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HEALTH PLAN PRICE TRANSPARENCY

Leveraging Transparency in Coverage Data to Reveal Actionable Information on Commercial Negotiated Rates

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Summary and Motivation

The U.S. spends more on healthcare with worse results than any country in the world. In 2023, U.S. healthcare spending reached $4.9 trillion, equivalent to $14,570 per person. Importantly, U.S. employers underwrite most private health insurance, for which spending grew 11.5% to more than $1.4 trillion in 2023, or 30 percent of total national health expenditures (Centers for Medicare & Medicaid Services (CMS), 2025a).

Total U.S. healthcare spending is 139% higher than Switzerland, the country with the next-highest expenditure per capita and 192% higher than Canada. Additionally, U.S. healthcare spending represents 17.6% of gross domestic product (GDP), which is more than 50% higher than peer countries in the Organisation for Economic Co-operation and Development (OECD), which spend an average of 8.9% of GDP on healthcare (CMS, 2025a; Wager et al., 2025; OECD, 2025). Notably, CMS projects that U.S. healthcare spending will reach 20.3% of GDP in 2033. In addition to spending significantly more per capita than peer countries, U.S. healthcare spending has also increased at a faster rate than peer countries, increasing by more than 300% between 2000 ($4,845) and 2023. Nevertheless, the U.S. has worse health outcomes than most peer countries, as measured by chronic disease prevalence, average life expectancy, avoidable mortality rates, maternal mortality rates and infant mortality rates (Blumenthal et al., 2024; Papanicolas et al., 2025).

How can the U.S. spend so much more on healthcare and get so much less in return than peer countries? Healthcare spending is the product of two factors – utilization and price, i.e., the quantity of real resources that are dedicated to healthcare delivery and the price paid per unit of resources used. Compared to its peer countries, the U.S. has fewer physicians per capita, fewer acute care beds per capita, fewer hospital admissions per 1,000 population and a shorter average length of hospital stay. In terms of utilization, the U.S. does not devote more real resources to healthcare than other countries and U.S. patients do not consume more medical care than their international peers (Laugesen and Glied, 2011; Papanicolas et al., 2018; Anderson et al., 2019; OECD, 2025). While none of the existing cross-national studies are perfect, together they suggest that Americans pay more for the healthcare services that they receive. As stated more than two decades ago, “It’s the Prices, Stupid” (Anderson et al., 2003). However, while one can reach this conclusion through deductive reasoning, the full extent of the price problem has remained incompletely understood because data on commercial negotiated rates were historically obfuscated by Federal antitrust law and contractual agreement.

In October 2020, the longstanding information asymmetry between health insurers, providers, employers and consumers began to shift with the announcement of CMS’s Transparency in Coverage (TiC) final rule, a regulation intended to “drive innovation, support informed, price-conscious decision-making, and promote competition in the health care industry” (CMS, 2020). The publicly posted TiC files include data about the negotiated rate between individual health plans and individual providers for individual procedure codes, without requiring cumbersome and restrictive data use agreements, which impeded previous research on the influence of commercial negotiated rates. The publication cadence of the TiC files, which are updated and released monthly, also facilitate near-time analysis in a way that was previously unthinkable.

But of course, the mere publication of data does not mean it is readily accessible, and individual TiC files contain terabytes of data, all of which is unprocessed and some of which is inaccurate (Wilson and de Brantes, 2023). Practically speaking, the complexity of these files has made it difficult for researchers, employers and consumers to leverage the data in a meaningful way. However, when ingested and processed properly, the TiC files provide immediate and actionable insights on commercial negotiated rates between health insurers and providers and enable evidence-based decision making and strategy.

This report analyzes the **health plan** price transparency files published under TiC to reveal actionable information on commercial prices for hospital and non-hospital procedures and demonstrate how these prices vary by geography, payer, care setting and facility. We note that absolute price differences for specific services are what impact actual healthcare spending in the U.S. and believe that actual negotiated prices reveal actionable insights that average "relative prices" cannot.

Key Findings:

- Commercially insured patients across the country pay widely varying amounts for the same procedure, the costs of which are primarily underwritten by employers. Across six inpatient procedures, negotiated rates varied by an average ratio of 9.1 across the country. As an example, the median rate for a coronary bypass without cardiac catheterization without major complications or comorbidities (MS-DRG 236) is $68,194, but negotiated rates range from $27,683 to $247,902, an absolute price difference of $220,219.
- Within the same state, the average ratio for the most to least expensive negotiated rate ranges from 3.2 for small and large bowel procedures (MS-DRG 330 and 331) to 3.4 for coronary bypass without cardiac catheterization without major complications or comorbidities (MS-DRG 236) and hip and knee joint replacement without major complications or comorbidities (MS-DRG 470). For example, across 101 hospitals in Pennsylvania, the UHC negotiated rate for a major small and large bowel procedure with complication or comorbidity (MS-DRG 330) ranges from $18,066 to $87,457, a ratio of 4.8 or absolute price difference of $69,391 for a single payer in a single state.
- Different payers negotiate very different amounts for the same procedure at the same hospital. Across six inpatient procedures, the average difference in price between the Aetna and UHC negotiated rate ($15,366) was equivalent to 30.0% of the average median procedure price. For example, for a coronary bypass without cardiac catheterization with major complications or comorbidities (MS-DRG 235) performed at Tufts Medical Center, the Aetna negotiated rate is $95,989 while the UHC negotiated rate is $144,204, an absolute difference of $48,215 for the same procedure at the same facility.
- Within a sample of 10 hospitals that have been featured on various "best hospital" lists, **there was no observable correlation between aggregate measures of cost and quality.**
- Across the five outpatient surgeries that were examined, the national median surgery center rate **was always lower** than the median rate for hospital outpatient departments. A colonoscopy (CPT 45378) performed at an ambulatory surgery center costs an average of

$2,454, or 67.5%, less, than the median rate at a hospital outpatient department. With nearly two million colonoscopies billed as CPT 45378 in the commercial population every year, the aggregate absolute price difference likely exceeds $4.5 billion in potential savings for a single procedure in a single year.

- Variation from hospital to hospital and from surgery center to surgery center highlights the need for facility-level data to drive informed healthcare purchasing decisions, whether by an employer or individual.

Taken as a whole, these results reveal a startling spread in pricing for healthcare services that begs for explanation, not rationalization or justification. If healthcare value is defined as the relationship between the health outcomes achieved and the cost of delivering those outcomes, then logically the extreme variation in healthcare prices for the same service, whether across the country, within the same state or within the same hospital is an example of waste.

Importantly, employer-sponsored health insurance is considered a welfare plan under the Employer Retirement Income Security Act of 1974 (ERISA), pursuant to which employers have a fiduciary duty to administer benefits "solely in the interest of participants and beneficiaries." Under Delaware law, the state in which more than two million U.S. businesses are organized, including more than 300 companies listed in the Fortune 500, corporate officers are subject to the fiduciary duty of care, which requires making "informed business decisions" based "on the information that is material to the decision before them" (State of Delaware, 2025).

Historically, Federal and private prohibitions on "price fixing" effectively prevented employers from using data on commercial negotiated rates to make informed purchasing decisions regarding healthcare benefits. However, the price data available pursuant to TiC, when coupled with publicly available quality benchmarks, empowers employers and consumers to understand the actual price differences for the same service in the same market and, in turn, to evaluate the value for money offered by the providers in that market.

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Background

Employers play a critical role in both underwriting and distributing healthcare benefits to more than half of the American population. In 2023, employer-sponsored insurance was the most common type of insurance in the U.S., accounting for 53.7% of the population and funding more than $1.4 trillion in healthcare spending (Keisler-Starkey et al., 2024; Martin et al., 2024; CMS, 2025a). Through a combination of employee premium contributions, employee out-of-pocket costs and employer contributions for healthcare, both employers and employees bear the cost of this spending.

Intuitively, and often experientially, employers and workers know that healthcare is expensive. In 2024, average annual premiums for employer-sponsored health coverage reached $8,951 for single coverage and $25,572 for family coverage, with the employee portion being $1,368 and $6,296, respectively. For family coverage, the average premium has increased by 52% since 2014. For those with single coverage, average annual deductibles range from $1,484 for health maintenance organization plans to as much as $2,666 in high-deductible health plans (HDHP), while those with family coverage in a HDHP are subject to an average deductible of $4,991 (Kaiser Family Foundation, 2024). In simple terms, nearly half of U.S. adults (47%) say it is difficult to afford healthcare costs (Lopes, 2024).

Despite the considerable impact of healthcare costs on the income statement of employers and the bank accounts of employees, longstanding provisions of Federal antitrust law have made it difficult, if not impossible, to quantify the value – the intersection of cost and quality – of healthcare services in the U.S. In addition to legal constraints, many contracts between large provider systems and insurers include gag clauses that prohibit disclosure of detailed price information. Despite these obstacles, researchers have established that there is wide variation in commercial prices, both within and across markets, but the aggregated nature of these analyses has had limited practical application for real-world decision makers (Chernew et al., 2020; Cooper et al, 2019; Neprash et al., 2015; Whaley et al., 2024; Philips et al., 2025). While multiple stakeholders know that there is a problem, they have not had the right information to develop an evidence-based solution. Ultimately, the purposeful obfuscation of meaningful information on negotiated rates has prevented employers from being able to provide high-value coverage for employees and stifled meaningful competition between providers and insurers. In economic terms, a market with proprietary prices is doomed to fail.

This longstanding information asymmetry changed with Executive Order 13877, pursuant to which the Centers for Medicare & Medicaid Services (CMS) issued the Transparency in Coverage (TiC) final rule (CMS, 2020). As of July 1, 2022, one provision of the TiC rule requires commercial health plans to publish monthly data on negotiated rates for all covered services for in-network and allowed amounts for out-of-network professionals and organizations. Though accessing this data is laborious, the availability of near real-time data about negotiated rates between individual health plans and individual providers for individual procedures makes evidence-based decisions possible. Importantly, under Delaware law, the state in which more than two million U.S. businesses are organized, including more than 300 companies listed in the Fortune 500, the existence of this information implicates the fiduciary duty of care for employers to “make

informed business decisions" based on "the information that is material to the decision" and "to review the information critically" as it relates to the purchasing of health benefits.

The objective of this report is to provide practical and representative information on the commercially negotiated, unit-level institutional rates for both hospital and non-hospital procedures and to examine how these rates vary across the country as well as by payer, care setting and facility. Throughout this report, real dollar amounts are used for ease of interpretation, since absolute price differences in negotiated rates are what impact actual healthcare spending by employers and employees. Employers and consumers can use this report to become better purchasers of health benefits – asking more informed questions, seeking real answers and demanding value for money for healthcare services.

Data and Methods

Data Source

The February 2025 and April 2025 health plan price transparency machine-readable files were downloaded from the Aetna and UnitedHealthcare (UHC) TiC websites, respectively. Equivalent to more than 20 terabytes of data, these files include raw, in-network rate information for every combination of billable code, rendering provider and site of service.

These files were then ingested into Trilliant Health's health plan price transparency (HPPT) dataset (Oakes, 2024). During this process, the raw data is cleaned to ensure relevancy and accuracy. For this analysis, we removed percent of charge and per diem rates and excluded rates below the Medicare reimbursement rate. We also used Trilliant Health's national all-payer claims database to eliminate rates that are reported for professionals, institutions and organizations who have never, and will never, provide certain services, known as a "zombie rate."

The Trilliant Health HPPT dataset was then used to identify in-network negotiated rates for Aetna and UHC, defined as the amount that a health insurance plan has agreed to pay a healthcare facility for a specific service. This amount, or facility fee, includes amounts paid by the health plan and any amounts due from the patient, such as deductibles, copayments and coinsurance. The data used in this report includes negotiated rates for 2,659 hospitals and 3,491 ambulatory surgery centers across all 50 states and the District of Columbia and is likely representative of 50 million commercial lives and 27% of insurer market share (UnitedHealthcare, 2024; Virtua Research, 2025; Guardado et al., 2023).

Analytic Approach

To examine variation in commercial negotiated rates, we isolated facility-level Aetna and UHC rates for 11 inpatient and outpatient procedures (TABLE 1). These 11 surgical codes were selected because they represent a significant amount of healthcare utilization in the commercially insured population, reflect variation in service intensity and capture services that can be provided across care settings. In addition, CMS defines several of these codes as "shoppable services" (CMS, 2022).

TABLE 1. List of Selected MS-DRG and CPT Codes

Code Type	Care Setting	Code	Procedure Type	Description
MS-DRG	Short-Term Acute Care Hospital	**235**	Diseases and disorders of the circulatory system	Coronary bypass without cardiac catheterization with major complication or comorbidity
MS-DRG	Short-Term Acute Care Hospital	**236**	Diseases and disorders of the circulatory system	Coronary bypass without cardiac catheterization without major complication or comorbidity
MS-DRG	Short-Term Acute Care Hospital	**330**	Diseases and disorders of the digestive system	Major small and large bowel procedures with complication or comorbidity
MS-DRG	Short-Term Acute Care Hospital	**331**	Diseases and disorders of the digestive system	Major small and large bowel procedures without complication or comorbidity
MS-DRG	Short-Term Acute Care Hospital	**469**	Diseases and disorders of the musculoskeletal system and connective tissue	Major hip and knee joint replacement or reattachment of lower extremity with major complication or comorbidity or total ankle replacement
MS-DRG	Short-Term Acute Care Hospital	**470**	Diseases and disorders of the musculoskeletal system and connective tissue	Major hip and knee joint replacement or reattachment of lower extremity without major complication or comorbidity
CPT	Hospital Outpatient Department, Ambulatory Surgery Center	**27130**	Joint Replacement of Knee or Hip	Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft
CPT	Hospital Outpatient Department, Ambulatory Surgery Center	**27447**	Joint Replacement of Knee or Hip	Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)
CPT	Hospital Outpatient Department, Ambulatory Surgery Center	**43236**	Esophagogastro-duodenoscopy	Esophagogastroduodenoscopy, flexible, transoral; with directed submucosal injection(s), any substance
CPT	Hospital Outpatient Department, Ambulatory Surgery Center	**45378**	Colonoscopy	Colonoscopy, flexible; diagnostic, including collection of specimen(s) by brushing or washing, when performed (separate procedure)
CPT	Hospital Outpatient Department, Ambulatory Surgery Center	**49505**	Hernia Procedures	Repair initial inguinal hernia, age 5 years or older; reducible

To make meaningful comparisons, the included negotiated rates were limited to fully insured employer-sponsored health plans. Furthermore, to assign one rate per facility, the maximum negotiated rate across eligible plans was selected. Analyses of inpatient Medicare Severity Diagnosis Related Groups (MS-DRG) codes were limited to short-term acute care hospitals, while analyses of outpatient Current Procedural Terminology (CPT) codes included both hospitals and ambulatory surgery center facilities.

For each procedure code, the negotiated rate was analyzed nationally, by state and facility, both within and across payers. Descriptive statistics were calculated, and distributional differences were compared using median, minimum and maximum values.

For inpatient procedures, a coefficient of correlation was used to examine the relationship between the median negotiated rate for Aetna and UHC for the same procedure in each state and the extent to which the negotiated rate for one procedure is associated with the rate for other procedures at the same hospital. Additionally, a sample of 10 hospitals that have been featured on various "best hospital" lists was used to explore variation by payer and facility at the procedure level (U.S. News & World Report; Kayser, 2025; The Leapfrog Group, 2025). This group of hospitals was also used to explore the relationship between cost and quality, pairing information on negotiated rates with publicly available information on hospital performance. Specifically, a hospital-level sum of the Aetna and UHC rate for MS-DRG 235 was compared to the coronary artery bypass graft excess readmission ratio and a hospital-level sum of all Aetna and UHC rates was compared to the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) star rating and the Patient Safety and Adverse Events Composite (PSI 90), a composite of 10 adverse event indicators that summarizes hospital performance related to patient safety (CMS, 2024; CMS, 2025b; Agency for Healthcare Research and Quality; 2024). As a type of robustness check, two alternative mechanisms were also explored: the relationship between aggregate cost and patient acuity and payer mix, as measured by the hospital case mix index and the proportion of commercial discharges using gross patient service revenue, respectively.

For outpatient procedures, a correlation analysis was used to examine the extent to which the negotiated rate for one procedure is associated with the rate for other procedures within the same facility. Additionally, five different core based statistical areas (CBSAs) were used to examine variation in prices within and across hospital outpatient departments and ambulatory surgery centers in the same market.

Throughout this report, real dollar amounts are used for ease of interpretation and external validity.

Contribution

This report builds on two important fields of research, one which has demonstrated that the U.S. pays higher prices for healthcare services than peer countries, and second, the existing research that documents commercial price variation, both within and across markets (Anderson et al., 2019; Laugesen and Glied, 2011; Papanicolas et al., 2018; Chernew et al., 2020; Cooper et al., 2019; Neprash et al., 2015; Whaley et al., 2024; Philips et al., 2025; Whaley et al., 2024).

While foundational in nature, much of the historical work has been hampered by issues related to data accessibility. To this end, these studies have typically analyzed and reported state- or market-level average prices but were unable to conduct facility-level analyses due to restrictive data use agreements. Additionally, many previous studies have relied on relatively small, non-random samples of data, which are unlikely to be representative of the broader commercially insured population. Previously used data was also often heterogeneous, potentially combining data for both in-network and out-of-network healthcare interactions or, when relying on claims data, possibly including data from claims that end up being adjusted, reversed or denied. Due to data accessibility, most of this research has also focused on variation in hospital-based prices, when non-hospital care accounts for the majority of healthcare spending and healthcare utilization.

Interestingly, instead of using the actual negotiated price between a specific insurer and a specific provider for a specific procedure, much of the existing literature has calculated an "estimate" of "what Medicare would have paid for that same service at that same time and location" to then create "relative prices" (Whaley et al., 2024). Practically, a price ratio is a nonintuitive and obscure form of measurement for consumers, whether an employer or individual. Methodologically, it is difficult to interpret a ratio when the denominator is inconsistent. Because of hospital-specific Medicare adjustments for things like cost of living and uncompensated care, when a given procedure is stated to cost 285% of the Medicare rate, the actual dollar amount that that represents is materially different at different hospitals. For example, just within the state of Indiana, there is an 11.8% difference in the Medicare base rate across hospitals (Andrews, 2025). Ultimately, absolute price differences for specific services are what impact actual healthcare spending and are better suited to drive evidence-based decision making.

In using the Trilliant Health HPPT data, this report extends the existing literature by providing comprehensive, near real-time information on inpatient and outpatient commercial rates and the variation that exists across multiple dimensions of the healthcare system – geography, payer, care setting and facility. While using the TiC files requires significant effort, when ingested and cleaned appropriately, the TiC data is the new gold standard for price transparency.

Results

Inpatient Prices, Overall and by Payer, State and Facility

Coronary Bypass

There were negotiated rates for 2,258 short-term acute care hospitals for coronary bypass without cardiac catheterization with a major complication or comorbidity (MS-DRG 235), with 1,124 rates for Aetna and 1,971 rates for UHC (FIGURE 1). Across the country, the median negotiated rate was $90,639, ranging by a factor of 9.0, from $39,579 for Mercy Regional Medical Center in Ville Platte, Louisiana to $354,735 for Hackensack University Medical Center in Hackensack, New Jersey.

