


Price Transparency for Primary Care Office Visits and Routine Tests: Results From a 2016 Audit Study

INQUIRY: The Journal of Health Care Organization, Provision, and Financing
Volume 59: 1–9
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DOI: 10.1177/00469580221092122
journals.sagepub.com/home/inq


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Abstract

Introduction: Price transparency is a central component of the shift from volume to value in healthcare delivery. Price transparency in primary care, the most common point of contact with the healthcare system for patients in the U.S., has not been widely studied.

Methods: Using an audit study across 10 states in 2016, we examined the characteristics of primary care practices that were able to provide price information for office visits and routine tests.

Results: Most primary care practices were able to disclose some price information for office visits and routine tests. Results indicate that larger, integrated primary care practices in urban areas and in areas with a higher percentage of minority residents were less likely to provide prices than smaller, standalone practices.

Conclusion: These findings suggest that future efforts to increase price transparency in primary care should be tailored to practice characteristics, including practice location and whether the practice is embedded in an integrated health system.

Keywords

price transparency, primary care, secret shopper study, audit study

Highlights

What do we Already Know About this Topic?

An important element of value-based healthcare is price transparency, which has been historically lacking despite rapidly increasing healthcare prices in the U.S. To date, few policy efforts for price transparency have focused on primary care.

How does Your Research Contribute to the Field?

This study uses audit data from thousands of primary care practices in order to measure rates of price transparency in primary care. We build on prior literature in at least 3 ways: first, we provide a more up-to-date measure of price transparency for primary care office visits by using data collected after the implementation of the Affordable Care Act (ACA); second, we measure price transparency rates for routine tests in addition to office visits; and third, we consider the role of practice characteristics not previously explored, including whether the practice is part of an integrated health system.

What Are Your Research's Implications Toward Theory, Practice, or Policy?

As efforts toward price transparency continue, it is important to understand which practices are more likely to provide prices to patients. Our findings—particularly that larger, integrated primary care practices are less able to provide prices compared

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to smaller, standalone practices—suggest that price transparency policies cannot be one-size-fits-all and may need to be adapted based on practice characteristics.

Introduction

The shift from volume to value is upending healthcare delivery in the United States.¹ An important component of value-based care is price transparency, which has been historically lacking in the U.S. despite rapidly increasing healthcare prices.² In fact, healthcare prices have been rising faster than the consumer price index for decades.³

Over the last decade, policymakers have increased their focus on price transparency, in part due to the proliferation of high-deductible health plans, health savings accounts, and a more “consumer-driven marketplace” in healthcare.^{4,5} Examples include a 2019 Executive Order, which requires hospitals to disclose prices for selected procedures, as well as state-level initiatives in Massachusetts, Virginia, New Hampshire, and Minnesota to increase price transparency in hospitals.^{6,7} More recently, the Centers for Medicare and Medicaid Services (CMS) introduced a Hospital Price Transparency Rule.⁸ Despite some pushback, President Biden supported CMS in their efforts to reduce hospital costs and also to improve transparency of prescription drug prices.^{6,9,10}

However, these policy changes have been limited in scope and “gaps remain in the accessibility and usefulness of the information.”¹¹⁻¹³ For example, the aforementioned policy efforts targeting price transparency have largely focused on hospitals, which account for 31% of national healthcare expenditures.¹⁴ Less has been done to ameliorate price transparency in primary care, which comprises over half of all healthcare visits and remains the most common point of contact with the healthcare system.^{15,16} Existing research indicates that many primary care providers are unable to disclose price information to patients despite the “chief responsibility” they bear in discussing the affordability of treatment options with patients.¹⁷ In fact, one milestone of the Accreditation Council for Graduate Medical Education in Internal Medicine is to identify “forces that impact the cost of health care, and advocate for, and practice cost-effective care.”¹⁸

Moreover, it is unclear how patients experience price transparency.¹⁹ One way that researchers can address this is to use patient-centric methodologies, such as secret shopper and audit studies.²⁰⁻²² A notable example of this approach is from Saloner and colleagues, who measured price transparency rates in primary care and found that it was associated with several factors, including whether the practice was a federally qualified health center (FQHC).²³ Their audit study used data that was collected during the implementation of the Patient Protection and Affordable Care Act (ACA) in 2014, which increased funding for FQHCs and temporarily increased

Medicaid reimbursement to Medicare levels for primary care providers.^{23,24} This made it difficult to distinguish between changes brought forth by the ACA and changes related to the broader shift to value-based healthcare delivery models, like the increase in patient-centered medical homes.²⁵

In this study, we measure price transparency in primary care practices across 10 states using an audit study from 2016, building on prior literature in at least 3 ways. First, we use data that was collected after the implementation of the ACA. Second, we measure price transparency for routine tests in addition to office visits. Third, we consider the role of practice characteristics not previously explored in this context, including whether the practice is part of an integrated health system and whether the practice offers other consumer-driven amenities, like after-hours appointments.

