW ALBANY	OH	MXD GROUP INCORPORATED
ID909	8505 E ORCHARD RD	GREENWOOD VLG	CO	NADEL ARCHITECTS INCORPORATED
ID91	1 INFINITE LOOP MS 84-BEN	CUPERTINO	CA	APPLE INCORPORATED
ID91	1 INFINITE LOOP, MS:84 BEN	CUPERTINO	CA	APPLE INCORPORATED
ID910	1301 K STREET, NW	WASHINGTON	DC	NASH HOLDINGS LLC
ID911	1201 16TH STREET, NW	WASHINGTON	DC	NATIONAL EDUCATION ASSOCIATION {NEA}
ID912		NASHVILLE	TN	NATIONAL FEDERATION OF INDPT BUSINESS
ID913	11355 NORTH TORREY PINES ROAD	LA JOLLA	CA	NATIONAL UNIVERSITY
ID913				NATIONAL UNIVERSITY
ID913	11255 N TORREY PINES RD	LA JOLLA	CA	NATIONAL UNIVERSITY
ID914	29229 CANWOOD ST,SUITE 100	AGOURA HILLS	CA	NATIONAL VETERINARY ASSOCIATES
ID915	131 Lincoln Ave	Fort Collins	CO	NATURAL RESOURCES CONSULTING ENGINEERS INCORPORATED
ID917	4473 Willow Road	Pleasanton	CA	NEOTRACT INCORPORATED
ID918		SUNNYVALE	CA	NETAPP INCORPORATED
ID918	495 EAST JAVA DRIVE	SUNNYVALE	CA	NETAPP INCORPORATED
ID919		LOS GATOS	CA	NETFLIX INCORPORATED
ID92		LENEXA	KS	APPLEBEES SERVICES INCORPORATED
ID920	47000 Warm Springs Blvd.	Fremont	CA	NETMERCURY INCORPORATED
ID920	46771 FREMONT BLVD.	FREMONT	CA	NETMERCURY INCORPORATED
ID921	12657 Alcosta Blvd.	San Ramon	CA	NETPACE INCORPORATED
ID922		HOUSTON	TX	NETVERSANT SOLUTIONS INCORPORATED
ID923	6041 Variel Ave	Woodland Hills	CA	NEVERSOFT ENTERTAINMENT INCORPORATED
ID924	1800 Bridge Parkway	Redwood City	CA	NEVRO CORPORATION
ID925	18400 VON KARMAN AVENUE	IRVINE	CA	NEW CENTURY FINANCIAL CORPORATION
ID926	11 WALL STREET	NEW YORK	NY	NEW YORK STOCK EXCHANGE
ID927	17560 ROWLAND STREET	CITY OF INDUSTRY	CA	NEWEGG INCORPORATED
ID928	9820 TOWNE CENTRE DR #100	SAN DIEGO	CA	NEWLAND REAL ESTATE GROUP
ID929	460 NICHOLS ROAD, STE 250	KANSAS CITY	MO	NEWPORT TELEVISION LLC
ID93	3437 AIRPORT WAY	STOCKTON	CA	APPLIED AEROSPACE STRUCTURES CORPORATION
ID930		SAN FRANCISCO	CA	NEXANT INCORPORATED
ID931	300 PARK AVE. SOUTH, 12TH FL	NEW YORK	NY	NEXT FIFTEEN COMMUNICATIONS
ID932	54 CORPORATE PARK	IRVINE	CA	NICHOLS FARMS
ID933	8656 Sparling Lane	Dixon	CA	NICKUM HOLDINGS INCORPORATED
ID934				NIKON PRECISION INCORPORATED
ID934	1399 SHOREWAY RD	BELMONT	CA	NIKON PRECISION INCORPORATED
ID935	1540 WEST 190TH STREET	TORRANCE	CA	NISSIN INTERNATIONAL TRANSPORT US A
ID936	48500 FREMONT BLVD.	FREMONT	CA	NITTO DENKO
ID936	48500 Fremont Blvd.	Fremont	CA	NITTO DENKO
ID937	1100 CLINTON SQUARE	ROCHESTER	NY	NIXON PEABODY LLP
ID938	6910 N. WHIRLPOOL DRIVE	TULSA	OK	NORDAM GROUP INCORPORATED
ID939	8300 SAN FERNANDO ROAD	SUN VALLEY	CA	NORMAN INDUSTRIAL METAL
ID94	3050 BOWERS AVE, MS 1221	SANTA CLARA	CA	APPLIED MATERIALS INCORPORATED
ID940	2151 Professional Dr	Roseville	CA	NORQUIST SALVAGE CORPORATION
ID940	2151 PROFESSIONAL DR STE 200	RESEVILLE	CA	NORQUIST SALVAGE CORPORATION
ID941	3033 Fiddyment Rd.	Roseville	CA	NORTECH WASTE LLC
ID942	3121 HARTSFIELD ROAD	TALLAHASSEE	FL	NORTEK HOLDINGS INCORPORATED
ID942	2277 HARBER BAY PARKWAY	ALAMEDA	CA	NORTEK HOLDINGS INCORPORATED
ID942	1800 SOUTH MCDOWELL BLVD	PETALUMA	CA	NORTEK HOLDINGS INCORPORATED
ID942	1950 CAMINO VIDA ROBLE STE 150	CARLSBAD	CA	NORTEK HOLDINGS INCORPORATED
ID943		DANA POINT	CA	NORTH AMERICAN HEALTH CARE INCORPORATED
ID944	68 SOUTH SERVICE RD. STE. 350	MELVILLE	NY	NORTH AMERICAN PARTNERS IN ANESTHESIA
ID945		CONCORD	CA	NORTH AMERICAN SERVICES LLC
ID946	901 MYRTLE AVENUE	EUREKA	CA	NORTH COAST SCHOOLS MEDICAL
ID946				NORTH COAST SCHOOLS MEDICAL
ID947	221 MAIN STREET SUITE 250	SAN FRANCISCO	CA	NORTH COAST TRUST FUND
ID947	221 MAIN ST. STE 250	SAN FRANCISCO	CA	NORTH COAST TRUST FUND
ID948	PO BOX 1677	SAN RAMON	CA	NORTHERN CA SHEET METAL
ID949	221 MAIN STREET SUITE 250	SAN FRANCISCO	CA	NORTHERN CALIF BAKERY & CONFECTIONARY H & W FUND
ID95	1180 Chess Drive	Foster City	CA	APPLIKON BIOTECHNOLOGY INCORPORATED
ID950	221 MAIN STREET SUITE 250	SAN FRANCISCO	CA	NORTHERN CALIFORNIA BAKERY DRIVERS SECURITY FUND
ID950	221 MAIN STREET 2ND FLOOR	SAN FRANCISCO	CA	NORTHERN CALIFORNIA BAKERY DRIVERS SECURITY FUND

ID951				NORTHERN CALIFORNIA GENERAL
ID951	3244 BROOKSIDE RD	STOCKTON	CA	NORTHERN CALIFORNIA GENERAL
ID952	4160 DUBLIN BLVD SUITE 400	DUBLIN	CA	NORTHERN CALIFORNIA SOFT DRINK INDUSTRY & TEAMSTER
ID953	633 BATTERY ST FLOOR 2	SAN FRANCISCO	CA	NORTHERN CALIFORNIA TILE IND
ID954	600 East River Park Lane, Suite 205	Boise	ID	NORTHWEST HOSPITALITY GROUP
ID955	8505 E ORCHARD RD	GREENWOOD VLG	CO	NOVATO DISPOSAL
ID955	3417 Standish Avenue	Santa Rosa	CA	NOVATO DISPOSAL
ID956	4000 N. FIRST STREET	SAN JOSE	CA	NOVELLUS SYSTEMS INCORPORATED
ID957		BURLINGTON	MA	NUANCE COMMUNICATIONS INCORPORATED
ID958	168 COURT STREET	WOODLAND	CA	NUGGET MARKET INCORPORATED
ID959	1054 South DeAnza Blvd.	San Jose	CA	NUMERIFY INCORPORATED
ID96	849 High St.	Palo Alto	CA	APPLOVIN CORPORATION
ID960	45500 FREMONT BLVD	FREMONT	CA	NUMMI
ID961	601 McCarthy Blvd.	Milpitas	CA	NVELO INCORPORATED
ID962		SANTA CLARA	CA	NVIDIA CORPORATION
ID963	411 E. PLUMERIA DRIVE	SAN JOSE	CA	NXP SEMICONDUCTORS
ID963	6501 WILLIAM CANNON DRIVE WEST	AUSTIN	TX	NXP SEMICONDUCTORS
ID964	333 9th Street	Oakland	CA	OAKLAND PHARMACY INCORPORATED
ID965	2204 KAUSEN DRIVE SUITE 100	ELK GROVE	CA	OC COMMUNICATIONS INCORPORATED
ID966	4500 S. 129 EAST AVE SUITE 143	TULSA	OK	OCCIDENTAL PETROLEUM CORPORATION
ID966	10889 WILSHIRE BLVD	LOS ANGELES	CA	OCCIDENTAL PETROLEUM CORPORATION
ID967	4399 SANTA ANITA AVE SUITE 200	EL MONTE	CA	OCU HEALTH & WELFARE TRUST
ID968		SAN DIEGO	CA	OGRADY PEYTON INTERNATIONAL (USA) INCORPORATED
ID97	26220 ENTERPRISE COURT	LAKE FOREST	CA	APRIA HEALTHCARE GROUP INCORPORATED
ID97	26220 ENTERPRISE CT.	LAKE FOREST	CA	APRIA HEALTHCARE GROUP INCORPORATED
ID97		LAKE FOREST	CA	APRIA HEALTHCARE GROUP INCORPORATED
ID970	307 Orchard City Dr.	Campbell	CA	ON SITE MANAGER INCORPORATED
ID971	670 NINTH STREET STE 203	ARCATA	CA	OPEN DOOR COMMUNITY HEALTH CENTERS
ID972	1875 South Grant Street	San Mateo	CA	OPERA SOFTWARE INTERNATIONAL US INCORPORATED
ID973	1640 SOUTH LOOP ROAD	ALAMEDA	CA	OPERATING ENGINEERS H & W TRUST FUND
ID973	100 E CORSON	PASADENA	CA	OPERATING ENGINEERS H & W TRUST FUND
ID973	100 E CORSON STREET	PASADENA	CA	OPERATING ENGINEERS H & W TRUST FUND
ID974	1640 SOUTH LOOP ROAD	ALAMEDA	CA	OPERATING ENGINEERS PUBLIC EMPL HLTH & TRUST FUND
ID976	19330 Stevens Creek Blvd.	Cupertino	CA	OPES ADVISORS INCORPORATED
ID977	500 12th Street	Oakland	CA	OPTERRA ENERGY GROUP
ID978	3 ADA	IRVINE	CA	OPTION ONE MORTGAGE
ID979	24590 Clawiter Road	Hayward	CA	OPTISCAN BIOMEDICAL CORPORATION
ID98	1981 NORTH BROADWAY, SUITE 385	WALNUT CREEK	CA	ARC DOCUMENT SOLUTIONS, LLC
ID980	3178 Laurelview Ct	Fremont	CA	OPTOMA TECHNOLOGY INCORPORATED
ID981	2730 Sand Hill Road	Menlo Park	CA	OPUS CAPITAL GROUP LLC
ID982	399 THORNALL STREET 6TH FLOOR	EDISON	NJ	ORACLE INCORPORATED
ID982	500 ORACLE PARKWAY	REDWOOD SHORES	CA	ORACLE INCORPORATED
ID983	6600 VALLEY VIEW STREET	BUENA PARK	CA	ORORA NORTH AMERICA
ID984		WHEELING	WV	ORRICK HERRINGTON & SUTCLIFFE LLP
ID985		SAN LEANDRO	CA	OSISOFT LLC
ID986	2520 S. 170TH STREET	NEW BERLIN	WI	OUTSOURCING SOLUTIONS INCORPORATED
ID987	2247 COURT STREET	REDDING	CA	OWENS HEALTHCARE
ID988	309 SOUTH 'K' STREET	OXNARD	CA	OXNARD UNION HIGH SCHOOL DIST
ID989		DOMINGUEZ HILLS	CA	P & O COLD LOGISTICS
ID99		PACOIMA	CA	ARC MACHINES, INC.
ID990	400 CAPITOL MALL STE 2060	SACRAMENTO	CA	PACIFIC ETHANOL INCORPORATED
ID991	245 MARKET STREET N3K	SAN FRANCISCO	CA	PACIFIC GAS & ELECTRIC COMPANY
ID991	425 MARKET STREET M/C N2P	SAN FRANCISCO	CA	PACIFIC GAS & ELECTRIC COMPANY
ID992	700 NEWPORT CENTER DRIVE	NEWPORT BEACH	CA	PACIFIC LIFE INSURANCE COMPANY
ID993	4665 MCARTHUR COURT #200	NEWPORT BEACH	CA	PACIFIC PERSONNEL SERVICES IN
ID994		SAN DIEGO	CA	PACIFIC RIM MECHANICAL
ID995	4530 LECKRON ROAD	MODESTO	CA	PACIFIC SOUTHWEST CONTAINER
ID995				PACIFIC SOUTHWEST CONTAINER
ID996	3450 EAST MIRALOMA AVENUE	ANAHEIM	CA	PACIFIC SUNWEAR OF CALIFORNIA INCORPOR
ID996		ANAHEIM	CA	PACIFIC SUNWEAR OF CALIFORNIA INCORPOR
ID997	4200 BOHANNON DRIVE	MENLO PARK	CA	PACKARD CHILDREN'S HEALTH ALLIANCE
ID998	1861 Knoll Drive	Ventura	CA	PADRE ASSOCIATES INCORPORATED
ID999	7799 LEESBURG PIKE, SUITE 400	FALLS CHURCH	VA	PAE
ID999		ARLINGTON	VA	PAE

Sources: Dr. Leitzinger's backup file "NV5 parented CA_Citizen.xlsx" and backup programs.

Appendix D

Appendix D: Selected Evidentiary Materials Cited in Expert Declaration of Margaret E. Guerin-Calvert *UFCW & Employers Benefit Trust, et al., v. Sutter Health, et al.*				
	Contents		***Date***	***Exhibit***
Expert Deposition				
	Leitzinger, Jeffrey, Ph.D.		15-Mar-17	A
Depositions and Exhibits				
	Sutter Health			
	Anderson, Peter (Former Chief Strategy Officer)		14-Oct-16	B
	Brendt, Melissa Lynn (Vice President and Chief Contracting Officer)		13-Jul-16	C
	Sotherland, Carl (Former Director of Strategic Intelligence)		9-Nov-16	D
	Sprague, Jeff (Chief Financial Officer)		28-Nov-16	E
	Anthem Blue Cross			
	De La Torre, Aldo (Former Vice President of Provider Engagement and Contracting, West Region)		13-Mar-17	F
	Melody, Steve (President of the Medicaid Health Plan)		21-Mar-17	G
	Ramseier, Michael (President and General Manager, Anthem Blue Cross and Blue Shield)		30-Mar-17	H
	Blue Shield			
	Joyner, David (Former Senior Vice President for the Large and Specialty Benefits Business Unit)		20-Mar-17	I
	United Healthcare			
	Lundbye, Janet (Regional Vice President of Network Strategy for the West Region)		30-Mar-17	J
Bates Documents				
	DEF000152963, "Sutter Health ABC Update"		11-Jul-07	K
Academic Literature				
	ABA Section of Antitrust Law, *Market Definition in Antitrust: Theory and Case Studies*, ABA Book Publishing, 2012		2012	L

EXHIBIT A

UNDER SEAL

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF SAN FRANCISCO

UFCW & Employers Benefit Trust, on behalf of itself and all others similarly situated, Plaintiffs,	)
vs.	) No. CGC 14-538451
Sutter Health, et al., Defendants.	)

CONFIDENTIAL - ATTORNEYS' EYES ONLY

VIDEOTAPED DEPOSITION OF JEFFREY LEITZINGER, Ph.D.

Los Angeles, California

Wednesday, March 15, 2017

Volume I

Reported by:
Melissa M. Villagran, RPR, CLR
CSR No. 12543
Job No. 2559286

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matters. I don't know where -- what will happen with that.

Q Okay. I'm going to hand you but not mark a copy of the complaint, because I see no reason to clutter the files with that. 09:26:46

And let me ask you to -- I assume you've seen a copy of the complaint before?

A Yes.

Q Okay. And let me ask you to turn to paragraph 21. 09:27:00

I'm just going to read the second sentence (as read):

"Together they allow Sutter to leverage its market power in certain Northern California local markets to 09:27:22 illegally create and/or enhance market power in other local markets. They also create barriers to entry and expansion by existing and potential general acute care hospital 09:27:32 competitors in each of the geographic locations where Sutter hospitals are located."

So let me ask a few questions just about the -- what I'm looking to determine is the work 09:27:43

that you've done to date.

Have you reached any conclusions as to the relevant geographic markets from an antitrust perspective that would be applicable in this case?

A No. 09:27:58

Q Have you reached any conclusions as to whether Sutter has market power in any geographic market or otherwise?

A No.

Q Do you know what the relevant product market is that is alleged in the complaint? 09:28:16

A I saw it at one point because I did read the complaint, but as you asked the question I don't remember how that was -- specifically what was stated in that regard. 09:28:47

Q Okay. Do you know whether the scope of your retention is such that you are -- if the class is certified, that you are intended to be asked to look at the relevant product market and the relevant geographic market? 09:29:11

MR. GROSSMAN: I'm going to object what the plans are for future work or work product.

MR. LeVEE: Okay. Are you instructing him not to answer?

MR. GROSSMAN: Yes. 09:29:25

MR. LeVEE: Okay.

BY MR. LeVEE:

Q So is it correct that you have not -- in any of the work that you've done as reflected in the report, you have not done any evaluation of Sutter's market power with respect to hospitals, physicians, surgery centers, or anything else? 09:29:37

A It is correct to say I -- it has not been part of my assignment in this report. I have not analyzed that question in any direct way. 09:30:17

Q Okay.

A I don't know whether -- and don't have a view at this point whether at the merits phase of the case some part of what I have done in respect to looking at overcharges, or let's just call it rate inflation, would be -- would be regarded as evidence pertinent to the subject of market power. 09:30:39

Q Okay. Could you take a look at paragraph 92 of the complaint, which is on page 25.

A Yes. 09:31:06

Q The first sentence says that Sutter has considerable market power, and then I'm just going to read the second sentence. It says (as read):

"Each of Sutter's hospitals competes in a relevant geographic 09:31:15

thinking about monopoly pricing in terms of a SSNIP in connection with the matter I mentioned in Houston.

Q And why were -- why did you do that?

A Ask for clarification. Are you asking why was I looking at market definition or are you asking why I would use a SSNIP framework for purposes of market definition? 09:33:15

Q The second question.

A I have found that a useful approach for purposes of organizing the analysis of market definition. It's not the only way to do it, but I have found it's -- I found it to be a useful framework. 09:33:33

Q Okay. And is it correct to say you have not done a SSNIP analysis in this lawsuit, the one that brings us here today? 09:33:58

A Correct.

Q In the Houston case, why were you looking at market definition? 09:34:17

A I think there were potentially two aspects -- two parts to that. I think there was at least a recognition on the part of -- I'll say it differently. There was an understanding that the conduct that was challenged in that case might be 09:35:00

A Uh-huh.
Q The first is (as read):
"Health plan enrollees would frequently choose a high quality, lower cost hospital if they had a financial incentive to do so."
Am I correct that you have not studied that question for purposes of this case?
A Correct.
Q The sentence says (as read): 09:37:25
"However, by including anti-incentive terms in its contract, Sutter prevents network vendors from offering health plans that incentivize their health plan enrollees to select 09:37:35
health care services and products from Sutter's lower priced competitors instead of selecting higher priced services and products from Sutter."
My question to you is, I understand what the 09:37:46
plaintiffs asked you to assume, but have you actually studied the question of whether the anti-incentive terms that are in the -- alleged in the complaint, that are in the contracts, actually prevent the network vendors from offering health 09:38:09

plans that incentivize their enrollees to select lower priced competitors?

A I haven't offered expert opinion on that question in my report. And I haven't as a result specifically put in place some series, some research plan to address that and to figure out the questions that go with it. 09:38:52

I will say at the same time in the course of my work I have seen lots of things that address that topic. And it certainly seemed that directionally they would work in that -- they would have that effect. I don't have a view whether there is some other way that plans might have been able to achieve the same result. 09:39:21

Q Okay. It was not part of your assignment to look at to see whether that sentence was accurate? 09:39:43

A Correct.

Q Okay. You can set the complaint aside for the moment.

Now, you did use in your regression an HHI indicator, correct? 09:39:57

A Yes.

Q Describe how you did that and why you did it.

A The -- I will start with the second part of that. The why was to develop some measure of other 09:40:27

Q And in the block quote, it says -- well, it refers to all self-funded health plan that are citizens of California, and compensated Sutter for general acute care hospital services or ancillary services -- 10:36:22

MR. GROSSMAN: It says "ancillary products."

BY MR. LeVEE:

Q I'm sorry. Ancillary products -- good point -- at any time from January 1, 2003, to the present. So here the phrase is "ancillary products." 10:36:31

So let me ask, what is your understanding of what ancillary products are as used in the motion to certify class?

A I'm not sure what the -- how that's intended to be used if it is not just as part of the overall phrase a way of describing inpatient and outpatient services. 10:37:02

Q Okay. So outpatient services covers a pretty broad set of services, right? It's -- they include a lot of things that are provided by locations other than hospitals, such as a surgery center, correct? 10:37:24

A The answer may well depend on context, but, yes, in -- I would agree in general, at least as I would -- as I would use it and understand it, when 10:37:53

people talk about outpatient services and health care, there are other places that people obtain those services than general acute care hospitals.

Q Okay. So would that include -- and I'll list you a handful of things just as example -- imaging services, X-rays? 10:38:15

A Again, there may be some context in which it's clear that they are not, but, yes, without having any other information, I would generally think that they would fit within outpatient services. 10:38:34

Q What about laboratory tests, blood draws, urine samples, those are services you can get both at a hospital as an outpatient and at locations that are around town? 10:38:47

A Yes.

Q Surgery centers, if I get a colonoscopy, I can do that at a surgery center. I can also do it at a hospital, right?

A Yes. 10:39:01

Q Okay. Did your report analyze in any respect either through the regression or in some other way the competitive landscape for outpatient services?

A The answer would ultimately depend on how broadly you are using the phrase "competitive 10:39:56

landscape."

But, yes, I think there is at least a sense in which it did in a couple of different places.

Q Tell me where or how.

A Well, the regression analysis is based upon overall reimbursement rates, which include both inpatient and outpatient services. To the extent that the competitive landscape played a role -- for outpatient services played a role in the actual reimbursements that were obtained at California general acute care hospitals for outpatient services, that would -- that effect would have been embedded in the overall reimbursement rates used in my analysis. 10:40:19 10:40:52

As we discussed earlier, the model includes patient share and HHI variables which would reflect, at least in part, some -- the competitive landscape for outpatient services. 10:41:20

Q For hospitals?

A Yes. The part of it that comes from hospitals -- 10:41:51

Q Yes.

A -- yes. There is -- as I also noted earlier, an inpatient, outpatient mix which provides another -- a way within the model to account for 10:42:10

differences in pricing as across the two types of services.

Turning to the reimbursement rate analysis, the part of that analysis was focused particularly on reimbursement rates for outpatient and ER services, and the outcomes reflected in that would have been at least -- would be reflective of the competitive landscape, at least to the extent it mattered as far as those reimbursement rates were concerned? 10:42:36 10:43:03

Q So if I'm understanding your answer, you're talking about the fact that if there are competitors, a fact of the competition might affect the reimbursement rate. So I think you said the effect would have been embedded and that's what you're referring to, yes? 10:43:21

A Yes.

Q My question is different. So I'm sorry if I wasn't accurate.

I'm asking if you looked at in any way the availability of other competitors, in other words, imaging centers, outpatient surgery centers, urgent care facilities, is there anywhere in your report where you look at the fact that those entities exist in specific areas throughout California? 10:43:30 10:43:53

MR. GROSSMAN: I'm going to object. When you say "looked at," it's unclear what you mean by "looked at." I mean, he's already told you that it's factored into the -- into the regression.

MR. LeVEE: I think my question's clear. So we'll see if Dr. Leitzinger agrees. 10:44:13

THE DEPONENT: I have not done anything which would involve looking to identify particular suppliers of outpatient services other than general acute care hospitals. 10:44:36

BY MR. LeVEE:

Q Okay. Do you have any understanding as to whether the network vendors offer generally both HMO and PPO products?

A Generally my understanding is that they do, at least to some extent. 10:45:04

Q And do you know whether Sutter had contracts with the network vendors for both HMO and PPO products throughout the time period that you examined? 10:45:34

A I haven't done a specific review of the contracts throughout the period with that question in mind, but my understanding is that, yes, generally they did provide for reimbursement both in HMO -- in networks including HMO networks. 10:46:05

for inpatient and outpatient.

Q Well, I had understood that when you gave a damages calculation, which is in the next sentence, that that include both inpatient and outpatient.

Am I wrong? 11:50:10

A No. No. I -- what I was answering a moment ago is whether I knew that there were ancillary products associated both with inpatient and outpatient services. But the figure that's -- the total claims data -- claims data total includes 11:50:30 inpatient and outpatient.

Q Now, you had this paid claims data from Anthem, Aetna, Blue Shield, and United, correct?

A And Cigna, which is one of the changes in the modified version. 11:50:55

Q Okay. And the Cigna data arrived subsequently or arrived a little later?

A It may have, but the Cigna data -- just so it doesn't get lost -- the Cigna data were part of the 3.3 billion. 11:51:13

Q I understand.

A Okay.

Q What you're pointing out is that in Exhibit 1, the paragraph actually refers to Cigna, and I'm working off of the draft that I had that was 11:51:28

filed with the motion. So I apologize.

Is there a reason that you did not use the paid claims data from these five network vendors in your regression or in any regression?

A Yes. I think there are -- there are a number of things that came into play in that regard. 11:51:55

Q Please.

A The first is a question of timing in some respect. Early on came to be aware of OSHPD as a source of information about hospitals and characteristics and pricing. And we're in the process of sort of putting together the regression analysis even as we were simultaneously working through data issues on the -- with the network vendors on claims. 11:52:36 11:52:59

So one reason was simply the OSHPD data as a source for that were available and the claims data were not.

Q When did you get the claims data from the network vendors? 11:53:18

A Well, we continued to get some data right up to the time the report was provided and I -- my understanding is there is continuing discussions about additional data. So I would say the process is still not complete. 11:53:43

Q Did you have the bulk of the data four or five months ago?

A Four or five months. Let's see. That may be too long. I'd have to go back and look. My -- my recollection is that I don't know that we had claims data that we were in a position to work with much before January. 11:54:09

Q Okay. So you are listing reasons why the data was not used in the regression?

A A second reason is it wasn't clear to me that getting that granular down to claims data would -- would in any way sort of improve the analysis. All it might do is simply create a lot of claim-to-claim variability that from the standpoint of estimating overall pricing might, viewed from the model's perspective, just be a lot of noise. 11:54:27 11:55:14

Q Did the claims data have price information based on some code, CPT codes or other codes, DRGs?

A The claims data had -- had for each claim line an allowed amount. 11:55:41

Q Okay.

A And there would be associated with the claim line a CPT or a DRG at least for the vendors other than Cigna.

Q I ask because the OSHPD data as we've already 11:55:52

discussed doesn't have price that's actually paid, whereas the claims data does.

So I wondered if that had any impact on whether you -- why you decided not to use the claims data. 11:56:12

A Can I just finish my -- the reasons why I used --

Q Please.

A -- and then I will be happy to address that.

Q If you promise. 11:56:25

A I do. I do. I'm sure you'll keep me to it.

The -- another reason was an important part of the regression model or all of the hospital characteristics, and the claims data don't contain that information. And it turns out it's a big job 11:56:53 to match up hospital identification in the claims data to the hospital identification that's in the OSHPD data where the characteristics are present.

So even -- even after the time that the claims data sort of started to take shape in terms 11:57:34 of being available, a big obstacle to using them was we didn't have a ready means of being able to match them up to the hospital characteristics.

So those, I think, are the -- that's the end of my answer about reasons -- 11:58:04

plaintiffs are talking about.

Q Is it correct to say that your regression does not isolate the effect individually of any of these specific contract language issues? In other words, the regression shows an effect in totality, not individually. 12:10:12

A That's correct.

Q Okay. So just to give an example, the regression doesn't -- the results of the regression can't tell you whether the price secrecy language in and of itself is responsible for any of the reimbursement differential that you identify in the regression? 12:10:36

A Certainly not in the form that's set forth in my report. 12:11:10

Q Okay.

A It doesn't provide -- assuming there's -- that that's a meaningful question in some fashion, it doesn't answer it.

Q Okay. I think I'm offended as to -- you called my question not meaningful. I'll get over it. 12:11:20

The non-par rate, which you referenced, you understand that the plaintiff alleges that the effect of the rate causes health plans to be 12:11:42

A I think I want to understand what putting them together means.

Q Into a single negotiation.

A A single negotiation which would nonetheless be about the terms for each hospital, including whether or not each Sutter hospital is going to participate? 12:39:03

Q Correct.

A I think whether -- it seems to me whether that would have the kind of effect that you're asking about in the question, namely, sort of improving the quality of the negotiating on Sutter's end would depend upon how the person given the new job of negotiating all of these contracts simultaneously compared in their negotiating abilities with the, I'll assume, 25 people or so on balance who were doing it before. 12:39:23 12:39:52

Q Okay. And just to be clear, your regression does not control for the impact on price, if any, of the fact that Sutter Health entered into systemwide agreements beginning in 2001, just that fact? 12:40:14

A Correct. It -- it does not put to one side or isolate any effect that might have occurred in 2001 or 2002 as a result of that change.

Q Okay. Before we go to lunch, I want to 12:40:52

effects of anticompetitive behavior or does it just attempt to control for a variety of factors?

A It does the latter.

Q Okay.

A And by virtue of doing the latter, it can then be used as a way to analyze or, to use your word, model the effects of anticompetitive behavior. 03:03:33

Q Okay. And so if we talked about systemwide contracting is an issue earlier today, and I'm not going to ask you more questions about that, at least not right now, but if there was a factor that you did not control for in your regression, it would -- it'd at least be possible that the differences-in-differences approach that you -- the result that you have is attributable to that factor that you didn't control for as opposed to the contract language that you're attributing it to? 03:03:59 03:04:19

A Yes, as a matter of possibility. Sure.

Q Okay. Now, the regression -- the model itself, differences-in-differences model itself, would you say that it demonstrates common impact or do you need to do more work before you can get to common impact? 03:04:47

A I don't think that this regression model by itself irrespective of its 03:05:21

differences-in-differences feature, shows commonality.

Q Okay.

A I think you need more -- more evidence -- more information than just the model result itself. 03:05:37

Q Okay. You need Exhibit 8 or things like it?

A Exhibit 8 and the other information and analysis that I describe in the common impact section. 03:05:59

Q Okay. Now, I think we talked before, you ran the regression as a single regression including both inpatient and outpatient, right?

A Yes. The reimbursement rate is the product of both those types of activities and emergency. 03:06:15

Q And how did you decide the control group?

A Well, there were a couple of dimensions to that. The first is what -- for purposes of what we were trying to explain, it was the variable of interest was reimbursement rate at Sutter's general acute care hospitals. So for the control group also wanted to use general acute care hospitals. 03:06:52

In addition, wanted to use those hospitals that were indicated by OSHPD as being comparable. From -- certainly from a data perspective in terms 03:07:28

differential would have been higher and your damages number would have been higher?

A Yes. And to that end, one of the things I know to be true is if you take the overcharges for groups 1 through 11, excluding Group 8, that are shown in Exhibit 8, and multiply those by the reimbursements at just at those ten hospital groups, the total overcharge is higher than the $508 million figure. 04:00:30

Q Okay. Now, I was asking you about tests that you might run on the control group. Let me ask a couple questions. 04:00:54

Are there some generally accepted tests that econometricians run to check the reliability of regression and, in particular, the control group? 04:01:18

A There are tests that economists -- econometricians run to test the reliability of the model. And there are various things that one sometimes does in that regard. But I don't -- I don't know -- I don't -- to test specifically the reliability of the control group in a differences-in-differences model, I don't have anything that comes to mind in that regard. 04:01:57

Q Okay. Any tests that can evaluate how robust the answer is? 04:02:23

A Sure. There are always robustness tests and -- and so, yes, I suppose -- yes, I'll just say there are always robustness tests.

Q Did you run any here?

A Particularly directed at the choice of the control group or just in general? 04:03:05

Q In general.

A Yes. We did -- did a fair amount of that. Yes.

Q Can you tell me what you did? 04:03:38

A One thing I remember that some of these things were done at different stages of the work and may not have all been as to the model and its -- in this final form, but I remember one of the things that we did was look at reimbursement not relative to billed charges, but reimbursement relative to the charges for Medicaid and Medicare as a base. I know we -- there was a -- they had run this model without including fixed effects. And in the place of fixed effects, using some other variables to control for differences in hospitals like available beds. 04:04:12 04:05:03

I think there was some exploration of rather than running some of the variables in rates, might we use logs, and I think this came down in this -- in this model. I may have mentioned it 04:05:50

earlier today, I forget. We actually put in a Northern California indicator to see if it had an impact on the results.

Q Did it?

A It didn't really. I mean, maybe some very small impact. And I don't remember what direction it was. But it was not -- it was nothing significant in that regard. 04:06:07

Q What is an F test?

A If you're -- if you're trying to test for different -- whether different specifications matter in terms of the ability to fit the data, you can use what's referred to as an F test to see whether the fit produced by the model is statistically different with one specification or another. 04:06:31 04:07:31

Q Did you run that here?

A I don't remember ever having -- you don't just run it for a model itself. You need -- I have got Model Version A and I've got Model Version B. And I'm testing does A make any real difference relative to B. I don't remember having been in that situation where I was trying to test two alternative versions side by side. 04:07:58

Q You still have your report in front of you. Go from Exhibit 8 to Exhibit 7. 04:08:13

of your model. It's on page 27.

A Okay.

Q So in paragraph 48, you say, third sentence (as read):

"There is no claim in this case or evidence I have seen suggesting that the challenge contract practices affected billed charges, et cetera."

I read that correctly, yes? 04:12:58

A Yes. 04:13:08

Q Okay. And then you report the comparisons in Figure 3, which we've looked at before, which is the blue line and the red dotted line comparing Sutter hospitals to non-Sutter hospitals, right?

A Yes. 04:13:27

Q So the challenged conduct, the contract language, you see no indication that it caused chargemaster prices to change in any respect; is that correct?

A Correct. 04:13:50

Q Okay. Other than Figure 3, and the data that went into Figure 3, are you relying on anything else to conclude that the challenged conduct, the contract language, did not have an impact on chargemaster prices? 04:14:12

A Other than Figure 3, I am relying on the -- I'm relying on the absence, as far as I've been able to determine, of the things that are identified in the third sentence.

Q Okay. And Figure 3 is simply a comparison of chargemaster prices at all Sutter hospitals versus chargemaster prices in an average of all the non-Sutter hospitals, right? 04:14:38

A Yes, on a per-patient basis.

Q Per patient per day? 04:14:59

I'll just tell you that Figure 3 says (as read):

"Average commercial billed charges per patient day."

A Yes. Okay. I was just going to go check that, yes. 04:15:24

Q Okay. And so there -- you did not run any regressions in conjunction with the opinion that chargemaster prices were unaffected by the challenged conduct, right? 04:15:40

A Correct.

Q Okay. And you use the fact that chargemaster prices -- sorry. Strike that. Start over.

You use the fact that the comparison between Sutter prices and non-Sutter hospital prices with 04:15:56

respect to the chargemaster, you -- that was an important factor in assessing the changes of reimbursement rates, right?

In other words, if Sutter prices -- if the chargemaster went up, then the fact that the reimbursements went up, you would have to control for that somehow. Went up compared to other hospitals, I should say. 04:16:19

A Yes, if the -- if the chargemaster and hence the billed charges changed as a result of the conduct, then that's a change one would also want to take into account in inferring the amount of price -- price impact that's associated with changes in reimbursement rates. 04:16:38

Q Okay. So you ran a regression on the changes in reimbursement rates, but not on the changes in the chargemaster rates, and I -- my question is why didn't you run a regression on the changes in chargemaster rates? 04:17:07

A I didn't for the reasons described in the -- in paragraph 48. I didn't have any reason to think as a matter of even a working hypothesis that there was some connection between the challenged conduct and billed charges. 04:17:23

And then when I further looked at Figure 3 04:17:59

and didn't see anything happening in terms of some change in the relative relationship between Sutter and other hospitals at or about the time the conduct occurred or following the conduct, it just didn't seem -- it didn't seem worthwhile to go through the exercise of trying to develop and present a whole another economic model. 04:18:28

Q You could have done it.

In other words, you had the information available to do it, right? 04:18:52

A I didn't spend a lot of time thinking about this, so -- but I -- but in the minute or two here since you've raised the question, no, I don't know that there's any obstacle from a data standpoint that would have stood in the way of developing such a model. 04:19:21

Q And that model could have included the same indicators, quality, Northern versus Southern, and HHI indicator. You could have used essentially the same indicators as you actually used in the regression, but you didn't? 04:19:40

A Again, subject to more reflection, I don't -- sitting here, it isn't -- I don't see anything right away that would argue you couldn't do that. 04:20:00

looking at it today, you don't understand that to be comparing Sutter's chargemaster prices to chargemaster prices of Sutter's competitors?

A I didn't when I read it originally.

Q Okay. And, in fact, you find Sutter's chargemaster prices to be very similar to non-Sutter prices based on the evidence we've been looking at today? 04:24:10

A The way I compared them in exhibit -- in Figure 3, yes, that's what I found. 04:24:28

Q Okay. Let me ask you for a minute about the date ranges that you used.

You used a -- if I understand correctly, a pre period of 1998 to 2003, correct?

A 2002. 04:24:47

Q I should say 2002.

A Yes.

Q And why did you use that -- those four years?

A 1998 is -- is really as far back as we had data. Which, by the way, was another reason that I couldn't use the claims data for this purpose because it didn't start until 2004 or something like that. But -- so the start of that period was really a function of available data. 04:25:04

Q Got it. But you -- turning to the claims 04:25:30

Q Now, in your view, is that parity? I didn't ask you to define parity. Maybe we should do that. What does parity mean in this context?

A In this context I'm looking for the extent to which the contract prices that were set forth in the agreements were the same or different. And parity describing a condition which would, while not necessarily suggesting identity, suggests that they were nonetheless sort of generally equal or producing similar results. It doesn't have a precise definition. 04:38:18 04:38:57

Q I was just going to ask you, have you seen any economic literature that discusses what the concept of parity means?

A No. Which is one of the reasons why I went to some length here to sort of describe the results themselves and give the -- give the full flavor of what the data was showing. 04:39:04

Q Okay. Would -- so you say that, you know, plus or minus [redacted] would be parity. That's your opinion, right? 04:39:24

A I think I would put it differently. I say that there's a substantial degree of parity in prices. That's -- and that's a product both of the nonquantitative statements about what was happening 04:39:51

that were in the paragraph up above and then -- and then even in the contract prices themselves, I found what I considered to be a lot of similarity across networks without saying that each one of these bullet points is parity and the other isn't. It wasn't that sort of thing. 04:40:14

Q Well, maybe I misunderstood. And for the 2010 reference on page 41 of your report, when you say "Sealed by Order of the Court on 11/09/17. for Aetna and Sealed by Order of the Court on 11/09/17. were within Sealed by Order of the Court on 11/09/17. of Sealed by Order of the," I thought you were saying that means parity. Are you not saying that? 04:40:28

A I wouldn't -- I wouldn't offer plus or minus Sealed by Order of the Court on 11/09 as a range for parity. I'm certainly not intending to say that. I'm saying I -- I find the fact that 90 percent of the prices were within plus or minus Sealed by Order of the Court on 11/09 as -- as part of this picture where there was -- maybe I'm just using different words for the same thing, but a lot of equality, price is not identity, which in the totality of it I -- the phrase I used to describe it was substantial parity. 04:40:46 04:41:13

Q Is there -- if Sealed by Order of the Court on 11/09 is not necessarily parity, is there a number that you would have been comfortable defining as parity? 04:41:27

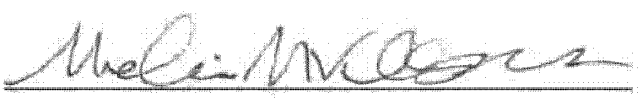
I, the undersigned, a Certified Shorthand Reporter of the State of California, Registered Professional Reporter, Certified Live Note Reporter, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were duly sworn; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript [ ] was [ ] was not requested. I further certify I am neither financially interested in the action nor a relative or employee of any attorney or party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: 3/20/2017



MELISSA M. VILLAGRAN

CSR No. 12543 RPR, CLR

EXHIBIT B

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN FRANCISCO

UFCW & EMPLOYERS BENEFIT TRUST, on behalf of itself and all others similarly situated,

Plaintiffs,

vs. CASE NO. CGC 14-538451

SUTTER HEALTH, et al.,

Defendants.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

DEPOSITION OF PMQ

PETER ANDERSON

October 14, 2016

8:06 a.m.

2151 River Plaza Drive
Suite 300
Sacramento, California

JENNIFER SCHUMACHER, CSR No. 9763
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

documents.

Q. Is there any pricing analysis that you're able to identify the strategy department has done or does?

A. Well, as I mentioned, early on in the, I suppose, 2004 to 2007 period, I had some analytics on hospital pricing. And I think it was kind of a -- from a health plan perspective, cost per day or something. And I'm not sure I've had anything that's reliable, if that was. We reverse engineered sometimes from OSHPD data to try and get some sort of idea of relative commercial pricing, but it's got about as many unknowns has it has equations, and so it's not really reliable. I couldn't do the math for you to show you how it works. But it's like you do this, you do this, you do this, and then maybe that's representative, but maybe it's not. So we do that whenever I ask somebody to do it, but it's one that the finance guys shake their heads and say I wouldn't rely on that.

Q. And when do you ask someone to do that?

A. I think I've asked for it twice in 12 years.

Q. What were those two occasions?

A. I can't give you precision on it. I think once in the last two years, and I think once after a meeting with Jay Gellert, where he addressed our kind of board governance, he used that analysis, and I think I

a discharge is complicated and probably not very accurate. So it's a fairly unwieldy process to do anything other than a directional analysis.

Q. What is the analysis that Sutter does?

MR. KIERNAN: Object to form.

BY MR. WHEELER:

Q. If you don't know, you don't know. If there's someone else who I should ask, let me know.

A. Well, you're asking an all-encompassing question, and finance is the primary source for that kind of analytics. On case specific issues we might do some. We have an OSHPD database that allows us to compare discharge information, numbers of surgeries and things like that. If we look back at this, it's backward looking, rearview mirror sorts of things where you can see who has how many cases of ambulatory surgery commercial versus I suppose it's Medicare and Medi-Cal as well. You can pick the number of counties, and you can cut the data, and you can generate that kind of information. But pricing is really hard. I'm not trying to obfuscate. It's just really hard. And that's why I say because it's hard on a case specific thing there may be a different approach or different data set that somebody might go after. But I'm not particularly expert in the intricacies of it.

you would have to sign off on it, right?

A. Typically.

Q. Especially if it's being presented to the finance and planning committee, right?

A. Correct.

Q. What does this mean, "Net revenue per CMI adjusted discharge is used as a surrogate for price, it is not price but directionally close to price," what does that mean, it's directionally close to price?

A. There is -- I guess I would have to look at the rest of the presentation to see what's going on. If we're using our internal data for our internal net revenue, then it's reasonably reliable in terms of what -- I don't know if it's all payers or if it's commercial or what it is. The inputs are reasonably reliable. If we're trying to do it with OSHPD data for somebody else, depending on how they do the analysis, it could be directionally close. Kind of depends on how you define directionally close. But it's certainly not trying to get at charges. It's trying to get at something closer to allowables or actual revenues received.

Q. And what internal data are you referencing?

A. Well, just our financial systems, you know, our revenue cycle systems. We would know what we receive.

Q. But you wouldn't know what other providers receive, right?

A. That's right. That's why it's so difficult to provide this kind of analysis.

Q. Because the pricing data for all providers is not publicly available, correct?

A. Correct.

Q. Is OSHPD the only public source of data for other providers?

MR. KIERNAN: Object to form.

THE WITNESS: I don't know how the various claims processes work, you know. I would think that Anthem Blue Cross knows what it's paying everybody. But if your question is public, that's not public. So sorry, spinning off there. Who else might have real data.

Q. Are you aware of any other public source for data that can be used to -- as a surrogate for price other than OSHPD?

A. Not in California. I imagine other states have similar state reporting things that are public.

Q. Take a look at the next bullet. It says, "A weighted CMI was used to arrive at an overall price for a region or a system." Do you know what weighted CMI Jim Harrison was using?

MR. KIERNAN: Object to form.

THE WITNESS: I can't answer your question because I don't know the computation for that level of intricacy. But it's inconclusive, but it could be right. See what I'm saying?

BY MR. WHEELER:

Q. That measure is inconclusive but it could be right?

A. Yeah.

Q. If Brett Moore doesn't believe that that's a reliable measure, what other measure does Brett Moore use?

MR. KIERNAN: Object to form.

THE WITNESS: You'd have to ask him. I don't think I'm qualified to answer that.

BY MR. WHEELER:

Q. Are you aware of any other measure other than net revenue per discharge adjusted by CMI?

A. Well, if I were doing an analysis, I would want to be far more specific than that ultra high level number because as our prior CFO used to say, you could have your head in the oven, your feet in the freezer, on average you're comfortable. And again, when you're dealing with that highest level of aggregation, you don't know what's going on necessarily.

REPORTER'S CERTIFICATION

I, JENNIFER SCHUMACHER, a Certified Shorthand Reporter in and for the State of California, do hereby certify:

That the foregoing witness was by me duly sworn; that the deposition was then taken before me at the time and place herein set forth; that the testimony and proceedings were reported stenographically by me and later transcribed into typewriting under my direction; that the foregoing is a true record of the testimony and proceedings taken at that time.

IN WITNESS WHEREOF, I have subscribed my name this October 19, 2016.



JENNIFER SCHUMACHER, CSR No. 9763

EXHIBIT C

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN FRANCISCO

UFCW & Employers Benefit Trust, on behalf of itself and all others similarly situated,

Plaintiffs,

vs.

Sutter Health, et al.,

Defendants.

Case No. CGC 14-538451

DEPOSITION OF MELISSA LYNN BRENDT

SAN FRANCISCO, CALIFORNIA

JULY 13, 2016

REPORTED BY: MICHAEL CUNDY, CSR 12271

to know what to do when a member presents with an ID card, how to bill the claim, and they roll it out, and they explain things, to that level.

Q Does the contract manager prepare materials to explain the function of the contract?

A They do.

Q What sorts of materials?

A The contract rollout documents.

Q Those are presentations that they will give to the various affiliates?

A Yeah. Probably just a broad overview of what's in the contract.

Q It shows here that J. Masley -- is that Janet?

A Joe Masley.

Q -- Joe Masley is the managed care analysis director, and he reports to Jay Chason, who is the vice president of managed care analysis.

What sort of responsibilities do they have being involved in the analysis?

A They are the ones that -- this team are the ones that were responsible for those financial impact analyses on the proposals.

Q Does the managed care analysis function ever analyze the prices of Sutter as compared to other providers?

A Only publicly available data like OSHPD data, yes, they might look at OSHPD data.

Q And compare it to Sutter's providers?

A They would look at OSHPD data charges and do some comparison, yes.

Q And when you say, "they would," who would do this comparison?

A John or Joe or someone under them, they would direct them to do that.

Q And what would prompt them to do this comparison?

MR. LIFRAK: Objection. No foundation and beyond the scope.

You can answer, to the extent you know.

THE WITNESS: We might get a legal request to look at it. We might be responding to a lawyer's request and doing an analysis on OSHPD data.

BY MR. WHEELER:

Q Any other occasions where MCD has done an analysis comparing the prices of Sutter and other providers?

A Charges, you are talking about, not contracted prices; correct?

Q I'm talking of either.

A Yeah -- no. We only do -- anything that's available publicly would only be charges.

Q Correct. So you are only able to get the public

STATE OF CALIFORNIA)
) SS:
CITY AND COUNTY OF SAN FRANCISCO)

I, Michael Cundy, CSR NO. 12271, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were placed under oath; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney or any of the parties.

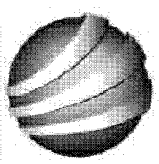
IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: July 18, 2016



Michael Cundy, CSR NO. 12271

EXHIBIT D



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EsquireSolutions.com

A 30 minutes.
Q Where is he located?
A He is retired.
Q Where is he located?
A In Washington.
Q Washington State?
A Uh-huh.
Q And had he been your mentor at Sutter?
A No. He was my predecessor, and I wasn't in that type of a role before I took my current role.
Q You say you became the head of strategic intelligence about three and a half years ago?
A Yes, director of strategic intelligence.
Q Do you recall what date that was?
A I believe it was May 2013.
Q Did you take over from Jim Harrison?
A Yes.
Q And was strategic intelligence created in May 2013?
A Yes.
Q And previously it had been business intelligence?
A That's correct.
Q And Jim Harrison had been the head of business intelligence?

A That's right.

Q For what period of time had Jim Harrison been the head of business intelligence?

A I spoke with him about this, and I might get the year wrong, but I believe it was 2005.

Q Up until when you took over in May of 2013?

A That's correct.

Q Why did Sutter rename your unit?

MR. KIERNAN: Object to form.

THE WITNESS: So I don't -- it wasn't a renaming. It was development of a new capacity.

BY MR. WHEELER:

Q What was the new capacity?

A To provide more of a qualitative understanding of goings-on in the environment.

Q Previously had the approach been primarily quantitative?

A Yes.

Q And your unit still does quantitative analysis, right?

A It is very limited.

Q Why is that?

A Our source information is very limited, and if we wanted to know -- if we wanted to evaluate -- the OSHPD data is an example of information that represents

discharges from two years ago.

Q So has Sutter kind of moved away from doing quantitative analysis?

A Yes.

Q And that is because of the data limitations?

A I think we moved away from more of that quantitative analysis because there's a need for us to use more of the understanding of what is going on in the environment to inform our strategies versus data.

Q And you said data -- that source data is very limited. Does that mean that it is -- can you tell me what that means?

A I can give you an example.

Q Sure.

A The example that we talked about earlier which is you can see how many discharges are occurring in the environment over time, but that may not indicate the performance of your health system in terms of providing better care for the community.

Q Is there any -- in light of these source data limitations, is there any other data that Sutter uses?

MR. KIERNAN: Object to form.

BY MR. WHEELER:

Q It sounds like you don't think the OSHPD data is very helpful.

MR. KIERNAN: Object to the form.

BY MR. [illegible]:

Q Is that right?

A So what kinds of data are you talking about?

Q Well, there are -- I am just trying to understand. It sounds like when you took over strategic intelligence in May 2013, it was kind of reoriented towards qualitative analysis. Is that fair?

A Yes, correct.

Q When Jim Harrison was heading the business intelligence unit, it was focused on quantitative analysis, correct?

A Much heavier focus on quantitative.

Q Did anything happen in particular that prompted Sutter to reorient away from quantitative analysis?

A I'm not aware of any particular event that related to that.

Q I take it whatever these data limitations were, were not new in May 2013. Right?

A Yes.

Q And so do you have any understanding what prompted this change at Sutter?

A I'm speculating, if I were to give --

Q I just want your understanding.

A It would be that we were becoming more of a

health system versus a number of affiliates, and there's better -- there's a need for more strategic understanding versus measurement of old data.

Q The one data limitation you mentioned in the OSHPD discharge data was the fact it can be some -- somewhat dated by the time it is released. Is that fair?

A That is one of the limitations of the data.

Q What are the other limitations?

A We know that it is the usage. One of the examples that I gave you was we don't know if a number of additional discharges for one location versus the next is a result of better care, more care, or anything -- we can't interpret any kind of understanding of care from one place to the next based on volume of information -- or volume of utilization. That is one limitation.

We've seen in the past the characterization of information in terms of how it is reported to OSHPD as being limited or at times have seen examples of where it is miscategorized.

Q But for a number of years, Sutter relied upon OSHPD data, correct?

MR. KIERNAN: Object to the form.

THE WITNESS: I wouldn't say that we've relied

on it.

BY MR. MEHERALI:

Q Well, Jim Harrison used it, right?

A The information has been used in the past.

Q By Jim Harrison?

A Correct.

Q And does Sutter still use the OSHPD data?

A We do.

Q And what does Sutter use the OSHPD data for today?

A The same kinds of analyses that we've talked about or otherwise in the transition packet.

Q When you spoke to Jim Harrison last week, what did he tell you about Sutter's competitive analyses?

A We asked him about how long and the different kinds of analyses that had been done to help inform whether or not their analyses that he was aware of that were outside of the transition book.

Q Had you previously spoken to Jim Harrison in connection with this litigation?

A No.

Q Had anyone previously spoken to Jim Harrison in connection with this litigation?

MR. KIERNAN: Object to form.

THE WITNESS: I don't know.

CERTIFICATE OF REPORTER

I, JOHNNA PIPER, a Certified Shorthand Reporter, hereby certify that the witness in the foregoing deposition was by me duly sworn to tell the truth, the whole truth and nothing but the truth in the within-entitled cause;

That said deposition was taken down in shorthand by me, a disinterested person, at the time and place therein stated, and that the testimony of the said witness was thereafter reduced to typewriting, by computer, under my direction and supervision;

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition nor in any way interested in the event of this cause and that I am not related to any of the parties thereto.

DATED: November 14, 2016



JOHNNA PIPER, CSR 11268

EXHIBIT E

CONFIDENTIAL - ATTORNEYS' EYES ONLY
IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN FRANCISCO

UFCW & EMPLOYERS BENEFIT TRUST, on behalf of itself and all others similarly situated,

Plaintiffs,

vs. No. CGC 14-538451

SUTTER HEALTH, et al.,

Defendants.

~~~~~~

CONFIDENTIAL, ATTORNEYS' EYES ONLY PMQ DEPOSITION OF

JEFF SPRAGUE

(Pages 1 through 168)

November 28, 2016

9:23 a.m.

235 Montgomery Street, 17th Floor

San Francisco, California 94104

REPORTED BY: JOHNNA PIPER, CSR 11268
~~~~~~

Q So in the '90s, at least, the parameter process was utilized?
A Yes. Uh-huh.
Q Is it still utilized today?
A It is.
Q So it has been utilized continuously since the '90s?
A Uh-huh. Yes.
Q Go back to the question about analysis of rates -- contracted rates of Sutter, and I think you mentioned you don't have access to contracted rates of others. I believe you had mentioned that there was no regular analysis of Sutter's rates versus others. Are you aware of any analysis at all of Sutter's rates compared to other providers?
A Not specific rates at a specific line item level.
Q Okay. What level?
A We periodically might have looked at using OSHPD, what the net revenue per CMI-adjusted discharge would have been, but it is very, very directional, not actionable, and relies on a lot of financial engineering to get to that number.
Q And other than the OSHPD data, do you -- does Sutter have any other source of data regarding its rates

relative to other providers?

A Not today. The medical foundations have posted their charges, so it is not rates, no.

Q OSHPD is the only game in town?

A But it doesn't have rates. It has a very high-level aggregate number that relies on CMI adjustment -- adjusted discharge adjustment. It is very imprecise.

Q Right. I'm just trying to get a sense of what other than OSHPD Sutter has used?

A There's nothing else.

Q Okay. But Sutter does use OSHPD data for the charge analysis, correct?

A Correct.

Q And if the OSHPD data is imprecise, then why does it do a charge analysis of the OSHPD data?

A Because you can get OSHPD charges at a procedure level.

Q Okay. And is that more precise?

A Yes, it is.

Q So when -- I'm trying to understand the charge analysis. Can you explain to me what the charge analysis looks like?

A The one that we've done since about 2014 compares any -- any particular charge in the charge

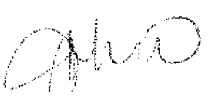
CERTIFICATE OF REPORTER

I, JOHNNA PIPER, a Certified Shorthand Reporter, hereby certify that the witness in the foregoing deposition was by me duly sworn to tell the truth, the whole truth and nothing but the truth in the within-entitled cause;

That said deposition was taken down in shorthand by me, a disinterested person, at the time and place therein stated, and that the testimony of the said witness was thereafter reduced to typewriting, by computer, under my direction and supervision;

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition nor in any way interested in the event of this cause and that I am not related to any of the parties thereto.

DATED: December 6, 2016



JOHNNA PIPER, CSR 11268

EXHIBIT F

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN FRANCISCO

-o0o-

UFCW & Employers Benefit Trust, on behalf of itself and all others similarly situated,	)	
Plaintiffs,	)	
vs.	)	No. CGC 14-538451
Sutter Health, et al.,	)	
Defendants.	)	

DEPOSITION OF

ALDO DE LA TORRE

MARCH 13, 2017

Reported by: Stacy Banks, CSR 9343

Veritext Legal Solutions
877-955-3855
Case 2:22-cv-00610-LA Filed 08/03/26 Page 240 of 277 Document 238-15

[redacted]

Q. Okay. But let me come back to the earlier question. Do you recall any other situations where a self-funded payor contacted Anthem, and you heard about it one way or the other, and the payor was interested in having a network that either excluded certain or all Sutter hospitals or tiered Sutter facilities?

MR. WHEELER: Objection. Calls for speculation.

THE WITNESS: Yes.

MR. LEVEE: Q. So what do you recall?

A. I don't recall the client, just the conversation. It was a general conversation about total exclusion. However, that we would point out where that wouldn't work for coverage reasons. So it was a desire to selectively exclude Sutter providers and keep those where they needed access. But where there was alternates they would like to have removed Sutter from the network.

a -- where a self-funded payor was trying to get Anthem to either have some kind of a narrow network that excluded some portion of Sutter or tiering?

MS. CHENG: Objection. Misstates prior testimony.

MR. WHEELER: Objection. Calls for speculation.

THE WITNESS: The way the conversation would go was more of, "This is what we'd like to do. What are the challenges or barriers? Can we do this?" So the conversation would generally start with the client and the Anthem representative and then the Anthem representative would come to us and request an opinion. The client could do it, but there was implications to that.

MR. LEVEE: Q. Okay. And what were the implications?

A. That claims that went to the ER were paid now at 95 or 100 percent in charges which would erode any potential savings that they were forecasting.

Q. Okay. I'm going to come to that in a second. But I'm just trying to figure out what these conversations, can you put a time period around them?

A. 2007 to 2014.

Q. Okay. A big time. And so --

A. Throw a large net out there.

Q. I'm trying to figure out if these -- you're recalling one particular conversation that related to

possibly a union. And are you saying there were other conversations as well that you participated in?

A. Yes.

Q. Okay. But not with any, any self-employed customer that you can remember the name?

A. Correct. The conversations were the representative from the verticals. So the ones that were most interested were national accounts and labor trust representatives.

Q. Okay.

A. Because those are primarily self-funded clients in those two verticals.

Q. And do you recall whether you ever communicated to Sutter the interest of any of those customers, or would-be customers, of what those customers were thinking of doing?

A. I can't recall the conversation, no.

Q. You can't recall that there was one or that you had one?

A. I don't recall that I had one.

[redacted]

STATE OF CALIFORNIA)
)
COUNTY OF FRESNO)

I, STACY BANKS, a Certified Shorthand Reporter of the State of California having offices located at Fresno, California, do hereby certify;

THAT the witness in the foregoing deposition, named ALDO DE LA TORRE, was by me duly sworn to testify to the truth, the whole truth and nothing but the truth for the taking of the testimony herein;

THAT said deposition was reported in shorthand by me at the time and place above stated and thereafter transcribed under my direction and control.

I FURTHER CERTIFY that I am not interested in the outcome of said action, nor connected with, nor related to any of the parties in said action nor to their respective counsel.

DATED: MARCH 19, 2017

_____

STACY BANKS, C.S.R. No. 9343

EXHIBIT G

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN FRANCISCO

UFCW & EMPLOYERS BENEFIT TRUST, on behalf of itself and all others similarly situated,

Plaintiffs,

vs.

SUTTER HEALTH, et al.,

Defendants.

Case No. CGC 14-538451

VIDEOTAPED DEPOSITION OF STEVE MELODY

Tuesday, March 21, 2017

Reported by:
HEATHER M. LOFHOLM,
CSR #11570
JOB No. 2560054

PAGES 1 - 174

come to that a little later. Can you recall any time that you communicated with anyone at Sutter about a specific proposal from a self-funded payor for a narrow network?

MR. WHEELER: Objection. Vague. Calls for speculation.

THE WITNESS: I can't recall specifically.

BY MR. LeVEE:

Q. Okay. Same question. Can you recall -- for tiered networks. Can you recall any time that you on behalf of Blue Cross spoke to anybody at Sutter Health about a proposal from a self-funded payor for a tiered network?

MR. WHEELER: Objection. Vague. Calls for speculation.

THE WITNESS: Just the same. I can't recall.

BY MR. LeVEE:

Q. Okay. Do you recall that you had such conversations, or you simply don't recall whether any of those conversations ever occurred?

A. I can't recall if those conversations occurred.

[redacted]

[redacted]

Q. So part of a give-and-take in terms of price?

A. Yes.

Q. Okay. Would you -- would it be fair to say in your negotiations with Sutter over the years -- and I guess the years that we're talking about would be 1997 to 2011 -- that the negotiations for each of the renewals of the system-wide contracts would take months and months?

A. Yes.

Q. Okay. And there were offers and counteroffers that were frequent on both sides, right?

MR. WHEELER: Objection. Compound. Overbroad.

MS. CHENG: Objection. Vague (inaudible).

BY MR. LeVEE:

Q. You can go ahead and answer.

THE DEPOSITION REPORTER: I'm sorry. "Objection. Vague"?

MS. CHENG: And ambiguous. Sorry.

BY MR. LeVEE:

Q. You can go ahead and answer.

A. There was an exchange of proposals back and forth.

Q. Okay. And did the exchange cover -- well, strike that.

Did the exchange include exchanges on rates that Anthem would pay to Sutter?

MR. WHEELER: Objection. Vague. Overbroad.

THE WITNESS: That would be included, not necessarily with every proposal that went back and forth as there were other non-financial terms being negotiated, too.

BY MR. WHEELER:

Q. Okay. But over the course of the several months that these contracts would be negotiated there would be both financial terms negotiated and non-financial terms?

A. Yes.

Q. Okay. And it -- would it be fair to say that those negotiations typically went all the way very close to the date that the previous contract would expire?

MR. WHEELER: Objection. Compound.

THE WITNESS: Yes.

BY MR. LeVEE:

Q. Okay. Were there times that the negotiations went beyond the date that the previous contract had expired?

A. The only time that I can recall that happened was at the end of the year 2000.

CERTIFICATE OF REPORTER

I, HEATHER M. LOFHOLM, a Certified Shorthand Reporter, hereby certify that the witness in the foregoing deposition, STEVE MELODY, was by me duly administered an oath in accordance with CCP Section 2025 to tell the truth, the whole truth and nothing but the truth in the within-entitled cause; that the testimony of said witness was taken down in shorthand by me, a Certified Shorthand Reporter and disinterested person, at the time and place herein stated, and that the testimony of the said witness was thereafter reduced to typewriting, by computer, under my direction and supervision.

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition, nor in any way interested in the outcome of this cause, and that I am not related to any of the parties thereto.

I hereto declare under penalty of perjury that the foregoing is true and correct. I have hereunto set my hand on March 27, 2017.

Heather M. Lofholm, CSR No. 11570

Slip sheet for Ex. 1 to Melody Deposition -
February 7, 2017
Declaration of Steve Melody in Connection with Plaintiff
UEBT's Motion for Class Certification

EXHIBIT H

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF SAN FRANCISCO

UFCW & EMPLOYERS BENEFIT TRUST, on behalf of itself and all others similarly situated, Plaintiffs,	)	Case No. CGC 14-538451
vs.	)	
SUTTER HEALTH, et al., Defendants.	)	

HIGHLY CONFIDENTIAL, ATTORNEYS EYES ONLY

VIDEOTAPED DEPOSITION OF MICHAEL RAMSEIER

Thursday, March 30, 2017

Reported by:
PAMELA J. HANSEN,
RPR, RMR, CRR
JOB NO. CA 2560053A

PAGES 1 - 167

A '09 to '11. 09:19

THE REPORTER: I'm sorry, I couldn't hear you. 09:19

MR. DOMINGO: '09 to '11. 09:19

A So the first role was Northern California. So, yes, I was engaged with Sutter and all of the -- when I had responsibility for the whole state -- when I had responsibility for the whole state, Sutter was in my purview of responsibility. 09:20

And prior to 2001, was likely in some type of support role and dealt with Sutter at some point, but I don't recall the exact details. 09:20

Q So in your roles as director of network development and VP of provider engagement and contracting, did you interact directly with self-funded payer clients? 09:20

A No. 09:20

Q You had no interaction with UEBT during that time frame? 09:20

A Not that I recall. 09:20

Q To your knowledge, did any self-funded 09:20

[redacted]

Q (BY MR. DOMINGO) To your knowledge, did any self-funded payer ever ask Anthem for a tiered network? 09:21

MR. WHEELER: Calls for speculation. 09:21

A I don't know. 09:21

Q (BY MR. DOMINGO) I take it you had many conversations with Sutter Health over the years during the negotiations, correct? 09:21

A Yes. 09:21

Q And among the people that you communicated with regularly were Melissa Brendt and Kris Vine? 09:21

A Correct. 09:21

Q Can you recall any time that you communicated with anyone at Sutter about a proposal from a self-funded payer for a narrow network? 09:21

A I don't remember. 09:21

Q Can you recall any time that you communicated with anyone at Sutter about a specific proposal from a self-funded payer for a tiered network? 09:21

A Again, I don't remember. 09:21

Q I understand there were some association rules that applied to Blue Cross and Blue Shield that prohibit the creation of narrow networks exclusively for one customer; is that right? 09:21

STATE OF COLORADO)
) ss. REPORTER'S CERTIFICATE
COUNTY OF DENVER)

I, Pamela J. Hansen, do hereby certify that I am a Registered Professional Reporter and Notary Public within the State of Colorado; that previous to the commencement of the examination, the deponent was duly sworn to testify to the truth.

I further certify that this deponent was taken in shorthand by me at the time and place herein set forth, that it was thereafter reduced to typewritten form, and that the foregoing constitutes a true and correct transcript.

I further certify that I am not related to, employed by, nor of counsel for any of the parties or attorneys herein, nor otherwise interested in the result of the within action.

In witness whereof, I have affixed my signature and seal this 3rd day of April, 2017.

My commission expires September 3, 2018.

_____

Pamela J. Hansen, CRR, RPR, RMR
216 - 16th Street, Suite 600
Denver, Colorado 80202

EXHIBIT I

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN FRANCISCO

--oOo--

UFCW & EMPLOYERS BENEFIT TRUST
on behalf of itself and all others similarly situated

Plaintiff,

vs. Case No. CGC 14-538451

SUTTER HEALTH, et al.

Defendants.

VIDEOTAPED

DEPOSITION OF

DAVID SEAN JOYNER

Monday, March 20, 2017

Volume I

Reported by:
COREY W. ANDERSON
CSR No. 4096
Job No. 2560048

at the time. 11:14

A. Uh-huh. 11:14

Q. But do you recall a self-funded employer requesting that certain Sutter providers be excluded from a plan? 11:14

A. I recall self-funded employers requesting custom network designs to reduce their costs by eliminating certain providers. I wasn't in those conversations directly, so I can't testify as to whether Sutter specifically was mentioned, but I know there was interest from self-funded customers in having custom network designs, large -- large self-funding customers. 11:14

Q. Right. But you don't recall as you sit here today whether any self-funded employer requested a design that excluded certain Sutter providers. 11:15

Is that correct? 11:15

A. I can't recall a specific example of that. 11:15

Q. Okay. Thank you. 11:15

You mentioned that with respect to smaller self-funded employers that would be under your purview and your business unit? 11:15

A. Uh-huh. 11:15

Q. That Blue Shield would not, I think your 11:15

words were, entertain custom designs for their self-funded payors. 11:15

Is that correct? 11:15

A. Yeah. Generally it's -- it's not economically feasible to design and implement custom networks for small self-funded customers. The costs don't justify the -- the size of the membership. 11:15

Q. And what would the -- help me out on the costs. What would the additional cost be for custom designing a plan for a self-funded employer -- 11:15

A. The cost would be that for system -- system costs to change the system for that customer to change the system logic to reflect different provider communication, configuration. 11:16

It would also be costs in representing a different network to those employees, they would no longer be accessing the standard Blue Shield network. 11:16

There would be costs to educate the customer service and operations people that the network was now unique and different. Standard documentation couldn't be used. 11:16

So there were many impacts in the operation which for a small self-funded customer didn't make economic sense do to custom for a single 11:16

A. Is what's used as the basis for this analysis. 14:02

Q. Okay. If you turn to it's page 16 of Exhibit 13 to your declaration, and this is appendices. 14:02

A. Yup. 14:02

Q. And page 17 is relative unit cost methodology, states "Hospitals are placed into cohorts geographic market to determine relative cost scores." 14:02

What, describe for me what the cohorts are. 14:02

A. So the notion here is that it would be inappropriate to compare hospitals, so we are in radically different markets against each other for relative costs. So their labor costs in rural California, final from a California would be very different from labor costs in downtown San Francisco, for example. So to compare two hospitals in those two radically different markets for labor, real estate, and so on, would be inappropriate. 14:03

So to have a valid way of comparing hospitals against each other, these 31 cohorts were created, and mostly they were counties. In LA because LA is huge they were -- LA was divided up 14:03

into -- into areas, and then in the rural areas the cohort might be a number of rural counties all together. 14:03

And the cohort was again used as a way of trying to compare hospitals who face similar competitive environment and similar input costs in terms of labor, real estate, and other things. 14:03

Q. I see. And was -- I notice you have attached other exhibits that have similar analysis to your declaration. Are these -- were these the types, was cohort analysis done on a regular basis at Blue Shield? 14:04

A. Yes. The -- this is a part of the hospital cost model that I referenced earlier. 14:04

Q. Okay. 14:04

A. And in fact, the cohorts, I had forgotten the name, is -- is the methodology that was also used in Network Choice for comparing hospitals against each other in a -- in a geographic area. 14:04

And so this model was use to understand all the economics of our networks to prepare us for negotiations to evaluate things like tiering or narrow network options. It was a fundamental sort of foundation for our work at Blue Shield in understanding what the provider network costs. 14:04

Q. Okay. In the third bullet down says "Drill down on relative unit calls by service line," looks like it breaks out IP. Is that inpatient? 14:04 14:04 14:05

A. Inpatient, yes. 14:05

Q. And is OP outpatient? 14:05

A. Yes. 14:05

Q. And then why are those broken out by service line? 14:05 14:05

A. They are major logical categories of services at inpatient and outpatient. So instead of looking at -- it's valuable to look at a blended number, but it's also can be more insightful to look at a more granular way of looking at the services. 14:05 14:05 14:05 14:05 14:05

Q. Why is that? 14:05

A. Just it helps you understand what's driving the result. So you might see a hospital that's very high cost and you might be able to figure out that they are high cost say in surgical, but low cost in maternity, say. 14:05 14:05 14:05 14:05 14:05

[redacted]

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were administered an oath; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript was not requested.

I further certify I am neither financially interested in the action nor a relative or employee of any attorney or any party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: 3/22/2[illegible]

Corey W. Anderson

COREY W. ANDERSON

CSR No. 4096

EXHIBIT J

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

IN AND FOR THE COUNTY OF SAN FRANCISCO

--oOo--

UFCW & EMPLOYERS BENEFIT TRUST
on behalf of itself and all others similarly
situated

Plaintiff,

vs. Case No. CGC 14-538451

SUTTER HEALTH, et al.

Defendants.

ATTORNEYS EYES' ONLY

VIDEOTAPED DEPOSITION OF:

JANET LUNDBYE

Thursday, March 30, 2017

Volume I

Reported by:
COREY W. ANDERSON
CSR No. 4096
Job No. 2561208

Pages 1 - 188

Q. You agree that you don't recall one way or another whether Sutter made that offer? 15:23:22

MR. PRITT: Objection, form.

MR. WHITE: Join. 15:23:23

THE WITNESS: I don't recall either way, yes. 15:23:26

BY MR. SELDEN: 15:23:28

Q. Okay. Did you ever ask Sutter to create a narrow network for an individual ASO? 15:23:29

A. Not that I -- not that I can remember. 15:23:32

Q. Did you ever ask Sutter to create a tiered network for an individual ASO? 15:23:33

A. At times there are customers, especially provider customers, who ask to -- for us to administer benefits that would tier toward their own facilities. And yes, there are times when we have gone to Sutter and said we have this ASO customer and this is what they want, and will you allow that. 15:24:05

And on a customer-by-customer basis there were times when Sutter agreed, especially if it were a provider competitor. 15:24:16

Q. Okay. I want to separate out a couple pieces of that. First, when you are referring to a provider, you are referring to another health system? 15:24:18

15:24:20 15:24:26 15:24:28 15:24:35 15:24:39 15:24:43 15:24:46 15:24:50 15:24:53 15:24:56 15:25:00 15:25:03

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were administered an oath; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

Further, that if the foregoing pertains to the original transcript of a deposition in a Federal Case, before completion of the proceedings, review of the transcript was not requested.

I further certify I am neither financially interested in the action nor a relative or employee of any attorney or any party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

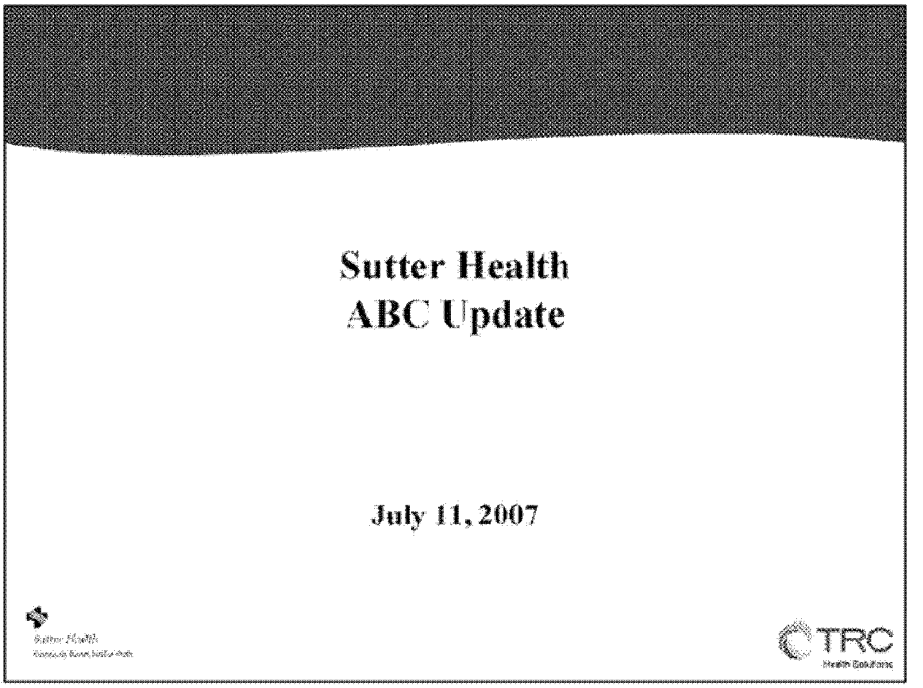
Dated: April 3, 2017

Corey W. Anderson

COREY W. ANDERSON

CSR No. 4096

EXHIBIT K


Sutter Health
ABC Update
July 11, 2007
TRC

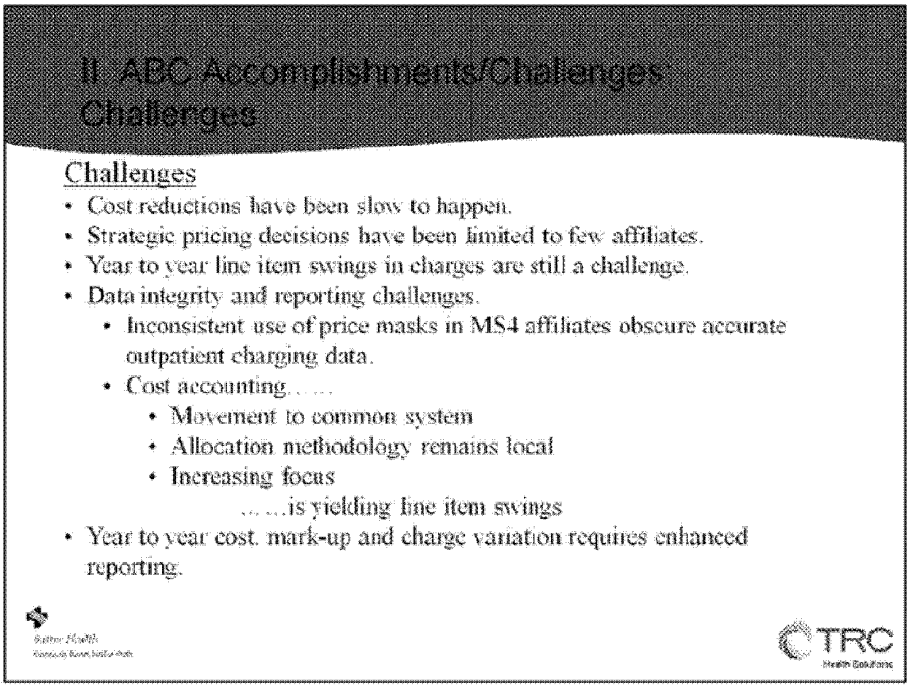

II. ABC Accomplishments/Challenges
Challenges
Challenges
• Cost reductions have been slow to happen.
• Strategic pricing decisions have been limited to few affiliates.
• Year to year line item swings in charges are still a challenge.
• Data integrity and reporting challenges.
• Inconsistent use of price masks in MS4 affiliates obscure accurate outpatient charging data.
• Cost accounting. . . . .
• Movement to common system
• Allocation methodology remains local
• Increasing focus
. . . . .is yielding line item swings
• Year to year cost, mark-up and charge variation requires enhanced reporting.
TRC

EXHIBIT L

Market Definition in Antitrust

Theory and Case Studies

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CHAPTER VII

HOSPITALS AND PHYSICIAN SERVICES

A. Introduction

This chapter provides an overview of how antitrust markets are defined in hospitals and physician services. Chapter VIII will discuss market definition in two other important health care areas: pharmaceuticals and medical devices.