FIGURE 1. Distribution of National Negotiated Rates for MS-DRG 235 and MS-DRG 236

Nationally, Aetna has a slightly lower median MS-DRG 235 negotiated rate than UHC, $88,310 vs $91,134 (FIGURE 2). The most common rate for Aetna was $108,697 (N=28) and the most common rate for UHC was $172,995 (N=23). By median, the least expensive Aetna states for this procedure are Alabama ($50,775), Idaho ($51,781) and Mississippi ($57,295), while the most expensive states are Colorado ($151,934), Connecticut ($145,075) and the District of Columbia ($143,619). For UHC, the least expensive states for MS-DRG 235 are Alabama ($49,754), Louisiana ($63,061) and

Michigan ($63,714), while the most expensive states are Vermont ($191,948), Connecticut ($145,575) and New York ($143,057) (FIGURE 3). By state, the average ratio of the highest to lowest negotiated rate is 3.3, ranging from 1.2 for UHC in Wyoming to 8.4 for UHC in California (FIGURE 4). For the 39 states that have a median MS-DRG 235 negotiated rate for both payers, the average absolute difference between rates is $15,664 and the Pearson correlation is r=0.70, which is indicative of a strong, but not perfect correlation. This means that if a state has a high Aetna rate, they are somewhat likely to have a higher UHC rate.

FIGURE 2. Distribution of Negotiated Rates for MS-DRG 235 and MS-DRG 236 by Payer

FIGURE 3. Median Negotiated Rate by State and Payer for MS-DRG 235 and MS-DRG 236

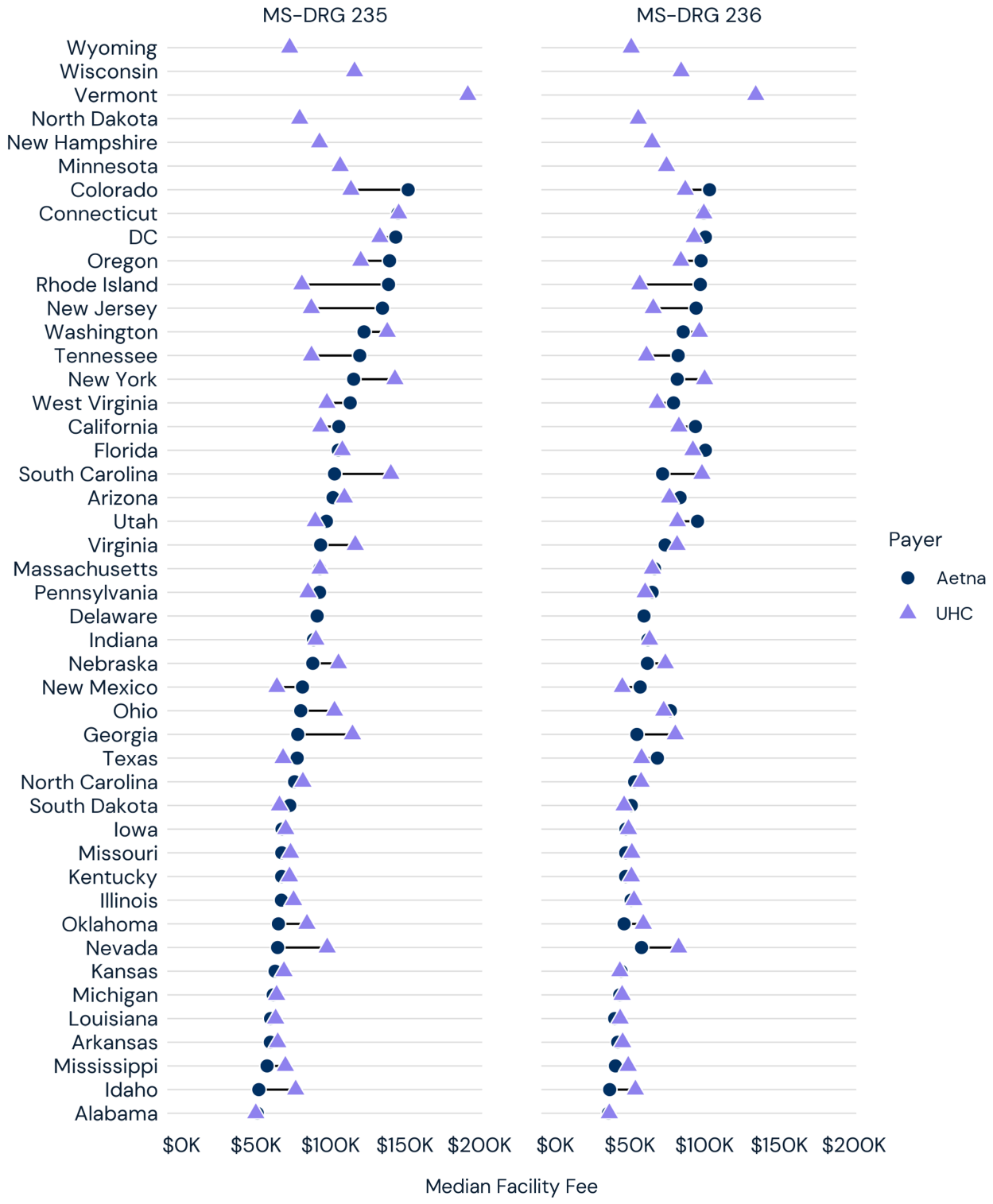
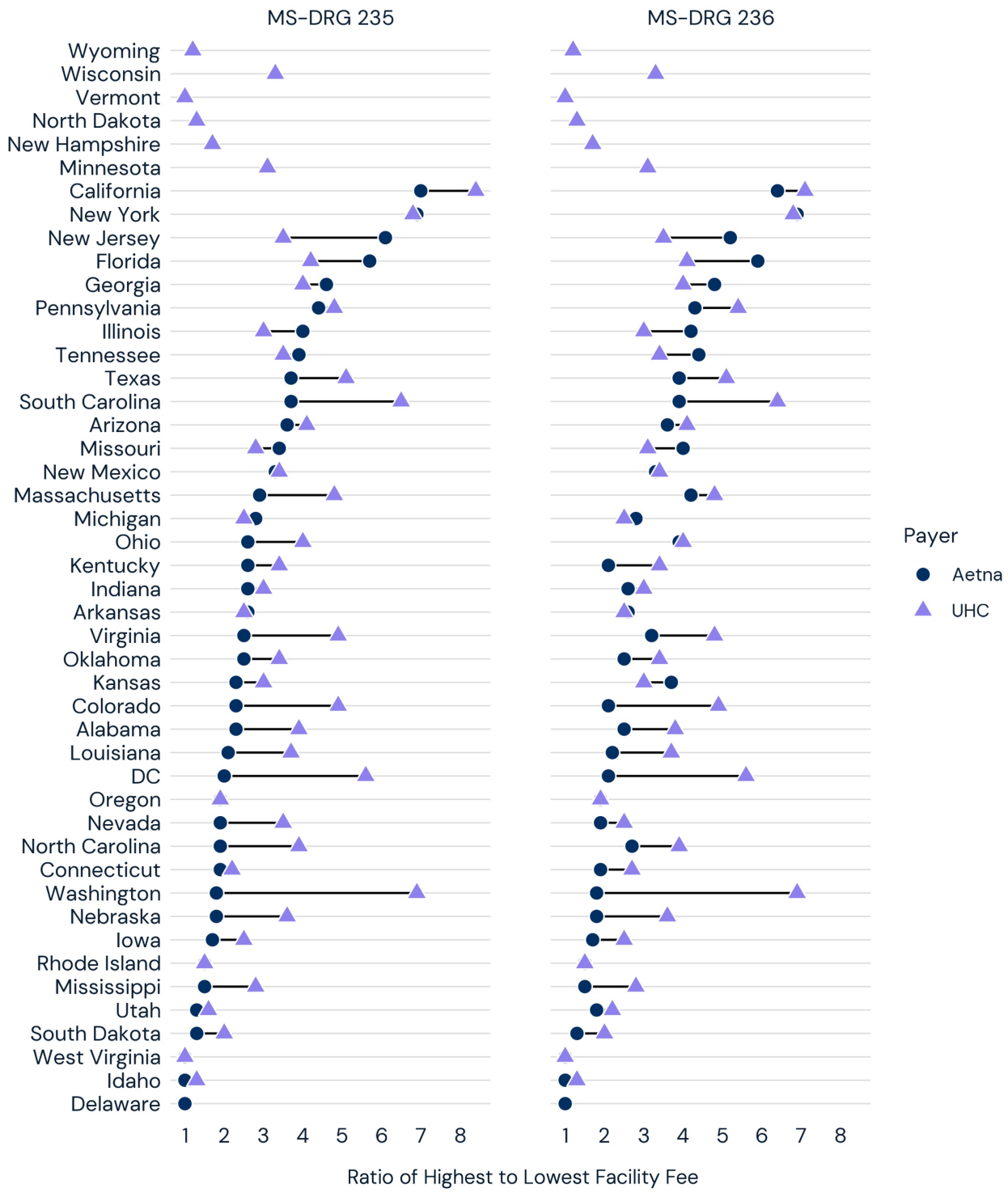
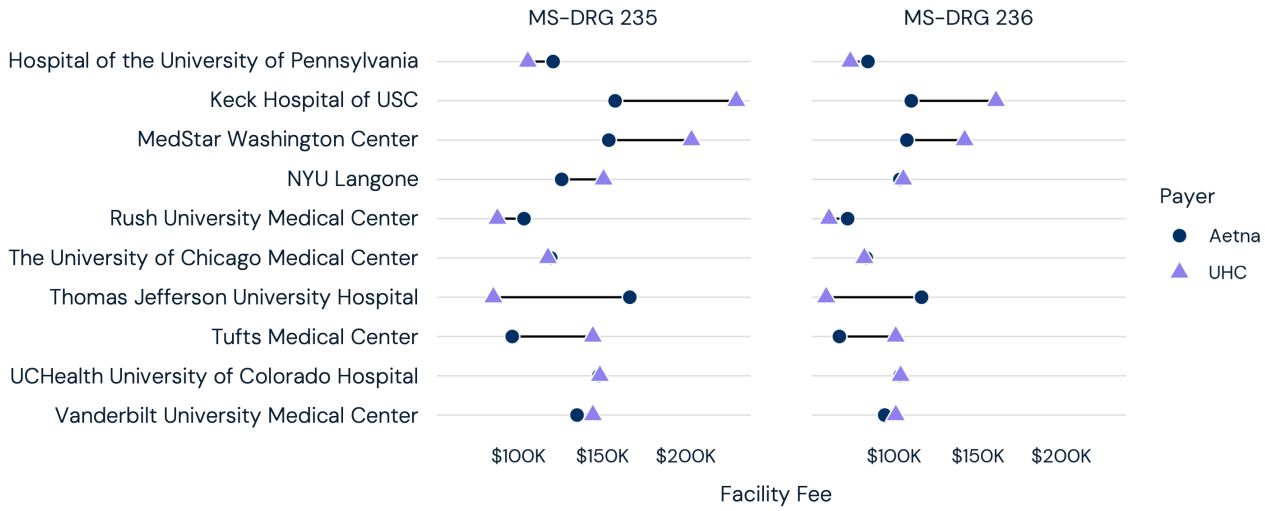


FIGURE 4. Ratio of Highest to Lowest Negotiated Rate for MS-DRG 235 and MS-DRG 236 by State and Payer



Among hospitals that have a MS-DRG 235 rate for both payers (N=843), the average absolute difference in negotiated rates is $28,449, equivalent to 31.4% of the median rate ($90,639). Among the selected sample of best hospitals, within the same hospital, the rates paid by Aetna and UHC differed by an absolute average of $31,941 (FIGURE 5). As an example, at Rush University Medical Center the Aetna negotiated rate for MS-DRG 235 is $103,032, while the UHC negotiated rate is $87,116, a difference of $15,916. There is no discernable pattern when comparing rates across payers, with Aetna negotiating lower rates with six of the 10 hospitals and UHC with the remaining four hospitals.

FIGURE 5. Negotiated Rates for Selected Hospitals by Payer, MS-DRG 235 and MS-DRG 236



For coronary bypass without cardiac catheterization without a major complication or comorbidity (MS-DRG 236), there were negotiated rates for 2,282 short-term acute care hospitals, inclusive of 1,160 Aetna rates and 2,014 UHC rates (FIGURE 1). Across the country, the median negotiated rate was $68,194, ranging by a factor of 9.0, from $27,683 for Mercy Regional Medical Center in Ville Platte, Louisiana to $247,902 at Hackensack University Medical Center in Hackensack, New Jersey. Across the board, the lower rate as compared to MS-DRG 235 is reflective of lower service intensity, when the same procedure is performed in a less complicated population.

Nationally, Aetna and UHC have a very similar median negotiated rate for MS-DRG 236, $68,194 vs $68,088 (FIGURE 2). The most common rate for Aetna was $75,961 (N=28), while the most common rate for UHC was $120,896 (N=23). By median, the least expensive Aetna states for this procedure are Alabama ($35,335), Idaho ($36,187) and Louisiana ($39,534), while the most expensive are Colorado ($103,148), the District of Columbia ($100,367) and Florida ($100,356). For UHC, the least expensive states for this procedure are Alabama ($35,946), Kansas ($43,025) and Louisiana ($43,202), while the most expensive are Vermont ($134,141), New York ($99,844) and Connecticut ($99,320) (FIGURE 3). Within the same state, the average ratio of the highest to lowest negotiated rate is 3.4, ranging from 1.2 for UHC in Wyoming to 7.1 for UHC in California (FIGURE 4). Like MS-DRG 235, the Pearson correlation for the median MS-DRG 236 rate by payer

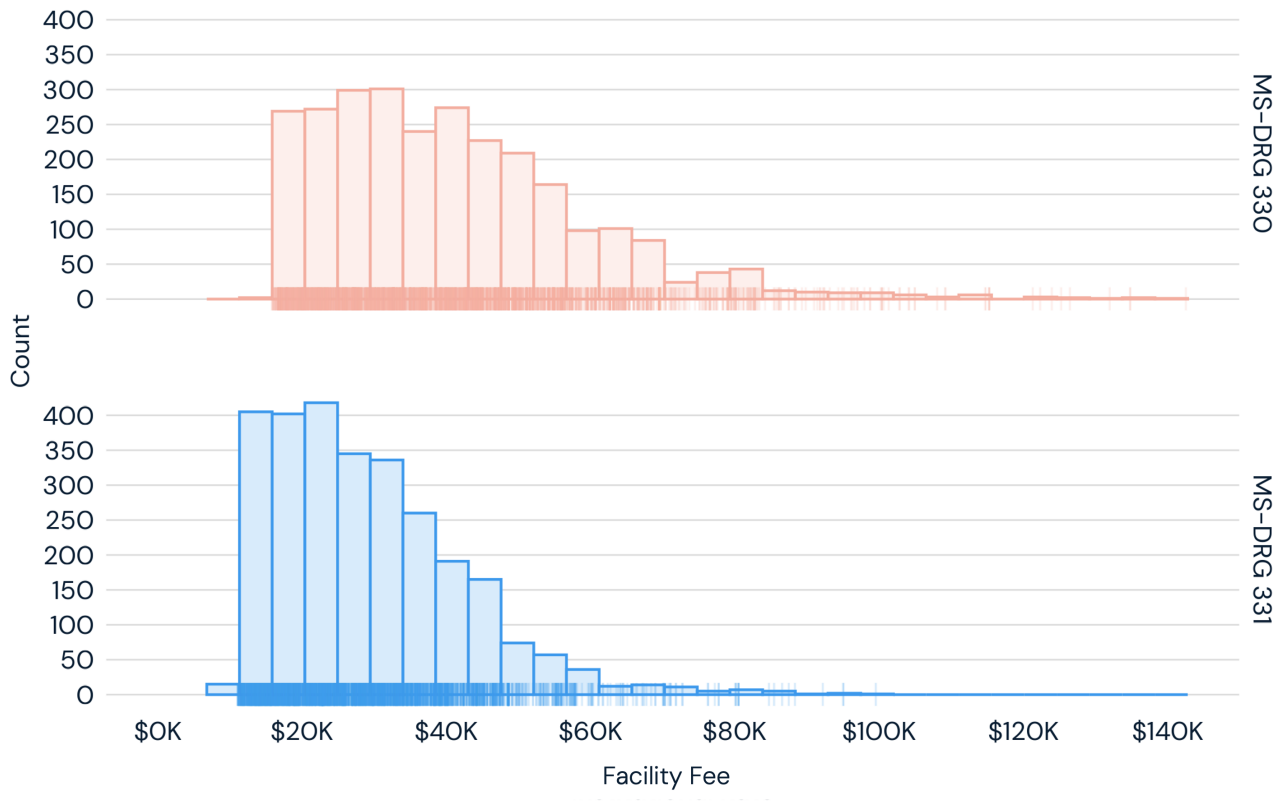
and state (r=0.77) is indicative of a strong positive correlation. However, meaningful heterogeneity does exist. For example, while Alabama has the lowest median rate for both Aetna and UHC, New Mexico has the sixteenth least expensive rate for Aetna ($56,638) but the fifth least expensive rate for UHC ($44,651). On average, the absolute difference between payers across states is $10,485.

Among hospitals that have a MS-DRG 236 rate for both payers (N=896), the average absolute difference in negotiated rates is $19,818, equivalent to 29.1% of the median rate ($68,194). Among the selected sample of best hospitals, within the same hospital, the rates paid by Aetna and UHC differed by an absolute average of $20,773 (FIGURE 5). For example, at Tufts Medical Center the Aetna negotiated rate for MS-DRG 236 is $67,081, while the UHC negotiated rate is $100,775, a difference of $33,694. Comparing rates between payers across these hospitals, Aetna has a lower rate for six out of the 10 hospitals, the same six hospitals as for MS-DRG 235.

Major Small and Large Bowel Procedures

Overall, there were negotiated rates for 2,032 short-term acute care hospitals for major small and large bowel procedures with a complication or comorbidity (MS-DRG 330), with 933 rates for Aetna and 1,757 rates for UHC (FIGURE 6). Across the country, the median negotiated rate was $37,583, ranging by a factor of 9.0, from $15,824 for St. Luke's Des Peres Hospital in Des Peres, Missouri to $142,498 for Hackensack University Medical Center in Hackensack, New Jersey.

FIGURE 6. Distribution of National Negotiated Rates for MS-DRG 330 and MS-DRG 331



Across the country, Aetna has a slightly lower median negotiated rate than UHC for this procedure, $36,862 vs $38,481, respectively (FIGURE 7). The most common MS-DRG 330 rate for Aetna was $32,735 (N=28), which was largely attributable to multiple Baylor Scott & White Health facilities in Dallas, Texas. The most common rate for UHC was $69,493 (N=23). For Aetna, the least expensive states for this procedure are Alabama ($20,396), Idaho ($20,801) and Arkansas ($23,903), while the most expensive are California ($65,332), Colorado ($59,291) and New Hampshire ($57,935). For UHC, the median negotiated rate across states varies by a factor of 3.7, from $20,893 in Alabama to $77,106 in Vermont (FIGURE 8). Within the same state, the average ratio of the highest to lowest negotiated rate is 3.2, ranging from 1.0 for Aetna in Nevada to 6.9 for Aetna in New York and UHC in South Carolina and Washington (FIGURE 9). For the 40 states that have a MS-DRG 330 negotiated rate for both payers, the Pearson correlation is r=0.55, which is indicative of a moderate positive relationship. While the median negotiated rate between payers differs by less than $500 in states like Alabama, Massachusetts and Missouri, the average absolute difference is $7,933, differing by more than $10,000 in 11 states. For example, in Tennessee, the median Aetna negotiated rate is $47,983 (N=21) while the median UHC rate is $34,992 (N=45), a $12,991 difference.

