Price Transparency in Healthcare: Apply with Caution

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ABSTRACT

There's a widespread perception that transparent pricing would push healthcare prices downward. While this may be true in certain markets, in many others, it would have little price impact or could even push prices upward via tacit collusion. Under perfect competition, prices are universally known and vary little across buyers and sellers. Such conditions are absent in many or most American healthcare markets. The industrial organization and antitrust literatures suggest that when the number of sellers in a market is small and barriers to entry for new sellers are high—as is true of most healthcare services—public knowledge of prices can lead to tacit collusion. In such cases, sellers act on price information as though they are conspiring to restrict supply and raise prices, without any actual conspiracy, while consumers cannot or do not use prices to change their behavior. Aside from tacit collusion, providers have better information on health and care than patients do. Emergency patients can't price-shop. Third-party payers, not patients, reap most of the benefits of price-shopping. Even when patients are provided with price-shopping tools, they fail to compare prices. These cautions do not imply a blanket condemnation of price transparency, but they do suggest that policymakers should be highly selective in issuing transparency mandates.

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The Trump administration has made price transparency a priority in its healthcare platform, and the idea of transparency has broad appeal in both political parties and at the federal and state levels. The goal of price transparency is to make information about the costs of healthcare services available to consumers and others, including insurers, employers, and healthcare providers. *Transparency* is a somewhat amorphous term—transparency can come in a variety of forms, including public revelation of hospital chargemasters and insurer-provided search tools for perusing state databases.[1]

In 2019, President Trump issued Executive Order 13877, which aims to "increase the transparency of healthcare price and quality information."[2] In his order, the president instructs the Department of Health and Human Services to require hospitals to post their charge information, "including charges . . . based on negotiated rates and for common or shoppable items and services." The order also solicits comment on how insurers could be required to disclose out-of-pocket cost information.[3]

Price transparency appeals to the intuition, and especially to the economist who believes that prices guide coordination in the market. But the nature of healthcare makes price disclosure a more tenuous proposition than would be the case in most other consumer markets. Access to price information can empower consumers to shop, but it can also enable sellers to quietly collude to keep prices high. Which force wins out depends on the characteristics of the particular market.[4] This paper reviews the research on price transparency

1. The diversity of state transparency initiatives appears on the National Conference of State Legislatures website: "Transparency of Health Costs: State Actions," accessed July 21, 2020, https://www.ncsl.org/research/health/transparency-and-disclosure-health-costs.aspx#Examples.
2. Exec. Order No. 13877, 84 Fed. Reg. 30849 (June 24, 2019), "Improving Price and Quality Transparency in American Healthcare to Put Patients First."
3. Previous administrations put forward price transparency initiatives as well. The current administration's policy aims to reveal negotiated prices to an unprecedented degree.
4. Christian Schultz, "Collusion in Markets with Imperfect Price Information on Both Sides," *Review of Industrial Organization* 50, no. 3 (May 2017).

experiments and concludes that price transparency can reduce patient spending primarily in the small subset of healthcare transactions that are uniform in nature and shoppable in advance—and then only for patients who can be convinced to consider pricing at all.

This paper will focus mostly on transparency initiatives whose purpose is to assist consumers in making rational healthcare decisions. For the most part, we will not address initiatives aimed at healthcare providers who are purchasing intermediate goods (e.g., a physician purchasing diagnostic equipment). We will begin by reviewing the theoretical arguments for using price transparency as a tool for cost-cutting. Then we will examine circumstances under which price transparency paradoxically leads to *higher* costs—the so-called tacit collusion problem. We'll outline the concept of shoppability and the feasibility of consumer choice in healthcare.

LOWERING SEARCH COSTS: A THEORETICAL BASIS

The notion that consumer access to price information will lead to lower prices is rooted in economic theory. George Stigler's 1961 article "The Economics of Information" lays out a model to understand how consumers search for the best price. (Stigler was a University of Chicago professor and Nobel prize winner.) All markets are subject to price dispersion—a range of prices offered for similar and even homogeneous goods—owing to the limited market knowledge of any given economic actor. Stigler explains, "Price dispersion is a manifestation—and, indeed, it is the measure—of ignorance in the market."[5]

When consumers enter the market for a good, they do not know the level or range of prices available, so they begin searching to understand their options. But searching is costly, so they will not expend the time or effort to identify every available price. Sellers face similar search costs in identifying buyers and the prices those buyers are willing to pay. Thus, prices vary, and, as Stigler posited, the less either producers or consumers know, the more prices will vary. Subsequent research has shown that price dispersion can also signal heterogeneous goods—one might pay more for a top-notch surgeon, for example, or even for better parking—or the limited capacity each provider has to serve patients.[6]

5. George J. Stigler, "The Economics of Information," *Journal of Political Economy* 69, no. 3 (June 1961): 214.
6. Michael A. Arnold, "Costly Search, Capacity Constraints, and Bertrand Equilibrium Price Dispersion," *International Economic Review* 41, no. 1 (February 2000): 117–31.