A critical question that must be considered when determining the scope of relevant product and geographic markets in hospitals and physician services is "who is the consumer?" In most industries, the answer to this question is obvious: the consumer is the person who purchases and consumes the good or service. In health care markets, where a number of participants play roles in the purchase decision, the answer is less clear.

For example, the health care product or service is often selected by (or at least with the help of) a physician. Many purchase decisions also may be influenced by managed care organizations. Finally, the choice of health insurance available to a consumer may be limited by an employer. In particular, employers select plans, which in turn may affect the purchase decision.

This chapter describes how market participants may influence the purchase decision. It then discusses how relevant markets have been defined in hospitals and physician services.[1]

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1. As explained more fully below, the economic principles outlined in the *2010 Merger Guidelines* are commonly employed when defining relevant markets in the health care industry. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 4.1 (2010), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,100, *available at* http://www.justice.gov/atr/public/guidelines/hmg-2010.html [hereinafter 2010 MERGER GUIDELINES]. See Chapter I for a general discussion of market definition under the 2010 *Merger Guidelines*.

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"[r]elevant markets need not have precise metes and bounds."[3] Whether market definition can be skirted altogether by a finding of above-competitive prices remains an open possibility in hospital services analyses. The issue of avoiding the formal market definition was addressed by the FTC in the *Evanston Northwestern*[4] administrative hearing proceedings.[5] In these proceedings, the FTC staff presented evidence of "direct effects" of above-competitive price increases and alleged a geographic market, thus not relying exclusively on the price analysis. The FTC ultimately ruled that the finding of above-competitive price increases implied that the alleged geographic market was properly defined.[6]

a. Product Market Definition in Hospital Services

Market definition is typically based on demand-side substitution. In some respects, this conceptual approach fits well with the realities of health care services. Yet to a large degree, patients receive specific services based on clinical needs rather than price-related factors. For example, a patient cannot substitute an appendectomy for a hip replacement if the price of hip replacements rises above competitive levels.[7] Nevertheless, price sometimes can influence a patient's treatment decision. A patient may choose to use contact lenses, for example, if the price of LASIK surgery rises above competitive levels, or to use liposuction if the price of a gastric bypass surgery rises above competitive levels.

The *Merger Guidelines*' demand-side substitution approach would likely result in each individual hospital service being segregated into a

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3. 2010 MERGER GUIDELINES, *supra* note 1, § 4.
4. Evanston Nw. Healthcare Corp. Sys., No. 9315 (FTC Aug. 6, 2007) (Opinion of the Commission), *available at* http://www.ftc.gov/os/adjpro/d9315/070806opinion.pdf [hereinafter Evanston Opinion].
5. *Id.* at 55.
6. *Id.* at 78 ("We also find that because the merger enabled ENH to raise prices by a substantial amount (at least equal to a SSNIP) through the unilateral exercise of market power, the geographic triangle in which the three ENH hospitals are located constitutes a well-defined antitrust geographic market under Section 7.").
7. *See, e.g.*, United States v. Carilion Health Sys., 707 F. Supp. 840, 846 (W.D. Va. 1989); California v. Sutter Health Sys., 130 F. Supp. 2d 1109, 1119 (N.D. Cal. 2001).

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separate product market.[8] The test of reasonable interchangeability would result in a similar outcome.[9] A variant on those approaches that is often used in health care services involves clusters of services. Market definition under a cluster market approach can conveniently aggregate dissimilar services that are produced by the same type of provider and contracted for as a group by purchasers.[10] If the services are most commonly purchased as a well-defined group or market participants generally are the same for each set of services, then a cluster market analysis may be acceptable.[11] In general, however, cluster markets are most often used as a convenience and not because they are analytically rigorous.

Hospital-service cluster markets remain a useful focus if for no other reason than that they are frequently used by the courts and the antitrust agencies.[12] Cluster market analysis may result in hospital services being grouped in different ways. For example, inpatient and outpatient services might be included in separate product cluster markets, as might primary, secondary, and tertiary services, or cardiac surgery and

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8. 2010 MERGER GUIDELINES, *supra* note 1, § 4.1.1.
9. Brokerage Concepts v. U.S. Healthcare, 140 F.3d 494, 513-14 (3d Cir. 1998).
10. Seth Sacher & Louis Silvia, *Antitrust Issues in Defining the Product Market for Hospital Services*, 5 INT'L J. ECON. BUS. 181, 183-85 (1998); Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L.J. 129, 157-58 (2007); *see also* Michael G. Vita et al., *Economic Analysis in Health Care Antitrust*, 7 J. CONTEMP. HEALTH L. & POL'Y 73, 81 (1991) (arguing that supply-side complementarities are the strongest economic bases for hospital service cluster markets).
11. Complaint ¶ 12, ProMedica Health Sys., No. 9346 (Jan. 6, 2011), *available at* http://www.ftc.gov/os/adjpro/d9346/110106promedicacmpt.pdf [hereinafter ProMedica Complaint] (arguing for the appropriateness of using a cluster market "because the group of services is offered by the same competitors under similar competitive circumstances"). Cluster market delineation in hospital services seldom involves a precise definition of the "same set of services" that must be provided by hospitals to be included in the market. More often, some hospitals provide all of the services and others provide only a subset. An implicit assumption is that hospitals can easily add specific services if it is desirable to do so. Sacher & Silvia, *supra* note 10, at 183-84.
12. *See, e.g.*, ProMedica Complaint, *supra* note 11, ¶ 12; Complaint ¶ 19, Inova Health Sys. Found., No. 9326 (May 8, 2008), *available at* http://www.ftc.gov/os/adjpro/d9326/080509admincomplaint.pdf [hereinafter Inova Complaint] (referring to "broad cluster[s]" of services).

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Exhibit 15

SUPERIOR COURT OF CALIFORNIA

COUNTY OF SAN FRANCISCO

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SUPERIOR COURT OF CALIFORNIA

COUNTY OF SAN FRANCISCO

UFCW & EMPLOYERS BENEFIT TRUST, et al., Plaintiff, vs. SUTTER HEALTH, ET AL., Defendants.	Case No. CGC – 14-538451 **ORDER GRANTING IN PART MOTION TO STRIKE, GRANTING CLASS CERTIFICATION, AND SETTING CASE MANAGEMENT CONFERENCE**

Introduction[1]

Plaintiff UFCW & Employers Benefit Trust (UEBT) brought this putative class action alleging that defendants Sutter Health and its affiliated corporations (Sutter) violated California's Cartwright Act and Unfair Competition Law by illegally inflating hospital pricing and compelling Network Vendors (described below) to enter into anticompetitive healthcare provider agreements.

Millions of people in Northern California enroll in group health plans providing access to healthcare services from a select group of healthcare providers (including hospitals) at established rates. The benefits are paid by either the employer or a healthcare benefits trust, sometimes out of its own funds (making the employer or trust a "Self-Funded Payor"). Network Vendors negotiate with healthcare providers for the prices of the services and products they sell,

[1] This background is drawn largely from the complaint.

and assemble the providers into larger Provider Networks. Self-Funded Payors then contract with Network Vendors to obtain access to their Provider Networks and consequently, their negotiated prices.

Sutter is the largest healthcare provider in Northern California. The five major Network Vendors in Northern California are Blue Shield of California, Anthem Blue Cross, Aetna, Cigna, and United Healthcare (also known as PacifiCare). Plaintiff UEBT, a Self-Funded Payor, alleges Sutter uses its dominant economic power to compel Network Vendors to agree to anticompetitive terms in their provider agreements. These agreements contain (1) non-par contract provisions (or "all or none" provisions), (2) anti-tiering provisions through which Sutter refuses to participate in narrow networks, (3) provisions which block price transparency. These agreements constrain the types of Provider Networks that the Network Vendors can offer to their customers, and consequently harm Self-Funded Payors, who must pay substantially inflated prices for their enrollees' healthcare.

UEBT now moves for class certification. I heard argument July 28, 2017. The motion is granted. I set a case management conference in the Conclusion.

Class Definition

UEBT defines the class as:

> [A]ll self-funded payors that are (a) citizens of California for purposes of 28 U.S.C. § 1332(c)(1) or (d)(10) or (b) arms of the State of California and that compensated Sutter for general acute care hospital services or ancillary products at any time from January 1, 2003 to the present at prices set by contracts between Sutter and Aetna, Anthem, Blue Shield, Cigna, PacifiCare or United Healthcare.

Reply ISO Class Cert. at 17–18. This is almost, but not quite, the definition proposed in the complaint. Complaint ¶ 126.

Evidence

UEBT offered declarations from its counsel, their expert Jeffrey Leitzinger, and the client. UEBT also provided declarations from Network Vendors attesting to the anticompetitive contract structure described above. Sutter provided declarations from its counsel, its expert Margaret Guerin-Calvert, and the client.

Motion to Strike & Summary of Expert Declarations

Dr. Leitzinger found that (1) "the aggregate amount of overcharges incurred by the proposed Class as a result of the alleged anticompetitive conduct can be calculated on a class-wide, formulaic basis" and (2) "evidence that is common to members of the proposed Class can be used to show that all or nearly all proposed Class members likely incurred at least some overcharge." Leitzinger Corrected Dec. ("Leitzinger") ¶ 6. Leitzinger used multiple regression analysis to estimate the overcharge in prices as a result of Sutter's alleged anticompetitive practice by looking at hospital reimbursement rates compared with billed charges, and isolating variables to account for other possible influences on the data. *Id.* at ¶¶ 43–56. He found common proof showing antitrust impact in the form of (1) the manner in which reimbursement is calculated, (2) evidence of parity across Network Vendors in reimbursement terms, (3) evidence of commonality across provider agreements in contract terms and broad overcharges, and (4) claims data from Network Vendors showing higher average reimbursement rates for Sutter compared with other California hospitals in inpatient and/or outpatient and emergency hospital services. *Id.* ¶¶ 73–79.

Ms. Guerin-Calvert's opposing declaration finds flaws in Leitzinger's analyses. She contends that he improperly aggregates products (treating inpatient and outpatient services as the

same, when they are statistically significantly different, for example), measures only average impact across services, fails to control for other factors that drive hospital pricing, and fails to articulate any plausible theory for how contract provisions affected healthcare pricing. Guerin-Calvert Second Corrected Dec. ("Guerin-Calvert") ¶¶ 6–12. In short, there is too much diversity in the claims at issue, and a common methodology cannot show impact for all (or nearly all) class members. *Id.* at 62.

In reply, Leitzinger seeks to refute each of Guerin-Calvert's criticisms of his regression model, and explains why his analysis does account for variation across class members. He says the purpose of his regression model is to show the feasibility of calculating aggregate class-wide overcharges, not to prove common impact. Leitzinger Reply ¶ 4. Economists use averages to analyze aggregate pricing impact all the time, and his model also effectively controlled for things other than Sutter's challenged conduct. *Id.* ¶ 11.

Turning then to impact, Leitzinger then set forth "further evidence of common impact," explaining that there was commonality across contracts, hospitals, plan designs, and over time. *Id.* ¶¶ 18, 49–51, 105–22.

At an ex parte hearing on May 31, I permitted Guerin-Calvert to file a sur-reply declaration. Order Granting Sutter's Ex Parte Motion (entered June 1, 2017). I wrote that UEBT could move to strike portions of the sur-reply declaration "to the extent it goes beyond impeachment of plaintiff's expert reply materials." *Id.* UEBT now does so, arguing that Guerin-Calvert's sur-reply declaration improperly contains new evidence, i.e., she performed new analyses, constructs new variables, proposes new price measures, and develops a new theory and analysis on the impact of prices on class members, none of which served to impeach Leitzinger's testimony. UEBT says Exhibits 4–9 and 11–15 are new analyses that should be stricken.

The sur-reply declaration does include additional analyses, but generally for the purposes of impeachment. Exhibit 4 takes two data sets that Leitzinger used, and attempts to show that extending the same analysis to observe differences in other variables reveals there is a wider range of reimbursement rates than what Leitzinger concluded. Guerin-Calvert Sur-Reply Dec. ¶ 4 n. 3. Exhibit 5 does the same expansion to show that there is more variation than Leitzinger contends. *Id.* Exhibits 6 and 7 serve to counter Leitzinger's analysis of outpatient reimbursement ratios to show that Sutter's charges grew more slowly over the relative period than those of other providers. *Id.* ¶ 6. This attacks Leitzinger's assertion that Sutter's reimbursement rate remained flat while the rate or other providers declined. *Id.* Exhibit 8 assertedly provides a different look at overcharges across time periods from that provided by Leitzinger. *Id.* ¶ 7 n. 10. Exhibit 9 attacks Leitzinger's choice of a certain year as the "dummy" year. *Id.* ¶ 7. Exhibits 11A and 11B, 12–13 suggest that had Leitzinger taken pricing for specific services and geographic areas into account, the average reimbursement rates and allowed amounts per claim would be different than what Leitzinger asserts. *Id.* ¶¶ 11, 13. Exhibit 15 is an example designed to show that Leitzinger fails to account for caps on claims. *Id.* ¶¶ 14, 16.

Exhibits 12–14 appear to be based on data or analyses that were not previously relied upon or raised in Leitzinger's reply declaration. Accordingly, they could have been raised in Guerin-Calvert's opposition declaration. These are stricken from the sur-reply, along with corresponding paragraph 13 in the sur-reply declaration.

Market Structure

A. Sutter has noted that plaintiffs have no analysis of the market structure and by implication market power in this antitrust case, and that their expert has nothing to say on

geographical markets or whether Sutter has market power in any of them (or it). Transcript of Argument (Tr.) at 63. But markets are not defined for their own sake; they are defined so as to evaluate in their context whether a defendant has for example power to control prices. *Cohlmia v. St. John Med. Ctr.*, 693 F.3d 1269, 1282 (10th Cir. 2012). It is that power which matters. Market definition also allows the evaluation of whether a restraint was reasonable or not, and provides the focus for proof that harm was done to competition as such, not just to a market participant such as a plaintiff. E.g., *Marsh v. Anesthesia Serv. Med. Grp., Inc.*, 200 Cal. App. 4th 480, 496 n.5 (2011). Raising the issue now, Sutter implies that without market definition, class wide impact cannot be shown, Tr. at 63 *et seq.* But that does not follow. As discussed below, supracompetitive pricing can be shown with regression analyses. True, market power can be a predicate to anticompetitive injury, but where anticompetitive injury is shown directly as with supracompetitive pricing there may be no need to show market power as such to establish class wide impact.[2] And on the merits plaintiffs allege that Sutter has the "power to raise price significantly above the competitive level without losing all of [its] business)," which *is* market power.[3]

B. As discussed below, the parties have very different views of the product market, and in anticipation of that it worth here making a few notes. For plaintiffs the market is not one in which patients decide where to go for services, such as where to go for hip surgery, or for outpatient services such as setting broken bones and x-rays. Patients are not class members. The market is available to Network Vendors who are 'in the market' as it were for *networks or collections* of services available at hospitals across northern California. Class members sign up for the choices Network Vendors have been offered. Tr. at 24; Motion at 4:9-17. Because this

[2] For what it's worth, the alleged geographical market is probably Northern California. Tr. at 18-19.
[3] *Redwood Theatres, Inc. v. Festival Enterprises, Inc.*, 200 Cal. App. 3d 687, 704 (1988). See evidence cited below at p. at 7:7-10.

agglutination of services is offered through hospitals, plaintiffs focus on what they term competition at the hospital level, Tr. 96-97; and this is why they reject the service-by-service approach urged by Sutter and its expert. Under plaintiffs' theory of the case, it doesn't matter if an x-ray is cheaper at a non-Sutter hospital; if plaintiffs are right on the merits, the patient will still go to the (assertedly) more expensive Sutter hospital for the x-ray as a function of restraints at the hospital level. Here, there is no pertinent service by service market. UEBT has evidence that Sutter is sufficiently pervasive in the areas over which plaintiffs must have access to hospitals that it is not possible to have a plan that excludes Sutter. Wheler Dec. Ex 5 at ABCLH396710. See also evidence at Motion at 4 note 4.

Certification

Basics

It is UEBT's burden to show an ascertainable and sufficiently numerous class, a well-defined community of interest, and substantial benefits from certification that makes a class action superior to alternatives. *Brinker Restaurant Corp. v. Super. Ct.*, 53 Cal. 4th 1004, 1021 (2012) (citing C.C.P. § 382). The "community of interest requirement embodies three factors: (1) predominant common questions of law or fact; (2) class representatives with claims or defenses typical of the class; and (3) class representatives who can adequately represent the class." *Id.* See generally *In re Cipro Cases I & II*, 121 Cal. App. 4th 402, 409–10 (2004); *Martinez v. Joe's Crab Shack Holdings*, 231 Cal. App. 4th 362, 372 (2014).

Frequently, the predominance issue is controlling. *Dep't of Fish & Game v. Superior Court*, 197 Cal. App. 4th 1323, 1334 (2011); *In re Cipro Cases I & II*, 121 Cal. App. 4th at 410. That is the case here.

> The predominance factor requires a showing 'that questions of law or fact common to the class predominate over the questions affecting the individual members.' [Citation.] 'The ultimate question in every case of this type is whether ... the issues which may be jointly tried, when compared with those requiring separate adjudication, are so numerous or substantial that the maintenance of a class action would be advantageous to the judicial process and to the litigants.'
>
> *In re Cipro Cases I & II,* 121 Cal.App.4th at 410.

The balancing inherent in the predominance analysis contemplates the existence of individual issues, including perhaps on damages, in properly certified classes; as always, the issue is whether the common or individual issues *predominate*. This is not a question of counting issues, for indeed "a single common question can suffice." *In re Processed Egg Prod. Antitrust Litig.*, 312 F.R.D. 171, 179 (E.D. Pa. 2015), citing *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 359 (2011). Rather, predominance often comes down to manageability.[4] Courts evaluate the matter through the lens of the plaintiffs' theory of the case—that is, whether the plaintiffs' "theory of recovery" presents sufficient common issues. *Jaimez v. DAIOHS USA, Inc.,* 181 Cal. App. 4th 1286, 1298 (2010). Antitrust cases in particular lend themselves to class actions with predominating common issues, at least "where the defendants are alleged to have engaged in collusive, anticompetitive conduct resulting in artificially high market-wide prices for a product." *In re Cipro Cases I & II*, 121 Cal. App. 4th at 411. See also, e.g., *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 815 (7th Cir. 2012) (predominance is key issue and is often satisfied in antitrust cases).

[4] *In re New Motor Vehicles Can. Exp. Antitrust Litig.*, 522 F.3d 6, 20 (1st Cir. 2008) (the court must "formulate some prediction as to how specific issues will play out in order to determine whether common or individual issues predominate in a given case"); *Dep't of Fish & Game v. Superior Court*, 197 Cal. App. 4th at 1332–33 ("'A class action can be maintained even if each class member must at some point individually show his or her eligibility for recovery or the amount of his or her damages, so long as each class member would not be required to litigate substantial and numerous factually unique questions to determine his or her individual right to recover." (*Acree v. General Motors Acceptance Corp.* (2001) 92 Cal.App.4th 385, 397, 112 Cal.Rptr.2d 99.) "Individual issues do not render class certification inappropriate so long as such issues may effectively be managed." [citing] *Sav-on Drug Stores, Inc. v. Superior Court* (2004) 34 Cal.4th 319, 334...").

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The landscape of this case, with its many services, prices, and discounts, presents a more complex economic picture than the sale of one drug, but the *Cipro* case suggests that certification may nevertheless be warranted in complex markets. *In re Cipro Cases I & II,* 121 Cal. App. 4th at 413 ("markets characterized by individually negotiated prices, varying profit margins, and intense competition, as well as to indirect purchasers who buy the product from middlemen in a largely unaltered form"). See also *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 816 (7th Cir. 2012), a case heavily relied on by both sides, which suggests that even in the "market for hospital services [which] seems to be particularly complex," certification may be proper.

Certification Factors

1. Numerosity

The class includes well over 1500 California self-funded health plans that pay Sutter for the healthcare charges incurred by their employee-members, instead of purchasing insurance to cover those costs. Motion Class Certification (Motion) at 1, 16. Leitzinger ¶ 28 and Ex. 5. Sutter does not dispute numerosity.

2. Ascertainability

"Whether a class is ascertainable is determined by examining (1) the class definition, (2) the size of the class, and (3) the means available for identifying class members." *Hale v. Sharp Healthcare*, 232 Cal. App. 4th 50, 58 (2014) (internal quotation marks and citations omitted); *Miller v. Bank of America, N.A.*, 213 Cal. App. 4th 1, 7 (2013). See generally *Nicodemus v. Saint Francis Mem'l Hosp.*, 3 Cal. App. 5th 1200, 1214 (2016). The central concerns addressed by the ascertainability requirement are to have objective criteria so that (1) class members know if they are in the class or not, and for res judicata evaluations after

judgment, and (2) to enable notice. E.g., *Byrd v. Aaron's Inc.*, 784 F.3d 154, 163-165 (3d Cir. 2015).[5]

UEBT contends that data provided by the five major Network Vendors identifies all self-funded health plans that purchased general acute care hospital services or ancillary products from Sutter during the class period. Motion at 16. These plans can be reviewed to identify those that were California citizens for the relevant time period. Publicly available data maintained by the California Secretary of State facilitates this examination. *Id.* at 17.

Sutter argues that class members cannot be readily identified without unreasonable expense or time. Opposition to Class Certification motion (Opposition) at 28. Sutter has already identified instances where an entity was included on the plaintiffs' class list but was not the actual payor, or was not a California citizen. *Id.* at 29.

Class members can be identified from the Network Vendors' records. There may be individual class members that are, as Sutter points out, just subsidiaries covered by a parent company's health benefit plan, or where their claims or right to sue were transferred. Opposition at 29. But that potential confusion is resolved because the proposed class definition now calls for "self-funded payors" instead of "self-funded health plans." Reply ISO Class Certification (Reply) at 17. Those self-funded payors will be able to determine whether or not they belong in the class, because they will know if they are a California citizen or not. The fact that an

[5] Sutter's argument could be understood as an objection that it is administratively infeasible to identify each individual class member. But we should not wade into the disagreements on this issue such as those between the Third and Ninth (and other) Circuits. Compare *Briseno v. ConAgra Foods, Inc.*, 844 F.3d 1121, 1127 (9th Cir. 2017), *In re Petrobras Sec.*, 862 F.3d 250, 268 (2d Cir. 2017). It does not appear that California courts have endorsed the administratively infeasible element; for our purposes, we can say that meeting California's ascertainability element furthers the notice requirements. *Nicodemus v. Saint Francis Mem'l Hosp.*, 3 Cal. App. 5th 1200, 1214 (2016). As is true for the Ninth Circuit, when notice is issued California courts just require the best notice practicable. *Briseno*, 844 F.3d at 1128–29; CRC 3.766 (e); *Duran v. Obesity Research Inst., LLC*, 1 Cal. App. 5th 635, 647 (2016).

individualized inquiry may be needed to identify some of the class members does not defeat ascertainability. *Nicodemus v. Saint Francis Mem'l Hosp.*, 3 Cal. App. 5th 1200, 1214 (2016).

In an argument developed mostly in its Sur Reply (at 8), Sutter contends that it is not permissible to include governmental entities in the class. See also Opposition at 29. These issues do not affect the fundamental issues on certification, or of ascertainability specifically, and can be dealt with in later proceedings.

The class is ascertainable.

3. Community of interest

A. Predominance

The "ultimate question for predominance is whether the issues which may be jointly tried, when compared with those requiring separate adjudication, are so numerous or substantial that the maintenance of a class action would be advantageous to the judicial process and to the litigants." *Duran v. U.S. Bank National Assn.*, 59 Cal. 4th 1, 28 (2014) (internal quotation marks and citations omitted). The Eleventh Circuit has a nice practical formulation of the test:

> [I]f common issues truly predominate over individualized issues in a lawsuit, then the addition or subtraction of any of the plaintiffs to or from the class [should not] have a substantial effect on the substance or quantity of evidence offered.... If, on the other hand, the addition of more plaintiffs leaves the quantum of evidence introduced by the plaintiffs as a whole relatively undisturbed, then common issues are likely to predominate.[6]

UEBT's theory of liability is that Sutter implemented its anticompetitive scheme through substantially identical contract provisions with Network Vendors that restricted their ability to offer narrow networks, tiered products, and transparency to the self-funded health plans. Motion at 18. The common issues putatively include (1) whether Sutter engaged in challenged practices, (2) what impact Sutter's contracting practices had on hospital competition, (3) what impact Sutter's practices had on class members' payments, (4) what the amount of damages is for

[6] *Brown v. Electrolux Home Prod., Inc.*, 817 F.3d 1225, 1235 (11th Cir. 2016), quoting *Vega v. T-Mobile USA, Inc.*, 564 F.3d 1256, 1270 (11th Cir. 2009).

impacted class members, and (5) whether or not claims are barred by the statute of limitations. *Id.* at 20–21. This can be shown through common proof of the provider agreements, testimony from each Network Vendor explaining how the contracts inhibited their creation of cost-effective networks and restricted their ability to promote price competition, and an economic expert report that analyzed impact and found class-wide overcharges. *Id.* at 19. Even if the anticompetitive policies were not always enforced, there is still a common issue of whether Sutter restrained enough of the market to harm competition and inflate healthcare pricing. *Id.* This can also be shown through common proof of Sutter engaging in challenged practices. *Id.* at 20.

(i) **Contract provisions**

UEBT presented the contract provisions across all provider agreements for all Network Vendors in Appendix A. The language across the agreements for these material provisions are substantially similar. The contract provisions at issue include (1) all or nothing terms requiring the Network Vendor to include all Sutter providers in their plans, (2) non-participating provider rates at no less than 95% of billed charges, (3) parity among all Sutter providers, (4) no participation in tiered products, plans, or benefit designs, and (5) a confidentiality clause that prohibits disclosures unless authorized in writing, promoting price secrecy. *See* Appendix A.

The Network Vendors are in agreement that these contract provisions restricted their ability to promote price competition and create more cost-effective networks:

All or nothing terms. Sutter requires Network Vendors to include all Sutter providers in any plans, to the extent that *any* Sutter provider is included.[7] This made narrow networks

[7] Melody Dec. (Anthem) ¶ 12; De La Torre Dec. (Anthem) ¶ 13; Joyner Dec. (Blue Shield) ¶¶ 15–17, 19; Barnes Dec. (Blue Shield) ¶¶ 6–7; Katz Dec. (Cigna) ¶ 13; Hamilton Dec. (Cigna) ¶ 4; Welsh Dec. (Aetna) ¶ 13; Lacroix-Milani Dec. (HealthNet) ¶ 34; Lundbye Dec. (United) ¶ 8.

commercially unviable by eliminating any savings that would have accompanied exclusion of higher-priced Sutter providers.[8]

Non-participating provider rates. Sutter required that payors pay Sutter a substantial percentage (95 % or higher, as seen from the provider agreements) of the billed charges to any Sutter provider who was not participating in the network.[9] This had the effect of carrying on the all-or-nothing contracting practice.[10] Even if Sutter permitted some of its hospitals to participate in narrow networks, the non-par provision negated any savings.[11]

Parity and anti-tiering. Sutter blocks or undermines Network Vendors' attempts to create tiered products, or at least place Sutter in a top tier.[12] Sutter also requires Network Vendors to agree to equal treatment of all Sutter providers that participate in the plan.[13] Overall, this restricts Network Vendors' ability to both steer members to lower-priced providers, or expose Sutter to any competition to get Sutter to moderate its high prices.[14]

Price secrecy. Sutter imposes confidentiality provisions in its agreements that prohibit disclosure of Sutter's pricing.[15] Sutter also consistently opposes Vendor attempts to create cost comparison tools for members.[16]

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[8] Melody Dec. (Anthem) ¶ 14; Ramseier Dec. (Anthem) ¶ 7; Joyner Dec. (Blue Shield) ¶ 35.
[9] Melody Dec. (Anthem) ¶ 17; De La Torre Dec. (Anthem) ¶¶ 15–16; Joyner Dec. (Blue Shield) ¶¶ 34–35, 37, 39; Barnes Dec. (Blue Shield) ¶ 16; Katz Dec. (Cigna) ¶¶ 17–18; Hamilton Dec. (Cigna) ¶ 5; Lundbye Dec. (United) ¶ 9.
[10] Melody Dec. (Anthem) ¶ 18; Katz Dec. (Cigna) ¶ 15; Lundbye Dec. (United) ¶¶ 10–12.
[11] Melody Dec. (Anthem) ¶¶ 20–23; De La Torre Dec. (Anthem) ¶ 14; Joyner Dec. (Blue Shield) ¶ 40.
[12] Melody Dec. (Anthem) ¶¶ 25–26, 29; De La Torre Dec. (Anthem) ¶¶ 22–23; Ludkins Dec. (Anthem) ¶¶ 3, 10; Joyner Dec. (Blue Shield) ¶ 51; Barnes Dec. (Blue Shield) ¶ 20; Katz Dec. (Cigna) ¶ 19; Hamilton Dec. (Cigna) ¶ 10; Welsh Dec. (Aetna) ¶¶ 17–18, 21; Lacroix-Milani Dec. (HealthNet) ¶ 45.
[13] Melody Dec. (Anthem) ¶ 27; De La Torre Dec. (Anthem) ¶¶ 19–20; Welsh Dec. (Aetna) ¶ 47; Lacroix-Milani Dec. (HealthNet) ¶¶ 37–39; Lundbye Dec. (United) ¶ 17.
[14] Melody Dec. (Anthem) ¶ 30; De La Torre Dec. (Anthem) ¶ 26; Ramseier Dec. (Anthem) ¶ 10; Joyner Dec. (Blue Shield) ¶¶ 43, 54.
[15] Melody Dec. (Anthem) ¶¶ 33–34; De La Torre Dec. (Anthem) ¶¶ 30–31; Ramseier Dec. (Anthem) ¶ 7; Joyner Dec. (Blue Shield) ¶¶ 63, 65; Barnes Dec. (Blue Shield) ¶ 25; Katz Dec. (Cigna) ¶¶ 24–26; Hamilton Dec. (Cigna) ¶ 7; Welsh Dec. (Aetna) ¶ 15; Lundbye Dec. (United) ¶ 14.
[16] Melody Dec. (Anthem) ¶ 37; De La Torre Dec. (Anthem) ¶¶ 33–37; Katz Dec. (Cigna) ¶¶ 27–28; Welsh Dec. (Aetna) ¶¶ 37–38.

There is evidence that Network Vendors (and consequently, their self-funded payor members) were subject to the same or substantially similar restrictive contract provisions with Sutter, which consequently inhibited price competition in the marketplace. The nature and circumstances of the various provider agreements at issue raise common factual and legal issues for all self-funded payors who paid for healthcare services under these agreements.

(ii) **Impact**

Class actions are appropriate "[i]f plaintiffs have stated claims of illegality and impact which can be proved predominantly with facts applicable to the class as a whole, rather than by a series of facts relevant to only individual or small groups of plaintiffs." *Rosack v. Volvo of America Corp.*, 131 Cal. App. 3d 741, 752 (1982).[17] "In some cases, it is justified for courts to assume that consumers were injured when they purchased products in an anticompetitive market, even though the price and terms of sale for the price-fixed product were individually negotiated." *Global Minerals & Metals Corp. v. Super. Ct.*, 113 Cal. App. 4th 836, 855 (2003). A case warmly embraced both sides suggests that not every single class member must be shown to have suffered impact.[18]

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[17] See also, e.g. *Kizer v. Tristar Risk Management,* No. G052558, 2017 WL 3172823, at *6 (Cal. Ct. App. June 26, 2017 as modified July 26, 2017) ("Ordinarily, class treatment of a claim is appropriate if the facts necessary to establish liability are capable of common proof, including the so-called "fact of damage,"), quoting *Safeway, Inc. v. Superior Court of Los Angeles Cty.*, 238 Cal. App. 4th 1138, 1154 (2015).

[18] *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 818 (7th Cir. 2012) ("all or most of the [class] suffered some antitrust injury as a result of [allegedly illegal acts]. That was all that was necessary to show predominance for purposes of Rule 23(b)(3)."). See also, *In re Nexium Antitrust Litig.*, 777 F.3d 9, 21 (1st Cir. 2015) ("We do not think the need for individual determinations or inquiry for a *de minimis* number of uninjured members at later stages of the litigation defeats class certification."). At argument, plaintiffs' counsel argued that for the very few class members that under plaintiff's theory of the case may not have suffered actual dollar damages, they nevertheless suffered a sort of antitrust injury of being deprived of a sort of opportunity. Tr. at 12: 14:12 . This is not discussed in the opening papers and I ignore it. Nevertheless, I do find that the potential existence of a very small number of class members who may not be entitled to any recovery does not defeat certification. *In re Cipro Cases I & II*, 121 Cal. App. 4th at 418 (the "fact that certain members of the class may not have been injured at all does not defeat class certification").

Impact is frequently a key issue in antitrust cases, *Messner*, 669 F.3d at 808, and is often the key issue in the certification context,[19] as it is here. See e.g., Tr. 48. Here, there is evidence that Sutter's prices were well above the average in Northern California.[20] Almost all[21] class members were subject to those prices.

A. Experts: Rules in Certification Motions

The outcome of the present motion depends chiefly on expert testimony. I review here the basic rules on the use of that evidence in this context.

I begin by noting that, as a general matter, trial judges are fact finders in the context of certification motion. Weil & Brown, et al., CALIFORNIA PRACTICE GUIDE: CIVIL PROCEDURE BEFORE TRIAL ¶ 14:99.5 (Rutter: 2017). "This extends to the resolution of expert disputes concerning the import of evidence concerning the factual setting-such as economic evidence as to business operations or market transactions." *Blades v. Monsanto Co.,* 400 F.3d 562, 575 (8th Cir. 2005).

However, there are varied standards for a trial court's evaluation of expert testimony in this context. It may be subject to (1) a preliminary review for general reliability, (2) a full *Sargon* examination as we might have in an Evid. C. § 402 hearing before trial, e.g., *Sargon Enterprises, Inc. v. Univ. of S. Cal.,* 55 Cal. 4th 747 (2012), or (3) in addition, consideration of whether I am *persuaded* by either the plaintiffs' or defendants' expert. See generally, William B. Rubenstein, NEWBERG ON CLASS ACTIONS, Use of expert testimony at the class certification

[19] Pierre Cremieux et. al., "Proof of Common Impact in Antitrust Litigation: The Value of Regression Analysis," 17 GEO. MASON L. REV. 939 (2010) ("class certification in an antitrust case often turns on the plaintiffs' ability to demonstrate impact from the alleged violation using common proof on a class-wide basis").
[20] E.g., Joyner Decl.¶¶ 26, 56-60; Del La Torre Decl. ¶ 5.
[21] A few class members may not have been affected, Motion at 14:6-9 (referring to a group of 3 rural Sutter hospitals, 99%+ class members estimated to have been affected).

stage § 7:24 (5th ed. 2016, as of June 2017 Update).[22] The problem, as Newberg notes, is that the merits are not resolved at the certification stage but experts often proffer opinions on those merits. It is not clear what the rule is in California state courts, but, like Newberg, I draw inspiration from the hints of the Supreme Court in *Wal-Mart*[23] that trial courts should apply *at least* the intermediate position I outlined, that is, to rely on the expert opinion if it meets the standards of *Daubert* (or, in state court, *Sargon*). Although I do not "resolve conflicts among the experts," I must nevertheless ensure expert opinions are "supported by the record," not based on "guess, surmise or conjecture," *Dep't of Fish & Game v. Superior Court,* 197 Cal. App. 4th at 1350–51; *In re Cipro Cases I & II,* 121 Cal. App. 4th at 412.

While the opinions have to be admissible in that sense, trial judges evaluating certification motions do more: as I have noted, they are fact finders too. They need to be persuaded. But the fact of which they need to be persuaded is not, exactly, the fact that the jury at trial will decide. To use an example from this case, the jury will be asked to decide if all class members were impacted by Sutter's actions; but I need only be persuaded that there is admissible common evidence of impact, presumably enough to support plaintiffs' prima facie case. As *Messner* puts it,

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[22] The treatise notes that for example the Eight Circuit uses a limited review, *Blades v. Monsanto Co.,* 400 F.3d 562, 575 (8th Cir. 2005). See also, e.g., *Tait v. BSH Home Appliances Corp.*, 289 F.R.D. 466, 494 (C.D. Cal. 2012) (adopting Eighth Circuit test in *In re Zurn Pex Plumbing Products Liab. Litig.*, 644 F.3d 604 (8th Cir.2011), to the effect that trial courts should scrutinize the reliability of the expert testimony in light of the criteria for class certification and the current state of the evidence). A complete *Daubert* review is generally undertaken in the Seventh Circuit. *Messner v. Northshore Univ. HealthSystem,* 669 F.3d 802, 812 (7th Cir. 2012); *Am. Honda Motor Co. v. Allen,* 600 F.3d 813, 815–16 (7th Cir. 2010) ("We hold that when an expert's report or testimony is critical to class certification…a district court must conclusively rule on any challenge to the expert's qualifications or submissions prior to ruling on a class certification motion. That is, the district court must perform a full *Daubert* analysis before certifying the class if the situation warrants."). The treatise also notes that the Ninth Circuit not only requires a trial court to find the expert opinion is admissible, but also that it is persuasive. E.g., *Ellis v. Costco Wholesale Corp.*, 657 F.3d 970, 982 (9th Cir. 2011) ("the district court seemed to end its analysis of the plaintiffs' evidence after determining such evidence was merely admissible.").

[23] *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 354 (2011) (to the suggestion that *Daubert* did not apply, the Court responded, "We doubt that is so….").

> plaintiffs' "burden at the class certification stage [was] not to prove the element of antitrust impact," but only to "demonstrate that the element of antitrust impact *is capable of proof at trial* through evidence that is common to the class rather than individual to its members." *Behrend v. Comcast Corp.*, 655 F.3d at 197....[24]

It is also not clear whether my review is affected by the procedural fact of whether or not the expert opinion was the subject of a motion to strike or exclude. Without such a motion, expert opinions might simply be delivered at trial without *Sargon*-based scrutiny.[25] In class certification contexts the issue is often generated by a motion to exclude, e.g., *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 811–12 (7th Cir. 2012). No such motion was made here, and indeed at argument it was unclear whether Sutter thought Leitzinger's opinion was weak, unpersuasive, or literally inadmissible. I conclude it doesn't matter whether Sutter formally moved to exclude.[26] I am nevertheless required to scrutinize the expert opinion as outlined in this section. *Dep't of Fish & Game v. Superior Court,* 197 Cal. App. 4th at 1350–51; *In re Cipro Cases I & II,* 121 Cal. App. 4th at 412.

The critical expert issues here are a function of the disputes between the parties' experts. For example, plaintiffs' Leitzinger claims is it is reasonable to rely on reimbursement rates as a proxy for price, and that the four to seven factors he discusses provide reliable proof of common impact (more on these below); defendants' Guerin-Calvert disagrees, and if she's right, I should presumably disregard Leitzinger's evidence. While I am not permitted to 'resolve conflicts among the experts,' nevertheless I have been presented with evidence—by experts—that the other expert's opinions are assertedly unreliable, which is an issue courts *are* supposed to decide.

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[24] *Messner v. Northshore Univ. HealthSystem*, 669 F.3d 802, 818 (7th Cir. 2012).

[25] E.g., M. Simons, CALIFORNIA EVIDENCE MANUAL § 4:1 ("*If* an objection is lodged" proponent shows expert is qualified, etc.) (emphasis supplied).

[26] Because admissibility is almost always a function of the purpose for which evidence is proffered, one can imagine an opinion inadmissible at trial under e.g. *Sargon*, but admissible at the certification stage to show commonality.

There is no bright line here,[27] but fundamentally courts to look at whether (1) the *foundations* of an opinion are a reasonable basis for the opinion (i.e., the opinion is not based on speculation), *Sargon,* 55 Cal. 4th at 770, and (2) under Evid. C. § 802 , the reasons, as a matter of *logic*, are sound. Id. at 771, 772; *Taylor v. Trimble,* No. B276723, 2017 WL 3187388, at *6, note 15 (Cal. Ct. App. July 27, 2017). Contradictory expert testimony may be perfectly acceptable. *Id.* at 772.[28]

Some of issues presented by the competing expert declarations are whether a *range* of figures is a permissible basis for a conclusion, or whether the range is so broad it would be speculative to rely on it. For example, parity across networks vendors is described in Leitzinger ¶ 75, and attack by Guerin-Calvert in her declaration at ¶146. Leitzinger responds that he has still shown substantial parity. Leitzinger Reply at ¶ 106. *How much* parity is enough is a subject the court cannot decide absent some further showing that the figures of one or the other expert are, in the disciplines in which they practice, unsupportable. Generally, I do not have that showing,[29] and the parties' papers have not assisted in figuring out how to handle the many disagreements between the two experts. Plaintiffs just relegate them to the jury, dubbing them common issues which do not block certification. Sutter treats each disagreement—and (depending how one counts her comments) Guerin-Calvert's declarations include hundreds of areas in which she disputes Leitzinger—as proof that Leitzinger's opinions are all unsupportable.

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[27] *Sargon Enterprises, Inc. v. Univ. of S. Cal.,* 55 Cal. 4th 747, 769 (2012), quoting Judge Friendly, see 1 Wigmore, Evidence 409–410 (3d ed. 1940).

[28] Distinguish the *Kelly–Frye* (or, now, just *Kelly*) scenario where "a lack of general scientific acceptance" dooms the new scientific technique. *People v. Barney,* 8 Cal. App. 4th 798, 819 (1992). See generally, *People v. Jackson,* 1 Cal. 5th 269, 315 (2016).

[29] For an example of where judges can make such findings, many courts accept a "95 percent degree of confidence" for certain statistical results, *Bell v. Farmers Ins. Exch.,* 115 Cal. App. 4th 715, 753 (2004); *Woodfox v. Cain,* 772 F.3d 358, 380 (5th Cir. 2014) (99-95%), but not margins of error approaching 32 percent. 115 Cal. App. 4th at 756. See also, e.g., *ATA Airlines, Inc. v. Fed. Exp. Corp.*, 665 F.3d 882, 895 (7th Cir. 2011) (95%). The disagreements on e.g. parity cannot be resolved with these widely accepted rules.

B. Experts: Their Disputes

I discuss here the core expert disagreement between the parties.[30]

a. *Services v. Hospital Level Analysis*

Perhaps the most important dispute between the parties is one where they do not quite join the issue. It is whether this antitrust case must be litigated at the services or hospital level, that is, whether for example the impact of bad acts[31] must be measured at a service-by-service level, or at a hospital level. Plaintiffs' theory is that the central bad acts operated at the hospital level: the 'all or nothing' requirements and anti-tiering provisions directed all patents to only Sutter hospitals, and the anti-price transparency provision affected all prices. Plaintiffs contend the 'market' at stake is that among hospitals, Motion at 20:6 ("Hospital competition"). I have described this above at pp. 5-6 ('Market Structure'). Expert findings that about 99% of the class members paid higher reimbursement rates at Sutter hospitals as opposed to non-Sutter hospitals presumably supports that view of the market, Motion at 20:20; Reply at 4:7 *et seq.*

Sutter does not directly take this on; its opposition assumes, or perhaps relies on a putatively common sense argument, that the effects on competition must be shown at the services level. See e.g. Opposition at 16:16-25; Sur Reply at 1. Sutter's services level argument is ultimately made in aid of the argument that plaintiffs cannot on a class-wide basis show *impact* of the bad acts. But I separate out these two issues, i.e. the level of competition (noted here) and impact (discussed later).

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[30] Not further discussed below is Leitzinger's use of OSHPD (Office of Statewide Health Planning and Development) data. Leitzinger addresses the issue at Leitzinger Reply ¶ 53 *et seq.*, noting that Guerin-Calvert's attack is predicated on her services-by-services approach to antitrust impact and damages in this case. (I separately address that approach above at pp. 5-6 ('Market Structure') and in the next section ('Services v. Hospital Level')). While Leitzinger disagrees with her criticisms, he nevertheless ran a further iteration of the overcharge model with Guerin-Calvert's suggested measure, and found no material difference. *Id.* at ¶ 61. OSHPD data is a reasonable basis for his opinions.

[31] This is my shorthand for Sutter's allegedly anticompetitive behavior in extracting from the network vendors contractual agreements as alleged in the complaint. See Motion at 3:3-12.

Sutter paints a picture with 5200 different services at 24 hospitals in 20 asserted geographical markets and asserts that in any class action plaintiffs would have to show that each of the services, as well as each of the "mixes" of services procured, would have to be shown on a case by case basis to be priced supracompetitively. Sur Reply at 1; 5:9-10. This can be described as an exceedingly complex system. Guerin-Calvert at ¶74. Sutter makes the point that the fact that the price of one service at one hospital is higher than at a competing hospital does not mean prices will be higher for some other service. Id. This is indisputably true, but it does not describe plaintiffs' theory of the case; indeed, Sutter's argument *assumes* a service level argument.

Plaintiff's theory is that the bad acts affected *hospital* competition, and that in turn prices for materially all[32] services were affected. Class members were as result assertedly confined to securing plans with Sutter hospitals. The complaint alleges a Sutter strategy whereby class members were compelled to choose Sutter hospitals for any medical services, not that they were compelled on a service-by-service basis and as a result ended up at a Sutter hospital.

In the abstract, one might have competition (and impacts on it) at a variety of levels: from the hospital level to services (or groups of services[33]) down to subservices and indeed to anything else for which an invoice can be created, such as crutches, bandages, and so on. This abstract truth does not require an analysis of services at any particular level. See Reply at 8 & authorities at *id.*, n. 12. As a matter of econometric and other market analysis, it is plausible that either party's view of market mechanisms will turn out to be valid. If the jury does not believe that Sutter's acts illegally constrained competition at the hospital level, or on summary judgment

[32] That is, enough services such that almost all class members were affected. Plaintiffs have noted a few class members who, under their theory, do not appear to have been affected. See notes 18, 21, above.
[33] E.g. the series of services associated with obstetrics, hip surgery, and so on, each of which is further divisible into a series of subservices.

it appears there is no evidence of it, plaintiffs will lose this case. But in this certification context, unless Sutter can demonstrate that plaintiffs' theory of recovery is infeasible because, for example, it misconstrues the law,[34] I am constrained to follow it.[35] (Sutter does not argue that as a matter of law the antitrust case cannot focus on hospital level competition.)

b. *Reimbursement Rates as Proxy for Price*

A central point expressly made by Sutter, and emphasized at argument, is that Leitzinger's use of reimbursement rates (RR) is not a valid proxy for price, in which case most of his analyses concomitantly fail. Opposition at 19:18 *et seq.*

As the parties agree, hospitals have 'list' or 'full' or 'billed' charge list of their services. Leitzinger ¶ 26; Leitzinger Reply ¶¶ 14, 64 *et seq*. The agreements with network vendors however, provide for discounts from list, and the difference is measured as the reimbursement rate (reimbursement amount divided by the list price, id. at ¶ 49). The parties also appear to agree that the list or billed charges are unaffected by the bad acts alleged,[36] and so Leitzinger has assumed billed charges reflect, by contrast, ordinary (legal) market forces.[37] Leitzinger Reply ¶ 114. Thus he concludes that the use of RR is valid to measure the effect of the alleged bad acts. Leitzinger at ¶¶ 27, 29.[38] He has described why RR can be a better approach than strict services pricing—because "services" under even the same code can vary widely, and thus "apples to

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[34] That is, in some cases the merits must be addressed because, for example, a motion for certification fails to address element of a cause of action, and the elements must be determined. *Linder v. Thrifty Oil Co.*, 23 Cal. 4th 429, 443 (2000) (enmeshed merits); *Dailey v. Sears, Roebuck & Co.*, 214 Cal. App. 4th 974, 99 (2013) (same).

[35] *Brinker Rest. Corp. v. Superior Court*, 53 Cal. 4th 1004, 1021 (2012) (following "theory of recovery advanced by the proponents of certification"), citing *Sav-on Drug Stores, Inc. v. Superior Court*, 34 Cal. 4th 319, 327 (2004).

[36] Leitzinger ¶ 49, Leitzinger Reply ¶ 116; Guerin-Calvert ¶ 53 (list prices based on cost and "market-based methods"); Tr. at 55 (Sutter counsel referring to list charge as set by "competition, … cost of the services, the capital needs of the hospital…..[and] sufficient margin to operate".

[37] That is, Leitzinger has assumed that the list prices reflect the value of services, and there is reasonable support for that assumption. Leitzinger Reply ¶ 64. See note 36. Sutter's description of the many factors that go into devising the list prices is consistent with this. The considerations include "local competitive circumstances, demands for its services, patient demographics, capital needs, and local costs." Opposition at 8:20-26.

[38] The difference, or delta, between list and reimbursed amounts could of course be the function of factors other than Sutter's bad acts, but that is what the multiple regression analysis is for. Leitzinger ¶ 56.

apples" comparisons can be difficult, Leitzinger Reply ¶ 14, and he in effect checked his work with a few examples using what he calls a coefficient of variation (CV), Leitzinger Reply ¶ 77.

Sutter challenges this with what is presented as common sense approach: Sutter notes that price and RR are not the same, and that one can have a low RR off a high list price (5% off $100, price = $95) and a high RR off a low list (50% off $40 = $20) showing that high RR does not correlate with high price. E.g., Sur Reply at 2-3. Divorced from any constraints on list price, this is right. But if list prices reflect [legal] market forces then they are not arbitrary; within a market, list prices will tend to approximate each other and discrepancies in RR will show something else. Exactly what the discrepancies will show is a separate discussion (i.e., as a result of a multiple regression analysis, perhaps it will show impact or aggregated damages from bad acts), but it is enough for now to note that the use of RR can be a reasonable proxy for price. As Leitzinger notes, others in the health care industry also use RR. Leitzinger Reply ¶¶ 65-68.

c. *Viability of Leitzinger's impact analysis*

Sutter in its opposition, and its expert in her first declaration, misunderstood how plaintiffs proposed to prove impact on a class wide basis. They thought Leitzinger's main regression analysis was to be used. Guerin-Calvert Dec. ¶¶ 6–7; 15. Not so; that regression is used only to show the feasibility of calculating aggregated damages attributable to the bad acts. Leitzinger at 3; Leitzinger Reply ¶¶ 28, 30.[39] Regression analysis is a statistical tool frequently used in the courts.[40] It allows one to estimate the impact of one of many independent variables on a dependent variable.[41] "Courts frequently recognize that 'regression analysis can be used to

[39] There is serious doubt that regression analysis can be used to prove common impact. Leitzinger doesn't contend otherwise, and agrees that the use of averages may masks the specific impact on a given service or class member. Leitzinger Reply ¶ 26.

[40] Franklin M. Fisher, "Multiple Regression in Legal Proceedings," 80 COLUM. L. REV. 702 (1980). See e.g., *In re Neurontin Mktg. & Sales Practices Litig.*, 712 F.3d 21, 42 (1st Cir. 2013).

[41] Fisher, "Multiple Regression in Legal Proceedings" above note 40 at 705-706.

isolate the effect of an alleged conspiracy on price, taking into consideration other factors that might also influence price, like cost and demand."[42]

For common proof of impact, Leitzinger uses four other factors. Leitzinger at 5, ¶72. He concludes that about 99.1% of the class members can thusly be demonstrated to have suffered some impact from Sutter's actions. Id. at ¶¶ 86-87; Leitzinger Reply ¶¶ 18 *et seq.*

The four factors are (i) common manner in which reimbursement rates are calculated, (ii) claims data showing nearly all class members paid higher RR for Sutter services as opposed to competitor services; (iii) parity across network vendors seen as a function of the common Sutter contract provisions, Leitzinger ¶ 75, (iv) a modified overcharge model showing overcharges at almost all Sutter hospitals. Leitzinger at ¶72. Leitzinger Reply ¶ 18 et seq. In response to Guerin-Calvert's criticisms of his four factors (Guerin-Calvert ¶¶ 135 *et seq.*), Leitzinger adds (without conceding that his original presentation was incomplete) three other factors in his reply declaration, Leitzinger Reply at ¶¶ 18 et seq. These are (v) overcharges at both the inpatient and outpatient services level, (vi) persistent overcharges over time, and (vii) persistent overcharges across plan types. Id.

I discuss these in order.

(i) Common calculation of reimbursement rates. Guerin Calvert does not dispute that this is so, although she disagrees concerning its import. Guerin Calvert ¶ 139.

(ii) Nearly all class members paid higher RR for Sutter services. Guerin-Calvert's criticisms of this factor are apparently the same as her criticism of the use of RR generally.

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[42] *In re Processed Egg Prod. Antitrust Litig.*, 312 F.R.D. 171, 193 (E.D. Pa. 2015), *quoting In re Aftermarket Auto. Lighting Products Antitrust Litig.*, 276 F.R.D. 364, 371 (C.D.Cal.2011) *and In re Plastics Additives Antitrust Litig.*, No. 03–2038, 2010 WL 3431837, at *15 n. 13 (E.D.Pa. Aug. 31, 2010). See e.g., *In re Urethane Antitrust Litig.*, 768 F.3d 1245, 1260 (10th Cir. 2014). See generally, Daniel L. Rubinfeld, "Reference Guide on Multiple Regression," REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 303 (3d ed. 2011), available at <http://www.au.af.mil/au/awc/awcgate/fjc/manual_sci_evidence.pdf>, recommended by Judge Posner in *ATA Airlines, Inc. v. Fed. Exp. Corp.*, 665 F.3d 882, 889 (7th Cir. 2011).

(iii) Parity. Guerin-Calvert suggests this does not account for price treatment over time. Guerin Calvert ¶ 140 *et seq.* Leitzinger addresses this in his additional three factors, (v)-(vii) below. The other criticisms suggest that Leitzinger did not account for every single variation in contract prices; a perhaps clearer criticism is that the apparent parity nevertheless ranges across at least a 20% range (Guerin-Calvert ¶ 150), an issue that Sutter counsel mentioned at argument. Tr. 82. But it is not obvious that this figure is so large that it fails to support Leitzinger's conclusion. That is, the disagreement on the permissible range for this factor appears to be one relegated to legitimate if conflicting expert opinion. See Leitzinger Reply ¶¶ 21, 106.

(iv) Modified overcharge model. Guerin Calvert's criticisms includes her general objection to the use of RR, and that there is a "*substantial* variation," Guerin Calvert ¶ 152 (emphasis supplied) in the overcharges as among groups of hospitals. Again, I am not in position to conclude that the *extent* of variation is beyond the pale, incapable of supporting Leitzinger's conclusions such that the conclusion must be speculation. Leitzinger agrees that simply showing overcharges does not show class wide impact. Leitzinger Reply ¶ 27-28. But he argues that sensitivity analyses within the aggregate overcharge models shows that overcharges persist over time. Leitzinger Reply ¶ 29 at p.10; ¶ 121. Guerin Calvert's position to the contrary seems to be based on a flaw, that of multicollinearity,[43] Leitzinger Reply ¶ 44 & n.32, which Sutter does not dispute.

(v) Overcharges at both the inpatient and outpatient services level. Leitzinger undertook this analysis in response to Guerin-Calvert's comment (Guerin-Calvert ¶¶ 71 *et seq.,* 106) that he had failed to do so. Leitzinger states that the investigation is not necessary, Leitzinger Reply ¶

[43] This is the "existence of correlations among the independent variables in a regression model." "Reference Guide on Multiple Regression," above note 42, at 289. This may inject serious uncertainty into the result, *id.* at 324.

47, but shows that the investigation produces the same results as found in his original opinion. Leitzinger Reply ¶ 36, 46 *et seq.*, 87.

(vi) Persistent overcharges over time. See discussion under factor (iv).

(vii) Persistent overcharges across plan types. Leitzinger Reply at ¶ 122. Again, this investigation was conducted in response to a criticisms by Guerin-Calvert that Leitzinger had failed to consider differences in plan types. He has now done so and reasonably concludes that differences in plan types do not generally affect his conclusions. Guerin-Calvert Sur Reply Decl.¶¶ 14 *et seq.* has objections to his work, specifically, that Leitzinger has not accounted for certain factors. Generally, however, she does not show that Leitzinger's overall conclusions on the overcharges across plan types would have been different had he accounted for those factors.

d. *Role of Kaiser*

Guerin-Calvert criticizes Leitzinger for not addressing the competitive role of the Kaiser Heath Care system, Guerin-Calvert ¶ 48. Leitzinger discusses the issue in his Leitzinger Reply ¶ 98 *et seq*. Leitzinger reasonably suggests that Kaiser, which in effect offers a combination of insurance and medical services, appears to compete with the network vendors who supply that combination, and not so much medical services providers as such. Nevertheless, he ran a test sensitivity analysis and found no impact. Leitzinger Reply ¶ 100.

Impact can be shown on a class wide basis.

(iii) Damages analysis

Aggregate damages

It is commonplace to observe that individual inquiries into damages do not defeat certification. E.g., *Brinker Rest. Corp. v. Superior Court*, 53 Cal. 4th 1004, 1022 (2012); *Messner v. Northshore Univ. HealthSystem,* 669 F.3d 802, 815 (7th Cir. 2012); *Kizer v. Tristar*

Risk Management, No. G052558, 2017 WL 3172823, at *6 (Cal. Ct. App. June 26, 2017 as modified July 26, 2017) (class may be certified even though class members must individually establish the amount of damages; *id.* at note 3: "Simple variance in the amount of overtime class members worked, including some class members working no overtime, would be a damages issue that would not justify denying class certification"). Nevertheless, individual damages issues can be part of the predominance analysis; that is, it is conceivable that problems in allocating damages are unmanageable and so show that individual issues in a practical sense predominate over the common issues.[44]

UEBT argues that a single damages formula can be used to prove aggregate damages applicable for the entire class. Motion at 21. The damages will be based on overcharge percentages calculated for Sutter hospitals, the dollar amount each class member spent at each hospital, and each member's reimbursement rate at each hospital. *Id.* Once the jury has made an aggregated damages award, defendants have no interest in allocation. *In re Urethane Antitrust Litig.*, 768 F.3d 1245, 1269 (10th Cir. 2014) ("Dow has no interest in the method of distributing the aggregate damages award among the class members"). We can use "a nonadversary administrative claims procedure with a lowered standard of proof" "that does not directly concern the defendant." *In re Cipro Cases I & II*, 121 Cal. App. 4th 402, 417 (2004).

The issues thus devolves to the extent to which plaintiffs can show damages on an aggregated basis. If they can, a non-bifurcated class can be certified; if not, then perhaps a liability-only class should be certified.[45]

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[44] Cf., *Roach v. T.L. Cannon Corp.*, 778 F.3d 401, 408 (2d Cir. 2015) (discussing impact of *Comcast Corp. v. Behrend*, 569 U.S. 27 (2013)).

[45] *Mullins v. Direct Digital, LLC*, 795 F.3d 654, 671 (7th Cir. 2015), *cert. denied*, 136 S. Ct. 1161 (2016) ("where the defendant's liability can be determined on a class-wide basis, but aggregate damages cannot be established and there is no common method for determining individual damages.....courts often bifurcate the case into a liability phase and a damages phase").

Sutter's opposition takes aim at common proof of impact, noting in passing that Leitzinger offers evidence of average alleged overcharges. Opposition at 17. The Opposition does not argue that there is no competent evidence of aggregate damages, but the Sur Reply does object to the "allocation method," Sur Reply at 7:8-9. As I note above, it is not clear that Sutter should be heard to object on *allocation*, but I take Sutter to object to the calculation of aggregate damages because Sutter does object that plaintiffs cannot determine the amount of overcharges, Sur Reply at 7:11-12, and then makes what might be seen as subsidiary arguments in support of that position. (I do address damages allocation as such below.)

Leitzinger depends on his basic regression analysis to show aggregate damages. E.g., Leitzinger Reply at ¶4. Plaintiffs say whether his analysis convinces a jury is a common issue; if not then presumably they lose the case. Reply at 9:8-12. In its suggestion that I should stop my analysis after identifying *any* proffered method to calculate aggregate damages, plaintiffs' approach is simplistic.

The issue is whether I am persuaded that Leitzinger's approach is feasible. For reasons discussed above, his approach, defended at e.g. Leitzinger Reply ¶¶ 62 *et seq.*, specifically, the use of multiple regression analysis[46] to isolate the impact of the allegedly bad acts on data using RR as a proxy for price, is supported both as a matter of (i) using reliable data[47] and methods as well as the (ii) logic of its inferences. See generally, 6 William Rubenstein, NEWBERG ON CLASS ACTIONS § 20:61 at p.722-23 (5th ed. 2016) (regression analysis used in damages analysis, to determine if effect is present and to measure its extent).

A good example of the conflict we have here is that concerning the specific variables used for the regression analyses. Compare Leitzinger Reply at ¶¶ 17, 83. Because there are an

[46] Guerin-Calvert condemns this at Guerin-Calvert ¶ 205.
[47] Guerin-Calvert also criticizes Leitzinger's use of OSHPD data. Guerin-Calvert at ¶¶ 170 *et seq.* & ¶ 198. I have discussed this above, note 30.

infinite number of variables one *might* employ to model explanations aside from the assertedly illegal conduct at issue, it is always possible to criticize the selection made by an expert; thus it is unlikely that, without evidence that a given selection is inconsistent with practice in the discipline, a court will second-guess an expert's selection. Guerin-Calvert's other criticisms appear addressed to the common impact issue, not the aggregated damages issue. Guerin-Calvert ¶ 176 et seq. Later (*id.* at ¶ 193 *et seq.)* she takes Leitzinger to task for averaging across a wide variety of highly dissimilar services, which I have addressed[48] and failing to account for inpatient and outpatient services, which I have also addressed.[49] Guerin-Calvert ¶ 233. Guerin-Calvert does not show that the use of more or different explanatory variables would have generated a result different from that presented by Leitzinger. *Compare, e.g., Palmer v. Shultz*, 815 F.2d 84, 101 (D.C. Cir. 1987) (suggesting impeachment requires a showing that "the missing factor" would provide a different result).

What we do not have here is a conflict demonstrating Leitzinger made a basic error, such as the unsupportable selection of explanatory (or "independent") variables, or the failure to use common explanatory variables, compare, *ATA Airlines, Inc. v. Fed. Exp. Corp.*, 665 F.3d 882, 893 (7th Cir. 2011), or basic mistakes such as confusing capital expenditures with costs. Id., 665 F.3d at 895. A disagreement on the precise selection of explanatory variables usually does not make an opinion inadmissible.[50]

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[48] This ignores plaintiffs' theory of the case, see discussion above at e.g. pp. 5-6.

[49] This is addressed above, pp. 24-25 (overcharges at both inpatient and outpatient).

[50] *In re Urethane Antitrust Litig.*, 768 F.3d 1245, 1260–61 (10th Cir. 2014)("validity of a regression analysis depends on selection of the appropriate independent variables. [Citations] Consequently, the exclusion of major variables or the inclusion of improper variables may diminish the probative value of a regression model. [Citations] But such defects do not generally preclude admissibility, and courts allow use of a regression model as long as it includes the variables accounting for the major factors"). See also, *Bazemore v. Friday*, 478 U.S. 385, 400 & n.10 (1986) ("while the omission of variables from a regression analysis may render the analysis less probative than it otherwise might be, it can hardly be said, absent some other infirmity, that an analysis which accounts for the major factors "must be considered unacceptable as evidence of discrimination." *Ibid.* Normally, failure to include variables

In short, I am persuaded Leitzinger's approach to aggregate damages is supportable.[51]

Damages Allocation

Whether or not Sutter will be involved in damages allocation, courts at the certification stage nevertheless consider if plaintiffs have presented a class-wide method to allocate damages. 6 William Rubenstein, NEWBERG ON CLASS ACTIONS § 20:62 (5th ed. 2016). Sutter's Opposition does not address the matter. Leitzinger discusses the issue at Leitzinger ¶ 91, and provides examples of how this would work at Leitzinger Reply ¶¶ 124 *et seq.*

(iv) **Other individual issues**

Sutter contends there are other individual issues. (i) A payer's claim may be barred by the statute of limitations, Opposition at 20, raising individual issues of when class members became aware of Sutter's challenged practices; (ii) a payer's claim may be barred by release, or perhaps must be arbitrated. *Id.* at 21, 23. Sutter and Network Vendors periodically arbitrate their disputes, which are sometimes settled and so the subject of a release which might have a variety of terms. But there is no evidence of any pertinent arbitration agreement, release, or statute of limitations issue which might depend on a some individual proof.[52] These putatively individual issues are at this point only conjecture and don't block certification. *In re Nexium Antitrust Litig.*, 777 F.3d 9, 21 (1st Cir. 2015).

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will affect the analysis' probativeness, not its admissibility." Note 11 reads, "There may, of course, be some regressions so incomplete as to be inadmissible as irrelevant; but such was clearly not the case here.")

[51] *Kleen Prod. LLC v. Int'l Paper Co.*, 831 F.3d 919, 929 (7th Cir. 2016), *cert. denied*, 137 S. Ct. 1582 (2017) ("plaintiffs are permitted to use estimates and analysis to calculate a reasonable approximation of their damages") See also, 6 William Rubenstein, NEWBERG ON CLASS ACTIONS § 20:60 (5th ed. 2016) (reasonable estimate sufficient).

[52] I asked the parties about these in my written questions before argument. None had a comment.

(v) Summary on Predominance of Common Questions

In short, common questions predominate as to Sutter's alleged anticompetitive practices, the impact of those practices on healthcare pricing paid by class members, and damages, both as to impact and the calculation of aggregate overcharges.

B. Typicality and Adequacy

A representative plaintiff must have claims that are similar, although not necessarily identical, to the remainder of the class. *Classen v. Weller*, 145 Cal. App. 3d 27, 46 (1983). "Adequacy of representation depends on whether the plaintiff's attorney is qualified to conduct the proposed litigation and [whether] the plaintiff's interests are . . . antagonistic to the interests of the class." *McGhee v. Bank of America*, 60 Cal. App.3 d 442, 450 (1976). "But only a conflict that goes to the very subject matter of the litigation will defeat a party's claim of representative status." *Richmond v. Dart Indus., Inc.*, 29 Cal. 3d 462, 470 (1981). See also, e.g., *Kizer v. Tristar Risk Management,* No. G052558, 2017 WL 3172823, at *5 (Cal. Ct. App. June 26, 2017 *as modified* July 26, 2017), quoting *Martinez v. Joe's Crab Shack Holdings*, 231 Cal. App. 4th 362, 375 (2014) ("The test of typicality 'is whether other members have the same or similar injury, whether the action is based on conduct which is not unique to the named plaintiffs, and whether other class members have been injured by the same course of conduct").

As with all other self-funded health plans, UEBT purchased from Sutter at prices set by contract between Sutter and a Network Vendor. The prices paid were set by contract, with similar pricing across all Network Vendor contracts. All of these prices were impacted by Sutter's challenged practices, which applied uniformly to all Network Vendors.

Sutter argues that UEBT is not typical because as a trust, it lacks capacity to sue, and there are unique defenses such as UEBT's failure to preserve documents and evidence, and lack

of interest in proving the facts that other class members must show to prevail, because UEBT itself never requested a narrow or tiered network from Sutter.

I have previously addressed the capacity to sue argument. Order Denying Defendants' Motion for Judgment on the Pleadings (entered June 30, 2017) at 4. UEBT has an interest in proving Sutter's anticompetitive practices, because UEBT was allegedly forced to pay artificially high prices resulting from those practices, as were other class members. This is so regardless of whether UEBT requested or received a narrow or tiered network.[53]

On the documents, UEBT concedes that there was an "inadvertent loss" of 2 years of "low-level employees'" emails, but that loss potentially only impacted emails during 2007 to 2009 for two custodians. Reply at 16. But those documents would presumably have been copied to superiors whose emails were preserved, or to consultants or trustees whose emails are not on the UEBT system. Such an error, unless in bad faith, is not sufficient to disqualify UEBT as a class representative.

Sutter also complains that UEBT's executive director doesn't know much about the suit. Opposition at 25. This isn't disqualifying. *In re Processed Egg Prod. Antitrust Litig.*, 312 F.R.D. 171, 181 (E.D. Pa. 2015) ("as Plaintiffs unabashedly note, "A class representative need only possess 'a minimal degree of knowledge necessary to meet the adequacy standard'") quoting *New Directions Treatment Servs. v. City of Reading*, 490 F.3d 293, 313 (3d Cir. 2007).

Typicality and adequacy are established.

[53] At any rate, UEBT contends that it did request a narrow or tiered network from Sutter and Blue Shield. Reply at 16.

C. Superiority

Manageability of individual issues is a core factor in the evaluation of the superiority criterion for certification. *Duran*, 59 Cal. 4th at 29. I have addressed the role of individual issues above.

Without the class action thousands of individual suits would be required. Sutter is right that a number of the putative class members, including UEBT, have enough at stake to litigate a complex antitrust case on their own, but for many more it is not worth the candle. It is also true that some members might be nervous about a damages allocation method which cannot at this stage be used to predict how much any class members will secure, assuming liability is established. But those who wish to go it alone, given their large potential recoveries, are always free to do so: they can opt out. Compared to the mass of the possible individual actions, the class action device is superior.

Conclusion

The motion is granted. I anticipate a further order on class certification which includes a precise definition of the class and list of claims and defenses to be tried as a class action.[54] A case management conference is set for **September 5, 2017 at 2:00 p.m.** to discuss the discrepancies between class definitions offered by plaintiffs' counsel; whether governmental entities should be included in the class (and to set a briefing schedule on the matter if necessary); identify the further work needed to identify class members, and corresponding notice procedures to enable opt-outs; to attend to the other requirements of CRC 3.766; the provision of

[54] Compare e.g. F.R.C.P. 23(c)(1)(B)'s requirements on class certification orders.

a more complete trial plan; and any other matters that counsel believe we should address at this stage.

Dated: August 14, 2017

Curtis E.A. Karnow
Judge Of The Superior Court

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CERTIFICATE OF ELECTRONIC SERVICE
(CCP 1010.6(6) & CRC 2.260(g))

I, DANIAL LEMIRE, a Deputy Clerk of the Superior Court of the County of San Francisco, certify that I am not a party to the within action.

On AUG 14 2017, I electronically served THE ATTACHED DOCUMENT via File & ServeXpress on the recipients designated on the Transaction Receipt located on the File & ServeXpress website.

Dated: AUG 14 2017

T. Michael Yuen, Clerk

By: _____
DANIAL LEMIRE, Deputy Clerk

Exhibit 16

In the Matter Of:

Urial Pharmacy Health and Welfare Plan v

Advocate Aurora Health, Inc.