Methods

Data Collection

We used audit data collected in 2016 from 10 states: Arkansas, Georgia, Illinois, Iowa, Massachusetts, Montana, New Jersey, Oregon, Pennsylvania, and Texas. Data collection and the study protocol were approved by the Institutional Review Board at the University of Pennsylvania and are described elsewhere.²⁵ The requirement for informed consent was waived because the research team was interested in the healthcare system overall, and the confidentiality of individual practices was protected. The study’s sponsor, the Robert Wood Johnson Foundation, was not involved in the design or conduct of this study, the preparation of this manuscript, or the decision to submit this manuscript for publication.

The sample frame of primary care practices was randomly selected from the SK&A Office-Based Physician Database, which has been increasingly used for research purposes, with studies finding that it can provide reasonably accurate and up-to-date information compared to other administrative datasets.²⁶ Eligible offices had to have at least 1 primary care physician (PCP) who served working-age adults, and were in-network by insurance type, which was determined using a survey conducted prior to the audit study.²⁵ Practices could receive multiple calls from callers with different insurance types.

Trained callers were randomized to insurance types and asked to simulate new patients. In their calls, they requested the earliest appointment available with a randomly selected PCP within the practice; callers accepted an appointment with advanced practitioners, that is, nurse practitioners and physician assistants, when offered. To be considered an appointment, the scheduler was required to provide a specific date and time. All appointments were canceled at the end of the call or shortly after the call took place. Prices were only

requested for scheduled appointments for those callers with private insurance (either employer-based or from the ACA health insurance exchanges) and callers who claimed to be self-pay.

Overall, 5988 calls were included in the office visit analysis, 5205 in the routine test analysis, and 1809 in the average price of an office visit analysis. We excluded 484 calls because the caller could not get past appointment restrictions, such as requiring an insurance number, 1230 calls because of vague appointment availability, which occurred if the scheduler could not give a precise date or time, and another 1843 calls because the caller could not schedule an appointment. Finally, 630 calls were excluded because practice characteristics in the SK&A database were missing.

Measures

We examined 2 outcomes: a binary variable indicating an inability to get a specific price or a range of prices for an office visit, and a binary variable indicating an inability to receive prices for routine tests that may be conducted at the visit. We also measured office visit prices for those calls in which a specific price, rather than a range of prices, was provided. This information was collected by trained callers using the following prompts: Were you able to find out the basic price of your visit? How much will the visit cost? If the doctors ordered any tests, could you be told the price before you have them?

Statistical Analyses

For each outcome, we estimated a linear probability model with the following practice and county characteristics: practice size, which was defined as the number of PCPs and the number of advanced practitioners; whether the practice provided after-hours or walk-in appointments; whether the practice was part of an integrated health system; whether the practice was an FQHC; and county-level estimates of income, race/ethnicity, and urbanicity. We included state fixed effects and clustered standard errors at the county-level.

Results

The study sample used for the office visit outcome included 5988 calls made to primary care practices with an average of ~3 physicians and ~1 advanced practitioner (Table 1). Roughly a third of calls were made to practices that offered flexible hours or were part of an integrated health system. More calls were made to practices located in urban neighborhoods and in areas with a majority of white residents. Fewer calls were placed in rural areas and in areas with a majority of Black and Hispanic residents.

Most practices were able to disclose some price information for office visits and routine tests to callers. Overall, 61% of calls resulted in the simulated patient obtaining some

Table 1. Summary Statistics.