FIGURE 7. Distribution of Negotiated Rates for MS-DRG 330 and MS-DRG 331 by Payer

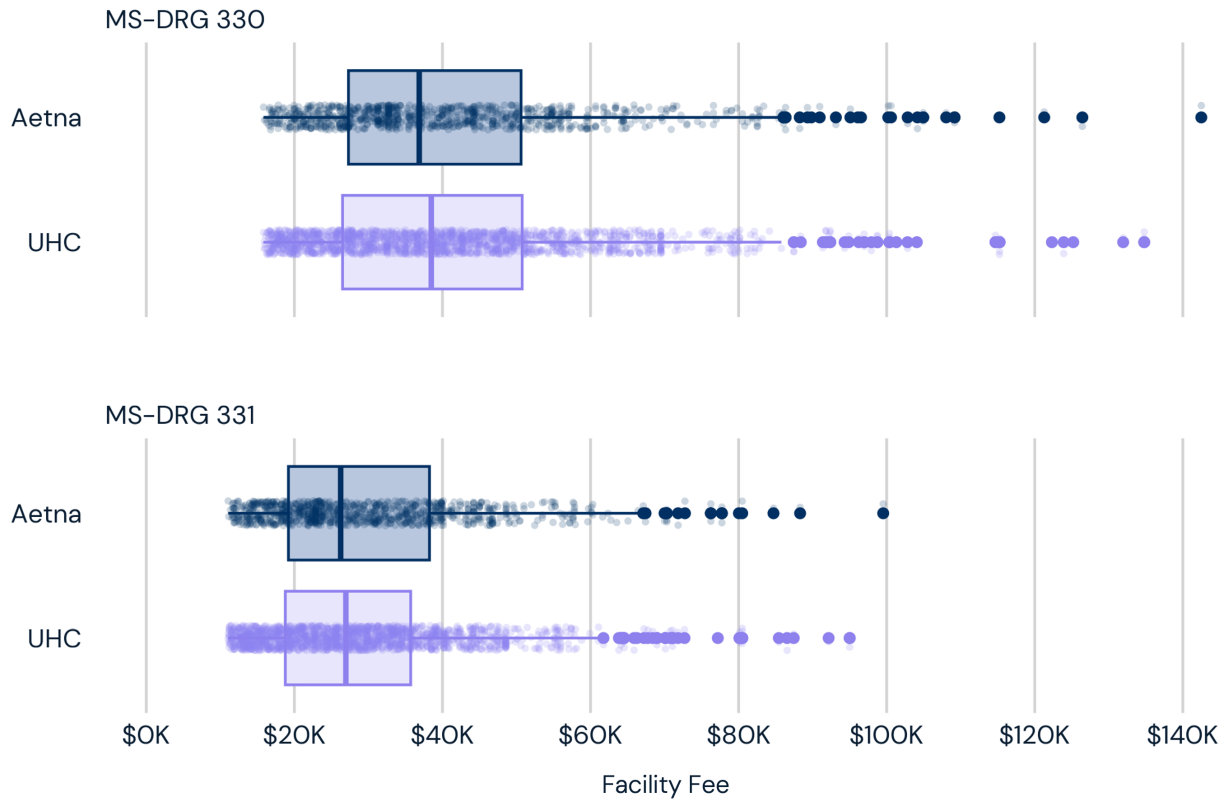


FIGURE 8. Median Negotiated Rate by State and Payer for MS-DRG 330 and MS-DRG 331

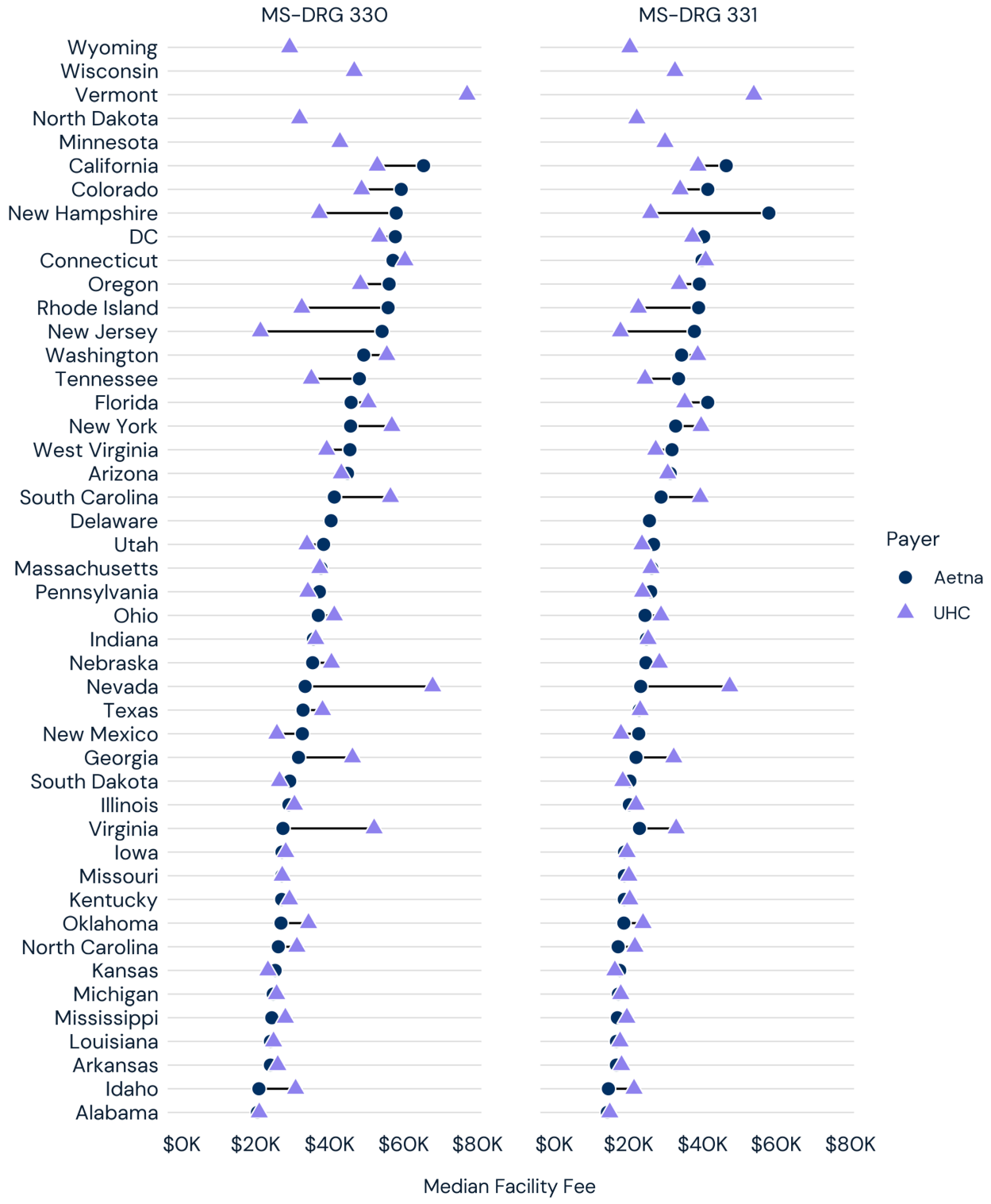
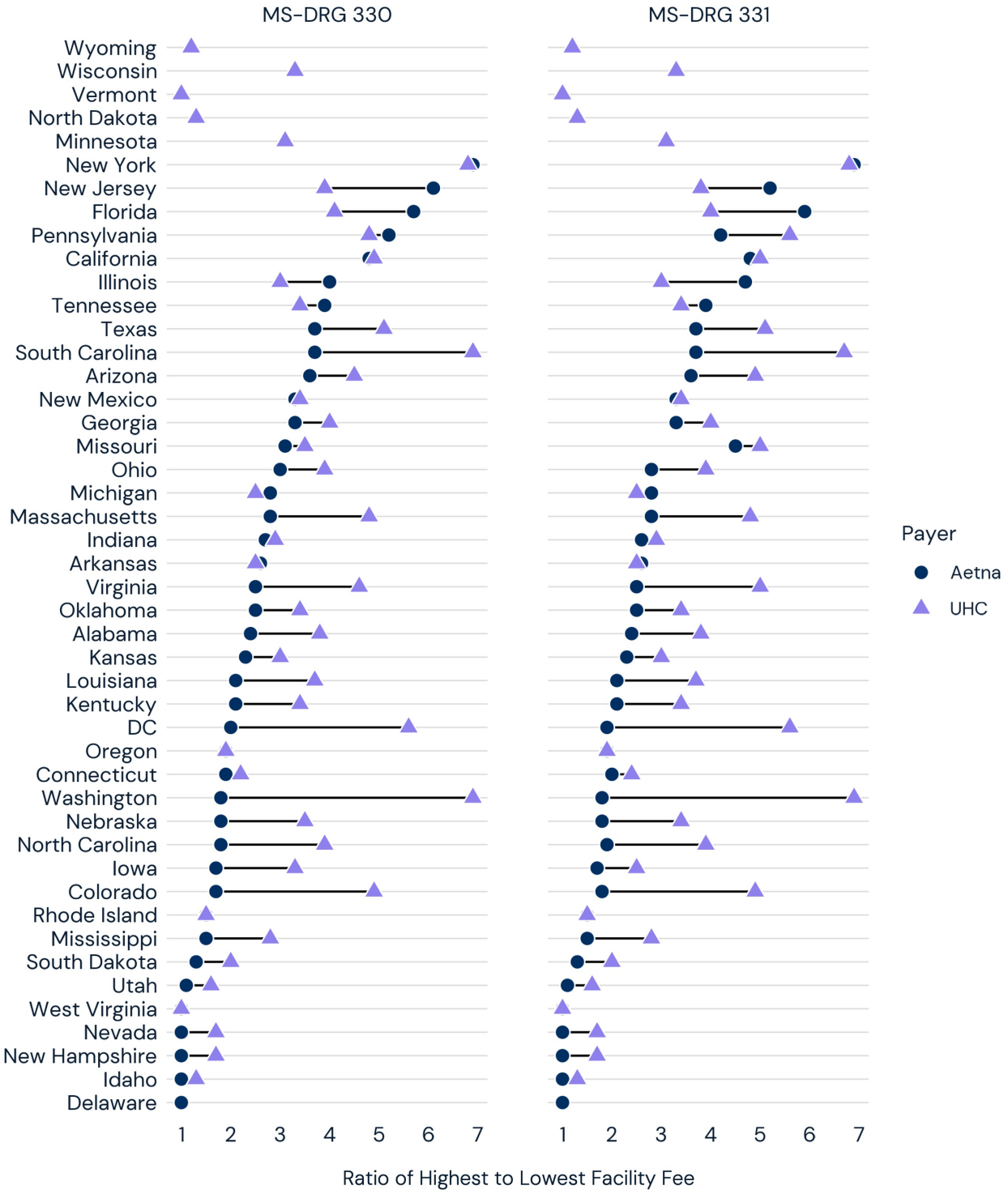
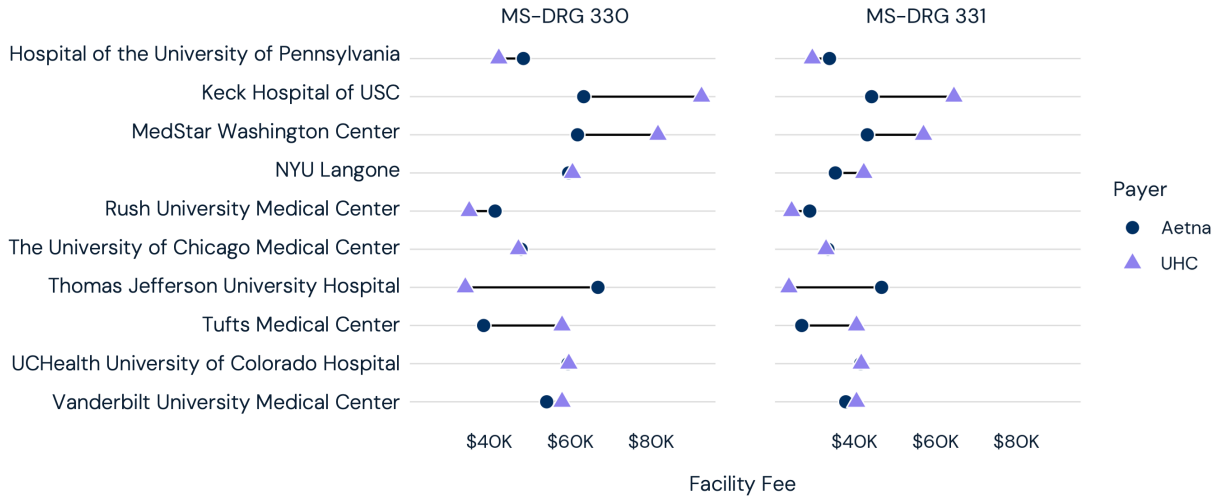


FIGURE 9. Ratio of Highest to Lowest Negotiated Rate for MS-DRG 330 and MS-DRG 331 by State and Payer



Among hospitals that have a MS-DRG 330 rate for both payers (N=658), the average absolute difference in negotiated rates is $11,074, equivalent to 29.5% of the median rate ($37,583). Among the selected sample of best hospitals, within the same hospital, the rates paid by Aetna and UHC differed by an absolute average of $11,919 (FIGURE 10). For example, at Rush University Medical Center the Aetna negotiated rate for MS-DRG 330 is $41,388, while the UHC negotiated rate is $34,995, a difference of $6,393. Comparing rates between payers across these hospitals, Aetna has a lower rate for six out of the 10 hospitals, the same six hospitals that had a lower Aetna rate for coronary bypass.

FIGURE 10. Negotiated Rates for Selected Hospitals by Payer, MS-DRG 330 and MS-DRG 331



For major small and large bowel procedures without a major complication or comorbidity (MS-DRG 331), there were negotiated rates for 2,049 short-term acute care hospitals, with 950 Aetna rates and 1,791 UHC rates (see FIGURE 6). Overall, the median negotiated rate was $26,864, ranging by a factor of 9.0, from $11,053 at St. Luke's Des Peres Hospital in Des Peres, Missouri to $99,532 at Hackensack University Medical Center in Hackensack, New Jersey. Like the difference in rate between MS-DRG 235 and MS-DRG 236, the lower rate for MS-DRG 331 as compared to MS-DRG 330 is reflective of lower service intensity, when the same procedure is performed in a less complicated population.

Across the country, Aetna and UHC have a relatively similar median negotiated rate for MS-DRG 331, $26,191 vs $26,951, respectively (FIGURE 7). The most common rate for Aetna was $22,865 (N=28) and the most common rate for UHC was $48,539 (N=23). For Aetna, the median negotiated rate across states varies by a factor of 4.1, from $14,247 in Alabama to $57,935 in New Hampshire. For UHC, the least expensive states for this procedure are Alabama ($14,908), Kansas ($16,282) and Louisiana ($17,694), while the most expensive states are Vermont ($53,857), Nevada ($47,347) and Connecticut ($40,846) (FIGURE 8). By state, the average ratio of the highest to lowest negotiated rate is 3.2, ranging from 1.0 for Aetna in Nevada to 6.9 for both UHC in Washington and Aetna in New York (FIGURE 9). Like MS-DRG 330, among the 40 states that have a MS-DRG 331 negotiated rate for both payers, the Pearson correlation is r=0.55, which is

indicative of a moderate positive relationship. To some extent, a higher price with one payer is suggestive of a higher price with a different payer within the same state, with an average absolute difference of $5,741.

Among hospitals that have a MS-DRG 331 rate for both payers (N=692), the average absolute difference in negotiated rates is $7,985, equivalent to 29.7% of the median rate ($26,864). Among the selected sample of best hospitals, within the same hospital, the rates paid by Aetna and UHC differed by an absolute average of $8,962 (FIGURE 10). As an example, at NYU Langone the Aetna negotiated rate for MS-DRG 331 is $35,230, while the UHC negotiated rate is $42,258, a difference of $7,028. Like the other procedures, Aetna has a lower negotiated rate for six of the 10 hospitals.

Major Hip and Knee Joint Replacement or Reattachment of Lower Extremity

Overall, there were negotiated rates for 2,230 short-term acute care hospitals for major hip and knee joint replacement or reattachment of lower extremity with major complication or comorbidity or total ankle replacement (MS-DRG 469), with 1,008 rates for Aetna and 1,988 rates for UHC (FIGURE 11). Nationally, the median negotiated rate for MS-DRG 469 was $50,564, ranging by a factor of 9.0, from $22,011 for St. David's North Austin Medical Center in Austin, Texas to $197,057 at Hackensack University Medical Center in Hackensack, New Jersey.

FIGURE 11. Distribution of National Negotiated Rates for MS-DRG 469 and MS-DRG 470

Across the country, Aetna has a lower median MS-DRG 469 negotiated rate than UHC, $49,343 vs $51,033, respectively (FIGURE 12). The most common rate for Aetna was $60,382 (N=28) and the most common rate for UHC was $96,100 (N=23). For Aetna, the median negotiated rate across states varies by a factor of 2.9, from $28,206 in Alabama to $81,848 in Colorado. By median, the least expensive UHC states for this procedure are Alabama ($28,258), Louisiana ($33,592) and Kansas ($34,200), while the most expensive states are Vermont ($106,628), Nevada ($93,740) and New York ($78,420) (FIGURE 13). By state, the average ratio of the highest to lowest negotiated rate is 3.3, ranging from 1.0 for Aetna in Maine to 8.2 for UHC in California (FIGURE 14). For the 40 states that have a MS-DRG 469 negotiated rate for both payers, the Pearson correlation is r=0.54, which is indicative of a moderate positive correlation, like the other procedures. This means that if a state has a high Aetna rate, it may have a relatively high UHC rate, but there is still meaningful heterogeneity with an average absolute difference of $9,802. For example, in New Jersey, the median Aetna rate is $74,830 (N=50), while the median UHC rate is $48,330 (N=32), an absolute difference of $26,500.

