Commercial Prices for Primary Care Physician Office Visits

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ABSTRACT

BACKGROUND: Primary care is the frontline and cornerstone of the US healthcare system. Prices paid by commercial insurance plans, which cover the majority of the US population, influence primary care physicians' (PCPs) labor supply and patients' access to care. However, little is known regarding the level and variation of commercial prices for primary care and the associated factors.

OBJECTIVE: To examine the level and variation in commercial prices for PCP office visits and assess physician-level, practice-level, and market-level factors that explain the price variation.

DESIGN: Cross-sectional observational study.

PARTICIPANTS: A total of 174,561 PCPs offering office visit services for commercially insured patients from four national insurers—Blue Cross Blue Shield (BCBS), Cigna, Elevance Health, and United Healthcare, using insurer-disclosed Transparency in Coverage (TiC) pricing data as of March 2024.

MAIN MEASURES: Outcomes are 876,079 commercial prices for level 3 PCP office visits for both new and established patients, measured at the physician-insurer-service level.

KEY RESULTS: National mean commercial prices were $145.2 (95% CI $145.0–$145.4) and $101.6 (95% CI $101.5–$101.7) for level 3 new and established patient office visits, respectively. For new patient office visits, PCPs with corporate ownership obtained 17.9% (95% CI 17.7–18.2%) higher prices. PCPs practicing in organizations with more than 100 physicians negotiated 28% (95% CI 27.3–28.7%) higher prices than solo practices. Prevalence of corporate ownership and large practice affiliation was substantially higher among young PCPs aged 31–40. PCPs specializing in family medicine and practicing in counties with lower median household income negotiated lower prices. Results were consistent for established patient office visits.

CONCLUSIONS: PCPs' corporate ownership, size of practice, age, specialty, and local income level are important factors that explain the commercial pricing variation and are crucial for improving the US primary care system.

KEY WORDS: primary care; physician payment; price transparency

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INTRODUCTION

Primary care is the frontline and cornerstone of the US healthcare system.[1–3] Robust and effective primary care provision contributes to improved access to care, better health outcomes, and lower overall healthcare spending.[4] Despite its importance, primary care in the USA faces numerous challenges, including widespread shortages of primary care physicians (PCPs), lower compensation compared to other specialties, prevalent PCP burnout, and growing challenges for patients in accessing primary care.[5–7] An important yet underexplored factor that affects both the PCP labor supply and care delivery is the commercial pricing of primary care services. While the Medicare and Medicaid programs set reimbursement rates for PCPs, commercial insurance plans, which cover the majority of the US population, pay PCPs based on negotiated rates.[8] Therefore, commercial prices play a key role in the supply of PCPs and the sustainability of primary care delivery in the USA.[8,9] Prior studies have found that commercial payments for PCP services are similar to Medicare rates. However, commercial prices are much higher than Medicare for many other specialists' care.[10–12] However, comprehensive national analyses are lacking, and factors that influence the pricing variation remain little understood.

Effective since July 2022, the federal *Transparency in Coverage* (TiC) Final Rule requires all commercial insurers to publicly disclose their negotiated prices for health services and their contracting providers.[13] This data offers granular, nationally representative, and up-to-date commercial price information, which enables us to examine commercial prices for PCP office visits and identify key physician-level, practice-level, and market-level factors that explain the price variation. In particular, we hypothesize that PCPs providing more specialized services,[10] possessing greater market power,[14–16] or treating patients with higher willingness (and ability) to pay are able to negotiate higher prices,[17] while PCPs practicing in areas with higher PCP supply or stronger insurer market power would face lower negotiated prices.[18,19] Our findings aim to inform PCPs, patients, health plans, researchers, and policymakers interested in understanding the pricing variation of primary care services in the commercial market and improving the US primary care system.