	Mean	Standard Deviation
Practice characteristics		
# Primary care physicians	2.78	3.86
# Advanced practitioners	1.10	1.84
Have after hours	37.16%	48.33
Have walk-in hours	34.77%	47.63
Integrated health system	32.48%	46.83
Accountable care organization	34.82%	47.64
Federally qualified health center	5.59%	22.98
County characteristics		
Median household income (thousands)	61.34	16.21
%Black	12.25%	13.74
%Hispanic	13.66%	14.19
%Urban	79.16%	25.48
Insurance type		
Commercial	47.56%	n = 2848
None	15.65%	n = 937
ACA Health Insurance Exchange	36.79%	n = 2203
State		
Arkansas	8.98%	n = 538
Georgia	11.86%	n = 710
Indiana	10.99%	n = 658
Illinois	11.62%	n = 696
Massachusetts	7.97%	n = 477
Montana	4.61%	n = 276
New Jersey	12.98%	n = 777
Oregon	7.72%	n = 462
Pennsylvania	11.32%	n = 678
Texas	11.96%	n = 716
Number of calls	5988	

Sources. Authors' calculations.

Notes. Summary statistics are based on calls used in the office visit analysis.

form of price information for office visits (Figure 1), whereas 92% of calls were told they could obtain prices for routine tests (Figure 2). The precision of price information varied, however. For instance, only 30% of calls were able to get the exact price of an office visit.

Across the 10 states and 3 insurance types, price transparency rates varied substantially. The estimated price of an office visit varied as well. The average price of an office visit was \$137, with the lowest prices found in New Jersey (\$117) and the highest price found in Massachusetts (\$182) (Table 2). On average, callers with insurance purchased on ACA Health Insurance Exchanges were quoted lower prices (\$125) than callers with commercial (i.e., employer-sponsored) insurance (\$139) and callers who had no insurance (i.e., self-pay) (\$149).

Linear probability models indicated that practices with more PCPs ($P = .001$), more advanced practitioners ($P = .001$), that were a part of an integrated health system ($P < .001$), and