Jonathan Orszag

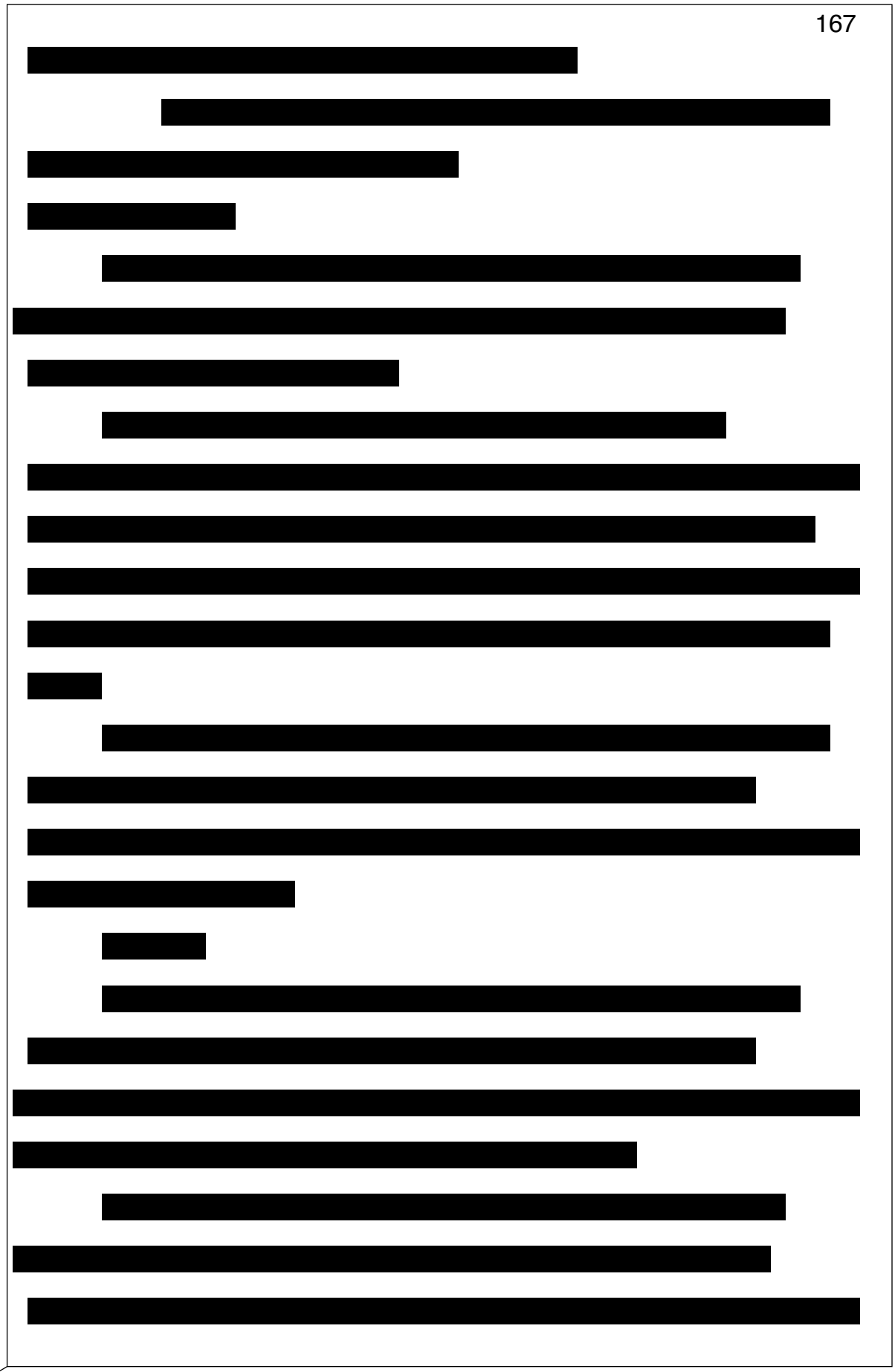
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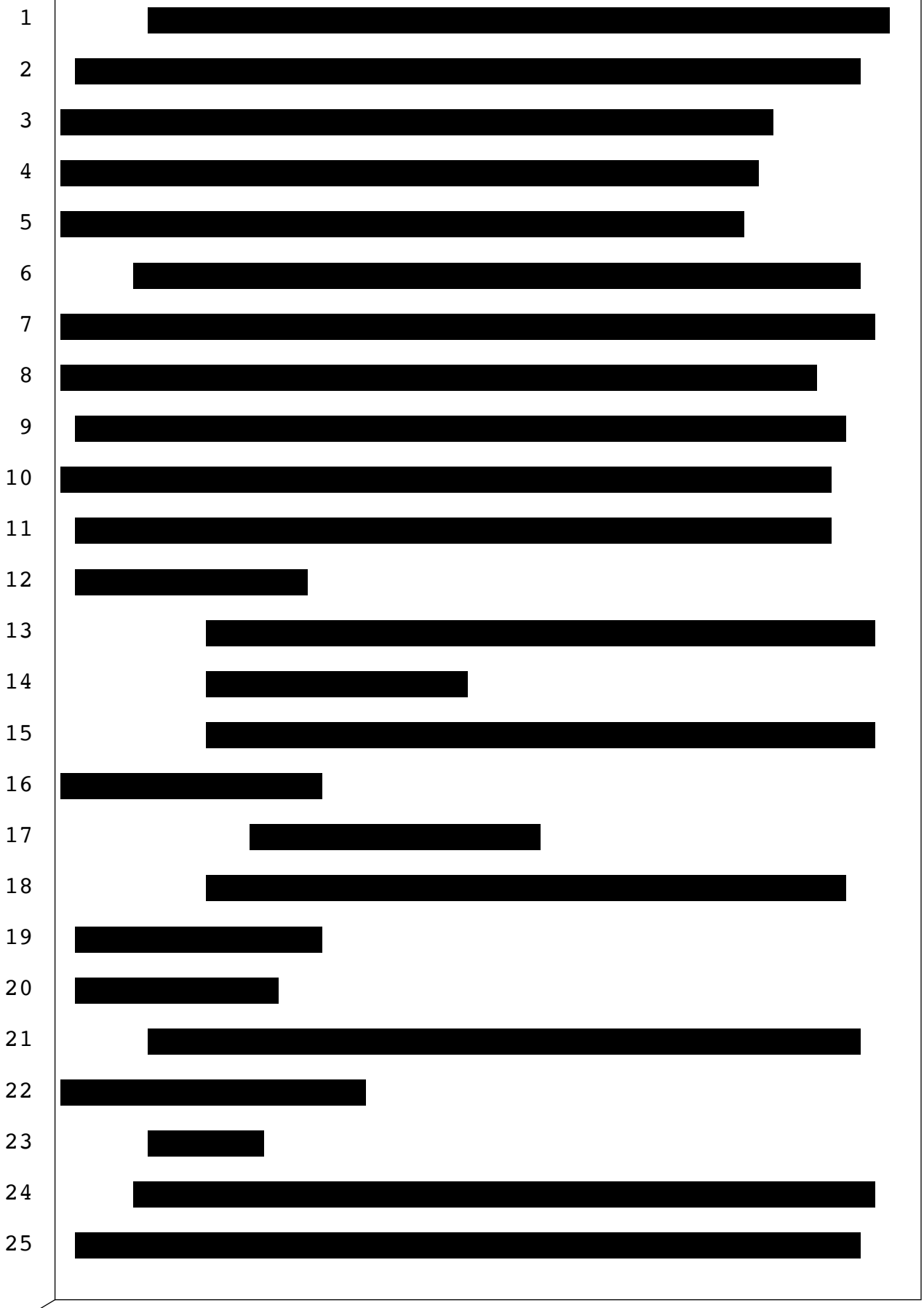


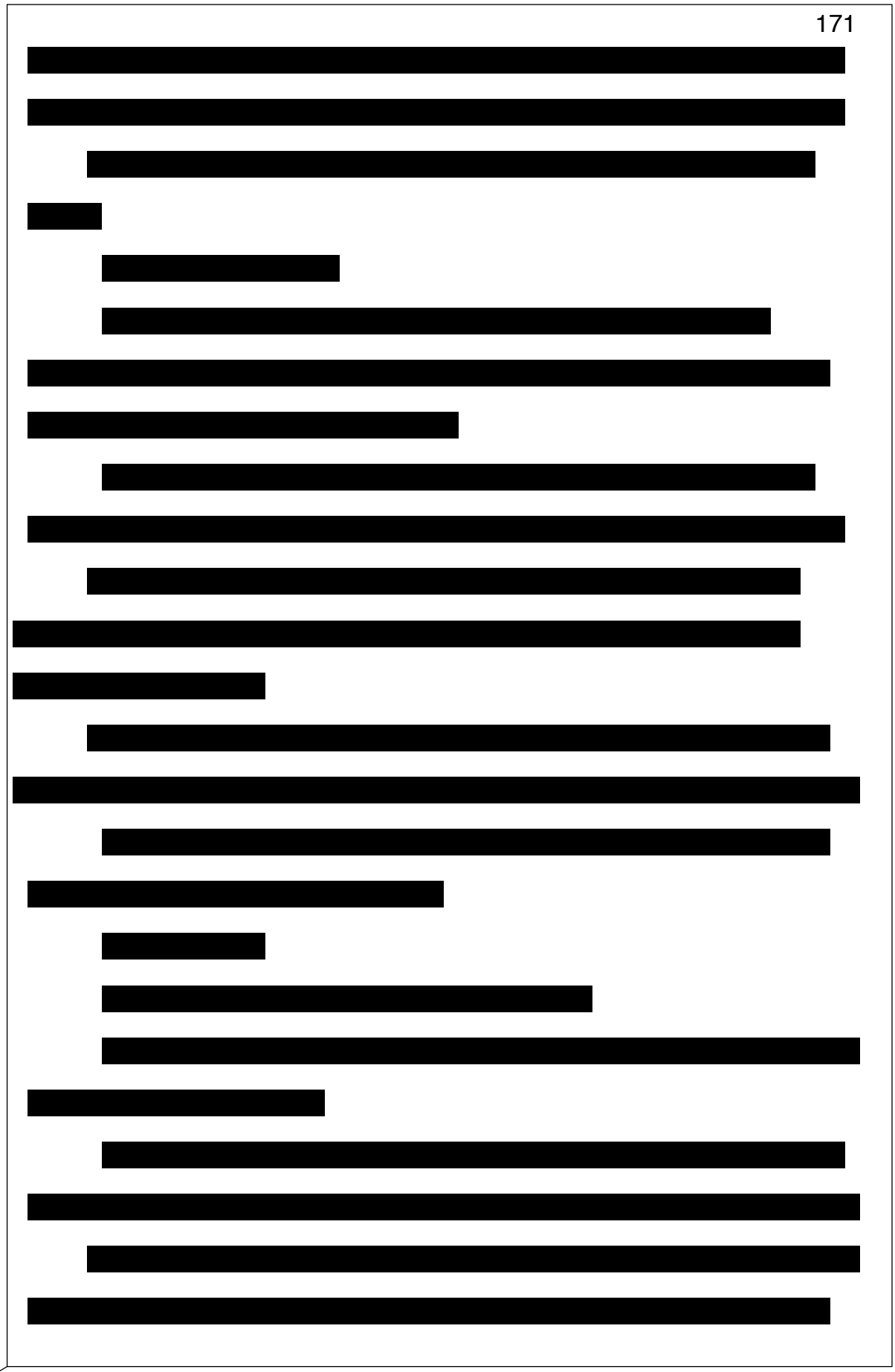
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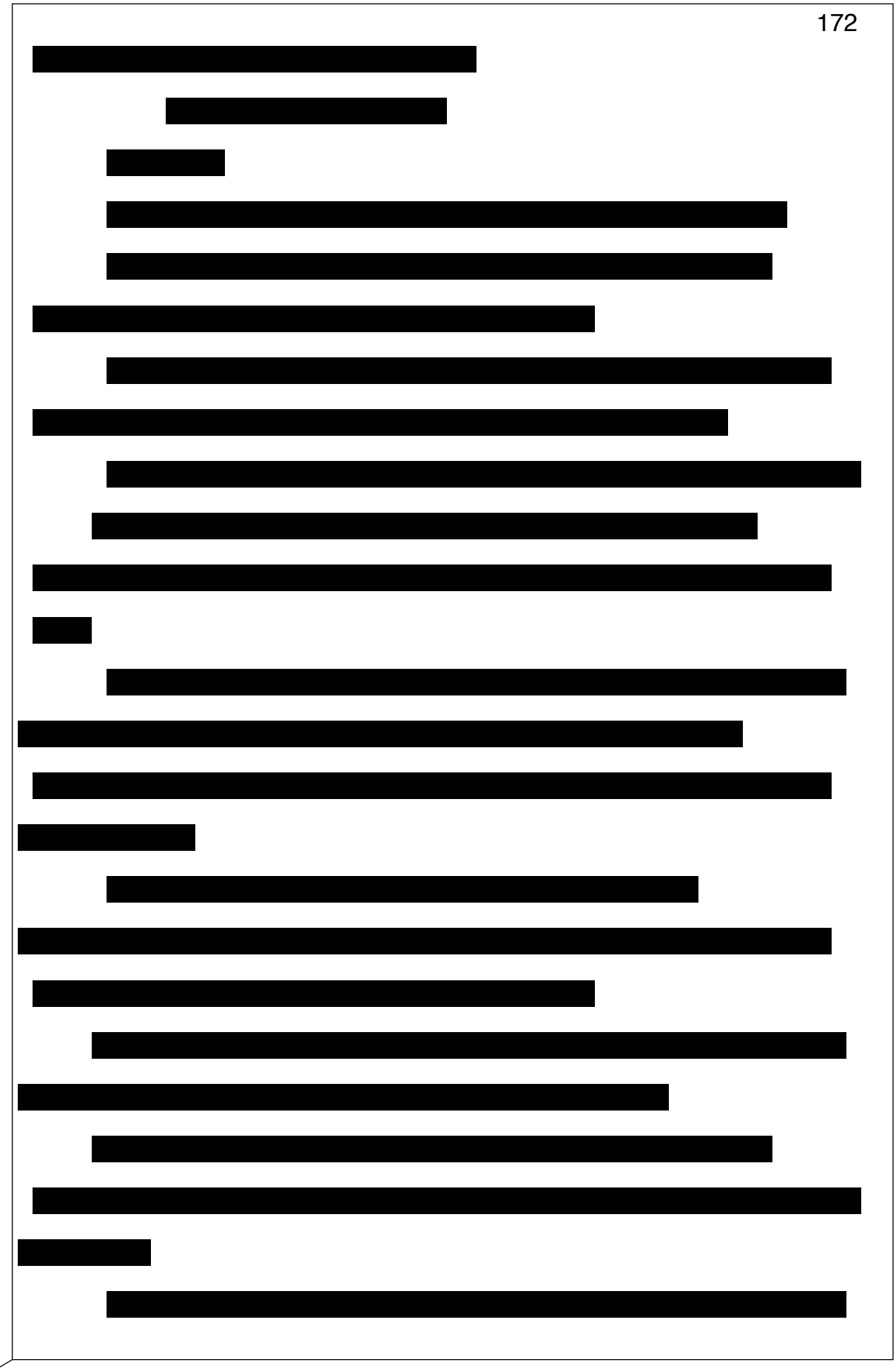
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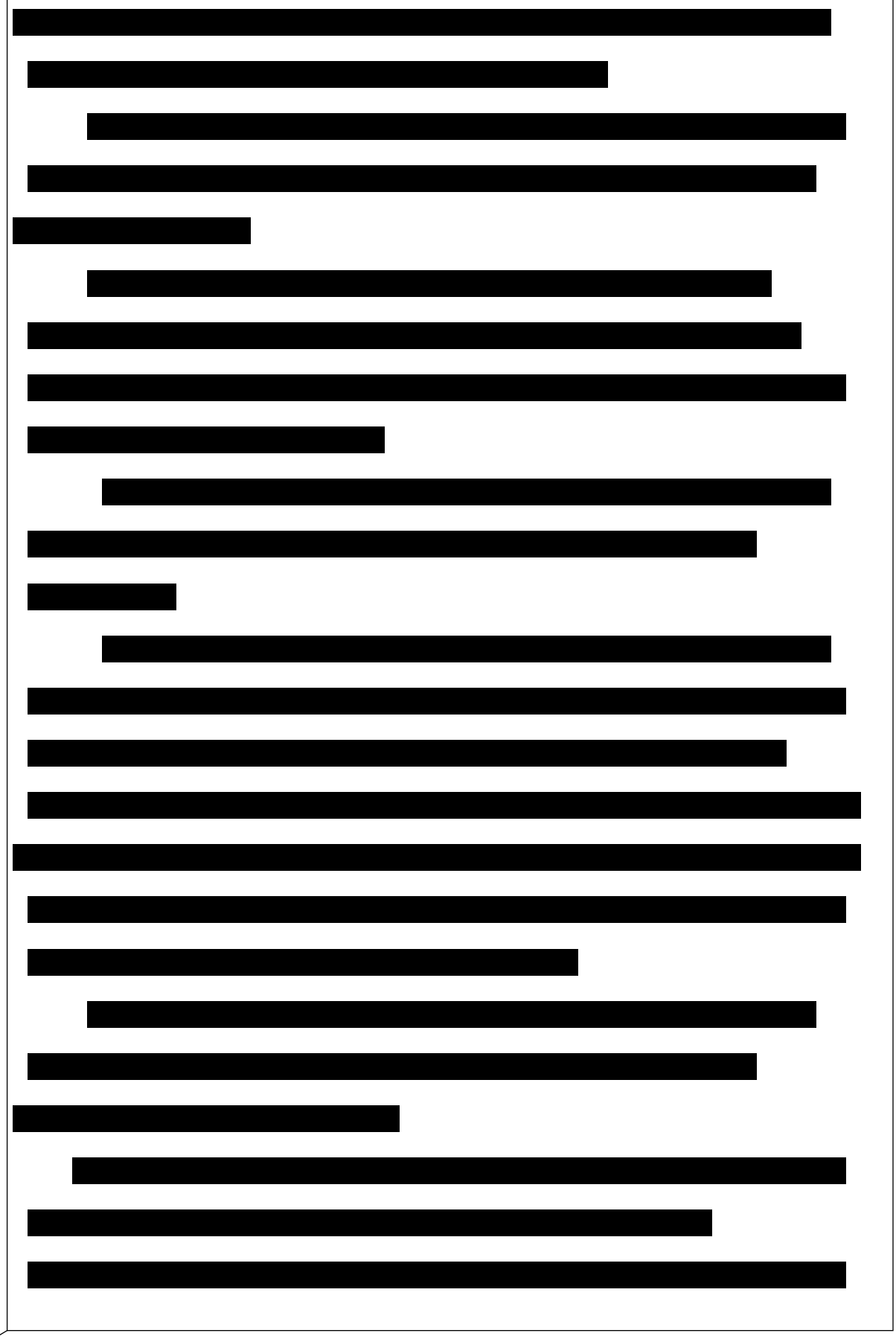
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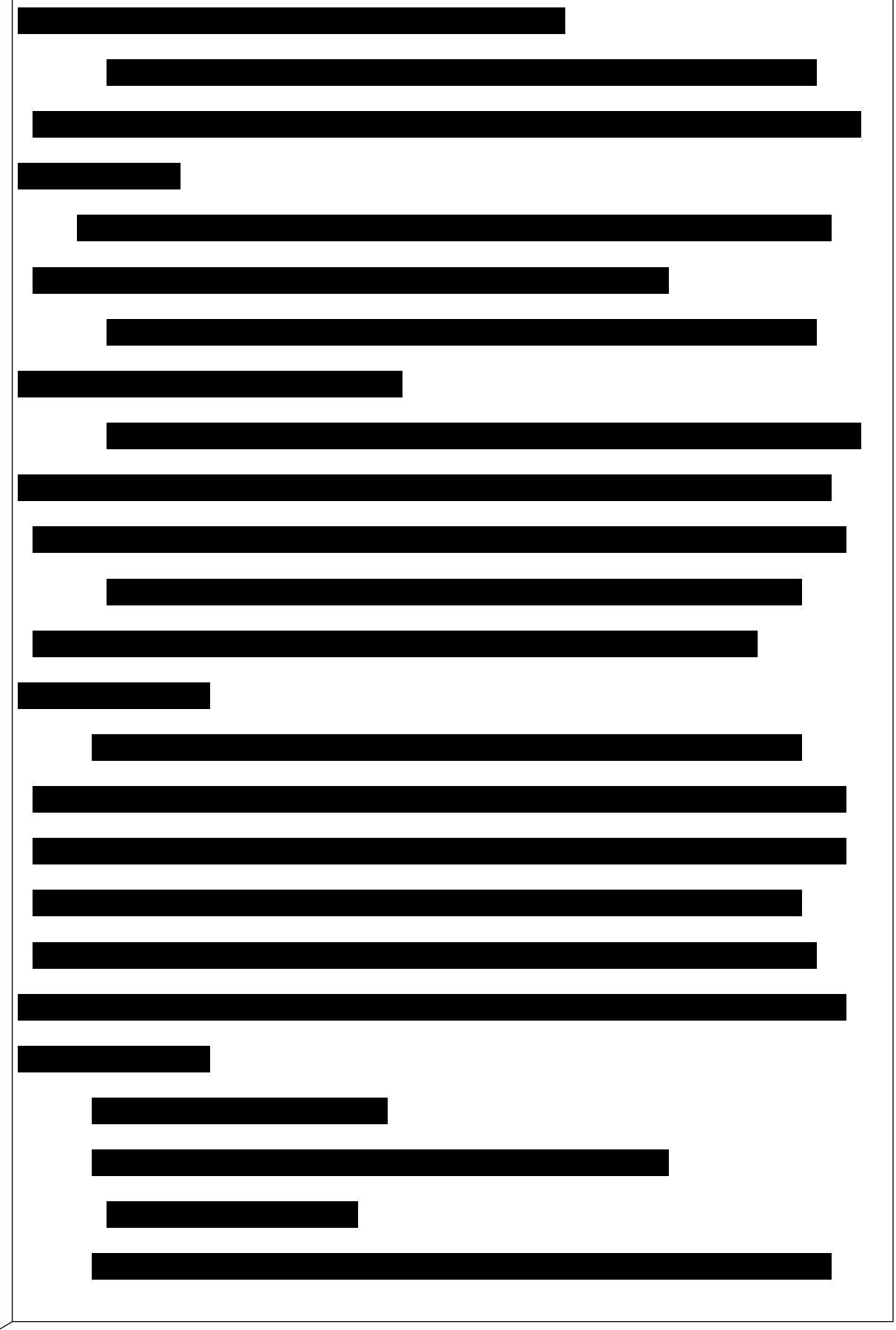












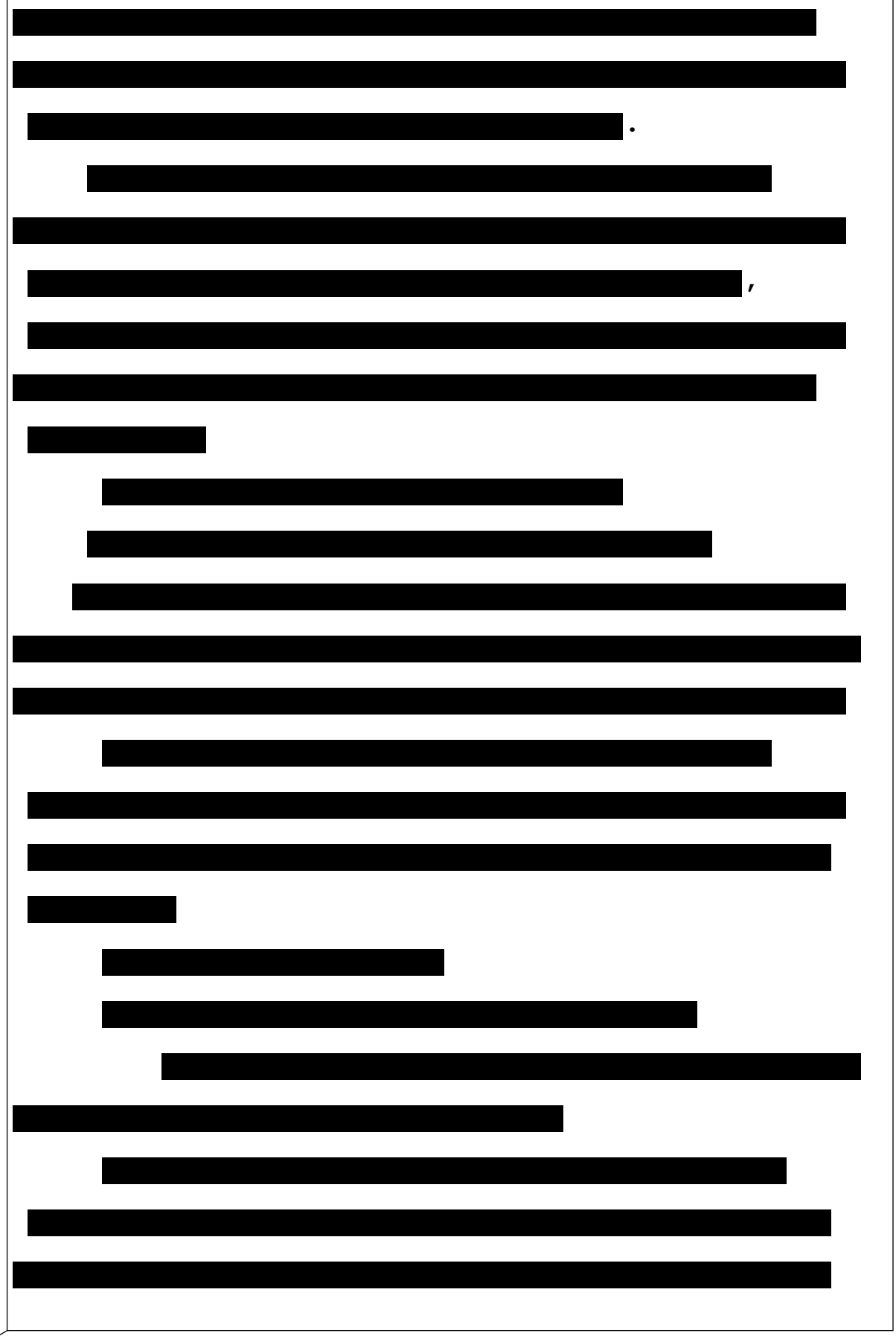


Exhibit 17

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Exhibit 18

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Exhibit 19

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Exhibit 20

JOURNAL OF HEALTH CARE FINANCE

Fall 2017

The Impact of Hospital Competition on Strategies and Outcomes of Hospitals: A Systematic Review of the U.S. Hospitals 1996-2016

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ABSTRACT

Purpose: This study aims to review the literature about the impact of hospital competition on strategies and outcomes of hospitals 1996-2016.

Design/methodology/approach: Four well-established databases including PubMed, Scopus, Google Scholar and Embase were chosen to perform a comprehensive search by using keywords related to completion, hospital, and various measures of competition. The search generated 9,806 articles. After removing the duplicates and eliminating the non-relevant publications by utilizing pre-determined criteria, 65 articles remained for abstraction.

Findings: The results indicated that majority of studies (about 88%) used Herfindahl-Hirschman Index (HHI) to measure hospital competition, whereas the remaining 12% used the number of competitors in the market. Forty studies (61%) defined hospital market based on Metropolitan Services Area, County, Health Services Area, Health Referral Region (HRR), Hospital Services Area, and Health Facility Planning Area, whereas the reminder used some other definitions such as Euclidian distance, radius, or patient-flow. Finally, concerning statistical relationships, out of 143 explored relationships, almost half of them found significant relationship between hospital competition and various outcome measures (35 positive and 38 negative), whereas the remaining 70 (or 49%) did not find any significant association.

Originality/value: This is the most current and comprehensive systematic review summarizing the result of different studies of hospital competition and its effect on specific hospital outcomes or strategies.

Keywords

Hospital Competition, Herfindahl-Hirschman Index, HHI, systematic review, market share

INTRODUCTION

Basic theories in economics support competition as a mechanism to improve quality of care and contain costs for health care institutions (Chang et al., 2011; Jiang, Friedman, & Jiang, 2013). Competition prevents monopolistic buyers or monopolistic sellers from manipulating prices in the market in their own favor, and thereby producing economical results that are neither equitable nor efficient. In a competitive market, the individual provider or payer does not have significant enough influence on the market to disrupt pricing. In functional competitive markets, the possibility of collusion among providers or buyers to fix the prices would be limited, fewer barriers to market entry would exist, and information about the price and quality would be more accessible. Because different geographic markets for health care services have structural and functional differences, there are competing models and measures of competitiveness used to characterize and study the effect of competition on the market.

Competition , especially among hospitals, is crucial phenomena due to market-oriented structure of U.S. health system (Antos, 2015). Although pricing of a product or service is the primary basis for purchasing decisions by consumers in traditional competitive markets, price competition in U.S. health care markets is disrupted by lack of price transparency and the prevalence of health care insurance. For the most part, the patients (i.e., consumers) have been protected from the cost consequences of their choices and have little concept or concern for the price of medical care at the point of purchase. Rather, the decision to use care is based on non-cost influences such as the amenities, services, and perceived quality of the provider. Providers in these competitive health care markets, in turn, can increase their market share by having or improving the various aspects of non-price competition, such as higher quality of care, more convenience, nicer amenities, and newer technologies (Fuchs, 1988). Ironically, in many cases, competition in health care works against the conventional market mechanisms and, instead, leads to better quality, services, and amenities, but at higher prices (Morrisey, 2001).

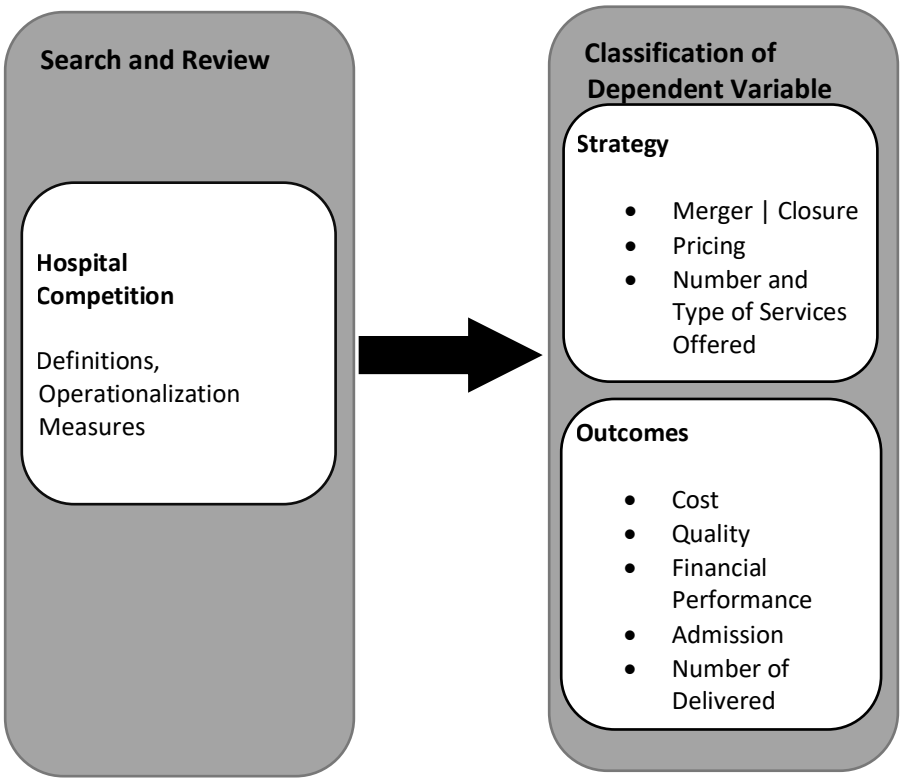
There is extensive empirical literature that examines the impact of competition on quality of care, patient satisfaction, pricing, types of provided care, cost of services, and financial performance of hospitals (Alexander & Lee, 2006; Bundorf et al., 2004; Burgess, Carey, & Young, 2005; Capps & Dranove, 2004; Kathleen, Carey, Burgess, & Young, 2011; Jan P Clement, White, & Valdmanis, 2002; Kessler & Geppert, 2005). While numerous studies have considered the impact of competition among providers in U.S. health care industry, few provide summary and analysis of the results of existing works. In fact, thus far there has been no comprehensive systematic review assessing the impact of hospital competition on strategies and outcomes of hospitals. Systematic reviews on competitive practices and outcomes are important and meaningful contributions to the body of knowledge in this area as they provide information and context for health service managers, researchers, and policymakers. This study contributes to the literature by deploying a comprehensive literature search; reviewing the impact of competition on various hospital outcomes and strategies; synthetizing existing measures of competition; and summarizing twenty years of academic literature (1996-2016) on hospital competition that would inform future studies.

CONCEPTUAL FRAMEWORK

The conceptual framework was build (Figure 1) on a preliminary literature review and categorized existing studies in relationship to hospital competition (various measures and operationalization), strategies, and outcomes of hospitals. Hospital strategy category has three variables including pricing, merger, and type of services. The hospital outcome category has six variables consisting of cost, financial performance, quality, admission, closure, and the number of delivered services (Figure 1).

In our conceptual framework, the left side on hospital competition focuses on various measures, definitions, and operationalization of hospital competition. Hospital competition is a measure whose importance and necessity for valuable research models are endorsed by many scholars. However, there is a considerable controversy on how to define hospital market and hospital competition (Wong, Zhan, & Mutter, 2005). Researchers have used patient flow, fixed and variable radius, and various geopolitical boundaries to define market, while measuring hospital competition using different methods such as Herfindahl–Hirschman Index (HHI), number of competitors, and overlap density (Wong, Zhan, & Mutter, 2005). Therefore, it is important to systematically summarize various market definitions and measures of competition that have been used by the researchers within last twenty years.

Figure 1. Conceptual Framework



Strategy variables are those identified as resulting from decision-making processes of the organization. While we recognize that many of the decisions made a subject of these studies are complex and may not be attributed exclusively to competition, we respect the hypothesis and findings as to the influence of competition on the outcome. The pricing of services is one such strategy variable this study identified. Hospitals may decrease or increase the price or pricing structure of services they offer for some reasons, including attempting to improve market share or in response to waning financial condition. Another two strategies that we put in one group due the few number of studies (only three articles) were merger and closure. Hospitals apply these strategies to mitigate the negative effects in highly competitive markets (Cutler & Scott Morton, 2013). We further consider that increasing or decreasing the number and type of healthcare services that a hospital offers in the market is a strategic decision and include this among the strategy variables in our classification.

In contrast, we categorized separately those articles reporting on studies investigating the impact of the competitive environment on outcomes that represent the progress toward presumed objectives of the organization. We inferred that subject organizations shared the conventional position that it is in the interest of the organization that costs be constrained and measures of productivity and quality increased. We organized studies with these parameters into six categories including cost, quality, financial performance, admission, and number of delivered services. Cost is presented as an outcome variable in several articles, measured as either the cost of delivering identified services or the cost of care for a specified patient population. Those studied were sorted into the category of financial performance used gross revenues or other widely accepted measures of profitability (e.g., total margin, return on asset, and operating margin). Quality of care was represented by a range of outcome measures and variables included those such as mortality rate, perceived quality of care, length of stay, multi-factor quality assessment models, surgery outcomes, and patient's choice of hospital. We included articles on patient flow measures with those examining the number of admissionsAlthough we appreciate that one may propose that exiting the market is a decision, and as such should be sorted as a strategy variable, we reject this premise and assume that closure occurs as an unavoidable demise of the organization. The number of services delivered by hospitals during study period is differentiated from the strategy variable (i.e., deciding number and type of services offered) in that measures of the later consider completed market transactions; progress toward increased revenue.

The following questions are based on the conceptual framework to guide us in this article:

1. In the various studies reviewed, what measure of hospital competition in the defined market was used?
2. What outcome variables have been used to evaluate the effect of competition?
3. What strategy variables have been used to evaluate the effect of competition?
4. What are the major results of existing studies assessing the relationship between hospital competition and selected outcome and strategy variables?

METHODS

This review was conducted by using the preferred reporting items for systematic reviews and meta-analyses (PRISMA) as a guidance (Liberati et al., 2009) and included three major steps: (a) defining and identifying the keywords, (b) arranging keywords with Boolean operators (Figure 2) and using them in multiple searhers in multiple databases, (c) aggregating studies and applying a priori exclusion/inclusion criteria to determine the final set of studies for abstraction. Keywords to be used in the search method were compiled from previously published peer-reviewed articles proposing measures of competition in the healthcare market; defining the structure of the health care market; and establishing a theoretical basis by which the competitive environment influences organizational process and outcomes (e.g., Bernstein & Gauthier, 1998; Gaynor, Ho, & Town, 2015; Hirth, 1997). These keywords, depicted in Figure 2, were employed in an inclusive search strategy designed to obtain all potentially relevant articles. Comprehensive searches were performed in four well-known databases including Google Scholar, Embase, Scopus and PubMed.

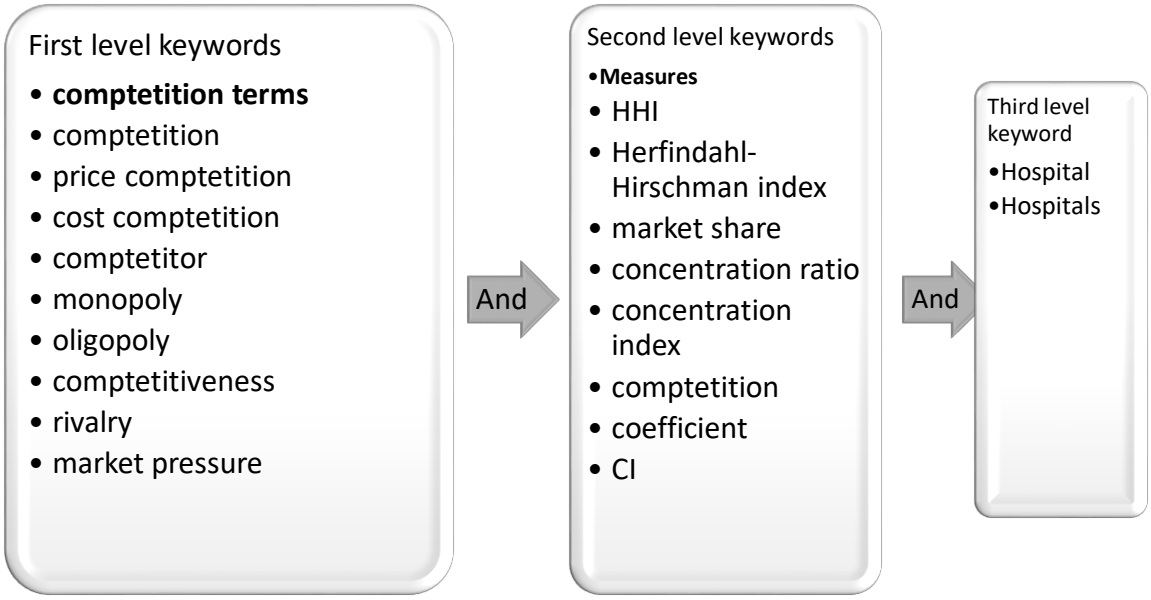


Figure 2: Keywords used in search

Results were filtered to include those articles with specified keywords in their titles or abstracts, published in English language between February 1996 and March 2016. Once abstracts were collected and reviewed, we applied the predetermined inclusion criteria. Specifically, the article was considered for inclusion and advanced to full text review if the article was (a) a quantitative empirical analysis; (b) of data collected after 1995; (c) on competition among U.S. hospitals; (d) subsequently published between February 1996 and March 2016; (e) in a peer-reviewed journal of good repute; (f) with the full text available in English.

Multiple searches generated 9,806 articles from four databases: 5,208 from Embase; 2,675 from PubMed; 706 from Scopus, and 242 from Google Scholar. All the articles were downloaded and saved into Thomson Reuters' EndNote Reference Management Tool. Duplicated results on 895 articles were removed and 8,911 remained for further review. Based on the study's established inclusion criteria, a large number of studies were excluded (n=8150), because they were not related to hospital competition. Further excluded were 62 articles using data that were collected before 1995, 126 articles reporting on data collected outside the U.S., 155 articles not of an empirical nature. The results included 104 articles that had one or more of the search terms in the title, but had no abstract and had to be excluded. After the abstract and title review, 572 articles remained and were forwarded for systematic review.

After full text review of the remaining articles, we excluded an additional 507 for the following reasons: 202 articles were not related to measurements of hospital competition; four articles used competition as a dependent variable; 28 were related to quality of care and patient satisfaction; 41 were studies related to hospital merger and acquisition; 32 were focused on statistical methods (e.g. descriptives, t-test, Anova) other than regression; 43 were review papers; 29 were studies related to markets in other countries; 26 were focused on competition among payers; 102 were focused on competition among healthcare providers other than hospitals, such as nursing homes, ACSs, medical production companies, or pharmaceutical industry. The 65 articles remaining after the full text review were abstracted in the current study. The multiple stage process for article review is summarized in Figure 3.

Information on each of the articles was tabulated in Microsoft Excel 2016 and included first author name and affiliation, published year, beginning and end years of the data analyzed, journal type, study objective, sample, study design, sample level, sample location, type of health facility, hospital type, hospital ownership, measure of competition used, how the market was defined (e.g., MSA, county, health service area, health referral region, or perimeter distance), measure of the market share (inpatient days, admissions, discharges, etc.), outcome variables, types of analyses, key findings related to competition, independent variables, and additional comments and notes. We also coded competition measurement, market definition, market shares, and significant relationships. Microsoft Excel 2016 and IBM SPSS version 23 were used for analyses. The results are summarized and reported as figures and tables in result section of current paper.

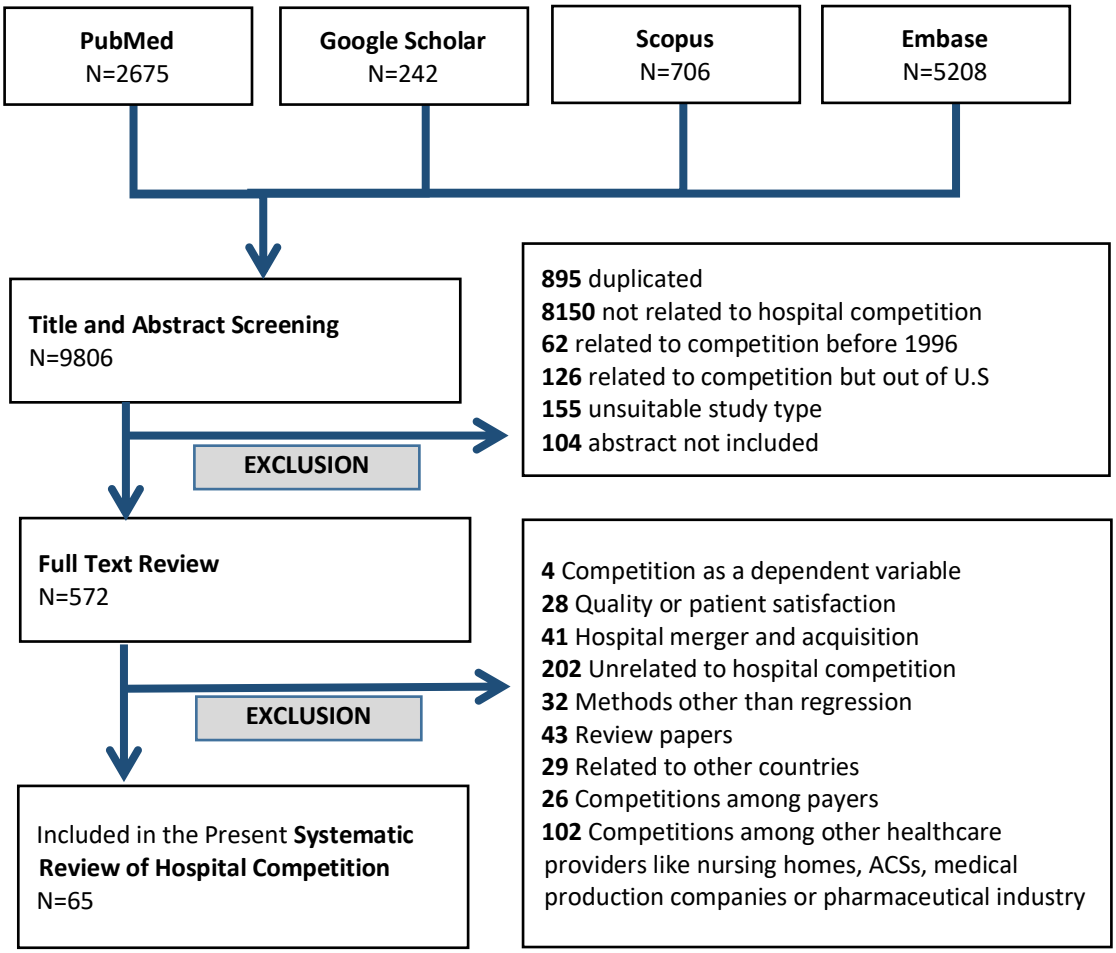


Figure 1. Process Map for Review and Inclusion (Adopted from PRISMA, Liberati et al., 2009).

RESULTS

From the 9,806 unique contributions produced by the extensive search and screened for inclusion, we conducted a full text review of 572 journal articles that potentially met the criteria established for the systematic review. The final analysis includes 65 studies conducted between 1996 and 2016. Qualitative summaries of these studies are exhibited in Appendix A and provide a comprehensive synopsis of the state of research on measures of competition among hospitals and their association with organizational process and outcomes within the last twenty years. Table 1 sets out descriptive statistics of abstracted studies on hospital competition and reported impact on strategies and outcomes of hospitals. About 61.5 percent of first authors are affiliated with Schools of Medicine or Health and Health-related academic programs. The vast majority (87.7%) of articles on this subject have been published in health related journals. Just under two-thirds of studies (63.1%) employed a longitudinal study design. Approximately half of articles (49.2%) were conducted at national level, and 52 percent of them were assessing the effect of competition in an urban hospital market. Moreover, majority of studies (86.2%) did not limit their study to hospital ownership and included all types of ownership

Table 1. Descriptive Statistics reviewed articles

Descriptive (N=65)		Count	Percentage
First Author Affiliation	Business School	4	6.2%
	Health/Medicine School	40	61.5%
	Non-academic Institution	9	13.8%
	Other Schools	12	18.5%
Journal Type	Business (Non-health)	8	12.3%
	Health-related	57	87.7%
Study Design	Cross-sectional	24	36.9%
	Longitudinal	41	63.1%
Sample Level	Multiple States	9	13.8%
	National	32	49.2%
	Single State	24	36.9%
Sample Location	Not limited to a subgroup	28	43.1%
	Rural	3	4.6%
	Urban	34	52.3%
	Hospital	63	96.9%
Hospital Type	Acute Care	51	78.5%
	Both	11	16.9%
	Specialty	3	4.6%
Hospital Ownership	For-profit	5	7.7%
	Non-Public (non-gov)	1	1.5%
	Not limited to a subgroup	56	86.2%
	Not-for-profit	3	4.6%
Total		65	100%

Figures 4 and 5, respectively, exhibits the frequency distribution of publications of the studies and periods of data collection for the individual studies that were analyzed in abstracted manuscripts. The highest number of publications during the period was in 1997, and there are fewer published articles on the topic over time; with only a single study report in 2015.

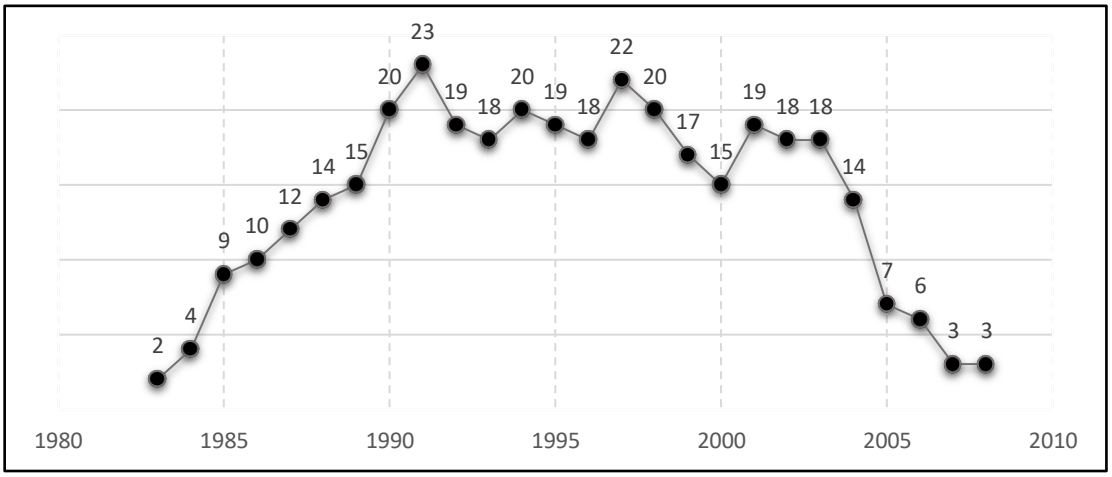


Figure 4. Distribution of study periods (N=65)

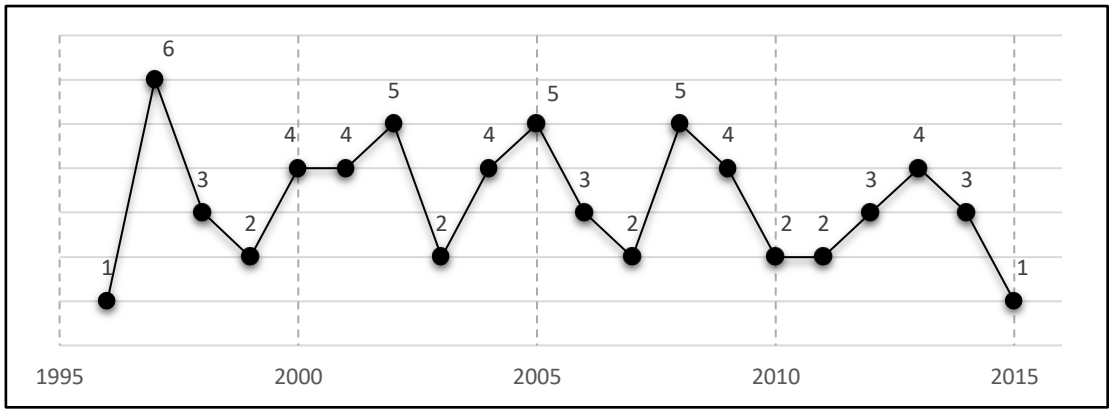


Figure 5. Distribution of publication (N=65) by publication year

Table 2 reports the frequencies of the dependent variables used in the included studies. It demonstrates that while there is consensus on the use of the Herfindahl-Hirschman-index (HHI) as a measure of market concentration, there is significant diversity of opinions concerning how to best define the market and calculate the organization's market share. Of all articles, 57 (88%) measure hospital competition using Herfindahl-Hirschman-index (HHI). Only eight (12%) articles used a different measurement; usually, the number of competitors in market. In defining and measuring the market, there is less commonality. The Metropolitan Service Area (MSA) defined the market more often than any other single measure, but represented less than 30 percent of all measures used. Measuring market share, however defined, was marginally better with about half of the published articles using number of admissions to calculate and organization's relative share. Six articles were sorted into an "other" category because the methodology section did not expressly define those measures or use more than one definition of market or share.

We classify each dependent variable into one of nine categories. Three are strategy variables (merger and closure, pricing and number and type of offered services), five are outcomes (cost, quality, financial performance, admission, and the outcomes-related articles, quality of care was the topic most often examined (N=22), and the fewest articles were devoted to the relationship between competition and number or type of services delivered. Pricing was the strategy variable in the greatest number of publications and services offered the least in publications during the period of the strategy type.

Table 2. Frequencies of Dependent Variables, by measure of competition, market definition, and share

		Strategies			Outcome variables						
	Variables	Merger / closure	Pricing	Number of Offered Services	Cost	Quality	Financial Performance	Admission	Number of Delivered Services	Others	Total
Competition measurement	HHI	1	9	1	11	19	9	3	2	2	57
	Non-HHI	2	0	0	1	3	1	0	0	1	8
Definition of Market	Health Service Area (HSA)	1	2	0	1	1	0	1	0	0	6
	County	1	1	0	3	3	3	1	0	0	12
	Metropolitan Service Area (MSA)	0	2	0	3	5	4	0	1	3	18
	Health Referral Region (HRR)	0	0	0	1	1	0	0	0	0	2
	15-mile radius from zip code	0	2	0	0	1	0	0	0	0	3
	Concentration	0	0	0	1	1	0	0	0	0	2
	Patient Flow	0	1	0	2	6	1	0	0	0	10
	Health Facility Planning Areas (HFPA)	0	0	1	0	0	1	0	0	0	2
	Hospital Service Area	1	0	0	0	2	0	0	0	0	3
	Euclidian Distance	0	0	0	0	0	0	1	0	0	1
	Others	0	1	0	1	2	1	0	1	0	6
Market Share Indicator	Inpatient Days	0	0	0	1	0	2	1	0	0	4
	Bed Number	0	2	1	0	4	1	0	0	0	8
	Admission	1	4	0	3	12	2	1	1	2	26
	Discharge	0	2	0	4	3	1	0	0	1	11
	Certain Services	1	1	0	3	2	2	1	0	0	10
	Others	1	0	0	1	1	2	0	1	0	6
Total		3	9	1	12	22	10	3	2	3	65

According to table 3, out of 167 relationship of review articles, 32 relationship were between cost variable and competition and 31 relationships were related to the competition and mortality. Out of 143 relationships, almost half of them (70) were not significant and the remaining half were distributed almost equally between positive (n=35) and negative (n=38).

Table 3. Frequencies of Hospital Competition Relationships by Dependent Variable Categories

Dependent Variable Categories	Negative Significant [a]	Positive Significant [a]	Insignificant relationship [b]	Total
Admissions	3	1	1	5
Asset	1	-	-	1
Closures	-	-	1	1
Cost	10	5	17	32
Discharges	-	-	1	1
Efficiency	1	-	2	3
LOS	-	-	2	2
Market overlap	-	1	5	6
Mortality	6	6	19	31
Occupancy rate	-	-	1	1
Other	2	1	1	4
Other clinical outcome	6	8	5	19
Price	2	4	7	13
Profit	2	2	1	5
Revenue	3	3	4	10
Staff	1	-	-	1
Strategies	1	4	3	8
Grand Total	38	35	70	143

DISCUSSION

Our purpose was to investigate the impact of hospital competition on strategy variables – those related to strategic decision-making – as well as outcome variables – those related to the organization's success in achieving its goals. Our findings underscore several important points and provide some guidance for future research. First, we observed that HHI is the dominant and widely accepted measure of hospital competition in the literature. Using simpler measures (i.e., number of competitors) that fail to not account for differences in size and market share of hospitals are not generally accepted as optimal measure of competition. HHI, in contrast, is widely regarded as the authoritative standard and is used by researchers, practitioners, and governmental agencies. The measure's computational ease, long standing and widespread use, and calculation that consider factors lost in the more intuitive notions of competition support its continued use, despite its weaknesses. The HHI does not consider other potentially mitigating factors such as geographical

location of the service providers and the quality of care. Despite these limitations, researchers as well as the Department of Justice and the Federal Trade Commission predominantly use HHI, because of its and absence of alternative measures (Baker, 2001).

Secondly, none of the two aforementioned competition measures captures the effect of state and federal level regulations, health insurance companies, or stakeholders on hospital competition. Another problem is the impact of the quality of care on patients' choice of different hospitals. In some areas, patients may be attracted to specific hospitals because of their monopolistic nature regarding having advanced and expensive technology, access to capital, or professional medical staff (Wong et al., 2005). It seems that more research needs to be done in this area to develop more comprehensive measurement of competition. We also suggest that there should be some consistency in regards to the methods and calculation of HHI.

Our third point pertains to the hospital market definition. More than half of the abstracted articles (40 or about 62%) defined hospital market based on metropolitan service area, county, health services area, hospital services area, and health facility planning areas. These approaches are usually called geographical boundaries. According to the literature, computational ease is the most important advantage of these methods (Baker, 2001; Wong et al., 2005). Capturing potential competitors and using available data to calculate competition are the other advantages. On the other hand, one of the problem with these approaches is the calculation of identical intensity of competition for all hospitals in a specific geographical boundary (i.e., market). In another words, there is no variation of HHI for hospitals located in a specific geographical market. Another problem is that these measures do not identify and account for the patients who were referred to hospitals from out of these boundaries and influence the market of hospitals either for availability of services or the quality of care (Baker, 2001; Wong et al., 2005). Moreover, the inconsistent use of various geographical market boundaries in different studies makes the comparison of these studies extremely difficult. Therefore, there is a need for more methodological studies similar to Wong et al. (2005) that compares various competition measures. This may lead to the adoption of more consistent measures of competition among researchers and make the comparison between studies more reliable. Such an endeavor may even lead to the merge of one of the geographical approaches with aforementioned patient focused approaches that consider differences in quality of care to obtain reliable and close to reality definition of market.

Our fourth point pertains to the assortment of variables that were used in the market share calculations such as inpatient days, acute care patient days, number of beds, admissions, and discharges. As shown in Table 2, many articles (26 or 40%) have used admissions to calculate market share. Discharges and service type were the second most used variables with frequencies of 11 and 10, respectively. Again, the inconsistent use of multitude of variables in calculating market share impedes the comparability of the findings of these studies. Therefore, we suggest more focus from the research community in developing some standards in calculating market share.

Our fifth point refers to some interesting findings that were exhibited as frequencies within certain categories in Table 2. The number of articles that utilized quality of care as outcome variables had the highest frequency (about 34%) and financial performance and pricing were the next most frequent dependent variables. On the other hand, there were only two articles using provided or

offered services as dependent variables. Studying the number and the type of services supplied by each hospital in different competitive environments can be very important, especially due to financial concerns. According to some studies, having overlap in provided services might lead to financial distress or closure of hospitals (Al-Amin & Housman, 2012). Literature shows that hospitals in a different competitive environment often offer or supply specific services as a differentiation strategy in their market. As a result, it seems that there is a gap in the literature about the impact of hospital competition on the type and number of services in hospitals. Such an information would be valuable since managers can use the result of these types of studies to add or remove services from their service line to become more efficient in their market.

Our sixth point pertains to the non-existence of prominent organizational behavior factors such as motivation, conflict, leadership, and culture. Studies in organizational behavior have identified factors such as motivation, conflict, type of leadership, organizational culture and organizational equity as an important predictor of hospital performance (Chen et al., 2015; Holt, 2012; Keroack et al., 2007). Moreover, organizational behavioral factors could strengthen or weaken the effects of external forces like competition. It appears that there is a gap in literature and this area is one of the areas that can be examined to see the impact of hospital competition on employees' motivation, organizational culture, conflict, organization climate, and power in organization, organizational equity, and so on.

Our seventh point refers to the underlined importance of quality of care within competition research. In our literature review, 22 of articles were related to the association between hospital competition and quality of care. Out of these 22 articles, about 86% (19) have used HHI as the measurement of hospital competition and only three of them used the non-HHI (number of competitors) measure. Even though, based on the association between quality of care and hospital competition does not seem to be consistent; these results may be due to the different measures of the quality of care and competition. For example, in some studies, the indicator for quality of care is mortality rate, readmission, or harmful effects of specific medicine or procedure. In these types of studies, the impact of hospital competition and the quality of care is negative in the sense that hospital competition reduce the rate of mortality, readmission, or harmful effects of medicine or procedures. Thus, the overall impact of hospital competition on quality of care is considered positive. This finding is important for hospital administrators and policy makers, given that hospitals tend to provide better quality of care in more competitive areas.

Our last point pertains to the findings of this literature review about the relationship between hospital competition and different outcome variable. According to our findings (see table 3), almost in 50 percent of articles that relationship is not statistically significant. The number of positive and negative significant relationship are equal. These results show an inconsistency in the impact of competition on different dependent variables. Thus, it is necessary to do empirical study to find out inconsistency in the relationships.

Our literature review had some limitations that should be acknowledged. First, due to our search limitation on the title and abstracts of articles, there is a possibility that we may have left out some studies. However, we attempted to overcome this limitation by carefully examining references of 65 abstracted studies and two seminal methodological articles on competition (Baker et al. 2001; Wong et al. 2005). Third, we concentrated on U.S hospitals, however, studying other countries

could be helpful to develop different perspectives from different countries and produce more comprehensive literature review.

CONCLUSION

This study is the most recent and comprehensive systematic review in hospital competition covering publications from 1996 to 2016. In this systematic review, we summarized the information about different aspects of 65 articles and identified potential research gaps for future studies.

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Appendix A: Studies that Utilized Hospital Competition as an Independent/Control Variable

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Al-Amin, et al (2012)	The relationship between general hospitals and Ambultary care settings has been examined	1997-2006/ 51 exits among 406 ASCs and nine exists among 222 hospitals/ cox proportional hazard model/ U.S. Florida	Overlap density and non-overlap density/ Health Service Area (HSA)/ Certain Service/Product	Bankrupt/ defunct or voluntarily terminated their license	High level of ASCs competition is related to high exit rate and also hospitals tend to be exit with high ASC density.
Alexander, J. A. et al (2006)	This article seeks the impact of board configuration on a range of performance in non for profit hospitals.	1985-1994/ 3090 non for profit hospitals/ U.S national	Market competition was measured by 1 minus the Herfindahl/ County/ Admissions index (the sum of the squared market share of all community hospitals in the county)	Number of admission	Result shows that corporate governance in compare to philanthropic governance is more likely to be efficient and have a large of market share.
Bamezai, A, et al (1999)	This paper explored the impact of HMO and PPO on cost growth and also the impact of interactive relationship between managed care market share and hospital competition on cost growth	1989-1994/ 4382 and 3904 hospitals for 1989 and 1994, respectively/ U.S national	We construct a hospital-level HHI from the 1989–1990 Medicare discharge data (MEDPAR) using actual zip code level patient flow data to define hospital markets/ patient flow/ Discharges	Change in annual operating costs	The result of this study shows that PPOs and HMOs constrained cost growth of hospitals in competitive environment.
Bazzoli, G, et al. (2006)	To study of influence of financial pressure resulting from the Balanced Budget Act and market forces on indigent health care	1996-2000/ 1693 urban general acute hospitals, U.S nation	HHI/ Health Service Area (HSA)/ Certain Service/Product	Admission	Higher HHI had association with more uncompensated care. In fact, in more competitive market uncompensated care is less.
Bian, J, et al (2006)	The authors estimated the market impact of hospital competition and HMOs penetration on emergence of ASCs	1992-2001/ 317 MSAs/ U.S national	HHI Herfindahl-Hirschman Index (HHI) from AHA admissions data	ASCs per 10,000 populations	A decrease from 5 to 4 equal-market-shared hospitals in a market is related with an increase of 2.5 ASCs per 1 million populations.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Brooks, G, et al. (1997)	The purpose of this study is to demonstrate the hospitals characteristics impact merger behavior of hospital and also the characteristics of specific pairs of hospitals influence the probability of the pair engaging in a merger	1983-1992/ 110 hospitals/U. S California	Herfindahl index across all zip codes of residence of all patients admitted to the focal hospital/ Hospital Services Area/ Admissions	Merger incidence	The results illustrated that a specific pair of hospitals associated to degree of market overlap positively, but regarding individual hospitals and condition of rivalry, there is no relation between market share and hospital merger.
Brooks, J, et al (1997)	Determining the factors affecting price negotiating between hospitals and insurers	1988-1992/ 293,595 inpatient and 707 hospitals / U.S national	Because a large Herfindahl index may result from either high concentration or few hospitals, the number of hospitals was included to separate the two effects. The highly significant coefficient on the Herfindahl index across all specifications shows that increased hospital concentration leads to greater hospital bargaining power/ County/ Discharges	1-Actual payment for appendectomy episode Market area modeled list price for appendectomy episodes. 2-Medicare average payment for appendectomy episode of similar severity	The result showed that higher hospitals concentration improves hospitals' bargaining power
Bundorf, M, et al (2004)	To study the impact of market-level managed care program on the cost, treatment and outcomes of services for Medicare FFS acute myocardial infraction patients.	1994-1996/ 93,386 admission / U.S national	Hirschman-Herfindahl Index (HHI) based on the number of hospital beds/ Metropolitan Service Area (MSA)/ Number of Beds	Treatments, costs, and outcomes of care for Medicare AMI patients	Patient admitted to more competitive hospital market more likely to receive primary intervention, revascularization and cardiac catheterization, but higher competition does not effect on less invasive interventions.
Burgess, J, et al (2005)	This paper is looking to determine the relationship between hospital network and hospital pricing behavior during dynamic increase in hospital network.	1994-1998/ 1493 hospitals/ U.S California	Herfindahl–Hirschman Indexes (HHI) market definitions based on patient origin and accounting for network relationships/ Metropolitan Service Area (MSA)/ Discharges	Price index	We find a positive network effect on hospital pricing but not statistically significant.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Capps, C, et al (2004)	Studying the impact of hospital consolidation on actual prices have been paid by PPOs	1997-2001/ not applicable/ U.S Several states	Hospital HHI. This measure accounts for competition localized down to the ZIP codes and major diagnostic categories from which each hospital draws its patient and System HHI. we computed Change in HHI: The System HHI minus the Hospital HHI / patient flow/ Admissions	the log of the con-tract price (either per discharge or diem)	The authors found that consolidation give this ability for hospitals to increase prices in three of four studied markets.
Carey, K, et al (2008)	To compare he cost of physician owned hospitals with general hospitals.	1998-2004/ 389 hospitals/ U.S Texas, Arizona and California	Herfindahl–Hirschman Index (HHI), based on patient flows to obtain coronary artery bypass graft surgery/ Health Service Area (HSA)/ Certain Service/Product	Costs	Findings do not support that specialty hospitals are more efficient than general hospitals. Orthopedic and surgical hospital were more cost efficient than general hospitals.
Carey, K, et al (2011)	This paper examines the impact of ASCs competition on cost, revenue and profit margins of hospitals which providing ASCs' services.	1997-2004/ 742 unique hospitals/ U.S Arizona, California, and Texas	The competitive market areas were the Hospital Referral Regions (HRRs), regional health-care markets defined/ Health Referral Region (HRR)/ Inpatient Days	Cost, revenue and profit margin	The result of regression analyses shows significant impact of ASCs on hospitals market. Downward force has been observed on cost, revenue and profits of hospitals with ASCs presence
Chang, D, et al (2011)	This study determines the association of hospital competition and gross charges	2000-2003/ 1,492 hospitals/ U.S National	Herfindahl-Hirschman Index (HHI) calculated by The Agency for Healthcare Research and Quality for each hospital based on its patient-flow market. /Four definitions of hospital market areas were used: geopolitical boundaries, fixed radius, variable radius, and patient flow. / Certain Service/Product	Total Hospital Charge and Hospital Cost Estimate	Greater level of competition is related to greater hospital gross charge. However, there was no relationship between competition intensity and hospital costs.
Chou, S, et al (2014)	The impact of using report cards on the quality of care in competitive market of hospitals	1995-2004/ 76,862 patients/ U.S Pennsylvania	We therefore calculate HHIs using predicted market shares for residential zip codes rather than the actual market shares of admitting hospitals/ patient flow/ Admissions	Log of the total cost for each patient, hospital mortality and readmission rates	The results showed that after online report card, hospitals in higher competitive environment used more resources and achieved lower mortality rate

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Clement, J, et al (1997)	The impact of hospital alliance on financial performance of hospitals.	1994-1995/ 2,462 hospitals for the cash-flow equations and 2,492 hospitals for the net revenue/ U.S National	HHI/ Health Service Area (HSA)/ Inpatient Days	Cash flow per bed, Natural log of net patient revenue per adjusted discharge, Natural log of operating expenses per adjusted discharge	The results show that a negative relationship between hospital Herfindahl-Hirschman Index (HHI) with revenue and expenses. This suggests that hospitals in less competitive markets generate lower revenues and expenses per adjusted discharge.
Clement, J, et al (1997)	Whether market factors have affected dynamic cost shifting among acute care hospitals during 1980s-1990s	1982-1992/ 268 hospitals/ U.S California	HHI shared bed in the county/ County/ Number of Beds	Net revenue per adjusted patient day from private payers	Results show that hospitals had experienced cost shifting. Hospital competition and HMO penetration doesn't have significant effect in this shifting.
Clement, Jan P, et al (2001)	This study aims to examine the impact of non- for profit hospitals on the charity care provision behavior of for profit hospitals and also the impact of managed care and competition pressure in supplying uncompensated care.	1990-1996/350 acute care hospitals/ U.S California	HHI, hospital acute care hospital beds/total acute care beds in HFPA / HFPA/ Number of Beds	Charity care	The results show that FP hospitals don't compete with neighboring NFP hospitals for a good public image by providing more charity care, as the NFPs provide more charity care. Instead, they offer less.
Co, J. P. T, et al (2002)	The objective of this study was to define the perceived quality of care of pediatric inpatient care and look at the relationship between hospital characteristics and perceived quality of care	1997-1999/6030 parents of children from 38 hospitals /cross-sectional/ U.S national	UHC Market Stage Classification/ Hospital Services Area/ Number of Beds system.	Perceived quality of pediatric cares	Parents in more competitive environment stated 3% more issues about quality of care in compare to less competitive market.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Courtemanche, C, et al (2010)	This paper demonstrates the effect of ASCs on hospital surgical volume	1997-2004/ not applicable/ U.S national	HHI, The HHI for each hospital is the sum of the squared market shares of admissions for all of the hospitals in a hospital's market. / An area within a 15-mile radius from the given hospital's zip code location/ Certain Service/Product	Log of hospital surgeries/ An area within a 15-mile radius from the given hospital's zip code location	The result showed that ASCs entry influences hospitals surgery in close distances. The effect is higher for large ASCs and first enter once.
Delia, D, et al (2009)	This article evaluates the impact of Certificate of need reform on decreasing long standing disparities to angiography	1995-2004/ not applicable/ U.S New Jersey	HHI is the Hirschman- Herfindahl Index, which is a measure of market concentration, for cardiac angiography (CA) procedures among hospitals in the choice set for each zip code/ Health Service Area (HSA) / Certain Service/Product	Difference of cardiac angiography (CA) rates	Result determines that greater concentration of cardiac angiography (CA) procedures has been associated with increase in disparity.
Dor, A, et al (2012)	This paper aims to look at the impact of hospital competition, HMO penetration and patient severity on the up taken of laparoscopic colectomy and its price related to open surgery for colon cancer.	2002-2007/ 7424 hospital admissions/ U.S national	Herfindahl-Hirschman Index (HHI) is the measure of hospital concentration It is defined by the share of hospital admissions squared, summed over all hospitals in the market area/ Metropolitan Service Area (MSA)/ Admissions	Uptake of laparoscopic colectomy and its price relative to open surgery for colon cancer	Market forces influence the laparoscopy implementation. In fact, the more HHI leads the less laparoscopic colectomy and the more HHI is related to higher prices.
Douglas, T. J, et al (2003)	This paper examines the different competitive advantages in hospital industry and examine direct and joint impact of market structure, organizational level competencies and inter-organizational relations on hospital performance	1996-1998/ 32 largest hospital markets, 824 hospitals/ U.S National	Herfindahl index. A measure of rivalry was calculated as one minus the calculated Herfindahl index/ Metropolitan Service Area (MSA)/ Certain Service/Product	Cash flow margin	The findings show that managers can deploy different competency strategies to come up with the effects of market.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Dranove, D, et al (2008)	Examining the relationship between price and concentration among hospitals.	1990-2003/ 342 in 1990 to 299 in 2003 in California and from 180 to 154 in Florida/ U.S California and Florida	Herfindahl Hirschman Indices (HHIs). we use zip code level patient flow data for individual hospitals and system membership information to directly compute system level HHIs/ An area within a 15-mile radius from the given hospital's zip code location/ Admissions	Price	There was positive relationship between price/concentration in this study.
Eastaugh, S. R, et al (2014)	Determinants of hospital-line specialization trend	2001-2010/234 hospitals/ U.S national	Herfindahl index bed concentration/ Metropolitan Service Area (MSA)/ Number of Beds	Inpatient case-mix specialization	In competitive market like West Coast, specialization is higher. General hospitals in competitive situation with specialty hospitals constrained their cost and also reduce the array of services.
Everhart, D, et al (2013)	To examine the impact of nurse staffing on profitability of hospitals in competitive and non-competitive market	2008/ 8,853 nurse surveys and 121 hospitals were included/ U.S Florida	Hospital competition was measured by the Herfindahl-Hirschman Index (HHI), an indicator of market concentration that is calculated by taking the sum of hospitals' market shares squared in a county/ County / Inpatient Days	Total profit margin	There was significant and positive relationship between nurse staffing and profitability of hospitals in most competitive market.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Garmon, C, et al (2009)	Examining the impact of competition and hospital charity care	1999-2002/ 120 such hospitals in Florida and 114 such hospitals in Florida and Texas	Competition is measured using the system-specific Herfindahl-Hirschman Index (SSHHI). The SSHHI is calculated by first dividing patients into groups and calculating the HHI for each group. For each hospital system, the SSHHI is then the weighted average of all of the micro-HHIs, where the weights are based on the importance of each patient group to that hospital system/ patient flow/ Admissions	Net inpatient revenue per admission for self-paying patients, total inpatient charity care and bad debt charges multiplied by the hospital's cost-to-charge ratio and outpatient uncompensated care cost which is outpatient charity care and bad debt multiplied by the hospital's cost to charge ratio	According to the results, there is no significant relationship between competition and charity care
Gift, T, et al (2002)	Examines the effect of competition on price bargaining power	1994-1995/ 93 hospitals/ U.S Washington state	The measure of competition was the number of hospitals within 10 miles or same urban/ Metropolitan Service Area (MSA)/ Discharges	Insurer payment system	In competitive environment, hospitals more likely to accept prospective payment methods and also it is more likely to offer discount by increasing the competitors in market. Also, but increasing the competition, price will decrease and market power shifts from provides side to buyers side.
Gowrisankaran, G, et al (2003)	Examine the effect of competition on quality decision for patients of Medicare and HMO	1989-1193/ not applicable/ U.S California	HHI measures the degree of competition for individual. For hospital j by the relative likelihood that the patient will be admitted to hospital/ patient flow/ Admissions	Log of AMI Mortality and Log of Pneumonia Mortality	Finding illustrated that increases competition will decrease mortality rate for HMO patients but increase for Medicare patients

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Hadley, J, et al (1996)	The impact of competition and financial pressure on performance of hospitals	1987-1989/ 1,435 acute care hospitals/ U.S national	We use the Phibbs and Robinson HHI for their 75% and 90% variable-radius market areas and an HHI based on the hospital (ie, "low competition") Are the omitted reference group in the regressions. In the case of the HHI based on MSAs, the omitted group also includes all rural hospitals. This is appropriate, given that rural hospitals tend to have few competitors/ Metropolitan Service Area (MSA)/ Admissions	Expenses, revenues, profitability, input use, and efficiency	Hospitals in high competitive environment control their costs and they experience slower revenue increase
Henke, R, et al (2013)	To analyze the impact of hospital competition on small -area inpatient resource use of payers.	2008/ not applicable/ U.S National	We measured hospital competition using the Herfindahl-Hirschman Index (HHI). The Herfindahl-Hirschman Index is the sum of the squares of market shares for all of the hospitals in the CBSA/ Metropolitan Service Area (MSA)/ Discharges	Length of stay (LOS) per discharge. Second, we measured cost per discharge	Hospital competition had significant relationship with lower discharge for both Medicare and private enrollees. Competition doesn't have significant impact of length of stay.
Horwitz, J, et al (2009)	This paper examines the spillover effects of three hospital ownership types-government, for profit and non profit	1988-2005/ Not applicable/ U.S national	Herfindahl–Hirschman. the sum of squares of each hospital’s share of total admissions within each MSA/ Metropolitan Service Area (MSA)/ Admissions	Service provided	Non for profit hospitals' service provision is different by market mix. For profit hospitals have greater margins in market with more for profit hospitals.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Jiang, H. J, et al (2013)	Examine the effect of managed care and hospital competition on cost and quality of post-managed era	2001-2005/ 1521 urban hospitals/ U.S. National	We measured hospital competition using the Herfindahl– Hirschman Index (HHI). The HHI is a concentration index, computed as the sum of squared market shares of all competing hospitals in a county. We used hospital admissions (which were derived from the HCUP data) rather than hospital beds to calculate market share that reflects the actual amount of services/output/ County/ Admissions	AHRQ Inpatient Quality Indicators (IQI) and average cost per stay	Increase hospital competition over time is associated with decrease in mortality rate when HMO penetration is high. In market with low HMO penetration, the hospital competition has association with higher cost but no effect on mortality rate.
Keeler, E, et al (1998)	This paper aims to look at the association between hospital prices and competition.	1986–1994/ 300,000 case/year for 4 years and 120,000 are non-Medicare patients/ California	HHI (population/square mile), share of total discharges and the summation runs over all hospitals/ County/ Admissions hospital's market	Net revenue per discharge	Competition has significant impact on hospital pricing.
Keon-Hyung, et al (2015)	The effect of hospital competition on efficiency	2001-2004/ 106 hospitals in average/ U.S Florida	We used the Herfindahl-Hirschman Index (HHI) as a measure of hospital competition. The HHI we used was based on the patient-origins data by patient ZIP code to determine the extent of each hospital's market. / patient flow/ Admissions	Technical efficiency	Technical efficiency and hospital competition had reverse association with each other
Kessler, D, et al (2005)	Impact of hospital competition on health expenditures and quality of care for elderly Medicare patients	1985-1996/ not applicable/ U.S national	We identify the effect of competition with an HHI that is a function of distances from each patient to his hospital choices and other exogenous characteristics of patients and hospitals/ patient flow/ Admissions	High-risk at Onset of Illness	Low-valuation patients receive less intensive services in more competitive market but with same result with less competitive markets. However, high-valuation patients in more competitive markets with better outcomes in compare with uncompetitive markets.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Langabeer Ii, J, et al (1998)	To examine the relationships among competitive strategy of hospitals, their market characteristics and financial performance.	1993/ 100 acute teaching hospitals/ U.S national	Number of competitors exist in MSA of each teaching hospital/ Metropolitan Service Area (MSA)/ n/a	Return on invested capital	Hospital choose effective strategies based on their turbulent environment
Maeda, J, et al (2014)	To examine the effect of market competition on inpatient price per discharge between private and public payers.	2006/ 3,333,065 dis-charges across all discharges from 6 states/ U.S Multiple states	The Herfindahl-Hirschman Index (HHI) represents sum of square of market shares for all hospitals within a county. / County/ Discharges	We estimated payer -specific inpatient prices (net revenue) by applying the HCUP PCR to total hospital charges.	Variation among private payers was higher regarding inpatient price per discharge. Also, the was positive relationship between hospital competition and higher price per discharge for knee arthroplasty for both types of payers.
Maeda, J, et al (2012)	Study of the relationship between evidence-based measures, hospital competition and short-term mortality of patients with chronic heart failure	2003-2006/ 3011 nonfederal, short-stay, Joint Commission-accredited acute care Hospitals/ U.S national	we employed the Herfindahl-Hirschman Index. The HHI was determined by taking the sum of the square of market shares for heart failure patients at all hospitals within an HRR. (HHI) as the market competition measure. / Health Referral Region (HRR)/ Admissions	Mortality	There was no relationship between competition and mortality rate.
Meltzer, D, et al (2002)	The impact of competition on the cost for low and high cost admission in DRGs before and after prospective payment system in Medicare	1983-1993/ not applicable / U.S California	HHI based on total annual discharge within a county level. / County/ Discharges	Ratio of cost to charges	Result shows that hospital cost increase before PPS in competitive market, however, the effect of competition been decreased later.
Mobley, L, et al (2009)	The Effect of market structure on hospital pricing	1998/ 336 general hospitals/ U.S. California	That is, we measure market concentration using the Herfindahl index (HHI), defined over market shares in net patient revenue at the hospital's HFPA level/ HFPA/ Discharges	Inpatient revenue received from private payers per private inpatient day, adjusted to reflect outpatient care	In markets where concentration is relatively high before a proposed merger, we demonstrate that Ordinary Least Squares (OLS) can lead to the wrong policy conclusion while the more conservative lag estimates do not

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Moriya, A, et al (2010)	Impact of hospital and insurer concentration on hospital services price.	2001-2003/ 940,816 inpatient admissions and 800 HSA/ U.S national	Herfindahl-Hirschman indices (HHIs). the flow of Medicare hospital patients between HSAs/ Health Service Area (HSA)/ Admissions	Hospital prices	Insurance market concentration has reverse relationship with hospital price, but hospital concentration does not have significant relationship with hospital prices
Mutter, R, et al (2008)	Relationship between hospital competition and quality of inpatient care	1997/ 2595 hospitals/ U.S national level	County, MSA, HSA, Fixed radius, Variable radius, Patient flow, County, HHI MSA, HHI HSA, HHI Fixed radius, HHI Variable radius, HHI Patient flow, HHI	AHRQ QIS in hospital quality models	Hospital competition has some effects on some quality measures. However, the effect is unstable and some indicators show positive impact and others negative impacts on quality of care.
Omal, A, et al (1998)	Relationship between hospital and market characteristics and mortality rate	1990-1991/ 398 hospitals/ U.S California	Herfindahl-Hirschman Index, based on patient discharges/ County/ Discharges	Mortality	The was significant relationship with higher competition and less mortality rate
Proenca, E, et al (2005)	The effect of membership in health system and hospital cost performance with looking at the impact of market factors as moderator	1998/ 1368 private urban hospitals/ U.S national	The level of competitive pressure in the hospital's market (COMP) was measured with a Herfindahl Index. This index was reverse coded (i.e., subtracted from one)/ Metropolitan Service Area (MSA)/ Admissions/ n.a	The dependent variable, total hospital cost, was defined as the logarithm of total expenses divided by the price of labor.	Services provided in system level had negative relationship with hospital cost and there was no significant moderator effect of hospital competition on this relationship.
Rivers, P, et al (1999)	Effect of competition on hospital costs	1991/ 29 MSAs/ U.S national	Hirschman-Herfindahl index (HHI). It is calculated as one minus sum of squared market shares of firms in the industry/ Metropolitan Service Area (MSA)/ MSA/ Admissions	Operational expense per adjusted admission	The effect of competition on hospital cost was significant.
Rivers, P, et al (2004)	Impact on HMO penetration and hospital competition on mortality rate	1991/ 1957 acute hospitals/ U.S national	Hirschman-Herfindahl index (HHI). It is calculated as one minus sum of squared market shares of firms in the industry/Metropolitan Service Area (MSA)/ Admissions	Adjusted mortality rate	There was negative relationship between hospital competition and mortality rate

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Rogowski, J, et al (2007)	Impact on HMO penetration and hospital competition on mortality rate	1994-1999/ 363 hospitals/ U.S. California	a competition index calculated as one minus the Herfindahl index based on bed shares.) a competition index calculated as one minus the share of beds held by the largest three hospitals/ not applicable/ Number of Beds	Mortality after hospitalization	More competition leads to less 30-day mortality rate
Roh, C, et al (2008)	The impact of competition, services scope and network participation on rural women's choice for obstetric care	2000-2003/ 10,384 Colorado rural female patients/ U.S. Colorado	The independent variable (hospital competition) was measured using a hospital-level Hirschman–Herfindahl Index (HHI). The HHI was constructed based on the work of Zwanziger and Melnick [41], who collected patient- origin data by zip code to determine the extent of each hospital's market. The HHI is calculated by summing the squared market share of all the hospitals in the relevant market / HHI/ Admissions	Discrete variable representing whether a rural Colorado female patient chooses a specific hospital	The effect of competition on patient's choice was positive and significant
Saleh, S, et al (2001)	The impact of competition and different levels of managed care activities on likelihood of pursuing managed care as a strategy	1997/ 139 rural hospitals / U.S. Im and Nebraska	market density was defined as the number of competitors in the focal hospital's market area. Market areas were constructed for each hospital using the shared patient-origin hospitals approach. Hospital service areas defined based on patient flow data are preferred to others because they measure actual rather than potential competition/ patient flow/ Admissions	Whether their hospitals in the process of developing alone or with other parties a managed care organization	More competition increases the likelihood of hospitals implementing managed care strategies.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Santerre, R, et al (2002)	Examines the impact of hospital competition on bed capacity in California	1999/ 309 community hospitals/ U.S. California	Inter-hospital competition is measured by the Herfindahl-Hirschman index (HHI) based on the share of inpatient days of each community hospital in the same geographical market. / Metropolitan Service Area (MSA)/ n/a	Reserve margin	Higher competition leads to hospital reduce their beds
Sari, N, et al (2002)	To examine the effect of hospital competition and managed care on quality of care	1992-1997/ 3868 hospitals / U.S. multiple states	Herfindahl–Hirschman index by county. / County/ Admissions	HCUP quality indicators	Higher competition associated with lower quality of care
Schlesinger, M, et al (1997)	The study of the effect of hospital competition on access to inpatient services and preexisting variation between for profit and non profit hspitals	1987-1988/ 915 respondent hospitals/ U.S national	The first method was to ask administrators to rank their hospital in 1-5 scale. In the second way, HHI was used. However, they used the first method in this study/ Not applicable/ n/a	Number of innovative services. Added services in the last year. Eliminated services in the last year. Uncompensated care as a percent of revenues.	In limited competition, for profit hospitals provide less access than nonprofit counterparts. However, more competition reduces the ownership differences.
Schneider, J, et al (2007)	The effect of specialty hospitals presence on financial performance of general hospitals	1997-2004/ 93 specialty hospitals/ U.S national	HHI/ County/ n/a	Hospital patient care revenue, cost and operating margin	The presence of specialty hospitals has positive effect on general hospitals operating margin but negative effect on general hospitals cost
Sethi, R, et al (2013)	Hospital competition helps hospitals to be EVAR adopt ore and improve AAA repair outcomes	2001-2007/ 21,600 patients and 652 hospitals/ U.S. National	HHI is calculated as the sum of squared market shares for all hospitals existing in markets defined by geopolitical boundaries, fixed radius, variable radius, and patient flow according to methods described by Wong et al/ patient flow/ Discharges	AAA repair outcomes	Patients at more competitive hospitals (lower HHI) were at increased odds of undergoing EVAR vs open repair. There was no significant association between competition and mortality, vascular neurological complications.