METHODS

Study Sample

Our primary data source was the TiC price data disclosed by insurance carriers in March 2024, compiled by Turquoise Health and used in multiple studies on healthcare pricing.[20–23] We focused on commercial physician prices (also known as professional fees) for the two most common primary care procedures—new and established patient office visits level 3, identified by Current Procedural Terminology (CPT) 99203 and 99213, respectively.[10–12,23] Among this universe of disclosed price data, we obtained negotiated prices disclosed by four large, national insurers: Blue Cross Blue Shield (BCBS), Cigna, Elevance Health, and United Healthcare, which account for approximately 68% of total commercial market enrollment, and their disclosed prices were used in prior research on commercial insurance pricing.[21,24,25] We constructed our price measures at the physician (identified by national provider identifier [NPI])-CPT-insurer level, after excluding price values expressed as percentages or on a per diem basis.[19] Median prices were used when multiple negotiated prices were disclosed for the same physician, procedure, and insurer (e.g., across different plans within an insurer).[17,21]

We then merged the TiC data with the 2021 IQVIA OneKey data, a national census of clinicians with individual- and practice-level information, to identify PCPs and obtain their characteristics.[26–28] We also used 2023 Interstudy Insurance Enrollment data to obtain each county's commercial insurance enrollment information to calculate insurance market concentration.[29,30] For enrollment validation, we excluded prices disclosed by insurers if they had no enrollment in that county. The top and bottom 1% of commercial prices for each procedure were further excluded as potential data anomalies.[19,21] Institutional review board approval was not sought because no human participants were involved.

Statistical Analysis

For each procedure, we summarized the national and insurer-specific mean prices. Following our hypotheses, we then examined variation in mean prices across multiple physician-level, practice-level, and market-level factors. In particular, we assessed if mean prices varied by PCPs' credentials (Doctor of Medicine [MD] or Doctor of Osteopathic Medicine [DO]), and their sub-specialties (family medicine, internal medicine, pediatrics, and other specialized areas such as geriatrics and occupational medicine), identified based on OneKey data and prior research examining provider specialty networks.[28,31] Next, we assessed if mean prices varied by PCPs' corporate ownership (whether a for-profit or nonprofit corporate parent existed) and size of practice (solo practice, 2–5, 6–10, 11–100, or > 100 physicians), which were proxy measures for physician market power. Additionally, we examined if mean prices were higher in counties with higher median household income or lower in rural areas (identified by missing core-based statistical area [CBSA] numbers), the proxy measures for patients' willingness (and ability) to pay. We also examined if mean prices were lower for physicians practicing in areas with higher PCP supply, measured by county-level number of PCPs per 10,000 residents, or in more concentrated insurance markets, measured by the Herfindahl–Hirschman Index of commercial plan enrollment.[29,30] Moreover, we assessed price variation by facility setting, including outpatient centers (proxy for physician clinics), hospitals, and other settings. It could be possible that PCP prices were lower when they practiced at hospitals or other facilities, as these facilities could absorb a portion of their practice expense costs.

To quantify the adjusted associations between various factors and commercial prices, we estimated multivariable linear models for the two procedures separately, including all insurer-, physician-, and market-level variables described above as explanatory variables. Both models included geographic adjustment factors (GAF) from the Medicare physician fee schedule to account for geographic variation in prices, as well as state fixed effects to control for state-level regulations or policies that might influence commercial prices.[32] Following prior literature on healthcare pricing, prices were log-transformed to address the right skewed distribution and result interpretation in percentage for comparability (as the absolute dollar prices for new and established patients are different),[21,33,34] and robust standard errors were applied. For sensitivity analysis, we re-ran the models using untransformed prices, measured in dollars. To check the price validity of the TIC data, we compared national average and median prices with those in the Merative Marketscan research database, a widely used data source for research in commercial healthcare pricing.[35,36] While Marketscan is a large, proprietary insurance claims database that documents health services utilization and cost at the individual claim line level, the insurance negotiated payments, when aggregated at the procedure level, are comparable with prices disclosed by TiC data.[22]

Based on the magnitude of these estimated associations, we further examined the distribution of PCPs by corporate ownership status and by size of practices, both stratified by their age groups and gender, separately. The objective was to gain insights into how corporate ownership and size of practice varied among PCPs across different age and gender groups, given the growing consolidation in physician markets.[37] STATA version 17 (StataCorp, LLC) was used for data analysis.