FIGURE 12. Distribution of Negotiated Rates for MS-DRG 469 and MS-DRG 470 by Payer

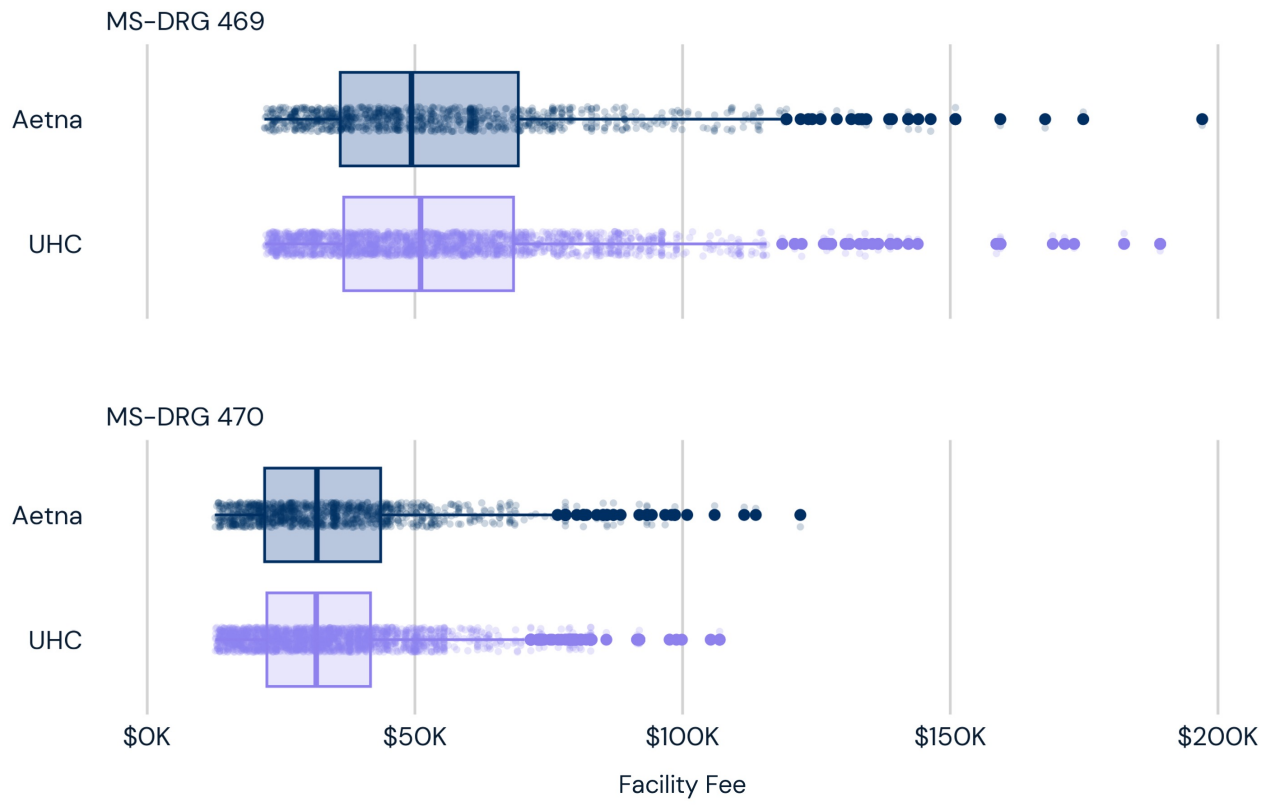


FIGURE 13. Median Negotiated Rate by State and Payer for MS-DRG 469 and MS-DRG 470

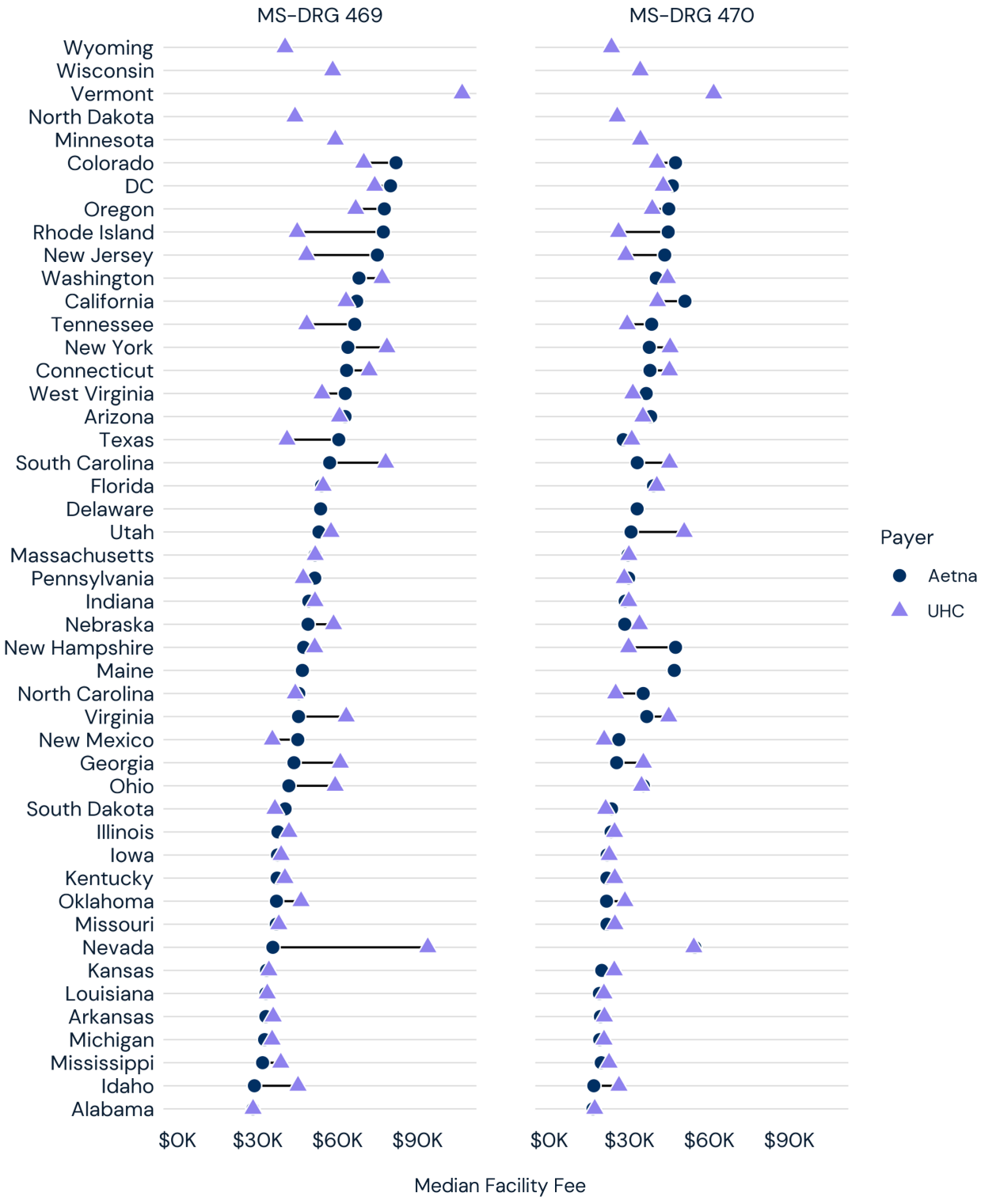
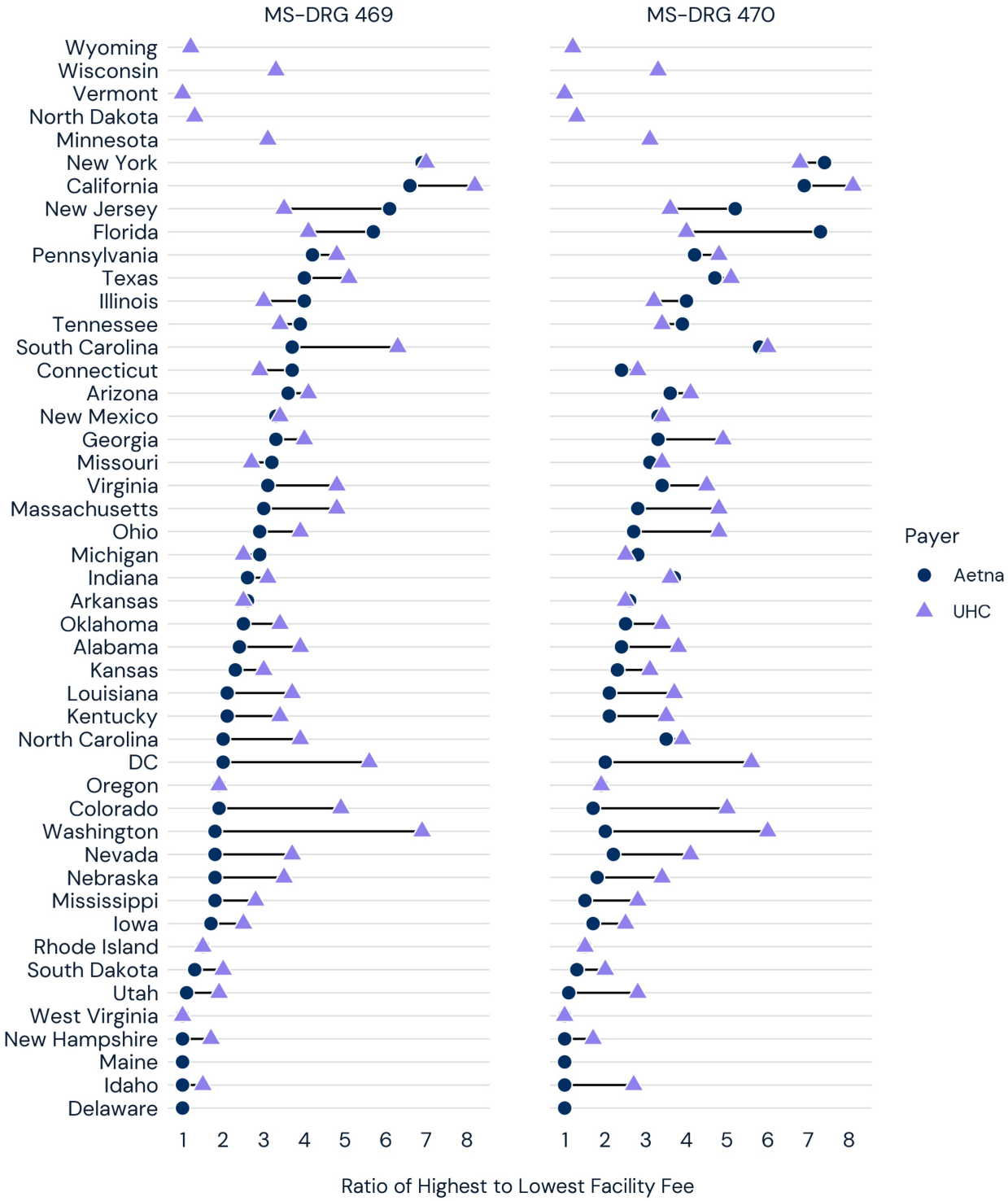
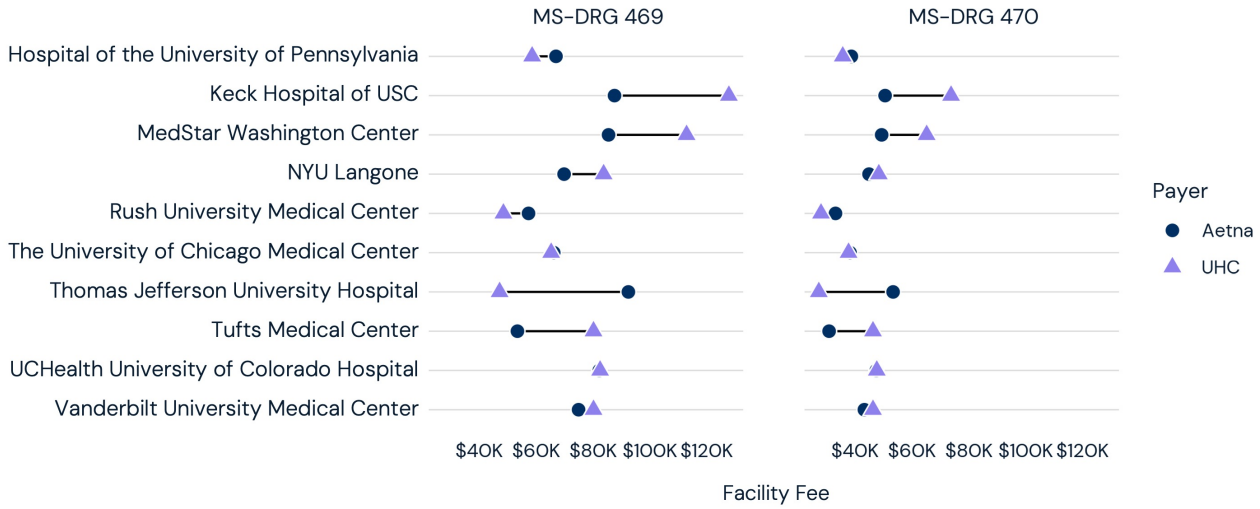


FIGURE 14. Ratio of Highest to Lowest Negotiated Rate for MS-DRG 469 and MS-DRG 470 by State and Payer



Among hospitals that have a MS-DRG 469 rate for both payers (N=771), the average absolute difference in negotiated rates is $15,580, equivalent to 30.8% of the median rate ($50,564). Among the selected sample of best hospitals, within the same hospital, the rates paid by Aetna and UHC differed by an absolute average of $17,744 (FIGURE 15). As an example, at the MedStar Washington Hospital Center the Aetna negotiated rate for MS-DRG 469 is $85,395, while the UHC negotiated rate is $112,865, a difference of $27,470. Among these hospitals, Aetna has a lower MS-DRG 469 negotiated rate than UHC for the same six hospitals as the other procedures.

FIGURE 15. Negotiated Rates for Selected Hospitals by Payer, MS-DRG 469 and MS-DRG 470



For major hip and knee joint replacement or reattachment of lower extremity without a major complication or comorbidity (MS-DRG 470), there were negotiated rates for 2,270 short-term acute care hospitals, inclusive of 1,074 Aetna rates and 2,035 UHC rates (FIGURE 11). Across the country, the median negotiated rate for MS-DRG 470 was $31,603, ranging by a factor of 9.6, from $12,727 at UPMC Hamot in Erie, Pennsylvania to $121,996 at Summerville Medical Center in Summerville, South Carolina. Like the other inpatient procedures, the lower rate as compared to MS-DRG 469 is reflective of lower service intensity, when the same procedure is performed in a less complicated population.

Nationally, Aetna and UHC have a relatively similar median negotiated rate for MS-DRG 470, $31,697 vs $31,569, respectively (FIGURE 12). The most common rate for Aetna was $34,833 (N=28) and the most common rate for UHC was $55,434 (N=23). For Aetna, the least expensive states for this procedure are Alabama ($16,270), Idaho ($16,592) and Louisiana ($18,676), while the most expensive states are Nevada ($54,436), California ($50,749) and New Hampshire ($47,224). For UHC, the median negotiated rate across states varies by a factor of 3.6, from $16,939 in Alabama to $61,507 in Vermont (FIGURE 13). By state, the average ratio of the highest to lowest negotiated rate is 3.4, ranging from 1.0 for Aetna in Maine to 8.1 for UHC in California (FIGURE 14). For the 40 states that have a MS-DRG 470 negotiated rate for both payers, the average absolute difference between rates is $5,851 and the Pearson correlation is r=0.70, which is indicative of a moderate, positive correlation.

Among hospitals that have a MS-DRG 470 rate for both payers (N=844), the average absolute difference in negotiated rates is $9,292 equivalent to 29.4% of the median rate ($31,603). Among the selected sample of best hospitals, within the same hospital, the rates paid by Aetna and UHC differed by an absolute mean of $9,595, ranging from a difference of $166 at UCHealth University of Colorado Hospital to $26,140 at Thomas Jefferson University Hospital (FIGURE 15). Like the other procedures, Aetna has a lower negotiated rate at the same six hospitals, while UHC has a lower rate at the remaining four.

Inpatient Prices Across Procedures

For each MS-DRG procedure code, a hospital-level correlation matrix was used to assess the extent to which having a high price for one procedure type is associated with having a high price for a different procedure. For Aetna, the Pearson correlation ranges from r=0.88 for MS-DRG 235 and MS-DRG 470 and MS-DRG 236 and MS-DRG 469 to r=0.97 for MS-DRG 235 and MS-DRG 330 (TABLE 2). For UHC, the Pearson correlation ranges from r=0.91 for MS-DRG 235 and MS-DRG 470 to r=0.99 for four different procedure pairs (TABLE 3). These correlations are indicative of strong positive relationships, meaning that if a hospital is expensive for one inpatient surgical procedure, it is likely to be expensive for a different inpatient surgical procedure.

TABLE 2. Aetna Hospital-Level Inpatient Procedure Correlation Matrix

MS-DRG	235	236	330	331	469	470
235	1.00					
236	0.93	1.00				
330	0.97	0.93	1.00			
331	0.92	0.91	0.96	1.00		
469	0.96	0.88	0.96	0.90	1.00	
470	0.88	0.91	0.94	0.91	0.90	1.00

TABLE 3. UHC Hospital-Level Inpatient Procedure Correlation Matrix

MS-DRG	235	236	330	331	469	470
235	1.00					
236	0.96	1.00				
330	0.99	0.98	1.00			
331	0.98	0.95	0.99	1.00		
469	0.99	0.95	0.99	0.97	1.00	
470	0.91	0.96	0.97	0.93	0.92	1.00

Using the selected list of best hospitals as an example, there are notable patterns in negotiated rates across procedures for the same hospital. For example, Keck Hospital of USC is relatively expensive, whether UHC or Aetna is paying, but for every procedure the Aetna negotiated rate is less than the UHC negotiated rate. At the same time, Thomas Jefferson University Hospital has the highest Aetna negotiated rate for every procedure but is the least expensive facility for UHC. In contrast, as illustrated by UCHealth University of Colorado and the University of Chicago Medical Center, it is also possible for the same hospital to have similar rates across different payers (TABLE 4). When comparing between procedures by payer, there is slightly more pricing heterogeneity within hospitals for Aetna as compared to UHC. By looking at rates for six procedures for 10 hospitals and two payers, three hospital phenotypes emerge — a hospital is either consistently expensive across payers (e.g., Keck Hospital of USC), consistently less expensive across payers (e.g., Hospital of the University of Pennsylvania) or has high variation between payers (e.g., Thomas Jefferson University Hospital).

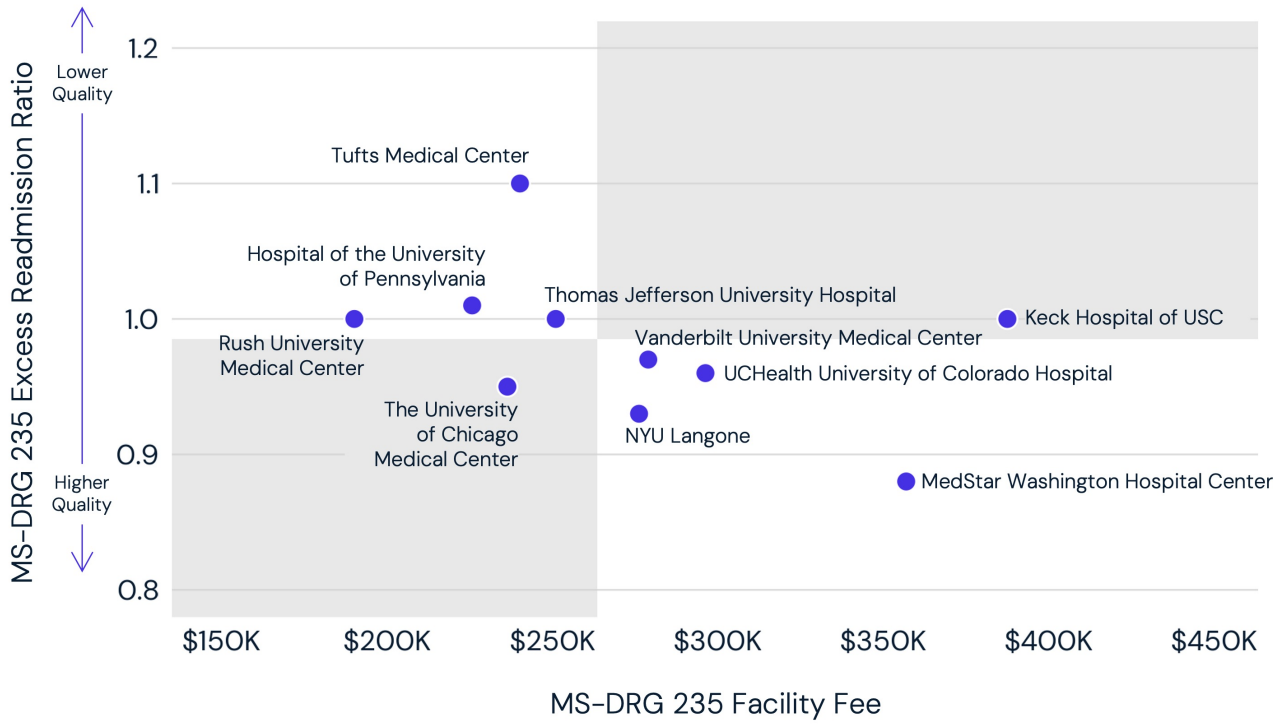
TABLE 4. Negotiated Rates for Selected Hospitals by Procedure and Payer