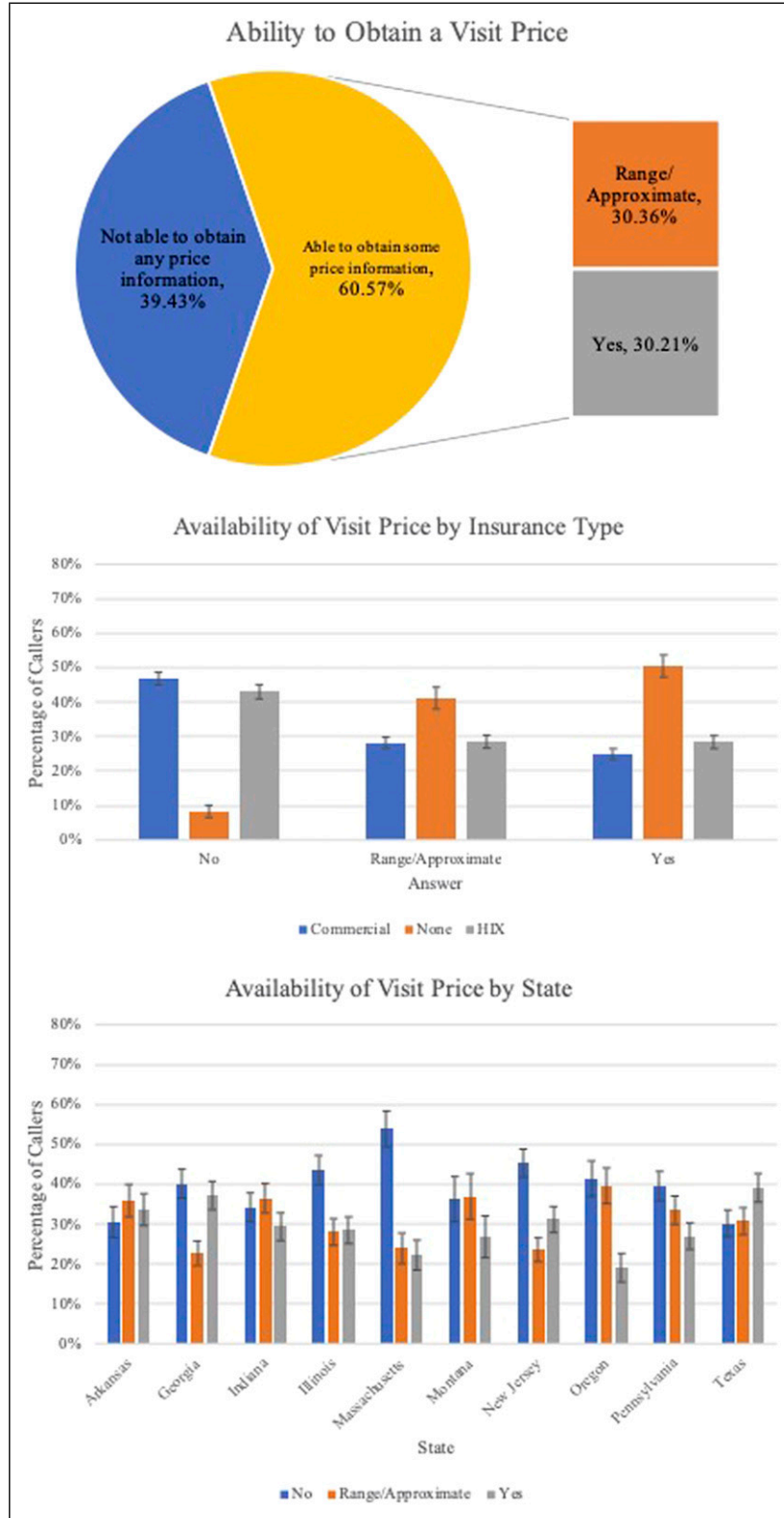


Figure 1. Ability to Obtain Prices for Office Visits Overall, by Insurance Type, and by State.
 SOURCE: Authors' calculations.
 NOTES: Error bars denote 95% confidence intervals. HIX refers to insurance bought on the ACA Health Insurance Exchange.