RESULTS

The study sample included a total of 876,079 commercial prices (438,533 for new patient office visits, level 3; 437,546 for established patient office visits, level 3). They corresponded to 174,561 unique PCPs practicing in 2858 counties across 49 states (no data from Connecticut) and the District of Columbia. Twenty-two percent, 30%, 15%, and 33% of the prices were negotiated by BCBS, Cigna, Elevance Health, and United Healthcare, respectively. The national mean price for PCP office visits (level 3) was $145.2 (95% CI $145.0–$145.4) for new patients and $101.6 (95% CI $101.5–$101.7) for established patients (Table 1). These mean prices were very similar to results using Marketscan claims and were 30% and 12% higher than the 2024 Medicare national mean rates of $112 and $91, respectively (Appendix Table 2). While the price distributions had longer right tails, with a skewness of 1.70 and 1.54 for new and established patients, respectively, the log-transformed prices

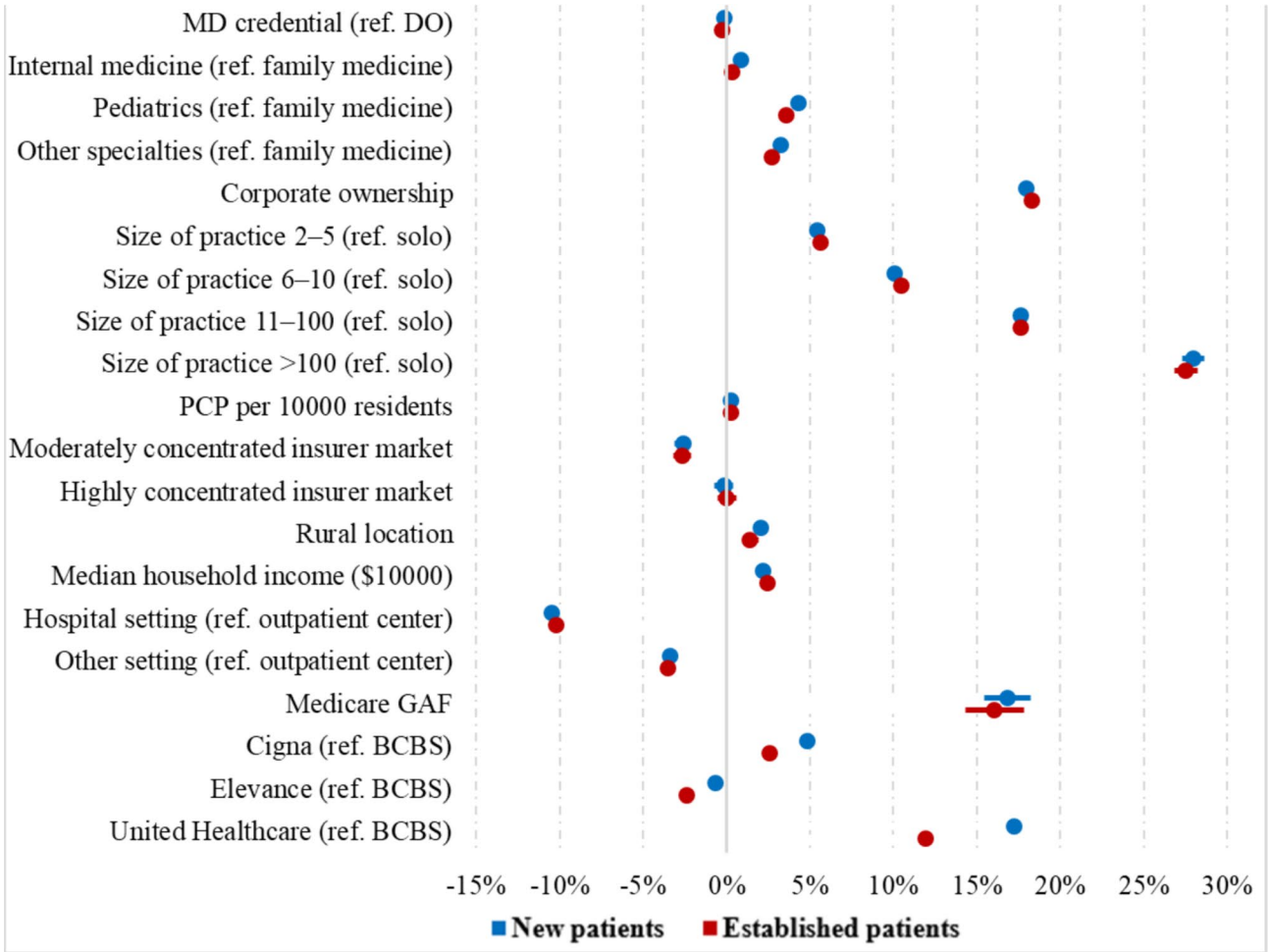
Table 1 Commercial Prices for Level 3 Primary Care Physician Office Visits, by Physician-Level, Practice-Level, and Market-Level Factors