Hospital and Location	Payer	MS-DRG 235	MS-DRG 236	MS-DRG 330	MS-DRG 331	MS-DRG 469	MS-DRG 470
Hospital of the University of Pennsylvania Philadelphia, PA	Aetna	$120,432	$84,162	$48,378	$33,791	$66,901	$38,591
	UHC	$105,310	$73,594	$42,303	$29,548	$58,500	$35,567
Keck Hospital of USC Los Angeles, CA	Aetna	$157,508	$110,073	$63,272	$44,194	$87,497	$50,471
	UHC	$229,972	$160,713	$92,380	$64,526	$127,751	$73,691
MedStar Washington Hospital Center Washington, D.C.	Aetna	$153,725	$107,429	$61,752	$43,132	$85,395	$49,259
	UHC	$203,176	$141,987	$81,616	$57,007	$112,865	$65,104
NYU Langone New York, NY	Aetna	$125,563	$103,234	$59,552	$35,231	$69,751	$44,813
	UHC	$150,611	$105,253	$60,501	$42,258	$83,665	$48,261
Rush University Medical Center Chicago, Illinois	Aetna	$103,032	$72,003	$41,388	$28,909	$57,235	$33,015
	UHC	$87,116	$60,880	$34,995	$24,443	$48,393	$27,915
The University of Chicago Medical Center Chicago, Illinois	Aetna	$119,008	$83,167	$47,806	$33,392	$66,110	$38,134
	UHC	$117,378	$82,028	$47,152	$32,934	$65,204	$37,612
Thomas Jefferson University Hospital Philadelphia, PA	Aetna	$166,288	$116,208	$66,798	$46,657	$92,374	$53,284
	UHC	$84,709	$59,198	$34,028	$23,768	$47,056	$27,144
Tufts Medical Center Boston, MA	Aetna	$95,989	$67,081	$38,559	$26,933	$53,322	$30,758
	UHC	$144,204	$100,775	$57,927	$40,461	$80,106	$46,208
UCHealth University of Colorado Hospital Aurora, CO	Aetna	$147,858	$103,329	$59,395	$41,486	$82,136	$47,379
	UHC	$148,376	$103,691	$59,603	$41,632	$82,424	$47,545
Vanderbilt University Medical Center Nashville, TN	Aetna	$134,742	$94,163	$54,126	$37,806	$74,850	$43,176
	UHC	$144,210	$100,779	$57,930	$40,463	$80,109	$46,210

Inpatient Prices and Facility Quality

The selected list of best hospitals was also used to explore the relationship between negotiated rate and quality. First, this relationship was examined using the negotiated rate for one procedure and a procedure-specific quality measure – the sum of the hospital-level Aetna and UHC rates for MS-DRG 235 and the hospital-level coronary artery bypass graft excess readmission ratio. The summed median negotiated rate for these 10 hospitals was $263,586, ranging from $190,148 at Rush University Medical Center to $387,480 at Keck Hospital of USC. The median excess readmission ratio was 0.98, ranging from 0.88 at MedStar Washington Hospital Center to 1.10 at Tufts Medical Center, where a lower rate indicates better patient care. The Pearson correlation coefficient between these variables is r=-0.42, which is indicative of a moderate correlation – if a hospital has a higher negotiated rate, this is moderately associated with a lower (or better) excess readmission ratio (FIGURE 16). This association is in the right direction, but meaningful heterogeneity exists. While MedStar Washington Hospital has the best excess readmission ratio and second most expensive negotiated rate, Keck Hospital of USC has the most expensive negotiated rate and the seventh best (or third worst) excess readmission ratio in the group.

FIGURE 16. Negotiated Rate and Excess Readmission Ratio for MS-DRG 235 by Hospital

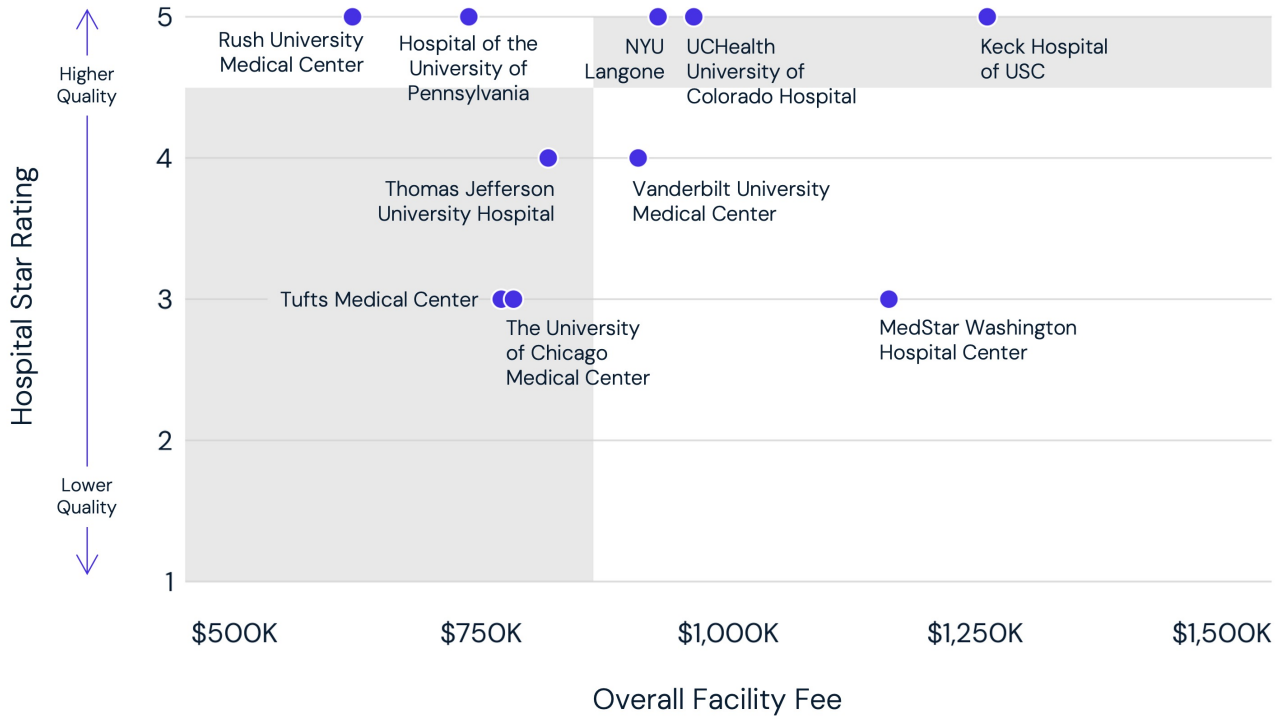


Note: Grey shading indicates median values for the MS-DRG 235 facility fee and MS-DRG 235 excess readmission ratio; the MS-DRG 235 facility fee reflects the sum of the hospital-level Aetna and UHC rates for MS-DRG 235.

Making a more direct value comparison, Keck Hospital of USC and Rush University Medical Center both have an excess readmission ratio of 1.00, but the negotiated rate at Keck Hospital of USC is 2.0 times the cost of treatment at Rush University Medical Center, $387,480 vs $190,148, respectively. There is also a cluster of hospitals that have relatively similar negotiated rates, between $225,000 and $251,000 but different levels of quality performance, with associated excess readmission ratios ranging from 0.95 to 1.10. Essentially, even within this sample of 10 hospitals that have been featured on various best hospital lists, there are instances of hospitals with worse performance being paid more than hospitals with better performance, and vice versa.

The relationship between negotiated rates and quality was also examined in aggregate, using a summed negotiated rate across procedures and payers and two overall measures of hospital quality – the HCAHPS star rating and the PSI 90. The summed median negotiated rate, equivalent to the total reimbursement for two of each procedure, with one being reimbursed by Aetna and the other by UHC, was $863,038 and ranged from $619,324 at Rush University Medical Center to $1,262,048 at Keck Hospital of USC. The HCAHPS star rating uses a 5-star scale to make it easier for patients to compare hospitals, with more stars meaning better quality care. In the sample of 10 best hospitals, five had a 5-star rating, two had a 4-star rating and three had a 3-star rating. The correlation coefficient between the summed negotiated rate and the HCAHPS star rate is ρ=0.04, meaning that there is no association between variables – the negotiated rate and star rating are not related to one another (FIGURE 17). For example, Rush University Medical Center has the least expensive summed negotiated rate ($619,324) and is a 5-star hospital, while MedStar Washington Hospital Center is second most expensive ($1,162,447) but is a 3-star hospital.

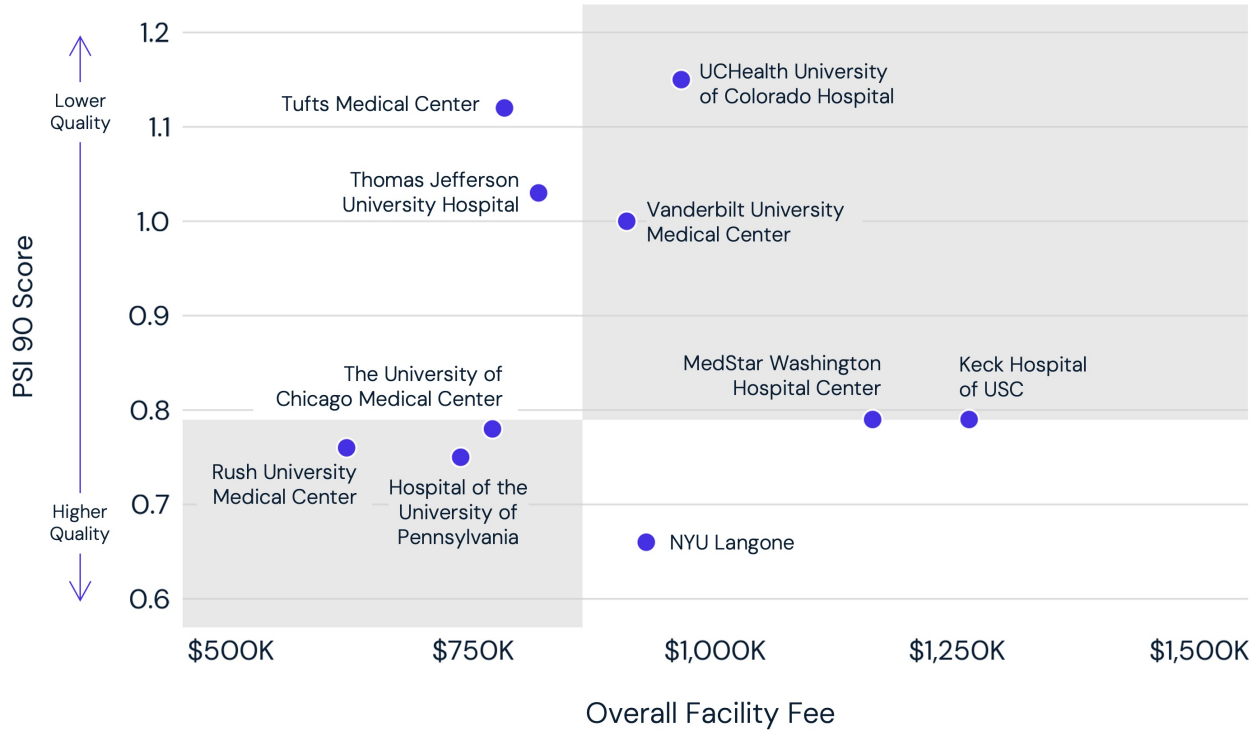
FIGURE 17. Overall Negotiated Rate and HCAHPS Star Rating by Hospital



Note: Grey shading indicates median values for the overall facility fee and hospital star rating; the overall facility fee reflects the sum of the hospital-level Aetna and UHC rates for the six included inpatient procedures.

Within these 10 hospitals, the median PSI 90 score was 0.79, ranging from 0.66 at NYU Langone to 1.15 at UCHealth University of Colorado Hospital. Like the excess readmission ratio, a lower PSI 90 score indicates better patient care. The correlation coefficient between the summed negotiated rate and the PSI 90 is r=-0.05, meaning that there is no association between variables – if a hospital has a higher negotiated rate, it is essentially random as to whether or not it will have a lower (or better) PSI 90 score (FIGURE 18). In looking for an alternative explanation, variation in aggregate negotiated rates are more strongly correlated with patient acuity (r=0.53) and payer mix (r=-0.42) than quality, but even these correlation coefficients are modest.

FIGURE 18. Overall Negotiated Rate and PSI 90 Score by Hospital



Note: Grey shading indicates median values for the overall facility fee and PSI 90 score; the overall facility fee reflects the sum of the hospital-level Aetna and UHC rates for the six included inpatient procedures.

Overall, the aggregate measures of hospital negotiated rates and quality are much more weakly associated with one another than the relationship between the negotiated rate for one procedure and a procedure-specific quality measure. Across analyses, it is clear that some hospitals are higher value than others, meaning they are lower cost and provide equal or better quality.

Outpatient Prices, Overall and by Payer, State, Care Setting and Facility

Joint Replacement of Hip

Overall, there were negotiated rates for 1,304 hospital outpatient departments for total hip arthroplasty (CPT 27130), inclusive of 454 Aetna rates and 1,157 UHC rates. Across the country, the median negotiated rate was $21,937, ranging by a factor of 7.9, from $12,870 for three Inspira Medical Center facilities throughout New Jersey to $101,527 for PeaceHealth St. John Medical Center in Longview, Washington. Across the country, the median Aetna negotiated rate is slightly lower than the UHC median rate, $21,216 vs $22,388, respectively (FIGURE 19). For Aetna, the median negotiated rate across states varies by a factor of 2.9, from $13,077 in North Carolina to $38,483 in Nebraska. For UHC, the median negotiated rate across states varies by a factor of 3.2, from $15,288 in Indiana to $49,395 in the District of Columbia (FIGURE 20).

FIGURE 19. Distribution of Negotiated Rates for CPT 27130, Overall and by Payer and Care Setting

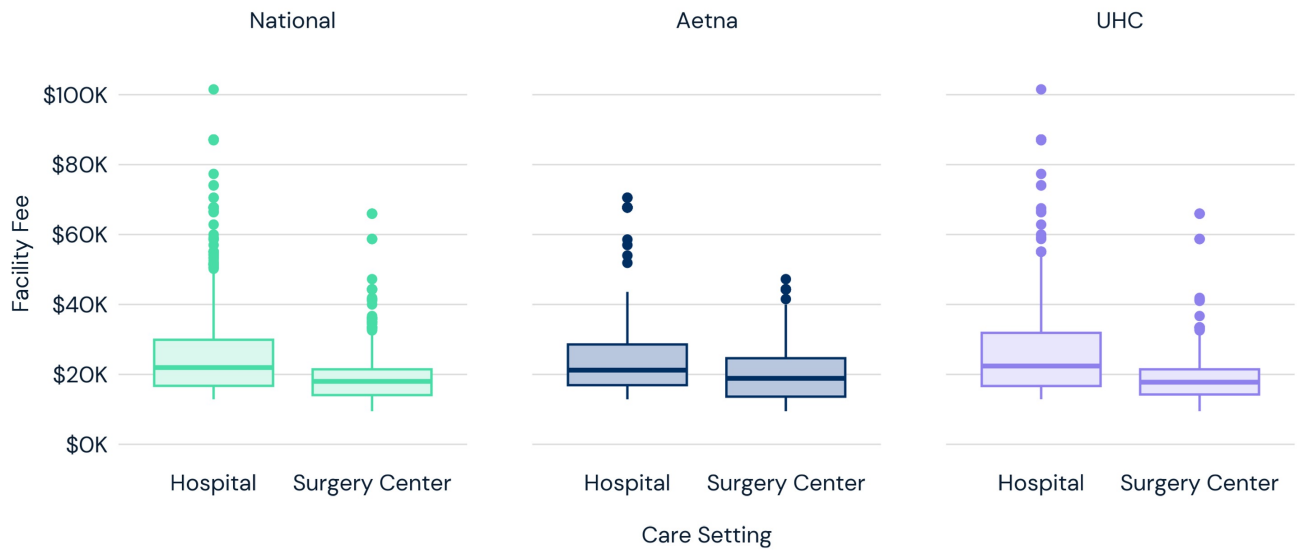
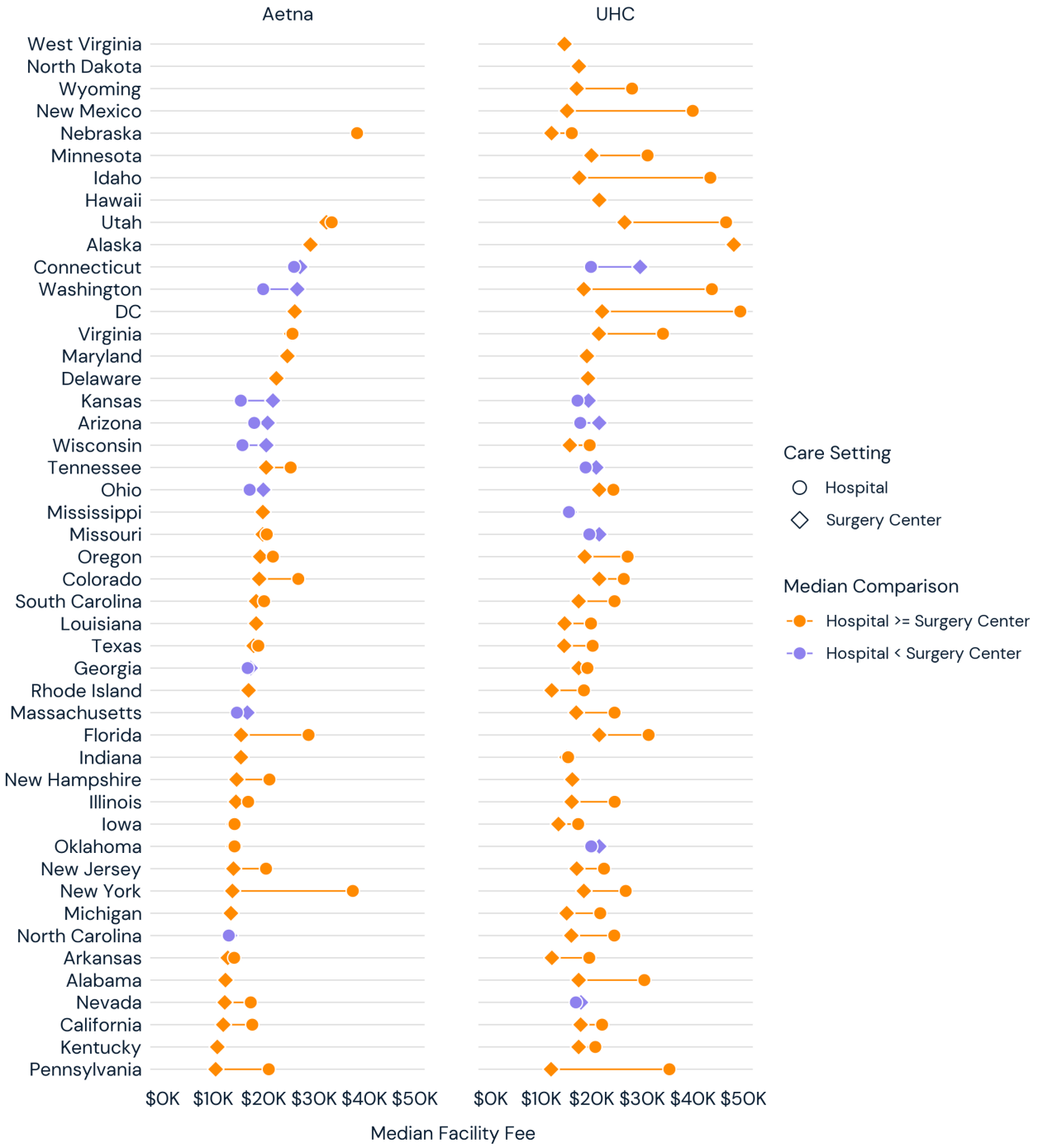