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Succi, M, et al (1997)	Impact of competition on rural hospitals closure	1984-1991/ 2,780 rural hospitals/ U.S. national	Market level competition measures and market position. Market density was defined by the number of hospitals within the focal hospital's designated market area, excluding the focal hospital. To assess market concentration, we used the Herfindahl index, calculated by summing the squared market share for all hospitals in the market (Phibbs and Robinson 1993) active to other hospital providers (differentiation). Differentiation of the focal hospital was captured along three dimensions. / County / n/a	Hospital closure	More density increases the risk of closure. The effect of density on closure been disappeared with considering market position
Tay, A, et al (2003)	Using random-coefficient model to show that importance of quality as well as distance in patient flow to hospitals.	1994/158720 patients and 2400 hospitals/cross-sectional/ U.S national level	Distance/ based upon Euclidian distance/Inpatient Days	Patient flow	People less likely to go future hospitals. Also quality of care is important determinant of hospital choice. However, the probability of hospital choosing decrease by distance and increase by quality. Thus, quality competition impacts patients' choices.
Town, R, et al (2001)	Estimating of determinants of price negotiation between hospitals and HMOs	1990-1993/ 12,700 HMO enrollees/ U.S. Loss Angeles	Herfindahl–Hirschman Index (HHI). We calculated the HHI using hospital beds as the measure of size. / An area within a 15-mileradius from the given hospital's zip code location/	Hospital pricing logarithm	There was no significant relationship between hospital competition and logarithm of hospital price
Volpp, K, et al (2005)	Examine the impact of law which changed regulated price to price competition that decreased charity care and also the effect of market on mortality rate	1990-1996/ 469,629 discharges/ US New Jersey and New York	We created a Hirschman–Herfindahl index (HHI) for each HSA by summing for all HSA residents the squares of each hospital's market share (based on hospital admissions)/ Hospital Services Area/ Admissions	Mortality rate	Competition increase mortality rate

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Wu, V. Y, et al (2008)	Examine the anti-competitive impact of hospital closure	1993-1998/ 974 hospitals of all types closed between 1990 and 2000/ US national	HHI/ Health Service Area (HSA)/ Certain Service/Product	Hospital prices	Change in HHI because of closure did not have any significant effect
Young, G, et al (2000)	The relationship between market concentration and the pattern of pricing	1990-1995/ The number of observations ranged between 153 and 169 for each year of the study/ US California	The HHI, which is a widely used measure of market concentration, is generally computed as the sum of the square of each firm's market share/ Metropolitan Service Area (MSA)/ Admissions	Annual percentage change in hospital price	In more concentrated market, all three types of non-for profit hospitals exercising higher price and this is more aggressive for members of nonlocal systems.
Younis, M, et al (2004)	The impact of Hospital competition and HMO penetration on hospital cost per adjust admission	1991/ 1967 hospitals/ U.S national	Herfindahl-Hirschman Index (1-the sum of squared adjusted admission)/ Metropolitan Service Area (MSA)	Cost per adjust admission/ Admissions	There is no relationship between competition and cost per adjust admission
Zwanziger, J, et al (2000)	The impact of selective contracting on revenue and costs of California hospital	1983-1997/ 421 California general hospitals/ US California	We chose the Hirschman-Herfindahl index (HHI) as our basic measure of competition. / Not applicable/ Certain Service/Product	Operating expenses Total operating revenue	More competition leads to low rate of increase in revenue and cost
Zwanziger, J, et al (2000)	The impact of selective contracting on cost and revenue of hospitals	1983-1997/ 421 acute hospitals / U.S California	We chose the Hirschman-Herfindahl index (HHI) as our basic measure of competition / Not applicable / Certain Service/Product	Total hospital expenses and revenues	Hospitals in more competitive markets had significantly lower rate of revenues and costs

Author(Year)	Study objective paraphrased version	Study Period/ Sample/ Design/ Location	How Competition Measured/Definition of The Market	Outcome variables	Key Findings Related to Competition Paraphrased Version
Zwanziger, J, et al (2005)	Relationship between implied prices and hospital market factor and plan	1995-1999/ 373 hospitals/ US New York	The measure of competition we used was the Hirschman-Herfindahl Index (HHI), where the sum is over all the competitors in the market. We found the market shares of the competing hospitals in each ZCA, and then summed the squares of these market shares to calculate the ZCA's HHI/ Not applicable/ Discharges	Hospital prices	After 1997 hospitals located in more competitive market paid less.
Zwanziger, J, et al (2000)	This paper aims to determine that whether, and under what circumstances, hospitals will shift costs to private payers especially in competitive circumstances.	1983-1991/52 revenue centers/ Cross-sectional/U. S California	HHI Hospital Discharge Data/ concentration/ Discharges	Cost shifting	Competition has some impacts on hospital cost shifting behavior in responses to Medicaid reimbursement, but the relationship is not significant statistically.

Exhibit 21

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The effects of multi-hospital systems on hospital prices

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Abstract

US hospital prices are rising again after years of limited growth. We analyze trends in hospital prices during a period of significant price growth (1999–2003) to assess whether hospitals that are part of multi-hospital systems were able to increase their prices faster than non-system hospitals. We find hospitals that were members of multi-hospital systems were able to increase their prices substantially more than comparable non-systems hospitals (34% for large systems and 17% for small systems). Further, we find that the systems effect is not confined to hospitals that have other system member hospitals in their local markets. One possible explanation is that hospitals belonging to non-local multi-hospital systems have improved their bargaining position vis-à-vis health plans.
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1. Introduction

Hospital prices in the US are rising again after years of little or no growth (Strunk and Ginsburg, 2004). Managed care plans, by stimulating price competition among providers, were given credit for controlling prices. The causes of the recent increases are not well understood. Two explanations have been given for the surge in prices: price control by managed care plans may be weakened due to demand for broader provider networks, and providers may be strengthened by the formation of larger scale multi-hospital systems (Devers et al., 2003).

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2. Hospital competition and local bargaining

With the emergence of managed care and selective contracting, researchers studied how hospital market structure and competition among hospitals in local markets affects hospital performance. Studies have shown that the nature of hospital competition shifted. Where previously, higher costs and prices were observed in hospitals in less concentrated markets (Robinson and Luft, 1985), more recent studies found that managed care plans used selective contracting to create "payer driven" price competition among hospitals in order to negotiate lower prices (Melnick et al., 1992; Keeler et al., 1999; Dranove and Satterthwaite, 2000). The prices that a health plan must pay a hospital to be in their network will depend on the characteristics of the hospital and the availability of substitutes, among other factors. While the overall demand for hospital care is relatively inelastic, it has been shown that the demand for an individual hospital becomes more elastic when there are more available substitutes (Dranove et al., 1986). Indeed, this fact allows selective contracting by managed care plans to successfully negotiate price discounts in more competitive markets. The threat of directing patients to other lower cost hospitals increases the elasticity of demand for particular hospitals.

One hospital response to increased price competition is to attempt to reduce the bargaining power of health plans by merging with their competitors: studies have shown that mergers between competitors in the same geographic market can lead to higher prices (Connor et al., 1998; Ho and Hamilton, 2000; Krishnan, 2001; Capps and Dranove, 2004; Abraham et al., 2005).

Another potential response is for hospitals to take advantage of the managed care backlash in bargaining with health plans. It has been reported that consumers became dissatisfied with the narrow provider networks offered by managed care plans (in the late 1990s) and that with the tighter labor markets they demanded broader and easier access (Draper et al., 2002). To the extent that patients are not willing to have their access restricted to a small set of local providers, the ability of plans to shift and threaten to shift patients is limited. From a bargaining standpoint demand, in effect, becomes more inelastic, even in what appear to be more competitive markets. Previous research found that health plans were able to leverage competitive conditions in hospital markets to generate higher discounts (Bamezai et al., 1999). To the extent that the backlash is stronger in more competitive markets, the previously observed effects of hospital competition may start to diminish. More recent studies based on the incremental value of additional network hospitals to consumers explain why that demand put pressure on managed care plans to broaden their contracted provider networks (Capps and Dranove, 2004). The ability of health plans to replace one hospital with a similar one or to channel patients to different hospitals in the locality is an important factor in limiting prices (Sorensen, 2003; Town and Vistnes, 2001). Under these models the demand for broader access (i.e., insistence on going to particular providers) reduces the effectiveness of selective contracting to obtain price discounts resulting in higher prices over time.

3. Bargaining and non-local hospital systems

In addition to merging, hospitals have undertaken other forms of organizational restructuring, including network affiliations with other hospitals or joining other hospitals to form multi-hospital systems. One possible reason for hospitals to form multi-hospital systems is to restructure their operations to become more efficient (Carey, 1999) or to differentiate themselves in the market place by enhancing their reputation (Dranove and Shanley, 1995) possibly by improved products and services or by increased public relations expenditures. Another reason for hospitals to form

systems is to strengthen their bargaining power with health plans. Previous studies have focused mostly on how concentration of local markets affects hospital bargaining power vis-à-vis health plans. More recent studies use structural models to estimate the change in hospitals bargaining power as a result of either mergers in local markets or of removing a hospital from a health plan's local network (Town and Vistnes, 2001; Dranove and Lindrooth, 2003; Dafny, 2005). Importantly, most previous research has focused on linking local market characteristics to hospital prices while either ignoring or discounting the potential role of membership in a multi-hospital system outside the local market. But multi-hospital systems and their effects could extend beyond the local market. Cuellar and Gertler (2003) reported that many US hospitals belong to systems that contain no other local partner or are not concentrated locally. A review of the trade and industry press reveals several bargaining strategies that appear to have become common among both local and non-local multi-hospital systems in recent years. One involves threatening the plan with disruption caused by multi-hospital systems pulling all of their member hospitals out of a health plan's provider network simultaneously to foster an image of instability related to the health plan's products and possibly lowering health plan brand value (Strunk et al., 2001). Perceptions of health plan instability may lead to reduced demand for the health plan, not just in the affected areas but more broadly, thus potentially imposing a substantial cost on the plan for not agreeing to higher price terms with multi-hospital systems.

Another reported strategy was for hospitals to form a multi-hospital system that included one or more hospitals that had market power and then to use this power to extract higher prices from health plans for other hospitals in the system including those located in more competitive markets. While traditional economic theory suggests that there should be no net gain from this approach, some health plans reported that they felt forced to reach agreements for higher prices since the removal of needed hospitals in a particular geographic area could require them to either limit marketing of their insurance products in that area or force them to pay higher "out of network" prices to ensure their network had the regulatory minimum hospital coverage in that area (Lesser et al., 2003). Under this approach, multi-hospital systems who have hospitals with market power may feel that there are social constraints on the prices they can charge at monopoly facilities but use that power to minimize discounts elsewhere in the system. Removing key hospitals from a plan's network can substantially raise the operating cost of the health plan if the plan is forced to pay higher prices to an out of network provider. Or the plan may see reduced revenue if it is forced to reduce the size of the geographic market that it can sell its coverage. Under these scenarios, it may be less expensive to the health plan to pay higher prices than they would otherwise to system member hospitals, even in more competitive areas, than to lose a key hospital in an important area.

There is some evidence to suggest bargaining dynamics between managed care plans and multi-hospital systems has changed, with hospitals that are part of multi-hospital systems now having a bargaining advantage over managed care plans (Strunk et al., 2001). However, to date econometric analysis of non-local systems has been limited. Most studies of hospital systems study local systems or use data from the 1990s before the recent surge in prices. One study analyzed the relationship between systems status and hospital prices charged by non-profit hospitals (Young et al., 2000). It found a significant positive effect on prices for non-profit hospitals belonging to systems, with largest effect for hospitals that are part of systems that were not controlled locally. A more recent study examined pricing behavior of hospitals that reported having formal network agreements with other hospitals to offer services (Burgess et al., 2005). This study found that the formation of networks are correlated with an effect on hospital pricing nearly as great as the ownership relationship represented by hospital system membership. Another recent study using

data through 2001 from four states found that prices charged by system hospitals were on average 4.1–7.7% higher than non-system hospitals (Cuellar and Gertler, 2005).

Our study is an empirical analysis of the relationship between hospital membership in a multi-hospital system (both local and non-local) and hospital pricing behavior over time. We analyze trends in per diem hospital prices in California during a period of significant price growth (1999–2003) to assess whether hospitals that are part of multi-hospital systems are able to charge higher prices compared to non-system hospitals. We find that belonging to a multi-hospital system allows member hospitals to charge substantially higher prices and further, that this effect is not dependent on a hospital having other system members in its local market.

4. Data, variable construction and methods

4.1. Data

Our methods are designed to study the effects of membership in a multi-hospital system (local and non-local) on hospital prices while controlling for local market structure and other hospital characteristics. Our analysis file incorporates data from several sources. Patient level data are from the annual uniform discharge data from the Office of Statewide Health Planning and Development (OSHPD) of the State of California. Data elements obtained from this file include diagnosis related group (DRG), length of stay, admission status (whether case routine), discharge status (whether patient died), total charge, and the patient age, sex and race for each discharge. Hospital discount rates were calculated using data from OSHPD's annual hospital disclosure and quarterly files. An area wage index was derived from the Medicare PPS impact file. Population data (i.e., per capita income) are drawn from the Area Resource File. Our final analysis file included data for the 6 years (1998–2003). We excluded Kaiser Permanente hospitals (which do not report price), military hospitals, and specialty hospitals such as alcohol/drug, psychiatric, rehabilitation, children's hospitals and long-term care hospitals. We defined the ownership variables using a control code that characterized hospitals as non-profit, investor owned, or government (city/county and district hospitals which were combined into the government hospitals category except when they are leased to or managed by hospital systems).

4.2. Dependent variable

Construction of our dependent variable, the average net price index per inpatient day for private pay patients, follows from our previous work (Keeler et al., 1999) and the work of others (Lynk, 1995a; Burgess et al., 2005). Ideally one would like to have the actual net price paid per day by individual private managed care payors as a measure of price. However, these data are generally treated as confidential and as such are difficult to obtain. The California Office of Statewide Health Planning and Development (OSHPD) collects patient level hospitals discharge data and hospital level data financial data from all hospitals that can be combined to provide an estimate of the average net price for private pay patients.

We start by using the patient level discharge data to calculate the average gross revenue per discharge within each of 10 common DRGs (14, 89, 96, 127, 174, 182, 183, 243, 296, 320) and then compute the average net revenue per discharge for the patients in each hospital by multiplying each patient's total charge within each DRG by the hospital's average discount factor for private patients at the hospital. Calculating prices for a common set of DRGs across all hospitals controls for potential differences in price related to differences in service mix across hospitals. In addition,

there may still be patient and other case-mix differences within DRGs across hospitals that may also affect price. To control for differences in patient characteristics and case-mix within and across hospitals we start with a micro analysis of gross revenue per discharge within each DRG in each year by regressing log (net revenue) as a function of patient characteristics including dummies for each hospital, seven age categories, female, black, whether the case is routine, whether the patient died, and log (length of stay + 1). Average charges are very close to a multiple of (length of stay + 1) for all 10 DRGs and years, so that length of stay + 1 is a better measure of hospital quantity than length of stay. This leads to ∼3000/DRG dummy coefficients for each year (300 hospitals × 10 DRGs) which represent standardized log net revenue/(day + 1) in that DRG in that hospital. We then combine these 10 prices per hospital into a single price index for each hospital. In our previous work we found the revenue/(day + 1) coefficients for the 10 DRGs in a hospital in a year are highly correlated. The high correlation means we lose little information in combining the 10 prices into a single standardized price index for the hospital with the weights for each of the hospital DRG dummy coefficients based on the average proportion of patients in that DRG in the entire sample. These hospital price indices serve as basis for the dependent variable in our analysis and the inverse of their estimation variance are weights in a cross-sectional time series analysis (1/variance is approximately proportional to the number of observations in the hospital).

There were several data related issues that had to be addressed in our approach. Ideally, our patient sample in calculating DRG level gross charges per day would include only private pay patients. However, in 1999 OSHPD's reporting format for hospital discharge data did not break out Medicare managed care patients separately from Medicare FFS patients and many hospitals coded their Medicare managed care patients as private rather Medicare. The patient level micro analysis described above included an age (>65) term which was designed to capture differences in charges or services that may be associated with these patients. In 2003 OSHPD collected financial data separately for Medicare managed care and FFS patients. This allowed us to calculate and compare two discount factors, one that included only private patient and one that included private patients plus Medicare managed care patients. The two measures were very highly correlated (0.965). For consistency, we applied the private pay discount factor to all patients within the 10 DRGs within each hospital throughout the entire study period. There are two OSPHD data sources that can be used to estimate the private pay discount factor: the annual disclosure file and the quarterly file. We estimated the average private discount rates for each hospital using both sources and compared them. After trimming outliers, the discount factors were highly correlated (0.81) between the two sources and the estimated coefficients for the competition and hospital systems variables in our models were insensitive to which data source was used. We used the annual financial report as the primary source to estimate the discount factor and used the quarterly data to fill missing values where possible.

4.3. Independent variables

Our primary interest is the effect of hospital system status on prices. We grouped hospitals into one of three system status categories in each year: non-system member, member of a small system (2–14 hospitals), member of a large system (>15 hospitals). Fifteen is a natural breakpoint, as no system had between 10 and 14 hospitals between 1999 and 2003. Not counting Kaiser, there were 4 large systems in California in this period.

Competition is measured by a Herfindahl–Hirschman Index (HHI) $= \sum s_i^2$, where s_i is the share of total discharges and the summation runs over all hospitals in the hospital's market. As in previous work, we calculate the HHIs using actual patient flow data on the zip codes of origin

of each hospital's patients to define hospital specific markets and related HHIs (Zwanziger et al., 1990). First, all DRGs were categorized into 48 separate service categories based primarily on the type of physician typically treating a patient in the service category. Next, the market area for each service was defined (using patient origin data) as those zip code areas (ZCAs) that contribute at least three percent of a hospital's total discharges for that service such that the included ZCAs account for at least forty per cent of total discharges. Third, competing hospitals were then identified on a zip code level basis as those facilities that draw significantly – at least three percent of a ZCAs total discharges – from at least one of the ZCAs in the marker hospital's market area. The HHI for each service-ZCA combination was calculated. The degree of competition facing each hospital is measured by the weighted average of the HHIs of the service-ZCAs in its market, with the proportion of patients from that service-ZCA combination used as the weight.

We calculated the HHIs in two ways: a hospital HHI treating each hospital as independent and a "system" HHI that treats all hospitals that are part of the same system as a single hospital rather than as individual hospitals. The "system" HHI will be larger than the hospital HHI when two or more hospitals in the same system have an overlap in their geographic markets. The difference between the two HHIs was very small in 1995 (median values were 0.31 and 0.32) and grew slightly by 2003 (median values of 0.33 and 0.37), as a few systems added local competitor hospitals over time and non-system hospitals closed. Because we believe that systems bargain with payors for all their hospitals together in each location, we used the new "system" HHI as the base case of our analysis.

To test if multi-hospital system effects are due to local systems or non-local system-wide bargaining, we split system hospitals into two groups depending on whether one of their local competitors belonged to the same system or not. We defined for each hospital its own geographic market as defined above. We then identified other hospitals that also draw patients from that same geographic area. The number of patients in the area served by competitor hospitals drops quickly; the top five competitor hospitals have 70% of the remaining patients on average. If one or more of those top five competitors was in the same system, the index hospital was given a 1 on the local-system competitor variable otherwise it was given a 0 (there are very few hospitals that have more than 1 local competitor in the same system). This local-system competitor variable was defined separately for small and large systems.

The other independent variables were confounding hospital variables that may be also influence hospital prices. We include two payor mix variables, admissions in each hospital covered by Medicare and MediCal, but for different reasons. Previous research has suggested that financial pressure from Medicare payment rates can lead hospitals to cut their costs (Hadley et al., 1989) and/or to raise their prices to private payors (Zwanziger and Bamezai, 2006). Alternatively, hospitals who participate in the MediCal program may find themselves at a competitive disadvantage in that there could be a negative reputation effect that limits their ability to raise prices. In addition, following our previous work, we include a capital ratio (total assets/total operating expenses), teaching status, a county level measure of per capita income in 1999, the Medicare PPS operating wage index as a measure of input prices and total admissions as control variables. Despite potential economies of scale (Lynk, 1995b) most empirical studies have found that larger hospitals have higher costs (Frech, 1996; Robinson and Phibbs, 1989). We include these variables in the regressions to ensure that our estimates of system effects are not artifacts of the types of hospitals within systems. To control potential endogeneity we use values of these confounding variables and the system HHI from 1998 in all analyses. Table 1 shows that there is very little change in these variables over time and results with non-lagged variables were very similar.

Finally, several variables are interacted with time. Two of the measures (MediCal share, system HHI) are centered on the mean value of the variable (hospital value minus mean across all hospitals) and interacted with time, defined as year −2003 (e.g., time in 2002 = 2002 − 2003 = −1). The final interaction variable is system membership status (1 if the hospital is part of a system, 0 otherwise) multiplied by the system HHI for the hospital, where the system HHI value is centered on the mean system HHI value (system HHI value for the hospital minus the mean system HHI value (0.37)). Table 1 shows means and other statistics at the hospital level for the variables.

5. Statistical analysis

The time series cross-section data enable us to look at the impact of market structure and in particular system membership on prices. We do so using the following empirical model:

$$P_{ht} = a_t + bX_h + \gamma(t)C_h + \delta(t)S_{ht} + \eta C_{ht}S_{ht} + \theta(t)L_{ht} + e_{ht}, \quad (1)$$

where h indicates hospitals, t indicates year, X the vector of other confounding variables in 1998, and C the system HHI in 1998, a measure of competition, S the vector of measures of hospital ownership and system membership, and L is the indicator for whether the hospital is close to other hospitals in its system. After inspection of the pattern of system and competition effects over time, we fit both $\gamma(t)$ and δ (t) with linear functions and fit $\eta(t)$ and $\theta(t)$ as constants. The error term may be random effects $u_h + \varepsilon_{ht}$, or autoregressive $\rho\varepsilon_{t-1} + \nu_t$, or have some other structure. Fixed effects do not work well for studying the impact of systems (and competition) with these data because there is little change in these variables over time (last column, Table 1). Still, there are strong hospital effects on price (less than one third of the variance in net price is within hospitals after adjustment for overall year effects) so panel data methods make the estimates more precise. In summary, because adjustment to competition and effects of system on bargaining is not instantaneous, we hypothesized that these factors would affect changes in prices as well as levels of prices. Our estimates of the 2003 effects of systems and competition are

Table 1
Hospital level variables

Variable	Mean	S.D.	Variance within hospitals (%)
Log(net price index)	7.01	0.47	39
Log price adjusted for year	0	0.4	31
Log total admissions	8.6	1.2	2
Teaching (=1)	0.03	0.16	0
Government (=1)	0.15	0.36	2
For-profit (=1)	0.29	0.45	2
Medicare share	0.39	0.15	14
Medical share	0.21	0.16	5
Capital ratio	0.46	0.32	17
Operating wage index	1.2	0.14	5
Log income per capita	10.2	0.24	0
System HHI	0.37	0.17	2
Large system member (=1)	0.32	0.47	9
Small system member (=1)	0.29	0.46	13
Local-system competitor in large system	0.21	0.40	6
Local-system competitor in small system	0.13	0.34	10
System member (=1) × HHI (centered)	0	0.12	1

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then improved by information from earlier years. We make general estimating equation (GEE) estimates of these effects (STATA 2003, "xtgee"; Liang and Zeger, 1986), with robust estimates of significance.

6. Results

Table 2 presents the regression results for different size multi-hospital systems controlling for competition and other characteristics on per diem prices over time. The reference omitted group from the regression includes non-system hospitals operating in markets with average competition and with an average MediCal share in 1999. Overall, prices for this group rose steadily through the period, with prices 42% (=exp(0.35) − 1) higher in 2003 than in 1999, controlling for the other variables. Average price was not greatly affected by the capital to expense ratio or the percentage of admissions covered by Medicare or the income level of the county in which the hospital was located. Teaching hospitals had higher prices than non-teaching hospitals, as did hospitals operating in areas with higher wages. Government and for-profit hospitals showed no significant price differences from non-profits. The percent MediCal had a depressing

Table 2
Regression results for log (price index)

	Xtgee (random effects)		With county fixed effects		Hospital fixed effects	
	Coefficient	z	Coefficient	z	Coefficient	z
Year 2000	0.051	2.08	0.053	2.14	0.041	1.73
Year 2001	0.172	5.70	0.174	5.70	0.146	5.49
Year 2002	0.271	6.89	0.273	6.90	0.254	8.44
Year 2003	0.349	6.73	0.354	6.77	0.335	9.72
Log total admissions*	0.043	1.56	0.069	2.62		
Teaching (=1)*	0.385	4.13	0.357	5.30		
Government (=1)*	0.042	0.58	0.111	1.60		
For-profit (=1)*	−0.014	−0.34	0.025	0.58		
Medicare share*	−0.133	−0.79	−0.147	−0.89		
MediCal share*	−0.991	−4.19	−1.064	−4.54		
MediCal share* (centered) × (year-2003)	−0.216	−3.75	−0.221	−3.76	−0.205	−6.17
Capital ratio*	−0.047	−0.87	−0.049	−1.00		
Operating wage index*	0.952	4.06	−0.781	−1.39		
Log income per capita*	−0.139	−1.13	0.242	0.91		
Large system member 2003	0.290	3.81	0.270	3.67	0.097	0.68
Large system trend	0.041	2.27	0.041	2.22	0.037	2.99
Small system member 2003	0.158	2.57	0.181	2.86	0.108	0.86
Small system trend	0.035	2.13	0.031	1.84	0.030	2.35
Local-system competitor in large system	−0.026	−0.45	0.044	0.81	0.271	1.54
Local-system competitor in small system	−0.028	−0.50	−0.031	−0.55	0.023	0.14
System HHI*	0.979	3.96	0.347	0.94		
System HHI* × (year-2003)	0.008	0.21				
System member × (HHI*)	−0.183	−0.76	0.288	1.06	0.364	0.57
Cons	6.573	5.65	4.741	2.09		

* Value of variable in 1998.

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effect on prices that grew over time. The estimated effect of competition did not change over time. The coefficient can be interpreted as follows: prices in the 80th percentile of concentration (with an HHI of 0.50) were $(0.50 - 0.37) \times 0.979 = 13\%$ higher than in areas with average concentration. The effects of competition on price were so similar for government, for profit and non-profit hospitals that we used one competition variable for all three types in the final estimates.

Hospitals that were members of multi-hospital systems were able to increase prices significantly faster than non-system members over this period. As a result, by 2003, prices were estimated to be $34\% = \exp(0.29) - 1$ higher in large systems on average, and 17% higher in small systems than they would have been in non-system hospitals. The coefficients for the local-system competitor variables for both large and small systems were negative but close to zero, i.e., the system hospitals that were close to other system hospitals did not have higher prices than system hospitals that were not close to other system hospitals. The interaction between competition and system membership was neither large nor significant.

We tried a number of different specifications of the model, and present two of these in Table 2. To test if the higher system prices were simply related to which counties systems were in, we included county fixed effects with results shown in the next columns. The only substantial change is for the effects of concentration. Counties in which hospital specific concentration as measured by the HHI is high have higher prices, and this greatly reduces the estimates of the effects of the HHI. In the last set of columns we show a hospital fixed effects regression. In general the fixed effect coefficients were quite similar to those in the random effects model, which therefore passed the Hausman test. Few hospitals changed system status in the study period. However, large systems added 4 non-system hospitals that were competitors to existing system members. The coefficient for price increases for these large system local competitors was large (0.271) but insignificant in the fixed effects model.

7. Sensitivity analyses of results

We tried several measures of the bargaining power of systems, intending to reflect different potential sources of leverage in the bargaining process. To test if systems were using market power in one area as a threat to raise prices in other areas, we tried the maximum system HHI, and the 75 percentile of the system HHI in the system as explanatory variables. To test the threat of a large potential disruption, we used the total number of admissions in the system. All of these measures had some predictive power if the number of hospitals in the system was not included, but less power than the base case large system, small system, non-system indicators, and none of these measures added significantly to the base case measures.

We also looked at a three part split of systems into small medium and large. This was slightly more predictive, but was not used because there are just a few large systems in California and where the line is drawn between medium and large puts the two most successful systems in one category or the other. Without a theory that explains why systems with 20 hospitals would be more successful than those with 25 or more, it seemed more reasonable to split all the hospitals in systems into two equal parts with all systems 15 and over considered large. Inevitably, there are not many large systems, so statistical inference depends on the actions of just a few organizations. Significance does not change greatly when we cluster on systems, rather than on individual hospitals, as we did in Table 2.

In a regression using only the last year of data, system effects are slightly bigger than the estimates for 2003 based on all the data, and competition effects are the same. We also tested

for the effects of hospital acute care occupancy rates and despite some tightening (acute care occupancy rates grew from 0.46 in 1995 to 0.56 in 2003) found no effect.

The year-to-year correlation structure of residuals appeared more like random effects than AR 1 but there was some loss in correlation between 1 period gaps to longer gaps. Ultimately we assumed no structure on the correlation, but results were very similar assuming random effects or AR1.

The "system" HHI – the competition measure that treats two hospitals in the same chain as one in calculating the HHI – was very highly correlated with the hospital HHI that considers them competitors. So it is not surprising that the regressions of the effect of competition using the two measures were virtually identical. Looking at the pattern of prices versus competition, differences in HHI effects below 0.5 were small, and using the square of the HHI fit prices slightly better than using the untransformed measure. However, that slight improvement did not seem enough to replace the standard HHI. Differences in the effects of systems on prices among different ownership types were small and insignificant. We also tested several interactions of confounding variables with time. For example, leaving out the interaction of MediCal share with time, or including a time interaction with Medicare share had little effect on the estimated impacts of multi-hospital systems.

8. Discussion and implications

This paper seeks to expand our knowledge of hospital pricing behavior over time. Specifically, we looked at the role that multi-hospital systems might have played in explaining the significant increase in hospital prices since 1999. The few prior studies of how hospital systems affect hospital pricing behavior are limited to an earlier time period when systems were forming and may not have been negotiating as single entities. Our time-series, cross-section data show that in recent years membership in a multi-hospital system is associated with substantially and significantly higher hospital prices. This effect has increased over time and is, to some degree, a function of the size of the system.

In 1999, although many hospitals belonged to systems, system hospitals did not receive substantially higher prices relative to hospitals that were not part of systems (this was also true for the period from 1995 to 1998, data not shown here). However, by 2003, hospitals in both small and large systems were receiving much higher prices than non-system hospitals – hospitals belonging to large systems received a 34% price differential while the price differential for small systems, while lower, was still a substantial 17%. We found very little pricing difference between non-profit and for-profit hospital systems in both size categories.

Why did price differences between system and non-system hospitals diverge over time? From a theoretical perspective, formation of hospitals into multi-hospital systems can lead to price increases as a result of improved quality and services by system members or as a result of greater bargaining power. Our data do not allow us to make a direct causal link to these competing alternatives. Future research will need to develop more formal hospital-health plan price bargaining models that include the role of non-local systems and develop the empirical data bases that we allow more direct measurement of bargaining units and their characteristics. However, in this discussion, we draw upon circumstantial evidence of events occurring during the study period to sketch out the role that improved bargaining by non-local systems may have played.

We hypothesize that the bargaining strategies by multi-hospital systems changed beginning in the late 1990s and early 2000. During this period, there were increased reports that hospital systems were beginning to negotiate with health plans as a single entity, demanding price increases

for member hospitals and threatening to pull all of their member hospitals out of the health plan's networks simultaneously (Mladinich, 2001; Trei, 2000; Levander, 1998; Colliver, 2001a,b; Massingill and Metinko, 2001; Rapaport, 2001; Norman, 2001). In some cases, hospital systems were able to convince hospital affiliated physician organizations to pull out of health plan provider networks at the same time, as well (Delevett, 1998; Kazak, 1998). Several factors may have contributed to the timing of the introduction of this new strategy. First, it may have taken time for multi-hospital systems to get agreement from individual hospitals to negotiate as a group and then to align the expiration dates of health plan contracts for their individual members hospitals so that they could negotiate them all at the same time. Also, the emergence of the consumer backlash during this time period may have provided added strength to this approach. For example, in California the issue of patient disruptions from changes in managed care networks generated considerable negative media attention during this time period after the sudden failure of several very large medical groups with more than 100,000 members who had to be shifted to new providers on short notice. In addition, the State of California, partly in response to the growing backlash, authorized a new of Department of Managed Health Care with regulatory oversight over changes in contracted provider networks. While we do not know which plans may have changed their tactics nor the exact timing of this change in strategy, it appears from industry reports that it evolved over time to allow hospital systems to gain the upper hand; and our results – that prices by hospital system member hospital grew much faster after 1999 compared to non-system hospitals and are highly significant – are consistent with this story. The fact that large systems had the highest price differential suggests that avoidance of disruption to the plan's network may be an important factor worthy of future research.

A related question concerns how higher prices are distributed across members of hospital systems. Prior literature suggests that enhanced market power can be generated by local systems resulting in higher prices. Do systems simply rely on local market power and use it in markets where they have it, or can they obtain increases for their hospitals in all markets? To test this, we estimated the effects of hospital system membership on prices for system hospitals with and without local competitors in the same system. We found that the prices of system hospitals with local competitors in the same system had no larger relative prices than other systems hospitals without local competitors. (However, during the study period a small number of hospitals ($n = 4$) joined large systems that had hospitals amongst their local competitors and had large price increases.)

If the observed price increases by system hospitals is in fact due to improved multi-hospital system bargaining power, our data did not provide much insight into the potential source of leverage – although system size was a more important predictor than measures of whether the system contained one or more hospitals with market power. Future research might focus on identifying how hospital systems are able to generate enough leverage to extract significantly higher prices than non-system hospitals. For example, our price measure is an average across private payors and as such we are not able to separate the effects of individual payor level demand side variables, such as a payor's share of patients at the hospital, which have been shown to affect bargaining power. Also, our study focuses on private pay patient prices. As enrollment in Governmental sponsored managed care programs has grown, it would valuable to study whether pricing under for these programs is similar to pricing by private plans. Finally, it may also be important to separate out potential selection whereby systems add hospitals whose prices would have gone up even if they had not joined the system. This is a potential concern in our study however very few hospitals were added to systems during our study period.

Though not the primary focus of our study, we also looked at whether the price decreasing effects of locally measured competition observed in previous studies persisted over time or whether

it had declined due to the reported managed care backlash and the reduced ability health plans to "credibly threaten" to exclude hospitals from their preferred networks. After controlling for system status and other factors, the estimated coefficient for the competition variable remained positive, large and significant. Thus, in contrast to reports that changes in the structure of managed care provider networks have reduced the role of competition in hospital pricing, this suggests that competition remains an important determinant of hospital prices in local markets – at least in California. One limitation of this finding is that our system HHI measure is based on actual patient flows. As has been noted in the literature, under this approach higher quality hospitals may have higher HHIs and thus the price differences associated with HHIs may reflect both quality and as well as market power (Kessler and McClellan, 2000; Tay, 2003; Dafny, 2005). Further research is needed to assess whether local competition effects have weakened in California and the rest of the US. Further research might also seek to explain the strong price decreasing effects of participating in California's MediCal (Medicaid) program, both in terms of why MediCal hospitals are not able to increase their prices as fast as other hospitals and whether this is the case only in California or if there is something about the Medicaid program that puts hospitals at a competitive disadvantage.

If our hypothesized explanation – that increased hospital prices are due in part to improved bargaining by non-local systems – is confirmed by future research, a number of important market and policy implications follow. With the introduction of managed care and selective contracting, bargaining power shifted away from providers to health plans. Hospitals then responded by merging with competitors to reduce competition in order to improve their bargaining power in local markets and generate higher prices. Now it appears that hospitals have formed multi-hospital systems that include non-local ones and as a result they may have been able to expand their bargaining power as reflected in their ability to raise their prices substantially in recent years.

How can health plans respond if bargaining leverage has shifted to multi-hospitals systems? To the extent that the increased leverage comes from systems using the monopoly power of member hospitals to raise prices in other hospitals, legal action under antitrust laws may be an option. From an antitrust perspective, it is interesting to note that the estimated price increase to hospitals from joining a non-local system outweighs the price advantage from a merger with a direct (non-system) competitor in same market. Thus, given the legal and other costs associated with mergers, we might expect to see fewer local market mergers and more hospitals joining non-local systems. To the extent that the fear of widespread network disruption is the source of leverage by systems, health plans over time should try to identify adequate substitutes and begin negotiating longer-term contracts with some hospitals to provide baseline stability to their networks. In either case, if health plans are unable to develop strategies to counter the apparent newly enhanced multi-hospital system leverage, then we can hospital price inflation to continue, even in markets with substantial managed care coverage.

While our findings pertain to California, data released by the American Hospital Association show that more than half of all hospitals in the US are now part of multi-hospital systems. Currently, more of California's hospitals are in non-local systems compared to the US. If our results are correct, we would expect to see local systems throughout the country linking up to gain similar leverage as we observe here in California. It will be important to study other parts of the US to see if the trends and effects we are observing in California are national in scope.

Acknowledgement

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Appendix A. Regression diagnostics

The final model easily passes the Ramsey RESET (1 degree of freedom) test. Price, e.g., log (net revenue/(day + 1)) is negatively skewed (−0.75) as are the residuals and there is considerable heteroscedasticity as a result. The square root of price is nearly symmetric and using square-root price as the dependent variable did much better than log price in terms of heteroscedasticity – very close to passing the test in STATA. Fixed effects did not work well because of lack of variation in the HHI over time (see Table 1). Very few hospitals changed systems so even though they had large price increases the random effects model passed the Hausman test and we used xtgee, rather than a fixed effects model.

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Exhibit 22

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

BEFORE THE HONORABLE LAUREL BEELER, MAGISTRATE JUDGE

DJENEBA SIDIBE, JERRY JANKOWSKI, SUSAN HANSEN, DAVID HERMAN, OPTIMUM GRAPHICS, INC., and JOHNSON POOL & SPA, on behalf of themselves and all others similarly situated,	)	
Plaintiffs,	)	
VS.	)	NO. 12-cv-4854-LB
SUTTER HEALTH,	)	
Defendant.	)	San Francisco, California

Monday, March 7, 2022

REDACTED TRANSCRIPT OF TRIAL PROCEEDINGS

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Official Reporters, U.S. District Court

(Appearances continued, next page)

This is a measure that is used often by the U.S. Department of Justice and the Federal Trade Commission. If you go to the literature I talked about, those papers, a number of those papers use the HHI as a control variable, and so it's an appropriate measure to use as a measure of competition with all of its imperfections.

It's not perfect, but it's better, in my opinion, than using competitor counts because it takes advantage of the differences and the size and quality -- size of the hospitals, for example.

Q. And Dr. Willig also used it?

A. That is correct.

Q. And Dr. Chipty commented on or criticized Dr. Willig and you for using HHI. And this was a slide that she presented to the jury, and do you have a response to that?

A. Yes. The criticism that she has of the HHI here is something that's been well known in the literature for 50 years now. It dates back to the early 1970's; that when one is regressing or using econometrics of HHI, what the worry is, you're trying to have a variable that affects price. So competition affects price. And the concern that economists would have is that price affects competition and sort of shares.

And that's what she's embodying here. It's a concept called endogeneity. She was saying it was infected by the very

issue?

A. That is correct.

Q. And what did you use?

A. It's an idea called willingness to pay. And, again, this is something that's been developed in the literature, and it really looks at the question of trying to make it simple.

If I live, let's say, right -- I lived right here (indicating), how do I value and where would I choose to go in terms of the hospitals that are nearby? And it uses that information about where I choose to go to assess my willingness to pay to have a hospital closer to me than the next best alternative.

And so that alternative measure is in the literature as well. It's been developed -- again, I'm going to give credit to the economists at the Federal Trade Commission. They've really pushed the development of that. And that's an alternative measure that is used in the literature to control for both competition and quality variables.

Q. I see.

Now, we saw -- you recall the table that we looked at with all the economists that have compared prices across hospitals. Remember that table we looked at?

A. Yes.

Q. The economists in those papers, did any of those use HHI or willingness to pay?

11:46 **A.** Many of them did. Because of the structure of the model, some of them the competition variable would drop out. Because if you're looking from one time period to another and there had been no change in competition, they can basically assume it 11:47 hadn't changed.

But in the ones that looked at -- that needed to control for competition, like we need to control here, they were using either HHI or willingness to pay across those articles.

Q. I see.

11:47 So other health care economists use -- like Dr. Willig and you, use HHI or willingness to pay, WTP you may see it referred to, to control for competition?

A. That's correct. And just one caveat to my last answer because I want to be clear for everyone.

11:47 There is that one paper I described earlier that used whether there was one competitor or two competitors or three competitors, but also tried using the HHI, and the results were indifferent whether -- whichever way it used.

Q. I see. What was the name of that paper? Do you recall?

11:47 **A.** That was the paper by Cooper and Gaynor, if I recall.

Q. Cooper and Gaynor.

All right. Now, I'd like to -- so that's the competition variable. And the opinion that Dr. Willig and you've reached is that Dr. Chipty's competition variable is unreliable, leads 11:48 to -- for a host of reasons, leads to nonsensical results?

A Yes.

Q But many other hospitals do that, isn't that right?

A Yes.

Q And Sutter's also mentioned its emergency response team. Correct?

A Yes.

Q And you understand that there are other hospitals that also have emergency response teams. Correct?

A Yes.

Q Okay. Now, you adopted the substantive opinions of Dr. Willig's in this case, right?

A That's correct.

Q And the bases for those opinions, right?

A That's correct.

Q And it's true that Dr. Willig, in his reports, relied upon the *U.S. News and World Report* hospital rankings?

MR. KIERNAN: I'm going to object on the grounds that this is outside the scope of the direct. I asked Mr. Orszag for his opinions that he's set forth for the jury today. I never went into any quality opinions. And I didn't ask to qualify Mr. Orszag as an expert in quality, because he's not.

So he's not providing any opinions to the jury with respect to quality, or whatever *U.S. News and World Report* hearsay statements that Mr. Cantor wants to ask him about.

THE COURT: Mr. Cantor, we did cabin the testimony so

Exhibit 23

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Exhibit 28

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Exhibit 29

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Exhibit 30

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Exhibit 31

Exhibit 1

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

DJENEBA SIDIBE, JERRY JANKOWSKI, SUSAN HANSEN, DAVID HERMAN, CAROLINE STEWART, OPTIMUM GRAPHICS, INC., and JOHNSON POOL & SPA, on Behalf of Themselves and All Others Similarly Situated,

Plaintiffs,

v.

SUTTER HEALTH,

Defendant.

Case No. 3: 12-cv-4854-LB

CLASS ACTION

CORRECTED EXPERT DECLARATION OF DR. ROBERT D. WILLIG IN SUPPORT OF DEFENDANTS' OPPOSITION TO CLASS CERTIFICATION

NOVEMBER 8, 2018

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

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I. INTRODUCTION

A. QUALIFICATIONS

1. My name is Robert D. Willig. I am Professor of Economics and Public Affairs Emeritus at Princeton University, where I have held a joint appointment in the Economics Department and at the Woodrow Wilson School of Public and International Affairs since 1978, and continue to teach the graduate course, "Legal and Regulatory Policy Toward Markets." Previously, I was a Supervisor in the Economics Research Department of Bell Laboratories. My teaching and research have specialized in the fields of industrial organization, government-business relations, and social welfare theory. I served as Deputy Assistant Attorney General for Economics in the Antitrust Division of the U.S. Department of Justice from 1989 to 1991, and in that capacity served as the Division's Chief Economist. Among my responsibilities were participating in decisions on merger enforcement and drafting new Merger Guidelines.

2. I have authored some 80 articles in the economics literature and am the author of *Welfare Analysis of Policies Affecting Prices and Products* and *Contestable Markets and the Theory of Industry Structure* (with W. Baumol and J. Panzar). I am also a co-editor of *The Handbook of Industrial Organization*, which summarizes the state of economic thinking on the structure of industries and the nature of competition among firms, and have served on the editorial boards of the American Economic Review, the Journal of Industrial Economics, and the MIT Press Series on Regulation. I am an elected Fellow of the Econometric Society and was an associate of The Center for International Studies.

3. I have appeared as an expert witness before Congress, federal and state courts, federal administrative agencies, and state public utility commissions on subjects involving competition, regulation, intellectual property rights, and antitrust. I have also served as a consultant to the Federal Trade Commission, the U.S. Department of Justice, the OECD, the World Bank, the Inter-American Development Bank and many leading corporations on antitrust, regulation, and economic policy issues arising in a wide variety of industries in the U.S. and around the world.

4. I have substantial experience studying, consulting and testifying as an expert on many different aspects of the economics of healthcare. I testified in the spring of 2016 before the United States District Court for the Middle District of Pennsylvania on my analyses that lent

support to the proposed merger between Penn State Hershey Medical Center and Pinnacle Health System. I submitted an expert report to the Suffolk Superior Court of Massachusetts on the competitive effects of two proposed hospital acquisitions of Partners Healthcare System. In two separate matters, I analyzed and testified about the operations of the hospitals in Chicago, IL and in Albany, NY that were accused of conspiring to suppress nursing wages. More recently, I performed an economic analysis of and testified about the contracting practices of a hospital system in Illinois that was accused of influencing contracts between rival hospitals and commercial payers to the detriment of competition. I have researched and testified about settlements of pharmaceutical patent disputes, claims of monopolization of pharmaceuticals, hospital medical equipment and medical devices, and the pricing, distribution and profit allocations of pharmaceuticals. I have advised academic assessments of relative levels of efficiency and effectiveness among different practitioners within a hospital system and across different hospitals as well. My full curriculum vitae and list of prior testimony are included as Exhibit A to this report.

5. A list of materials I have relied upon in preparing this report is attached as Appendix D.

6. Compass Lexecon bills for my time at the hourly rate of $1,450 and bills staff time at hourly rates ranging from $300 to $910. Neither Compass Lexecon's compensation nor mine depend on the conclusions reached or the outcome of this case.

B. BACKGROUND AND ASSIGNMENT

7. I have been asked by counsel for Sutter Health ("Defendant" or "Sutter") to evaluate whether Plaintiffs and their expert, Dr. Tasneem Chipty,[1] have (i) demonstrated that evidence common to members of the putative class can be used to show that all or nearly all putative class members were injured by Sutter's allegedly anticompetitive conduct ("challenged conduct"), and (ii) demonstrated that the aggregate amount of overcharges can be calculated and allocated meaningfully among the members of the purported class using a common, class-wide methodology. For purposes of this analysis, I have been asked to accept that Sutter imposed the

[1] Expert Declaration of Tasneem Chipty, Ph.D., submitted June 21, 2018 (hereinafter "Chipty Decl.").

challenged contract language in its contracts with insurance carriers, but I do not assume that the alleged conduct raised prices anticompetitively for healthcare services.

8. In preparing this declaration, I reviewed materials customarily used by economists in evaluation of these issues, including public and proprietary data, information, documents and testimony provided in discovery. The footnotes in this Declaration and Appendix D list the materials I relied upon; I attempted to list in Appendix D all materials I relied upon in the footnotes. In addition, I considered and incorporate by reference the materials cited in the Chipty Declaration and Axene Declaration and their respective back-up materials. It is my understanding that discovery is ongoing, and I reserve the right to amend or supplement my report to respond to additional information or additional opinions offered by Dr. Chipty.

C. SUMMARY OF CONCLUSIONS

9. Based on my analysis, I reach the following conclusions:

- Dr. Chipty's analyses fundamentally are flawed and unreliable for purposes of addressing class certification issues. She does not present a valid common method to show impact or determine its sizes for all or nearly all members of the purported class.
- First, economic literature and the character and effect of the challenged contract provisions indicate that those provisions are procompetitive.
- Second, the evidence shows that many members of the purported class were not harmed by the challenged conduct.
    - Some members of the class (individuals and employees) would benefit from the challenged conduct, and Dr. Chipty has no method to distinguish those who benefit from those who allegedly were harmed.
    - Sutter's contracting practices would impact class members differently. In particular, different class members within a given geographic rating area ("RA") experience different effects from Sutter's presence in a network and its contracting practices. The differences arise because some class members live or work closer to Sutter hospitals or have strong preferences for Sutter hospitals for other reasons, and those class members would benefit from the challenged contractual provisions that

allegedly require Sutter hospitals to be in network and available to those class members.

- The benefits to many members of the purported class from the in-network status of their preferred Sutter hospital far outweigh Dr. Chipty's estimate (and any plausible estimate) of any harm they might experience from the challenged conduct. It follows that if the challenged conduct caused some Sutter hospitals to be included in networks that they would not otherwise have been part of, many members of the purported class experienced net benefits, and yet Dr. Chipty does not even address this concept. Because the benefits to particular members of the purported class depend on their expected or actual utilization of Sutter hospitals, individual inquiries would be necessary to identify which class members benefitted and which might have been harmed.

- Third, Dr. Chipty's method does not and cannot show 100 percent pass-through to employers, and individual inquiry is necessary to determine how much if any of an alleged overcharge was passed-on to a particular employer.
  - Some insurance carriers may not have passed on the entire amount of an alleged overcharge because they face competition from carriers that did not experience the same level of cost increase, as Dr. Chipty admitted in her declaration and at deposition (*see* Section IV.B.1).
  - Dr. Chipty's opinion is based on her conclusion that Kaiser does not constrain insurance carriers' prices, which she explained at deposition largely is based on a single document. But Dr. Chipty ignores ample testimony from insurance carriers that Kaiser does constrain their prices. (*see* Section V.B.1)
  - Dr. Chipty's opinion also is based on her conclusion that Kaiser does not constrain Sutter prices. This opinion relies on the same document, which is contradicted by volumes of documents and testimony (*see* Section V.B.1)
  - Dr. Chipty's pass-through regression is unreliable and provides no meaningful information regarding relevant aspects of pass-through. (*see* Section IV.B.1)

- Fourth, Dr. Chipty does not have a method to determine whether employees were impacted by any premium increase or to allocate damages between employers and employees. Indeed, Dr. Chipty has not presented a method that can distinguish employers or employees who were impacted from those who were not impacted. Instead, Dr. Chipty intends to rely on a claims administrator to determine how much of the premium increase paid by the employer was split with the employee based on the unsupported assumptions that (i) the employee was responsible for a share of the premium, and (ii) the employee's share of the premium after the premium increase would be the same as it was before the increase.
    - Some employers subsidize some portion of their employees' health care costs. Assuming there was an overcharge and that the overcharge increased the premium paid by the employer, the question is whether all or some portion of the increased premium paid by the employer was passed on to the employee in the form of higher premium or in some other way—*e.g.*, higher deductible, higher other out-of-pocket costs, lower compensation, etc.
    - Dr. Chipty admitted that she has not analyzed whether the increased premium allegedly suffered by the employer was passed on (in any form) to the employee. Instead, she assumes without any analysis that *all* employees were impacted in the form of higher premiums and that the employee's share of the premium would be the same after the premium increase as before the premium increase.
    - Dr. Chipty's assumptions are not only unsupported but also are contradicted by record evidence. For example, some employers hold fixed the dollar contribution of their employees' health insurance premiums for some period of time regardless of the year-over-year increase in premiums charged by the health plan. In other words, such employers absorb all of any overcharge. Putative class members who obtained health insurance from these employers would not have seen an increase in their insurance premiums as a result of the challenged conduct. To determine whether an employer would have passed through the increased premium to the employee would require an examination of the actual benefit plans and policies for each employer to determine

whether the employees of the employer were in fact impacted and (separately) how they were impacted and by how much.

- Moreover, as Dr. Chipty admitted, employers may have passed on any increased premium through means other than increasing the premiums of employees—*e.g.*, the employers could have adjusted the deductible or other out-of-pocket costs or changed wages or salaries (*e.g.*, lower overall increases) to account for higher healthcare expenses. Dr. Chipty admitted that she did not examine whether this occurred, but she assumed that it did. She has presented no method, common or otherwise, to determine whether employers passed on increased premiums in the form of higher premiums for employees or in some other way. Nor could she do so with the available evidence. Individual inquiries would be required to determine whether each putative class member's employer increased the premium or made some other change to the employee's benefit or compensation to cover the increased premium paid by the employer.

- Fifth, the Plaintiff's' tying and anti-steering allegations are based on incorrect market definitions. For example:

  - The alleged tying product markets for healthcare services exclude healthcare services offered by one of Sutter's most important competitors—Kaiser, which has a larger share than Sutter of inpatient commercial discharges in the primary service area of 12 of the 15 Sutter hospitals mentioned in the Plaintiffs' Complaint and is widely available to virtually the entire plaintiff class.

  - The alleged tying geographic markets for healthcare services are based on Dartmouth Atlas HSAs, which generally are too small to qualify as relevant geographic markets for antitrust analysis and were not created for the purpose of identifying relevant geographic markets for antitrust purposes.

  - The alleged geographic market for health insurance is based on Rating Areas defined in the Affordable Care Act. These areas are inapt for the vast majority of members of the putative class.

- Sixth, Dr. Chipty's empirical evidence does not show that the challenged conduct caused inpatient prices to be higher than they otherwise would have been. Dr. Chipty's econometric analysis of alleged overcharges by Sutter is fundamentally flawed because she (i) throws away valuable information by aggregating hospital discharges to the hospital level; (ii) fails to account for price differences for different inpatient procedures; (iii) fails to control properly for the impact of competition on prices; (iv) fails to control for important factors that affect hospital prices; and (v) assumes counter to fact that overcharge estimates based on the Anthem data extend to other insurance carriers.
- Finally, at most, Dr. Chipty has a damages model only for class members who purchased health insurance through Anthem Blue Cross. Dr. Chipty testified that she is still determining how she will determine and measure impact for class members who purchased health insurance through Aetna, Blue Shield, HealthNet, and United. She may use the same overcharge percentages she estimated for Anthem Blue Cross to estimate impact for class members who purchased insurance from other health plans, or she may use separate models for each health plan. Dr. Chipty testified that she is still examining the data produced by the health plans to form an opinion as to the method that she will propose for determining impact for class members who purchased through those other plans.

II. ROADMAP OF EXPERT DECLARATION

10. To provide the proper background, I begin in Section III by discussing the contractual provisions that Plaintiffs allege resulted in anticompetitive harm. I show that those provisions do not preclude the formation of narrow or tiered networks and that Sutter has in fact frequently agreed to such networks. The contract provisions just prevent the insurance companies from undermining the contractual bargain between Sutter and the insurer by unilaterally changing Sutter's participating status in a network without Sutter's agreement.

11. Next, in Section IV, I discuss why, even assuming the Plaintiffs' allegations of harm are at least somewhat correct, Dr. Chipty's analysis does not support class certification. I demonstrate that the challenged conduct did not harm many purported class members and that determining who was harmed and who benefited requires many individualized analyses.

12. Sections V and VI discuss the flaws in Dr. Chipty's conclusions regarding market definition. First, in Section V, I discuss her failure to include Kaiser, one of Sutter's most important competitors, in the market for hospital services. This error results in flawed analysis of the effects for both the tying allegations and anti-steering allegations. In Section VI, I discuss the flaws in Dr. Chipty's geographic markets for insurance, particularly her heavy and misplaced reliance on Affordable Care Act Rating Areas. Inasmuch as Dr. Chipty's relevant geographic markets are flawed, there are no valid grounds to certify a class since the members of the putative class cannot be reliably identified and analyzed.

13. I demonstrate in Section VII that the challenged conduct did not cause prices for inpatient services to rise. I discuss the flaws in Dr. Chipty's price regressions and show that appropriate regression estimations reveal no systematic overcharges in Sutter prices relative to prices of other hospitals (chosen as controls by Dr. Chipty) after properly accounting for the characteristics of the patient and the hospital. I also demonstrate that Dr. Chipty has not shown that any alleged overcharge was passed on to class members.

14. I conclude in Section VIII.

III. PLAINTIFFS MISCHARACTERIZE SUTTER'S CONTRACT PROVISIONS AND THEIR PURPOSE AND EFFECT

15. Plaintiffs allege that Sutter has "forced" anti-competitive tying and anti-steering provisions upon commercial health plans.[2] Dr. Chipty also makes this claim.[3] As I show in this

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[2] *See* Complaint § IV.C ("The Tying Arrangements That Sutter Has Forced Upon Commercial Health Plans") and § IV.D ("The Anti-Steering Provisions That Sutter Has Forced Upon Commercial Health Plans").

[3] *See* Chipty Decl. ¶ 32 ("Sutter's ability to force health plans into onerous contracts…"); ¶ 34 ("The evidence shows that Sutter has imposed the same or nearly the same contractual terms with respect to "all-or-nothing" requirements, excessive non-par rates, anti-steering, and anti-tiering provisions in their contracts with each of the Class Health Plans from which Class Members purchased health insurance policies over the Class period."); ¶ 55 ("Regardless of the label or the precise mechanism through which it is achieved, the effect of [tying] is that health plans need to include all Sutter hospitals in their provider network."); ¶ 80 ("In a Tied Market, a health plan that is forced to carry a hospital in-network…"); ¶ 126 ("Third, documentary evidence and testimony show that Sutter forced all Class Health Plans to include all Sutter hospitals in the

report, class certification would be improper even if these descriptions were accurate. But they are not accurate. Because it is helpful to evaluate the class certification issues based on a proper understanding of what Sutter's contracts actually provide and the purposes those provisions serve, I briefly address those issues in this section.

16. I use the term "anti-steering" to refer to the practice of contractually preventing an insurance carrier from steering patients toward a less expensive (but possibly lower quality) provider. Evidence and economic analysis indicate that the purported anti-steering restrictions that Sutter allegedly imposes are designed to prevent opportunistic behavior on the part of insurance carriers. Allowing such opportunism likely would raise prices, reduce options for patients, and allow free-riding on Sutter's investments in clinical quality, which likely would lead to a reduction in that investment and a reduction in the quality of care provided.

17. Although there are many terms in contracts between hospital systems and commercial health insurance carriers, negotiations often focus most on terms related to (i) access to patients, which depends to a significant degree on a hospital system's ability to secure in-network status in the insurance carrier's health plan,[4] and (ii) prices paid to a hospital system in exchange for the provision of healthcare services.[5] In particular, negotiations often involve offers of lower prices in exchange for increased and assured volume of patients.[6] Sutter's Chief Contracting

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health plan provider networks, and Sutter prohibited the use of benefit design that would have the effect of steering volume to lower-priced hospitals."); ¶ 134 ("Sutter forced similar contract terms on all Class Health Plans.").

4 Aldo De La Torre, the former head of contracting at Anthem Blue Cross, testified, [redacted] Deposition of Aldo De La Torre (hereinafter "De La Torre Dep.") at 324:20-24.

5 Deborah Henning, who was Regional Vice-President for Network Management for Anthem Blue Cross in 2013 testified that [redacted]s. Deposition of Deborah Henning (hereinafter "Henning Dep.") at 62:18-22. De La Torre also testified that [redacted] De La Torre Dep. at 205:18-24.

6 LaCroix-Milani Dep. at 292:16-292:24 ("Q. [redacted]

Officer, Melissa Brendt, repeatedly articulated this motivation for bundled discounts in her declaration:

- "Sutter gives its best rates (*i.e.*, its deepest discounts) to the payers that have products that direct and encourage members to seek health care services from Sutter providers."[7]
- [redacted]
- "As noted above, Sutter agrees to discounts in exchange for expected directed volume business to a provider."[10]

18. This trade-off makes sound economic sense with respect to commercial full-insurance products, which are at issue in this case. All else equal, insurance carriers benefit from lower hospital prices. And, all else equal, greater commercial volume means greater commercial revenue and net revenue to the hospital system. An insurance carrier and a hospital system,

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[redacted] *id* at 440:14-440:20 [redacted]; T. Hamilton Dep. at 56:11-20 [redacted] Various documents discussing the goals of Health Net PremierCare demonstrate this dynamic. *See, e.g.*, DEF002741827; DEF002138092.

7 Decl. of Melissa Brendt in Support of Defendants' Opp. To UEBT's Mtn. for Class Cert. (hereinafter "Brendt Decl."), ¶¶ 14-15.

8 *Id*. *See also, e.g.*, Deposition of Melissa Brendt (hereinafter "Brendt Dep."), at 78:5-20.

9 Brendt Decl., ¶ 3.

10 Brendt Decl., ¶ 51.

therefore, have a joint incentive to negotiate volume discounts for commercial products, and employers or individuals benefit from this incentive if and when insurance carriers pass on some of their savings to their employer customers, and if and when the employer passes on some of its savings to individual enrollees.[11]

19. In addition, a key benefit provided by a hospital system like Sutter is efficient and effective referral patterns both among the hospitals in its system and with non-Sutter hospitals. Because of these referral patterns, the Sutter system experiences greater patient referral volume than it would if some Sutter hospitals were out of network.[12] Sutter receives greater patient volume from two sources when all of its hospitals are in-network: (i) patient volume at hospitals that otherwise would have been excluded from the network and (ii) patient volume from quality-enhancing referrals that otherwise would have gone elsewhere. Hence, all else equal, Sutter prefers to have all of its hospitals in an insurance carrier's network, and it is willing to offer larger discounts to secure in-network positions for all of its hospitals.

20. The Plaintiffs claim that Sutter's contract terms prevent insurance carriers from forming narrow networks that exclude some Sutter hospitals, and they argue that this harms employers and individuals, including patients.[13] This claim is not accurate, as it misrepresents both the language of the contract terms and the effects of these terms on patients.

21. *First,* the challenged contract terms evidently do not prevent insurance carriers' abilities to introduce narrow network plans that exclude some Sutter hospitals; in fact, numerous narrow

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[11] Volume discounts are a variant of what economists refer to as "nonlinear pricing," which occurs when the price charged varies with the number of units purchased. A well-known result in economics is that a buyer and seller can usually find a nonlinear price schedule (*e.g.*, a volume discount) that makes them both better off than they would be if the seller charged the same per-unit price for all quantities. *See* Willig, Robert D., "Pareto-Superior Nonlinear Outlay Schedules," *The Bell Journal of Economics* (1978): 56-69.

[12] *See, e.g.*, Brendt Decl., ¶ 15. *See also, e.g.*, Brendt Dep., May 15, 2018, at 118:5-119:1.

[13] Complaint, ¶¶ 34, 109.

network plans that exclude some Sutter hospitals were introduced during the class period.[14] These include, but are not limited to:

- Blue Shield:
  - In 2004, Sutter agreed that only seven of its hospitals would be in-network in a Blue Shield product that was offered exclusively to CalPERS HMO members.[15] That CalPERS narrow network plan has continuously existed through today.[16]
  - In 2010, CalPERS created a second narrow network product—Blue Shield Net Value HMO CalPERS Limited Network. Initially, 12 Sutter hospitals were included as in-network providers in the product, and that number has fluctuated over time.[17]
  - In 2011 and 2012, Blue Shield created a total of three narrow networks that included only three Sutter hospitals.[18]
  - Blue Shield created a narrow HMO network in 2015 called Trio from which it excluded Sutter. Beginning in January 2018, Blue Shield added Alta Bates Summit Medical Center and Eden Medical Center. In March 2018, it added Sutter's Memorial Medical Center.[19]
- Aetna:

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14 In fact, Paul Markovich, president and CEO of Blue Shield of California, testified that [redacted] Deposition of Paul Markovich (hereinafter Markovich Dep.) at 98:23-99:4.

15 Brendt Decl., Ex. 3 (DEF000013698).

16 Decl. Evan B. McGinley Supp. Sutter Health's Opp'n . Pls.' Mot. Class Certification ¶ 6(b) (collecting product grids, including Blue Shield grids reflecting the Blue Shield Access+ HMO/EPO CalPERS Limited Network) (hereinafter "McGinley Decl.").

17 Brendt Decl., Ex. 5 (DSH00399).

18 Brendt Decl., Ex. 6 (SH000620) and Ex. 7 (SH000735).

19 McGinley Decl. ¶¶ 6(i)-6(j) (collecting product grids, including Blue Shield grids reflecting the Trio product).

- [redacted]
  - [redacted]
  - [redacted]
  - [redacted]

- Anthem Blue Cross:
  - [redacted][23]
  - [redacted].[24]
  - [redacted].[25]
  - [redacted].[26]

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20 Brendt Decl., Ex. 16 (DEF000013014).

21 Brendt Decl., Ex. 17 (DEF000013101), Ex. 18 (DEF 0020154014), and Ex. 19 (DEF002006691).

22 Brendt Decl., Ex. 18 (DEF 0020154014) and Ex. 19 (DEF002006691).

23 Brendt Decl., ¶ 43.

24 *Id*.

25 Brendt Decl., Ex. 12 (DEF002006307).

26 Brendt Decl., Ex. 13 (SH000735).

- [redacted].[27]

- United Healthcare:
  - [redacted]

- Health Net:
  - [redacted].[29]
  - [redacted].[30]

22. *Second*, the challenged contract provisions aim to ensure that the insurance carrier does not opportunistically undermine the terms of the contract that have been jointly agreed to. As explained above, Sutter and the insurance carrier negotiate prices that reflect anticipated patient volume. Hence, a change to provider networks that is expected to materially reduce Sutter's patient volume would undermine the agreed-upon tradeoff between prices and volume that had balanced the division of the gains from the agreement between Sutter and the insurance carrier.[31] For example, if an insurance carrier could unilaterally reduce the availability of some Sutter hospitals to covered members after Sutter and the insurance carrier had agreed to price terms, Sutter rationally would reflect the likelihood of that volume setback when negotiating pricing at the outset and hold out for higher prices as a result. Then, an agreement to protect Sutter's

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27 *Id.*; Brendt Decl., Ex. 14 (DEF000000330).

28 Brendt Decl., Ex. 25 (DEF000002593).

29 Brendt Decl., Ex. 20 (HN0000001).

30 Brendt Decl., Ex. 22 (STCA0272477) and Ex. 23 (DEF000002121).

31 Insurance carriers have recognized this in their internal documents. *See, e.g.*, [redacted]. UHC-0012303.

volume from such an ex-post unilateral adjustment to network architecture that were negotiated along with price would be expected to encourage Sutter to accept lower prices in the bargain.

23. The Plaintiffs and Dr. Chipty also claim that Sutter "imposes" restrictions that prevent insurance carriers from providing incentives to patients that would steer those patients away from in-network Sutter hospitals toward Sutter's competitors.[32] But Dr. Chipty's claim takes the Plaintiffs' complaint at face value, misrepresenting the nature and effects of the challenged anti-steering contract terms.

24. *First*, Sutter *has* negotiated contracts with insurance carriers that allow them to steer patients to other in-network hospitals. For example, a tiered network where patients experience material differences in out-of-pocket expenses across hospitals is an example of steering, and Sutter has in fact negotiated provider networks that place Sutter hospitals in disadvantaged co-pay tiers.[33] This shows that Sutter is willing to participate in networks that do not offer uniform in-network status to Sutter's full complement of hospitals, contradicting the Plaintiffs' and Dr. Chipty's claims. Additionally, numerous plans that have Sutter in their networks include reference-based pricing,[34] which also constitutes a form of steering.[35]

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32 *See* footnotes 2 and 3 above.

33 Brendt Decl., ¶ 50; *see* generally McGinley Decl., ¶ 6(d) [redacted]

34 Reference-based pricing refers to health plans that set a benefit limit for services above which the employee must cover. Employees can choose a relatively expensive provider under these plans but may have to pay more out-of-pocket as a result. *See, e.g.*, 2015-2016 CVT PPO Plan with Anthem Blue Cross (WILLIG_000002-WILLIG_000017), at WILLIG_000008.

35 Some of the entities that have Sutter in their health plans who use reference pricing include: California's Valued Trust ("CVT"), California Ironworkers Field Welfare Plan ("Ironworkers"), Carpenters Health and Welfare Trust Fund for California ("Carpenters"), Self-Insured Schools of California ("SISC"), and Butte Schools Self-Funded Programs ("BSSP"). See 2015-2016 CVT PPO Plan with Anthem Blue Cross (WILLIG_000002-WILLIG_000017); California Ironworkers Field Welfare Plan 1/1/2013 Open Enrollment Benefit Plan Comparison (WILLIG_000074-WILLIG_000084) (Ironworkers Benefit Plan Comparison Chart identifying reference pricing for Anthem Prudent Buyer Plan participants); October 26, 2012 Carpenters Board of Trustees memorandum announcing reference pricing for certain surgical procedures (WILLIG_000048-WILLIG_000050); Carpenters Health & Welfare Trust Fund for California (WILLIG_000051-WILLIG_000073) (identifying Anthem Prudent Buyer Plan); SISC Anthem Prudent Buyer Plan

25. *Second,* as noted above, a lower price offered in exchange for a limitation on steering patients away from Sutter hospitals (in this case by limiting a carrier's ability to place Sutter in a less favorable tier) amounts to a lower price in exchange for greater and more assured patient volume.

26. The negotiation dynamic that leads to what Plaintiffs' call "anti-steering" contract provisions is similar to the negotiation dynamic described above that leads to what Plaintiffs describe as "all-or-nothing" contract terms. That is, the challenged anti-steering provisions are negotiated along with prices, and the pricing terms depend on the patient volume Sutter expects.[36] A steering scheme that materially reduced Sutter's expected patient volume would undermine the agreed-upon tradeoff between volume and the level of prices. The challenged anti-steering contract provisions ensure that the insurance carrier does not opportunistically undermine the volume-price balance that had been jointly agreed to.[37] If the contract did not include these provisions, prices likely would rise since Sutter would have less assurance of an attractive flow of patient volume.

27. Sutter's so-called "all-or-nothing" and "anti-steering" contract provisions increase the predictability of patient volume, which is important to Sutter for investment and planning

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Benefit Booklet (WILLIG_000085-WILLIG_000088) (identifying reference pricing); Butte School Self-Funded Programs JPA Board of Directors Meeting Minutes, Feb. 23, 2015 (WILLIG_000018-WILLIG_000047 at 000021-000022) (stating, "[e]ffective July 1, 2014, BSSP implemented Anthem's Referenced Based Pricing program which limits facility charges for high-volume non-emergency procedures.").

36 *See, e.g.*, De La Torre Dep. Ex. 1657 (DEF000426051) (negotiation correspondence between the parties); Henning Dep. at 44:8-12 (Q. [redacted]

De La Torre Dep. at 204:11-205:5 [redacted]

37 Brendt Decl., ¶ 34.

purposes. Absent some assurance that patient volume will be sufficient to cover its investment costs, Sutter would not have an incentive to make the investments.

28. As Plaintiffs implicitly acknowledge, requiring a health plan to include Sutter providers does not foreclose competition in a network. Indeed, none of the challenged contract terms or practices require a health plan ***to exclude*** another provider from a network. Once in the network, Sutter must (and does) compete for patients to use Sutter facilities rather than a competitor's facilities. And Sutter does so on many dimensions including quality, safety, access, scope of services, coordination, and reputation. In fact, Plaintiffs likely recognize that, if Sutter providers are included in the network, a significant number of patients will decide to use Sutter rather than a competing provider.[38]

IV. DETERMINING WHO MIGHT HAVE BEEN HARMED BY THE CHALLENGED CONDUCT REQUIRES INDIVIDUAL INQUIRIES BECAUSE MANY PURPORTED CLASS MEMBERS WERE NOT HARMED BY THE CHALLENGED CONDUCT

29. Dr. Chipty opines that she has a common method that will show that all or nearly all class members were impacted by the challenged conduct.[39] Class members can be grouped into the following broad categories: Large Group Employers (LGEs), Employees of LGEs, Small Group Employers (SGEs), Employees of SGEs, and Individuals. Showing common impact on these class members requires proof on at least three levels:

- Any such common method must, first, show that the challenged conduct caused in-patient hospital prices to be higher for fully insured products than they otherwise would have been. For purposes of the present analysis, I assume this to be true. In Section VII,

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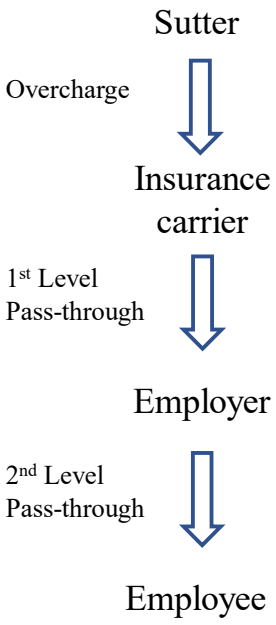
[38] *See, e.g.*, Chipty Decl ¶ 15. *See also* footnote 41 (describing [redacted]

[39] "[I]t is my opinion that: (a) the proposed Class includes hundreds of thousands of Class Members; (b) a common method exists to demonstrate that Sutter's contracting practices have resulted in harm to all or nearly all Class Members; (c) evidence that is common to members of the proposed Class shows that all or nearly all proposed Class Members paid higher health insurance premiums as a result of Sutter's conduct; and (d) the amount of harm to the proposed Class can be estimated on an aggregate and an individual level using a common, formulaic methodology. Chipty Decl., ¶ 10.

however, I show that Dr. Chipty's analysis on this point is flawed and that a correct analysis shows no general elevation of Sutter's prices. This further undermines Dr. Chipty's conclusions.