	Number of price observations (%)	Mean commercial prices for office visits (95% confidence intervals)	
		New patients ($)	Established patients ($)
Total sample	876,079 (100%)	145.2 (145.0 to 145.4)	101.6 (101.5 to 101.7)
Credential			
Doctor of Medicine	729,633 (83%)	145.9 (145.7 to 146.1)	102.0 (101.9 to 102.2)
Doctor of Osteopathic Medicine	146,446 (17%)	141.7 (141.3 to 142.1)	99.5 (99.2 to 99.8)
Specialty			
Family medicine	324,456 (37%)	139.5 (139.2 to 139.8)	98.4 (98.2 to 98.6)
Internal medicine	305,766 (35%)	146.9 (146.6 to 147.2)	102.5 (102.3 to 102.7)
Pediatrics	191,034 (22%)	150.7 (150.3 to 151.2)	104.7 (104.4 to 105.0)
Other specialties	54,823 (6%)	150.1 (149.8 to 151.4)	104.9 (104.4 to 105.5)
Corporate ownership			
Yes	655,531 (75%)	154.4 (154.2 to 154.7)	108.1 (107.9 to 108.3)
No	220,548 (25%)	117.8 (117.6 to 118.1)	82.3 (82.1 to 82.5)
Size of practice			
Solo	97,902 (11%)	113.4 (113.0 to 113.7)	79.1 (78.9 to 79.4)
2–5	241,708 (28%)	130.2 (130.0 to 130.5)	91.2 (91.0 to 91.4)
6–10	128,451 (15%)	146.0 (145.5 to 146.4)	102.6 (102.3 to 102.9)
11–100	188,737 (21%)	161.4 (160.9 to 161.8)	113.2 (112.9 to 113.5)
> 100	219,281 (25%)	161.6 (161.2 to 162.0)	112.6 (112.3 to 112.9)
Primary care physician per 10,000 residents[a]			
Q1 (≤ 8.82)	218,926 (25%)	131.0 (130.7 to 131.3)	92.3 (92.1 to 92.5)
Q2 (8.83–12.10)	219,448 (25%)	141.0 (140.7 to 141.4)	98.5 (98.2 to 98.7)
Q3 (12.11–17.16)	222,119 (25%)	149.8 (149.4 to 150.2)	104.6 (104.3 to 104.8)
Q4 (≥ 17.17)	215,586 (25%)	159.2 (158.8 to 159.7)	111.3 (111.0 to 111.5)
Insurance market concentration[b]			
Unconcentrated	54,067 (6%)	176.6 (175.8 to 177.4)	126.0 (125.4 to 126.6)
Moderately concentrated	471,535 (54%)	147.7 (147.4 to 148.0)	102.9 (102.7 to 103.1)
Highly concentrated	350,477 (40%)	137.1 (136.9 to 137.4)	96.1 (95.9 to 96.3)
Location			
Rural	31,380 (4%)	129.1 (128.5 to 129.8)	91.4 (90.9 to 91.9)
Non-rural	844,699 (96%)	145.8 (145.6 to 146.0)	102.0 (101.9 to 102.1)
Median household income[a]			
Q1 (≤ $64,007)	221,045 (25%)	128.3 (128.1 to 128.6)	89.1 (88.9 to 89.3)
Q2 ($64,008–$76,285)	217,471 (25%)	139.3 (139.0 to 139.7)	97.7 (97.5 to 98.0)
Q3 ($76,286–$91,713)	220,539 (25%)	150.4 (150.0 to 150.8)	105.4 (105.2 to 105.7)
Q4 (≥ $91,714)	217,024 (25%)	163.1 (162.7 to 163.6)	114.2 (113.9 to 114.6)
Facility setting			
Outpatient center	594,055 (68%)	142.7 (142.5 to 142.9)	99.9 (99.8 to 100.1)
Hospital	218,685 (25%)	155.1 (154.7 to 155.5)	108.4 (108.2 to 108.7)
Other	63,339 (7%)	134.7 (134.0 to 135.4)	93.9 (93.4 to 94.4)
Insurer			
BCBS	191,623 (22%)	133.4 (133.0 to 133.7)	95.8 (95.6 to 96.1)
Cigna	259,129 (30%)	139.2 (138.8 to 139.5)	98.3 (98.0 to 98.5)
Elevance Health	133,131 (15%)	141.9 (141.3 to 142.4)	99.4 (99.0 to 99.8)
United Healthcare	292,196 (33%)	159.8 (159.4 to 160.1)	109.4 (109.2 to 109.7)