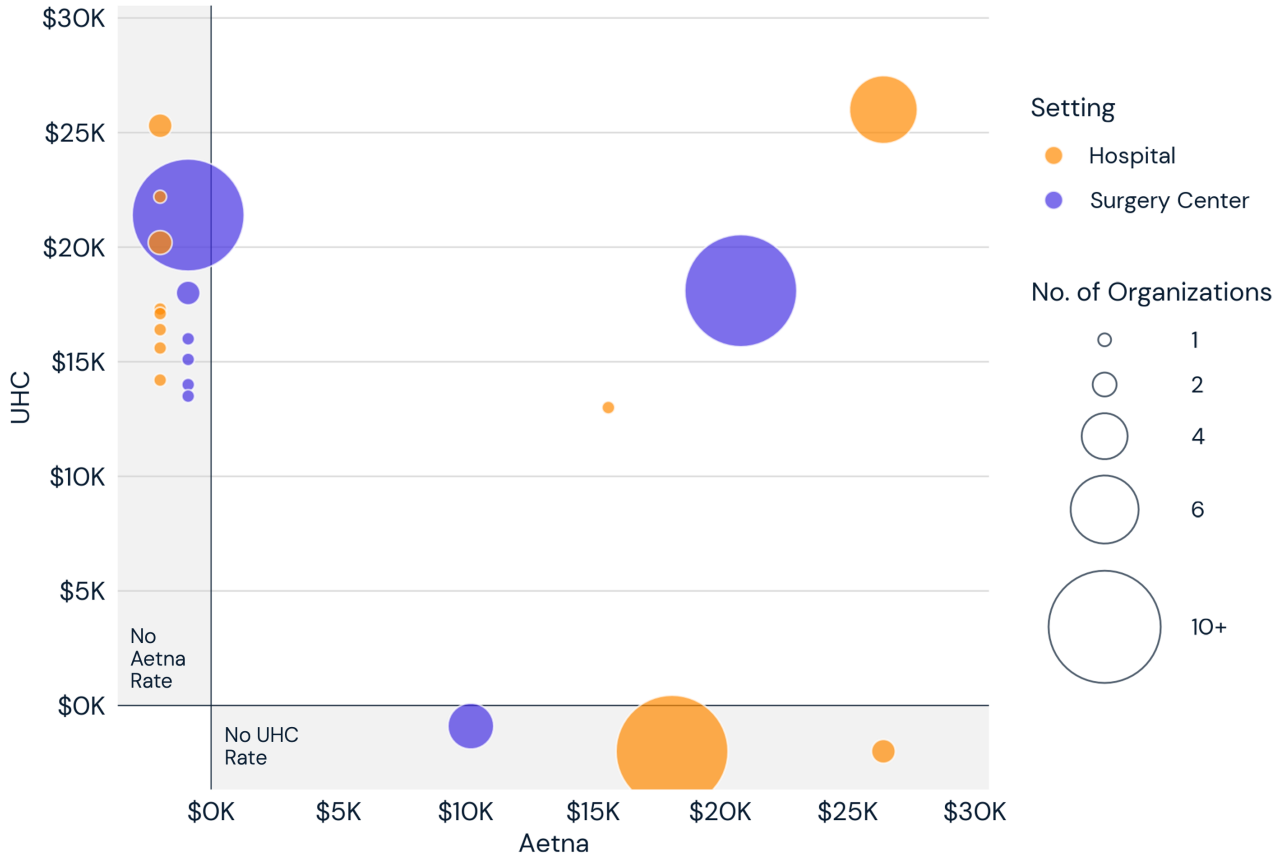
FIGURE 20. Median Negotiated Rate for CPT 27130 by State, Payer and Care Setting



When the same procedure is performed at an ambulatory surgery center, for which there are 1,612 facilities, the overall median negotiated rate is $18,000, inclusive of 564 Aetna rates and 1,507 UHC rates (FIGURE 19). This is $3,937 less than the median rate at hospital outpatient departments, equivalent to 17.9% in savings per procedure. Negotiated rates for surgery centers also vary by geography, ranging from a median rate of $10,476 for Aetna in Pennsylvania to $48,103 for UHC in Alaska (FIGURE 20).

Using the Phoenix-Mesa-Chandler, Arizona CBSA to examine variation within the same market, across care settings, facilities and payers, the median rate for total hip arthroplasty at a hospital outpatient department ($20,203) is lower than the median rate at a surgery center ($20,760), but the average negotiated rate is higher, $21,407 vs $19,319, respectively. This unexpected finding underscores the importance of health plan price transparency data. Negotiated rates range from as little as $10,209 at multiple surgery centers to as much as $26,352 at several HonorHealth hospital outpatient facilities, for a potential savings of $16,143 or 61.3% per procedure (FIGURE 21).

FIGURE 21. Negotiated Rates For CPT 27130 by Payer and Facility in Phoenix-Mesa-Chandler, Arizona



Joint Replacement of Knee

Overall, there were negotiated rates for 1,313 hospital outpatient departments for total knee arthroplasty (CPT 27447), inclusive of 463 Aetna rates and 1,157 UHC rates. Across the country, the median negotiated rate was $21,791, ranging by a factor of 7.9, from $12,870 to $101,527 for the same facilities as CPT 27130. Across the country, the median Aetna negotiated rate is slightly lower than UHC, $21,216 vs $22,252, respectively (FIGURE 22). For Aetna, the median negotiated rate across states varies by a factor of 2.9, from $13,077 in North Carolina to $38,483 in Nebraska. For UHC, the median negotiated rate across states varies by a factor of 3.2, from $15,288 in Indiana to $49,395 in the District of Columbia (FIGURE 23).

FIGURE 22. Distribution of Negotiated Rates for CPT 27447, Overall and by Payer and Care Setting

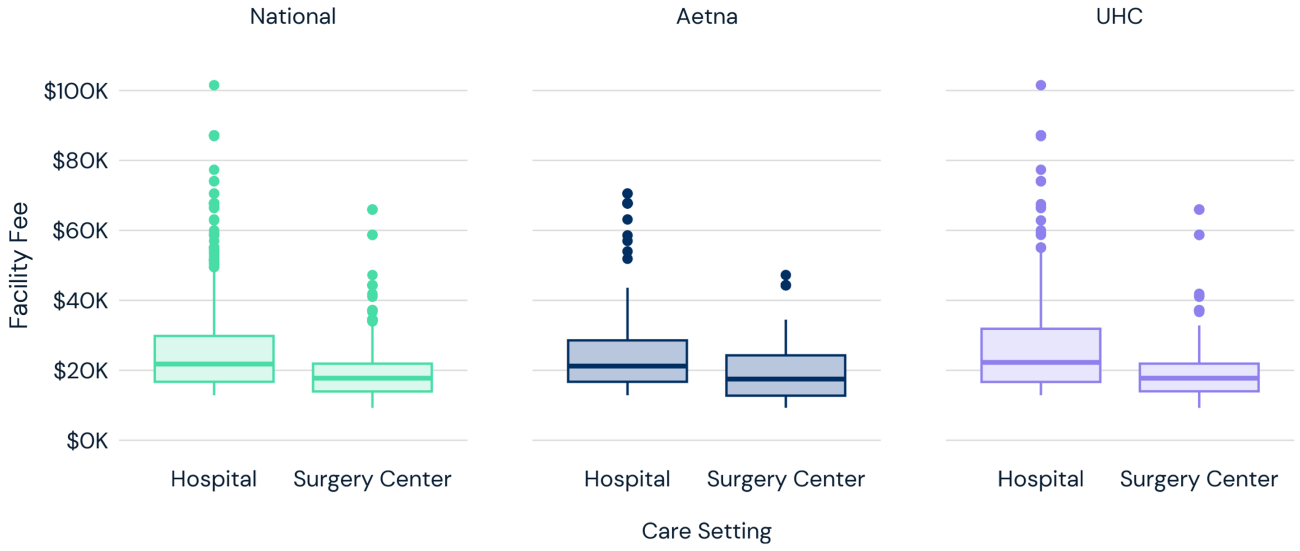
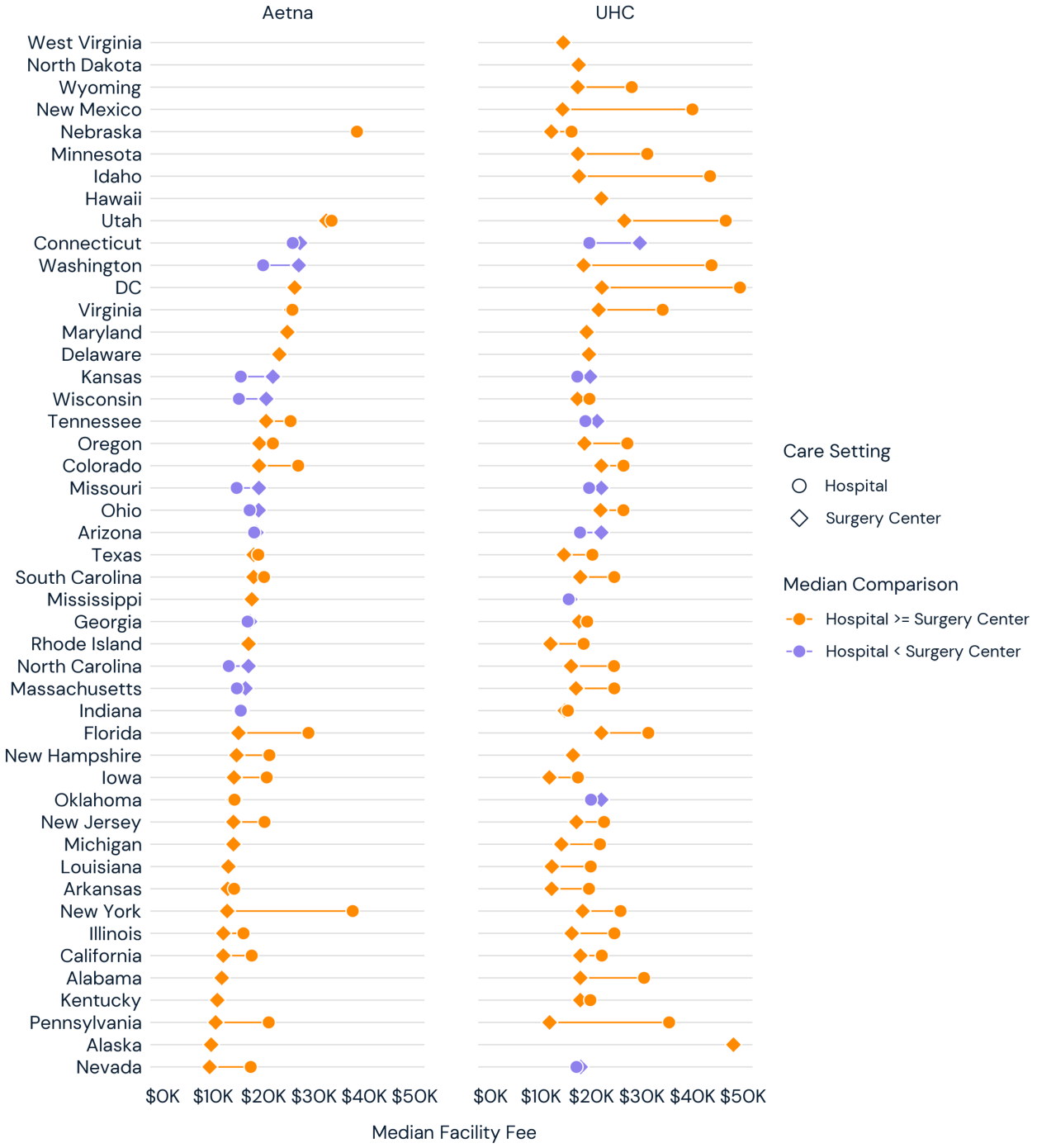


FIGURE 23. Median Negotiated Rate for CPT 27447 by State, Payer and Care Setting



When the same procedure is performed at an ambulatory surgery center, for which there are 1,634 facilities, the overall median negotiated rate is $17,750, inclusive of 571 Aetna rates and 1,531 UHC rates (FIGURE 22). This is $4,041 less than the median rate at hospital outpatient departments, equivalent to 18.5% in savings per procedure. Negotiated rates at surgery centers also vary by geography, ranging from a median rate of $9,289 for Aetna in Nevada to $48,103 for UHC in Alaska (FIGURE 23).

Using the Portland-Vancouver-Hillsboro, Oregon-Washington CBSA to examine variation within the same market, across care settings, the median rate for a total knee arthroplasty at a hospital outpatient department is $21,937, while the median surgery center rate is $19,155. In the greater Portland market, negotiated rates range from $13,035 at East Pavilion Surgery Center to as much as $39,852 at PeaceHealth Southwest Medical Center, representing a potential savings of $26,817 or 67.3% per procedure (FIGURE 24).

FIGURE 24. Negotiated Rates For CPT 27447 by Payer and Facility in Portland-Vancouver-Hillsboro, Oregon-Washington

Esophagogastroduodenoscopy

Overall, there were negotiated rates for 2,039 hospital outpatient departments for esophagogastroduodenoscopy (EGD) (CPT 43236), inclusive of 1,189 Aetna rates and 1,832 UHC rates. Across the country, the median negotiated rate was $3,755, ranging by a factor of 34.3, from $941 at St. Mary's General Hospital in Passaic, New Jersey to $32,312 at Loma Linda University Medical Center in Riverside, California. Across the country, the median Aetna negotiated rate was higher than the UHC median rate, $4,761 vs $3,350, respectively (FIGURE 25). For Aetna, the median negotiated rate across states varies by a factor of 9.3, from $1,041 in Montana to $9,681 in California. For UHC, the median negotiated rate across states varies by a factor of 4.4, from $1,861 in Alabama to $8,280 in New Hampshire (FIGURE 26).

FIGURE 25. Distribution of Negotiated Rates for CPT 43236, Overall and by Payer and Care Setting

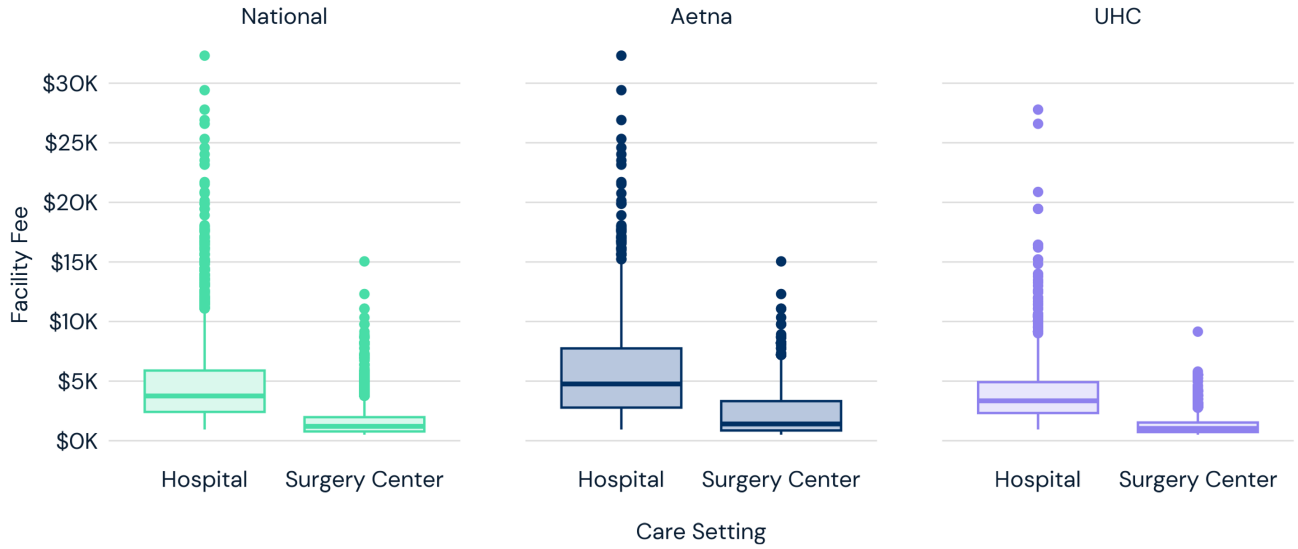
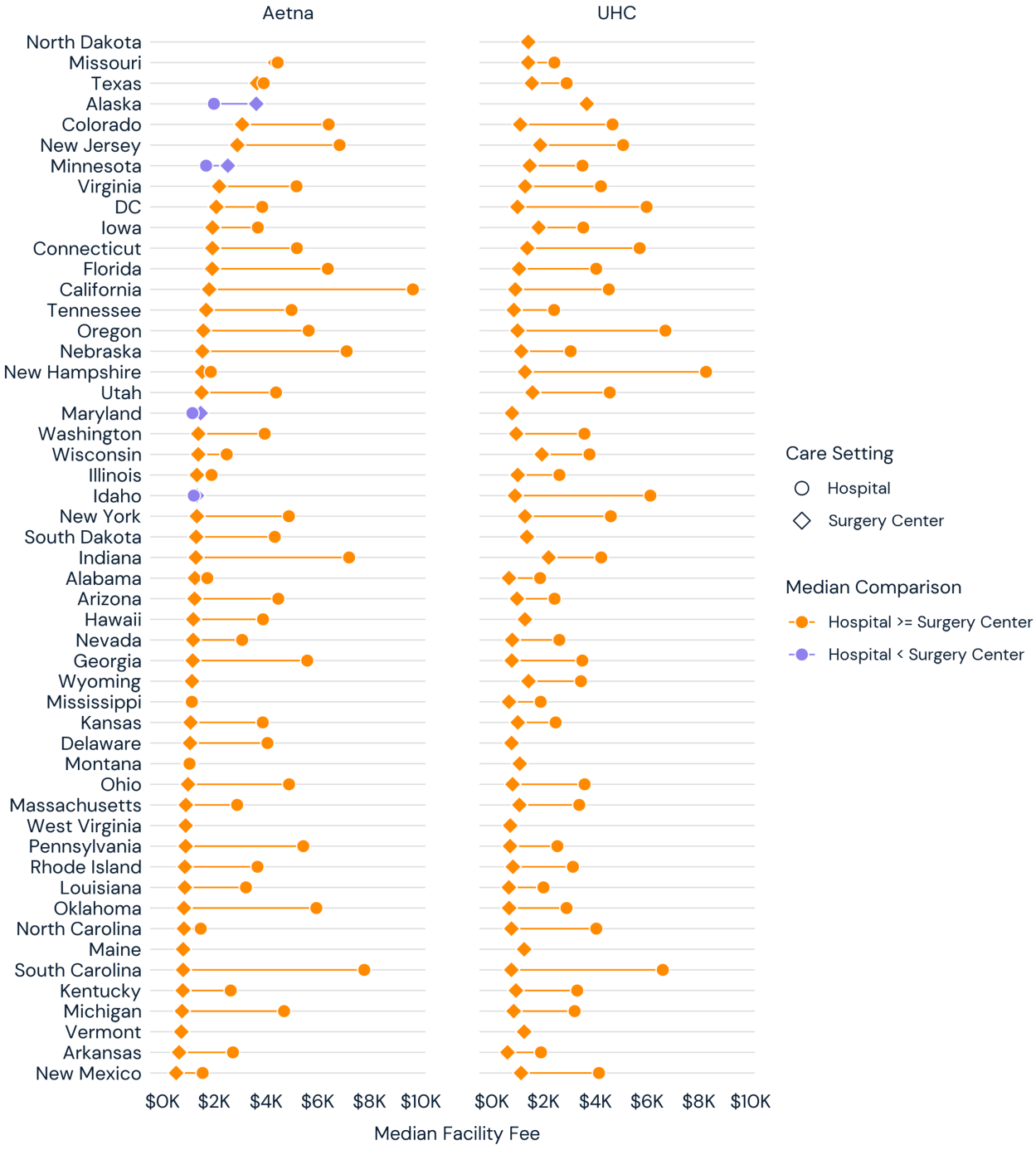