- Second, any such common method must show that each of the insurance companies passed on all or some portion of the higher prices in the form of higher premiums, copays, or deductibles to LGEs, SGEs, and Individuals who purchased plans from each of the five insurance carriers. This is the first level of "pass-through" shown in Figure 1. I discuss this pass-through in Sections IV.C.1, IV.C.2(a), and IV.B.1.
- Third, assuming that the method can show pass-through to LGEs and SGEs, the method must show that each LGE and each SGE passed on all or some portion of the higher premiums, copays, or deductibles to their employee class members in the form of higher premiums, copays, or deductibles. This is the second level of pass-through shown in Figure 1. I discuss this pass-through in Section IV.A.2.

Figure 1: Proper Analysis in this Case Requires Consideration of Two Levels of Pass-Through



30. In this section, I analyze whether common evidence could establish class-wide impacts and measure them. I conclude it cannot. Even if some class members may have been harmed by the conduct, a significant number of putative class members would not have been harmed, and

Dr. Chipty has not presented any common method to distinguish between class members who would have been harmed from those who were not or from class members who benefited from the challenged conduct at issue. Based on my analysis, even with more time, Dr. Chipty would be unable to develop any such method, because determining who was harmed, if anyone, cannot be accomplished using a common methodology that can be applied on a class-wide basis. Rather, identifying harmed individuals and assessing damages to them would require extensive individualized examination and inquiries.

A. EVIDENCE INDICATES THAT MANY CLASS MEMBERS WERE NOT HARMED BY THE CHALLENGED CONDUCT

31. This section shows that many members of the putative class were not harmed by the challenged conduct, even under the assumption for the sake of the analysis that there were some Sutter overcharges, and that individual proof would be required to separate any who were harmed from those who were not.

32. First, Dr. Chipty has not (and cannot) present a method that distinguishes class members who have been harmed from those who have benefited from the challenged conduct.

33. Second, some members of the alleged class would not have experienced any harm from the challenged conduct because any alleged overcharges would not have affected their health insurance premiums.

1. Evidence indicates that a significant number of putative class members experienced a net benefit from the challenged conduct

34. Economists long have recognized that contract terms like the challenged contract provisions can be procompetitive by providing a number of benefits to consumers. In this case, these benefits include (among others): (i) access and choice through the ability to seek care from Sutter hospitals as in-network providers that might not be included as in-network providers absent the challenged conduct (*i.e.*, excluding Sutter hospitals would reduce patient access and choice), (ii) lower prices for services at Sutter hospitals included in the network due to (among other things) volume discounts, economies of scale, and Sutter's ability to cross-subsidize across hospitals (including subsidizing losses on government programs), (iii) lower total cost of care and higher quality care due to coordinated care and efficient patient referral patterns in networks

that include multiple Sutter providers, and (iv) safer and higher quality care due to investments in safety (e.g., seismic), innovation, and enhanced quality of care.

35. But even if one were instead to conclude that the overall harm from the challenged conduct outweighed the procompetitive benefits in this case, the benefits would likely exceed the harm for many members of the purported class (*i.e.*, although identifying who those members are would be difficult, and Dr. Chipty does not propose any method for doing so, let alone a common method that could support class certification). Dr. Chipty acknowledges at least one benefit from the challenged conduct,[40] but she does not account for any benefits in her estimation of impact or damages or in allocating damages to the putative class. This omission makes her conclusions regarding common impact invalid, because many members experienced benefits greater than the alleged harm caused by the challenged conduct.

36. Plaintiffs' theory is that Sutter's contract provisions had the effect of keeping Sutter hospitals as in-network providers to a greater extent than would have existed absent those provisions. This alleged preservation of preferred in-network status is a clear benefit to individuals that place a high value on care from Sutter hospitals, *e.g.*, because they like Sutter's location or clinical quality or both.[41]

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[40] *See, e.g.,* Chipty Decl., ¶ 56 (stating that "[o]f course, offering products together can benefit consumers who like the convenience of buying several products together at the same time.").

[41] For example, [redacted] Deposition of Tina Feeney, August 24, 2018 (hereinafter "Feeney Dep."), 173:21-174:18 [redacted] Dr. Chipty also recognized in her declaration opposing summary judgment that patients have a preference for hospitals closer to their homes to reduce travel time. Declaration of Dr. Tasneem Chipty in Opposition to Motion for Summary Judgment ¶ 148 (May 26, 2018) ("Systematically, the evidence shows that patients

37. Professors Kate Ho and Robin Lee, in a paper that Dr. Chipty cites nine times in her declaration as a basis for her conclusions, recognize and offer an empirical estimate of the benefit to patients from having their preferred hospital in-network.[42] Professors Ho and Lee use data from the California Public Employees' Retirement System (CalPERS) to estimate the welfare effects of insurance plans moving to create narrow networks that exclude some hospitals.[43] They conclude that "consumers in zip codes close to excluded hospitals experience welfare reductions. There are zip codes experiencing welfare reductions as high as [4.2 percent of the premium.]"[44] Here, the benefit to many patients from the in-network status of a hospital is the opposite of the harm they would experience if the hospital were excluded from the network.

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who stay in the candidate geographic market for their inpatient care spend substantially less time driving than patients who travel outside the area for their care. The large difference in drive times makes it less likely that patients who receive their care from an area-hospital would be willing to switch to a hospital outside of the area. In other work, Professor Gowrisankaran himself has recognized that the large literature on hospital choice finds that patients are 'very sensitive to travel time' and that 'an increase in travel time of 5 minutes' can have a material impact on patient choice and consumer welfare.").

42 *See* Ho, K. and R. Lee, "Equilibrium Insurer-Provider Networks: Bargaining and Exclusion in Health Care Markets" forthcoming, *American Economic Review*, previous version available as NBER Working Paper 23742 (hereinafter "Ho and Lee (2018)"), pp. 38-42. Dr. Chipty cites Ho and Lee (2018) in her declaration in reference to: unique features of healthcare markets that distinguish healthcare from "standard" goods and services (¶ 12); health plans' leverage in negotiation with hospitals (¶ 14); the impact of steering on prices (¶ 58); competition broad network products face from narrow and tiered network products that cause broad network products to lower their premiums (¶ 59); empirical evidence that supports "economic principles" relating to the effects of steering and narrow and tiered network plans (¶¶ 61, 62); and Professor Ho and Lee's simulation results regarding the creation of narrow network products (¶ 62).

43 The authors use information on hospital prices, insurance premiums, consumer enrollment in insurance plans, and consumer utilization of hospital services to estimate the change in welfare in dollars from the removal of hospitals from a network. The change in welfare potentially is impacted by both the value individuals place on a particular hospital being an in-network provider, and how much they pay in insurance premiums. *See* Ho and Lee (2018) p. 15.

44 Ho and Lee (2018), pp. 40, 42. They find that allowing Blue Shield to exclude some hospitals from a network and offer a narrow network reduces the consumer surplus of some patients close to the excluded hospitals by $109, which is 4.2 percent of Blue Shield's average premium in a network with no hospitals excluded in Ho and Lee's data.

Thus, Professors Ho and Lee's results imply that the inclusion of a hospital in the network benefits some patients that live near the hospital by as much as 4.2 percent of the premium.[45]

38. Although Dr. Chipty's estimates of the harm from the challenged conduct are based on a flawed model and are vastly overstated as I show in Section VII, the magnitude of these estimates pale in comparison to Ho and Lee's more rigorously estimated benefits to some patients from the challenged conduct. In particular, Dr. Chipty estimates that when converting alleged Sutter overcharges to increased premiums, the harm to small groups in 2014 ranges from only 0.254 to 1.090 percent of the premium, which is much smaller than Ho and Lee's *benefit* estimate of 4.2 percent of the premium for some patients. And I expect that the full benefits to patients from the in-network status of Sutter hospitals would be at least as large as the benefits Ho and Lee estimate. One reason for this expectation is that Ho and Lee found that having Sutter in network and excluding other hospitals was more valuable to Blue Shield than excluding Sutter in favor of other hospitals.[46] The likely explanation for this finding is that patients in Ho and Lee's study valued Sutter more highly than the excluded hospitals, which is consistent with evidence I present below (paragraph 43) that Sutter is regarded as a high quality hospital system.

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[45] Another indication of the value that members place on access to their providers of choice is reflected in what happened to enrollment when CalPERS adopted a narrow network that excluded many Sutter hospitals, as well as some other hospitals CalPERS deemed high cost. The DMHC reported that during open enrollment, more than one-third of the 58,000 enrollees chose another plan and that approximately 44 percent of the CalPERS enrollees who were disrupted from their provider in the Sacramento Area did not remain with Blue Shield in open enrollment. Instead, approximately 15 percent of the CalPERS enrollees elected to pay a higher premium to keep their provider. *See* Markovich Dep. Ex. 1971, (DEF004206324-60 at DEF004206330).

[46] Ho and Lee's estimate of the benefits to patients from network inclusion in the Sacramento area comes from a comparison of the "insurer-optimal" network for BSC, which includes Sutter and Dignity, with the "social-optimal" network, which includes three additional hospital systems: UC Davis, Rideout, and Marshall. Ho and Lee's finding that the insurer-optimal network excludes UC Davis, Rideout, and Marshall rather than Sutter hospitals indicates that patients are likely to value Sutter hospitals more than UC Davis, Rideout, and Marshall. [redacted]. *See* Dep. Ex. 1547, (BSC-UEBT-0015383-431 at BSC-UEBT-0015396 and BSC-UEBT-0015402) [redacted]

It is also consistent with Plaintiffs' implicit theory that, if Sutter hospitals are in-network providers or if Health Plans cannot steer away from Sutter by charging patients more who go to Sutter, patients will choose to go to Sutter rather than to other providers. Thus, based on evidence, the inclusion of Sutter hospitals likely would have greater benefits than the benefits from the inclusion of the non-Sutter hospitals, which Ho and Lee estimated to be 4.2 percent of the premium. Dr. Chipty did not examine this.

39. Estimates from Dr. Chipty's demand model also show that patients who live close to Sutter hospitals value them as in-network providers much more than do patients who live far away from Sutter hospitals. Using Dr. Chipty's estimates, I calculate a measure of each patient's incremental value of a particular Sutter hospital—e.g., Sutter Memorial Medical Center Modesto ("Sutter Modesto")—being included in the patient's provider network. Specifically, I calculate each patient's willingness-to-pay ("WTP") for a particular hospital, which is the patient's expected "utility" from obtaining hospital service from that hospital rather than the patient's next best alternative hospital.[47]

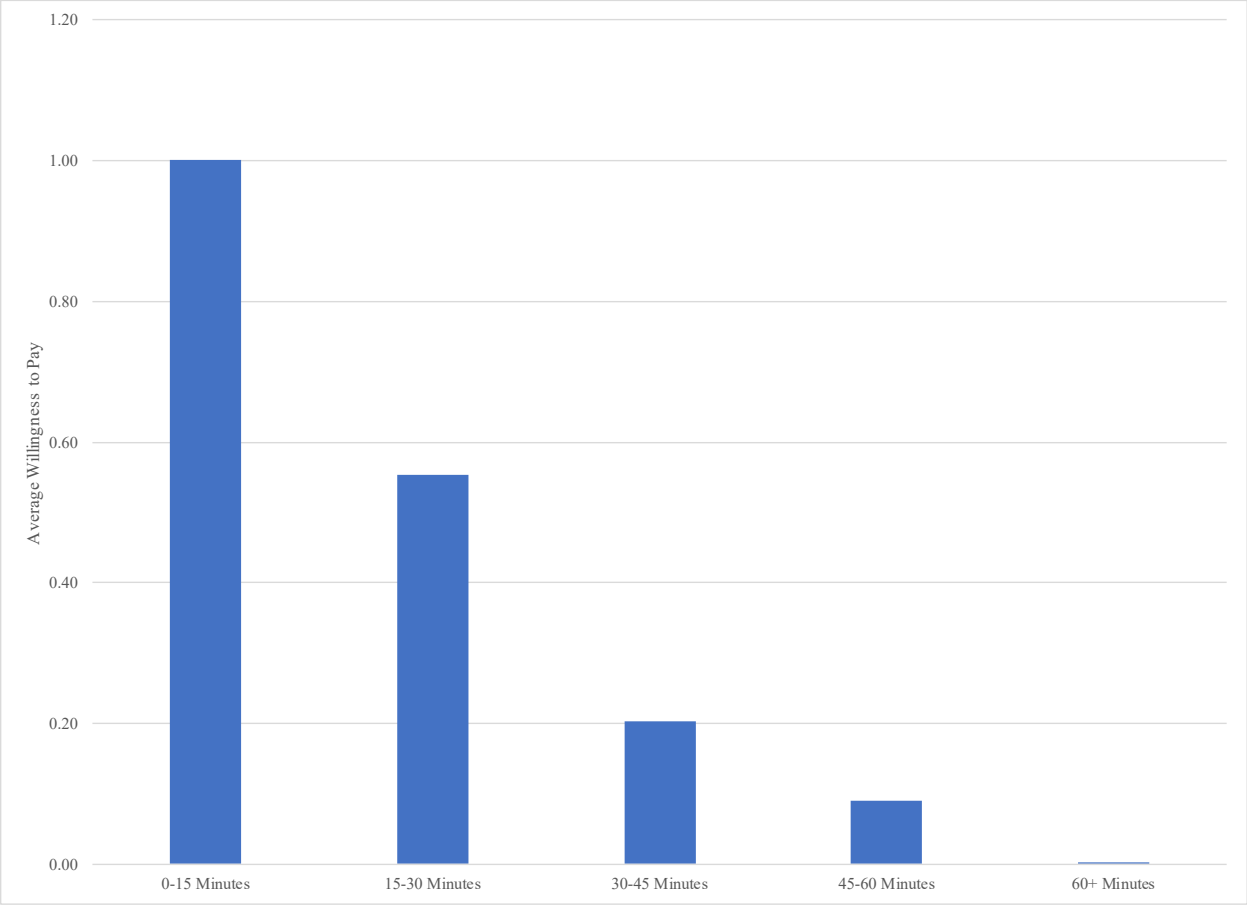
40. Figure 2 shows results of this analysis for one hospital, Sutter Modesto. As can be seen in the figure, my estimates indicate that patients who live within 15 minutes of Sutter Modesto have an average WTP for the hospital that is more than 11 times larger than the average WTP experienced by patients who live 45-60 minutes away from the hospital.[48]

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[47] WTP is a well-known measure of the value patients experience from the availability of hospitals. *See, e.g.*, Capps, C., D. Dranove, and M. Satterthwaite, "Competition and Market Power in Option Demand Markets," *RAND Journal of Economics*, 34:4, 2003, 737-763. Utility is a measure of value used by economists to evaluate the strength of a consumer's preferences for different alternatives. The WTP for a patient who receives care from Sutter Modesto, for example, is the difference between the patient's utility from obtaining care at Sutter Modesto and the utility from obtaining care at the patient's next most-preferred hospital. In other words, a patient's WTP for a given hospital is the incremental value to the patient of being able to obtain care from that hospital.

[48] Because the values in the figure do not have cardinal meaning, I normalize the bar for 0-15 miles to be 1 for ease of comparison.

Figure 2: Patient Valuation (WTP) by Drive Time from Hospital: Sutter Modesto



41. My estimates of patients' willingness to pay for the network inclusion of Sutter, combined with Professors Ho and Lee's empirical analysis, confirm the common-sense notion that when a narrow network excludes hospitals, the exclusion harms customers enrolled in the narrow network plan that live near those excluded hospitals, if those hospitals provide sufficient quality of the needed care, because the customers either have to pay more for out-of-network care from the excluded hospital or seek in-network care from a less-preferred hospital. The findings indicate that if Sutter hospitals were removed or placed on a disadvantaged tier in health plans, consumers who live near those Sutter hospitals would experience significant harm from the loss of a nearby in-network provider they value. And, if the challenged contract provisions ensured network inclusion or equal treatment for some Sutter hospitals as alleged, these provisions would cause the opposite effect. That is, consumers that live close to the allegedly "protected" Sutter hospitals likely would benefit from the challenged contract provisions, even if consumers that live far away from these Sutter hospitals might be harmed.

42. Ho and Lee's study highlights proximity to the hospital as an important reason why patients benefit from network inclusion of Sutter, but there are other reasons as well. Some patients value having Sutter providers in their networks because they value Sutter's clinical quality. Tina Feeney, co-owner of Johnson Pool and Spa and one of the Plaintiffs in this case, testified that her company offered [redacted].[50]

43. Any hospital proximate to a putative class member is valuable due to proximity alone, but this value is even higher when the proximate hospital is high quality. It is well established that Sutter is a high-quality hospital system.[51] Indeed, in 2016 Truven Health Analytics recognized Sutter as one of the top 15 health systems and one of the top 5 large health systems in the United States.[52] No other health system in Northern California has been recognized by

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49 Feeney Dep. at 102:24-103:1.

50 *Id.,* 106:20-22; Widmann Dep. at 70:20-71:3 ("[A] patient values their relationship with their provider more than they value the relationship with their insurer. And there are so many health plans in the marketplace that it doesn't -- if a health plan isn't contracted with the provider, those patients can find another health plan that's contracted with the provider.").

51 *See, e.g.*, "Sutter Health Hospitals Honored [b]y U.S. News & World Report," available at https://news.sutterhealth.org/2018/08/14/sutter-health-hospitals-honored-u-s-news-world-report-3/ (last accessed September 21, 2018). *See also* Markovich Dep at 106:10-21 ("What is your view, Mr. Markovich, of Sutter as a -- Sutter's quality at its hospitals? A. . . . In my tenure, whenever I've looked at it with Blue Shield, I think that every time I've looked at the numbers they consistently do well on quality scores. . . . Q. At the hospitals? A. At the hospitals and the physicians.").

52 To develop its rankings, Truven "identifies the top health systems in the United States, based on balanced, system-wide clinical and administrative performance… [W]inning health systems achieved higher survival rates and fewer errors at a lower overall treatment cost than non-winning health systems. Specifically, overall mortality rates were 14.7% lower for winning health systems versus non-winning peer group hospitals; complication rates were 15.1% lower; and ED wait times were 12.3% lower." *See* "Truven Health Analytics, an IBM Company, Announces 15 Top Health Systems for 2016," available at https://truvenhealth.com/media-room/press-releases/detail/prid/192/Truven-Health-Analytics-Announces-15-Top-Health-Systems-for-2016, (last accessed August 21, 2018). Truven Health Analytics is a healthcare data analytics firm that "claims 8,500 clients including hospitals, insurance companies, and federal and state agencies." Those clients include Cigna and the California Public Employees Retirment System (CalPERs).

Truven as a top 15 system or top 5 large system nationwide since Truven began its rankings in 1993.[53] Moreover, The Centers for Medicare & Medicaid Services ("CMS") publishes "overall ratings" for individual hospitals and gives nine of Sutter's hospitals, all in Northern California, a four- or five-star rating (out of five).[54]

44. The benefits to patients from the in-network status of their preferred hospitals identified in my WTP study and Ho and Lee's study understate the full benefits patients receive from the challenged conduct. The reason is that the challenged conduct not only leads to the inclusion of Sutter hospitals in network, it also promotes additional investment by Sutter that enhances the quality of any included Sutter hospital, the Sutter hospital system as a whole, and the insurance carrier's network. An example of a system-wide benefit from investment is the electronic ICU program that Sutter created to offer intensive care unit services to remote hospitals from a centralized location.[55]

45. The size of the benefit to a particular putative class member from the challenged conduct likely depends on the member's proximity to a Sutter hospital, proximity to the member's next best alternative hospital, the increment in quality of care at the relevant Sutter facility enabled by integration and investment, the differential between the quality of care and the quality at the best alternative hospital, and the frequency with which the member seeks care from Sutter and other providers, among other factors. These factors are patient-specific characteristics that require

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See See "Why IBM Is Dropping $2.6 Billion on Truven Health," Fortune, (WILLIG_000092-WILLIG_000093).

53 *See* "15 Top Health Systems winners through the years," (WILLIG_000098-WILLIG_000101).

54 *See* "Medicare.gov Hospital Compare," (WILLIG_000102-WILLIG_000105). Specifically, Sutter Maternity & Surgery Center of Santa Cruz received five stars and Alta Bates-Summit, Sutter Davis, Sutter Lakeside, Sutter Medical Center, Sacramento, Sutter Santa Rosa Regional, Sutter Roseville Medical Center, Sutter Tracy Community, and Sutter Auburn Faith all received four stars.

55 Sutter was the first system on the West Coast and the second in the nation to implement an Electronic ICU ("eICU") system and employs this system at 18 of its hospitals. Using "live interactive video, remote diagnostic tools[,] and other specialized technologies," Sutter Doctors and nurses centrally located in Sacramento and San Francisco monitor and guide the care of patients remotely in Intensive Care Units. *See* "Electronic ICU Helps Save Lives," (WILLIG_000106-WILLIG_000108).

individual inquiry; they cannot be determined on a class-wide basis. Dr. Chipty does not address these issues, much less provide a means of calculating these benefits for individual members of the purported class.

2. Some class members were not harmed by the challenged conduct at all or in the form of higher premiums

46. In addition to class members who were not harmed because they obtained a net benefit from the challenged conduct, some class members were not harmed because they never incurred any increased premium at all. As noted, determining whether a class member's premium was increased requires examining two levels: (1) whether the insurance company raised the premium it charged to an employer or a person purchasing an individual policy, and (2) in the case of employers, whether the employer passed that increased premium through to its employees. I discuss the first level below in Sections IV.C.1, IV.C.2(a), and IV.B.1.[56]

47. As to the second level, Dr. Chipty admitted that she [redacted].[58] But the putative class includes employees and employers, and any certification of the class would have to identify how each has been injured; the split between the employer and the employee is critical for determining whether either employer or employee class members were harmed, and assuming they were harmed, the amount

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[56] Expert Decl. Patrick Travis (Sep. 21, 2018) ¶¶ 73-86 (hereinafter "Travis Decl.").

[57] Chipty Dep. at 316:5-7. [redacted] Dr. Chipty testified that she [redacted] 1

[58] Chipty Dep. at 320:2-11 [redacted]

of such harm. As demonstrated below, determining who was harmed among the various employers and employees in this case requires individual inquiry.

48. Instead, Dr. Chipty assumes without any analysis that all employees were impacted in the form of higher premiums, and she further assumes that the amount of the impact can be measured by using the same relative contribution that they paid. In fact, at her deposition, Dr. Chipty admitted that she [redacted].[59] Rather than proposing a method to determine impact and allocate damages to employees, Dr. Chipty intends to rely on a claims administrator to determine how much of the premium increase paid by the employer was split with the employee based on the unsupported assumption that employees would make the same relative contribution they actually paid before the alleged overcharge.[60]

49. Dr. Chipty's assumptions are not only unsupported but also are contrary to facts relevant to this case.

50. As Dr. Chipty recognizes, some employers subsidize some portion of their employees' health care costs. This is what Dr. Chipty refers to as the "split" between the employer and the employee. Some employers pay 100 percent of the insurance premium for their employees regardless of rate increases from one year to the next. For example, Tina Feeney, a putative class member and owner of Johnson Pool and Spa (also a putative class member and a named Plaintiff), testified that [redacted].[61] Thus, changes in premiums due to alleged overcharges would not have affected these employees during this period unless their other insurance terms (e.g., co-pays or deductibles) or compensation changed in response to the premium change. If

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59 Chipty Dep. at 295:14-297:7. We also note that Dr. Chitpy has not [redacted] Chipty Dep. at 321:23-25, 377:8-14, 380:9-18.

60 *See* Chipty Decl. at n. 287, and Chipty Dep. at 318:25 – 320:1.

61 Feeney Dep. at 64:21-65:4; 72:13-73:3; 77:17-20. *See also supra* footnote 34.

Johnson Pool and Spa did not reduce employee benefits to shift some of the burden of the alleged overcharge to its employees, the employees would not have experienced any harm from the challenged conduct.[62]

51. Moreover, the 2015 Employer Health Benefits Survey published by Henry J. Kaiser Family Foundation found that 16 percent of employees in single-coverage insurance plans and 6 percent of employees in family plans paid 0 percent of the premium, *i.e.*, their employers paid 100 percent of the premium.[63] If these employers did not alter compensation or other employee benefits in response to any premium change from the alleged overcharge, their employees would not have been harmed in Dr. Chipty's damages framework.

52. Some employers fully subsidize coverage for some but not all of the enrollees in their insurance plans. For example, some employers pay 100 percent of the insurance premium for their employees, but they require contributions from the employee's family members if they are to be included in the plan.[64] Many employers in small group plans pay different amounts for different employees based on other factors such as whether the employee is hourly or salaried, unionized, a smoker, a participant in a wellness program, etc.[65]

53. Other employers hold fixed their employees' health insurance premiums for some period of time regardless of the year-over-year increase in premiums charged by the health plan. In other words, such employers absorb all of any overcharge.[66] Putative class members who

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62 [redacted]

63 "2015 Employer Health Benefits Survey," Henry J. Kaiser Family Foundation, (WILLIG_000109-WILLIG_000118).

64 Travis Decl. ¶ 85.

65 *Id.*, ¶ 84.

66 [redacted] Herman Dep. Ex. 1930 (HERMAN00000105) [redacted] Herman Dep. Ex. 1931 (HERMAN00000109) (Herman

obtained health insurance through these employers would not have seen an increase in their insurance premiums as a result of the challenged conduct, and they would not have been affected at all unless the increase altered their compensation or other employee benefits, which would require individual inquiry to determine. Despite this, Dr. Chipty's method assumes that such employees were in fact impacted and allocates damages to them. At deposition, she described how her method results in [redacted].[67]

54. Moreover, as Dr. Chipty admitted, employers may have passed on any increased premium through means other than increasing the premiums of employees—e.g., the employers could have adjusted the deductible or other out-of-pocket costs or changed wages or salaries (e.g., lower overall increases) to account for higher healthcare expenses. Dr. Chipty admitted that she did not examine whether this occurred, but she assumed that it did. Yet, she has presented no method, common or otherwise, to determine whether employers passed on increased premiums in the form of higher premiums, copays, deductibles, or other out-of-pocket expenses, or decreased compensation. Nor could she offer a common method. Individual

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[redacted] In those same years, however, his employer's share of the cost for his premium increased each year. See, e.g., Sidibe_CCSF 0003931 at 0003974 (Retired Employees Plan Year 2011-2012 showing that Blue Cross HMO "Retiree Only" plan required the City to pay $1,265.71); CCSF 0004139 (Retired Employees Plan Year July through December 2012 showing that Blue Cross HMO "Retiree Only" plan required the City to pay $1,308.14); Herman Dep. Ex. 1939 (HERMAN00000001) [redacted] See also WSAW006687 [redacted] WSAW005523 [redacted] ee also Travis Decl. ¶ 75-77.

[67] Chipty Dep. at 343:8-344:25 [redacted]

inquiries would be required to determine whether each putative class member's employer increased the premium or made some other change to the employee's benefit or compensation to cover the increased premium paid by the employer.

55. Other employers limit their contribution to the health insurance premium to an amount tied to the cost of Kaiser's fully insured HMO and require the employees to make up the difference.[68] These employers are indifferent to what plan their employees select because their contribution does not depend on their employee's choice. Similarly, some employers limit their contribution to the cost of Western Health Advantage, a local HMO that excludes Sutter.[69] Such employers would not have experienced any harm from the challenged conduct because any alleged overcharges would not have affected their health insurance costs.[70] Dr. Chipty's method lumps these employers in with all other employers and finds harm where none exist.

56. Evidence indicates that the employer-employee split of health insurance premiums varied significantly across employers and over time throughout the class period. A 2015 study by the Henry J. Kaiser Family Foundation shows that the proportion of employers that paid 100 percent

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68 *See, e.g.,* City of San Ramon Memorandum of Understanding for July 1, 2018 to June 30, 2021, (WILLIG_000121-WILLIG_000168 at WILLIG_000154-155) (explaining that the monthly contributions by the City for premiums "are based on the 2018 premium rate for . . . the Kaiser CalPERS premium rates. Employees electing enrollment in a CalPERS medical plan with a premium rate greater than the 2018 Kaiser CalPERS premium rates shall contribute the difference between the above amounts and the actual premium cost of the medical plan selected" and noting that "For the term of this agreement, the City shall increase or decrease its monthly contribution to be an amount equal to the increase or decrease in the Kaiser CalPERS premium rates. Employees electing to enroll in a medical plan with premium rates higher than the CalPERS Kaiser Plan shall be required to pay the difference in premium rates between the Kaiser Medical Plan and the plan selected by the employee."). See also Alameda Unified School District Health Benefit rates effective January 1, 2019-December 31, 2019, which show that the District will hold its contribution steady, regardless of the plan selected by the employee, and select 2018 and 2019 AEA Medical Rates (WILLIG_000119-WILLIG_000120).

69 Feeney Dep. at 151:4-152:12 (Johnson Pool and Spa switched to California Choice for 2016, under which the company would pay 100% for a base plan, and employees had the option of buying up to a richer plan at their own expense); 173:21-176:6 (with Western Health Advantage as the base plan, the additional expense of accessing Sutter was paid for by the employee).

70 *See* Travis Decl. ¶ 78.

of their employees' healthcare premiums declined throughout the class period,[71] and the proportion of premiums that employers paid varies significantly across employer and employee type.[72] The study also found that:

> For single coverage, 61 percent of covered workers are in plans that require them to make a contribution of less than or equal to a quarter of the total premium, 2 percent are in plans that require more than half of the premium, and 16 percent are in plans that require no contribution at all. For family coverage, 44 percent of covered workers are in plans that require them to make a contribution of less than or equal to a quarter of the total premium and 15 percent are in plans that require more than half of the premium, while only 6 percent are in plans that require no contribution at all.[73]

57. In short, to determine whether an employer passed through any increased premium to the employee would require an examination of the benefit plans and policies for each employer to determine whether the employees of the employer were in fact impacted and (separately) how

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[71] Lorenzetti, Laura, "This Workplace Perk Is Slowly Going Extinct," Fortune (March 30, 2018) (WILLIG_000169-WILLIG_000170).

[72] 2015 Employer Health Benefits Survey Summary of Findings, Kaiser Family Foundation (WILLIG_000173-WILLIG_000192); There is a wide array of options for the division of premium costs between employers and employees. In addition to fixing the premium contribution, some employers require the same premium contribution from employees across the state or across their entire business nationally. See 2018 Dow Medical Premiums and Coverage for California (WILLIG_000171-WILLIG_000172) that does not differential between different regions in California, although it has offices in California locations in Northern and Southern California; see also Zendesk 2018 Benefits (WILLIG_000250-WILLIG_000267), which has a uniform premium for its U.S. employees. Some employers have elected to make different contributions to premiums depending on the plan selected by the employee. See Windsor Unified School Districts Open Enrollment for 10/1/2014 to 9/30/2015 (WILLIG_000230-WILLIG_000249) (reflecting that the District required employees to pay 10%, 15% or 20% of the plans premium, depending on the plan selected and the District contributed the rest). Some plans, like the Lafayette School District, charge the employee nothing for the employee's own premium, but do share the premium for dependents for the Anthem HMO plan it offers. Lafayette School District 2018 Salary & Benefits Information (WILLIG_000193-WILLIG_000194 at 000193). Sometime the amount an employer will contribute varies depending on the number of hours worked by the employee. See, e.g., 2018 Stanislaus County Employee Benefits Guide (WILLIG_000195-WILLIG_000229 at 000207) (semi-monthly premiums vary depending on whether employee works 40, 35-39, or 30-34 hours per week).

[73] 2015 Employer Health Benefits Survey Methodology, Kaiser Family Foundation, (WILLIG_000109-WILLIG_000118).

they were impacted and by how much. Likewise, determining whether and how the class member's compensation or other benefits changed in response to a change in the premium requires individual inquiry. Dr. Chipty does not present any analysis addressing this issue, and she admitted at her deposition that [redacted].[74]

* * *

58. Putative class members who value Sutter hospitals that would be practically unavailable to them absent the challenged conduct, and putative class members whose employers paid their premiums, are just two types of individuals that class-wide evidence cannot demonstrate were harmed by the challenged conduct. Other types of putative class members likely were not harmed by the challenged conduct. For example, as I explain in Section VI, it is my understanding that, prior to the Affordable Care Act ("ACA"), there were no geographic restrictions on the premiums insurance carriers could charge to individuals seeking health insurance, and premiums to these individuals could be underwritten based on pre-existing conditions and healthcare needs. This means that during most of the class period an insurance carrier could charge individuals different rates based on factors such as where they lived and pre-existing conditions. It is unlikely that Sutter's prices had any influence on premiums charged to individuals that did not visit Sutter hospitals and were unlikely to do so in the future, such as individuals that lived far away from any Sutter hospital. This is but one more example of the difficulty in determining and demonstrating harm on a class-wide basis.

B. EMPIRICAL EVIDENCE INDICATES THAT DR. CHIPTY OVERSTATES THE PASS-THROUGH RATE

59. The Chipty Declaration provides a superficial treatment of the pass-through rate in order to arrive at a conclusion that the relevant pass-through rate is a dubious 100 percent. An implication of this error is that Dr. Chipty overstates any damage that may have occurred.

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[74] Chipty Dep. at 316:5-7 (Q. Have you done anything to analyze the split between the employer and the employee? A. I have not.); 329:25-330:7 (Q. Did you ask anyone on your team to examine […] the question about if there is a premium increase, how much of that premium increase to pass on to the employee? A. No, I did not specifically ask for people on my team to study that question.).

1. Dr. Chipty's analysis of pass-through is insufficient to conclude that the pass-through rate is 100 percent

60. The evidence that Dr. Chipty claims supports her conclusion that the relevant pass-through is 100 percent can be summarized as follows:

- Premiums are set to pay claims, cover administration costs, and earn margins;[75]
- Hospital prices are the largest component of healthcare costs;[76]
- Health plan actuaries say hospital price increases will be passed through;[77]
- Sutter anticipates that its price increases will be passed through;[78] and
- An econometric estimate cannot reject the null hypothesis that pass-through of hospital prices is 100 percent.[79]

I discuss why none of these pieces of evidence supports Dr. Chipty's conclusion of 100 percent pass-through.

61. As a preliminary matter, it is well-known to economists that pass-through rates depend on the relationship between prices and demand for the seller's product and the nature and intensity of competition the seller faces.[80] Pass-through may be as low as zero percent if a seller faced with a cost increase benefits more from taking a lower margin than by passing some of the cost

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75 Chipty Decl, § VIII.B.

76 *Id*.

77 Chipty Decl, § VIII.C.

78 Chipty Decl, § VIII.D.

79 Chipty Decl, § VIII.E.

80 *See* Bulow, Jeremy I., and Paul Pfleiderer, "A Note On The Effect of Cost Changes on Prices," *Journal of Political Economy*, 91, no. 1 (1983): 182-185; *See* Yde, Paul L., and Michael G. Vita, "Merger Efficiencies: Reconsidering the Passing-on Requirement," *Antitrust LJ* 64 (1995): 73; Hosken, Daniel, Daniel O'Brien, David T. Scheffman, and Michael Vita, "Demand System Estimation and its Application to Horizontal Merger Analysis. Bureau of Economics, US FTC, 2002, Section V; Ten Kate, Adriaan, and Gunnar Niels, "To What Extent are Cost Savings Passed On to Consumers? An Oligopoly Approach," European Journal of Law and Economics 20, no. 3 (2005): 323-337; Weyl, E. Glen, and Michal Fabinger, "Pass-through as an Economic tool: Principles of Incidence Under Imperfect Competition," *Journal of Political Economy* 121, no. 3 (2013): 528-583.

increase on to customers, or it can exceed 100 percent if the seller benefits from and is able to maintain a constant margin. None of the first four arguments Dr. Chipty makes purporting to show 100 percent pass-through, which I summarized in the first four bullets above, addresses the specific market conditions that are relevant for determining pass-through, nor do they evaluate the pass-through rate using data. Therefore, none of those arguments establishes that the pass-through rate is 100 percent or any other percent.

62. First, the fact that insurance carriers set prices (premiums) to cover costs and earn margins is uninformative about the relevant pass-through. Dr. Chipty puts forward this fact as if a firm setting prices to cover costs and earn a margin is somehow unique to insurance carriers, when the same could be said about a firm in almost any industry. The observation that insurance carriers price to cover costs and earn margins does nothing to change the economic factors that determine pass-through in an oligopoly market such as the market for commercial health insurance—how much of a cost increase does the firm have the incentive to pass through, given market conditions. Moreover, even if insurance carriers pass through increases in their costs to cover overall costs, they may not do so across or within the insurance group types and geographic regions that define the class.[81]

63. Second, the fact that hospital expenses are the largest component of healthcare costs also is irrelevant to pass-through, which depends on the shape of cost and demand curves and the nature and intensity of downstream competition (here, competition among insurance carriers). If there is positive pass-through, it may be the case that a relatively large proportion of what is passed through is due to healthcare costs, but the proportion of costs accounted for by healthcare costs has no direct connection to the pass-through rate.

64. Third, the evidence Dr. Chipty cites from health plan actuaries just restates her previous point that premiums are set to cover costs and earn margins,[82] which, as I indicated above, is uninformative as to the pass-through rate. At most the testimony cited indicates positive pass-

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[81] Travis Decl. ¶¶ 89-96 (explaining how rates are developed and that costs are not distributed across geographies in the manner assumed by Dr. Chipty).

[82] Chipty Decl., § VIII.C.

through of increases in hospital prices, but it *does not* indicate "100 percent pass-through to each of the business lines" as Dr. Chipty claims it does.[83]

65. Fourth, Dr. Chipty claims that Sutter expects health plans to fully pass through changes in costs. However, many of the documents Dr. Chipty references indicate only that Sutter believes insurance carriers will pass on increased medical costs to some degree.[84] As a matter of economics, it is not controversial that there will be some amount of medical cost pass-through to premiums in the aggregate. [redacted],[85] [redacted]

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83 Chipty Decl., ¶ 116; Travis Decl. ¶¶ 87-111 (explaining various rate setting mechanisms that disprove the assumption of a 100% pass-through); Axene Dep. .280:2-289:19 (testifying he did not have an opinion as to whether or not there is a 100% pass-through of alleged Sutter overcharges, and he had not completed any analysis regarding the assumption of 100% pass-through).

84 Chipty Decl., ¶ 120.

85 [redacted]
(Deposition of Jon Chason (hereinafter "Chason Dep.") [redacted]

[redacted].

66. Dr. Chipty acknowledged in both her declaration and deposition that the "pass-through rate may be less than 100 percent" if health insurance plans would absorb cost increases to compete with Kaiser.[86] However, she dismisses the possibility that competition between Kaiser and insurance carriers reduces the pass-through rate, claiming without citation that "evidence in this case indicates that Kaiser does not constrain the pricing of non-Kaiser health plans."[87] When asked at deposition for the "evidence in this case," she identified only a PowerPoint presented by Robert Reed, Sutter's Chief Financial Officer, at a strategy meeting.[88] [redacted],[89] and discusses [redacted][90] As discussed below, [redacted]

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86 In her declaration, Dr. Chipty states: "To the extent health plans like Anthem and Blue Shield would absorb cost increases to compete with Kaiser, pass-through may be less than 100 percent." (Chipty Dec., ¶ 112). When asked at deposition what she meant by that statement, Dr. Chipty stated: "[That] sentence is really about considering the possibility that health plans [sic], [b]ecause they are competing with Kaiser, this is exactly the – the part of the ecosystem that I do think Kaiser is potentially relevant, is that it's possible that the health plans decide not to pass on at least a portion of the cost increase from inflated hospital prices because they need to compete with Kaiser. So the way I understand the premiums work is, at least actuarily, they're built to cover health care expenses. And, actuarily, if health care expenses go up, premiums will go up, but there's also some room to adjust profit margin. So the sentence is recognizing that a health plan might decide to absorb a cost increase in order to better compete with Kaiser." Chipty Dep. at 471:25-472:20.

87 Chipty Decl., ¶ 112.

88 Chipty Dep. at 453:24-454:7 ("Q. Okay. With respect to Sutter, beyond Exhibit 15, do you rely on any other evidence that Kaiser did not discipline Sutter's contracted rates? A. So -- so not explicitly. This -- this is the most direct evidence that I -- I think I have. This is in combination with Reed's testimony describing what he ultimately did as a result of his analysis here.").

89 *See, e.g.*, DEF001993771.

90 DEF001993777-779.

both health plan and Sutter prices.[91] And after discussing strategic product development to compete with Kaiser, Mr. Reed discusses that [redacted][92] The evidence in this case, including sworn testimony from executives of the health plans, demonstrates that Kaiser does in fact constrain the pricing of Blue Shield of California and the other health plans.[93]

67. Finally, Dr. Chipty conducts an econometric study of the relationship between incurred medical costs and premiums. At most, Dr. Chipty's regression analysis says that the average pass-through rate across five insurance carriers for small group insurance plans is close to 100 percent. But Dr. Chipty's study is not a robust analysis of the pass-through rates that are relevant for the class. With such limited data—the study only includes 41 observations that are limited to filings on plans sold to small groups—Dr. Chipty cannot reliably test alternative hypotheses regarding pass-through that are relevant to class—*e.g.*, whether pass-through rates vary across the cohorts defined in Dr. Chipty's report. Even so, Dr. Chipty makes no effort to test the hypothesis that pass-through is uniform across class members, and as I show below, when evaluated on just one dimension upon which class members may vary—their choice of insurance carrier—Dr. Chipty's data indicate that pass-through rates do indeed vary significantly across insurance carriers. [redacted].

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91 *See infra* Section V.B.1, ¶ 138.

92 DEF01993780. Moreover, [redacted] DEF001993784, DEF001993797-798.

93 *See, e.g.*, evidence cited in Section V.B.1 below, particularly documents and testimony of the health plans.

Table 1: Chipty Declaration, Exhibit 17, Altered to Allow Pass-through to Vary Across Insurance Carriers

Carrier	Pass-Through Percentage
Aetna	30.2%
Blue Cross	77.0%
Blue Shield	104.2%
Health Net	105.4%
UHC	126.8%

Source: Dr. Chipty's backup materials
Notes: I run Dr. Chipty's Exhibit 17 model but allow the pass through to vary by carrier

68. I performed a statistical test (known as an F-test) to determine whether the pass-through rates of the different insurance carriers in Table 1 are statistically different from each other. That test rejects the hypothesis that all of the pass-through rates are equal, indicating that Dr. Chipty's assumption that the pass-through rate is constant across insurance carriers is rejected by the data used in her analysis.[94] This means that the equation she estimates to determine pass-through is likely mis-specified, in which case her conclusions regarding pass-through are unlikely to be valid.

2. Ho and Lee (2018) finds that the relevant pass-through rate is in most instances smaller than 100 percent and varies across members of the putative class

69. The previous section explains that Dr. Chipty has not performed an analysis sufficient to justify her conclusion that the relevant pass-through rate is 100 percent. Proper analysis of pass-through in health care markets involves sophisticated economic modeling and econometrics. Ho and Lee, a recent paper that Dr. Chipty cites favorably on several occasions, attempts to model hospital-insurance carrier markets in a sophisticated enough way that pass-through can be determined.

70. Ho and Lee estimate the reduction in hospital payments and associated reduction in premiums that Blue Shield of California would experience following the introduction of a

[94] Considering Aetna's estimated pass-through to be the benchmark, a joint F-test of the coefficients of interest on the other four insurance carriers shows that they are significantly different than Aetna at the $\alpha = 0.05$ significance level.

narrow network product. Ho and Lee find that pass-through generally is less than 100 percent and varies across geographic areas. For example, Ho and Lee show that on average across markets the prices and premiums associated with various narrow network constructions are consistent with pass-through rates of approximately 75 percent.[95] Ho and Lee also notes that a narrow network in Sacramento would result in a pass-through rate of approximately 70 percent.[96]

C. IMPACT AND DAMAGES ASSESSMENT AND ALLOCATION WOULD REQUIRE INDIVIDUAL INQUIRY IN THIS CASE

71. In the preceding sections, I explained why the benefits likely outweigh the alleged harm from the challenged conduct for some putative class members, and that some putative class members experienced no direct harm. In this section, I present an analytical framework for damage assessment that is consistent with the predictions of the economic literature regarding the effects of the practices at issue and that takes into account key institutional features of hospital markets. I then explain why any analysis that makes appropriate use of this framework to determine damages leads to the inevitable conclusion that damage assessment requires individual inquiries. Finally, I describe in detail how Dr. Chipty fails to take proper account of relevant factors in her damages assessment and therefore fails to show that it is possible to use common evidence to establish and measure common, class-wide impact in this case.

1. Why individual inquiry would be required in this case

72. An organized analytical framework is useful for demonstrating the need for individual inquiry in this case. This inquiry must compare the benefit a class member received from having a Sutter hospital available as an in-network provider (at the rates Sutter negotiated with a given carrier) to the harm the member allegedly incurred through increased premiums to its group. The formulas below may seem complicated, but they represent the bare minimum of what must be accounted for to properly measure and allocate any damages in this case.

73. The following are the key elements of this framework:

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95 Ho and Lee (2018), Table 1, rows 5 and 6.

96 Ho and Lee (2018), Table 2, rows 5 and 6. Ho and Lee also study cost pass-through in Santa Barbara/Ventura, but the rounding in the table causes the implied cost pass-through rates to be imprecise (Ho and Lee (2018), Table 3, rows 5 and 6).

74. Cohorts and sub-cohorts

- A *cohort* is a group of all the insured parties covered by the same plan that all pay the same premium, copays and deductibles as each other. Although I use the same terminology ("cohort") as Dr. Chipty does, I do not endorse her cohort definitions, which as I explain below are wrong for the vast majority of the purported class. The primary relevance of a cohort is that, because the insurance carrier does not discriminate in price across members of the cohort, an increase in the insurance carrier's cost caused by a price increase by one of many hospitals in the insurance plan is spread across all members of the cohort regardless of which hospitals they visit.
- A *sub-cohort* is a collection of insured parties all in the same cohort as one another, and can be as small as one individual, or more typically for my analyses that follow, a collection of individuals and families who live relatively close to desirable Sutter facilities. Many such sub-cohorts would experience substantial benefits from the challenged conduct, and as I show below, these benefits would outweigh the harm caused by the challenged conduct for many sub-cohort members.

75. Benefits caused by the challenged conduct

- *Dollar value of the benefit* ("*B*") caused by the challenged conduct per Sutter discharge of the sub-cohort under analysis. This benefit arises from the inclusion in the network of the sub-cohort members' preferred Sutter hospitals and the increase in quality of care at those hospitals, both of which are caused by the challenged conduct.
- *Sub-cohort utilization of Sutter* ("*u*"), which is a ratio calculated as (Number of Sutter discharges of the sub-cohort)/(Number of total discharges of the sub-cohort). The relevance of this ratio is that the benefit of the challenged conduct per sub-cohort member scales proportionately with sub-cohort utilization of Sutter.
- *Sub-cohort discharge ratio* ("*d*"), calculated as (Number of discharges of the sub-cohort)/(Number of insured parties in the sub-cohort). The relevance of this value is that the benefit of the challenged conduct per sub-cohort member scales proportionately with the sub-cohort discharge ratio.

76. Putting these benefit components together, the dollar benefit from the challenged conduct per insured party in the sub-cohort is $(B \times u \times d)$.

77. Harm allegedly caused by the challenged conduct

- *Dollar value of Overcharge* ("O") per Sutter discharge over the entire cohort. This is the Sutter price increase allegedly caused by the challenged conduct.
- *Pass-through rate* ("pt"), calculated as (extra payments in premiums, deductibles and copays by employers and employees in the cohort)/(extra dollar payments to Sutter).
    - The relevance of the pass-through rate is that the impact of any alleged overcharge on members of a cohort would come through its effect on insurance premiums, copays, and deductibles paid by members of the cohort.
    - This is an overall pass-through rate that does not distinguish how the pass-through of any overcharge may be split between employers and employees. Moreover, for the purpose of simplification and to facilitate comparison with the analysis of Dr. Chipty, in most of my discussion that follows I focus on premium pass-through and hold the other patient pay components (co-pays, deductibles, etc.) constant. This is a simplified view for the sake of analyzing the first- and second-level pass-throughs I introduced at the beginning of this Section. This simplification assumes away a possible channel of pass-through effects that require individualized inquiries and are not consistent with any conceivable class-wide evidence of class-wide effects. This is so because different plans and different employers will have heterogeneous and complex arrangements about required patient payment obligations. And, given the agreements about those arrangements, different employees in any year will have very disparate experiences depending on their and their families' uses of health care. For example, a purported overcharge by Sutter might result in an increase in patient deductibles in some employers' plans, along with no increase in premiums. For an employee with little health care expense in a year, there would be no impact. I have been unable to explore the empirics of this reason for the invalidity of the class due to lack of data, but it should be kept in mind even though my treatment henceforth in this report assumes it away through simplification.

- *Cohort utilization of Sutter*, which is a ratio calculated as (Number of Sutter discharges of the cohort)/(Number of discharges of the cohort). I denote this utilization ratio as s in the formula below. The relevance of this value is that the alleged harm to a member of a cohort would be proportional to the cohort utilization of Sutter. The reason for this is that the effect on an insurance carrier's cost per discharge of the cohort from any Sutter overcharge is spread across all discharges in the cohort, not just the Sutter discharges.
- *Cohort discharge ratio*, calculated as (Number of discharges of the cohort)/(Number of insured parties in the cohort), which I denote as d' in the formula below. The relevance of this value is that any harm per cohort member from the challenged conduct would scale proportionately with the cohort discharge ratio.

78. Putting the harm elements together, the dollar impact of the alleged overcharge on each insured party in the cohort (including each insured party in any sub-cohort within the cohort) is $(O \times pt \times s \times d')$.

79. The net impact of the challenged conduct on an insured party in the sub-cohort under analysis is the difference between the benefit and the harm to the party:

$$\text{Net Impact Per Insured Member of Sub-cohort} = (B \times u \times d) - (O \times pt \times s \times d'). \quad (1)$$

The net impact condition (1) shows that the answer to the question of whether a particular member of a sub-cohort benefits or is harmed depends on each of the factors I described above, and it shows how the answer depends on each factor.

80. As I mentioned at the top of this section, the elements of the net impact condition (1) are the bare minimum of what is sufficient to measure and properly allocate any damages in this case. Before proceeding to apply this condition, I now describe the deficiencies of Dr. Chipty's damages analysis with reference to each element of the net impact condition.

- *Dollar value of the benefit* ("B") – Dr. Chipty ignores any potential benefits in her damages calculations.
- *Sub-cohort utilization* ("u") – Dr. Chipty disregards different sub-cohorts of purported class members within her cohorts and therefore fails to recognize that some sub-cohorts

with higher sub-cohort utilization (e.g., those proximate to Sutter hospitals) benefit more than others from Sutter hospitals.

- *Sub-cohort discharge ratio* ("d") –Dr. Chipty does not consider the role of the sub-cohort discharge ratio in assessing net impact.
- *Overcharge* ("O") – Dr. Chipty recognizes that overcharges are a relevant element of damages analysis, although her estimates of any over-charge in this case are inflated, as I explain in Section VII.
- *Pass-through rate* ("pt") – Dr. Chipty recognizes that pass-through is a relevant part of the damages analysis for an indirect class. However, her pass-through estimates are likely inflated because she ignores competition that Sutter and insurance carriers face from Kaiser, she improperly assumes that all purported class members are subject to the same pass-through rate, and she fails to consider and measure the extent of 2nd-level pass-through from LGEs and SGEs to their employees.
- *Cohort utilization* ("s") – Dr. Chipty recognizes that cohort utilization is a relevant element of damages analysis, but she defined cohorts incorrectly for the vast majority of the purported class and therefore uses the wrong cohort utilization measures to allocate damages across cohort members.
- *Cohort discharge ratio* ("d'") – Dr. Chipty does not consider the role of the cohort discharge ratio in assessing net impact.

81. In sum, Dr. Chipty considers but mis-measures three of the elements necessary for assessing net impact and assigning damages to purported class members, and she completely ignores four of the seven essential elements. Had she considered all seven elements, as I have, she would have concluded, as I do, that it is not possible in this case to use common evidence to establish and measure class-wide impacts.

82. Consider first the overall impact of the challenged conduct on the cohort. This impact can be determined from the formula by assuming that the sub-cohort is the entire cohort, in which case the sub-cohort and cohort utilization of Sutter are the same, and the sub-cohort and cohort discharge ratios are also the same (*i.e.*, $u = s$ and $d = d'$). The formula for net impact

then implies that the net impact per member of the entire cohort is positive if $B - (O \times pt)$ is positive, and it is negative otherwise. For example, if the pass-through rate were 1, the net impact on the cohort would be positive if the benefit B exceeded the overcharge O, and the net impact would be negative if the opposite were true. If the pass-through rate is less than 1, then the net impact on the cohort can be positive even if the benefit B is less than the overcharge O.

83. But even if the pass-through rate is as high as 1 and the benefit B is less than the overcharge O, condition (1) shows that the net impact on a sub-cohort can be positive. The reason is that the net impact on the member of a sub-cohort depends on the relative values of the sub-cohort and cohort utilization of Sutter, and on the relative values of the sub-cohort and cohort discharge ratios. If the sub-cohort utilization of Sutter is high enough relative to cohort utilization of Sutter (*i.e.*, if u is high enough relative to s), the net impact will be positive. And if the sub-cohort discharge ratio is high relative to the cohort discharge ratio (*i.e.*, if d is high relative to d'), the net impact will be positive.

84. To understand the importance of the utilization ratios for determining net impact, consider an extreme example. Ten individuals work for the same small group employer in RA 1. Individual 1 lives close to Sutter Delta hospital and much prefers it to any other hospital, and thus he uses Sutter for 100 percent of his inpatient care. Individual 1 is a sub-cohort with a strong preference for Sutter Delta due to his proximity to that hospital. Individuals 2 through 10 do not live near any Sutter hospital and thus seek 0 percent of their care from Sutter. The cohort utilization of Sutter Delta is 10 percent since individual 1 uses it 100% of the time while individuals 2 through 10 never visit Sutter Delta. If the likelihood that individual 1 visits a hospital is the same as the likelihood that individuals 2 through 10 do so, the sub-cohort and cohort discharge ratios will be the same. In this case, the net impact of the challenged conduct on individual 1 will be positive unless the overcharge O is more than 10 times larger than the benefit B.

85. Determining whether each of the 10 individuals in this example benefit from the challenged conduct or are harmed would require individual inquiries to determine their utilization of Sutter hospitals and the other relevant factors in condition (1).

86. In the example just presented, sub-cohort utilization of Sutter is lower for patients far from Sutter than it is for the patient that lives near Sutter. More generally, sub-cohort utilization tends to decline with the driving time required for members of the sub-cohort to travel to the hospital. Table 2 shows the sub-cohort and cohort utilization for each of the 7 damages hospitals, where the cohort of a given damages hospital consists of Anthem small group enrollees that reside in the hospital's RA, and the sub-cohort consists of Anthem small group enrollees within 15 minutes driving time of the same hospital. The table demonstrates that utilization by sub-cohorts is consistently and significantly higher than utilization by the cohort. On average, utilization by the sub-cohort is roughly 3 times utilization by the cohort. Using the net impact condition (1) and assuming sub-cohort and cohort discharge ratios are the same, this means that the net impact of the challenged conduct on a typical class member that lives within 15 minutes of the Sutter hospital would be positive unless the overcharge ("*O*") was more than (roughly) three times greater than the benefit ("*B*").

Table 2: Utilization of Sutter Damages Hospitals by Cohort and Sub-cohort

Sutter Damages Hospital	Sutter Damages Hospital Rating Area	Sub-Cohort Utilization of Sutter Damages Hospital, 15-Minute Drive	Cohort Utilization of Sutter Damages Hospital, Rating Area
[redacted]	[redacted]	[redacted]	[redacted]

Source: Anthem claims data from Chipty Report backup, drive times from HERE API
Notes: Sub-cohort consists of putative class members located within 15 minutes drive time of the particular Sutter damages hospital and within the RA; cohort consists of putative class members located within the RA of the particular Sutter damages hospital

87. As I discussed in Section IV.C.1 above, patient benefits from the in-network status of Sutter are not all driven by proximity. Proximity is important because it affects a patient's utilization of Sutter. It is possible to use condition (1) to determine the critical value of sub-cohort utilization of Sutter such that sub-cohorts with Sutter utilization rates higher than the critical value experience net benefits per member and sub-cohorts with utilization below the

critical value experience net harm per member. The critical sub-cohort utilization of Sutter (hereinafter "critical utilization ratio"), which I denote u^*, is[97]

$$u^* = \frac{(O \times pt \times s \times d')}{B \times d}. \quad (2).$$

88. In this formulation of the net impact question, determining whether a particular putative class member benefits or is harmed by the challenged conduct requires individual inquiry to determine whether the member's sub-cohort utilization of Sutter exceeds or is less than the critical utilization ratio u^*.

89. The harm component of the critical utilization ratio, which is the numerator in the expression on the right of the equality $(O \times pt \times s \times d')$, depends on the pass-through rate, the cohort utilization of Sutter, and cohort discharge ratio. I discuss the role that each of these elements plays in determining damages and the individual inquiry required to determine whether a patient benefits or is harmed by the challenged conduct.

90. The pass-through rate from Sutter overcharges may be lower the more intensely insurance carriers compete with Kaiser. This point is well-known to economists, and the reason is that greater competition with Kaiser could cause insurance carriers to absorb a larger portion of any overcharge by lowering their margins rather than raising price and losing business to Kaiser.[98] In this case, competition from Kaiser lowers the critical utilization ratio, which makes

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97 The critical utilization ratio is found by setting expected benefits equal to harm in condition (1) and solving for the utilization ratio of Sutter across the sub-cohort.

98 *See, e.g.*, AON0009800 (Blue Shield agrees to forego a rate increase for the retiree plans it offers CCSF in order to stay competitive with Kaiser. Specifically, Kris Perreras from Blue Shield writes, "[w]e understand the difficult position we're facing for 2015 with both Kaiser and UHC proposing rate decreases to their retiree plans. As such, we are amending our offer and are proposing a rate pass (a continuance of the 2014 rates into the 2015 contract period)."); WSAW 005613 (Aetna agrees to lower its proposed increase for a particular client from 25% to 9% to combat further "Kaiser penetration"); WSAW052889, WSAW0052897 (Anthem agrees to forego a rate increase for a particular client after the client said Kaiser was holding the line on its rates: "[W]e are looking for a rate-pass...Kaiser has come in with a rate-pass. There is already a significant rate differential. ANY increase in Anthem will only make the situation worse." WSAW052889. Anthem subsequently responded by agreeing to a rate pass. Id. A[redacted]; Cain Dep. at 137:13-18 (United keeping its Signature Value Alliance prices low to "stop losing business to Kaiser.");

it more likely that particular sub-cohorts benefit from the challenged conduct. The individual inquiry required to determine whether a member of a cohort benefits or is harmed would require knowledge of the pass-through rate relevant for that cohort as well as the values of the other relevant factors in condition (2).

91. The cohort utilization of Sutter also affects the critical utilization ratio and thus whether the patients in a given sub-cohort benefit or are harmed. The smaller is the cohort utilization of Sutter, the smaller is the effect of any overcharge on the amount paid by each member of the cohort, and the smaller is the critical utilization ratio. Thus, the individual inquiries required to determine whether members of a cohort benefit or are harmed requires knowledge of the cohort utilization of Sutter. Of course, this depends on the definition of the cohort, and as I explain in the next section, Dr. Chipty uses the wrong cohort definitions for the vast majority of the putative class. For this reason, her estimates of the impact of any Sutter overcharge on total patient pay are also wrong for the vast majority of the putative class.

92. The sub-cohort and cohort discharge ratios reflect the amount of hospitalization by the sub-cohort and cohort, respectively. To understand the importance of these ratios, consider an example in which discharge ratios vary across members of a given cohort due to demographic differences between them. A small group employs 20 individuals, including 10 women in their 30s and 10 men in their 20s. In a particular year, hospital discharges are as follows: 1 of the men is discharged from a Sutter hospital; none of the other men are discharged from any hospital; 5 of the women are discharged from a Sutter hospital after giving birth; and none of the other women visits a hospital. The sub-cohort discharge ratio for the sub-cohort of women is 0.5 [= 5 / 10], while the cohort discharge ratio is only 0.3 [= 6 / 20]. If the pass-through rate is 1 and men and women utilize Sutter at the same rates, then condition (1) implies that the net impact of the challenged conduct on the sub-cohort of women will be positive unless the overcharge O is more than twice as high as the benefit B. Determining which particular cohort members benefitted or were harmed by the challenged conduct would require individual inquiries to determine the

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T. Hamilton Dep. at 56:11-20 [redacted].

discharge ratios of different subgroups and the values of the other relevant factors in condition (2).

93. A point worthy of emphasis from the analysis I have presented in this section is that it is entirely possible that some class members would experience net benefits from challenged conduct even if the pass-through rate were 1 (as Dr. Chipty assumes) and the overcharge O is larger than the benefit B. An important reason for this is that the effect of the alleged overcharge by Sutter on the prices charged by insurance carriers is diluted by small values of the cohort utilization of Sutter. In particular, an overcharge by Sutter would raise the insurance carrier's cost associated with Sutter hospitalizations but would not raise its costs from hospitalizations at non-Sutter hospitals. Thus, the cost per-cohort member of any Sutter overcharge scales with the cohort utilization of Sutter, while the insurance carrier's price increase in response to this change is spread across the entire cohort. Hence, the effect of an overcharge on total patient pay per cohort member is diluted by a factor equal to cohort utilization of Sutter. On the other hand, putative class members that obtain all or most of their hospital needs from Sutter experience all or most of the benefits of the challenged conduct, and these benefits can exceed the diluted harm from the overcharge even if the overcharge itself exceeds the benefit. In addition, for any given values of the benefit B, overcharge O, pass-through rate pt, sub-cohort discharge ratio d, and cohort discharge ratio d', it is more likely that some putative class members will experience net benefits from the challenged conduct the smaller is the cohort utilization of Sutter.

94. Dr. Chipty does not reference the cohort utilization of Sutter, which plays the important role in damage assessment that I just described. To calculate damages, she multiplies the total alleged Sutter overcharge across all members of a cohort by her assumed pass-through rate of 1, and then divides by the total number of patients in the cohort irrespective of their utilization of Sutter.[99] Although this method yields the same increase in the per-member per-month total patient pay as the method I present (as long as the cohort is properly defined and the other inputs

[99] Chipty Decl., § X.

are correct),[100] I describe the calculations the way I do because it highlights the important role of the cohort utilization of Sutter in damages assessment in this case.

95. An important reason for highlighting the cohort utilization of Sutter is that this value depends on the set of putative class members that define the cohort. As I explain below, Dr. Chipty uses the wrong cohorts for the vast majority of the putative class, and therefore does not assign alleged damages properly. To give one example (more below), prior to the ACA, which took effect in January 2014, insurance carriers could underwrite individual rates based on where the patients lived, their demographics, pre-existing conditions, and healthcare needs, which means that insurance carriers could offer these putative class members insurance rates tailored to the individual patient. In other words, the cohort for these individuals consisted of *one person*—the individual. To determine whether these putative class members were harmed by the challenged conduct would require individual inquiries.

2. The competitive and regulatory environments faced by putative class members cause errors in pass-through that require individual inquiry to resolve

96. Dr. Chipty's damages methodology proceeds in four steps, which are described in Section X of the Chipty Declaration. These steps are summarized as follows.

- First, estimate the overcharges at the seven "damages hospitals."
- Second, assign overcharges to class members by "cohort" – *i.e.*, rating area, group type, and year. These overcharges are calculated on a per-member, per-month ("PMPM") basis.
- Third, assuming economic pass-through is one-for-one with overcharges, calculate the increase in premiums two years after the alleged overcharges occurred. These premium changes also are calculated on a PMPM basis.
- Fourth, assign damages to class members by cohort.

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[100] That is, the steps she takes to convert the total alleged Sutter overcharge to a PMPM premium increase is the same as taking the alleged Sutter per-patient overcharge, multiplying it by the pass-through rate, and multiplying that by Sutter's share of the cohort, as in the method I present.

97. Although Dr. Chipty's approach seems simple and formulaic, it necessarily results in erroneous damages calculations for the vast majority of purported class members. The problems with Dr. Chipty's method for distributing damages principally are caused by significant variation across purported class members in the way the alleged hospital overcharges are passed through and become percentage increases in insurance premiums. These variations imply that Dr. Chipty's damages estimates will be incorrect for nearly every member of the putative class. And correcting these errors so that harms and benefits can be weighed against each other to determine which class members experienced net harm from the challenged conduct would require individual inquiry.

98. The specific variations in the way the alleged hospital overcharges get passed through to premiums and differentially affect percentage increases in premiums, which I elaborate on below, can be summarized as follows:

- Variation across putative class members in pass-through rates caused by insurance carrier competition. Dr. Chipty provides no evidence that pass-through is equal across putative class members. In fact, one small alteration to Dr. Chipty's empirical analysis of pass-through indicates that pass-through is not the same across insurance carriers, let alone the cohorts Dr. Chipty defines as collections of class members experiencing uniform impact. Evidence indicates that the pass-through rate experienced by members of the putative class likely varies significantly due to variation in competition among insurance carriers (including Kaiser) across the areas that define Dr. Chipty's cohorts.
- Variation across putative class members in the proportion of premiums that is accounted for by inpatient care. As I explain below, variation in the proportion of healthcare costs attributed to inpatient care causes variation in the percentage premium increase, even for two class members that experienced the exact same overcharge on inpatient services. Many groups potentially were experience rated during the class period, and even those that were not explicitly experience rated were subject to differences in premium changes across demographics and plan design.
- Variation in the geographic RAs that are relevant to small groups and individuals. Prior to the ACA, the geographic RAs that insurers used varied across health plans and over

time.[101] Nonetheless, Dr. Chipty uses the ACA-defined RAs to determine the pass-through of any inpatient overcharges to small groups and individuals for the entire damages period. Hence, Dr. Chipty's damage assignments to members of small group and individual plans prior to implementation of the ACA geographic RAs in January 2014 are incorrect. Hence, Dr. Chipty is using the incorrect reference RAs for 2008-2013.

- Variation in the experience of large groups. According to Dr. Chipty's method, two putative class members that are in different large groups but live in the same geographic RA would receive the same damage allocation (as a percentage of their premium). However, given the flexibility in pricing to large groups, it is highly unlikely that these two putative class members experienced that same harm for myriad reasons, including variation in the utilization of Sutter hospitals and variation in the geographic location of their group members.

(a) Disparate impact caused by variation in pass-through caused by insurance carrier competition

99. It is well-known to economists that the degree to which a seller (e.g., an insurance carrier) can pass through an increase in its unit costs may depend on the intensity of competition it faces in the market for its product or service.[102] A seller that faces little competition may pass-through a significant fraction of any cost increase, but a seller that faces strong competition may pass through less (unless the cost is faced by all competitors) because a price increase would cause the seller to lose substantial sales to competitors. In the case at hand, the competition that

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[101] *See, e.g.,* Deposition of Brent Hitchings (hereinafter "Hitchings Dep.") at 93:19-94:18 (explaining that Blue Shield went from "9 to 19" geographic rating areas after the ACA took effect and that Blue Shield was no longer able to "move ZIP Codes among rating regions."); *see also* Travis Decl. ¶¶ 100-01.

[102] *See* Yde, Paul L., and Michael G. Vita, "Merger Efficiencies: Reconsidering the Passing-on Requirement," *Antitrust LJ* 64 (1995): 73; Ten Kate, Adriaan, and Gunnar Niels, "To What Extent are Cost Savings Passed On to Consumers? An Oligopoly Approach," European Journal of Law and Economics 20, no. 3 (2005): 323-337; Weyl, E. Glen, and Michal Fabinger, "Pass-through as an Economic tool: Principles of Incidence Under Imperfect Competition," *Journal of Political Economy* 121, no. 3 (2013): 528-583.

unintegrated insurance carriers face from Kaiser (which is unaffected by the alleged Sutter overcharge) is likely to lower the pass-through rate. The more intense the competition between unintegrated insurance carriers and Kaiser for sales to a particular cohort, the smaller the likely effect of any overcharge on premiums paid by members of the cohort. There is considerable evidence that the insurance carriers were extremely cognizant of the need to keep premiums down in order to compete with Kaiser,[103] and that brokers would play insurers off against one another to get better prices.[104]

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[103] The insurance carriers were keenly aware of competition with Kaiser. *See* See Deposition of Juan Davila (hereinafter "Davila Dep.") at 139:9-140:10 (discussing that Kaiser constrained the prices Blue Shield could charge for its HMO); Lundbye Dep., May 15, 2018, at 105:4-106:1 ("Q. Does United try to keep its HMO rates low so as to compete with Kaiser? A. Yes. . . . Q. Does United urge Sutter to lower its rates? Or has United urged Sutter to lower its rates to enable United's products to compete effectively against Kaiser? A. Yes. Q. They have done that, for example, for the Signature Value Alliance product? A. Yes. Q. And that was developed so as to specifically -- to compete with Kaiser; correct? A. Correct."); Cain Dep. at 137:13-18 ("So I think that was the emphasis behind creating Alliance, was to partner with Sutter, highlight Sutter's network . . . and to see if we could put a dent in Kaiser, from a new business perspective, and possibly stop losing business to Kaiser."); [redacted], BSC_UFCW 00007217 ("[redacted] . . . The providers also need to understand that [redacted] Once we have the numbers [redacted]).

[104] *See, e.g.*, WSAW005613 (broker explaining to Aetna executives that the widening gap between Aetna's rates and Kaiser's rates will lead to increased Kaiser penetration and put Aetna's plan into a death spiral and Aetna agreeing to a rate concession to combat Kaiser); AON0009800 (Kris Perreras from Blue Shield writes, "[w]e understand the difficult position we're facing for 2015 with both Kaiser and UHC proposing rate decreases to their retiree plans. As such, we are amending our offer and are proposing a rate pass (a continuance of the 2014 rates into the 2015 contract period)."); WSAW005708 (broker to Aetna: "[I]f there's anything further you can pull out of your hat for BPM, that would be great. Maybe 5% no bid? Kaiser is at -1.23%"); WSAW004024 (Anthem agreed to a "rate pass," freezing a self-funded client's rates for a year); UHC-00289051 at 9052 [redacted]

100. There are nine geographic rating areas that Dr. Chipty uses as the geographic footprint for her individual and small group cohorts.[105] Notwithstanding the irrelevance of these geographic boundaries for many cohorts,[106] Table 3 shows that Kaiser's market share varies significantly across these RAs. This indicates that the pass-through rate— and therefore the harm from any overcharge—could vary significantly across cohorts associated with these RAs. Determining the net benefit experienced by a particular putative class member would require assessing the competitive constraint imposed by Kaiser to determine the impact of this constraint on the pass-through rate for insurance sales to the class member's cohort.[107]

WSAW052889 (Anthem agreeing to a rate pass after Kaiser offered a rate pass), WSAW0052897 (similar).

105 *See, e.g.*, Complaint, ¶ 113.

106 *See supra* Section VI; Declaration of Gautam Gowrisankaran, PhD; Case No. 3:12-cv-04854-LB (hereinafter "Gowrisankaran Declaration")

107 I show in Table 11 of the appendix that this point also is relevant for large groups. That is, Kaiser's share varies significantly across the 3-digit zip-codes that Dr. Chipty uses to define geographic RAs for large groups, indicating that the pass-through rate, and thus the harm from any overcharge, could vary significantly across large group cohorts.

Table 3: Kaiser Share by Rating Area

Rating Area	Discharge Share of Kaiser Hospitals
1	4.3%
2	50.1%
3	38.1%
4	25.1%
5	43.6%
6	43.8%
7	33.4%
8	33.5%
9	4.1%
10	21.5%
11	15.8%
12	5.3%
13	0.5%
14	2.5%
15/16	20.6%
17	27.3%
18	19.9%
19	16.2%

Source: OSHPD 2016 Data
Notes:
Excludes DRGs 795, 998, 999, and MDCs 0, 19, 20
Limited to commercially-insured, acute-care patients, with valid zip codes

101. For employees, determining impact would also involve examining any restraints on their contribution that the carriers impose on their employers. For example, [redacted] ”[108] Paul Markovich, Blue Shield of California’s CEO, explained [redacted]

[108] Markovich Dep., Ex. 1962 ([redacted]02744).

[redacted].[109] This language constrains 2nd-level pass-through from employers to employees that I discussed at the beginning of Section IV. The constraint imposed by Blue Shield on the employee contribution in its Trio HMO plan insulates the employee from an alleged overcharge and illustrates the need for an individual inquiry into the contractual arrangements between the insurance carrier and employer for each plan at issue.

(b) Disparate impact caused by variation in the utilization of inpatient services

102. As discussed, Dr. Chipty defines a cohort as a unique combination of geographic rating area, group type (individual, small group, or large group), and year. Her damages methodology proposes to distribute damages caused by any overcharge for inpatient services to all putative class members in the cohorts she defines in equal proportions to their insurance premiums. She does so irrespective of the member's relative utilization of inpatient services and other healthcare services (e.g., outpatient services and pharmaceutical services). This assumption is problematic if (i) the intensity with which subgroups within a cohort utilize inpatient hospital services varies and (ii) the insurance carrier can vary premiums across subgroups either directly or indirectly through changes in premiums or benefit design that target certain demographic subgroups. That is, in the many cases where the insurance carrier can change premiums within one of Dr. Chipty's cohorts based on a subgroup's experience, demographic composition, or plan design, pass-through of any damages will vary by the subgroup's utilization of inpatient services.

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[109] *Id.* At _02744 (section describing Employer Contribution); Markovich Dep. at 154:21-155:1 ("[T] he Trio network is by far the narrowest network that we offer. And in many respects -- and it's [redacted]; 161:17-162:12 ("With respect to section 4 [redacted] o you know what that means? [redacted].

103. Consider an example that explains why ignoring differences across groups in the utilization of inpatient services causes Dr. Chipty's damages assignment to be incorrect.[110]

- Assume there are only two groups in a cohort—Group 1 and Group 2. Group 1 paid $1,500 in premiums, and Group 2 paid $2,500 in premiums.
- Group 1 paid $500 for inpatient care; Group 2 paid $1,500 for inpatient care. Both groups paid a 10 percent overcharge on inpatient care, a combined overcharge of $200.
- Dr. Chipty would assign both groups damages equal to the ratio of the total overcharges to the total premiums for the cohort ($200/$4,000 = 5%) multiplied by their premium. Under her methodology, Group 1's damages would be $75 and Group 2's damages would be $125.
- However, if premiums were set according to experience and experience were predicted by the groups' demographics, Group 1's damages should be $50 (10 percent overcharge on $500) and Group 2's damages should be $150 (10 percent overcharge on $1,500).

104. The rest of this section explains that insurance carriers still can adjust premiums based on how intensely the group uses inpatient services by increasing premiums based on demographic groups or benefit designs that are likely to utilize high inpatient care, even when the insurance carrier is limited in its ability to rate a group's premium by experience.

(1) Dr. Chipty wrongly assumes that any damages are common across groups with different demographic compositions

105. The Chipty Declaration correctly notes that the premiums paid by putative class members generally depend upon their age and chosen benefit level.[111] However, when estimating impact

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[110] For this simplified example I assume prices and membership do not change across time periods. This simplification does not alter the implication of the example that Chipty's proposed damages assignment is incorrect if hospital utilization varies across groups within a cohort.

[111] Chipty Decl., ¶ 28 (Noting that "[i]ndividuals can purchase plans offered in the rating area where they live, and they pay a premium that reflects their *age*, there area (sic) rating area medical costs, their *chosen benefit level*[,]" and that "[s]mall group employers generally purchase plans offered in the rating area where their employees work, and they pay a premium that reflects their employee *age* mix, the cost factors of the rating areas where their employees live or work, and

and allocating damages, Dr. Chipty ignores how such differences across class members may differentially affect the pass-through of any overcharges to insurance premiums.[112] This section shows that by ignoring these factors, Dr. Chipty ignores significant differences in premiums and changes in premiums within her cohorts, and thus it is highly likely that Dr. Chipty incorrectly measures damages to the vast majority of class members in these groups.

106. Impact and damages may vary across groups that have different demographic compositions if (i) groups with different demographic compositions utilize inpatient services at different rates (as a proportion of their overall healthcare expenditures), and (ii) insurance carriers can change insurance premiums differently across demographic groups. I show in Appendix B that inpatient utilization as a proportion of overall healthcare costs varies significantly across demographic groups. I also explain below how insurance carriers have been able to change insurance premiums differently across demographic groups throughout the class period.

107. First, Dr. Chipty's impact and damages calculations are almost certainly incorrect for any group that was experience rated. Experience rated plans consider, when setting premiums, how much of each type of care—inpatient, outpatient, etc.—a group is likely to utilize, and the proportion of medical costs accounted for by inpatient care differs across groups that differ in their demographic composition.[113] This causes the proportion of any overcharges that would be realized through an increase in premiums to differ across groups. Dr. Chipty does not account for these differences in her calculations. Premiums for all or almost all putative class members in large group plans,[114] for all or almost all putative class members in small group plans before

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their *chosen benefit levels*." (emphasis added)). Large group premium-setting potentially depends on myriad factors including demographic factors such as sex and age (*see e.g.*, Exhibit 184 (Sidibe_ABC_0139404 [redacted])).

112 *See, e.g.,* Chipty Decl., § X.

113 *See* Travis Decl. ¶¶ 43-52 (explaining that experience rated groups would have significant variation in inpatient costs and thus different premiums).