Abbreviations: *BCBS*, Blue Cross Blue Shield

[a]Primary care physicians per 10,000 residents and median household income are measured at the county level and ranked in quartiles

[b]Insurance market concentration is measured by the Herfindahl–Hirschman Index (HHI) at the county level, where HHI < 1500, HHI between 1500 and 2500, and HHI > 2500 correspond to unconcentrated market, moderately concentrated market, and highly concentrated market



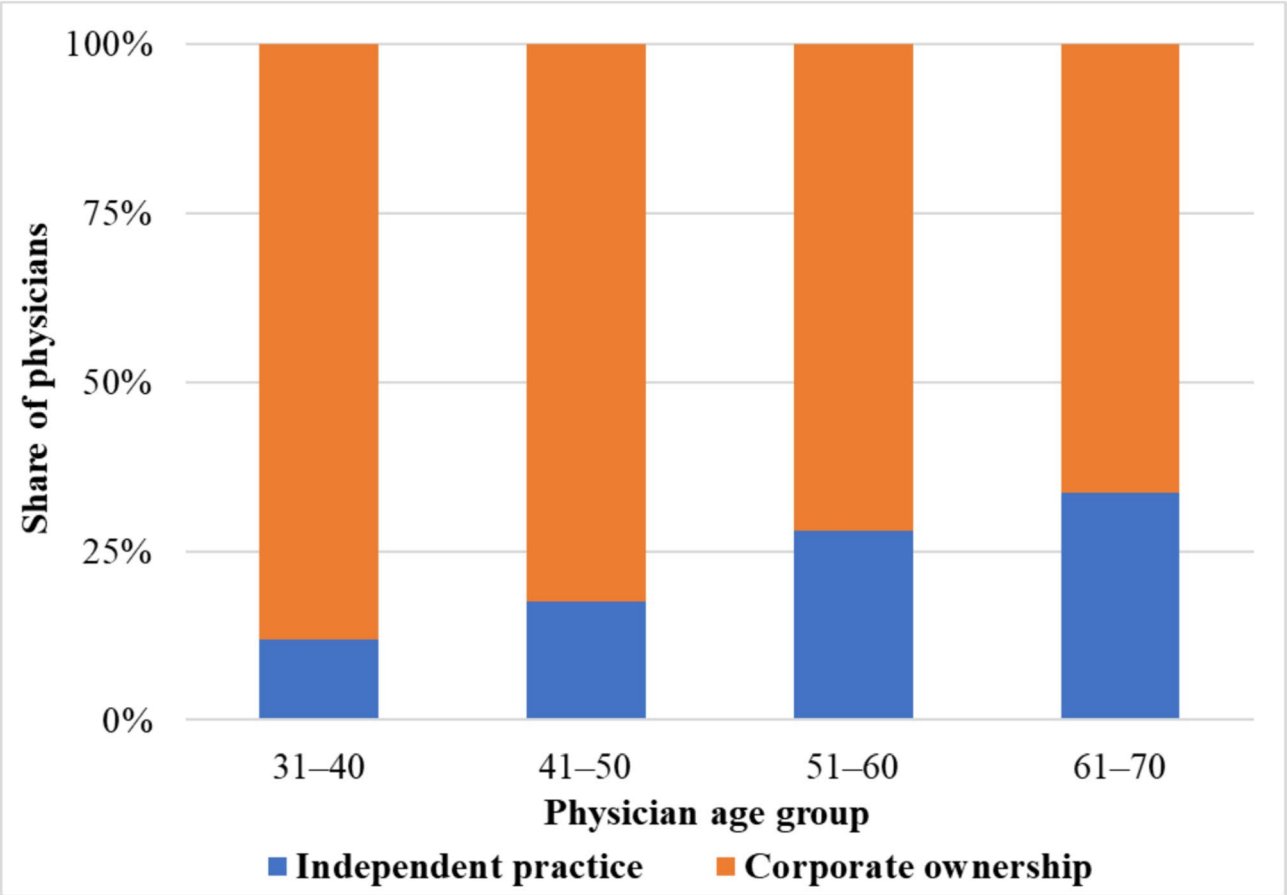
Abbreviation: MD, doctor of medicine. DO, doctor of osteopathic medicine. PCP, primary care physician. ref. reference group. GAF geographic adjustment factor. BCBS, Blue Cross Blue Shield.
[a]95% confidence intervals are marked as error bars, with robust standard errors applied. State fixed effects are included. For moderately and highly concentrated insurer market, the reference group is unconcentrated insurer market.