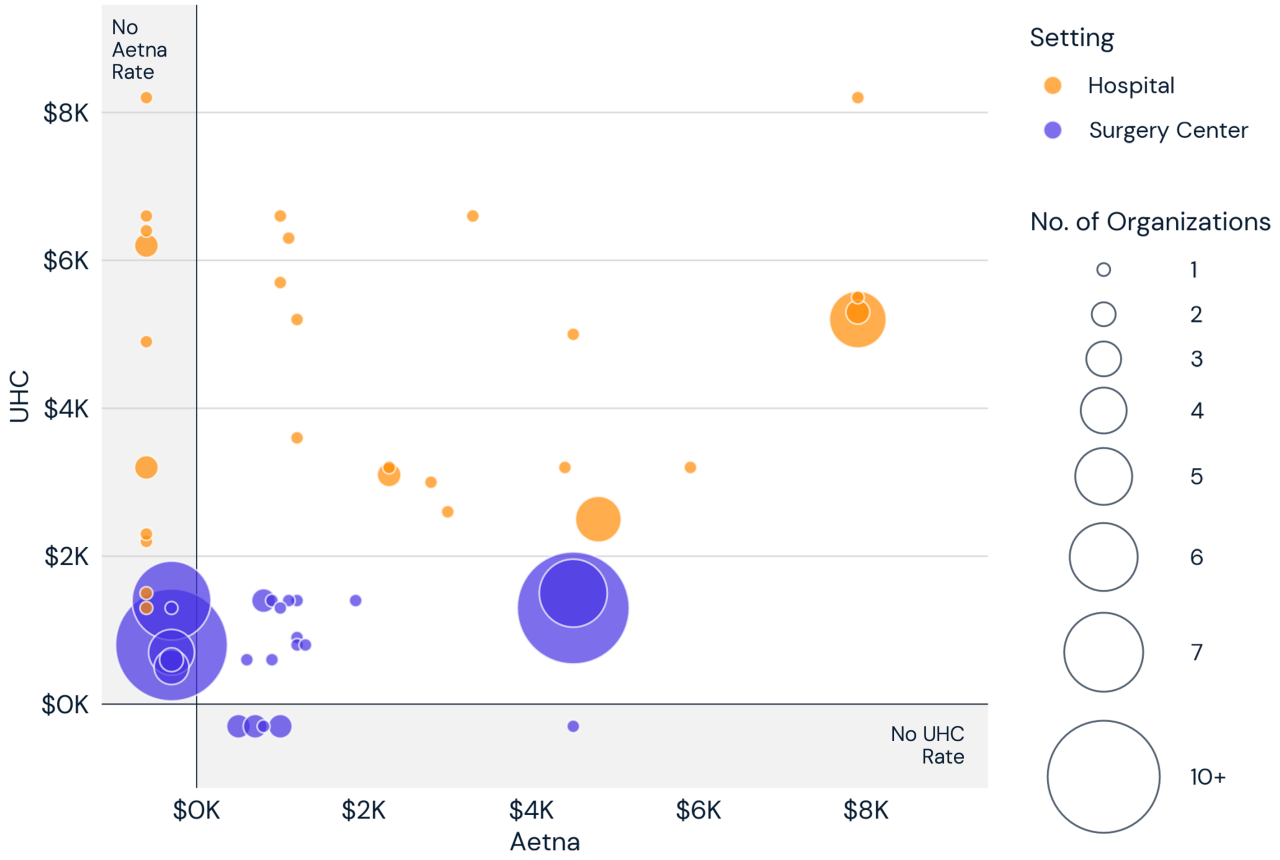
FIGURE 26. Median Negotiated Rate for CPT 43236 by State, Payer and Care Setting



When the same procedure is performed at an ambulatory surgery center, for which there are 3,337 facilities, the overall median negotiated rate is $1,208, inclusive of 2,258 Aetna rates and 2,855 UHC rates (FIGURE 25). This is $2,547 less than the median rate at hospital outpatient departments, equivalent to 67.8% in savings per procedure. Negotiated rates for surgery centers also vary by geography, ranging from a median rate of $523 for Aetna in New Mexico to $4,354 for Aetna in Missouri (FIGURE 26).

Using the Miami-Fort Lauderdale-West Palm Beach, Florida CBSA to examine variation within the same market, across care settings, facilities and payers, the median rate for an EGD at a hospital outpatient department is $4,790, while the median surgery center rate is $1,276. In the same market, negotiated rates range from as much as $8,158 at HCA Florida JFK Hospital to as little as $523 at Kendall Endoscopy and Surgery Center, equivalent to a potential savings of $7,635 or 93.6% per procedure (FIGURE 27).

FIGURE 27. Negotiated Rates For CPT 43236 by Payer and Facility in Miami-Fort Lauderdale-West Palm Beach, Florida



Colonoscopy

Overall, there were negotiated rates for 2,093 hospital outpatient departments for diagnostic colonoscopy (CPT 45378), inclusive of 1,261 Aetna rates and 1,834 UHC rates. Across the country, the median negotiated rate was $3,633, ranging by a factor of 35.4, from $914 at three different UAB facilities in Birmingham, Alabama to $32,312 at Loma Linda University Medical Center in Riverside, California. Across the country, the median Aetna negotiated rate was higher than the UHC median rate, $4,474 vs $3,256, respectively (FIGURE 28). For Aetna, the median negotiated rate across states varies by a factor of 9.2, from $958 in Mississippi to $8,781 in South Carolina. For UHC, the median negotiated rate across states varies by a factor of 4.4, from $1,861 in Alabama to $8,280 in New Hampshire (FIGURE 29).

FIGURE 28. Distribution of Negotiated Rates for CPT 45378, Overall and by Payer and Care Setting

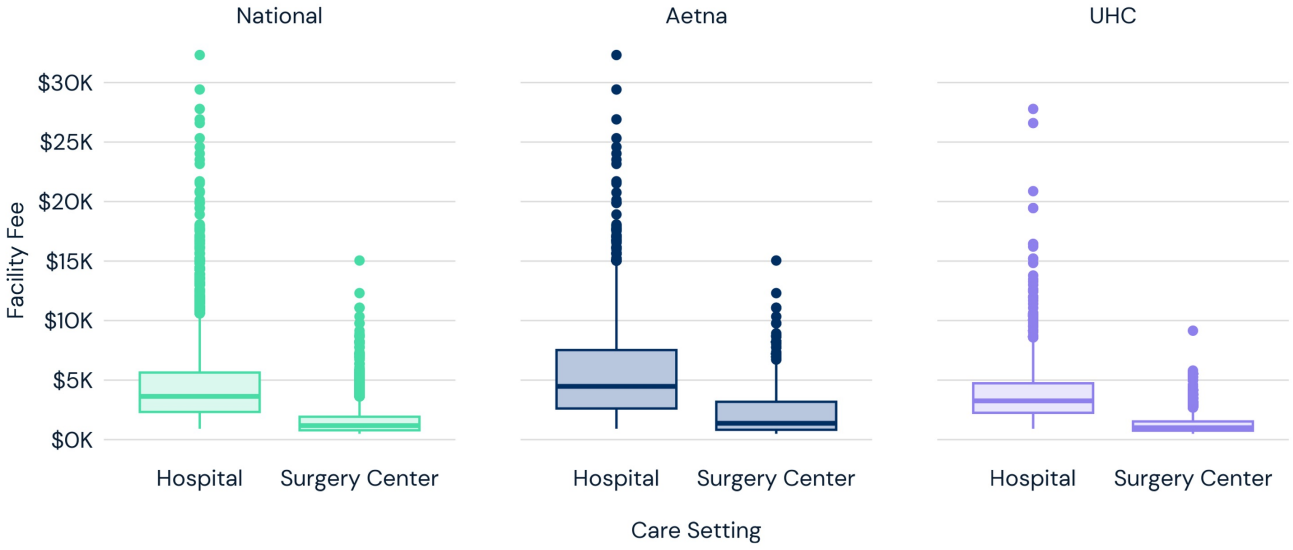
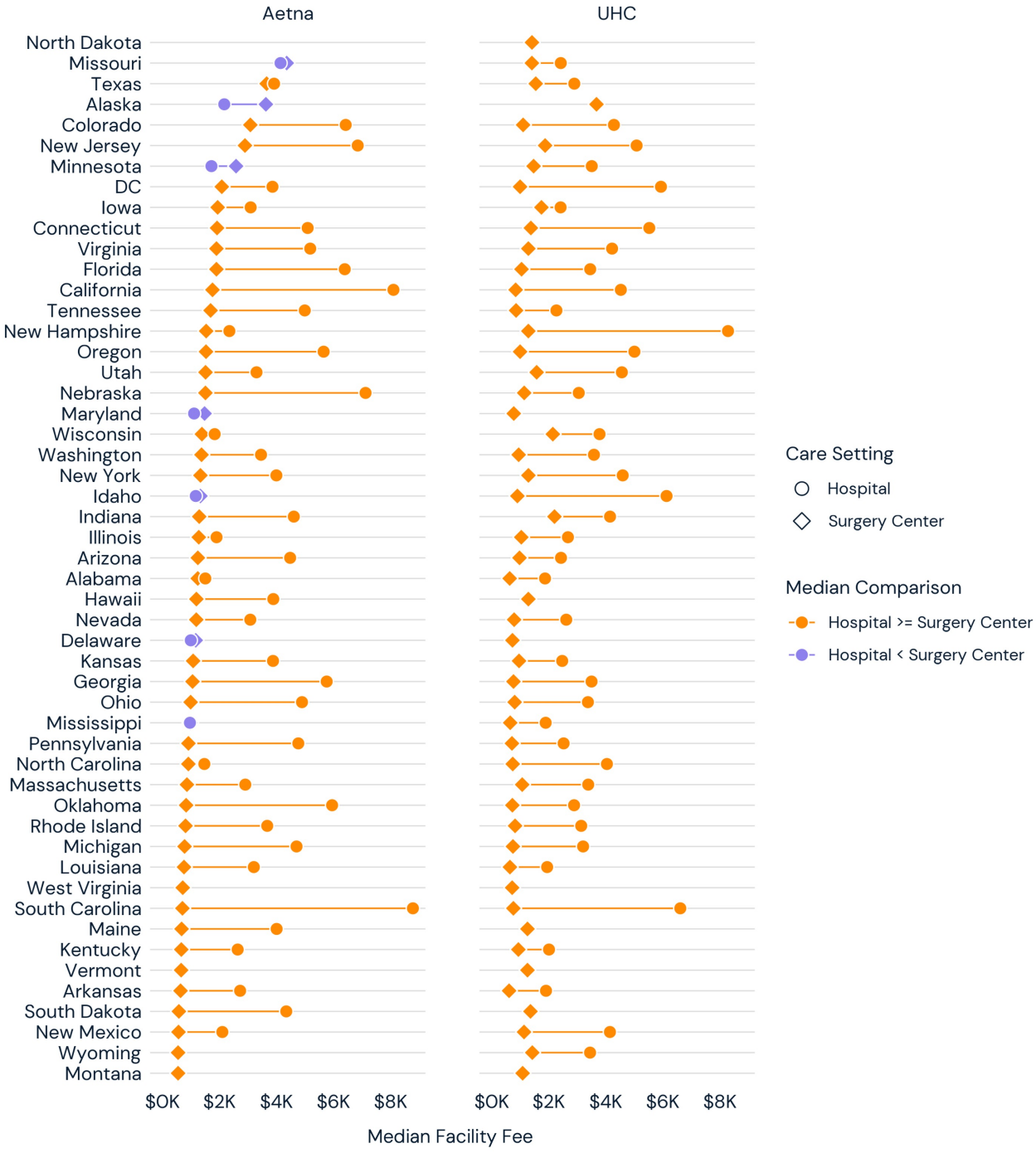


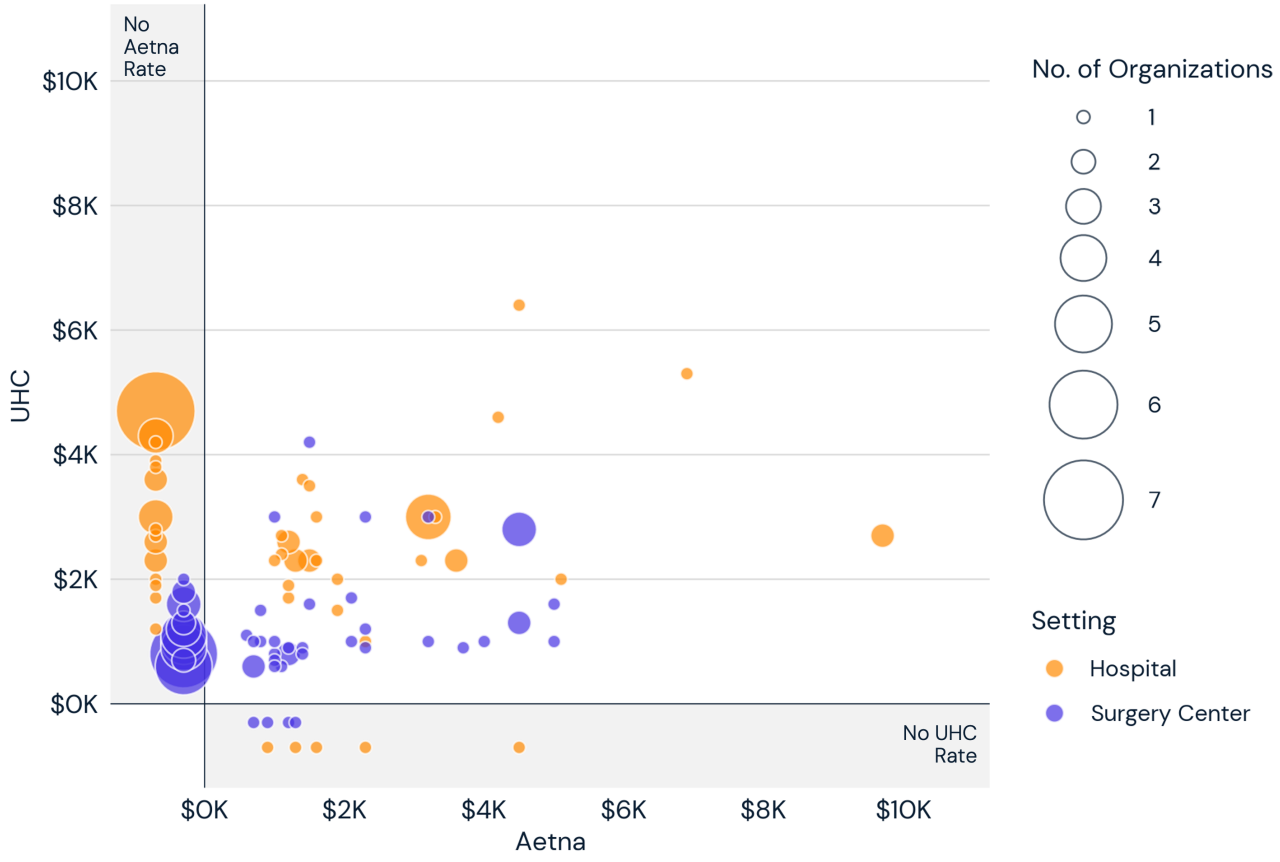
FIGURE 29. Median Negotiated Rate for CPT 45378 by State, Payer and Care Setting



When a diagnostic colonoscopy is performed at an ambulatory surgery center, for which there are 3,433 facilities, the overall median negotiated rate is $1,179, inclusive of 2,343 Aetna rates and 2,958 UHC rates (FIGURE 28). This is $2,454 less than the median rate at hospital outpatient departments, equivalent to 67.5% in savings per procedure. Negotiated rates for surgery centers also vary by geography, ranging from a median rate of $543 for Aetna in Montana and Wyoming to $4,354 for Aetna in Missouri (FIGURE 29).

Using the Chicago-Naperville-Elgin, Illinois-Indiana CBSA to examine variation within the same market, across care settings, facilities and payers, the median rate for a diagnostic colonoscopy at a hospital outpatient department is $2,664, while the median surgery center rate is $1,100. In the same market, negotiated rates range from as much as $9,691 at Evanston Hospital and Highland Park Hospital to as little as $562 at North Shore Endoscopy Center, equivalent to a potential savings of $9,129 or 94.2% per procedure (FIGURE 30).

FIGURE 30. Negotiated Rates For CPT 45378 by Payer and Facility in Chicago-Naperville-Elgin, Illinois-Indiana



Hernia Repair

Overall, there were negotiated rates for 1,789 hospital outpatient departments for repair of initial hernia (CPT 49505), inclusive of 885 Aetna rates and 1,622 UHC rates. Across the country, the median negotiated rate was $7,414, ranging by a factor of 9.5, from $3,544 at Tennova Healthcare in Cleveland, Tennessee to $33,678 at Mercy General Hospital in Sacramento, California. Across the country, the median Aetna negotiated rate was slightly lower than the UHC median rate, $7,120 vs $7,606, respectively (FIGURE 31). For Aetna, the median negotiated rate across states varies by a factor of 4.0, from $3,709 in Rhode Island to $14,929 in New Hampshire. For UHC, the median negotiated rate across states varies by a factor of 5.8, from $4,581 in Nevada to $26,378 in the District of Columbia (FIGURE 32).