114 *See, e.g.*, Deposition of Gerald LaLande (hereinafter "Lalande Dep.") at 23:8-10 [redacted] *See also*, Lalande Dep., 35:25-36:16 [redacted]

January 2014,[115] and for potentially any putative class member that purchased healthcare coverage as an individual before January 2014 were affected to some extent by the demographic composition or healthcare experiences of their group, or both.[116]

108. Second, even for groups for which experience rating was restricted by the ACA, insurance carriers were permitted to vary premiums and changes in premiums across benefit designs, and the popularity of certain benefit designs varies by the demographic composition of groups.[117] In addition, as I show in the next section, premiums and changes in premiums vary widely by benefit design. Hence, it is plausible (indeed, likely) that by not allowing any impact and damages to vary by age and gender, Dr. Chipty's impact and damages calculations would be incorrect for *all* members of the putative class.

[redacted]

115 *See, e.g.*, Small Group Coverage Before and After ACA, California HealthCare Foundation (WILLIG_000268-WILLIG_000269 at 269) (noting that carriers may vary rates "in specific age brackets, with no limits on the amount of variation between young and old[,]" and "[r]ates may vary an additional 10% based on the health status or claims history of the group.") (last accessed July 28, 2018). See also, e.g., Lalande Dep., 88:7-10 ("Pre-ACA California still had – their rate regulations allowed case specific underwriting with a narrow band of plus or minus 10 percent"); and Mathewson Dep., Ex. 1278 (SIDIBE_ABC_0139551) at -554 (a 2009 rate filing describing Anthem's intention to change the geographic RAs, age groupings, and gender ratings for several plans.); Hitchings Dep., 53:21-54:24 (indicating that at Blue Shield prior to the ACA a small group eligible employer "was allowed to be rated plus or minus 10 percent based on a variety of factors."). This and other evidence shows that the application of ACA-defined RAs to small group and individual members of the putative class before 2014 is inappropriate, despite Plaintiffs' Experts' claims to the contrary (See, e.g., Chipty Decl., n.271 and Decl. of David Axene in Support of Pltffs' Mtn. for Class Cert. (hereinafter "Axene Decl."), ¶ 49).

116 *See, e.g.*, Individual Coverage Before and After ACA, California HealthCare Foundation (WILLIG_000270-WILLIG_000271 at 271) (noting that there were "[n]o restrictions on carrier rates except for specific rating rules that apply in special guarantee-issue programs.") (last accessed July 28, 2018).

117 *See*, *e.g.*, Butler, Logan and Justin Verona, "The State of Employee Benefits," Benefitfocus, 2018 at p. 4, Daw, Jamie R., Laura A. Hatfield, Katherine Swartz, and Benjamin Sommers, "Women in the United States Experience High Rates of Coverage 'Churn' in Months Before and After Childbirth," Health Affairs 36, No. 4 (2017) pp. 598-606; Rampell, Catherine, "The 'young invincibles' are primarily men," Washington Post (September 16, 2015) (WILLIG_000272-WILLIG_000274).

109. Errors in impact and damages calculations cannot be dismissed as just a misallocation of positive damages. First, for groups or individuals that were experience rated and had no utilization of Sutter hospitals, an increase in Sutter's prices would have no impact on their premium. Second, because, as described above, many members of the class likely benefited to some degree from the challenged conduct, Dr. Chipty's misallocation of damages to groups with different demographic compositions may incorrectly tip the balance between net harm and net benefit from the challenged conduct. Moreover, determining whether particular groups experienced net harm requires individual inquiry into the demographic characteristics of the members that comprise each group in each time period.

(2) Dr. Chipty wrongly assumes that any damages are common across benefit designs

110. Dr. Chipty's damages methodology proposes to distribute damages uniformly to class members in the same geographic rating area and group type, regardless of the benefit design they select.[118] However, individuals and groups that purchase greater health insurance benefits likely do so because they anticipate needing greater health care. Insurance carriers charge different premiums and change premiums differently across benefit designs. For example, Table 4 shows the significant differences in premium changes across the benefit designs that were offered by Anthem to the same cohort (as Dr. Chipty defines cohorts).

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118 [redacted] Deposition of Lei Tsui (hereinafter "Tsui Dep.") at 43:7-12.

Table 4: Premium Changes for Members in Rating Area 8 in a 2015 Small Group Rate Filing by Anthem Blue Cross

HIOS Plan Name	Metal Level	Network Name	Area(s) Offered	Plan Specific Rate Increase (Excluding Aging)
[redacted]				

Source: Exhibit 1276 from the Deposition of Chris Mathewson (ABC10243)
Notes:
Rate changes taken from Exhibit I - Non-Grandfathered Benefit Plan Factors and Rate Increases.
Rate increases of "n/a" were excluded.

111. Dr. Chipty ignores any (and all) variation in benefit designs across putative class members. This almost certainly causes Dr. Chipty's damages estimates to be incorrect for many putative class members. First, the disparity in premium changes across plan designs shown in Table 4 indicates that Dr. Chipty's assumption that pass-through is the same across benefit designs is unlikely to be correct. Rather, a plausible explanation for this variation is that plan members that choose different benefit designs vary in their sensitivity to premium changes, and

Anthem takes this into account when setting premiums for different benefit designs. Second, as mentioned in the previous section, individuals and groups may select different benefit levels based on different needs, which are likely to vary by demographic composition. For example, women in their early 30's use inpatient services more intensely than women in their early 40's.[119] If, as a result, women in their early 30's also are more likely to choose a plan with relatively high benefits, e.g., a Gold or Platinum PPO, those PPOs likely would raise premiums more (in percentage terms) in response to changes in inpatient costs than lower value PPOs.

112. Once again, Dr. Chipty's errors in damages assignment cannot be ignored, because these errors may tip the balance between whether a group or individual experienced net harm or net benefit from the challenged conduct, and determining whether an individual or group experienced net harm requires individual inquiry.

(c) Disparate impact caused by the assignment of small group and individual plan members to incorrect geographic RAs causes erroneous inferences of common impact

113. The previous section explains why, even where she arguably assigned class members to the correct RA, Dr. Chipty's analysis assumes common impact where it is unlikely. This section shows that for small group and individual plans sold prior to January 2014 (*i.e.*, the bulk of the class period), there is an additional significant flaw in Dr. Chipty's methodology: class members are placed in incorrect cohorts. I demonstrate in this section that even setting aside the issues highlighted above, Dr. Chipty's erroneous assignment of class members to cohorts would cause significant errors in damages calculations that would affect the vast majority of enrollees in small group and individual plans.

114. A detailed example in Appendix B demonstrates that the errors are created by Dr. Chipty's incorrect assumption that the ACA-defined RAs are appropriate for the entire class period. The example shows that given the RAs actually used for a particular plan in 2012, Dr. Chipty's assignment of individuals to ACA-defined RAs would result in significant errors in both directions—*i.e.*, Dr. Chipty groups into the same geographic RA many individuals that do

[119] *See infra* Appendix B.

not belong together, and she separates into different geographic RAs many individuals that do belong together.

115. In addition, Dr. Chipty incorrectly assumes that small group members are assigned to geographic RAs by the location of their employer throughout the entire class period. However, prior to the ACA, [redacted].[120]

116. Dr. Chipty's assignment of individuals and small groups to incorrect geographic RAs likely would cause significant errors in Dr. Chipty's gross harm estimates. The example provided in Appendix B indicates Dr. Chipty's gross harm figures could be off by a multiple of five. Because these erroneous damages figures must be weighed against the clear benefits to some individuals of the challenged conduct, Dr. Chipty's inflated (or deflated) damages estimates likely would cause many individuals to be incorrectly identified as experiencing net harm when they experienced net benefit.

117. Resolving these incorrect assignments to geographic RAs requires the identification of the correct geographic RA for each small group at each timeframe during the damages period. Doing so requires individual inquiry.

(d) Disparate impact caused by the erroneous assignment of damages to large group members

118. Dr. Chipty does not present a damages calculation specific to large group members of the putative class. In a footnote in her declaration, Dr. Chipty explains that the assignment of damages to members of large group plans would not rely on ACA-defined RAs.[121] Instead, it is

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120 Deposition of Chris Mathewson (hereinafter "Mathewson Dep..") at 77:17-78:14. Consider the following example that explains why this assignment of class members to RAs likely causes Dr. Chipty's attribution of any damages to be incorrect. Assume that in 2010, a small group plan member lived in Berkeley but worked in San Francisco. If the plan member paid an overcharge of $1000 on a hospital visit near their home in Berkeley, Dr. Chipty's method would attribute that $1000 overcharge to ACA-defined RA 4 (San Francisco) when it should be attributed to an insurance-carrier defined RA that includes Berkeley.

121 Chipty Decl., n. 273.

my understanding that Dr. Chipty intends to assign large-group damages uniformly across large groups by member location[122]—*i.e.*, Dr. Chipty assumes all large group members of the putative class experienced common impact within 3-digit zip codes.[123]

119. Dr. Chipty's proposed damages methodology for large groups has several flaws.

120. First, and most important, many large groups are experience rated, which means large group premiums may vary for any reason that causes one group's expected healthcare costs to differ from another. Hence, the weighing of benefits and harms and the assignment of damages to large groups requires individual inquiry.[124]

121. Second, even for large groups that are not experience rated, Dr. Chipty's choice to ignore large groups' demographic compositions is problematic because, as I explain in Section VI.C.3, there are no limitations on how large groups can be priced with regard to, for example, age, gender, or benefit design.[125]

122. Third, Dr. Chipty's proposed methodology appears to falsely assume that all large group members that live in the same 3-digit zip-code experience the same damages.[126] However, a given large group's premiums typically are influenced by the geographic footprint of the

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[122] Chipty Dep. at 558:20-559:4 ("[M]y methodology offers is a reasonable approximation of the average harm to a large group employer, however that's split between the employees and the employer, because of the testimony and the -- the actuarial opinions that the business line as a whole would have to recover the increased medical expenses. And so I . . . stop there because I think, at least as an average approach, it's correct.").

[123] Chipty Decl. at 88 n. 273 ("large group plan members attached to a three-digit zip code area based on where the plan member resides").

[124] Indeed, within large group, at least one court has distinguished large national employers as having a unique set of characteristics and needs that drive their individual purchasing processes and decisions. *U.S. v. Anthem, Inc.*, 236 F. Supp. 3d 171 (2017). Large national employers typically hire consultants and other knowledgeable advisors to engage in sophisticated negotiations relating to the premiums they will pay and the mix of benefit and services they will obtain. *See id.* at 196. These negotiations would need to be individually analyzed to determine whether and how, if at all, the challenged conduct impacted premiums.

[125] For example, [redacted]. Tsui Dep. at 35:24-36-4.

[126] *See, e.g.*, Chipty Decl., ¶¶ 139-144 and n. 273.

group.[127] Hence, a particular large group member's premiums may have little to do with the average large group member premium in the 3-digit zip-code where she lives if most of the other members of her large group live in other 3-digit zip-codes.

123. Dr. Chipty appears to understand that, all else being equal, large group premiums are influenced by the entire geographic footprint of the group, and thus may significantly vary across large group members in the same 3-digit zip-code. For example, Dr. Chipty explains that:

> If a large group has employees residing in multiple rating areas, the premium would reflect the blended area cost factors. For example, if a large employer had 100 employees residing in Los Angeles and 200 residing in San Francisco, the employer's manual rating would be based on the weighted average (one-third, two-thirds) of the Los Angeles' (sic) rating factor and the San Francisco's (sic) rating factor. [128]

124. An extension of Dr. Chipty's example explains the effect of the flaw in her geographic allocation of damages to large group members. Assume there are two large groups. Large Group 1 is the group described by Dr. Chipty in her example above. Large Group 2 also has 300 employees, 200 of which reside in Los Angeles and 100 of which reside in San Francisco. Both Large Group employers are located in San Francisco. Dr. Chipty's method assumes that only the

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127 *See, e.g.*, Beuoy Dep. at 183:14-20; s*ee also* Travis Decl. ¶¶ 89-96 (explaining how the weighted average for location of subscribers affects the manual rate of a group).

128 Chipty Decl., ¶ 28 (internal footnotes omitted). David Axene, Plaintiffs' actuarial expert, also agreed with this point. Deposition of David Axene (hereinafter "Axene Dep..") at 136:13-137:20.

[redacted]

300 large group plan members that live in San Francisco potentially were harmed by the challenged conduct because patients that live in and seek care in Los Angeles are not part of the putative class.[129] As Dr. Chipty notes, the effect of a hospital price increase in San Francisco would increase the cost of serving the groups in proportion to the share of patients that they have in San Francisco. Hence, damages to the affected members of Large Group 2 should be one-half the size of the damages to the affected members of Large Group 1.[130] However, Dr. Chipty's method of distributing damages to large group putative class members would incorrectly force damages to the affected members of both large groups to be the same.

125. Given the flexibility that insurance carriers have when pricing to large group employers, there is no justification for Dr. Chipty's assumption that members of different large groups would experience uniform damages just because they live in the same RA. And because Sutter is of little importance to some large groups (such as those who have few employees in Northern California), it is unlikely that these large groups have experienced any harm due to the challenged conduct.

126. In sum, determining which large groups did not experience harm requires individual inquiry to determine each large group's geographic footprint and hospital system preferences.

D. CONCLUSIONS: THE PROPOSED CLASS IS INVALID AND REQUIRES INDIVIDUALIZED INQUIRY

127. Dr. Chipty's proposed damages calculation results in disparate impacts. Individual inquiries are required to assess accurate damages for the following reasons:

- The challenged conduct did not harm (and likely benefited) many class members that live close to Sutter hospitals or place a high value on Sutter.

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129 Chipty Dep. at 555:17-23.

130 For example, assume that overcharges are $100 per discharge and damages hospitals account for 30 percent of the commercial discharges in the San Francisco geographic rating area. Assume further that cost pass-through is $\frac{1}{3}$. The damages to Large Group 1 are $100 * 0.30 * \frac{1}{3} * \frac{1}{3} =$ $3.33, while the damages to Large Group 2 are $100 * 0.30 * \frac{1}{3} * \frac{2}{3} = \$6.67$. *See also* Travis Decl. ¶ 93.

- The challenged conduct likely did not harm many class members whose employers paid their premiums.
- Pass-through and Sutter utilization rates varied across members of the purported class. Individual inquiries are required to determine the net impact on each member because the size of the benefit to the member depends on the utilization of Sutter by the member and any harm to the member depends on the pass-through and utilization rates associated with the member's cohort.
- Small group and individual plan members were assigned to inconsistent geographic RAs, and large group members were assigned without regard to actual geographic footprints, demographic compositions, and health experience. Individual inquiries are required to determine the appropriate cohort for each member of the purported class for each year 2008-2017.

V. PLAINTIFFS' TYING AND ANTI-STEERING CLAIMS RELY ON AN INVALID MARKET DEFINITION FOR HOSPITAL SERVICES

A. THE ROLE OF MARKET DEFINITION IN THE ALLEGED TYING CLAIMS

128. Anticompetitive tying is unlikely if the alleged tying seller does not have significant market power in the relevant market for the alleged tying product.[131] Hence, whether the seller has market power in the relevant market for the alleged tying product is a threshold matter in assessing the competitive effects of a tying claim. Properly defined markets are also a threshold

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131 *See, e.g.,* Carlton, D.W., and M. Waldman, "Robert Bork's Contributions to Antitrust Perspectives on Tying Behavior," *Journal of Law and Economics*, 57, 2014, S121-S144 at S126-7. ("As discussed above, the first part of Bork's argument is that there cannot be an antitrust violation if the tying firm does not have market power in the market for the tying good. In general, this claim is regarded as noncontroversial[.]") *See also, e.g.,* Areeda, P.E., and H. Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, 3rd Ed., 2018, ¶1734 at ¶1734b3, and Ahlborn, C., D.S. Evans, and A.J. Padilla, "The Antitrust Economics of Tying: A Fairwell to Per Se Illegality," *The Antitrust Bulletin*, Spring-Summer 2004, 287-341 at 331.

matter in certifying an antitrust damages class because without properly defined relevant markets it is unclear what are the relevant damages and to whom they should be assigned.

129. A relevant market for antitrust purposes most often has two components: a relevant *product* market, and a relevant *geographic* market.[132] Broadly speaking, the relevant product market consists of the set of products that consumers (here, commercial health plan enrollees) view as reasonably interchangeable, *i.e.*, as reasonably close substitutes for one another. Similarly, the relevant geographic market consists of a region within which consumers (here, commercial health plan enrollees) view different sellers within the region as reasonably interchangeable, or reasonably close substitutes for one another. The tying market in a valid tying claim is the relevant product and geographic market for the tying product.

130. A commonly used measure of market power in tying cases is the tying seller's market share in the relevant market. Other factors equal, this share is higher the smaller the set of products and the smaller the geographic area that together comprise the relevant tying market. Generally, the greater the tying seller's market power in the relevant tying market, the greater the scope for anticompetitive effects from tying.

131. In sum, market definition is important for determining whether anticompetitive tying is possible. Hence, errors in market definition in an analysis of alleged tying can lead to errors in concluding that harm occurred and in identifying the size of any procompetitive and anticompetitive effects experienced by customers.

B. PLAINTIFFS' MARKET DEFINITION AND ITS TWO MAJOR FLAWS

132. Plaintiffs claim that the sale of inpatient hospital services to commercial insurance carriers is a relevant product market.[133] I do not agree with this claim. The problem with this claim is that it assumes without rigorous analysis that vertically integrated providers of hospital and insurance services like Kaiser do not compete significantly with unintegrated hospitals

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132 *Horizontal Merger Guidelines*, § 4.

133 Complaint, ¶ 47.

systems like Sutter.[134] This assumption is contradicted by economic analysis and reasoning, and empirical and documentary evidence. It is also inconsistent with past antitrust precedent.[135]

133. Plaintiffs also claim that hospital service areas ("HSAs") defined in the Dartmouth Atlas of Health Care constitute relevant geographic markets for inpatient hospital services. I also do not agree with this claim. I agree with Professor Gowrisankaran that the problem with this claim is that geographic areas represented by Dartmouth Atlas HSAs were not intended to be relevant antitrust markets and are typically too small—in many cases, far too small—to constitute relevant geographic markets for inpatient hospital services.[136]

1. Plaintiffs' product market definition ignores competition with Sutter's most important competitor—Kaiser

134. The Plaintiffs' product market excludes the largest hospital system in Northern California – Kaiser Permanente ("Kaiser"). Plaintiffs' Complaint cites no analysis or evidence establishing or even suggesting that Kaiser should be excluded from the relevant product market. Rather, they simply make the following flawed assertion:

> [T]he other large hospital system located in Northern California – Kaiser Permanente – does not participate in the relevant markets, as it does not offer to contract with non-Kaiser health plans. Rather, Kaiser only contracts with Kaiser's affiliated health insurance plans. Kaiser thus fails to constrain Sutter Health's pricing leverage over the various health plans purchasing Inpatient Hospital Services in the referenced HSAs.[137]

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134 The Complaint simply asserts that Kaiser is not in the relevant product market (*see, e.g.*, Complaint, ¶ 32).

135 In *California v. Sutter Health System*, "[t]he parties agree[d] that the proper product market consists of the cluster of services comprising acute inpatient care, including the services provided by Kaiser hospitals." *See* 130 F.Supp.2d 1109 (2001) *State of CALIFORNIA, Plaintiff, v. SUTTER HEALTH SYSTEM, Alta Bates Medical Center, and Summit Medical Center, Defendants.* United States District Court, N.D. California. January 29, 2001. In that case, the Court rejected the State of California's motion for a preliminary injunction to block Sutter's proposed acquisition of Summit Medical Center.

136 Gowrisankaran Decl. at, *e.g.*, ¶ 57.

137 Complaint, n. 1 and ¶ 32.

135. Dr. Chipty also concludes from a cursory characterization that inpatient hospital services provided by Kaiser and Sutter Health are not in the same relevant product market.[138] Dr. Chipty's argument is that Kaiser does not constrain Sutter's prices because Kaiser is a vertically-integrated "closed system" and as a result, Kaiser and Sutter do not compete for inclusion in health plan networks or for patients when they are enrolled in a health plan. Dr. Chipty also contends that, because Kaiser is a "closed system," when members choose Kaiser, Sutter loses the ability to attract those members and thus has no incentive to lower its prices or improve its quality to attract them.[139] Dr. Chipty misrepresents the importance of Kaiser to healthcare competition in Northern California and ignores the substantial evidence produced in this case demonstrating that Kaiser and Sutter vigorously compete against one another for the provision of acute inpatient hospital services to patients who are enrolled in commercial health plans.

136. As a threshold matter, the fact that Kaiser is a closed system alone is *not* a valid basis for excluding Kaiser from the relevant product market. As explained in the Horizontal Merger Guidelines: "[v]ertically integrated firms are also [considered market participants] to the extent that their inclusion accurately reflects their competitive significance."[140] The question is whether Kaiser is a competitive constraint on Sutter. As summarized below, evidence clearly demonstrates that Kaiser is a major competitive constraint on both Sutter (and other healthcare providers) and insurance carriers.

137. Evidence shows that throughout Northern California, Kaiser and Sutter compete for patients across many dimensions including price, access, integrated and quality care, and scope of services. Dr. Chipty argues, however, that [redacted].[141] She ignores that, to the extent

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138 Chipty Decl., ¶¶ 16-18; *see also* Chipty Market Definition Decl., ¶¶ 28-29, 141-142.

139 *Id.*

140 Horizontal Merger Guidelines (2010), § 5.1. (WILLIG_000292-WILLIG_000293).

141 Chipty Decl., ¶ 17, quoting The [redacted], DEF000877866-907, at 886.

that members are locked-in to using Kaiser, they are only locked-in during the one-year enrollment period. Sutter and the insurance carriers attempt to attract those members away from Kaiser during the open enrollment period. And as [redacted]. Sutter competed to attract those enrollees.

138. Plaintiffs acknowledge that Kaiser and Sutter compete against each other. Indeed, the implicit premise of plaintiff's claim in this case is that, if Sutter were to lower price or enhance quality, insurance carriers likely would pass this on to their insured patient populations in the form of lower prices or higher quality networks and take business from Kaiser. In fact, Sutter and several health plans, including [redacted] and United, developed specific products with lower price points to compete with Kaiser.[143] Similarly, if Kaiser were to lower its prices or enhance its quality, it would take business from insurance carriers that offer healthcare networks

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142 *Id.* At 880.

143 Brendt Dep., Aug. 22, 2018, at 161:25-163:25 (explaining that Sutter and United created an HMO product to "go after Kaiser business."); Brendt Dep., June 12, 2018, 131:20-132:6 (indicating that in discussions with HealthNet regarding underwriting rules, Sutter "wanted to make sure that we were focused on a competitive product that could compete with Kaiser primarily…"); Brendt Dep., June 13, 2018, at 823:20-825:19 (explaining that Sutter was willing to give a [redacted] discount to HealthNet in order to include East Bay Sutter affiliates into a narrow network "[f]or volume… to encourage volume at a price point that felt competitive to Kaiser."); *see also* Brendt Dep., July 30, 2018, at 299:9-21 (further discussing the [redacted] discount to HealthNet for "a competitive product to Kaiser."); Brendt Dep., June 12, 2018, at 118:18-119:8 (indicating that Sutter was "hoping to have in the end a product that patients will want to come to us instead of to Kaiser" in reference to a potential expansion of a narrow network with HealthNet.); July 30, 2018 Brendt Dep. at 193:16-194: 19 (in reference to the [redacted] discount Sutter offered to Blue Shield and City of San Francisco Brendt explained "[w]e had seen a lot of lives move away from us to Kaiser. We wanted an opportunity to get some of those lives back and stop the attrition to Kaiser."); Brendt Dep., July 30, 2018, at 342:12-343:10 (recalling "collaborative discussions" with HealthNet regarding the PremierCare product and stating "the goal is to attract that [patient] growth, hopefully, from Kaiser."); Brendt Dep., Aug. 28, 2018, at 46:8-23 (a "goal" of the PremierCare product with HealthNet was "for patients [to] come to us from plans like Kaiser" and that Kaiser was "considered a target.").

that include Sutter hospitals and thereby take business from Sutter.[144] As the Guidelines instruct, if the competitive interaction between Sutter and Kaiser is significant, Kaiser should be included in the relevant markets for analyzing the challenged conduct. Indeed, Kaiser competes with other insurance carriers that have Sutter in their networks in two ways: (i) to be chosen for inclusion in an employer's health plan offerings, and (ii) for new enrollees when both plans are included in the employer's offering.[145]

139. Dr. Chipty acknowledged that insurance carriers that include Sutter in their networks compete with Kaiser to attract members. Indeed, when asked whether Kaiser, Blue Shield, and Anthem compete for enrollees, she testified that "[t]hat's correct."[146] Dr. Chipty also acknowledges that Sutter competes for patient business by offering hospital prices that allow its insurance carriers to compete for enrollees. [redacted]

[redacted][147]

[redacted][148]

140. And at deposition, Dr. Chipty acknowledged that Sutter competes with Kaiser. When asked in her deposition how Sutter factors in Kaiser in negotiations with insurance carriers, she testified that "to compete against Kaiser, [insurance carriers] would like to pursue strategies of

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144 *See* Wells Dep. at 373:21-374:9 (". . . I think in general Kaiser throughout the state is a [formidable] competitor for all non-Kaiser health plans. . . .")

145 *See, e.g.,* Feeney Dep. at 102:24-103:1 (describing how Johnson Pool and Spa offered both Kaiser and Blue Shield health insurance plans to employees from 2008 through 2015).

146 Chipty Dep. at 427:6-10.

147 Chipty Decl., ¶ 72, [redacted] DEF000877866-907, at 892.

148 *Id.*

offering narrow, more efficient provider networks, exactly in the way that Sutter seems to have started to do with PremiereCare."[149] When asked whether Sutter's contract negotiator, Melissa Brendt, took Kaiser into account when negotiating rates, Dr. Chipty testified "I would expect that she did."[150] When asked whether she analyzed how Sutter's managed care department considers Kaiser rates with insurance carriers, Dr. Chipty said she didn't analyze this explicitly but did so "implicitly in the sense that I am aware that a product like PremiereCare is part of [Sutter's] strategy to lower prices to compete with Kaiser."[151] Yet, despite Dr. Chipty's repeated recognition that Sutter competes with Kaiser, she excluded Kaiser from her analysis.[152]

141. Consistent with this understanding of how hospital competition works, the evidence contradicts Plaintiffs' assumption that Kaiser is an insignificant constraint on Sutter.

(a) Evidence from data

142. The Plaintiffs' assertion that Kaiser is not a significant competitor to Sutter is also contradicted by data. Plaintiffs concede that Kaiser is the "other large hospital system in

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149 Chipty Dep. at 460:18-25, 461:1-5 ("Q. And with respect to the individuals who negotiated the contract rates with health insurance plans, how did they factor Kaiser in those negotiations? A. Again, specifically, I – I can't speak to that except that I have seen in – you know, from Melissa Brendt's perspective, but I have seen evidence from other health plan executives explaining that, to compete against Kaiser, they would like to pursue strategies of offering narrow, more efficient provider networks, exactly in the way that Sutter seems to have started to do with PremiereCare.").

150 Chipty Dep. at 467:2-5 ("Q. Do you know whether Ms. Brendt, in negotiating HMO rates with health insurance plans, took Kaiser into account? A. I would expect that she did.").

151 Chipty Dep. at 462:3-15 ("Q. With respect to the work you did in examining managed-care departments at Sutter's negotiations with the health insurance plans, did you analyze how the managed-care department considers Kaiser's HMO rates in negotiating the HMO premiums -- or the rates -- the HMO rates with health insurance carriers? A. Not explicitly, no. Q. Did you do it implicitly? A. I think I did do it implicitly in the sense that I am aware that a product like PremiereCare is part of their strategy to lower prices to compete with Kaiser.").

152 Chipty Dep. at 468:2-5. ("Q. But you, Dr. Chipty, excluded Kaiser from your model, correct? A. That's correct. This is an analysis of the non-Kaiser hospital prices."). Mr. Axene also admitted that Kaiser is a competitor to the health plans. Axene Dep., at 230:14-18. ("Q. And when Kaiser draws employees members away from other health plans such as Blue Shield that puts competitive pleasure on Blue Shield to reduce its rates? A. Yes.").

northern California."[153] As Table 5 shows, Kaiser is significant in nearly every area that is relevant to the Plaintiffs' Complaint. In fact, Kaiser (and not the relevant Sutter hospital) draws more patients from the primary service area ("PSA") of 12 of the 15 Sutter hospitals that are listed in the Complaint.[154]

Table 5: Kaiser Share in Sutter Hospitals' 75% Draw Areas

Hospital Name	Plaintiffs' Market Type	Share of Sutter Hospital in its Draw Area	Share of Kaiser in Sutter Hospital Draw Area	Hospital System with Larger Share in Sutter Hospital Draw Area*
Alta Bates Med Ctr - Ashby Campus	Tying	22.1%	45.6%	Kaiser
Alta Bates Med Ctr - Summit Campus	Tying	7.6%	47.4%	Kaiser
Alta Bates Med Ctr - Combined Ashby and Summit	Tying	29.5%	45.7%	Kaiser
Sutter Amador Hospital	Tying	27.3%	18.7%	Sutter
Sutter Auburn Faith Hospital	Tying	9.7%	26.0%	Kaiser
Sutter Coast Hospital	Tying	68.5%	0.7%	Sutter
Sutter Davis Hospital	Tying	4.5%	41.6%	Kaiser
Sutter Delta Med Ctr	Tying	16.3%	50.9%	Kaiser
Sutter Lakeside Hospital	Tying	30.6%	7.3%	Sutter
Sutter Tracy Community Hospital	Tying	24.3%	41.1%	Kaiser
CPMC - Davies Campus	Tied	1.5%	36.3%	Kaiser
CPMC - Pacific Campus	Tied	24.5%	29.8%	Kaiser
CPMC - St. Luke's Campus	Tied	5.1%	32.1%	Kaiser
Memorial Med Ctr	Tied	25.2%	28.5%	Kaiser
Sutter Med Ctr, Sacramento	Tied	14.0%	38.8%	Kaiser
Sutter Santa Rosa Regional Hospital	Tied	17.1%	51.1%	Kaiser

Source: OSHPD discharge data (2016)

Notes:

Restricted to commercial acute-care patients in valid zip codes. Excludes DRGs 795, 998, and 999, and MDCs 0, 19, and 20

*Excludes shares of other Sutter hospitals with patients from the Draw Area

143. Recent empirical work on hospital and health insurance pricing also indicates that Kaiser is an important competitor for insurance carriers and hospitals that are not vertically integrated.

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153 Complaint at n. 1 and ¶32.

154 I refer to the zipcodes from which a Sutter hospital draws 75% of its patients as the hospital's "primary draw area." For all but one of the Sutter hospitals in Plaintiffs' alleged tying and tied markets, other hospitals (including Kaiser) draw more patients from the Sutter primary draw area than the hospital itself.

Using data from the California Public Employees Retirement System ("CalPERS"), Ho and Lee (2017) estimate a model of hospital and insurance pricing for insurance plans offered by Blue Shield, Blue Cross, and Kaiser.[155] Their estimates allow for studying the impact on premiums, enrollment, and hospital surplus of removing one of the insurance carriers from the menu of health plans offered by a benefits manager to potential enrollees (patients). They compare the effects on Blue Shield premiums and enrollment of removing Kaiser with the effects on these factors of removing Blue Cross. They find that removing Kaiser has a bigger effect on Blue Shield's premiums and enrollment than removing Blue Cross. This indicates that Kaiser—an integrated healthcare provider—is a more significant competitor to Blue Shield in Northern California than is Blue Cross, and because unintegrated hospitals compete for patients by putting unintegrated insurance carriers in a position to compete for insurance business, it also indicates that Sutter faces vigorous competition from Kaiser.

144. Ho and Lee also examine the impact of removing Kaiser on the profitability of unintegrated hospitals.[156] They find that the variable profits of the unintegrated hospitals rises by 70% when Kaiser is removed "due both to increases in prices and to their new admissions of former Kaiser enrollees."[157] This evidence confirms the substantial competition that Sutter—the largest unintegrated hospital system in California—faces from Kaiser.

(b) Evidence from documents

145. Second, the Plaintiffs' assertion that Kaiser is not a significant competitor to Sutter is contradicted by documentary evidence.

146. Industry reports and public documents indicate that competition between Sutter and Kaiser is substantial. For example, Becker's Hospital Review lists competition between Kaiser

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155 *See* Ho, K. and R. Lee, "Insurer Competition in Health Care Markets," *Econometrica* 85, no. 2 (2017): 379-417.

156 *Id.*

157 *Id*. at 410; *see* also DEF002066129 ("[redacted]").

and Sutter as one of "10 of the biggest rivalries in healthcare."[158] And a 2014 article in Fortune Magazine observes that "Sutter has been losing market share to Kaiser Permanente and was worried about the emergence of other competitors."[159]

(1) *Sutter Documents*

147. Dr. Chipty claims that "evidence from Sutter itself shows that Kaiser does not constrain Sutter's ability to raise prices to non-Kaiser health plans."[160] Her primary support is a document attributed to Robert Reed, Sutter's Chief Financial Officer.[161] [redacted].[162]

158 "10 of the Biggest Rivalries in Healthcare," *Becker's Hospital Review* (July 15, 2014), (WILLIG_000312-WILLIG_000323).

159 Pfeffer, Jeffrey, "Why Health Insurance Companies are Doomed," Fortune Magazine (October 20, 2014), (WILLIG_000324-WILLIG_000332).

160 Chipty Market Definition Decl., ¶ 141.

161 Chipty Dep. at 453:24-454:7 ("Q. Okay. With respect to Sutter, beyond Exhibit 15, do you rely on any other evidence that Kaiser did not discipline Sutter's contracted rates? A. So -- so not explicitly.· This -- this is the most direct evidence that I -- I think I have. This is in combination with Reed's testimony describing what he ultimately did as a result of his analysis here.").

162 DEF001993646 at DEF001993770-774

148. [redacted].[163] [redacted][164] [redacted].[165]

149. A Sutter Health internal memorandum titled [redacted][166] [redacted][167] The memo raises two "thought questions," the first of which

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163 DEF001993646 at DEF001993777.

164 DEF001993730. [redacted]

165 DEF001993646 at DEF001993700 ([redacted]); DEF001545014 ([redacted]); DEF001546126 ([redacted]); STCA0720226 ([redacted]).

166 DEF001993700.

167 *Id.*

[redacted][168]

150. [redacted][169] [redacted][170] [redacted]

- [redacted][171]

151. The body of this same presentation includes many references to Kaiser. For example:

- [redacted]
- [redacted][172]
- [redacted][173]

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168 *Id.*

169 DEF001993701-DEF001993739.

170 DEF001993703.

171 DEF001993704.

172 DEF001993730 (emphasis added).

173 DEF001993732.

152. The conclusion slide of the presentation states:

- [redacted] [174]
- [redacted] [175]
- [redacted] [176]
- [redacted] [177]

153. Sutter's competitive strategy discussions focus on competition they face from Kaiser. For example:

- [redacted] [178] [redacted]
- [redacted] [179] [redacted]

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174 DEF001993734.

175 *Id.*

176 DEF001993736.

177 DEF001993739.

178 DEF001993770.

179 "Sutter Unveils Name of New Health Plan," Sutter Health (June 6, 2013) (WILLIG_000334-WILLIG_000336).

[redacted][180]

- A Sutter document titled [redacted][181] [redacted][182]
- A 2007 memo from then-Sutter President & CEO Pat Fry titled [redacted][183]
- A 2013 presentation given by Bob Reed titled [redacted][184]
- A 2007 presentation titled [redacted][185]

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180 DEF001993797.

181 DEF001993777.

182 *Id.*

183 DEF001545014 and DEF001545015 at 024.

184 DEF001366744 at 759.

185 DEF004281024.

- A 2007 draft document titled [redacted][186]
- A 2006 memo titled [redacted][187]

(2) *Kaiser Documents*

154. Likewise, Kaiser documents note that [redacted]

- [redacted]
- [redacted]
- [redacted][190]

186 DEF001546126 at 137.

187 STCA0720226 at 246.

188 KAISER0054698 at 721, 723.

189 KAISER0054698 at 729, 731.

190 KAISER0054698 at 733.

- [redacted]

[redacted] titors"[192]

155. In another document, on a slide titled "[redacted]

[redacted][193]

156. In addition to these Kaiser and Sutter documents, there are extensive documents from insurance carriers that indicate robust competition between non-Kaiser providers and Kaiser.[194]

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191 KAISER0054698 at 737.

192 KAISER0054698 at 741.

193 KAISER0056272 at 19.

194 *See*, *e.g.*, BSC_UFCW-00049155 ("Kaiser: growing mutual threat" and "Kaiser Foundation Health Plan influence continues to grow"); UHC-005096190 [redacted] ABCLH134277 ("Kaiser continues to grow share and expand facilities. Recently opened new facility in Orange County and are threatening Large Group HMO membership in that market.").

Finally, deposition witnesses from both Sutter[195] and third parties[196] testified that Sutter and non-Kaiser hospitals compete with Kaiser.[197]

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195 *See, e.g.*, Deposition of James Conforti (hereinafter "Conforti Dep.") at 206:1-23 ("I think we compete with Kaiser across every dimension possible . . . . There's nothing they do that we don't compete with."); *id.* at 212:16-213:16 ("All we can do is make sure that we're delivering the most efficient and the highest quality and safest care for our patients, and that should translate into a more cost effective and competitive premium against Kaiser's offerings in the marketplace either through our own health plan or through [other health plans]."); *id.,* 261:1-17 ("[W]e compete with Kaiser with our own health plan, Sutter Health Plus, and with our health plan partners . . . . We compete with Kaiser amongst many other dimensions for many other services, health care services . . . .We compete with them for physicians and physician recruitment. We compete with them for workforce and nursing recruitment. We compete along pretty much every dimension and pretty much every geography that we are located and that they are located across Northern California."); Chason Dep., May 25, 2018, at 599:5-23 ("[T]he intent of the whole product was to compete directly with Kaiser and to try to have products that were priced and had features that would be attractive to -- to draw in Kaiser membership."); Gerard Dep., at 493:10-18 ("I believe that our . . . strongest competitor throughout the Bay Area, including Palo Alto, is Kaiser Permanente."); *id.* at 300:1-10 ("I believe that patients looking for providers look at the physicians in the hospitals that they want to receive their care from. And through that process, they compete heavily between our providers and Kaiser's providers and others, and they choose a network that allows them primarily to access their provider system that they are interested in."); Deposition of Phil Jackson (hereinafter "Jackson Dep.") at 127:12-20 ("I call out Kaiser because Kaiser is the dominant commercial HMO in Northern California. . . . Our base price is really a community-based rate that puts us in a competitive position primarily relative to Kaiser. [redacted]"); Deposition of Ezekiel Tasabia (hereinafter "Tasabia Dep.") at 175:6-176:23 ("[D]oes Sutter consider Kaiser to be a competitor for the provision of inpatient hospital services? A. Absolutely. . . . [Insurance carriers] want prices to stay in competition with -- with Kaiser. So they would like our rate increases to be, obviously, very minimal so that you can, essentially, compete in terms on price with it Kaiser. So, yeah, at every level, Kaiser is on the forefront of everyone's mind, both the provider and the health plan."). Brendt Dep., June 12, 2018, at 112:8-113:4 (explaining that when Sutter competes for inclusion in an insurer network it wants the product to "be competitive with Kaiser…[w]e want it to be competitive enough to make sure our providers are actually going to have access to patients…"); *id.* at 127:15-128:5 [redacted]); Brendt Dep., Aug. 8, 2018 at 256:3-23 (when evaluating opportunities with insurers Sutter looks at "attracting new net patients, whether that was from Kaiser or whether that was patients that were seeing other providers.").

196 *See*, *e.g.*, Deposition of Janet Widmann (hereinafter "Widmann Dep.") at 224:6-225:13 (former senior executive of Blue Shield testifying, "Q. . . . [redacted]

[redacted] Cain Dep. at 92:1-9 ("Q. And in order to effectively compete with Kaiser and try to draw that business away, United would have to offer rates with its products that were competitive with Kaiser; correct? A. I think that's a correct statement. [L]ike any business, you have to be aware of what your own cost basis is, generally, and it would make no sense for us to go win Kaiser business if we can't support it financially."); *id.* at 136:24-137:18 ("So I think that was the emphasis behind creating Alliance, was to partner with Sutter, highlight Sutter's network . . . and to see if we could put a dent in Kaiser, from a new business perspective, and possibly stop losing business to Kaiser."). Markovich Dep. at 151:23-152:3 ("Our health plan competitors would be Anthem, Blue Cross, Kaiser, Permanente -- or Kaiser. Permanente is the physician group. So the health United, Aetna, Cigna, Centene, Humana. There's -- there's others, but those would be the larger ones."); *id.* at 152:11-14 ("You mentioned Kaiser. Does Blue Shield -- in your tenure at Blue Shield, does Blue Shield evaluate its performance versus Kaiser? A. Yes."); *id.* at 153:9-19 [redacted]; *id.* at 156:3-14 [redacted]; *id.* at 157:18-158:10 ("[redacted].

197 *See*, *e.g.*, Lundbye Dep., May 15, 2018, at 105:4-25 ("Q. Does United try to keep its HMO rates low so as to compete with Kaiser? A. Yes. . . . 16 Q. Does United urge Sutter to lower its rates? Or has United urged Sutter to lower its rates to enable United's products to compete effectively against Kaiser? A. Yes. Q. They have done that, for example, for the Signature Value Alliance product? A. Yes. Q. And that was developed so as to specifically -- to compete with Kaiser; correct? A. Correct.); Cain Dep. at 137:13-18 ("So I think that was the emphasis behind creating Alliance, was to partner with Sutter, highlight Sutter's network . . . and to see if we could put a dent in Kaiser, from a new business perspective, and possibly stop losing business to Kaiser."); Conforti Dep. at 206:18-21("I think we compete with Kaiser across every dimension possible . . . . There's nothing they do that we don't compete with.").

157. Blue Shield's Chief Executive Officer, Paul Markovich, explained that Blue Shield [redacted].[198] Juan Davila one of the senior executives at Blue Shield, explained that Blue Shield talked [redacted].[199] He noted that "[redacted].[200] He explained that Kaiser constrains the prices Blue Shield can charge for its HMO network. He testified:

Q. . . . [redacted]

A. [redacted]

Q. . . . [redacted]

A. [redacted][201]

Similarly, Janet Lundbye of United testified:

[redacted]

198 Markovich Dep. at 156:3-5.

199 Davila Dep. at 138:12-16.

200 *Id.* at 138:23-139:2.

201 *Id.* at 139:12-140:10.

[redacted].[202]

And:

[redacted].[203]

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202 Lundbye Dep., May 15, 2018, at 105:4-106:7.

203 *Id*. at 167:2-15.

158. These are just a few examples of testimony from insurance carriers and others that Kaiser constrains Sutter's prices.

(c) Product Market Conclusion

159. As a matter of economics and in keeping with the Horizontal Merger Guidelines, Kaiser should be included as a competitor in the relevant product market if employers and other patient groups view its services as reasonably interchangeable with hospital services from Sutter and other unintegrated hospitals.[204] A test that antitrust authorities frequently use to establish reasonable interchangeability and define relevant markets is known as the "hypothetical monopolist test."[205] That test applied to product market definition in this case would ask whether a hypothetical monopolist over the sale of inpatient hospital services to commercial health plans could profitably raise price by a small but significant and non-transitory amount (a "SSNIP"). If so, that would mean that integrated providers of insured healthcare like Kaiser would not constrain such a price increase, which would mean that hospital services from Kaiser and the others are not reasonably interchangeable. But if a SSNIP were unprofitable because the hypothetical monopolist would lose too many patients to Kaiser, that would mean that Kaiser and the other hospital services are reasonably interchangeable and should thus be included in the relevant market.

160. The laser focus of Sutter on Kaiser as an important, if not its most important, competitor (as well as Kaiser's own similar views, and the views of numerous third parties) indicates that if Sutter could merge with Kaiser or set prices jointly with Kaiser, it would find it profitable to raise price by a SSNIP. I conclude that Plaintiffs' putative relevant markets that exclude Kaiser as a competitor—are not valid.

2. **Plaintiffs' geographic markets are too narrow**

161. I have reviewed Professor Gowrisankaran's Declaration on this matter which discusses at length the issue of geographic market definition.[206] Professor Gowrisankaran concludes that

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204 *Horizontal Merger Guidelines*, § 4.1.1 (WILLIG_000285-WILLIG_000287).

205 *Id.*

206 Gowrisankaran Declaration.

HSAs do not constitute relevant geographic markets for inpatient hospital services. I join him in this conclusion.

C. THE PLAINTIFFS' ANTI-STEERING CLAIM RELIES ON THE SAME MARKET DEFINITION ERRORS COMMITTED IN ITS TYING CLAIM

162. For their anti-steering claims, Plaintiffs assert the same erroneous relevant markets upon which they base their tying claims. Neither the Plaintiffs nor their experts propose different markets for their anti-steering claims.[207] In fact, the Complaint links directly their anti-steering claims to their tying claims and by extension the relevant markets upon which their tying claims depend.[208] Hence, for the reasons given in Section V.B, the relevant markets that underpin the Plaintiffs' allegations regarding Sutter's so-called anti-steering contract provisions are invalid.

D. IMPLICATIONS OF THE ERRORS IN PLAINTIFFS' FLAWED MARKET DEFINITIONS

163. Put simply, a tying claim requires one or more tying markets within which the alleged bad-actor has substantial market power, as well as a set of tied markets that are the source of the extension of market-power-based harm. The Plaintiffs' monopolization claim is based on high shares in eight putative tying markets, including an absurd claim that Sutter has a 100 percent share in seven of those putative markets. The evidence presented in Section V.B shows that these claims are invalid. Without a set of valid antitrust markets, the Plaintiffs cannot properly define a class in this case and are left without a valid antitrust theory of harm.

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207 I note that Dr. Chipty diverges from the Complaint on the relevant geographic market for Sutter Davis Hospital. The Complaint claims Sutter Davis Hospital competes in a "Tying" market that is defined by the Davis HSA. (Complaint, ¶ 59) Dr. Chipty defines a relevant geographic market within which Sutter Davis hospital competes to be Sutter Davis Hospital's 90 percent primary service area. (Chipty Market Definition Decl., § VI.H)

208 Complaint, ¶ 7.

VI. THE GEOGRAPHIC MARKETS FOR INSURANCE RELIED UPON BY THE PLAINTIFFS ARE INAPPROPRIATE FOR THE VAST MAJORITY OF THE CLASS

164. The Complaint asserts that "markets for the sale of commercial health insurance to subscribers are roughly congruent with the boundaries of Geographic Rating Areas ('RAs')."[209] The Complaint goes on to identify nine RAs as relevant geographic markets—RAs 1-6 and RAs 8-10.[210] The Complaint asserts that the boundaries of the class are defined by the boundaries of these nine RAs.[211] Finally, Dr. Chipty relies on these nine RAs to define the geographic footprint of different "cohorts" of putative class members (where a cohort consists of individuals or small groups in a given year in a given RA) for the purpose of calculating and assigning damages. She uses the cohort to cluster and define a common group of purported class members when determining damages.

165. In this section, I explain why the RAs relied upon by the Plaintiffs to define the relevant geographic markets for commercial insurance and to define the geographic boundaries of cohorts for the purpose of damage calculations are inappropriate for most class members. The ACA-defined RAs that Plaintiffs rely on are relevant only for a select group of customers that purchased fully insured individual or small group health plans since January 2014. Hence, the RAs that define the class were irrelevant for the vast majority of the class period.[212] Moreover, these RAs are irrelevant for the pricing of large group plans as well as several grandfathered individual and small group plans for the entire class period.

166. It is critical for Dr. Chipty's damages analysis to define cohorts properly. If she assumes a cohort contains a common group of people such that damages can be uniformly determined, but in reality there is not commonality across the cohort, the determination of damages would be flawed. In this section, I show that ACA-defined RAs are improper cohorts for the vast majority

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209 Complaint, ¶ 74.

210 Complaint, ¶¶ 77-85.

211 Complaint, ¶ 113.

212 Understanding Premium Rating Under the Affordable Care Act (ACA), CalCPA Health (WILLIG_000337-WILLIG_000341).

of the class period, and that Dr. Chipty's estimates of the harm to patients that could occur from the alleged Sutter overcharges are wrong.

A. RAs ARE INAPPROPRIATE FOR INDIVIDUALS AND SMALL GROUPS PRIOR TO JANUARY 2014

167. Prior to January 2014, insurance carriers were under no legal obligation to price individual health insurance plans similarly within an RA. Indeed, there were "[n]o restrictions on carrier rates except for specific rating rules that apply in special guaranteed issue programs."[213] Hence, the RAs cited by the Plaintiffs in defining the class had no direct connection to the premiums paid by members of the putative class that purchased an individual health plan prior to January 2014.

168. Prior to January 2014, insurance carriers were under no legal obligation to price small group health insurance plans similarly within the ACA-defined RAs. California law prescribed the manner in which insurers could draw rating areas for plans offered to small employers, but these rules did not prescribe areas that approximated ACA-defined RAs.[214]

169. [redacted].[215]

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213 *See, e.g.*, WILLIG_000270.

214 California Health and Safety Code Section 1357 (WILLIG_000342-WILLIG_000347) (Small employer plans that operate statewide "shall use no more than nine geographic regions in the state, have no regions smaller than an area in which the first three digits of all its ZIP Codes are in common within a county, and divide no county into more than two regions." A plan was determined to be statewide "if their coverage area includes 90% or more of the state's population." Small employer plans that do not operate statewide "shall use no more than the number of geographic regions in the state that is determined by the following formula: the population, as determined in the last federal census, of all counties that are included in their entirety in a plan's service area divided by the total population of the state, as determined in the last federal census, multiplied by nine. The resulting number shall be rounded to the nearest whole integer. No region may be smaller than an area in which the first three digits of all its ZIP Codes are in common within a county and no county may be divided into more than two regions.").

215 Mathewson Dep. at 77:17-78:14.

premium by the location of their employer, but, before the ACA, small group plan members were assigned to geographic RAs based on their residence.[216] Dr. Chipty incorrectly assigns damages to small group plan members based on employer location for the entire damages period.[217]

170. Since January 2014, some individual and small group plans have continued to operate outside of the pricing regulations set forth by the ACA, including the use of the ACA-defined RAs. That is, some plans, and their pricing methodologies, were grandfathered. For example, in 2015, Blue Shield of CA submitted a filing to the California Department of Insurance that asked for permission to implement an average premium increase of 8-9% for an individual PPO plan that utilized nine rating areas for purposes of premium setting.[218] And in 2017, Anthem submitted a filing to the DOI that asked for approval to implement an average 15.6% premium increase on a set of small group PPO plans that used only seven rating areas for premium setting.[219] Under the ACA, plans equivalent to these plans would have needed to submit rate plans for all 19 ACA-defined RAs as opposed to the self-defined subset of geographic areas for which they submitted rates. [220]

171. Further, even for those small group employers that now have ACA compliant plans, many delayed implementation of those plans after until January 2014. California passed SB 1446 that allowed small group employers to renew non-ACA small group throughout 2014 and referred to those plans as "grandmothered."[221]

172. The Chipty Declaration acknowledges that the ACA-defined rating areas were not relevant prior to January 2014, but Dr. Chipty's damages calculations still force the estimated

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216 *Id.*

217 Chipty Decl., ¶ 139, n. 273.

218 Filing at a Glance for Blue Shield of CA (WILLIG_000348-WILLIG_000512).

219 Filing at a Glance for Anthem Blue Cross (WILLIG_000513-WILLIG_000851).

220 "Market Rating Reforms," Centers for Medicare & Medicaid Services (WILLIG_000852-WILLIG_000854).

221 *See e.g.*, Hitchings Dep. at 132:19-135:2 and Ex. 5229 and 151:4-5 (indicating that the Blue Shield "grandmothered book [of business] had a huge large membership.").

premium increases to be uniform within the ACA-defined ratings areas for small groups and individuals for the entire damages period. She claims that "[t]he use of rating areas established under the Affordable Care Act is appropriate because 'the rating factors used today for particular areas in California are quite similar to those used prior to the implementation of the ACA.'"[222] I show below that this claim is false, and I show that using the appropriate rating areas would significantly change the damages calculations in the Chipty Declaration. Importantly, the implied differences vary significantly across members of the proposed class.

B. RAs ARE IRRELEVANT TO LARGE GROUPS

173. The RAs cited by the Complaint do not have a direct influence on premium setting for large group plans that started before January 2017, and for large group plans that started on or after January 2017, RAs are relevant only if such coverage is available through the Affordable Insurance Exchange.[223] Dr. Chipty acknowledges that the ACA-defined RAs are not relevant for large groups.[224] Moreover, Dr. Chipty's proposed damages methodology does not use the ACA-defined RAs to allocate damages to putative class members in large group insurance plans. The "rating areas" Dr. Chipty proposes to use to calculate damages for large group plan members are three-digit zip-codes.[225]

174. However, Dr. Chipty still uses the ACA-defined RAs to identify members of the class that are in large group health plans.[226] This is odd. The entire point of defining the class by ACA-defined RA is that, by statute, premiums must exhibit some uniformity within these RAs and thus, even though some class members are not located near a Sutter hospital, they plausibly

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222 Chipty Decl., n. 271. The internal quotation is a citation by Dr. Chipty to Axene Decl., ¶ 49. Axene also agreed that prior to the ACA, health plans could set their own ratings areas. Axene Dep. at 167:23-168:1 ("Q. And you recall earlier you testified that prior to the ACA, each of the health plans could set their own ratings areas, correct? A. Correct.").

223 Overview: Final Rule for Health Insurance Market Reforms, Centers for Medicare & Medicaid Services (WILLIG_000855-WILLIG_000860 at 000855).

224 *See, e.g.*, Chipty Decl., n. 271.

225 Chipty Decl., n. 273.

226 *Id*.

could be adversely affected by the alleged increases in Sutter's prices.[227] But Dr. Chipty's methodology explicitly acknowledges that ACA-defined RAs are not relevant for large group plan members. As I show below, Dr. Chipty's damages methodology indicates that many members of the putative class in large group plans were not harmed by the challenged conduct.

C. RELEVANT GEOGRAPHIC MARKETS FOR THE SALE OF COMMERCIAL INSURANCE VARY SIGNIFICANTLY ACROSS CLASS MEMBERS

175. This section explains how relevant regulations and facts about how insurance premiums typically are set cause geographic markets for members of various groups to vary significantly.

1. ACA-defined RAs plausibly correspond to relevant geographic markets for at most a select few members of the putative class – members that purchased non-grandfathered small group and individual plans since January 2014

176. As noted above, since January 2014, the ACA has required all non-grandfathered or grandfathered plans that are sold to small groups and individuals to be rated based on 19 specific geographic regions, including the 9 RAs the Plaintiffs claim are relevant geographic markets for the sale of commercial insurance. According to the ACA, health plans cannot vary premiums based on geography within these RAs.[228] Hence, since January 2014, the 9 RAs used by the Plaintiffs to define the putative class impose some uniformity in pricing for small groups and individuals that are not members of grandfathered health plans that have retained their pre-ACA geographic RAs.[229] Hence, it is plausible that the RAs defined by the ACA define relevant markets for the sale of commercial insurance where they apply, but only for the time period since January 2014.

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227 Complaint, ¶¶ 74-76.

228 LaLande Dep. at 37:21-38:6.

229 Grandfathered plans were first developed before the ACA was passed (March 23, 2010). Under certain conditions, grandfathered plans are permitted to enroll new members after the ACA was passed. Grandfathered health insurance plans, HealthCare.gov (WILLIG_000861-WILLIG_000865).

2. Prior to January 2014, relevant geographic markets for small group and individual insurance products plausibly were defined by geographic areas that varied in size and location across insurance carriers and over time

177. Prior to January 2014, rates for small group and individual plans were not regulated by the nine ACA-defined RAs that define the class. California had regulations for small group plans that placed certain limits on the size of geographic areas over which premiums could vary, but insurance carriers had significant discretion in defining RAs that allowed them to be either smaller or larger than the ACA-defined RAs. For example, in 2007 United's Pacificare of California Small Employer Group Product had nine geographic RAs, one of which was composed of six non-contiguous counties and two of which were each half of Los Angeles County.[230] Contrary to the claims of Plaintiffs' experts,[231] most of the plan-specific geographic RAs associated with this plan do not approximate ACA-defined RAs.[232]

178. One cannot apply the same logic to the pre-ACA RAs that I apply above to the ACA-defined RAs, because the pre-ACA RAs can differ across insurance carriers and over time.[233] Importantly, unlike the ACA-defined RAs that are fixed, the pre-ACA RAs may change with competition.[234] Hence, while it is unclear that these flexible pre-ACA RAs constitute relevant geographic markets, it is clear that these geographic areas can differ across insurance carriers and over time and that they do not align with the ACA-defined RAs upon which the Plaintiffs rely.[235]

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230 LaLande Dep., Ex. 79 (UHC_Sidibe-0000664).

231 Chipty Decl., n. 271; Axene Decl., ¶ 49.

232 LaLande Dep., Ex. 79. [redacted] (Wine Country), 3 (Greater Sacramento), 4 (San Francisco), 9 (Monterey Bay), and 10 (Central Valley North).)

233 *See, e.g.*, Mathewson Dep. Ex. 1278 (Sidibe_ABC_0139551) at -562-4 (showing Anthem's intention to change geographic rating areas for several plans).

234 *See e.g.*, Hitchings Dep., at 76:1-4 ([redacted].

235 As I described in Section VI.A, prior to the ACA small group plan members were assigned to geographic RAs based on their residence; since the ACA small group plan members have been assigned to geographic RAs based on the location of their employer.

As I explain in Section IV.C.2, Dr. Chipty's failure to correctly assign putative class members to geographic rating areas causes her to incorrectly estimate damages to the vast majority of the members of the putative class.

3. Relevant geographic markets for large group insurance products plausibly are defined by the footprints of large groups which vary widely in location and size

179. It is my understanding that pricing in large group insurance plans is under no geographic restriction. It also is my understanding that plans sold to large group employers can be underwritten based on the medical claims experiences of the group, and thus large groups also could be properly considered targeted customers. The appropriate geographic market for the sale of commercial insurance to targeted large groups is based on the geographic footprint of the residences of the group's membership.

VII. EMPIRICAL EVIDENCE INDICATES THAT SUTTER'S PRICES ARE NOT HIGHER THAN THEY WOULD HAVE BEEN IN THE ABSENCE OF THE CHALLENGED CONDUCT

180. This section shows that Dr. Chipty's proposed method to estimate impact is flawed and incapable of estimating damages on a class-wide basis. After correcting some of the flaws in Dr. Chipty's overcharge estimation, I show that prices at the alleged damages hospitals are not higher than comparable hospitals and thus that insurance premiums have not increased as a result of the challenged conduct.

A. DR. CHIPTY'S REGRESSIONS ARE FLAWED AND INFLATE ESTIMATED OVERCHARGES

181. Dr. Chipty employs a "benchmark" methodology where she attempts to compare prices at seven Sutter hospitals to prices at a set of benchmark non-Sutter hospitals.[236] The seven Sutter hospitals are Alta Bates-Main, Alta Bates-Summit, Sutter Sacramento, CPMC-Main, CPMC-St.

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[236] Chipty Decl., § VII.

Luke's, Sutter Santa Rosa, and Sutter Modesto.[237] Dr. Chipty refers to these as "damages" hospitals.[238]

182. [redacted][239] Dr. Chipty then uses her regression model to estimate the amount of overcharges at those hospitals.[240]

183. Dr. Chipty's econometric methodology suffers from several important flaws that invalidate her estimates of impact and damages. This section describes the flaws in Dr. Chipty's econometric methodology and demonstrates the extent to which it inflates Dr. Chipty's estimates of overcharges.

184. In sum, Dr. Chipty's econometric methodology includes the following flaws:

- Contrary to generally accepted methods for comparing hospital prices when discharge level data is available,[241] Dr. Chipty compares aggregate prices at the hospital-year level rather than comparing prices at the discharge level (that is, the level at which patients are charged for the inpatient hospital services they receive). Comparing aggregated inpatient hospital prices masks variation in prices and leads to wrong and misleading results.
- Dr. Chipty implicitly assumes that the ratio of a hospital's price to DRG (Diagnosis-Related Group) weight is constant, meaning the average DRG-weight deflated price is equal across DRGs within a hospital, and she assumes the ratio of price to DRG weight is

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237 Chipty Decl., § X.A.

238 Chipty Decl., Ex. C1.

239 Chipty Decl, § VII.

240 *See, e.g.*, Chipty Decl, Exhibit 14A.

241 *See, e.g.,* Thompson, A., "The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction," *International Journal of the Economics of Business*, 18(1), 2011; Haas-Wilson, D. and C. Garmon, "Hospital Mergers and Competitive Effects: Two Retrospective Analyses," *International Journal of the Economics of Business*, 18(1), 2011, 17-32; Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237; and Melnick, G., and E. Keeler, "The Effects of Multi-Hospital Systems on Hospital Prices," *Journal of Health Economics*, 26, 2007, 400-413.

constant across hospitals conditional on a narrow set of observed hospital-specific variables. That is, Dr. Chipty assumes that the ratio of a hospital price to a measure of resource utilization developed by CMS (DRG-weight) is the same across all of a hospital's visits. I show that this assumption is false and thus that Dr. Chipty's regressions are incorrectly specified, which causes her estimates to be biased. Moreover, such a strict assumption is unnecessary with discharge-level data that allow her to estimate a relationship where the ratio of price to DRG-weight varies across DRGs and hospitals.

- Dr. Chipty acknowledges that controlling properly for the influence of competition on pricing is necessary to separate the effect of the challenged conduct from pricing that would have occurred otherwise. However, she includes an inadequate and unreliable control for "differences in the competitive landscape."[242] Dr. Chipty includes a variable that counts the number of hospitals within a 30-minute drive of the relevant hospital to control for the effect of competition on prices. As a threshold matter, she fails to control for the presence of Kaiser. Putting that aside, her method treats all hospitals as having the same competitive impact on a given hospital, regardless of the hospital's size, scope of services, and distance from that hospital. For example, her method considers a 30-bed hospital that is a 25-minute drive from the hospital of interest to have the same competitive impact as a 600-bed hospital with a trauma unit that is right across the street.[243] There are standard measures of market concentration that are used by healthcare economists to control for the influence of competition. In fact, Dr. Chipty

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242 Chipty Decl., ¶ 99.

243 According to Dr. Chipty, there were 10 competitors within 30 minutes driving time of St. Francis Medical Center in 2011, including Laguna Honda Hospital & Rehab Center (10 beds) and Chinese Hospital (54 beds). Dr. Chipty's method assumes that these two hospitals exert the same competitive constraint on St. Francis as UCSF Medical Center, which has 660 beds. Chipty Decl., Ex. C3.

used one such standard measure in a regression in her backup materials. When that measure is used, Dr. Chipty's "overcharge" estimates are significantly reduced.[244]

- Dr. Chipty also excludes from her analysis myriad explanatory variables that are standard in hospital pricing analyses. As Dr. Chipty acknowledges,[245] to properly evaluate the impact of the challenged conduct on hospital prices, one must distinguish the challenged conduct from other factors that may explain Sutter's prices.[246] Hospitals provide differentiated services, and a given hospital's prices may be higher because it has higher costs or because it is more appealing to patients (*e.g.*, it has a convenient location, it offers specialized services, or it offers higher clinical quality). Economists who conduct hospital pricing studies recognize this and have developed control variables, including inpatient discharge-level control variables, that are designed to capture a hospital's higher cost and quality.[247] Adjusting Dr. Chipty's model to include a more robust and generally accepted set of control variables reduces the implied overcharges significantly.

185. The remainder of this section details the errors in Dr. Chipty's analysis. Before doing so, I note that it is important for an economist to perform sanity checks on econometric findings. Sophisticated econometric techniques when properly deployed isolate and measure the effect of explanatory variables. However, econometrics also can provide unreliable and meaningless

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244 Chipty Decl., Chipty Workpapers, "Overcharge Robustness Checks."

245 Chipty Decl, § VII.

246 *See, e.g.*, American Bar Association, *Proving Antitrust Damages Legal and Economic Issues* 148 (3d ed. 2017) ("Mistakenly excluding important explanatory variables in an attempt at simplicity, on the other hand, can result in an omitted variable bias and misinterpretation of estimated results."); *id*. at 149 ("In general, one should be more concerned with avoiding bias than with improving precision. That is, it is better to be on average right though imprecise, than to be precisely wrong. For these reasons, it is in general better to include more variables than fewer.").

247 *See, e.g.,* Thompson, A., "The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction," *International Journal of the Economics of Business*, 18(1), 2011; Haas-Wilson, D. and C. Garmon, "Hospital Mergers and Competitive Effects: Two Retrospective Analyses," *International Journal of the Economics of Business*, 18(1), 2011, 17-32; Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237; and Melnick, G., and E. Keeler, "The Effects of Multi-Hospital Systems on Hospital Prices," *Journal of Health Economics*, 26, 2007, 400-413.

results when regression equations are misspecified or data are unreliable. Dr. Chipty's estimation results exhibit patterns that indicate they are unreliable.

186. First, Dr. Chipty's overcharge estimates from her regression are inconsistent with her comparison of case-mix adjusted prices. Before estimating overcharges using regression analysis, Dr. Chipty compares Sutter's case-mix adjusted prices to the prices of benchmark hospitals without including any controls for differences across hospitals. The variables Dr. Chipty includes in her regression analysis are meant to control for factors such as higher costs or greater size and sophistication that may explain why some hospitals have higher prices than others in the absence of any anticompetitive conduct.[248] Given my understanding that the Sutter damages hospitals generally are large and sophisticated, I would expect Dr. Chipty's regression estimates to reduce estimated overcharges at the Sutter damages hospitals relative to simple comparisons of case-mix adjusted prices between the damages hospitals and benchmark hospitals. [redacted] The direction, and especially the magnitude, of these differences do not make sense.

[248] Chipty Decl, ¶ 98.

Figure 3: Chipty Declaration, Exhibits 11 and 14A

[redacted]

187. In addition, Dr. Chipty should have considered the size of her estimated overcharges and their patterns over time to analyze whether the results were reliable and sensible. Dr. Chipty's results also fail in this regard. [redacted] Dr. Chipty provides no explanation for these patterns in the data; she does not present contract changes, cost changes, or quality changes that could explain such extreme changes in overcharges.

188. As a final sanity check, Dr. Chipty had the unique opportunity to compare her estimates with those of other experts that have attempted to estimate overcharges for the challenged conduct. [redacted].[249] These estimates are much higher than the estimates of any other expert who has evaluated the challenged conduct. For example, in the UFCW case, Plaintiff's Expert, Dr. Jeffrey Leitzinger,

[249] Chipty Decl., Exhibit 14B.

estimated that Sutter's hospital prices were approximately [redacted] than non-Sutter hospitals and estimated approximately [redacted] in damages for inpatient *and* outpatient services for the time period 2003 to 2016.[250] Further, "overcharges on outpatient services would be about twice as high (as a percentage of revenue) as the overcharge associated with inpatient services."[251] By comparison, Dr. Chipty estimates that inpatient prices were more than [redacted] than benchmark hospitals' and estimates approximately [redacted] in damages for inpatient services only for the period 2008 to 2017. In other words, Dr. Chipty estimates damages that are [redacted]. This large disparity between Dr. Chipty's estimates and Dr. Leitzinger's estimates, in combination with the large disparity between estimates based on simple averages and Dr. Chipty's regression that I discussed above, indicates Dr. Chipty's damages model is flawed. But when Dr. Chipty was asked about the estimates of other experts at her deposition, she said she read them but did not try to reconcile them and ultimately put zero weight on them.[252]

1. Dr. Chipty's improperly compares highly aggregated average prices, which causes biased overcharge estimates [253]

189. Prices differ across type of inpatient hospital procedure. For example, a common inpatient hospital procedure such as a normal childbirth will have a different price than a less

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250 Corrected Expert Decl. Jeffrey J. Leitzinger, Ph.D., ¶¶ 70-71 (Mar. 14, 2017).

251 Reply Expert Decl. Jeffrey J. Leitzinger, Ph.D., ¶ 48 (May 25, 2017).

252 Chipty Dep. at 597:25-598:9 ("Q. He opines, as we saw, that the overcharge was roughly [redacted], and your overcharge is significantly higher. Who is right? . . . Deponent: Well, my inclination would be that I am right."); and Chipty Dep. at 596:2-10 ("Q: Who is right in terms of the overcharge percentage? A: So I did not design or – or endorse or comment upon [the other experts'] analyses. I put forward an opinion that I think is reasonable and reliable. I did not seek out a method to match Dr. Leitzinger's."); Chipty Dep. at 597:8-17 ("So I – I did not ignore [Dr. Leitzinger's] opinion. I just did not put weight on it because I did not create this work, and I don't stand by it, what was done in this report. There were design decisions that were made that are very different from design decisions that I've made. Q: So you put zero weight on Dr. Leitzinger's report? A: ·As well as Dr. Guerin-Calvert's, yes.").

253 Dr. Chipty also performs an analysis of OSHPD data which she claims shows Sutter increased prices after 2002. (Chipty Report, ¶ VI.D.) My lack of a detailed response to this analysis does not reflect agreement with Dr. Chipty's results or the inferences she draws from them. Dr.

common, more complex inpatient hospital procedure involving neonatal care or cardiac surgery. Inpatient procedures are collected into DRGs for purposes of pricing. DRGs often are used to describe an inpatient hospital stay.

190. Dr. Chipty has access to detailed claims data from commercial payers, which show the amounts paid for individual hospital stays for particular services—e.g., the amount paid for an OB visit at CPMC. However, Dr. Chipty does not compare the prices of inpatient visits. Instead, for both her comparison of case-mixed adjusted prices reflected in her Exhibit 11 and her overcharge regression, Dr. Chipty aggregates prices up to the hospital-year level of aggregation. Hence, Dr. Chipty's analysis throws away much of the information in these data by collapsing hundreds of thousands of commercial claims down to fewer than one thousand hospital-year average prices. That is, the data Dr. Chipty uses to estimate her regression equations include *only one* price per hospital per year even though prices vary widely across DRGs and inpatient discharges.[254]

191. When detailed claims data are available from insurance carriers, as they are in this case, researchers typically analyze prices at a much lower level of aggregation—e.g., DRG or inpatient discharge.[255] The reason for this is that detailed claims data allow the researcher to account for as many factors as possible that may cause differences in hospital prices other than the event or conduct being studied. In the case of hospital prices for inpatient stays, there are many

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Chipty's analysis of OSHPD data is unreliable for a number of reasons, including: (i) OSHPD data do not include a measure of the relevant price, (ii) OSHPD data does not separate inpatient and outpatient revenues, and (iii) OSHPD data is highly aggregated and thus does not allow for the type of detailed analysis of price that is required to perform a reliable comparison of prices across hospitals. In addition to these issues, Dr. Chipty's analysis of OSHPD data is subject to many of the criticisms that I make in this section of Dr. Chipty's analysis of claims data.

254 Chipty Decl., Ex. 13.

255 *See, e.g.,* Thompson, A., "The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction," *International Journal of the Economics of Business*, 18(1), 2011; Haas-Wilson, D. and C. Garmon, "Hospital Mergers and Competitive Effects: Two Retrospective Analyses," *International Journal of the Economics of Business*, 18(1), 2011, 17-32; Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237; and Melnick, G., and E. Keeler, "The Effects of Multi-Hospital Systems on Hospital Prices," *Journal of Health Economics*, 26, 2007, 400-413.

differences across DRGs and discharges, both across hospitals and within a given hospital, that affect prices. It is possible to control for these differences in inpatient discharge-level data; it is not possible to control for all of these differences using Dr. Chipty's approach of aggregating claims data to the hospital-year level.

192. Dr. Chipty's justification for aggregating the available claims data to the hospital-year level of aggregation was that prices at lower levels of aggregation are noisy.[256] Ironically, as discussed above, Dr. Chipty's overcharge estimates using her aggregated approach are extremely noisy. Moreover, avoiding noise is one justification given in the literature for *not* aggregating data to the hospital level, and instead studying pricing at a lower level of aggregation as I do in Section VII.B.[257]

193. Aggregation of the data to the hospital-year level causes at least two problems with Dr. Chipty's estimates.

194. First, aggregation to the hospital-year level combines a wide range of services with tremendous variation that is observed at a lower level of aggregation—*e.g.* by type of inpatient stay or procedure—and risks concluding that a hospital is higher-priced simply because that hospital provides *more* higher-priced services than benchmark hospitals. For example, Dr. Chipty's 2010 average price for Stanford University Hospital includes more than 800 claims for more than 275 DRGs. Examples of these DRGs include DRG 343, "An appendectomy without complicated principal diagnosis or major complications," which has an average price of approximately $6,000; and DRG 470, "Major hip and knee joint replacement or reattachment of lower extremity without major complications," which has an average price of approximately $35,000. The hospital's average price is dependent on both the price of these procedures and number of procedures performed. Two hospitals with identical prices for each procedure can

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256 Chipty Dep. at 563. ("Q. Did you conduct any analyses of trying to estimate price at the DRG level, at the admissions level? A. I did not. Q. Okay. And why not? A. Because I think it's a very noisy thing to do.").

257 *See, e.g.*, Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237 at 216 ("This approach has been used by Lynk (1995) who argues that DRG-level prices should have much less noise than aggregate hospital-level prices[.]").

have different case-mix adjusted average prices due to differences in patient volumes for procedures. By evaluating prices at the hospital-year level of aggregation, Dr. Chipty is masking observed price differences across DRGs both within and across hospitals. Dr. Chipty makes a crude attempt to account for these differences by deflating hospital prices by DRG weights, but as I show in the next section, this method assumes a particular relationship between price and DRG weight that is rejected by data on hospital prices.

195. Consider the following example that explains why aggregation can cause bias due to differences in product mix across hospitals. Hospital 1 and hospital 2 each charge a case-mix-adjusted price of $100 for procedure 1 and $200 for procedure 2. Hospital 1 performs procedure 1 100 times and procedure 2 200 times, while hospital 2 performs procedure 1 200 times and procedure 2 100 times. Dr. Chipty's analysis would compute hospital 1's case-mix adjusted average price to be $166.67 and hospital 2's case-mix-adjusted average price to be $133.33. Hence, even though hospitals 1 and 2 have identical prices for procedures 1 and 2, Dr. Chipty's analysis would assume hospital 1's case-mix-adjusted average price is 25 percent higher than hospital 2's case-mix adjusted average price.[258]

196. Second, there are differences across hospitals in costs, quality, and market conditions that affect prices—aggregating prices to a hospital-year level will place more weight on hospitals that are dissimilar from Sutter (small hospitals) than a regression conducted at the discharge level would. Dr. Chipty includes some observed hospital and market characteristics in her regression equations in an attempt to account for differences across hospitals. However, as I discuss further below, because Dr. Chipty includes hospitals that significantly differ from Sutter hospitals in her control group, it is more likely that the included control variables will be inadequate to account for the differences. For example, in her comparison of hospital-year prices, Dr. Chipty assigns equal weight to the average price at a 16-bed critical access hospital as she does to the average price at the 660-bed UCSF Medical Center. Because a small 16-bed hospital is unlikely to offer

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258 The claim could be made that hospital 1 is higher priced because it has a greater volume of procedures that are high priced relative to their case mix, but this claim rests on the ability of case weighting to capture the proportionate relationship in resource use between more and less intensive procedures. I show below that CMS case weights do not accurately capture this relationship. Furthermore, from the point of view of any patient or class member seeking care the two hospitals have the same price.

the range of services of larger hospitals, it is not appropriate to weight such hospitals equally in an analysis that purports to explain prices for comparison with relevant Sutter hospitals.

197. Comparisons across hospitals that vary significantly in size and sophistication likely reveal price differences that have nothing to do with the challenged conduct. Offering a broad array of services, particularly high-end services, requires the maintenance of the equipment and personnel necessary to perform those services. This tends to increase costs and quality at larger, more sophisticated hospitals, both of which tend to increase prices at such facilities, even for primary and secondary care that could be performed at any hospital. Dr. Chipty's aggregation choice exacerbates the impact of such price differences by weighting hospitals that are smaller and less sophisticated than Sutter hospitals equally to large hospitals that are closer matches for Sutter hospitals. Although a discharge-level analysis also may not fully account for differences in prices caused by the relatively high cost and high quality of care at large, sophisticated hospitals, the problem is mitigated relative to a hospital-level analysis because larger, more sophisticated hospitals have many more discharges than smaller, less sophisticated hospitals, and thus larger, more sophisticated hospitals will receive greater weight in a discharge-level regression analysis than they would in Dr. Chipty's hospital-level regression analysis.

198. One way to investigate whether Dr. Chipty's aggregation decision and choice of control variables are valid is to estimate overcharges using less aggregated prices—*e.g.,* prices for an inpatient discharge such as a vaginal delivery without complicating diagnoses. If Dr. Chipty's control variables are sufficient to control for differences across hospitals at her chosen level of aggregation, overcharge estimates should be similar when using the same data at an inpatient, discharge-level of aggregation. Significantly different estimates, on the other hand, indicate flaws in Dr. Chipty's approach. The regression results presented in Section VII.B below are based on discharge-level data and include the additional discharge-level control variables that I describe below. The changes I implement lead to significantly different overcharge estimates than Dr. Chipty's estimates, which indicates that Dr. Chipty's regression estimates are unreliable.