Figure 1 Factors associated with variation in commercial prices for level 3 primary care physician office visits

were more symmetric, indicated by skewness of 0.68 and 0.54, respectively (Appendix Figs. 4 and 5).

Table 1 presents the mean commercial prices stratified by various PCP characteristics and market-level factors. For new patient visits, PCPs with MD credentials had higher prices than those with DO credentials: $145.9 (95% CI $145.7–$146.1) vs. $141.7 (95% CI $141.3–$142.1). PCPs specializing in family medicine had the lowest mean prices ($139.5 [95% CI $139.2–$139.8]), compared to internal medicine ($146.9 [95% CI $146.6–$147.2]), pediatrics ($150.7 [95% CI $150.3–$151.2]), and other specialists ($150.1 [95% CI $149.8–$151.4]). PCPs with corporate ownership obtained higher mean commercial prices for new patient office visits ($154.4 [95% CI $154.2–$154.7] vs. $117.8 [95% CI $117.6–$118.1] for independent practices). Similarly, PCPs affiliated with larger practices had higher mean prices ($161.6 [95% CI $161.2–$162.0] at practices with more than 100 physicians vs. $113.4 [95% CI $113.0–$113.7] for solo practices). Moreover, mean prices were lower in counties with highly concentrated insurer markets ($137.1 [95% CI $136.9–$137.4] vs. $176.6 [95% CI $175.8–$177.4] in unconcentrated insurer markets), rural areas ($129.1 [95% CI $128.5–$129.8] vs. $145.8 [95% CI $145.6–$146.0] in non-rural areas), and counties with lower median household income ($128.3 [95% CI $128.1–$128.6] in the lowest quartile vs. $163.1 [95% CI $162.7–$163.6] in the highest quartile). Across different insurers, United Healthcare paid the highest mean prices ($159.8 [95% CI $159.4–$160.1]), while BCBS paid the lowest mean prices ($133.4 [95% CI $133.0–$133.7]). The pricing patterns for established patient office visits remained consistent across these variables (Table 1).

Figure 1 and Appendix Table 3 present regression estimates of factors associated with commercial prices,



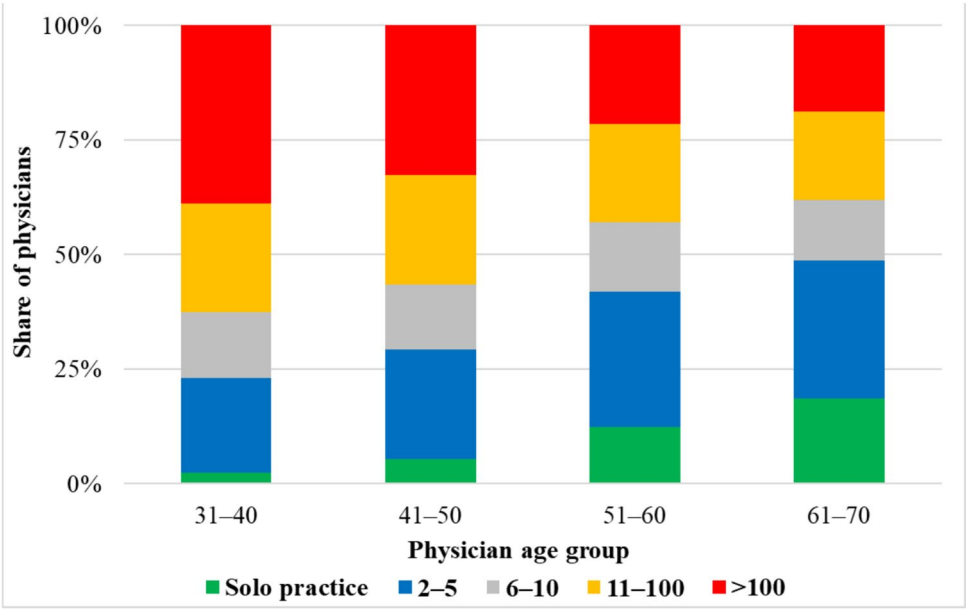
[a]Corporate ownership identified by having a corporate parent associated with the physician practice. Sample size: 174,561 primary care physicians.