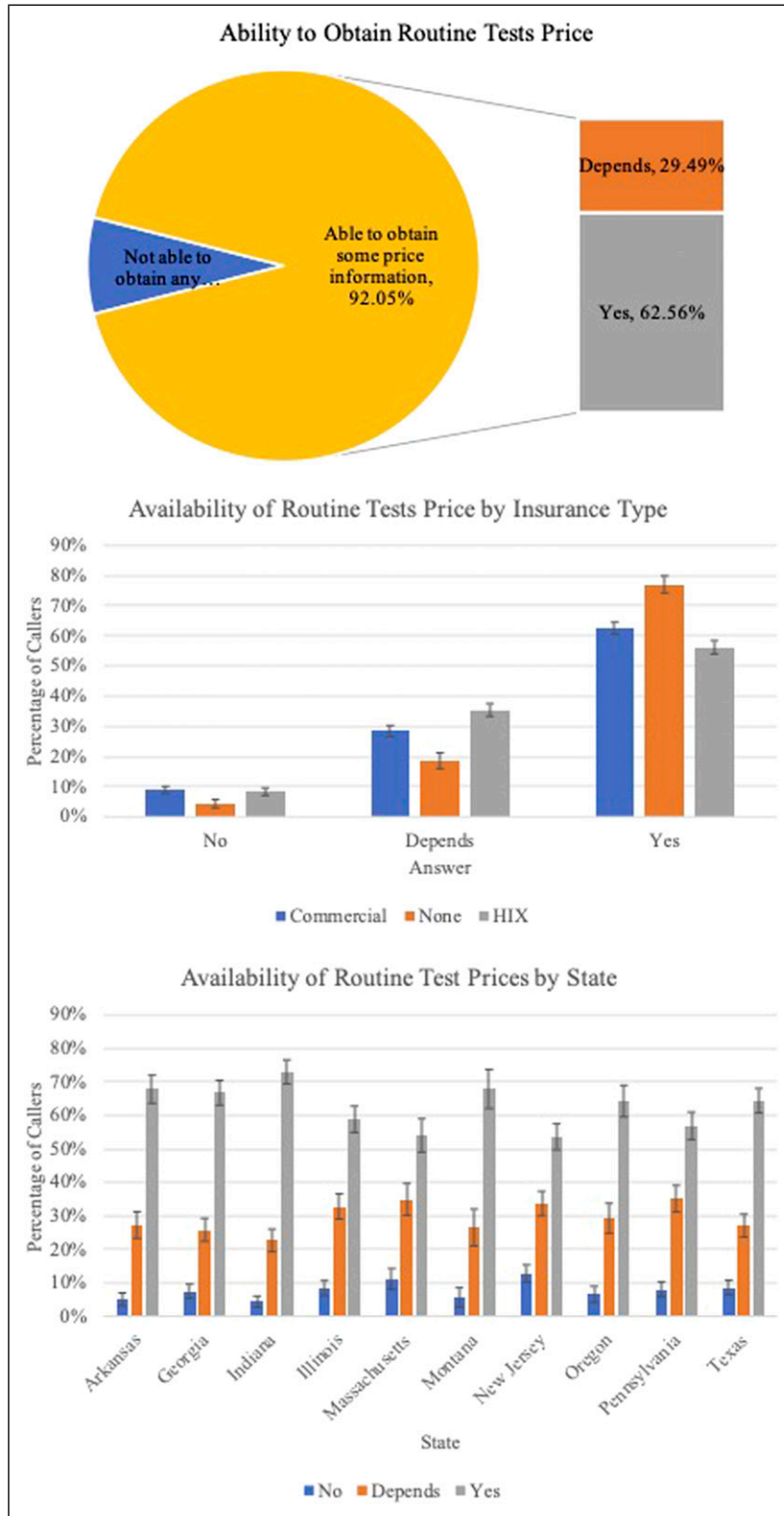


Figure 2. Ability to Obtain Prices for Routine Tests Overall, by Insurance Type, and by State.
 SOURCE: Authors' calculations.
 NOTES: Error bars denote 95% confidence intervals. HIX refers to insurance bought on the ACA Health Insurance Exchange.

Table 2. Average Cost of an Office Visit by Insurance Type and State.

	Mean	Standard Deviation
Average total cost	\$ 136.84	\$ 4.22
Insurance type		
Commercial	\$ 139.31	\$ 7.12
None	\$ 149.11	\$ 8.47
ACA Health Insurance Exchange	\$ 124.76	\$ 6.41
State		
Arkansas	\$ 127.40	\$ 14.45
Georgia	\$ 134.77	\$ 9.80
Indiana	\$ 153.75	\$ 9.36
Illinois	\$ 139.04	\$ 11.14
Massachusetts	\$ 181.91	\$ 23.22
Montana	\$ 159.42	\$ 16.89
New Jersey	\$ 117.29	\$ 9.06
Oregon	\$ 163.32	\$ 21.83
Pennsylvania	\$ 128.56	\$ 10.82
Texas	\$ 122.63	\$ 13.73
Number of calls	1809	

Sources. Authors' calculations.

Notes. Average total costs were calculated for calls where a specific price, rather than an approximate/range of prices, was given.

that were an FQHC ($P < .001$) were more likely to be *unable* to provide prices for an office visit (Table 3). Calls placed in urban areas ($P = .035$), in areas with more Hispanic residents ($P = .018$), and in areas with more Black residents ($P = .020$) were also less likely to receive a price for an office visit.

Fewer practice characteristics were correlated with the ability to provide prices for routine tests, although we did find that practices without walk-in hours were more likely to provide prices for routine tests ($P = .006$). Calls placed in areas with more Black residents ($P = .005$) and in areas with a higher median household income ($P = .003$) were less likely to receive prices for routine tests.

Discussion

In recent years, policymakers have engaged in a concerted effort to make healthcare prices more readily available for patients. However, these attempts have mostly focused on hospitals and prescription drugs. Given the large role that primary care plays in healthcare delivery and the continued proliferation of high-deductible health plans and health savings accounts, additional efforts toward price transparency in primary care may be warranted.

This study used audit data from 2016 to measure rates of price transparency and identify which practice and county-level characteristics were associated with price transparency. We found that nearly 40% of primary care practices were unable to disclose any price information for office visits, while fewer than 10% of practices were unable to disclose any price information for routine tests. Larger,

integrated practices in urban areas and in areas with higher percentages of minorities were less likely to provide prices, while smaller, standalone practices were more likely to provide prices.

Another notable finding was the relatively low rates of price transparency for office visits at FQHCs, which aligns with Saloner et al. (2017). Federally qualified health centers tend to target uninsured and underinsured populations and often use sliding-scale fees that require callers to specify their income levels, which may explain their inability to provide prices to callers.²⁷

Our results beg the question of why smaller practices and practices without access to resources available in integrated health systems were more likely to provide prices to callers. One potential reason is that these practices cater to fewer patients, who may be more likely to have longstanding ties to the practice.^{28,29} Indeed, primary care practices in small towns often accompany “patients from the cradle to the grave.”³⁰ Whether longer-term relationships can serve as an added incentive to provide more consumer-driven amenities to patients, such as price transparency, is unclear. Smaller, standalone practices may also have more capacity, which could afford them flexibility in their scheduling practices. This was supported by additional analyses, which found that practices able to provide a price tended to have lower wait times for an appointment (approximately 2 days shorter). In contrast, larger practices in integrated health systems may be less likely to provide prices given capacity concerns, as is indicated by longer wait times.