2. Dr. Chipty's incorrect accounting for price differences across inpatient procedures biases overcharge estimates

199. Dr. Chipty makes a crude attempt to control for price differences across DRGs. Dr. Chipty explains that "[b]ecause the complexity of hospital services varies both across hospitals

and over time, I calculate an average case-mix adjusted allowed amount or hospital price, for each hospital and year, by: (a) calculating the sum of allowed amount paid [redacted] to each hospital, for inpatient claims occurring at the hospital; and (b) dividing that by the sum of Diagnosis Related Group ("DRG") weights associated with the hospital's claims."[259] However, deflating prices by DRG weights, as Dr. Chipty does, is unnecessary given the data available to her, and it causes her results to be unreliable.

200. Contracts between hospitals and insurance carriers reveal several reasons why the relationship between price and DRG-weight is not constant as Dr. Chipty posits it to be. For example, hospital services are sometimes paid on a per diem, percent of charges, or case-rate basis that does not imply a relationship to DRG-weight.[260] Moreover, other contract terms such as stop-loss may bind and render the relationship between an inpatient visit and a case rate irrelevant.[261] Also, the pricing methodology between insurance carriers and providers varied across insurance carriers and over time.[262]

201. Data show that the ratio of the price of an inpatient stay and DRG-weight is not constant as Dr. Chipty assumes. Figure 4 plots observed average (log) prices against (log) DRG-weight for each unique DRG-year combination at four hospitals from 2009-2012.[263] If the ratio of price to DRG-weight were constant, the dots in the figure would be on or near the diagonal line that is drawn from the lower left-hand corner to the upper right-hand corner of the figure. However, not only are many of the dots far away from the diagonal line, but the relationship between DRG-weight and price is not consistent across DRGs within a hospital, (*i.e.* the ratio of price to DRG-weight is relatively high for some DRGs and relatively low for others), and the relationships

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259 Chipty Decl., ¶ 77.

260 *See*, *e.g.*, AETNA00031621, AETNA00033251; ADVENT0000099; UHC-00063408, UHC-00065727, UHC-00066330, UHC-00066689, UHC-00062082, UHC-00062105; *see also* Brendt Decl. ¶¶ 16-33.

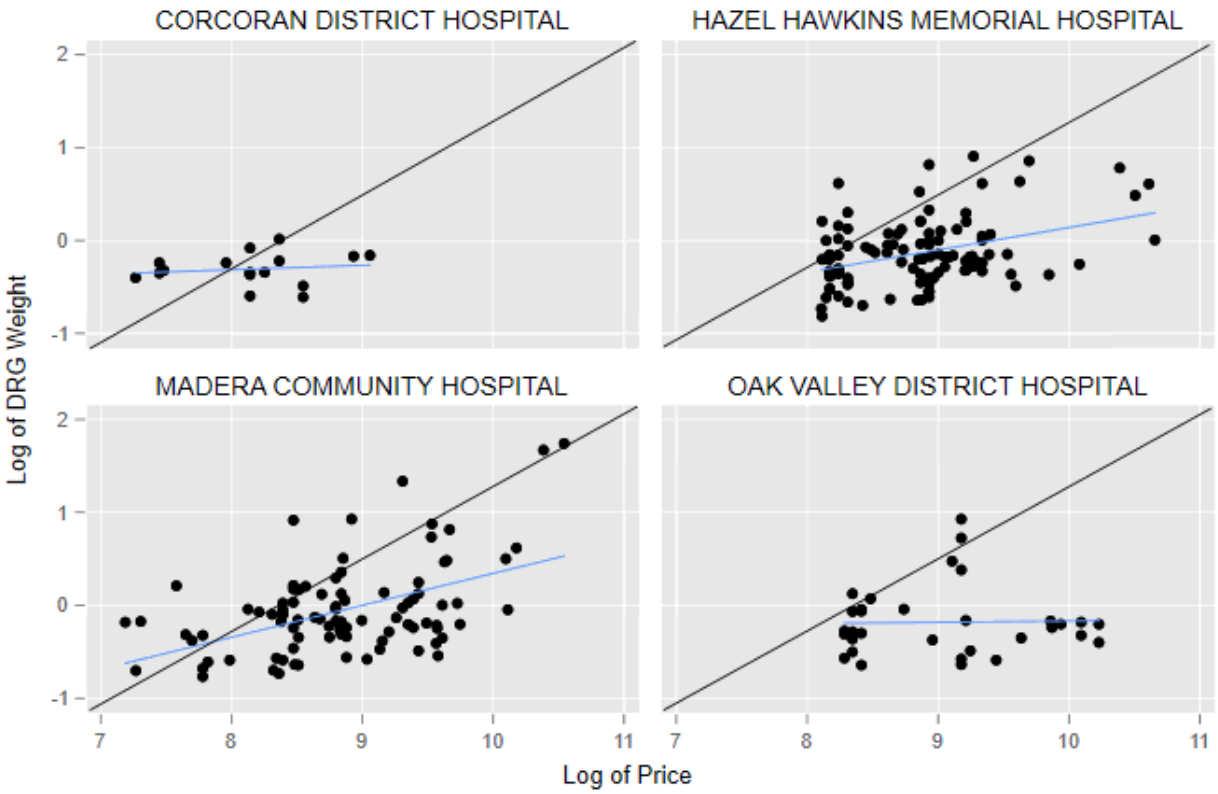
261 *Id*.

262 *See,* Brendt Decl. ¶¶ 16-33.

263 In my backup files, similar figures are provided for every hospital included as a part of Dr. Chipty's study. *See* WILLIG 00001.

between specific DRGs and price are not consistent across hospitals, (*i.e.* the ratio of price to DRG-weight for a specific DRG differs across hospitals).

Figure 4: The Empirical Relationship Between Price and DRG-Weight



202. Table 6 presents the results of a statistical analysis that shows that Dr. Chipty's assumption—that the ratio of the price of an inpatient hospital stay to DRG-weight is constant—is untrue. The table reports the empirical relationship between all non-Sutter hospital prices and DRG-weights in [redacted] using Dr. Chipty's model but allowing the ratio of price to DRG-weight to vary. If the ratio of price to DRG-weight was constant across the population of control hospitals, the estimated coefficient on the "Log of DRG Weight" in the table would be one, and the coefficient on the "Log of DRG Weight Squared" would be zero. The table shows that the data statistically reject the empirical relationship that would support Dr. Chipty's assumption.

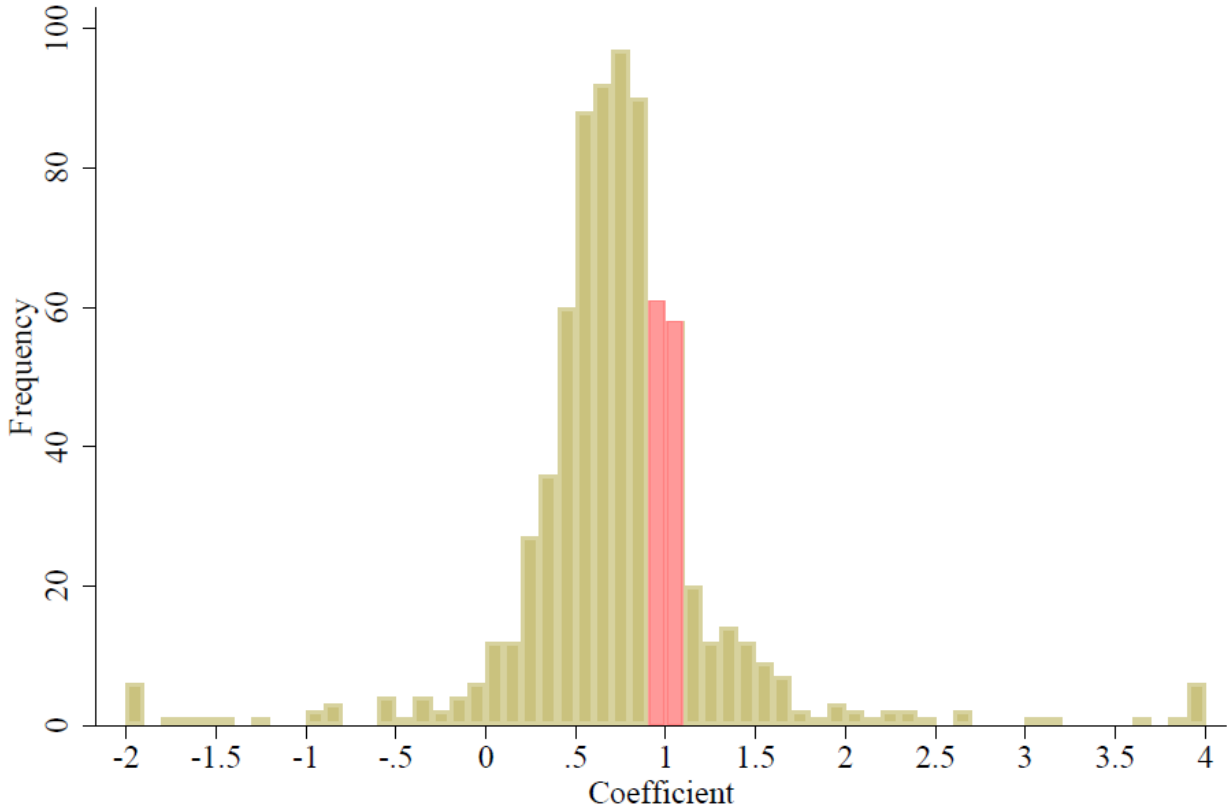
Table 6: Statistical Analysis Rejects Dr. Chipty's Assumption That the Ratio of Price to DRG-Weight is Constant and Equal to One

Variable	Coefficients (1)	(2)
[redacted]		

203. It might be argued that Table 6 does not provide definitive evidence that the ratio of hospital prices to DRG-weight is not constant because prices and the mix of services could vary across hospitals in ways that would make the ratio of price to DRG-weight constant within each hospital. However, Figure 5 and Figure 6 show that the relationship between hospital prices and DRG-weights varies widely across hospital-year combinations.[264] Figure 5 shows the distribution of the effects of the DRG-weight on price (both measured in logs), and Figure 6 shows the distribution of the effects of the square of log DRG-weight on log price. If the ratio of price to DRG-weight was approximately constant across hospitals as Dr. Chipty assumed, the distribution in Figure 5 should be tightly grouped around one, and the distribution in Figure 6 should be tightly grouped around zero. Values close to the values that Dr. Chipty assumed to be true are shown in red on both Figures.

[264] In order to construct Figure 5 and Figure 6, I regress log of price (allowed amount) on the indicator variables for each hospital-fiscal year, the interaction of each hospital-fiscal year with log-DRG weight, and the interaction of each hospital-fiscal year with log-DRG weight squared.

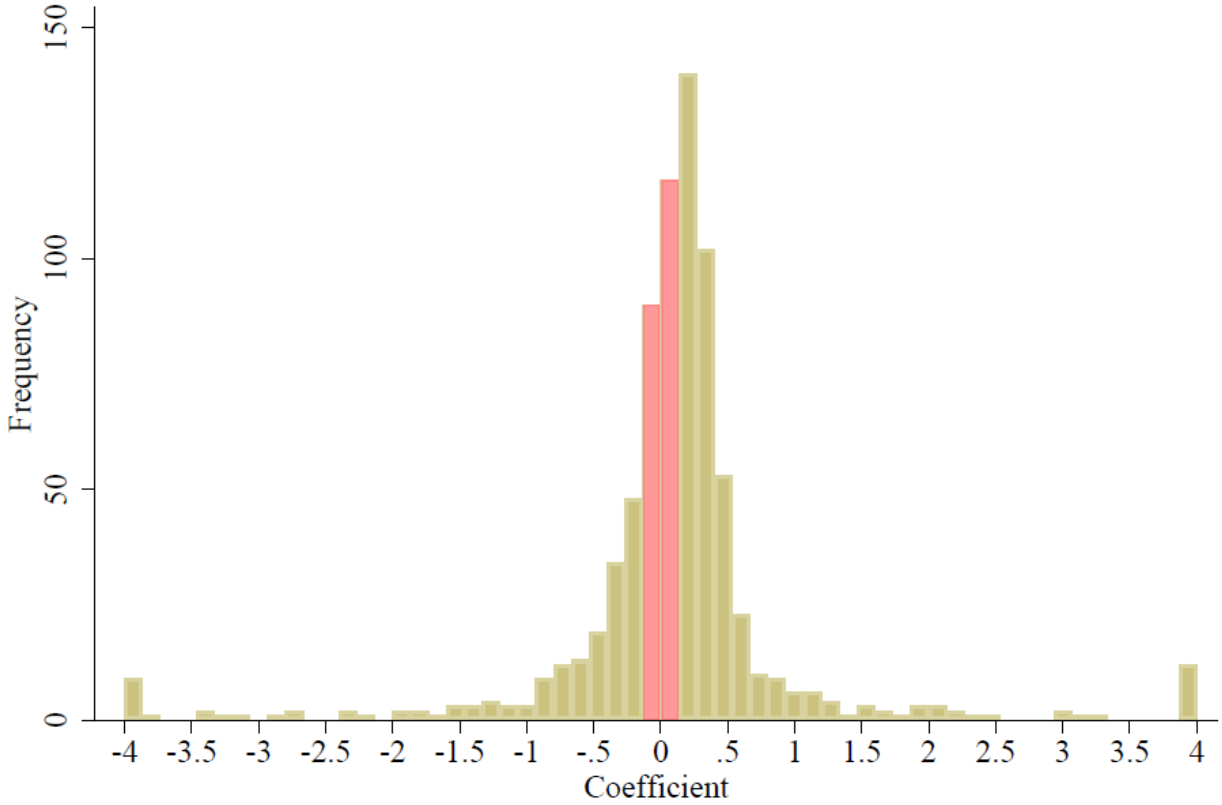
Figure 5: Histogram of the Relationship Between Hospital Prices and DRG-weight



Source: Dr. Chipty's Backup Materials

Notes: Coefficients less than -2 are bucketed with -2; Coefficients greater than 4 are bucketed with 4; Red color spans 1.0

Figure 6: Histogram of the Relationship Between Hospital Prices and the Square of DRG-weight



Source: Dr. Chipty's Backup Materials

Notes: Coefficients less than -2 are bucketed with -2; Coefficients greater than 4 are bucketed with 4; Red color spans 0.0

204. The figures above show that the distribution across hospitals of the effect of DRG-weight on price is centered to the left of one and has a wide range. And the distribution across hospitals of estimated effect of the square of DRG-weight on price is centered to the right of zero and has a wide range. These results firmly reject Dr. Chipty's assumption that the relationship between price and DRG-weight is constant. This means that all of Dr. Chipty's price variable is measured with error, and thus her overcharge estimates are unreliable and cannot estimate impact or damages on a class-wide basis.

205. Dr. Chipty's approach of deflating prices by DRG-weight is unnecessary when detailed claims data are available, as they are in this case. Although some academic studies deflate prices by DRG-weights, this often is done when data are limited and a crude acuity adjustment is the

best the researcher can do.[265] When detailed claims data are available from insurance carriers, as they are in this case, researchers typically analyze prices at a much lower level of aggregation (*e.g.*, DRG or inpatient discharge), which allows for a much more flexible relationship between DRG or DRG-weight (or both) and price.[266] This flexibility allows the regression model to match the data better, which leads to more accurate predictions. Dr. Chipty had the data necessary to study differences in price across type of inpatient stay in a much more detailed (and econometrically robust) way than she did, but she chose not to, and this decision likely biases her overcharge estimates.

206. In the regression analysis I present in Section VII.B, I change Dr. Chipty's baseline regression specification to allow prices to flexibly vary across DRGs. Specifically, I replace Dr. Chipty's DRG-weight deflated price with a non-deflated price (allowed amount), and I include a full set of DRG indicator variables (*i.e.*, a variable for each DRG that is equal to 1 for the DRG that is relevant to a given hospital visit and 0 otherwise) as explanatory variables in the regression.

3. Dr. Chipty's inappropriate treatment of competition biases overcharge estimates

207. Dr. Chipty agrees that for her overcharge estimates to be valid, they must distinguish observed prices from prices that would have occurred in the absence of the challenged conduct.[267] In this section I show that Dr. Chipty's baseline regression model fails to control

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265 *See, e.g.,* Garmon, C., "The Accuracy of Hospital Merger Screening Methods," *The RAND Journal of Economics*, forthcoming; and Dafny, L., "Estimation and Identification of Merger Effects: An Application to Hospital Mergers," *Journal of Law & Economics*, 2009, 52(3), 523-550.

266 *See, e.g.,* Thompson, A., "The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction," *International Journal of the Economics of Business*, 18(1), 2011; Haas-Wilson, D. and C. Garmon, "Hospital Mergers and Competitive Effects: Two Retrospective Analyses," *International Journal of the Economics of Business*, 18(1), 2011, 17-32; Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237; and Melnick, G., and E. Keeler, "The Effects of Multi-Hospital Systems on Hospital Prices," *Journal of Health Economics*, 26, 2007, 400-413.

267 Chipty Decl., ¶ 81.

properly for factors that affect the competitive landscape facing each hospital, and therefore does not distinguish observed prices from prices that would have occurred in the absence of the challenged conduct.

208. As a matter of economics, a hospital's prices for particular services depend on factors that affect its cost and demand conditions for those services, including factors relating to the competitive landscape in which the hospital operates. The competitive landscape facing a given Hospital A includes the set of competing hospitals and the degree to which they compete with Hospital A for inclusion in insurance networks and for patients. This means that a hospital's price generally depends on both its own cost and demand conditions as well as those of its rivals.

209. Dr. Chipty's baseline regression model, which she uses to calculate overcharges,[268] includes only very crude controls for the competitive landscape faced by hospitals. Specifically, to control for differences in competitive landscape in her baseline regression model, Dr. Chipty includes indicator variables for the number of non-Kaiser hospitals within a 30-minute drive of each hospital.[269] In addition to wrongly excluding Kaiser,[270] Dr. Chipty makes the dubious assumption that all hospitals within a 30-minute drive of the hospital of interest are of equal importance as competitors, regardless of their size, reputation, breadth of service, or distance from the hospital of interest. She makes no attempt to account for differences in the competitive constraints competing hospitals impose on each other due to the specific characteristics of each hospital.

210. It is unnecessary to debate the economic validity of Dr. Chipty's assumption that competitor counts are sufficient to capture the relevant competitive conditions because Dr. Chipty's own econometric estimates demonstrate that this assumption is invalid. Dr. Chipty explains that, "[b]ecause hospitals that face less competition tend to be more expensive on average, I expect the estimated coefficients associated with the number of competitors in the

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268 Chipty Decl., ¶ 109, ¶ 137.

269 Chipty Decl., ¶ 99, p. 62.

270 *See* Section V.B.1 for a discussion of Kaiser's importance as a competitor to Sutter and other Northern California hospitals.

model to be negative."[271] Although Dr. Chipty's exact meaning is not clearly stated, she appears to imply that, all else being equal, hospital prices should be lower (or at least not higher) when there is a larger number of competitors nearby. If Dr. Chipty were correct that hospital count indicators control for differences in competitive landscape, one would expect her estimates of the effects of hospital count to show that price falls (or does not rise) with number of competitors. For example, one would expect Dr. Chipty's coefficient on the indicator variable for seven competitors in her model to be smaller than the coefficient on the indicator variable for one to four competitors. However, Dr. Chipty's econometric estimates show the opposite of this expected outcome. Exhibit 13 in the Chipty Declaration indicates that, all else equal, a hospital with one to four competitors nearby will price lower than a hospital with seven competitors nearby. This contradicts Dr. Chipty's hypothesis regarding the effect of competition on price and indicates that simple counts of competitors are inadequate controls for competitive landscape or that she has chosen a wrong set of benchmark hospitals, or both.

211. In a few specifications in her backup materials, Dr. Chipty includes an alternative measure of a hospital's competitive conditions known as a hospital-specific HHI, which Dr. Chipty estimates using information on patient flows.[272] The HHI is a standard measure of market concentration used in the U.S. Horizontal Merger Guidelines.[273] Although this measure of the competitive landscape also does not capture all of the nuances of hospital competition, it does allow the competitive influence of competing hospitals to vary through an index of competitive intensity that should be related to the competing hospitals' characteristics. In this way, this alternative measure of competitive conditions is superior to indicator variables for hospital counts.[274] When Dr. Chipty uses hospital-specific HHIs as control variables, her

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271 Chipty Decl., ¶ 99, p. 63.

272 Chipty Decl., Chipty Workpapers, "Overcharge Robustness Checks," columns (4) and (9).

273 *Horizontal Merger Guidelines* § V.3 (2010) (WILLIG 000295).

274 Competitor counts and the HHI can paint different pictures about a hospital's competitive landscape. According to Dr. Chipty, in 2011 there are 8 competitors within 30 minutes driving time of California Pacific Medical Center (CPMC). See "Overcharge Analysis Dataset 2006-2015.csv," provided by Dr. Chipty. By this measure of competition, CPMC faces more competition than approximately 90 percent of the other hospitals. By contrast, if competition is measured by the hospital-specific HHI, CPMC would face more competition than only 22 percent of the other hospitals. See my backup materials for these calculations.

"overcharge" estimates are significantly reduced, but she buries this result in her back-up materials.

4. Dr. Chipty ignores important control variables in her price comparisons

212. When estimating the effect of the challenged conduct on hospital prices, it is appropriate to include control variables that might affect hospital prices independently of that conduct. In fact, Dr. Chipty notes that "[t]o be useful for the purpose at hand, the regression model *must* include the key explanatory variables that are likely to predict hospital prices, especially Sutter hospital prices."[275] Failure to include appropriate control variables causes estimates to be biased because the econometric model is unable to isolate the effect of the challenged conduct from other cost and demand factors.[276]

213. As noted above, Dr. Chipty analyzes highly aggregated hospital prices. One significant side-effect of Dr. Chipty's decision to estimate price effects at the hospital-year level of aggregation is that she cannot control for factors that affect hospital pricing at lower levels of aggregation. It is well-understood by economists that have studied hospital pricing that there are many reasons that hospital prices may vary at lower levels of aggregation—*e.g.*, by DRG or inpatient discharge.[277] For example, the severity and price of a procedure may differ greatly

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275 Chipty Decl., ¶ 98. (Emphasis added.)

276 *See, e.g.*, American Bar Association, *Proving Antitrust Damages Legal and Economic Issues* 148 (3d ed. 2017) ("Mistakenly excluding important explanatory variables in an attempt at simplicity, on the other hand, can result in an omitted variable bias and misinterpretation of estimated results."); *id*. at 149 ("In general, one should be more concerned with avoiding bias than with improving precision. That is, it is better to be on average right though imprecise, than to be precisely wrong. For these reasons, it is in general better to include more variables than fewer.").

277 *See, e.g.,* Thompson, A., "The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction," *International Journal of the Economics of Business*, 18(1), 2011, 91-101; Haas-Wilson, D. and C. Garmon, "Hospital Mergers and Competitive Effects: Two Retrospective Analyses," *International Journal of the Economics of Business*, 18(1), 2011, 17-32; Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237; Tenn, Steven. "The price effects of hospital mergers: a case study of the Sutter–Summit transaction." *International Journal of the Economics of Business* 18(1), 2011, 65-82; and Melnick, G., and E. Keeler, "The Effects of Multi-Hospital Systems on Hospital Prices," *Journal of Health Economics*, 26, 2007, 400-413.

when performed on a 20-year-old patient versus a 50-year-old patient. These differences are not adequately accounted for when prices are evaluated at the hospital-year level of aggregation.

214. The economic literature suggests using several variables that Dr. Chipty omits from her regressions to control for differences in costs and demand across inpatient discharges and hospitals.[278] In this section, I describe these additional control variables and explain why they are appropriate to include in an analysis of hospital prices. Dr. Chipty's failure to include these additional control variables likely biased her overcharge estimates.

215. In the next section, I present revised regressions that include additional control variables that are used in the economic literature to account for various factors that influence hospital inpatient prices. For the reasons given in the previous section, I included the hospital-specific HHI instead of hospital count indicator variables. I also include a variable that measures the total fixed assets in a hospital's system.[279] In addition to hospital-level control variables, I include the following patient-level controls that vary at the discharge level of aggregation used in academic studies of hospital pricing.[280]

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278 *See, e.g.,* Thompson, A., "The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction," *International Journal of the Economics of Business*, 18(1), 2011, 91-101; Haas-Wilson, D. and C. Garmon, "Hospital Mergers and Competitive Effects: Two Retrospective Analyses," *International Journal of the Economics of Business*, 18(1), 2011, 17-32; Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237; Tenn, Steven. "The price effects of hospital mergers: a case study of the Sutter–Summit transaction." International Journal of the Economics of Business 18(1), 2011, 65-82; and Melnick, G., and E. Keeler, "The Effects of Multi-Hospital Systems on Hospital Prices," *Journal of Health Economics*, 26, 2007, 400-413.

279 I use fixed assets as a proxy for the significant investments hospital systems make in improved quality of care. Similar measures have been used in academic studies of hospital pricing. *See, e.g.*, Keeler, E.B., G. Melnick, and J. Zwanziger, "The Changing Effects of Competition on Non-Profit and For-Profit Hospital Pricing Behavior," Journal of Health Economics, 18, 69-86.

280 *See, e.g.,* Thompson, A., "The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction," *International Journal of the Economics of Business*, 18(1), 2011, 91-101; Haas-Wilson, D. and C. Garmon, "Hospital Mergers and Competitive Effects: Two Retrospective Analyses," *International Journal of the Economics of Business*, 18(1), 2011, 17-32; Krishnan, R., "Market Restructuring and Pricing in the Hospital Industry," *Journal of Health Economics*, 20, 2001, 212-237; Tenn, Steven. "The price effects of hospital mergers: a case study of the Sutter–Summit transaction." International Journal of the Economics of Business

- **DRG:** I allow prices to flexibly vary across DRGs by including a full set of DRG fixed-effects.
- **Age:** I include in my regression equations a function of patient age. Specifically, I include log of age and log of age squared in my regression. This flexible function allows prices to vary across hospitals within a DRG according to the distribution of patient ages at the hospital. I also include an indicator variable for when the age is equal to zero.
- **Plans:** I allow prices to flexibly vary across plan types by including a full set of plan-type fixed-effects. This includes controls for popular plan-types such as PPOs and HMOs.[281]
- **Gender:** I include in my regression equations an indicator variable that is equal to one if the patient is identified as male and zero otherwise. This allows prices to vary across hospitals within a DRG according to the gender distribution at the hospital.
- **Length-of-Stay (LOS):** I include in my regression equations a flexible function of the length of an inpatient hospital stay. Specifically, I include log of length-of-stay and log of length-of-stay squared. Many hospital contracts have stop-loss thresholds built into the contract that allow additional payments to be made for an inpatient visit when the services provided exceed a pre-determined threshold. My function of LOS attempts to control for these terms, which may vary across hospitals and insurance carriers.

5. Any damages indicated by [redacted] do not extend to other insurance carriers

216. Dr. Chipty's overcharge estimates are based only on [redacted] She does not present a model to estimate impact or damages for other insurance carriers. At her deposition, Dr. Chipty stated that she had not yet determined whether she would use the same regression

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18(1), 2011, 65-82; and Melnick, G., and E. Keeler, "The Effects of Multi-Hospital Systems on Hospital Prices," *Journal of Health Economics*, 26, 2007, 400-413.

281 I include a sensitivity that only includes claims for PPO and HMO plans, which account for more than 90% of observations. I include a table of sensitivities in Appendix 0.

model but use carrier-specific claims data to estimate impact and damages for the other insurance carriers, or whether she could just "extrapolate off of one or two or more health plan analyses."[282] Dr. Chipty explained that she was still examining the data to decide how to estimate impact and damages for class members who had health plans through the other carriers.[283] As a result, I reserve the right to analyze and respond to any additional analyses she decides to offer (if any) to estimate impact and damages for Aetna, [redacted].

217. There are several problems with limiting the analysis to a single insurance carrier. First, this increases the likelihood that Dr. Chipty's impact and damages model will yield a spurious finding that impact and damages are positive. Second, as a matter of economics (and as I show in Section IV.B.1), different insurance carriers may have different pass-through rates and different contract pricing. For example, this would hold if one insurance carrier pays Sutter hospitals on a fee for service basis, while another insurance carrier pays Sutter hospitals on a capitated basis.[284]

218. As I show in the next section, estimates from an econometric model that embodies sensible modifications to Dr. Chipty's regression model indicate that any overcharges differ across insurance carriers, and thus, even if an evaluation of hospital prices based solely on [redacted] indicates Sutter prices were higher than competitor hospitals, this result does not extend to other insurance carriers. Hence, Dr. Chipty's overcharge estimates are not reliable for purposes of calculating damages to the putative class.

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[282] Chipty Dep. at 416:20-417:1. [redacted] (Chipty Dep., 415:12-416:6) Neither of these explanations is apt because Dr. Chipty's analysis depends on a comparison of Sutter prices to prices at other hospitals, and thus even if Sutter has similar contract provisions with and prices at parity to all insurance carriers, hospitals in the control group may not do so.

[283] Chipty Dep. at 291:13-293:3; 414:1-415:6; 421:13-423:5.

[284] Dr. Chipty has not presented any separate model or methodology to estimate impact or damages for capitated prices.

B. APPROPRIATE CHANGES TO DR. CHIPTY'S REGRESSION MODEL REVEAL THAT IT IS MISSPECIFIED AND UNRELIABLE

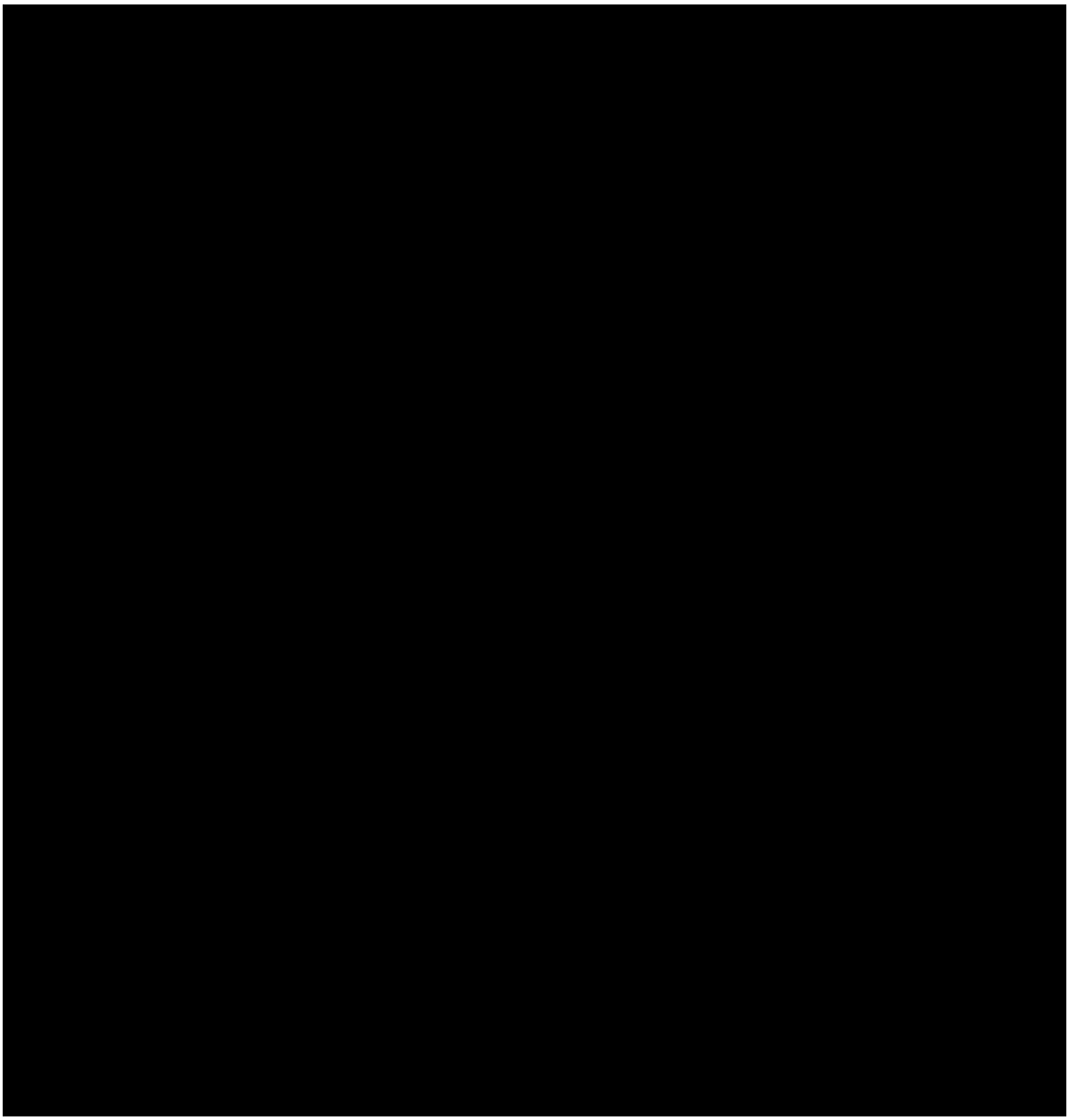
219. In this section, I modify Dr. Chipty's regression as described in the previous section. It is important to note that I am not proposing that this modified regression can estimate impact and damages. Instead, my opinion is that, at a minimum, Dr. Chipty must make these changes to account for the various factors that influence prices. There are other problems with her methodology for estimating overcharges, including the fact that her benchmark hospitals include hospitals that are not comparable to Sutter hospitals, that are not fully addressed by the modifications set forth below.

220. First, I estimate a modified regression using only [redacted] as Dr. Chipty does, the results of which are reflected in Table 7. The regression uses allowed amount per episode (in log terms) as the dependent variable, a set of hospital-level control variables defined by Dr. Chipty,[285] system assets as described above, and the discharge-level control variables described above in Section VII.A.4. To illustrate the overall impact of the modifications to the regression, I use one indicator variable for the seven Sutter hospitals of interest (by contrast, Dr. Chipty's regression includes indicator variables for each Sutter damages hospital to estimate impact and damages to class members at each hospital). The "Sutter Flag Overcharge" reflects the estimated overcharge. Table 7 shows that even making a few of the necessary modifications to Dr. Chipty's regression results in no overcharge (-3.14%) when estimating impact across the seven hospitals.[286] This overcharge estimate is not statistically different from zero.

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285 The signs of the estimated coefficients on the hospitals-level control variables match Dr. Chipty's estimated coefficients with two exceptions—the estimated coefficient on system beds and its square, as well as Dr. Chipty's flag for whether or not the hospital is a major teaching hospital. The modified regression estimates indicate hospital system efficiencies that dissipate as the system increases in size, while Dr. Chipty's estimates indicate system inefficiencies until a system reaches a certain size.

286 To test the robustness of my results, I estimate several different regression model specifications. These results, which are provided in Appendix A, indicate when properly evaluated, that the prices of the Sutter damages hospitals generally do not differ statistically from the prices of the benchmark group.



221. In addition to estimating impact across all seven hospitals, I also estimate the modified regression using indicator variables for each of the seven hospitals, as Dr. Chipty did, to estimate the alleged overcharge at each hospital. The results are reflected in Table 8.

Table 8: Modified Chipty Overcharges Regression Model Damages Hospitals Separate: Anthem Data Only

[redacted]

*** p<0.01, ** p<0.05, * p<0.10
materials; OSHPD Hospital Quarterly Financial and Utilization Data
Note: This regression includes Plan-Type, and DRG fixed effects; Medicare switched from DRG to MS-DRG coding in October 2007, I therefore absorb on the interaction of a pre-October 2007 indicator variable and the DRG code; Overcharge is calculated as exp(coefficient) - 1. I measure significance on the Sutter Hospitals based on the overcharge and not the coefficient on the indicator variables

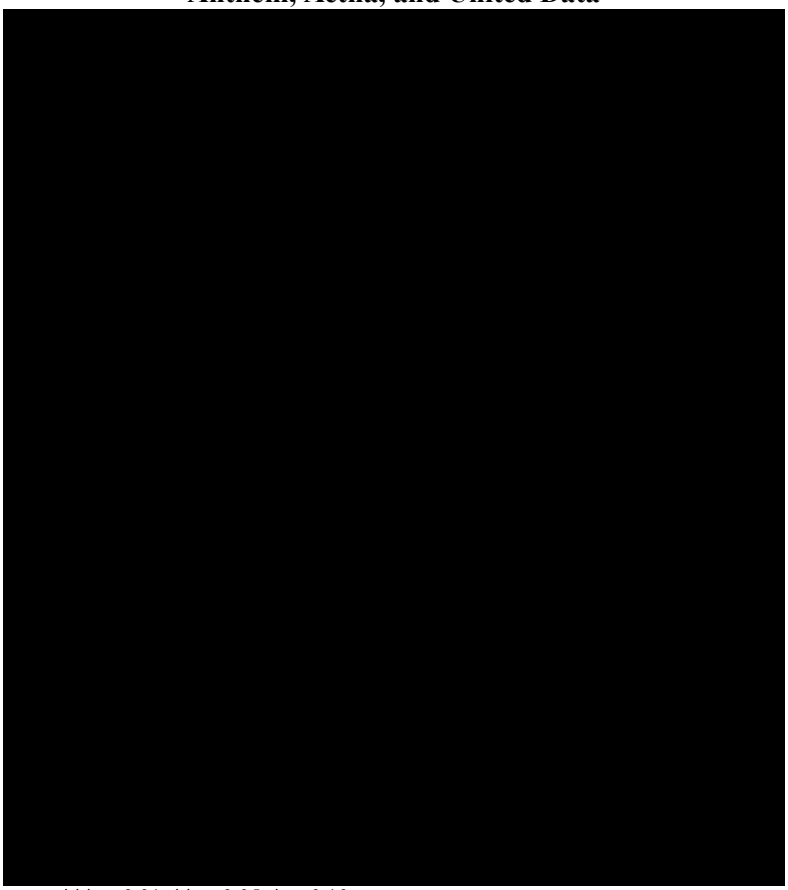
222. These results reflect the flaws in Dr. Chipty's regression. Correcting for just a few of Dr. Chipty's errors eliminates all of the overcharges at four of the seven hospitals. [redacted]

[redacted]. As noted above, my opinion is not that the modified regression does or is capable of estimating impact or damages at any of the hospitals, as it includes other flaws. The point is that these analyses and other sensitivity analyses demonstrate that her original regression does not and cannot estimate impact or damages.

223. In addition to the modified regressions above, I also estimate the regression model using claims data for Anthem, Aetna, and United. The results in Table 9 are similar to those in Table 7.[287]

[287] I include additional robustness checks on the regression results in Appendix A.

Table 9: Modified Chipty Overcharges Regression Model Damages Hospitals Together: Anthem, Aetna, and United Data



*** p<0.01, ** p<0.05, * p<0.10

Source: Anthem, Aetna, and UHC claims data; Dr. Chipty's backup materials; OSHPD Hospital Quarterly Financial and Utilization Data

Note: This regression includes Plan-Type, Insurer, and DRG fixed effects; Medicare switched from DRG to MS-DRG coding in October 2007, I therefore absorb on the interaction of a pre-October 2007 indicator variable and the DRG code; Sutter Flag Overcharge is calculated as exp(coefficient) - 1; I measure significance on the Sutter Flag based on the overcharge and not the coefficient on the indicator variable

224. Moving on from the context of the Plaintiffs' assumptions about class-wide effects, I apply the same appropriate econometric analytic tools to the data to investigate whether there are heterogeneous comparisons between Sutter's prices and those of the control group of hospitals that depend on, for example, the DRG and length of stay and age of the patient, the identity of the insurance carrier, and the type of plan. These comparisons that in total average out to no general elevation of Sutter's prices, at the same time show considerable variation in the price comparisons between Sutter hospital prices and those of the control group of hospitals.

225. These variations, presented in Table 10, include significant differences between the comparisons depending on a host of factors, including the patient's DRG, age, and associated length of stay, and including heterogeneous differences across plan types and the insurance carrier and the year in question. These variations indicate that if there were any impacts of the challenged conduct on its prices that would in turn affect insurance plans' medical costs, those impacts could be positive or negative depending on the specific characteristics of an individual insured individually, on the characteristics of the employees in a large group in terms of their demographics, and on the overall characteristics of the insured population of a rating area for small group plans. The resulting need for individualized inquiries into whether or not there were cost-increasing impact from the challenged conduct on an individual's or an employer's insurance is one of the reasons why it is impossible for class-wide evidence to prove class-wide impact.

Table 10: Any Overcharge Estimated Vary Across Members of the Putative Class



Source: Anthem, Aetna, and UHC claims data; Dr. Chipty's backup materials
Notes: I pick the top five MS-DRG values by total allowed amount; The age and length of stay cut-offs are based on the median value for each; The P-Value on the Sutter Flag is based on the overcharge, and not on the coefficient

VIII. CONCLUSION

226. Based on empirical and documentary evidence of (i) large benefits from the challenged conduct to many members of the purported class that obtain hospital care from Sutter, (ii) small or non-existent overcharges, and (iii) disparate rates at which hospital prices are passed on to purported class members, I conclude as follows:

- The net impact of the challenged conduct on many members of purported class is positive, *i.e.*, they are better off due to the challenged conduct.
- Dr. Chipty does not present a valid common method to show impact or determine its sizes for all nor nearly all members of the purported class.
- Determining the impact of the challenged conduct would require individual inquiries to determine numerous facts that are specific to each member of the purported class.

227. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. Executed on November 8, 2018.



Robert D. Willig, Ph.D. November 8, 2018

APPENDIX A: ADDITIONAL TABLES, CHARTS, AND SENSITIVITIES

Figure 7: Patient Valuation by Drive Time from Hospital: Alta Bates – Main Campus

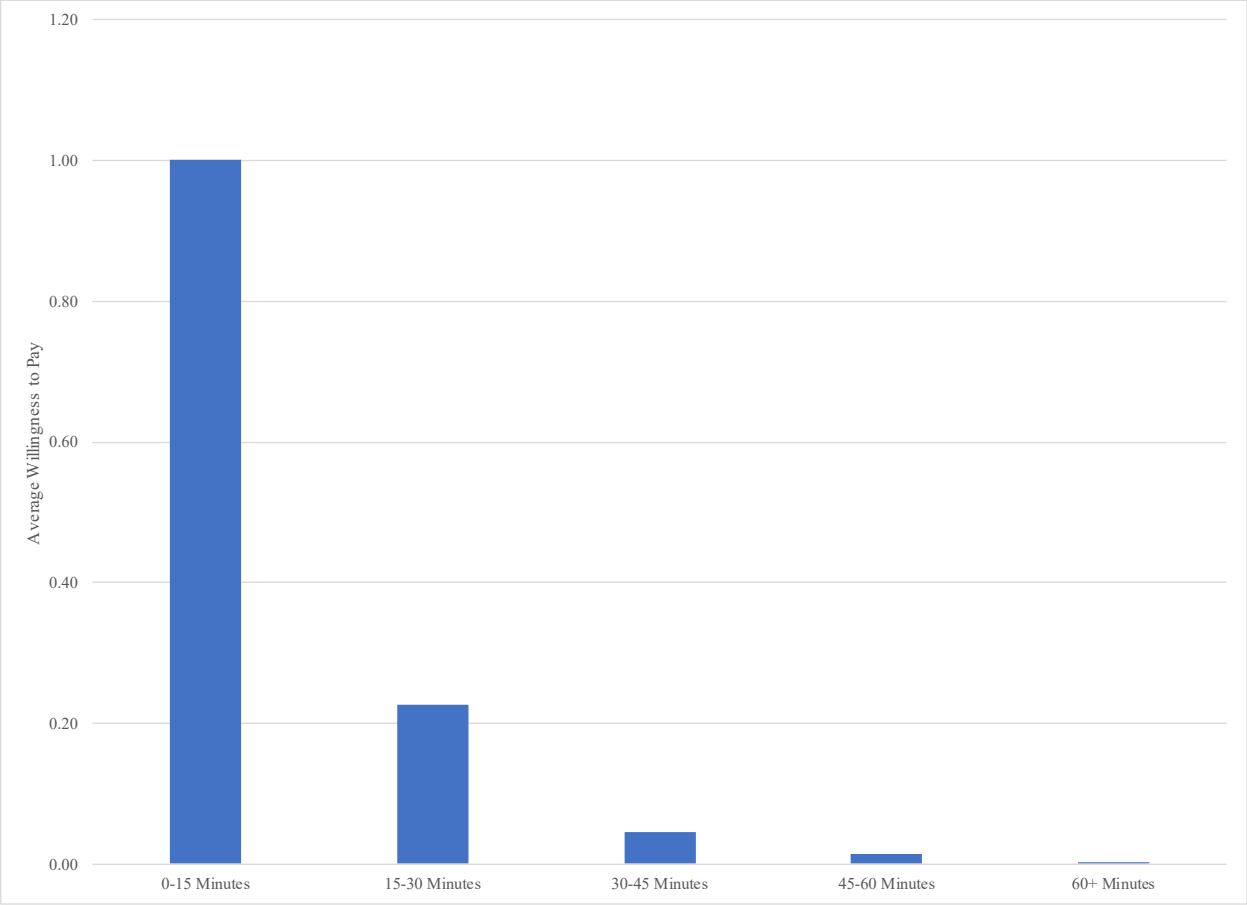


Figure 8: Patient Valuation by Drive Time from Hospital: Alta Bates – Summit Campus

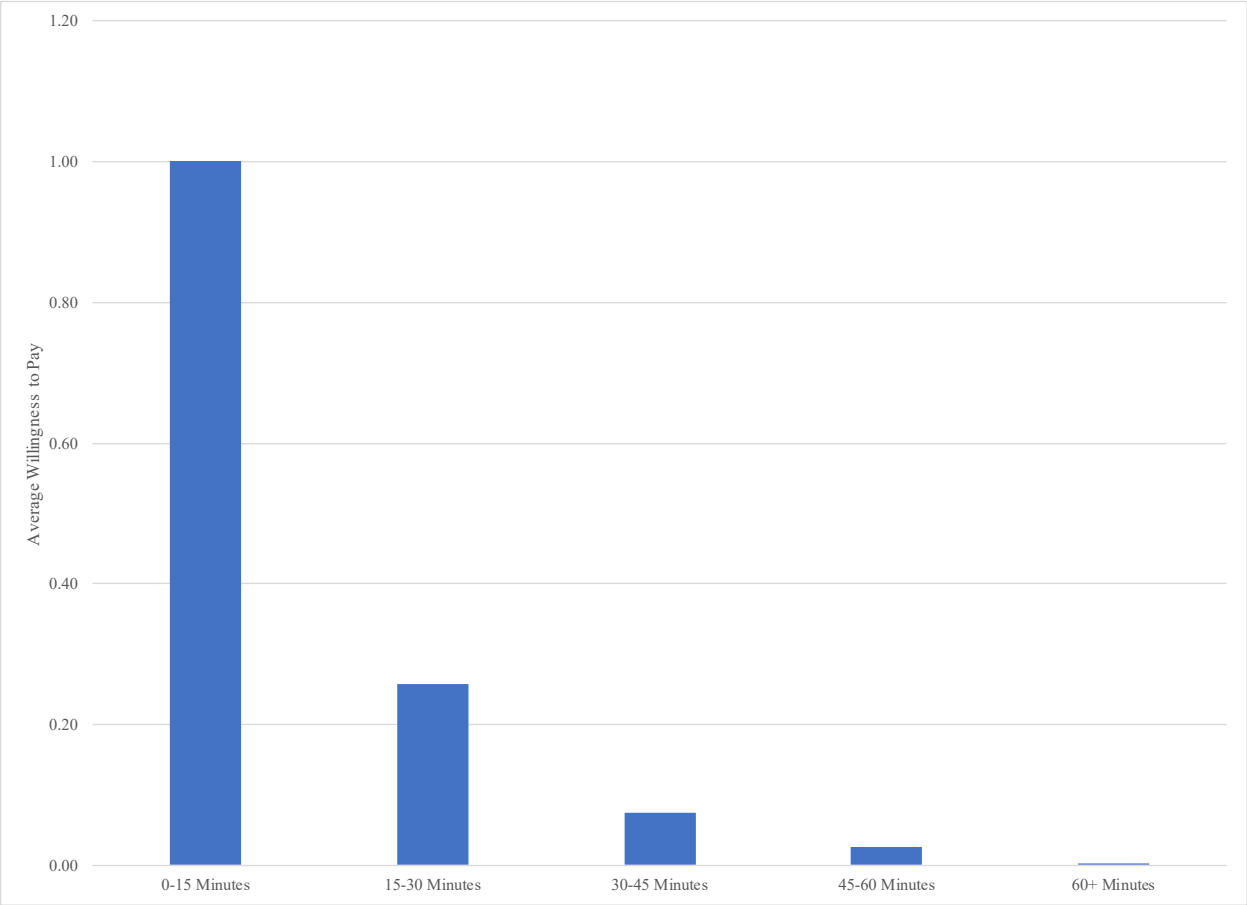


Figure 9: Patient Valuation by Drive Time from Hospital: CPMC – Main Campus

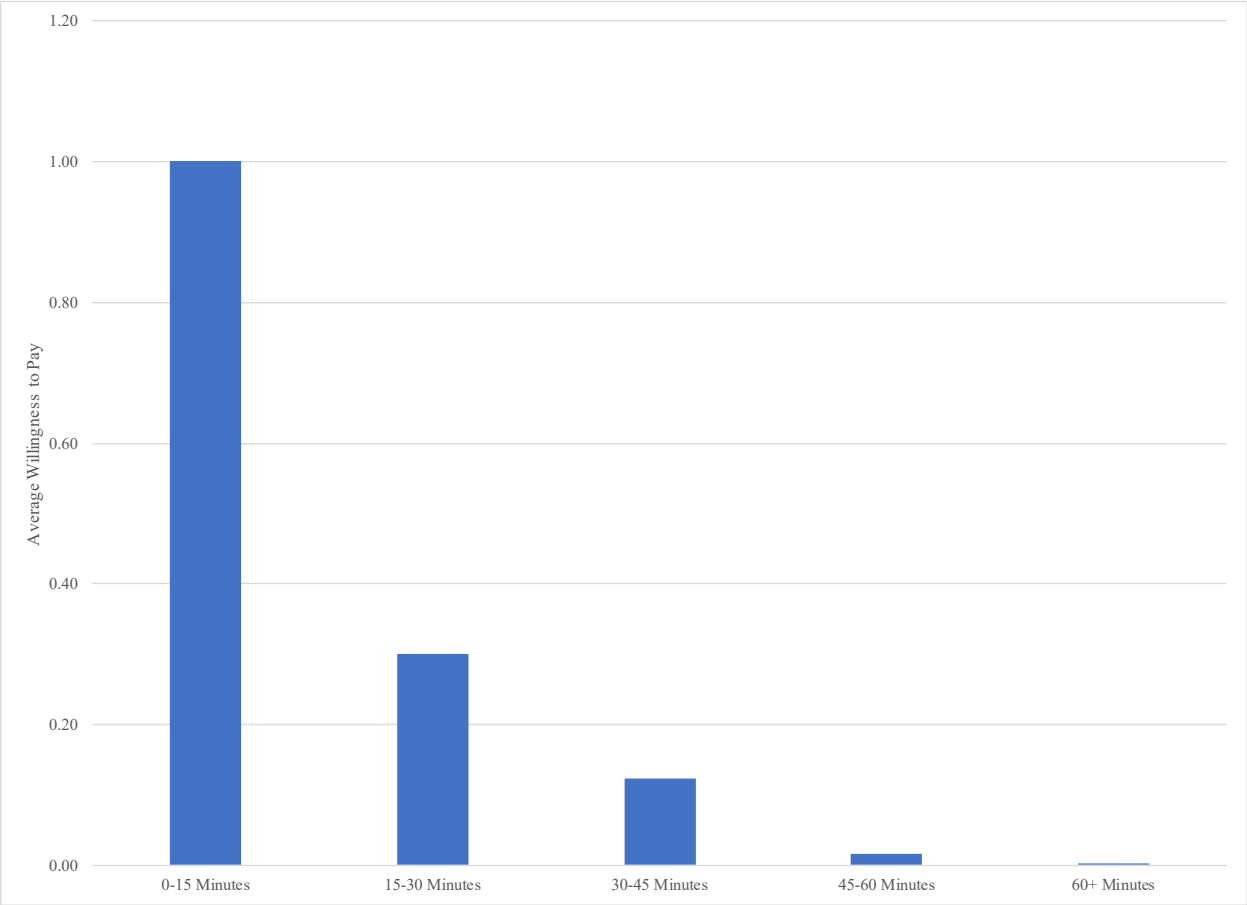


Figure 10: Patient Valuation by Drive Time from Hospital: CPMC – St. Luke's Campus

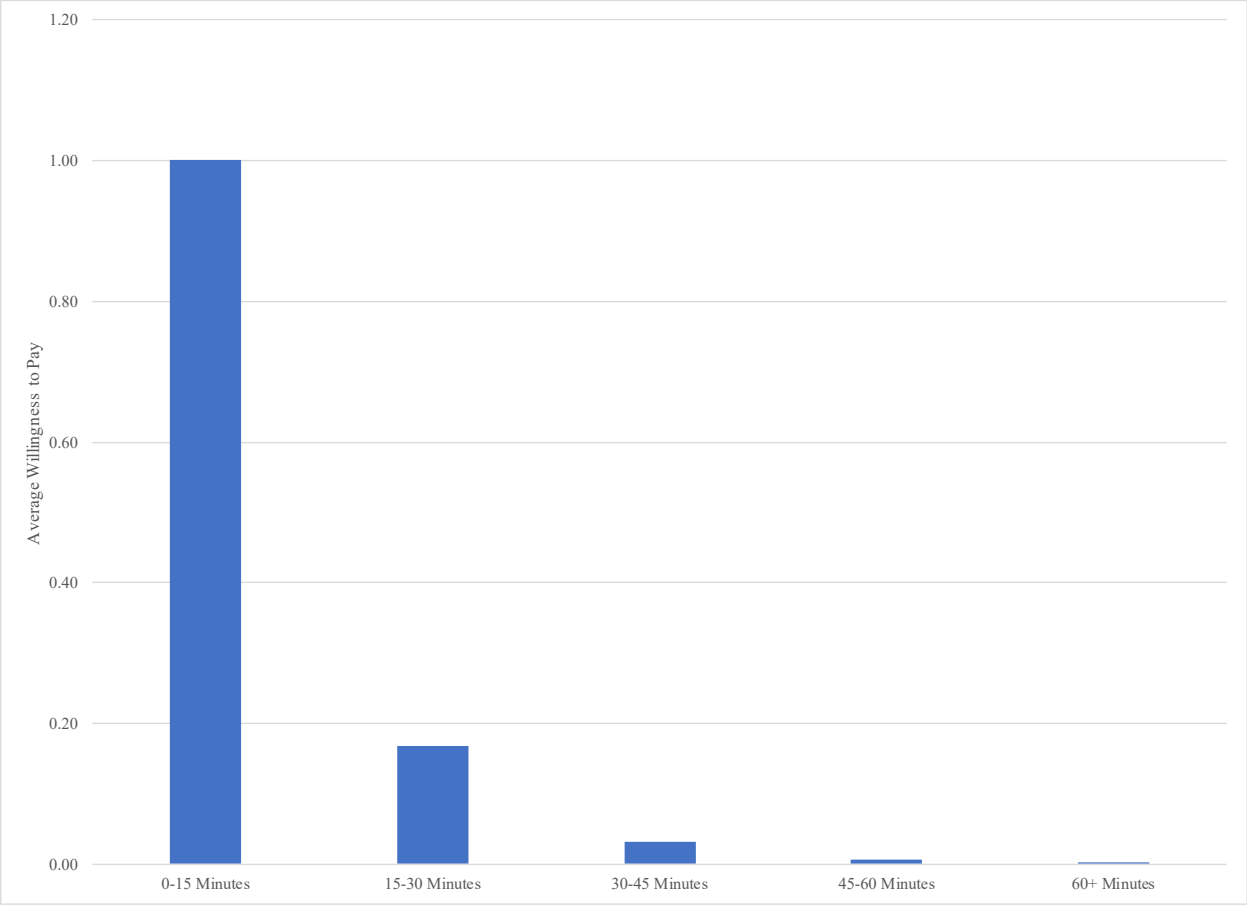


Figure 11: Patient Valuation by Drive Time from Hospital: Sacramento

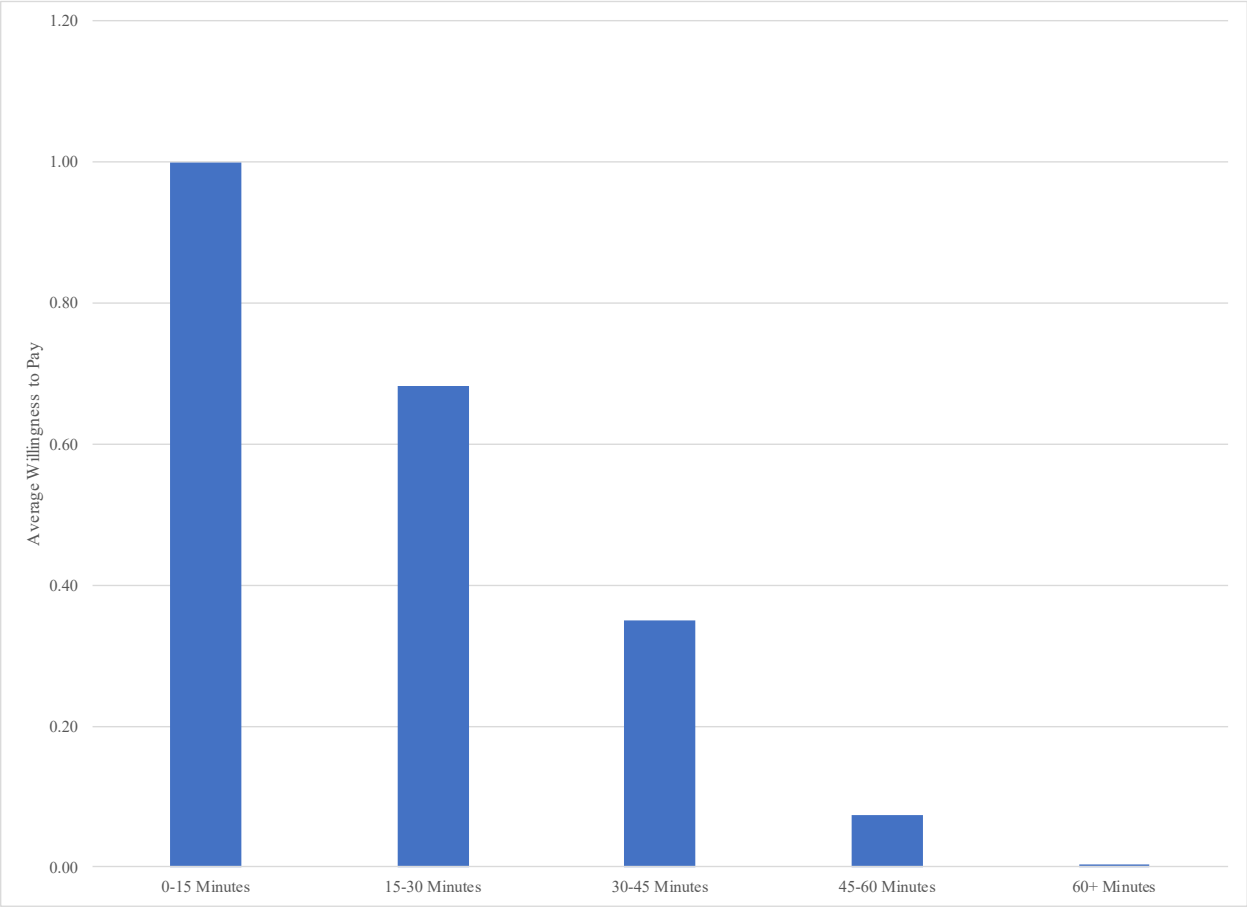


Figure 12: Patient Valuation by Drive Time from Hospital: Santa Rosa

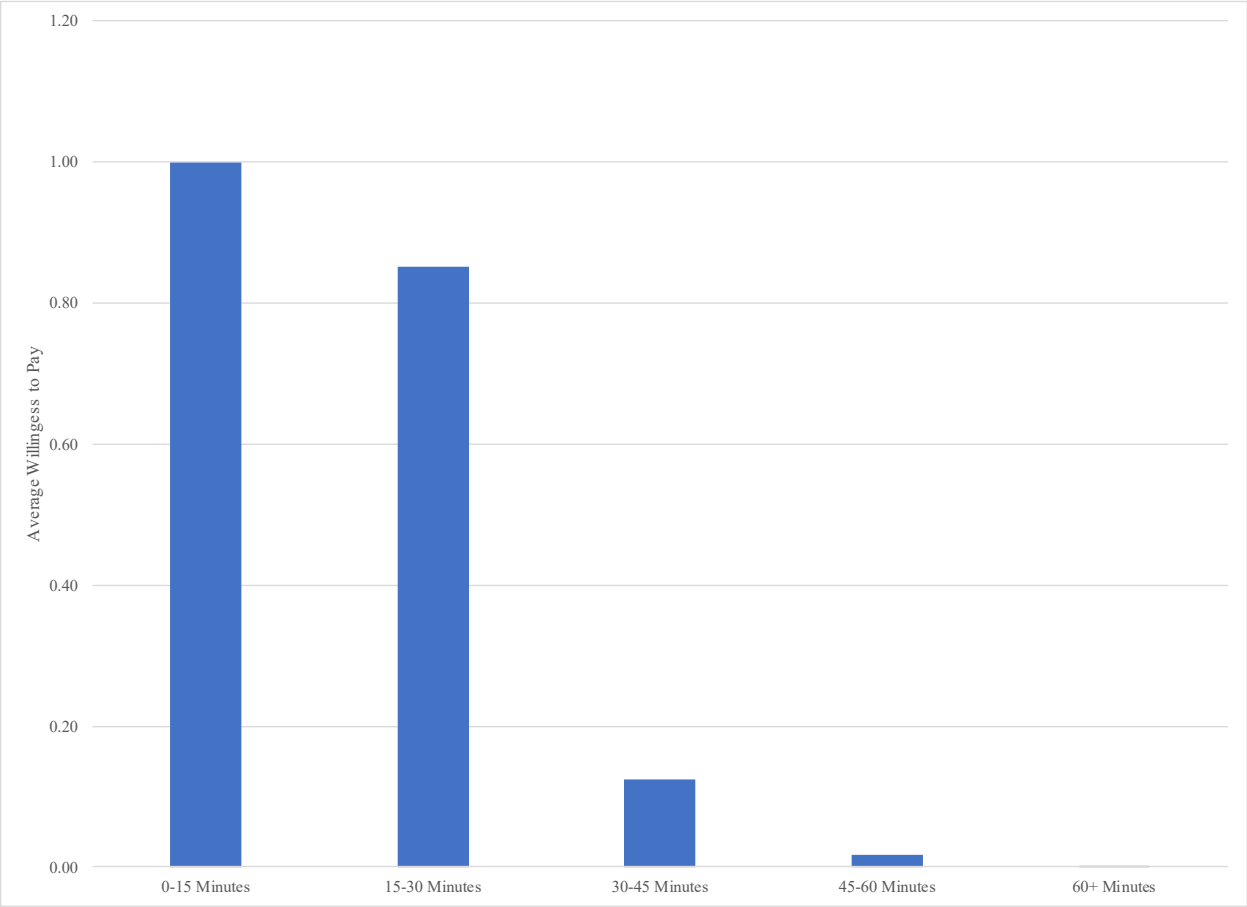


Figure 13: Distribution of Kaiser Commercial Share in Three-Digit Zip Codes of Damages RAs

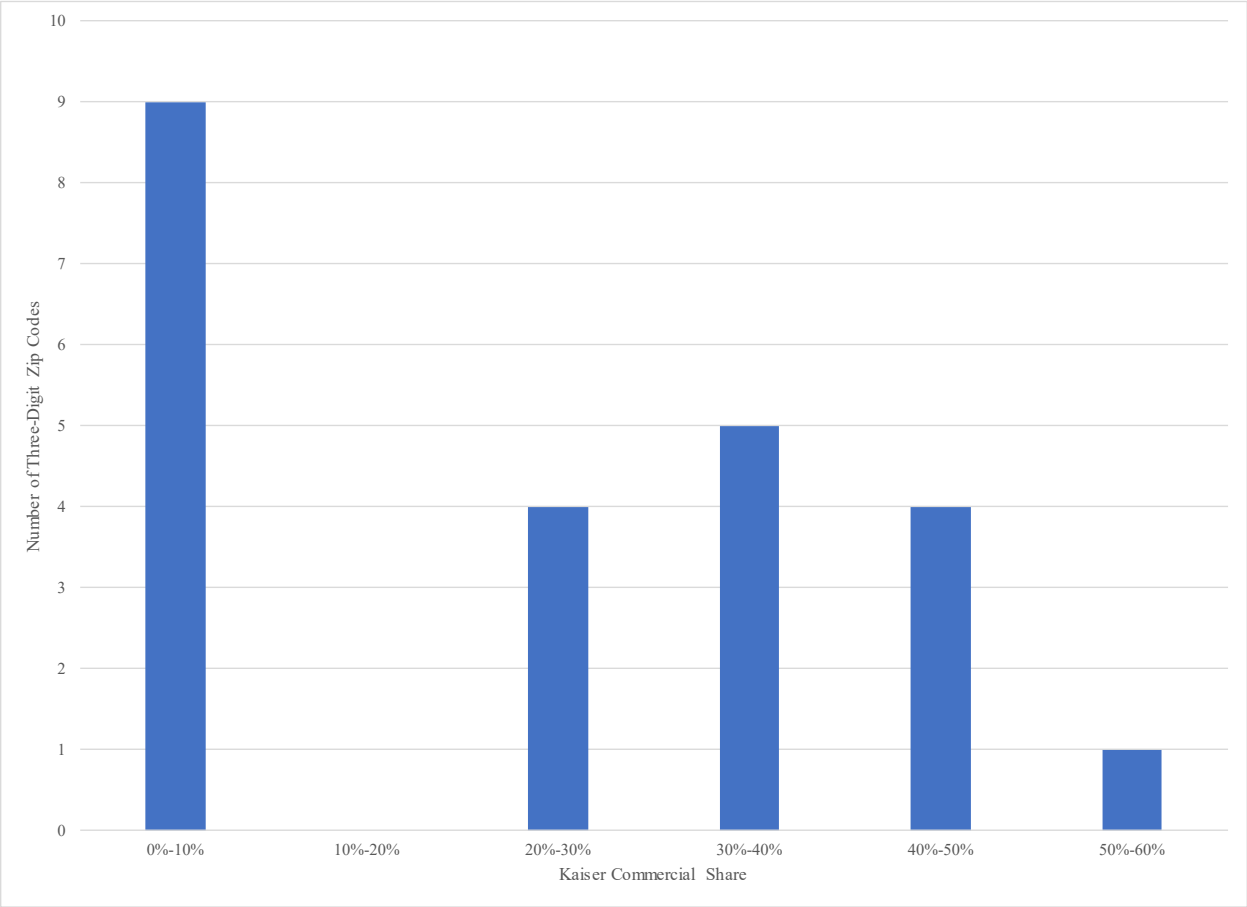


Table 11: Kaiser Commercial Share in Three-Digit Zip Codes of Damages RAs

3-Digit Zip Code	Kaiser Share
932	1.1%
934	0.0%
936	8.6%
939	1.1%
940	34.5%
941	25.1%
944	29.4%
945	45.2%
946	45.6%
947	31.4%
948	59.6%
949	42.2%
950	7.0%
952	25.1%
953	25.9%
954	38.4%
955	0.2%
956	37.6%
957	37.6%
958	42.2%
959	4.3%
960	0.6%
961	1.5%

Source: OSHPD 2016 Data

Notes:

Excludes DRGs 795, 998, 999, and MDCs 0, 19, 20.

Limited to commercially-insured, acute-care patients, in valid zip codes

Limited to Rating Areas 1, 2, 3, 4, 5, 6, 8, 9, and 10

Table 12: Regression Sensitivities: [redacted]

Explanatory Variable	Sensitivity Runs: Including only PPO and HMO	Including Length of Stay Equal to Zero	Levels Age and Length of Stay	Excluding Allowed Amount and Length of Stay based on Percentiles
[redacted]				

*** p<0.01, ** p<0.05, * p<0.10

Source: Anthem claims data; Dr. Chipty's backup materials; OSHPD Hospital Quarterly Financial and Utilization Data

Note: All regressions include Plan-Type and DRG fixed effects; Medicare switched from DRG to MS-DRG coding in October 2007, I therefore absorb on the interaction of a pre-October 2007 indicator variable and the DRG code; For the run where I include observations with length of stay equal to zero, I replace log of length of stay with log of length of stay + 1 (when length of stay is zero) and I include an indicator variable for those observations; The age and length of stay coefficients shown under the "Levels Age and Length of Stay" specification are for those variables non-logged; For the run excluding values based on percentiles, I drop allowed amount values less than the 1st percentile or greater than the 99th percentile by DRG-Year. I drop length of stay values greater than the 99th percentile by DRG-Year; For all of these, I measure significance on the Sutter Flag based on the overcharge and not the coefficient on the indicator variable; I also estimated a version of my main model in Table 7 on a year-by-year basis, and found no evidence of overcharges, See my backup materials for details.

Table 13: Regression Sensitivities: [redacted] (continued)

Explanatory Variable	Sensitivity Runs: Age and Length of Stay Controls based on Dr. Tenn	Sensitivity Runs: Including Hospital Assets in place of System Assets	Sensitivity Runs: Log of LOS and Log of LOS Squared Interacted with DRG
[redacted]			

*** p<0.01, ** p<0.05, * p<0.10

Source: Anthem claims data; Dr. Chipty's backup materials; OSHPD Hospital Quarterly Financial and Utilization Data

Note: All regressions include Plan-Type and DRG fixed effects; Medicare switched from DRG to MS-DRG coding in October 2007, I therefore absorb on the interaction of a pre-October 2007 indicator variable and the DRG code; For "Age and Length of Stay Controls based on Dr. Tenn", I include the variable "Age" as a fourth order polynomial, I include dummy variables for length of stay 0 through 30, and then a fourth order polynomial turned on when length of stay is greater than 30; When I interact DRG with length of stay, I do not cluster standard errors by hospitals, as I do elsewhere. Rather, I use robust standard errors. I measure significance on the Sutter Flag based on the overcharge and not the coefficient on the indicator variables

Table 14: Modified Chipty Overcharges Regression Model: [redacted] with Separate Sutter Effects

Explanatory Variable	Coefficients	
Wage Index	0.729***	
Major Teaching	-0.054	
Trauma Level 1 or 2	0.081	
Hospital Rating	0.005	
Log System Beds	-0.779***	
Log System Beds Squared	0.056***	
Micro Market HHI	0.072**	
Log of System Assets	0.096	
Gender (Male = 1)	0.022***	
Age Indicator (Age 0 = 1)	0.067**	
Log of Age	0.091***	
Log of Age Squared	-0.015***	
Log of Length of Stay	0.685***	
Log of Length of Stay Squared	0.071***	
Year 2007	0.104***	
Year 2008	0.160***	
Year 2009	0.255***	
Year 2010	0.313***	
Year 2011	0.410***	
Year 2012	0.463***	
Year 2013	0.479***	
Year 2014	0.498***	
Year 2015	0.509***	
Estimated Overcharge		
Alta Bates-Main	-6.4%	
Alta Bates-Summit	9.1%	
Sutter Sacramento	11.7%	
CPMC-Main	-16.2%	**
CPMC-St. Luke's	-8.2%	
Sutter Santa Rosa	-8.9%	
Sutter Modesto	22.8%	**
Observations	155,620	
Adj. R-Squared	0.741	

*** p<0.01, ** p<0.05, * p<0.10

Source: Anthem, Aetna, and UHC claims data; Dr. Chipty's backup materials; OSHPD Hospital Quarterly Financial and Utilization Data

Note: This regression includes Plan-Type, Insurer, and DRG fixed effects; Medicare switched from DRG to MS-DRG coding in October 2007, I therefore absorb on the interaction of a pre-October 2007 indicator variable and the DRG code; The overcharge values are calculated as exp(coefficient) - 1; I measure significance on the Sutter Hospitals based on the overcharge and not the coefficient on the indicator variables

[redacted]

Explanatory Variable	Sensitivity Runs: Including only PPO and HMO	Including Length of Stay Equal to Zero	Levels Age and Length of Stay	Excluding Allowed Amount and Length of Stay based on Percentiles
Wage Index	0.581***	0.642***	0.671***	0.561***
Major Teaching	-0.077	-0.078	-0.059	-0.056
Trauma Level 1 or 2	0.098	0.119**	0.121**	0.088
Hospital Rating	0.004	0.005	0.005	0.004
Log System Beds	-0.818***	-0.827***	-0.794***	-0.815***
Log System Beds Squared	0.059***	0.058***	0.057***	0.058***
Micro Market HHI	0.051*	0.054**	0.049*	0.052**
Log of System Assets	0.100	0.113	0.100	0.095
Gender (Male = 1)	0.015***	0.017***	0.011**	0.015***
Age Indicator (Age 0 = 1)	0.032	0.160***	-0.039	0.013
Log of Age	0.041*	0.076***	0.001***	0.039*
Log of Age Squared	-0.005	-0.009*	0.000	-0.004
Length of Stay Indicator (LOS 0 = 1)	-	0.280***	-	-
Log of Length of Stay	0.715***	0.647***	0.170***	0.603***
Log of Length of Stay Squared	0.067***	0.063***	-0.001***	0.086***
Year 2007	0.103***	0.100***	0.111***	0.116***
Year 2008	0.178***	0.150***	0.173***	0.157***
Year 2009	0.270***	0.246***	0.268***	0.256***
Year 2010	0.328***	0.303***	0.325***	0.327***
Year 2011	0.428***	0.394***	0.420***	0.418***
Year 2012	0.489***	0.454***	0.473***	0.476***
Year 2013	0.518***	0.470***	0.485***	0.500***
Year 2014	0.535***	0.489***	0.510***	0.519***
Year 2015	0.545***	0.506***	0.524***	0.536***
Estimated Overcharge	-3.47%	-2.78%	-1.33%	-1.76%
Observations	130,325	172,872	155,620	138,581
Adj. R-Squared	0.775	0.684	0.679	0.757

*** p<0.01, ** p<0.05, * p<0.10

Source: Anthem claims data; Dr. Chipty's backup materials; OSHPD Hospital Quarterly Financial and Utilization Data

Note: All regressions include Plan-Type, Insurer, and DRG fixed effects; Medicare switched from DRG to MS-DRG coding in October 2007, I therefore absorb on the interaction of a pre-October 2007 indicator variable and the DRG code; For the run where I include observations with length of stay equal to zero, I replace log of length of stay with log of length of stay + 1 (when length of stay is zero) and I include an indicator variable for those observations; The age and length of stay coefficients shown under the "Levels Age and Length of Stay" specification are for those variables non-logged; For the run excluding values based on percentiles, I drop allowed amount values less than the 1st percentile or greater than the 99th percentile by DRG-Year. I drop length of stay values greater than the 99th percentile by DRG-Year; For all of these, I measure significance on the Sutter Flag based on the overcharge and not the coefficient on the indicator variable

[redacted]

	Sensitivity Runs		
Explanatory Variable	**Age and Length of Stay Controls based on Dr. Tenn**	**Including Hospital Assets in place of System Assets**	**Log of LOS and Log of LOS Squared Interacted with DRG**
Wage Index	0.612***	0.636***	0.647***
Major Teaching	-0.071	-0.010	-0.063***
Trauma Level 1 or 2	0.111*	0.107*	0.112***
Hospital Rating	0.005	0.006	0.006***
Log System Beds	-0.798***	-0.706***	-0.809***
Log System Beds Squared	0.057***	0.057***	0.058***
Micro Market HHI	0.053**	0.061**	0.053***
Log of System Assets	0.103	-	0.103***
Log of Hospital Assets	-	0.032	-
Gender (Male = 1)	0.022***	0.020***	0.074***
Age Indicator (Age 0 = 1)	-0.070**	0.065**	-0.091***
Log of Age	-	0.095***	0.031***
Log of Age Squared	-	-0.016***	0.006***
Log of Length of Stay	-	0.677***	-
Log of Length of Stay Squared	-	0.072***	-
Year 2007	0.102***	0.112***	0.160***
Year 2008	0.157***	0.161***	0.312***
Year 2009	0.252***	0.261***	0.399***
Year 2010	0.312***	0.329***	0.456***
Year 2011	0.409***	0.428***	0.550***
Year 2012	0.463***	0.484***	0.605***
Year 2013	0.480***	0.505***	0.617***
Year 2014	0.501***	0.527***	0.638***
Year 2015	0.514***	0.543***	0.657***
Estimated Overcharge	-3.64%	-1.37%	-3.13%
Observations	155,620	155,274	155,701
Adj. R-Squared	0.739	0.737	0.701

*** p<0.01, ** p<0.05, * p<0.10

Source: Anthem claims data; Dr. Chipty's backup materials; OSHPD Hospital Quarterly Financial and Utilization Data

Note: All regressions include Plan-Type, Insurer, and DRG fixed effects; Medicare switched from DRG to MS-DRG coding in October 2007, I therefore absorb on the interaction of a pre-October 2007 indicator variable and the DRG code; For "Age and Length of Stay Controls based on Dr. Tenn", I include the variable "Age" as a fourth order polynomial, I include dummy variables for length of stay 0 through 30, and then a fourth order polynomial turned on when length of stay is greater than 30; When I interact DRG with length of stay, I do not cluster standard errors by hospitals, as I do elsewhere. Rather, I use robust standard errors. I measure significance on the Sutter Flag based on the overcharge and not the coefficient on the indicator variable

APPENDIX B: DETAILS ON DR. CHIPTY'S ERRONEOUS ASSIGNMENT OF DAMAGES TO CLASS MEMBERS

228. I explain in Section IV.C.2(b)(1) that because the utilization of inpatient healthcare differs across demographic groups and demographic characteristics are either directly are indirectly considered in premium setting, Dr. Chipty's damages assignment method that ignores differences in the demographic composition of groups almost surely estimates damages incorrectly for most class members. This appendix provides some details that support my opinion that inpatient healthcare utilization differs significantly across demographic groups, particularly with regard to the age and gender of individuals. I also provide a specific example of the errors that likely are caused by Dr. Chipty's assignment of individuals and small groups to incorrect geographic RAs.