Figure 2 Distribution of primary care physicians by corporate ownership status, stratified by age group

controlling for Medicare GAFs and state fixed effects. The most notable driver for higher prices was a PCP's corporate ownership status, which corresponded to 17.9% (95% CI 17.7–18.2%) and 18.3% (95% CI 18–18.6%) higher prices for new and established patients, respectively. We also observed a dose–response pattern between prices and the size of practice, where PCPs affiliated with practices with more than 100 physicians obtained 28% (95% CI 27.3–28.7%) higher prices for new patients and 27.5% (95% CI 26.8–28.2%) higher prices for established patients, compared to solo practices. Prices for pediatricians were 4.3% (95% CI 4–4.6%) and 3.6% (95% CI 3.3–3.9%) higher than for family medicine PCPs for new and established patients, respectively. Additionally, prices were 0.26% (95% CI 0.25–0.27%) and 0.24% (95% CI 0.23–0.25%) higher in areas with higher PCP supply (1 per 10,000 residents).

Compared to unconcentrated insurance markets, prices were 2.6% (95% CI 2.1–3.1%) and 2.6% (95% CI 2.1–3.2%) lower at counties with moderately concentrated insurance markets for new and established patients, respectively. Meanwhile, prices were not significantly lower at highly concentrated insurance markets. Moreover, when PCPs practiced in counties with lower median household income (per $10,000), they negotiated 2.2% (95% CI 2.1–2.3%) and 2.4% (95% CI 2.4–2.5%) lower prices for new and established patients, respectively. Compared to PCPs practicing at outpatient centers, those practicing at hospitals and other settings negotiated 10.5% (95% CI 10.1–10.9%) and 3.4% (95% CI 3.1–3.8%) lower prices for new patients and 10.2% (95% CI 9.8–10.6%) and 3.5% (95% CI 3.1–3.9%) lower prices for established patients, respectively. These results remained robust when using linear models, where the estimated associations were expressed in dollar amounts rather than percentages (Appendix Table 3).

Additional analysis based on the 174,561 unique PCPs showed that corporate ownership and size of practices varied monotonically by PCP age. Corporate ownership was most prevalent among young PCPs in the 31–40 age group (88%), but gradually declined to 66% for PCPs in the 61–70 age group (Fig. 2). Similarly, younger PCPs were more likely to practice in larger organizations, with 39% of the 31–40



[a]Sample size: 174,561 primary care physicians.

Figure 3 Distribution of primary care physicians by size of practice, stratified by age group

age group practicing in organizations with more than 100 physicians, while only 3% conducted solo practices. In contrast, 19% and 19% of PCPs aged 61–70 practiced in those settings, respectively (Fig. 3). Similarly, female PCPs were more likely to practice at facilities under corporate ownership (78%) than male PCPs (72%) (Appendix Table 4). Likewise, female PCPs were less likely to engage in solo practice than male PCPs (8% vs. 14%) (Appendix Table 5).

DISCUSSION

Using insurer-disclosed price transparency data from four national insurers in 2024, this study examined the level and variation in commercial prices for PCP office visits. Consistent with prior literature on physician pricing, we found commercial PCP office visit prices to be 10–30% higher than Medicare rates.[10,11] We contribute new findings to this topic by examining multiple physician-level, practice-level, and market-level factors that drove variation in commercial prices. The most notable driver of higher prices was PCP's size of practice, which followed a consistent, dose–response relationship. This result adds new evidence to a growing body of literature on physician market consolidation.[16,37,38] While we found price variation across different insurers for the same PCP and procedure, which aligned with prior research on commercial hospital pricing,[25] insurer market concentration was found to have a modest association with lowering PCP prices. It is possible that, in highly concentrated insurance markets, insurers' vertical integration with PCP practices might be more prevalent, which could attenuate insurers' motivation for negotiating lower prices among acquired PCPs.[37,38] However, we were not able to empirically examine this behavior due to data limitations. Similarly, we did not find a negative relationship between PCP supply and price, which did not fully align with conventional economic assumptions. This might be due to even stronger patient demand in areas with higher PCP supply, which we were not able to control due to the lack of utilization data.