FIGURE 31. Distribution of Negotiated Rates for CPT 49505, Overall and by Payer and Care Setting

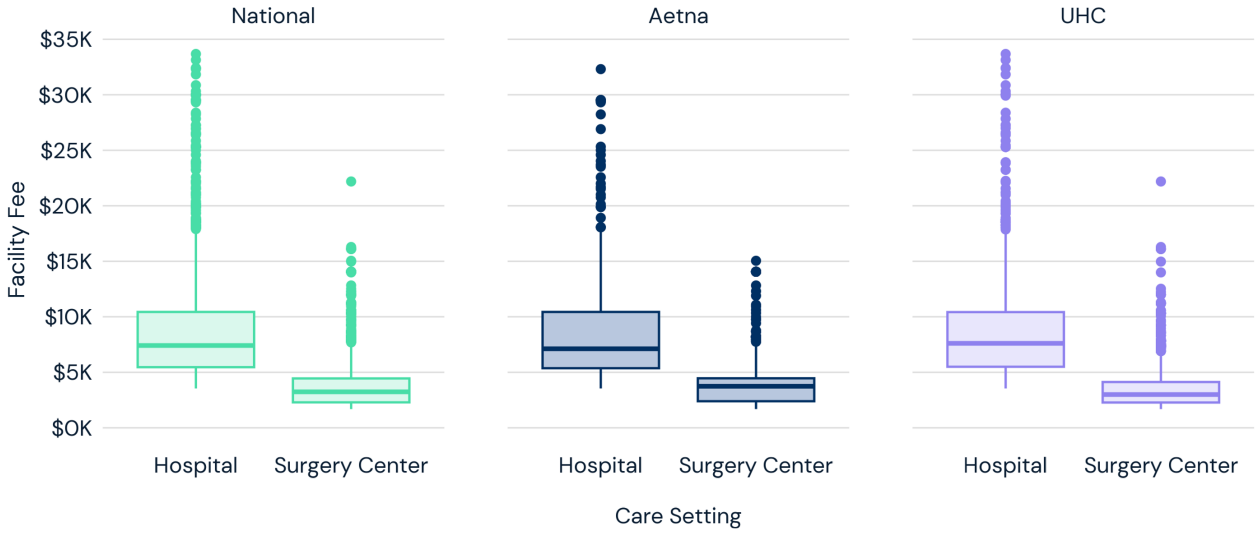
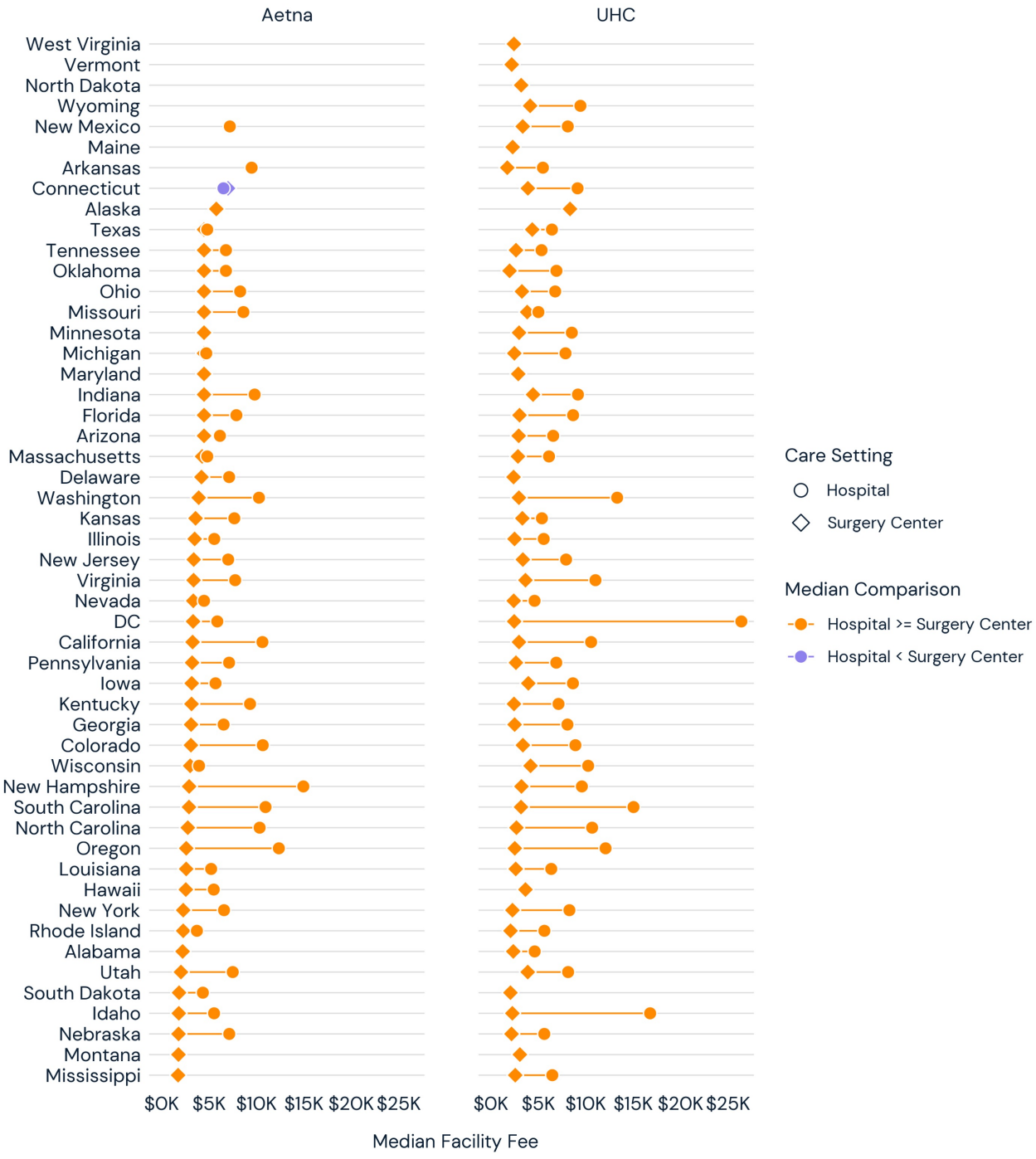


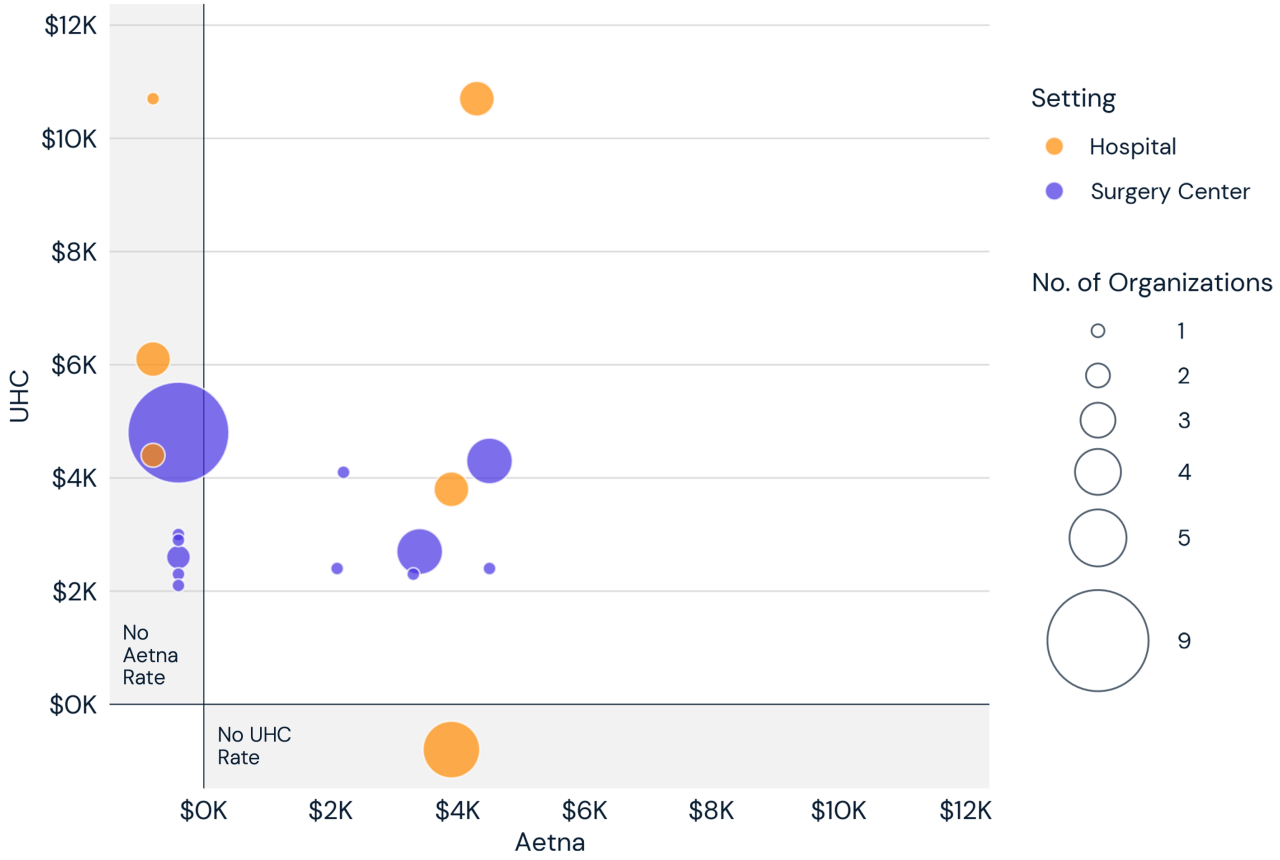
FIGURE 32. Median Negotiated Rate for CPT 49505 by State, Payer and Care Setting



When the same procedure is performed at an ambulatory surgery center, for which there are 2,326 facilities, the overall median negotiated rate is $3,241, inclusive of 1,175 Aetna rates and 2,133 UHC rates (FIGURE 31). This is $4,173 less than the median rate at hospital outpatient departments, equivalent to 56.3% in savings per procedure. Negotiated rates for surgery centers also vary by geography, ranging from a median of $1,707 for UHC in Arkansas to $8,319 for UHC in Alaska (FIGURE 32).

Using the Austin-Round Rock-San Marcos, Texas CBSA to examine variation within the same market, across care settings, facilities and payers, the median rate for a hernia repair at a hospital outpatient department is $4,339, while the median surgery center rate is $3,352. In the same market, negotiated rates range from as much as $10,677 at multiple St. David's HealthCare hospital facilities to as little as $2,391 at Cedar Park Surgery Center LLP, equivalent to a potential savings of $8,286 or 77.6% per procedure (FIGURE 33).

FIGURE 33. Negotiated Rates For CPT 49505 by Payer and Facility in Austin-Round Rock-San Marcos, Texas



Outpatient Prices Across Procedures

For each CPT procedure code, a facility-level correlation matrix was used to assess the extent to which having a high price for one procedure type is associated with having a high price for a different procedure.

For Aetna rates at hospital outpatient departments, there is significant variation across procedure pairings, with Pearson correlation coefficients ranging from r=-0.13 to r=1.0. For example, the rate for a total hip arthroplasty (CPT 27130) is almost perfectly associated (r=0.99) with the rate for a total knee arthroplasty but is essentially unrelated to the cost of any other procedure (TABLE 5). Across clinically unrelated procedures, consumers should not assume that the rate for one procedure is indicative of the rate for something else. In contrast, the negotiated rates for procedures that are clinically related to one another have a strong positive relationship. As an example, the negotiated rate for an EGD is perfectly correlated with the rate for a colonoscopy (r=1.0).

TABLE 5. Aetna Facility-Level Outpatient Procedure Correlation Matrix, Hospital Outpatient Departments

	Total Hip Arthroplasty	Total Knee Arthroplasty	EGD	Colonoscopy	Hernia Procedures
Total Hip Arthroplasty	1.00				
Total Knee Arthroplasty	0.99	1.00			
EGD	-0.13	-0.12	1.00		
Colonoscopy	-0.12	-0.12	1.00	1.00	
Hernia Procedures	-0.13	-0.12	0.90	0.87	1.00

For UHC, there is less price differentiation by procedure type, with correlation values ranging from r=0.33 to r=1.00 (TABLE 6). For example, while clinically unrelated, hernia repair (CPT 49505) and EGD (CPT 43236) have a strong positive correlation (r=0.74).

TABLE 6. UHC Facility-Level Outpatient Procedure Correlation Matrix, Hospital Outpatient Departments

	Total Hip Arthroplasty	Total Knee Arthroplasty	EGD	Colonoscopy	Hernia Procedures
Total Hip Arthroplasty	1.00				
Total Knee Arthroplasty	1.00	1.00			
EGD	0.33	0.33	1.00		
Colonoscopy	0.33	0.33	0.97	1.00	
Hernia Procedures	0.55	0.55	0.74	0.71	1.00

For Aetna rates at surgery centers, the Pearson correlation ranges from r=-0.04 for total hip arthroplasty (CPT 27130) and hernia repair (CPT 49505) to a perfect correlation for EGD (CPT 43236) and colonoscopy (CPT 45378). As with hospital outpatient departments, there is substantial variation across correlations, suggesting that the extent to which the price of one procedure at one facility is associated with the price of another procedure is completely dependent on the procedure pairing (TABLE 7).

TABLE 7. Aetna Facility-Level Outpatient Procedure Correlation Matrix, Surgery Centers

	Total Hip Arthroplasty	Total Knee Arthroplasty	EGD	Colonoscopy	Hernia Procedures
Total Hip Arthroplasty	1.00				
Total Knee Arthroplasty	0.99	1.00			
EGD	0.03	0.04	1.00		
Colonoscopy	0.03	0.04	1.00	1.00	
Hernia Procedures	-0.04	-0.03	0.88	0.87	1.00

As with UHC hospital outpatient department rates, the UHC rates for surgery centers are indicative of less procedure-related price discrimination than Aetna (TABLE 8). That said, clinically related procedures are more correlated with one another than clinically unrelated procedures.

TABLE 8. UHC Facility-Level Outpatient Procedure Correlation Matrix, Surgery Centers

	Total Hip Arthroplasty	Total Knee Arthroplasty	EGD	Colonoscopy	Hernia Procedures
Total Hip Arthroplasty	1.00				
Total Knee Arthroplasty	0.99	1.00			
EGD	0.36	0.35	1.00		
Colonoscopy	0.33	0.32	0.99	1.00	
Hernia Procedures	0.36	0.35	0.79	0.78	1.00

Across payers and care settings, facility-level pricing for outpatient procedures is less correlated than rates for inpatient procedures. In essence, employers and patients shouldn't pick where they go for an outpatient hip replacement based on where they went for a colonoscopy.

Conclusion

In aggregate, employers provide health insurance coverage to more Americans than Medicare or Medicaid. And yet, despite financing more than $1.4 trillion of the health economy, an amount that exceeds the entire GDP of 165 countries, U.S. employers have historically lacked access to the information needed to make informed purchasing decisions. While existing research has documented wide variation in commercial healthcare prices, restrictive data use agreements have prevented access to provider-specific price information that is both comprehensive and granular enough to allow individuals to make informed choices about their healthcare. However, for those who can link the identity of a provider with the services that a provider renders, the locations at which that provider renders those services and the reimbursement that the provider receives for those services, TiC data can be used to access information that is useful to employers and healthcare purchasers.

To this end, we analyzed the Trilliant Health HPPT dataset to document wide variation in commercial prices for hospital and non-hospital care, across payers, states, care settings and facilities. First, for inpatient surgeries, the report highlights the variation in negotiated rates for six MS-DRG codes (TABLE 9). For most of the studied inpatient procedures, negotiated rates vary by a factor of 9.0 across the country. For example, the median rate for a coronary bypass without cardiac catheterization without major complications or comorbidities (MS-DRG 236) is $68,194 but ranges from $27,683 to $247,902.

TABLE 9. Summary of National Inpatient Negotiated Rates

Procedure	Median	Mean	Standard Deviation	Minimum	Maximum	Max to Min Ratio
Coronary bypass without cardiac catheterization with MCC	$90,639	$98,992	$44,390	$39,579	$354,735	9.0
Coronary bypass without cardiac catheterization without MCC	$68,194	$72,987	$32,528	$27,683	$247,902	9.0
Major small and large bowel procedures with CC	$37,583	$40,904	$18,331	$15,824	$142,498	9.0
Major small and large bowel procedures without CC/MCC	$26,864	$29,037	$13,054	$11,053	$99,532	9.0
Major hip and knee joint replacement or reattachment of lower extremity with MCC or total ankle replacement	$50,564	$55,207	$24,976	$22,011	$197,057	9.0
Major hip and knee joint replacement or reattachment of lower extremity without MCC	$31,603	$34,241	$15,616	$12,727	$121,996	9.6

Some might try to explain this away based on differences in cost of living across the country, but even within the same state, the ratio for the most expensive to least expensive negotiated rate ranges from an average of 3.2 for small and large bowel procedures (MS-DRG 330 and 331) to 3.4 for coronary bypass without cardiac catheterization without major complications or comorbidities (MS-DRG 236) and hip and knee joint replacement without major complications or comorbidities (MS-DRG 470). For example, across 101 hospitals in Pennsylvania, the UHC negotiated rate for a major small and large bowel procedure with complication or comorbidity (MS-DRG 330) ranges from $18,066 to $87,457, a ratio of 4.8 or absolute price difference of $69,391 for a single payer in a single state. This report also demonstrates that within the same hospital, negotiated rates vary substantially by payer. Across six inpatient procedures, the average difference in price between the Aetna and UHC negotiated rate ($15,366) is equivalent to 30.0% of the average median negotiated rate. To this end, the Aetna negotiated rate for a hip and knee joint replacement with a major complication or comorbidity (MS-DRG 469) at MedStar Washington Hospital Center is $85,395, while the UHC negotiated rate is $112,865, a difference of $27,470. Perhaps most importantly, our analysis reveals that measures of aggregate hospital price and quality are not correlated with one another. This finding, that more expensive hospitals do not necessarily provide higher quality care, has been replicated across several other procedures, hospitals and markets (Andrews, 2023; Jain et al., 2024).

This report also examines outpatient surgical procedures, comparing rates between hospitals and non-hospital facilities (TABLE 10). This is important because non-hospital care accounts for the majority of healthcare spending and healthcare utilization. Across the five outpatient surgeries that were examined, the national median ambulatory surgery center rate was always lower than the median rate for hospital outpatient departments.

TABLE 10. Summary of National Outpatient Negotiated Rates, by Care Setting

Procedure	Hospital Median	Surgery Center Median
Total Hip Arthroplasty	$21,937	$18,000
Total Knee Arthroplasty	$21,791	$17,750
Esophagogastroduodenoscopy	$3,755	$1,208
Colonoscopy	$3,633	$1,179
Hernia Procedures	$7,414	$3,241

In the case of colonoscopy (CPT 45378), receiving the same surgery at an ambulatory surgery center costs an average of $2,454 less than the median rate at a hospital outpatient department, equivalent to 67.5% in savings per procedure. With nearly two million colonoscopies billed as CPT 45378 in the commercial population every year, the aggregate absolute price difference likely exceeds $4.5 billion in potential savings for a single procedure in a single year. More generally, observed facility-level variation highlights the need for facility-level data – exceptions to the rule do exist and as seen in the market-level data, it is possible for an individual hospital outpatient department to have a lower rate than a surgery center. Moreover, the lack of correlation in rates between procedures within the same facility emphasizes the need to measure value by service line rather than by organization.

Taken as a whole, these results reveal a startling spread in pricing for healthcare services that begs for explanation, not rationalization or justification. If healthcare value is defined as the relationship between the health outcomes achieved and the cost of delivering those outcomes, then logically the extreme variation in healthcare prices for the same service, whether across the country, within the same state or within the same hospital is an example of waste. By definition, spending or resource use that does not improve patient health outcomes and could be reduced or eliminated without harming quality of care is wasteful.

Because we can see the rates that every payer reimburses every provider for every code, we know that this report is just the tip of the iceberg. Even so, the observations from analyzing 11 codes across two national payers demonstrates the power of health plan price transparency. When data on price is available, real discussions related to healthcare value become possible. While data on absolute price is what matters most to employers and employees, future work might combine the HPPT data with other datasets to examine the extent to which there are other non-quality related factors that are associated with negotiated rates. For example, combining the HPPT data with claims-based information on provider-level market share could be used to examine the relationship between provider market power and negotiated rates, going beyond previous research that inferred market share based on a percentage of licensed beds, which excludes 99% of healthcare providers and 88% of healthcare utilization. Future research might also examine the relative effect of insurer market power on negotiated rates or leverage the longitudinal nature of the TiC files to examine how prices change over time and/or in response to certain exogenous shocks (e.g., mergers and acquisitions, policy changes).

In theory, this data should inaugurate an era of value-based competition driven by employers focusing on value for money. In 2004, Michael Porter and Elizabeth Teisberg wrote this about "positive-sum competition":

> *"For that process to begin, however, the locus of competition has to shift from 'Who pays?' to 'Who provides the best value?' Getting there will require changes in the strategies of providers and payers and in the behaviors of employers purchasing health plans…*
>
> *Under positive-sum competition, providers would not attempt to match competitors' every move. Instead, they would develop clear strategies around unique expertise and tailored facilities in those areas where they can become distinctive…*

> *Prices would be posted and readily available. Providers would charge the same price to any patient for addressing a given medical condition, regardless of the patient's group affiliation. Providers could and would set different prices from their competitors, but that pricing would not vary simply because one patient was insured by Aetna, another covered by UHC, and another self-insured. Payers could negotiate, but price changes would have to benefit all patients, not just their own. The cost of treating a medical condition has nothing to do with who the patient's employer or insurance company is…*
>
> *Positive-sum competition would induce payers to compete to create value, not just to minimize cost."*

More than 20 years later, this framework has the potential to become a reality – employers finally have access to the information that they need to understand the value of the healthcare services that they purchase and that their employees receive, while hospitals and payers can be held accountable for delivering value for money. Given the demonstrated variation in prices that exist, even for the same procedure at the same hospital, any attempt to increase healthcare value likely depends on changing the price of a given service. This is particularly true for facilities that provide lower quality at a higher cost. In aggregate, reducing the variation in negotiated rates can increase care value, by reducing wasteful spending and holding the other components of value – quality, safety and convenience – constant.

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