Another potential explanation is the role of centralized scheduling. Larger, integrated systems may be more likely to rely on a centralized scheduling system, which can increase scheduling efficiency across multiple practices.³¹⁻³³ While centralized scheduling may increase efficiency, there are other trade-offs to consider. Because these systems cater to multiple practices and patient types, centralized schedulers may be less equipped to enact price transparency initiatives. Alternatively, it could be that the practices associated with integrated health systems are more likely to operate in concentrated markets (notably, increasing concentration throughout healthcare delivery has raised concerns of adverse consequences for both cost and quality).^{34,35}

Centralized scheduling could not be explored directly in our analysis. Nor could we examine whether price transparency in primary care benefits patients or affects their perceptions of care.³⁶ A 2007 study suggested that price transparency efforts, under certain conditions, could inadvertently increase prices and disadvantage low-income patients.³⁷ Other studies have shown that few patients access price transparency tools and that these tools are unlikely to change key measures, such as aggregate healthcare spending.¹¹ Yet additional research has shown that price-aware patients do change their decisions based on prices, and that price transparency may affect the bargaining process between providers and payers.³⁸⁻⁴⁰

Table 3. Association Between Practice and County Characteristics and the Inability to Obtain Prices for an Office Visit or Routine Test.

	No: Visit Cost		No: Routine Test Costs	
	Coefficient	P-value	Coefficient	P-value
Practice characteristics				
# Primary care physicians	.60	.001	.25	.055
# Advanced practitioners	1.22	.001	-.29	.113
Have after hours	-1.02	.497	-.21	.808
Have walk-in hours	.68	.638	-1.97	.006
Integrated health system	6.10	<.001	.84	.372
Accountable care organization	1.52	.388	.37	.652
Federally qualified health center	18.08	<.001	.44	.792
County characteristics				
Median household income	.12	.072	.10	.003
%Black	.18	.020	.10	.005
%Hispanic	.18	.018	.06	.124
%Urban	.09	.035	.01	.798
State				
Georgia	5.20	.123	-.27	.854
Indiana	2.87	.401	-1.03	.404
Illinois	7.21	.061	.09	.952
Massachusetts	15.97	<.001	2.48	.192
Montana	5.25	.316	1.66	.293
New Jersey	9.85	.011	3.62	.063
Oregon	6.41	.139	.30	.832
Pennsylvania	7.50	.035	1.30	.366
Texas	-7.03	.089	.47	.800
Number of calls	5988		5205	

Sources. Authors' calculations.

Notes. Bolded coefficients show significance with the criteria of $P < .05$. We used a linear probability model to predict outcomes, so estimated coefficients are in percentage points. In 783 calls, the scheduler could not answer if routine test prices were available; those calls were excluded from the analyses. Median household income is measured in thousands.

As policymakers continue to focus on price transparency throughout healthcare delivery, it is important to understand how price transparency has changed over the years. Thus, a more up-to-date study of price transparency in primary care is needed, and could help identify the impact of recent policy initiatives. Potential mechanisms of price transparency, such as the role of centralized scheduling and the effects of market competition and concentration, warrant further study.

Limitations

This study has several limitations. First, calls were restricted to in-network offices accepting new, nonelderly patients across 10 states, covering roughly 25% of the U.S. population. Second, the cross-sectional study design can only identify associations between practice and county-level characteristics and price transparency rates. Third, we focus on prices from the patient's perspective, which could involve insurance payments and/or out-of-pocket spending, rather than delve into the complexities surrounding healthcare accounting systems. Finally, while we

controlled for median household income in our analyses, we did not directly examine the role of patients' incomes or plan design. Price transparency may matter more to patients with lower incomes or with certain insurance types, such as high-deductible health plans.

Conclusion

The continued proliferation of consumer-driven healthcare, such as high-deductible health plans and health savings accounts, necessitates increased price transparency at all levels of healthcare, including primary care. This requires a better understanding of how prices in primary care are communicated to patients. Our results suggest that certain practices may be less likely to accommodate a demand for price transparency. Specifically, we found that larger, integrated primary care practices in urban areas and in areas with higher percentages of minorities were less transparent with prices compared to smaller, standalone practices. This suggests that policy approaches targeting price transparency may need to be catered based on practice characteristics such as location,

size, and whether the practice is embedded in an integrated health system.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Initial data collection was supported by the Robert Wood Johnson Foundation (#71100).

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