1. Inpatient healthcare utilization differs significantly by age and gender

229. Figure 14 and Figure 15 below are reproductions of figures from a recent study submitted as a part of the Health Care Cost Institute's series of independent research projects using its commercial health care claims database.[288]

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[288] Yamamoto, Dale, "Health Care Costs—From Birth to Death," Society of Actuaries (WILLIG_000866-WILLIG_000937), Chart 1 and Chart 6.

Figure 14: Inpatient Facility Costs by Age, Gender, and Experience Year

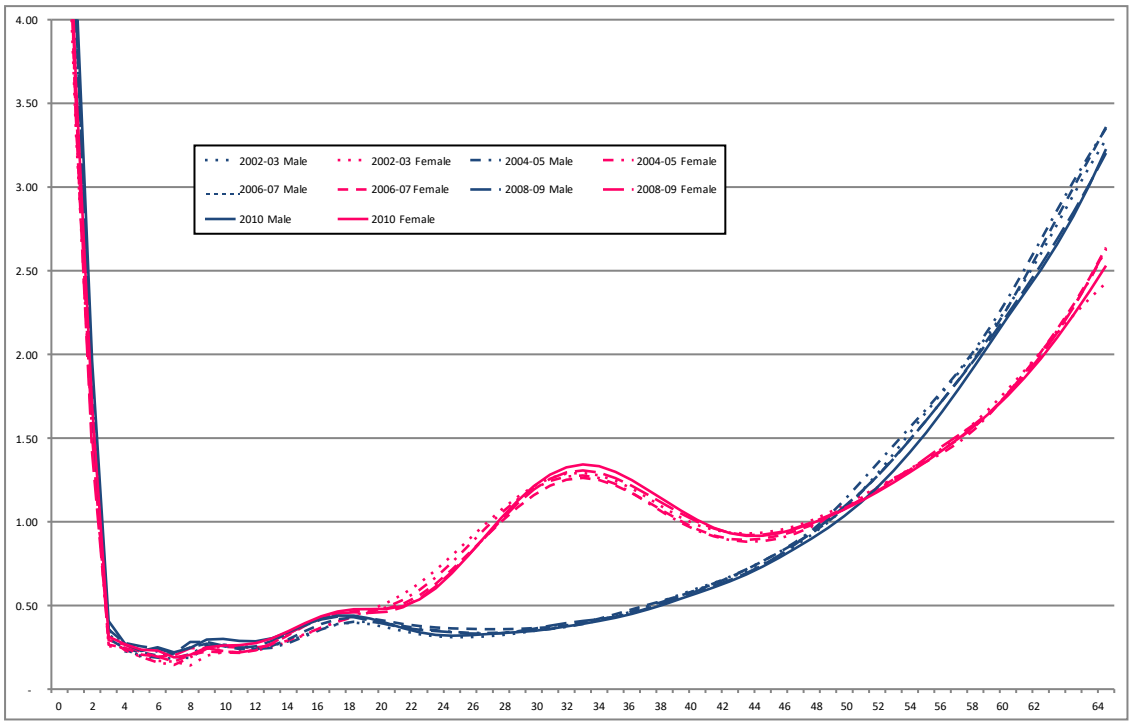
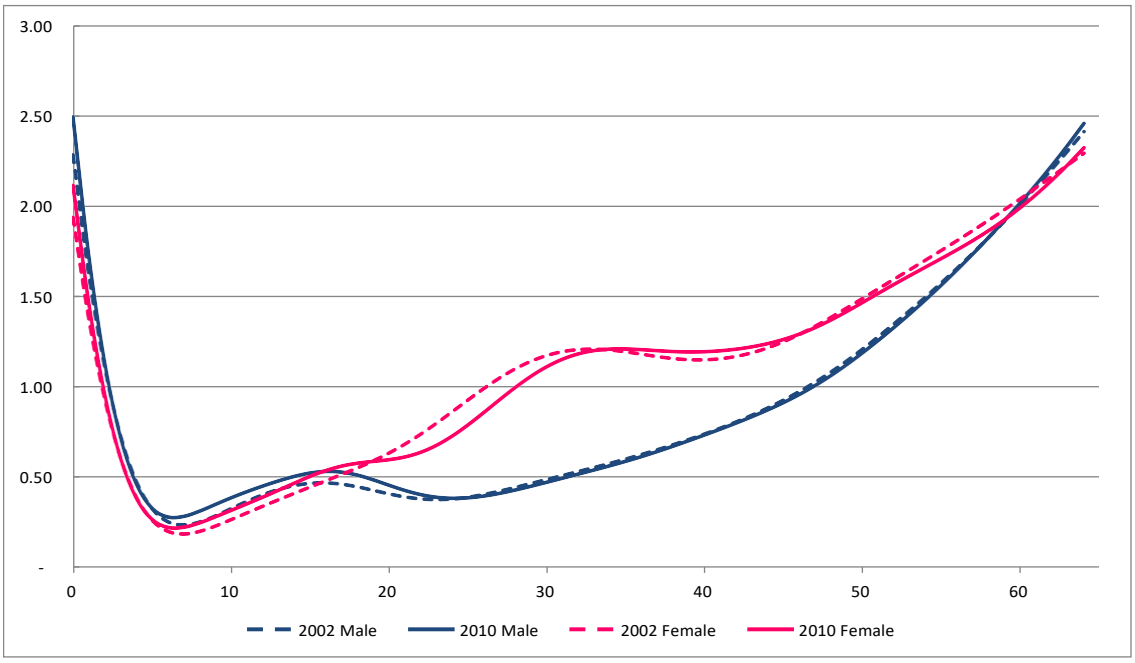


Figure 15: Aggregate Commercial Medical Costs by Age, Gender, and Experience Year



230. Figure 14 and Figure 15 show cost indices for inpatient care and total commercial health care costs by age and gender. A cost index of 2.00 indicates that the average cost for that particular age-gender combination is two times the average cost for the entire group (*e.g.*, 2010

men and women, all ages).[289] As can be seen in the figures, the proportion of commercial healthcare costs, including those attributed specifically to inpatient care, varies by age and gender (otherwise, all of the lines in the figures would be the same). For example, the cost index for inpatient care for a woman in her early 30s is nearly one and a half times larger than it is for a woman in her early 40s.[290]

2. An example of the implications of Dr. Chipty's assignment of small group plan members to incorrect geographic RAs

231. The following example explains the problems caused by Dr. Chipty's incorrect treatment of geographic RAs. The Chipty Declaration wrongly assumes that for each year during the class period, small groups located in ACA-defined RA 1 would experience the same damages.[291] However, Anthem's Chris Mathewson testified that [redacted].[292] And, before January 2014, [redacted] likely experienced different premium levels and changes. Hence, although Dr. Chipty assumes common impact across small groups in RA 1, unless premium changes due to any Sutter price increases were exactly the same across [redacted].

232. Relatedly, the Chipty Declaration indicates that damages would significantly differ across ACA-defined RAs.[293] For example, Exhibit 23 of the Chipty Declaration estimates that the overpayment made by class members in RA 4 was approximately five times the overpayment made by class members in RA 1.[294] However, according to Anthem's Chris Mathewson, during the class period, [redacted]

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289 "Health Care Costs—From Birth to Death," at WILLIG_000877.

290 "Health Care Costs—From Birth to Death," at WILLIG_000910 and WILLIG_000915.

291 *See, e.g.*, Chipty Decl., ¶ 139, n. 271.

292 Mathewson Dep, 78:21-80:8. ([redacted]

293 *See, e.g.*, Chipty Decl., Exhibits 21-24.

294 *Id*.

[redacted].[295] So, for example, although Dr. Chipty's methodology implies the assignment of damages to class members in RA 5 (Contra Costa) that are approximately five times as large as those assigned to class members in RA 1 (Rural North/Sierra), [redacted]

295 Mathewson Dep., 78:21-80:8. [redacted]

APPENDIX C: TECHNICAL APPENDIX

233. This section discusses my processing of claims data produced by insurance carriers in this litigation. I describe the raw data files that I use as inputs, the decisions and filtering rules I applied to those data, and the steps I took to prepare the data for analysis.

1. Anthem Blue Cross

234. [redacted][296][redacted]

235. [redacted]

236. [redacted]

237. [redacted]

296 [redacted]

[redacted].[297]

2. **Aetna**

238. I construct my Aetna dataset from 14 files produced by Aetna. These files contain data for both inpatient and outpatient claims for services performed at providers located in California. The data cover the time period from 2003-2016.

239. I identify inpatient claims using the type of bill code (**hcfa_bill_type_cd**) and place of service code (**hcfa_plc_srv_cd**) variables. I select records where the type of bill code begins with the digits "11" or "12" or records where the place of service code is equal to "21".

240. Provider names and locations in the Aetna data require standardization. I do this by mapping in identification numbers from the OSHPD data and using that information to standardize provider names and addresses. This is similar to the methodology described for Anthem Blue Cross above and again follows Dr. Chipty's procedure.

241. There appeared to be two diagnosis classification systems in the Aetna data in 2006 and 2007. I find evidence that both DRG and MS-DRG codes are being used for claims in this period. To avoid mis-classifying patient conditions, I drop episodes that occurred prior to January 2008.

3. **United Healthcare**

242. My United Healthcare dataset is constructed from 158 files. These files include inpatient and outpatient claims for patients residing in and outside of California who were treated at hospitals in and outside of California. The data cover the period from January 2005 to May 2018.

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297 *See* "OSHPD to CMS ID Crosswalk.csv".

243. Some of the large claims in the United Healthcare system have been split into multiple claim identifiers because the data system cannot handle claims with more than seven lines. The following methodology is used to identify and consolidate these claims:

- Identify the set of claims that share the first ten digits of the field **claim_audit_number** and differ only in their final two-digit suffix. These claim audit numbers will, for example, look like A01, A02, A03, etc. where A is a ten-digit number.
- Define a truncated claim identification number by keeping the first ten digits of **claim_audit_number** if the claim is among the set of claims identified in the step above.

244. There are also instances of multiple observations for a claim and claim line number combination. The following methodology is used to consolidate these observations:

- For each claim and claim line number combination, if there is one observation where the billed amount, allowed amount, or paid amount is negative, then the observation is assumed to be an adjustment. In this case, the observations within the claim and claim line number combination are aggregated into one observation, and the data values for the variables are based on the latest paid date.
- For each claim and claim line number combination, if all the observations have positive amounts, then these observations are assumed to be separate line items since it is unclear whether they are adjustments. These observations are not aggregated into one observation.

245. I identify inpatient claims using the type of bill code (**bill_type_code**) and place of service code (**ama_place_of_service**) variables. I select records where the type of bill code begins with the digits "11" or "12" and records where the place of service code is equal to "21" or "INPATIENT".

246. Some providers in the United Healthcare data are located outside of California. I drop these facilities from my data based on the variables **provider_classification_code**, **provider_category_cd**, and **provider_state**.

247. Provider names and locations in the United Healthcare data require standardization. I do this by mapping in identification numbers from the OSHPD data and using that information

to standardize provider names and addresses. This is similar to the methodology described for Anthem Blue Cross above and again follows Dr. Chipty's procedure.

248. There are claims in the data production that have been denied or otherwise not fully paid. I limit the data to only processed or paid claims. A claim is categorized as fully processed or paid when all the line items within the claim are flagged as processed or paid. These instances are recorded by the variable **charge_status_code** being equal to "D".

4. Preparing Claims Data for Analysis

249. The individual inpatient claims are grouped into episodes of inpatient care. Episodes are constructed by linking the claims that are associated with the patient's stay at the hospital facility for treatments of a single diagnosis, as defined by the DRG code, for a single time period. In the Anthem and United Healthcare data, I use admission and discharge dates to define these time periods. Because the Aetna data lack admission and discharge dates, I use the service dates for each claim to establish the time period over which the episode occurred. In other words, the claims are aggregated by patient identifier, hospital, DRG, and service period, to create a single inpatient stay and associated price.

250. Episodes that appear to include transfers between general-acute care inpatient hospitals are excluded. These are instances where the patient received care at more than one general-acute care facility for the same diagnosis during overlapping or adjacent days.

251. I merge DRG weights into the claims data by federal fiscal year (October to September). These DRG weights are based on the DRG files provided in Dr. Chipty's backup.

252. I drop episodes where the patient's insurance carrier is not identified as the primary payer. These are instances where another payer is listed as the primary payer, coordination of benefits is indicated, or where payments associated with coordination of benefits are positive.

253. I drop episodes where important information is inconsistent across the claims that make up the episode. These include DRG codes and patient age, sex, zip code, plan type, funding type, and network type. I further drop episodes with negative total allowed amounts.

254. I then apply the following filters, which are based on exclusions Dr. Chipty's implements, to create my regression dataset. I drop:

- Episodes where the member is not located in California
- Episodes with DRG values equal to "UNK", "000", "998", "999", "D30", "D31", "D37", "D45", "795" and "D45"
- Episodes for patients that are not fully-insured
- Episodes with MDC values equal to 0, 19, 20, as well as missing MDC values
- Episodes with allowed amount values equal to zero
- Episodes where the patient's provider is not in the patient's insurance network
- Hospitals that are not general/short-term acute-care hospitals
- Hospitals that are not located in Northern California

5. **Regression Framework**

The regression specification for the stacked regression that pools observations across the three insurance carriers and estimates a separate coefficient for each Sutter hospital is as follows:

$$
\begin{aligned}
&Log\ Price_{i,d,h,y,c,p} \\
&= \alpha + \sum_{n=1}^{7} \gamma_n Sutter\ Damage\ Hospital_n + \beta_1 Wage\ Index_{h,y} + \beta_2 Major\ Teaching_{h,y} \\
&+ \beta_3 Trauma\ Level\ 1\ or\ 2_{h,y} + \beta_4 Patient\ Rating_{h,y} + \beta_5 Log\ System\ Beds_{h,y} \\
&+ \beta_6 Log\ System\ Bed\ Squared_{h,y} + \beta_7 Log\ Micromarket\ HHI_h + \beta_8 Log\ System\ Assets_{h,y} \\
&+ \beta_9 Male_{i,d,h,y,c,p} + \beta_{10} 1(Age\ is\ 0)_{i,d,h,y,c,p} + \beta_{10} Log\ Age_{i,d,h,y,c,p} + \beta_{12} Log\ Age\ Squared_{i,d,h,y,c,p} \\
&+ \beta_{10} Log\ LOS_{i,d,h,y,c,p} + \beta_{12} Log\ LOS\ Squared_{i,d,h,y,c} \\
&+ \sum_{y=2006}^{2015} Y_y Year_y + \sum_{c=1}^{3} C_c Carrier_c + \sum_{d=1}^{D} D_d DRG_d + \sum_{p=1}^{P} P_P PLAN_p
\end{aligned}
$$

where

- $Price_{i,d,h,y,c,p}$ is the price for discharge *i* associated with DRG-code *d*, hospital *h*, year *y*, insurance carrier *c,* and plan *p*;
- hospital level explanatory variables include wage index, major teaching indicator variable, trauma level 1 or 2 indicator variable, patient rating, system bed terms, micromarket HHI, and system assets (except for system assets, all other variables were used by Dr. Chipty in her regression analyses);
- discharge level variables include gender, age terms, and length of stay terms; and

- other variables include year fixed effects, insurance carrier fixed effects, plan-type fixed effects, and DRG fixed effects.

[redacted] The regression specification for the model that estimates a single coefficient for the Summit Damage hospitals replaces the set of indicator variables for individual Sutter hospitals with a single indicator variable representing all Sutter hospitals.

APPENDIX D: MATERIALS CONSIDERED

Legal Documents and Depositions

California v. Sutter Health System No C99-03803 MMC, Second Amended Memorandum of Decision Re: Order Denying Plaintiff's Motion for Preliminary Injunction; Findings of Fact and Conclusions of Law, January 29, 2001.

Corrected Expert Declaration of Jeffrey J. Leitzinger, Ph.D. and backup materials, Mar. 14, 2017.

Declaration of David V. Axene, FSA, FCA, CERA, MAAA in Support of Plaintiffs' Motion for Class Certification and backup materials, June 21, 2018.

Declaration of Dr. Tasneem Chipty in Opposition to Motion for Summary Judgment and backup materials, May 26, 2018.

Expert Declaration of Patrick Travis and backup materials, September 21, 2018.

Declaration of Evan McGinley in Support of Sutter Health's Opposition of Plaintiffs' Motion for Class Certification and backup materials.

Declaration of Melissa Brendt in Support of Defendants' Opposition to UEBT's Motion for Class Certification and backup materials, April 14, 2017.

Deposition of Aldo De La Torre, July 17, 2018.

Deposition of Becky LaCroix-Milani, August 31, 2018.

Deposition of Brent Hitchings, August 28, 2018.

Deposition of Chris Mathewson, May 18, 2018.

Deposition of Darrin Wells, August 30, 2018.

Deposition of David Axene, September 4, 2018.

Deposition of David Herman, August 17, 2018.

Deposition of Deborah Henning, June 19, 2018.

Deposition of Gautam Gowriskankaran, Ph.D., February 6, 2018.

Deposition of Gerald Lalande, September 29, 2017.

Deposition of Jacques Loveall, February 23, 2018.

Deposition of James Conforti, May 31, 2018.

Deposition of James Conforti, May 9, 2018.

Deposition of Janet Lundbye, May 15, 2018.

Deposition of Janet Widmann, July 27, 2018.

Deposition of Jeff Gerard, June 1, 2018.

Deposition of Jon Chason, May 25, 2018.

Deposition of Juan Davila, July 11, 2018.

Deposition of Lei Tsui, August 31, 2018.

Deposition of Melissa Brendt, August 22, 2018.

Deposition of Melissa Brendt, August 28, 2018.

Deposition of Melissa Brendt, August 8, 2018.

Deposition of Melissa Brendt, July 30, 2018.

Deposition of Melissa Brendt, June 12, 2018.

Deposition of Melissa Brendt, June 13, 2018.

Deposition of Melissa Brendt, May 5, 2018.

Deposition of Michael Beuoy, May 2, 2018.

Deposition of Paul Markovich, August 10, 2018.

Deposition of Phil Jackson, December 21, 2017.

Deposition of Steven Cain, June 20, 2018.

Deposition of Ezequiel Tasabia, May 16, 2018.

Deposition of Tasneem Chipty, Ph.D., September 29, 2017.

Deposition of Thomas Hamilton, September 11, 2018.

Deposition of Tina Feeney, August 24, 2018.

Expert Declaration of Dr. Tasneem Chipty in Support of Plaintiffs' Motion for Class Certification, June 21, 2018.

Fourth Amended Complaint, Djeneba Sidibe, Diane Dewey and Jerry Jankowski on Behalf of Themselves and All 15 Other Similarly Situated, v. Sutter Health, September 29, 2017.

Reply Expert Declaration of Jeffrey J. Leitzinger, Ph.D., May 25, 2017.

OSHPD Discharge Data

MDS_HCO2016.csv

OSHPD Licensed Facility Crosswalks

licensed-healthcare-facility-listing-december-31-2016.csv

licensed-healthcare-facility-listing-december-31-2017.csv

OSHPD Financial and Utilization Data

hospital-quarterly-sum-of-qtrs-2002q4r4-revised-507.xls

hospital-quarterly-sum-of-qtrs-2003q4r4-revised-507.xls

hospital-quarterly-sum-of-qtrs-2004q4r4-revised-507.xls

hospital-quarterly-sum-of-qtrs-2005q4r4-revised-408.xls

hospital-quarterly-sum-of-qtrs-2006q4r4-revised-517.xls

hospital-quarterly-sum-of-qtrs-2007q4r4-revised-510.xls

hospital-quarterly-sum-of-qtrs-2008q4r4-revised-411.xls

hospital-quarterly-sum-of-qtrs-2009q4r4-revised-411.xls

hospital-quarterly-sum-of-qtrs-2010q4r4-revised-1012.xls

hospital-quarterly-sum-of-qtrs-2011q4r4-revised-715.xls

hospital-quarterly-sum-of-qtrs-2012q4r4-revised-115.xls

2013q4r4-sum-4-qtrs.csv

2014q4r4-sum-4-qtrs.csv

2015q4r4-sum-4-qtrs.csv

2016q4r4-sum-4-qtrs.csv

HUD USPS Zip Code Crosswalk

ZIP_COUNTY_122010.xlsx

ZIP_TRACT_062018.xlsx

ZIP_TRACT_122010.xlsx

CMS MS-DRG Relative Weighting Factors

CMS-1677 Table 5_Weight_File_FR_CN.xlsx

CMS-1655-P FY 2017 TABLE 5 _Weight_File_FR.xlsx

Aetna Claims Data

Sutter_T2003_data.tmp

Sutter_T2004_data.tmp

Sutter_T2005_data.tmp

Sutter_T2006_data.tmp

Sutter_T2007_data.tmp

Sutter_T2008_data.tmp

Sutter_T2009_data.tmp

Sutter_T2010_data.tmp

Sutter_T2011_data.tmp

Sutter_T2012_data.tmp

Sutter_T2013_data.tmp

Sutter_T2014_data.tmp

Sutter_T2015_data.tmp

Sutter_T2016_data.tmp

UnitedHealthcare Claims Data

UHC_Sidibe-0008727.csv

UHC_Sidibe-0008728.csv

UHC_Sidibe-0008729.csv

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Dennis Carlton and Michael Waldman, *How Economics Can Improve Antitrust Doctrine towards Tie-In Sales: Comment on Jean Tirole's "The Analysis of Tying Cases: A Primer"*, Competition Policy International (print ISSN 1554-0189, online ISSN 1554-6853), Spring 2005, Vol. 1, No. 1., pp. 27-40.

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E. Glen Weyl and Michal Fabinger, *Pass-Through as an Economic Tool: Principles of Incidence under Imperfect Competition*, Journal of Political Economy, Vol. 121, No. 3 (June 2013), pp. 528-583.

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Kate Ho and Robin Lee, *Equilibrium Provider Networks: Bargaining and Exclusion in Health Care Markets*, July 2018, http://www.people.fas.harvard.edu/~robinlee//papers/EqNetworks.pdf (last accessed September 21, 2018).

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Discussions with Sutter Employees

February 8, 2018, meeting with Melissa Brendt and Jon Chason to discuss Sutter's contract negotiations with commercial payers.

August 14, 2018, call to discuss Sutter's quality tracking with Lawrence DeGhetaldi, M.D., Palo Alto Medical Foundation Division President; Madrone Styles R.N., MSN, Sutter Health's Vice President of Quality and Clinical Effectiveness; Bill Isenberg M.D., PhD, Sutter Health's Vice President of Patient Safety; Lori Bloomfield, Vice President of the Sutter Medical Network; Bonnie George, Sutter Health's Vice President of Risk Services, Chief Risk Officer, and Chief Executive Officer SISCO; Julie Meyers, Regional Executive of Integrated Quality Services for

Sutter Health's Central Valley Region; and Teresa Wallace, Sutter Health's Director of Healthcare Risk.

August 17, 2018, call to discuss finances, capital investments, and capital allocation with Susan McCabe, Sutter Health's Director of Reimbursement; Colette Boudreau, Sutter Health's Vice President of Finance and Controller; Jeff Sprague, Sutter Health's Chief Financial Officer; John Gates, Chief Financial Officer for Sutter Health Bay Area; Paige Terra, Chief Financial Officer for Sutter Health Central Valley Area; Jon Chason, Vice President of Managed Care at Sutter Health; Lawrence DeGhetaldi, M.D., Palo Alto Medical Foundation Division President; and Eric Dalton, Regional Chief Financial Officer at Sutter Health.

Ex. A

September 10, 2018

Curriculum Vitae

Name: **Robert D. Willig**

Address: 220 Ridgeview Road, Princeton, New Jersey 08540

Birth: 1/16/47; Brooklyn, New York

Marital Status: Married, four children

Education:

Ph.D. Economics, Stanford University, 1973
Dissertation: Welfare Analysis of Policies Affecting Prices and Products.
Advisor: James Rosse

M.S. Operations Research, Stanford University, 1968.

A.B. Mathematics, Harvard University, 1967.

Professional Positions:

Lecturer with the rank of Professor, Woodrow Wilson School of Public and International Affairs, 2/2017 – 6/2019.

Professor of Economics and Public Affairs, Emeritus, Princeton University, 7/2016 –

Professor of Economics and Public Affairs, Princeton University, 7/1978 - 6/2016.

Principal External Advisor, Infrastructure Program, Inter-American Development Bank, 6/97-8/98.

Deputy Assistant Attorney General, U.S. Department of Justice, l989-1991.

Supervisor, Economics Research Department, Bell Laboratories, 1977-1978.

Visiting Lecturer (with rank of Associate Professor), Department of Economics and Woodrow Wilson School, Princeton University, 1977-78 (part time).

Economics Research Department, Bell Laboratories, 1973-77.

Lecturer, Economics Department, Stanford University, 1971-73.

Other Professional Activities

ABA Section of Antitrust Law Economics Task Force, 2010-2012

Advisory Committee, Compass Lexecon 2010 -

OECD Advisory Council for Mexican Economic Reform, 2008 - 2009

Senior Consultant, Compass Lexecon, 2008 -

Director, Competition Policy Associates, Inc., 2003-2005

Advisory Bd., Electronic Journal of I.O. and Regulation Abstracts, 1996-2008.

Advisory Board, Journal of Network Industries, 2004-2010.

Visiting Faculty Member (occasional), International Program on Privatization and Regulatory Reform, Harvard Institute for International Development, 1996-2000.

Member, National Research Council Highway Cost Allocation Study
Review Committee, 1995-98.

Member, Defense Science Board Task Force on the Antitrust Aspects of Defense Industry Consolidation, 1993-94.

Editorial Board, Utilities Policy, 1990-2001.

Leif Johanson Lecturer, University of Oslo, November 1988.

Member, New Jersey Governor's Task Force on Market-Based Pricing of Electricity, 1987-89.

Co-editor, Handbook of Industrial Organization, 1984-89.

Associate Editor, Journal of Industrial Economics, 1984-89.

Director, Consultants in Industry Economics, Inc., 1983-89, 1991-94.

Fellow, Econometric Society, 1981-.

Organizing Committee, Carnegie-Mellon-N.S.F. Conference on Regulation, 1985.

Board of Editors, American Economic Review, 1980-83.

Nominating Committee, American Economic Association, 1980-1981.

Research Advisory Committee, American Enterprise Institute, 1980-1986.

Editorial Board, M.I.T. Press Series on Government Regulation of Economic Activity, 1979-93.

Program Committee, 1980 World Congress of the Econometric Society.

Program Committee, Econometric Society, 1979, 1981, 1985.

Organizer, American Economic Association Meetings: 1980, 1982.

American Bar Association Section 7 Clayton Act Committee, 198l.

Principal Investigator, NSF grant SOC79-0327, 1979-80; NSF grant 285-6041, 1980-82; NSF grant SES-8038866, 1983-84, 1985-86.

Aspen Task Force on the Future of the Postal Service, 1978-80.

Organizing Committee of Sixth Annual Telecommunications Policy Research Conference, 1977-78.

Visiting Fellow, University of Warwick, July 1977.

Institute for Mathematical Studies in the Social Sciences, Stanford University, 1975.

Published Articles and Book Chapters:

"The Role of the Circle Principle in Market Definition," (with Bryan Keating and Jonathan Orszag), The Antitrust Source, April 2018, 1-6.

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"An Economic Definition of Predation: Pricing and Product Innovation," (with J. Ordover), Yale Law Journal, Vol. 90: 473, December 1981, pp. 1-44.

"Fixed Costs, Sunk Costs, Entry Barriers, and the Sustainability of Monopoly," (with W. Baumol), Quarterly Journal of Economics, Vol. 96, No. 3, August 1981, pp. 405-432.

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Invited Conference Presentations:

Portuguese Competition Authority Public Seminar Series
"Ups and Downs of Horizontal and Vertical Mergers" 2017

World Bank Workshop on Digital Technology Adoption, Skills, Productivity and Jobs in Latin America
"Discussion of Models of Firm Heterogeneity" 2016

George Mason Law Review Annual Antitrust Symposium: Antitrust in an Interconnected World
"GUPPI and the Safe Harbor" 2016

Competition Law & Policy Institute of New Zealand Annual Workshop
"Merger Analysis Keynote" 2015

Economic Studies at Brookings: Railroads, Policy and the Economy
"The Industry Perspective" 2015

Georgetown University McDonough School of Business Railroad Economics Symposium
"The Role of Economic Theory in the 'Deregulated' Rail Industry" 2015

Brazilian School of Economics and Finance (FGV EPGE) Seminario
"Public Interest Regulation: Lessons from Railroads" 2015

NYU School of Law Conference on the Fiftieth Anniversary of United States v. Philadelphia National Bank: The Past, Present and Future of Merger Law
"Discussion with Agency Economists" 2013

Brookings Institution Conference on The Economics of the Airline Industry
"Airline Network Effects and Consumer Welfare" 2012

AGEP Public Policy Conference on Pharmaceutical Industry Economics, Regulation and Legal Issues; Law and Economics Center, George Mason University School of Law
"Pharmaceutical Brand-Generic Disputes" 2012

U.S.-EU Alliance Study Peer Review Conferences
"Review of Cooperative Agreements in Transatlantic Airline Markets" 2012
"The Research Agenda Ahead" 2012

Antitrust in the High Tech Sector Conference
"Developments in Merger Enforcement" 2012

Georgetown Center for Business and Public Policy, Conference on the Evolution of Regulation
"Reflections on Regulation" 2011

Antitrust Forum, New York State Bar Association
"Upward Price Pressure, Market Definition and Supply Mobility" 2011

American Bar Association, Antitrust Section, Annual Convention
"The New Merger Guidelines' Analytic Highlights" 2011

OECD and World Bank Conference on Challenges and Policies for Promoting Inclusive Growth
"Inclusive Growth From Competition and Innovation" 2011

Villanova School of Business Executive MBA Conference
"Airline Network Effects, Competition and Consumer Welfare" 2011

NYU School of Law Conference on Critical Directions in Antitrust
"Unilateral Competitive Effects" 2010

Conf. on the State of European Competition Law and Enforcement in a Transatlantic Context
"Recent Developments in Merger Control" 2010

Center on Regulation and Competition, Universidad de Chile Law School
"Economic Regulation and the Limits of Antitrust Law" 2010

Center on Regulation and Competition, Universidad de Chile Law School
"Merger Policy and Guidelines Revision" 2010

Faculty of Economics, Universidad de Chile
"Network Effects in Airlines Markets" 2010

Georgetown Law Global Antitrust Enforcement Symposium
"New US Merger Guidelines" 2010

FTI London Financial Services Conference
"Competition and Regulatory Reform" 2010

NY State Bar Association Annual Antitrust Conference
"New Media Competition Policy" 2009

Antitrust Law Spring Meeting of the ABA
"Antitrust and the Failing Economy Defense" 2009

Georgetown Law Global Antitrust Enforcement Symposium
"Mergers: New Enforcement Attitudes in a Time of Economic Challenge" 2009

Phoenix Center US Telecoms Symposium
"Assessment of Competition in the Wireless Industry" 2009

FTC and DOJ Horizontal Merger Guidelines Workshop
"Direct Evidence is No Magic Bullet" 2009

Northwestern Law Research Symposium: Antitrust Economics and Competition Policy
"Discussion of Antitrust Evaluation of Horizontal Mergers" 2008

Inside Counsel Super-Conference
"Navigating Mixed Signals under Section 2 of the Sherman Act" 2008

Federal Trade Commission Workshop on Unilateral Effects in Mergers
"Best Evidence and Market Definition" 2008

European Policy Forum, Rules for Growth: Telecommunications Regulatory Reform
"What Kind of Regulation For Business Services?" 2007

Japanese Competition Policy Research Center, Symposium on M&A and Competition Policy
"Merger Policy Going Forward With Economics and the Economy" 2007

Federal Trade Commission and Department of Justice Section 2 Hearings
"Section 2 Policy and Economic Analytic Methodologies" 2007

Pennsylvania Bar Institute, Antitrust Law Committee CLE
"The Economics of Resale Price Maintenance and Class Certification" 2007

Pennsylvania Bar Institute, Antitrust Law Committee CLE
"Antitrust Class Certification – An Economist's Perspective" 2007

Fordham Competition Law Institute, International Competition Economics Training Seminar
"Monopolization and Abuse of Dominance" 2007

Canadian Bar Association Annual Fall Conference on Competition Law
"Economic Tools for the Competition Lawyer" 2007

Conference on Managing Litigation and Business Risk in Multi-jurisdiction Antitrust Matters
"Economic Analysis in Multi-jurisdictional Merger Control" 2007

World Bank Conference on Structuring Regulatory Frameworks for Dynamic and Competitive South Eastern European Markets
"The Roles of Government Regulation in a Dynamic Economy" 2006

Department of Justice/Federal Trade Commission Section 2 Hearings
"(Allegedly) Monopolizing Tying Via Product Innovation" 2006

Fordham Competition Law Institute, Competition Law Seminar
"Monopolization and Abuse of Dominance" 2006

Practicing Law Institute on Intellectual Property Antitrust
"Relevant Markets for Intellectual Property Antitrust" 2006

PLI Annual Antitrust Law Institute
"Cutting Edge Issues in Economics" 2006

World Bank's Knowledge Economy Forum V
"Innovation, Growth and Competition" 2006

Charles University Seminar Series
"The Dangers of Over-Ambitious Antitrust Regulation" 2006

NY State Bar Association Antitrust Law Section Annual Meeting
"Efficient Integration or Illegal Monopolization?" 2006

World Bank Seminar
"The Dangers of Over-Ambitious Regulation" 2005

ABA Section of Antitrust Law 2005 Fall Forum
"Is There a Gap Between the Guidelines and Agency Practice?" 2005

Hearing of Antitrust Modernization Commission
"Assessment of U.S. Merger Enforcement Policy" 2005

LEAR Conference on Advances in the Economics of Competition Law
"Exclusionary Pricing Practices" 2005

Annual Antitrust Law Institute
"Cutting Edge Issues in Economics" 2005

PRIOR Symposium on States and Stem Cells
"Assessing the Economics of State Stem Cell Programs" 2005

ABA Section of Antitrust Law – AALS Scholars Showcase
"Distinguishing Anticompetitive Conduct" 2005

Allied Social Science Associations National Convention
"Antitrust in the New Economy" 2005

ABA Section of Antitrust Law 2004 Fall Forum
"Advances in Economic Analysis of Antitrust" 2004

Phoenix Center State Regulator Retreat
"Regulatory Policy for the Telecommunications Revolution" 2004

OECD Competition Committee
"Use of Economic Evidence in Merger Control" 2004

Justice Department/Federal Trade Commission Joint Workshop
"Merger Enforcement" 2004

Phoenix Center Annual U.S. Telecoms Symposium
"Incumbent Market Power" 2003

Center for Economic Policy Studies Symposium on Troubled Industries
"What Role for Government in Telecommunications?" 2003

Princeton Workshop on Price Risk and the Future of the Electric Markets
"The Structure of the Electricity Markets" 2003

2003 Antitrust Conference
"International Competition Policy and Trade Policy" 2003

International Industrial Organization Conference
"Intellectual Property System Reform" 2003

ABA Section of Antitrust Law 2002 Fall Forum
"Competition, Regulation and Pharmaceuticals" 2002

Fordham Conference on International Antitrust Law and Policy
"Substantive Standards for Mergers and the Role of Efficiencies" 2002

Department of Justice Telecom Workshop
"Stimulating Investment and the Telecommunications Act of 1996" 2002

Department of Commerce Conference on the State of the Telecom Sector
"Stimulating Investment and the Telecommunications Act of 1996" 2002

Law and Public Affairs Conference on the Future of Internet Regulation
"Open Access and Competition Policy Principles" 2002
Center for Economic Policy Studies Symposium on Energy Policy
"The Future of Power Supply" 2002

The Conference Board: Antitrust Issues in Today's Economy
"The 1982 Merger Guidelines at 20" 2002

Federal Energy Regulatory Commission Workshop
"Effective Deregulation of Residential Electric Service" 2001

IPEA International Seminar on Regulation and Competition
"Electricity Markets: Deregulation of Residential Service" 2001
"Lessons for Brazil from Abroad" 2001

ABA Antitrust Law Section Task Force Conference
"Time, Change, and Materiality for Monopolization Analyses" 2001

Harvard University Conference on American Economic Policy in the 1990s
"Comments on Antitrust Policy in the Clinton Administration" 2001

Tel-Aviv Workshop on Industrial Organization and Anti-Trust
"The Risk of Contagion from Multimarket Contact" 2001

2001 Antitrust Conference
"Collusion Cases: Cutting Edge or Over the Edge?" 2001
"Dys-regulation of California Electricity" 2001

FTC Public Workshop on Competition Policy for E-Commerce
"Necessary Conditions for Cooperation to be Problematic" 2001

HIID International Workshop on Infrastructure Policy
"Infrastructure Privatization and Regulation" 2000

Villa Mondragone International Economic Seminar
"Competition Policy for Network and Internet Markets" 2000

New Developments in Railroad Economics: Infrastructure Investment and Access Policies
"Railroad Access, Regulation, and Market Structure" 2000

The Multilateral Trading System at the Millennium
"Efficiency Gains From Further Liberalization" 2000

Singapore – World Bank Symposium on Competition Law and Policy
"Policy Towards Cartels and Collusion" 2000

CEPS: Is It a New World?: Economic Surprises of the Last Decade
"The Internet and E-Commerce" 2000

Cutting Edge Antitrust: Issues and Enforcement Policies
"The Direction of Antitrust Entering the New Millennium" 2000

The Conference Board: Antitrust Issues in Today's Economy
"Antitrust Analysis of Industries With Network Effects" 1999

CEPS: New Directions in Antitrust
"Antitrust in a High-Tech World" 1999

World Bank Meeting on Competition and Regulatory Policies for Development
"Economic Principles to Guide Post-Privatization Governance" 1999

1999 Antitrust Conference
"Antitrust and the Pace of Technological Development" 1999
"Restructuring the Electric Utility Industry" 1999

HIID International Workshop on Privatization, Regulatory Reform and Corporate Governance
"Privatization and Post-Privatization Regulation of Natural Monopolies" 1999

The Federalist Society: Telecommunications Deregulation: Promises Made, Potential Lost?
"Grading the Regulators" 1999

Inter-American Development Bank: Second Generation Issues In the Reform Of Public Services
"Post-Privatization Governance" 1999
"Issues Surrounding Access Arrangements" 1999

Economic Development Institute of the World Bank -- Program on Competition Policy
"Policy Towards Horizontal Mergers" 1998

Twenty-fifth Anniversary Seminar for the Economic Analysis Group of the Department of

Justice
"Market Definition in Antitrust Analysis" 1998

HIID International Workshop on Privatization, Regulatory Reform and Corporate Governance
"Infrastructure Architecture and Regulation: Railroads" 1998

EU Committee Competition Conference – Market Power
"US/EC Perspective on Market Definition" 1998

Federal Trade Commission Roundtable
"Antitrust Policy for Joint Ventures" 1998

1998 Antitrust Conference
"Communications Mergers" 1998

The Progress and Freedom Foundation Conference on Competition, Convergence, and the Microsoft Monopoly
Access and Bundling in High-Technology Markets 1998

FTC Program on The Effective Integration of Economic Analysis into Antitrust Litigation
The Role of Economic Evidence and Testimony 1997

FTC Hearings on Classical Market Power in Joint Ventures
Microeconomic Analysis and Guideline 1997

World Bank Economists --Week IV Keynote
Making Markets More Effective With Competition Policy 1997

Brookings Trade Policy Forum
Competition Policy and Antidumping: The Economic Effects 1997

University of Malaya and Harvard University Conference on The Impact of Globalisation and Privatisation on Malaysia and Asia in the Year 2020
Microeconomics, Privatization, and Vertical Integration 1997

ABA Section of Antitrust Law Conference on The Telecommunications Industry
Current Economic Issues in Telecommunications 1997

Antitrust 1998: The Annual Briefing
The Re-Emergence of Distribution Issues 1997

Inter-American Development Bank Conference on Private Investment, Infrastructure Reform and Governance in Latin America & the Caribbean
Economic Principles to Guide Post-Privatization Governance 1997

Harvard Forum on Regulatory Reform and Privatization of Telecommunications in the Middle East
Privatization: Methods and Pricing Issues 1997

American Enterprise Institute for Public Policy Research Conference
Discussion of Local Competition and Legal Culture 1997

Harvard Program on Global Reform and Privatization of Public Enterprises
"Infrastructure Privatization and Regulation: Freight" 1997

World Bank Competition Policy Workshop
"Competition Policy for Entrepreneurship and Growth" 1997

Eastern Economics Association Paul Samuelson Lecture
"Bottleneck Access in Regulation and Competition Policy" 1997

ABA Annual Meeting, Section of Antitrust Law
"Antitrust in the 21st Century: The Efficiencies Guidelines" 1997

Peruvian Ministry of Energy and Mines Conference on Regulation of Public Utilities
"Regulation: Theoretical Context and Advantages vs. Disadvantages" 1997

The FCC: New Priorities and Future Directions
"Competition in the Telecommunications Industry" 1997

American Enterprise Institute Studies in Telecommunications Deregulation
"The Scope of Competition in Telecommunications" 1996

George Mason Law Review Symposium on Antitrust in the Information Revolution
"Introduction to the Economic Theory of Antitrust and Information" 1996

Korean Telecommunications Public Lecture
"Market Opening and Fair Competition" 1996

Korea Telecommunications Forum
"Desirable Interconnection Policy in a Competitive Market" 1996

European Association for Research in Industrial Economics Annual Conference
"Bottleneck Access: Regulation and Competition Policy" 1996

Harvard Program on Global Reform and Privatization of Public Enterprises
"Railroad and Other Infrastructure Privatization" 1996

FCC Forum on Antitrust and Economic Issues Involved with InterLATA Entry
"The Scope of Telecommunications Competition" 1996

Citizens for a Sound Economy Policy Watch on Telecommunications Interconnection
"The Economics of Interconnection" 1996

World Bank Seminar on Experiences with Corporatization
"Strategic Directions of Privatization" 1996

FCC Economic Forum on the Economics of Interconnection
Lessons from Other Industries 1996

ABA Annual Meeting, Section of Antitrust Law
The Integration, Disintegration, and Reintegration
of the Entertainment Industry 1996

Conference Board: 1996 Antitrust Conference
How Economics Influences Antitrust and Vice Versa 1996

Antitrust 1996: A Special Briefing
Joint Ventures and Strategic Alliances 1996

New York State Bar Association Section of Antitrust Law Winter Meeting
Commentary on Horizontal Effects Issues 1996

FTC Hearings on the Changing Nature of Competition in a Global and Innovation-Driven Age
Vertical Issues for Networks and Standards 1995

Wharton Seminar on Applied Microeconomics
Access Policies with Imperfect Regulation 1995

Antitrust 1996, Washington D.C.
Assessing Joint Ventures for Diminution of Competition 1995

ABA Annual Meeting, Section of Antitrust Law
Refusals to Deal -- Economic Tests for Competitive Harm 1995

FTC Seminar on Antitrust Enforcement Analysis
Diagnosing Collusion Possibilities 1995

Philadelphia Bar Education Center: Antitrust Fundamentals
Antitrust--The Underlying Economics 1995

Vanderbilt University Conference on Financial Markets

Why Do Christie and Schultz Infer Collusion From Their Data? 1995

ABA Section of Antitrust Law Chair=s Showcase Program
Discussion of Telecommunications Competition Policy 1995

Conference Board: 1995 Antitrust Conference
Analysis of Mergers and Joint Ventures 1995

ABA Conference on The New Antitrust: Policy of the '90s
Antitrust on the Super Highways/Super Airways 1994

ITC Hearings on The Economic Effects of Outstanding Title VII Orders
"The Economic Impacts of Antidumping Policies" 1994

OECD Working Conference on Trade and Competition Policy
"Empirical Evidence on The Nature of Anti-dumping Actions" 1994

Antitrust 1995, Washington D.C.
"Rigorous Antitrust Standards for Distribution Arrangements" 1994

ABA -- Georgetown Law Center: Post Chicago-Economics: New Theories - New Cases?
"Economic Foundations for Vertical Merger Guidelines" 1994

Conference Board: Antitrust Issues in Today's Economy
"New Democrats, Old Agencies: Competition Law and Policy" 1994

Federal Reserve Board Distinguished Economist Series
"Regulated Private Enterprise Versus Public Enterprise" 1994

Institut d'Etudes Politiques de Paris
"Lectures on Competition Policy and Privatization" 1993

Canadian Bureau of Competition Policy Academic Seminar Series, Toronto.
"Public Versus Regulated Private Enterprise" 1993

CEPS Symposium on The Clinton Administration: A Preliminary Report Card
"Policy Towards Business" 1993

Columbia Institute for Tele-Information Conference on Competition in Network Industries, New York, NY
"Discussion of Deregulation of Networks: What Has Worked and What Hasn't" 1993

World Bank Annual Conference on Development Economics
"Public Versus Regulated Private Enterprise" 1993

Center for Public Utilities Conference on Current Issues Challenging the Regulatory Process
"The Economics of Current Issues in Telecommunications Regulation" 1992
"The Role of Markets in Presently Regulated Industries" 1992

The Conference Board's Conference on Antitrust Issues in Today's Economy, New York, NY
"Antitrust in the Global Economy" 1992
"Monopoly Issues for the '90s" 1993

Columbia University Seminar on Applied Economic Theory, New York, NY
"Economic Rationales for the Scope of Privatization" 1992

Howrey & Simon Conference on Antitrust Developments, Washington, DC
"Competitive Effects of Concern in the Merger Guidelines" 1992

Arnold & Porter Colloquium on Merger Enforcement, Washington, DC
"The Economic Foundations of the Merger Guidelines" 1992

American Bar Association, Section on Antitrust Law Leadership Council Conference, Monterey, CA
"Applying the 1992 Merger Guidelines" 1992

OECD Competition Policy Meeting, Paris, France
"The Economic Impacts of Antidumping Policy" 1992

Center for Public Choice Lecture Series, George Mason University Arlington, VA
"The Economic Impacts of Antidumping Policy" 1992

Brookings Institution Microeconomics Panel, Washington, DC,
"Discussion of the Evolution of Industry Structure" 1992

AT&T Conference on Antitrust Essentials
"Antitrust Standards for Mergers and Joint Ventures" 1991

ABA Institute on The Cutting Edge of Antitrust: Market Power
"Assessing and Proving Market Power: Barriers to Entry" 1991

Second Annual Workshop of the Competition Law and Policy Institute of New Zealand
"Merger Analysis, Industrial Organization Theory, and Merger Guidelines" 1991
"Exclusive Dealing and the Fisher & Paykel Case" 1991

Special Seminar of the New Zealand Treasury
"Strategic Behavior, Antitrust, and The Regulation of Natural Monopoly" 1991

Public Seminar of the Australian Trade Practices Commission
"Antitrust Issues of the 1990's" 1991

National Association of Attorneys General Antitrust Seminar
"Antitrust Economics" 1991

District of Columbia Bar's 1991 Annual Convention
"Administrative and Judicial Trends in Federal Antitrust Enforcement" 1991

ABA Spring Meeting
"Antitrust Lessons From the Airline Industry" 1991

Conference on The Transition to a Market Economy - Institutional Aspects
"Anti-Monopoly Policies and Institutions" 1991

Conference Board's Thirtieth Antitrust Conference
"Antitrust Issues in Today's Economy" 1991

American Association for the Advancement of Science Annual Meeting
"Methodologies for Economic Analysis of Mergers" 1991

General Seminar, Johns Hopkins University
"Economic Rationales for the Scope of Privatization" 1991

Capitol Economics Speakers Series
"Economics of Merger Guidelines" 1991

CRA Conference on Antitrust Issues in Regulated Industries
"Enforcement Priorities and Economic Principles" 1990

Pepper Hamilton & Scheetz Anniversary Colloquium
"New Developments in Antitrust Economics" 1990

PLI Program on Federal Antitrust Enforcement in the 90's
"The Antitrust Agenda of the 90's" 1990

FTC Distinguished Speakers Seminar
"The Evolving Merger Guidelines" 1990

The World Bank Speakers Series
"The Role of Antitrust Policy in an Open Economy" 1990

Seminar of the Secretary of Commerce and Industrial Development of Mexico
"Transitions to a Market Economy" 1990

Southern Economics Association
"Entry in Antitrust Analysis of Mergers" 1990
"Discussion of Strategic Investment and Timing of Entry" 1990

American Enterprise Institute Conference on Policy Approaches to the Deregulation of Network Industries
"Discussion of Network Problems and Solutions" 1990

American Enterprise Institute Conference on Innovation, Intellectual Property, and World Competition
"Law and Economics Framework for Analysis" 1990

Banco Nacional de Desenvolvimento Economico Social Lecture
"Competition Policy: Harnessing Private Interests for the Public Interest" 1990

Western Economics Association Annual Meetings
"New Directions in Antitrust from a New Administration" 1990
"New Directions in Merger Enforcement: The View from Washington" 1990

Woodrow Wilson School Alumni Colloquium
"Microeconomic Policy Analysis and Antitrust--Washington 1990" 1990

Arnold & Porter Lecture Series
"Advocating Competition" 1991
"Antitrust Enforcement" 1990

ABA Antitrust Section Convention
"Recent Developments in Market Definition and Merger Analysis" 1990

Federal Bar Association
"Joint Production Legislation: Competitive Necessity or Cartel Shield?" 1990

Pew Charitable Trusts Conference
"Economics and National Security" 1990

ABA Antitrust Section Midwinter Council Meeting
"Fine-tuning the Merger Guidelines" 1990
"The State of the Antitrust Division" 1991

International Telecommunications Society Conference
"Discussion of the Impact of Telecommunications in the UK" 1989

The Economists of New Jersey Conference
"Recent Perspectives on Regulation" 1989

Conference on Current Issues Challenging the Regulatory Process
"Innovative Pricing and Regulatory Reform" 1989
"Competitive Wheeling" 1989

Conference Board: Antitrust Issues in Today's Economy
"Foreign Trade Issues and Antitrust" 1989

McKinsey & Co. Mini-MBA Conference
"Economic Analysis of Pricing, Costing, and Strategic Business Behavior" 1989
1994

Olin Conference on Regulatory Mechanism Design
"Revolutions in Regulatory Theory and Practice: Exploring The Gap" 1989

University of Dundee Conference on Industrial Organization and Strategic Behavior
"Mergers in Differentiated Product Industries" 1988

Leif Johanson Lectures at the University of Oslo
"Normative Issues in Industrial Organization" 1988

Mergers and Competitiveness: Spain Facing the EEC
"Merger Policy" 1988
"R&D Joint Ventures" 1988

New Dimensions in Pricing Electricity
"Competitive Pricing and Regulatory Reform" 1988

Program for Integrating Economics and National Security: Second Annual Colloquium
"Arming Decisions Under Asymmetric Information" 1988

European Association for Research in Industrial Economics
"U.S. Railroad Deregulation and the Public Interest" 1987
"Economic Rationales for the Scope of Privatization" 1989
"Discussion of Licensing of Innovations" 1990

Annenberg Conference on Rate of Return Regulation in the Presence of Rapid Technical Change
"Discussion of Regulatory Mechanism Design in the Presence
of Research, Innovation, and Spillover Effects" 1987

Special Brookings Papers Meeting
"Discussion of Empirical Approaches to Strategic Behavior" 1987
"New Merger Guidelines" 1990

Deregulation or Regulation for Telecommunications in the 1990's
"How Effective are State and Federal Regulations?" 1987

Conference Board Roundtable on Antitrust
"Research and Production Joint Ventures" 1990
"Intellectual Property and Antitrust" 1987

Current Issues in Telephone Regulation
"Economic Approaches to Market Dominance: Applicability of Contestable Markets" 1987

Harvard Business School Forum on Telecommunications
"Regulation of Information Services" 1987

The Fowler Challenge: Deregulation and Competition in The Local Telecommunications Market
"Why Reinvent the Wheel?" 1986

World Bank Seminar on Frontiers of Economics
"What Every Economist Should Know About Contestable Markets" 1986
Bell Communications Research Conference on Regulation and Information
"Fuzzy Regulatory Rules" 1986

Karl Eller Center Forum on Telecommunications
"The Changing Economic Environment in Telecommunications: Technological Change and Deregulation" 1986

Railroad Accounting Principles Board Colloquium
"Contestable Market Theory and ICC Regulation 1986

Canadian Embassy Conference on Current Issues in Canadian -- U.S. Trade and Investment
"Regulatory Revolution in the Infrastructure Industries" 1985

Eagleton Institute Conference on Telecommunications in Transition
"Industry in Transition: Economic and Public Policy Overview" 1985

Brown University Citicorp Lecture
"Logic of Regulation and Deregulation" 1985

Columbia University Communications Research Forum
"Long Distance Competition Policy" 1985

American Enterprise Institute Public Policy Week
"The Political Economy of Regulatory Reform" 1984

MIT Communications Forum
"Deregulation of AT&T Communications" 1984

Bureau of Census Longitudinal Establishment Data File and Diversification Study Conference
"Potential Uses of The File" 1984

Federal Bar Association Symposium on Joint Ventures
"The Economics of Joint Venture Assessment" 1984

Hoover Institute Conference on Antitrust
"Antitrust for High-Technology Industries" 1984

NSF Workshop on Predation and Industrial Targeting
"Current Economic Analysis of Predatory Practices" 1983

The Institute for Study of Regulation Symposium: Pricing Electric, Gas, and Telecommunications Services Today and for the Future
"Contestability As A Guide for Regulation and Deregulation" 1984

University of Pennsylvania Economics Day Symposium
"Contestability and Competition: Guides for Regulation and Deregulation" 1984

Pinhas Sapir Conference on Economic Policy in Theory and Practice
"Corporate Governance and Market Structure" 1984

Centre of Planning and Economic Research of Greece
"Issues About Industrial Deregulation" 1984
"Contestability: New Research Agenda" 1984

Hebrew and Tel Aviv Universities Conference on Public Economics
"Social Welfare Dominance Extended and Applied to Excise Taxation" 1983

NBER Conference on Industrial Organization and International Trade
"Perspectives on Horizontal Mergers in World Markets" 1983

Workshop on Local Access: Strategies for Public Policy
"Market Structure and Government Intervention in Access Markets" 1982

NBER Conference on Strategic Behavior and International Trade
"Industrial Strategy with Committed Firms: Discussion" 1982

Columbia University Graduate School of Business, Conference on Regulation and New Telecommunication Networks
"Local Pricing in a Competitive Environment" 1982

International Economic Association Roundtable Conference on New Developments in the Theory of Market Structure

"Theory of Contestability" 1982
"Product Dev., Investment, and the Evolution of Market Structures" 1982

N.Y.U. Conference on Competition and World Markets: Law and Economics
"Competition and Trade Policy--International Predation" 1982

CNRS-ISPE-NBER Conference on the Taxation of Capital
"Welfare Effects of Investment Under Imperfect Competition" 1982

Internationales Institut fur Management und Verwalturg Regulation Conference
"Welfare, Regulatory Boundaries, and the Sustainability of Oligopolies" 1981
NBER-Kellogg Graduate School of Management Conference on the
Econometrics of Market Models with Imperfect Competition
"Discussion of Measurement of Monopoly Behavior: An
Application to the Cigarette Industry" 1981

The Peterkin Lecture at Rice University
"Deregulation: Ideology or Logic?" 1981

FTC Seminar on Antitrust Analysis
"Viewpoints on Horizontal Mergers 1982
"Predation as a Tactical Inducement for Exit" 1980

NBER Conference on Industrial Organization and Public Policy
"An Economic Definition of Predation" 1980

The Center for Advanced Studies in Managerial Economics Conference on The Economics of Telecommunication
"Pricing Local Service as an Input" 1980

Aspen Institute Conference on the Future of the Postal Service
"Welfare Economics of Postal Pricing" 1979

Department of Justice Antitrust Seminar
"The Industry Performance Gradient Index" 1979

Eastern Economic Association Convention
"The Social Performance of Deregulated Markets for Telecom Services"
1979

Industry Workshop Association Convention
"Customer Equity and Local Measured Service" 1979

Symposium on Ratemaking Problems of Regulated Industries
"Pricing Decisions and the Regulatory Process" 1979

Woodrow Wilson School Alumni Conference
"The Push for Deregulation" 1979

NBER Conference on Industrial Organization
"Intertemporal Sustainability" 1979

World Congress of the Econometric Society
"Theoretical Industrial Organization" 1980

Institute of Public Utilities Conference on Current Issues in Public Utilities Regulation
"Network Access Pricing" 1978

ALI-ABA Conference on the Economics of Antitrust
"Predatoriness and Discriminatory Pricing" 1978

AEI Conference on Postal Service Issues
"What Can Markets Control?" 1978

University of Virginia Conference on the Economics of Regulation
"Public Interest Pricing" 1978

DRI Utility Conference
"Marginal Cost Pricing in the Utility Industry: Impact and Analysis" 1978

International Meeting of the Institute of Management Sciences
"The Envelope Theorem" 1977

University of Warwick Workshop on Oligopoly
"Industry Performance Gradient Indexes" 1977

North American Econometric Society Convention
"Intertemporal Sustainability" 1979
"Social Welfare Dominance" 1978
"Economies of Scope, DAIC, and Markets with Joint Production" 1977

Telecommunications Policy Research Conference
"Transition to Competitive Markets" 1986
"InterLATA Capacity Growth, Capped NTS Charges and Long Distance Competition" 1985
"Market Power in The Telecommunications Industry" 1984
"FCC Policy on Local Access Pricing" 1983
"Do We Need a Regulatory Safety Net in Telecommunications?" 1982
"Anticompetitive Vertical Conduct" 1981
"Electronic Mail and Postal Pricing" 1980
"Monopoly, Competition and Efficiency": Chairman 1979

"A Common Carrier Research Agenda" 1978
"Empirical Views of Ramsey Optimal Telephone Pricing" 1977
"Recent Research on Regulated Market Structure" 1976
"Some General Equilibrium Views of Optimal Pricing" 1975

National Bureau of Economic Research Conference on Theoretical Industrial Organization
"Compensating Variation as a Measure of Welfare Change" 1976
Conference on Pricing in Regulated Industries: Theory & Application
"Ramsey Optimal Pricing of Long Distance Telephone Services" 1977

NBER Conference on Public Regulation
"Income Distributional Concerns in Regulatory Policy-Making" 1977

Allied Social Science Associations National Convention
"Merger Guidelines and Economic Theory" 1990
Discussion of "Competitive Rules for Joint Ventures" 1989
"New Schools in Industrial Organization" 1988
"Industry Economic Analysis in the Legal Arena" 1987
"Transportation Deregulation" 1984
Discussion of "Pricing and Costing of Telecommunications Services" 1983
Discussion of "An Exact Welfare Measure" 1982
"Optimal Deregulation of Telephone Services" 1982
"Sector Differentiated Capital Taxes" 1981
"Economies of Scope" 1980
"Social Welfare Dominance" 1980
"The Economic Definition of Predation" 1979
Discussion of "Lifeline Rates, Succor or Snare?" 1979
"Multiproduct Technology and Market Structure" 1978
"The Economic Gradient Method" 1978
"Methods for Public Interest Pricing" 1977
Discussion of "The Welfare Implications of New Financial Instruments" 1976
"Welfare Theory of Concentration Indices" 1976
Discussion of "Developments in Monopolistic Competition Theory" 1976
"Hedonic Price Adjustments" 1975
"Public Good Attributes of Information and its Optimal Pricing" 1975
"Risk Invariance and Ordinally Additive Utility Functions" 1974
"Consumer's Surplus: A Rigorous Cookbook" 1974

University of Chicago Symposium on the Economics of Regulated Public Utilities
"Optimal Prices for Public Purposes" 1976

American Society for Information Science
"The Social Value of Information: An Economist's View" 1975

Institute for Mathematical Studies in the Social Sciences Summer Seminar

"The Sustainability of Natural Monopoly" 1975

U.S.-U.S.S.R. Symposium on Estimating Costs and Benefits of Information Services
"The Evaluation of the Economic Benefits of Productive Information" 1975

NYU-Columbia Symposium on Regulated Industries
"Ramsey Optimal Public Utility Pricing" 1975

Research Seminars:

Bell Communications Research (2)
Bell Laboratories (numerous)
Department of Justice (3)
Electric Power Research Institute
Federal Reserve Board
Federal Trade Commission (4)
Mathematica
Rand
World Bank (4)
Carleton University
Carnegie-Mellon University
Columbia University (4)
Cornell University (2)
Georgetown University
Harvard University (2)
Hebrew University
Johns Hopkins University (2)
M. I. T. (4)
New York University (4)
Northwestern University (2)
Norwegian School of Economics and Business Administration
University of California, San Diego
University of Chicago
University of Delaware
University of Florida
University of Illinois
University of Iowa (2)
Universite Laval
University of Maryland
University of Michigan
University of Minnesota
University of Oslo
University of Pennsylvania (3)
University of Toronto
University of Virginia
University of Wisconsin
University of Wyoming
Vanderbilt University
Yale University (2)
Princeton University (many)
Rice University
Stanford University (5)
S.U.N.Y. Albany

Expert Testimony of Robert Willig

September 2014 to September 2018

In re: Cathode Ray Tube (CRT) Antitrust Litigation, In the United States District Court for the Northern District of California, San Francisco Division, MDL Docket No. 1917, Master File No. CV-07-5944-SC, Expert Report 8/5/2014; Deposition 9/19/2014.

Amazon.com, Inc. v. Commissioner of the Internal Revenue Service, Tax Court Docket No. 31197-12, Expert Reports 6/6/2104 and 8/1/2014; Deposition 9/11/2014; Trial Testimony 11/21/14.

Commonwealth of Massachusetts v. Partners Health Care System, et al., Suffolk Superior Court Civil Action No. 14-2033-BLS, Affidavit 9/25/2014.

Before the Surface Transportation Board; Railroad Revenue Adequacy, Docket No. EP 722; Reply Verified Statement on Behalf of the Association of American Railroads, 11/4/14.

In re: Wellbutrin XL Antitrust Litigation, In the United States District Court for the Eastern District of Pennsylvania, No. 08-cv-2431, 2433, Expert Report 12/23/2014; Deposition 1/20/2015.

In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc., Before the Public Service Commission of Maryland, Case No. 9361, Rebuttal Testimony of Dr. Robert D. Willig, 1/7/2015; Rejoinder Testimony of Dr. Robert D. Willig, 1/29/2015; Hearing Testimony, 1/30/2015.

In re: Domestic Drywall Antitrust Litigation, In the United States District Court for the Eastern District of Pennsylvania, MDL No. 2437 13-MD-2437, Expert Report 03/13/15; Deposition 4/9/15, 4/10/15; Expert Report 01/26/18; Expert Report 02/26/18; Deposition 05/31/18.

The Valspar Corporation, and Valspar Sourcing, Inc. v. Millennium Inorganic Chemicals, Inc., Court File No. 13-3214-RHK-LIB; The Valspar Corporation, and Valspar Sourcing, Inc. v. E.I. DuPont De Nemours and Company, Case No. 14-527-RGA; and The Valspar Corporation, and Valspar Sourcing, Inc. v. Huntsman International, LLC, and Kronos Worldwide, Inc., Expert Report 6/12/2015; Deposition 7/16/2015.

Methodist Health Services Corporation v. OSF Healthcare System, In the United States District Court for the Central District of Illinois, Peoria Division, Case No.: 13-cv-1054, Expert Report 8/14/2015, Deposition 10/8/2015, Reply Report, 9/2016.

Application of the National Railroad Passenger Corporation Under 49 U.S.C. § 24308(a) – Canadian National Railway Company; Before the Surface Transportation Board, Docket No. FD 35743; Verified Statement, 9/4/2015; Rebuttal Verified Statement, 9/14/2017.

BRFHH Shreveport, LLC d/b/a University Health Shreveport and Vantage Health Plan, Inc. v. Willis-Knighton Medical Center, d/b/a Willis-Knighton Health System, In the United States District Court for the Western District of Louisiana, Shreveport Division, Case No.: 5:15-CV-02057, Joint Declaration of Margaret E. Guerin-Calvert and Robert D. Willig 9/8/2015, Expert Report 3/23/2017, Deposition 5/12/2017.

Australian Consumer and Competition Commission v. Informed Sources Pty Ltd & Ors, Before the Federal Court of Australia, Victoria Registry, File number VID450/2014, Expert Report 11/24/15.

Clark R. Huffman, Brandi K. Winters, Patricia L. Grantham, and Linda M. Pace, Individually and on behalf of all others similarly situated vs. The Prudential Insurance Company of America, In the United States District Court for the Eastern District of Pennsylvania, Civ. No. 2:10-cv-05135-EL, Expert Report 2/25/16, Deposition 4/5/16.

Maxon Hyundai Mazda, et al., vs. Carfax Inc., In the United States District Court for the Southern District of New York, Case No.: 13 CV 2680 (AJN) (RLE), Expert Report 2/26/16, Deposition 4/21/16.

Federal Trade Commission and Commonwealth of Pennsylvania vs. Penn State Hershey Medical Center and Pinnacle Health System, In the United States District Court for the Middle District of Pennsylvania, Civil Action No. 1:15-cv-02362, Expert Report 3/7/16, Deposition 3/25/16, Trial Testimony 4/15/16.

In the Matter of Business Data Services in an Internet Protocol Environment; Special Access for Price Cap Local Exchange Carriers; AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services; Before the FCC; WC Docket No. 16-143; WC Docket No. 05-25; RM-10593; Declaration 8/8/16.

United States et al. v. Anthem Inc. and Cigna Corp., In the United States District Court for the District of Columbia, Civil Action No. 16-cv-01493 (ABJ), Expert Report 10/7/16, Rebuttal and Supplemental Expert Report 10/28/16, Deposition 11/9/2016, Trial Testimony 12/2/16 and 1/3/17.

In the Matter of: Determination of Royalty Rates and Terms for Transmission of Sound Recordings by Satellite Radio and "Preexisting" Subscription Services (SDARS III), Before the United States Copyright Royalty Judges, Washington, D.C., Docket No. 16-CRB-0001 SR/PSSR (2018-2022), Written Direct Testimony 10/19/16, Written Rebuttal Testimony 2/13/2017, Deposition 03/31/17, Trial Testimony 05/02/17 and 05/04/17.

Petition for Rulemaking to Adopt Revised Competitive Switching Rules, Before the Surface Transportation Board, Docket Number EP 711 (Sub-No. 1), Verified Statement 10/26/16.

In re: Evanston Northwestern Healthcare Corporation Antitrust Litigation, In the United States District Court Northern District of Illinois Eastern Division, Master File No. 07-CV-4446, Expert Report 10/26/16, Deposition 1/12/17.

Independent Power Producers of New York v. New York Independent System Operator, Before the Federal Energy Regulatory Commission, Docket No. EL13-62-002, Declaration 1/26/17.

Calpine Corporation et. al. v. PJM Interconnection, L.L.C., Before the Federal Energy Regulatory Commission, Docket No. EL16-49-000, Declaration 1/30/17.

In re: LIBOR-Based Financial Instruments Antitrust Litigation, Mayor and City Council of Baltimore, et. al. v. Credit Suisse Group AG, et. al., in the United States District Court Southern District of New York, MDL No. 2262, Master File No. 1:11-md-2262-NRB, 11-cv-5450 (NRB), Expert Report 4/3/17, Deposition 5/19/17.

In re: LIBOR-Based Financial Instruments Antitrust Litigation, Metzler Investment GmbH, et. al. v. Credit Suisse Group AG, et. al., in the United States District Court Southern District of New York, MDL 2262, 11 Civ. 2613, Master File No. 1:11-md-2262-NRB, 11-cv-5450 (NRB), Expert Report 4/3/17, Deposition 6/8/17.

In re: LIBOR-Based Financial Instruments Antitrust Litigation, Berkshire Bank, Government Development Bank v. Bank of America Corp., et. al., in the United States District Court Southern District of New York, MDL No. 2613, Master File No. 1:11-md-2262-NRB, 12-cv-5723-NRB, Expert Report 4/3/17, Deposition 4/21/17.

The Coca-Cola Company & Subs. v. Commissioner of Internal Revenue, in the United States Tax Court, Docket No. 31183-15, Expert Report 6/29/2017, Rebuttal Report 9/28/17, Deposition 12/19/17, Trial Testimony 4/5/18 and 4/6/18.

In re: Automotive parts antitrust litigation -- Bearings Cases; in the United States District Court for the Eastern District of Michigan Southern Division, Master File No. 12-md-02311; 2:12-cv-00501-MOB-MKM; Declaration in Support of Defendants' Opposition to Direct Purchaser Plaintiffs' Motion for Class Certification and Appointment of Class Counsel, 7/26/2017, Deposition 10/13/2017; Declaration in Support of Defendants' Reply in Support of Defendants' Joint Motion to Exclude the Proposed Expert Reports and Testimony of Drs. McClave and Langenfeld, 12/14/17.

In re: General Motors LLC Ignition Switch Litigation, in the U.S. District Court for the Southern District of New York, No. 14-MD-2543 (JMF), Expert Report 2/23/2018, Expert Report 4/20/2018, Supplemental Tables, 5/7/2018, Deposition 5/8/2018 and 5/9/2018.

CPV Power Holdings et. al. v. PJM Interconnection, L.L.C., Before the Federal Energy Regulatory Commission, Docket No. EL18-169-000, Declaration 06/20/18.

In Re Thalomid and Revlimid Antitrust Litigation, in the U.S, District Court for the District of New Jersey, Civil No. 14-6997 (MCA) (MAH), Expert Report 08/27/18.

Exhibit 32

FILED UNDER SEAL

Exhibit 33

In the Matter Of:

URIEL PHARMACY HEALTH vs

ADVOCATE AURORA HEALTH

ANDREA LATHERS

May 27, 2025



[redacted]

A. So the way that Anthem has looked at putting tiered networks together is looking at providers who are high-performing. In other words, they have a high quality score and a low cost score. And we would look at those high-performing providers.

And if you look at somebody like an Aurora or even a Froedtert or an Ascension in southeast Wisconsin, you look at the providers individually. And individually, does the provider have a high quality, low cost score, meaning they practice at -- they practice at a very high level but are efficient in their cost.

So we designate those as high-performing providers. And within the Aurora contract -- well, let me step back.

You designate those as high-performing providers. Those

high-performing providers would be considered part of a Tier 1 benefit design, meaning they could have maybe a $5 copay for an office visit.

Somebody that is a higher cost, lower quality could be in the Tier 2 benefit design, meaning they could have a 20 or $30 office visit copay.

Typically, the Tier 3 can be out of network or sometimes it can be very, very high cost, very low quality providers. But each individual provider gets the rating.

So with the language in the Aurora contract, we could not rate those individual providers. We couldn't really even rate Aurora because Aurora needed to be in Tier 1 at all times.

[redacted]

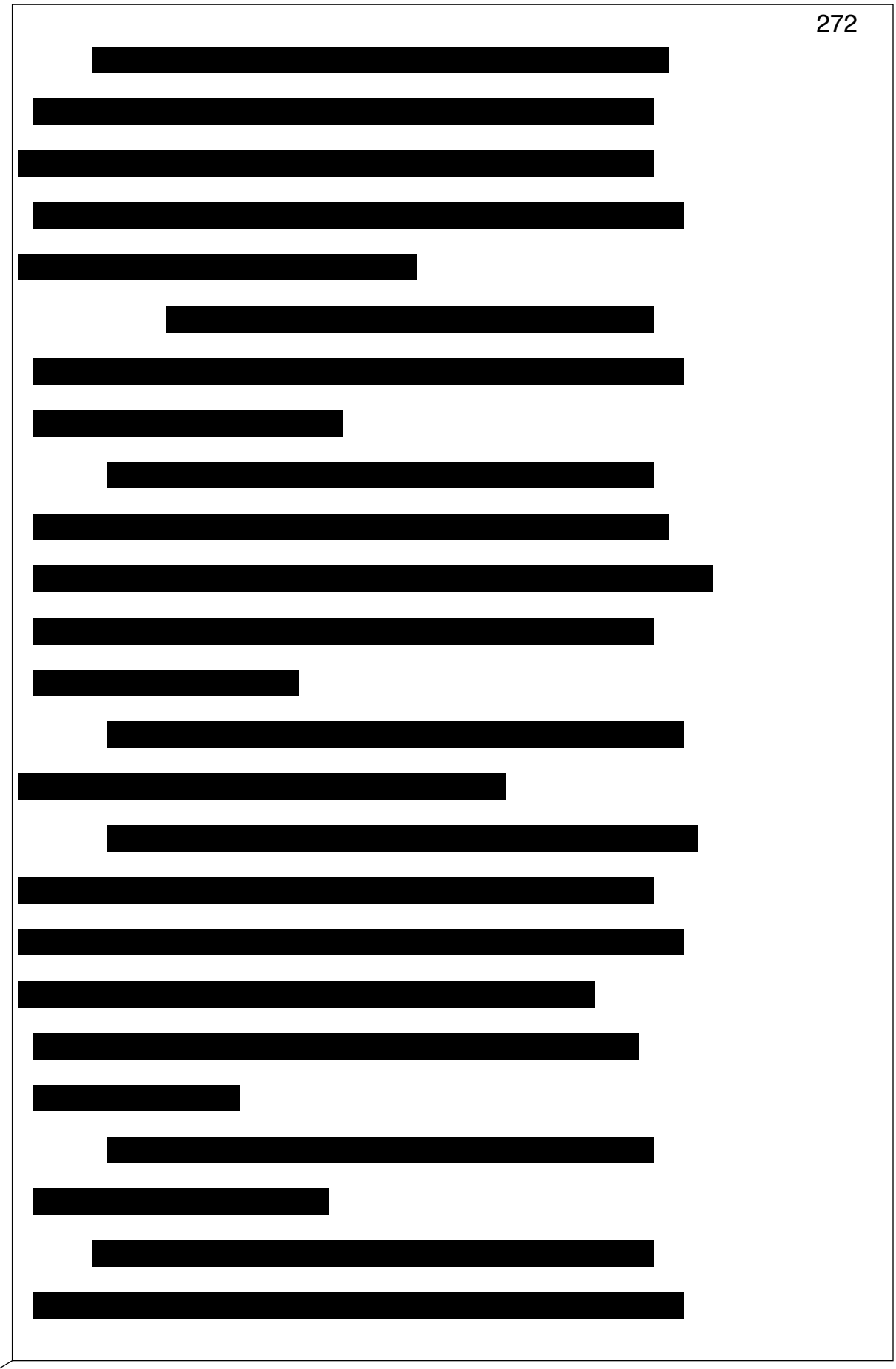


Exhibit 34

In the Matter Of:

URIEL PHARMACY HEALTH AND WELFARE PLAN v

ADVOCATE AURORA HEALTH, INC.

JEFFREY SQUIER

September 24, 2025



[redacted]

Q. Do you recall whether Ascension had a requirement in its contracts with Anthem that Ascension must be included in the highest preferred tier in all networks that Anthem offered?

A. We did not have that terminology in our contract.

Q. What's your understanding of why Ascension did not have that terminology in the Anthem contracts?

MS. JOHNSON PALMER: Objection to form.

MR. MATTHEWS: You can answer.

A. Anthem won't let us put it in.

BY MS. WALLIN:

Q. Can you elaborate on what you mean by that.

A. We would have preferred that as

a position to say that we are always in a preferential spot within the networks and the offerings of a payer, but the payer has to agree to allow that in the contract.

Q. And so is it fair to say that Ascension didn't have the leverage needed to require Anthem to include that in the contract?

MS. JOHNSON PALMER: Objection to form.

MR. MATTHEWS: You may answer.

A. So to say Anthem or Ascension was not able to get that language in the agreements with Anthem. It would not open that position up and allow us to include it, and we accepted that.

[redacted]