Moreover, we found that PCPs focusing on family medicine (compared to other sub-specialties), practicing independently, or operating in lower-income communities had lower negotiated prices. Lower payment rates may contribute to inadequate physician compensation, reduced physician participation, and worsened patient access.[7]

In fact, primary care services, which accounted for only 4–6% of total US healthcare expenditures over the past decade, have long been an overlooked, undervalued, and underinvested area in US healthcare.[2,3,7] Commercial prices for primary care are a critical factor influencing both the labor supply of PCPs and the affordability of primary care for patients—two issues that simultaneously affect patient access. This dynamic may disproportionately impact commercial-insured patients from socio-economically disadvantaged communities. While low commercial prices deter primary care practices from entering or remaining in these markets, high prices, however, may create affordability challenges for these patients, especially among patients with high deductible plans and paying out of pocket. For example, beyond PCP services that are fully covered (e.g., annual wellness check), before meeting their plans' deductibles, these patients may pay the full insurer-negotiated rates,

unless they seek alternative payment methods such as cash pay.[17]

On the other hand, PCPs in practices with corporate ownership or affiliated with larger organizations had higher negotiated prices, with both factors being more common among younger PCPs. Physician markets have become increasingly consolidated over time, as growing numbers of independent practices are acquired by hospital systems, insurers, private equity firms, or other organizations.[37] We found that market consolidation disproportionately impacts younger PCPs, a trend that requires serious attention from the public and policymakers interested in improving the US primary care system. As more medical residents enter the labor market and older PCPs retire, the growing trend of corporate ownership and larger practice sizes is likely to become predominant among PCPs across all ages. While the effects of PCP market consolidation on the quality of patient care remain inconclusive,[38] consolidation has enabled stronger bargaining power for higher commercial prices, as documented in this study. Future research is warranted to examine whether higher negotiated prices due to consolidation lead to higher take-home compensation, reduced burnout, and general welfare improvement for PCPs. To the extent that the fee-for-service (FFS) payment system may contribute to the undervaluation of primary care, the findings from this study can help guide the design and implementation of prospective payment models.[3]

Limitation

This study has several limitations. First, the commercial prices are contingent on insurers' disclosure in compliance with the TiC rule and might be subject to potential data inaccuracies. The prices were aggregated at the physician-procedure-insurer level, potentially masking the more granular price heterogeneity beyond this level (e.g., across different individual plans). Second, we are not able to incorporate prices measured in non-FFS mechanisms (e.g., capitation, salary). Third, the findings, based on two primary care procedures and four national insurers, might not be fully generalizable to other procedures, medical specialties, insurers, or care settings. Fourth, due to data limitations, the analyses were unable to incorporate insurance network details, care utilization, clinical outcome, or individual patient characteristics. Therefore, the findings might be subject to omitted-variable bias. Finally, this study is descriptive in nature, and results should be interpreted as associations instead of causal relationships.

CONCLUSION

Based on major insurers' mandatory pricing disclosure data for 2024, we found that nationwide mean commercial prices for level 3 primary care office visits were $145 for new patients and $102 for established patients. Prices were higher among PCPs with corporate ownership or affiliated with larger practices, where both factors were more prevalent among younger PCPs. In contrast, PCPs treating patients with fewer specialized needs, with older ages, or practicing in lower-income communities had lower negotiated prices. Our findings inform physicians, patients, researchers, health plans, and policymakers interested in improving the US primary care system and provide insights regarding the design and implementation of alternative payment models that aim to address PCP workforce challenges and enhance care affordability.

Supplementary Information *The online version contains supplementary material available at https://doi.org/10.1007/s11606-025-09798-8.*

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Author Contribution: *Yang Wang made substantial contributions to the conception of the work; acquisition, analysis, and interpretation of data; drafted the work, and reviewed it critically for important intellectual content. Mark Meiselbach made substantial contributions to the conception of the work; drafted the work, and reviewed it critically for important intellectual content. Xu Wang made substantial contributions to acquisition, analysis, and interpretation of data, and drafted parts of the work. Ge Bai made substantial contributions to the conception of the work, drafted parts of the work, and reviewed it critically for important intellectual content. Gerard Anderson made substantial contributions to the conception of the work and reviewed it critically for important intellectual content. All authors provided final approval before publishing and agree to be accountable for the accuracy of the work.*

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Declarations:

Ethics Approval and Consent to Participate: *Not applicable (no human participants were involved).*

Conflict of Interest: *The authors declare that they do not have a conflict of interest.*

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