Stigler identifies mechanisms that emerge to reduce search costs on both sides—particularly advertising, which reduces the cost to suppliers of finding buyers *and* the cost to buyers of finding "favorable prices." Another search-cost-lowering phenomenon is the emergence of specialized traders who facilitate the coordination of buyers and sellers. (In real estate transactions, for example, it is often the agent, rather than the buyers themselves, who seeks out and obtains lower costs.)

Stigler's theory of information suggests that better access to information—particularly price information, which he says has a "decisive influence" here—will consolidate the range of prices charged for a good. Whether the average price itself will rise or fall during this process, however, depends on the nature of the market. In markets with many buyers and sellers, prices will likely drop, benefiting consumers. On the other hand, when sellers in a small market with only a few competitors and high barriers to entry gain access to information about what their rivals charge, they may collude with one another to raise prices. Or, in the case of tacit collusion, they may behave *as if* they are colluding without actively doing so.[7]

The argument that wide price dispersion signals consumer or producer ignorance and high search costs can be compelling when we read about the staggering "price gaps" among healthcare services today. One study of the Massachusetts healthcare market found that hospitals charged, just on *average*, 76 percent more than all other provider types for the same medical service.[8] (Some of the premiums, of course, might be explained by differences in quality and convenience—some quite obscure—as perceived by patients and providers.) And another popular study discovered that the average MRI recipient drives past six lower-priced providers just on the way to the MRI appointment.[9] Indeed, since American patients have no access to their insurers' final negotiated prices in advance and low average knowledge of the technical details of their treatment, they face extremely high search costs. But in terms of Stigler's theory, this is not

7. George J. Stigler, "A Theory of Oligopoly," *Journal of Political Economy* 72, no. 1 (February 1964). For a brief and excellent pedagogic piece explaining the tacit collusion problem in drug pricing, see Craig Garthwaite, "What Martha's Vineyard's Gas Stations Can Teach Us about Drug Pricing," *Forbes*, May 23, 2019. Garthwaite uses antitrust litigation over gasoline pricing on Martha's Vineyard to explain drug prices by analogy.

8. Anna D. Sinaiko, Pragya Kakani, and Meredith B. Rosenthal, "Marketwide Price Transparency Suggests Significant Opportunities for Value-Based Purchasing," *Health Affairs* 38, no. 9 (September 2019).

9. Michael Chernew et al., "Are Healthcare Services Shoppable? Evidence from the Consumption of Lower-Limb MRI Scans" (NBER Working Paper No. 24869, National Bureau of Economic Research, Cambridge, MA, July 2018, rev. January 2019).

enough information to say that consumer spending would decrease if only price information were public.

It is likely that some amount of price dispersion can be explained by other market characteristics such as quality differences and capacity limitations, making prices less "decisive" than Stigler theorized. Uncertainty may also be keeping healthcare providers from coordinating to tighten the market and increase their profits. Price transparency does not universally favor consumers, and any initiative to disclose prices should consider the nature of the market and the good in its execution. Research bears this out in other industries as well as in healthcare.[10]

INTERNATIONAL PREDECESSORS

Oddly enough, one of the most popular studies of the efficacy of mandatory price transparency focuses on the Danish concrete market.[11] In 1993, Denmark's antitrust authority began publishing in its quarterly newsletter the prices of concrete from every domestic producer. The rationale was to increase consumer information in a market where the market shares of the two industry leaders added up to well over 50 percent of total sales. However, concrete prices rose nearly 20 percent in less than a year. As we might expect, the various prices of concrete did converge significantly—but rather than lowering costs for concrete buyers by lowering search costs, the action seems to have given producers enough information to enforce a tacit collusion, resulting in higher prices. Denmark's antitrust authority admitted defeat three years later and stopped publishing prices in its newsletter. Thus, this classic example is one in which the limited number of sellers and the barriers to entry meant that the very rationale for enacting price transparency worked against consumers even more intensely once prices were made public. Opponents of recent hospital-focused price disclosure bills fear the same outcome will occur, although the US market for healthcare services differs substantially from the Danish market for concrete.

Another international study provides a more helpful framework to understand the role of prices in healthcare. In 2012, Chile passed a law requiring gas stations to post their prices on a new government website. Researcher Fernando

10. Many of these concerns about consumers' ability to navigate healthcare markets were codified in Kenneth J. Arrow, "Uncertainty and the Welfare Economics of Medical Care," *American Economic Review* 53, no. 5 (1963).

11. Svend Albæk, Peter Møllgaard, and Per B. Overgaard, "Government-Assisted Oligopoly Coordination? A *Concrete* Case," *Journal of Industrial Economics* 45, no. 4 (December 1997).

Luco examines gas stations' profit margins (a proxy for consumer spending) and price dispersion over a three-year period. On average, profit margins after the law took effect increased by 9.7 percent, and price dispersion did not significantly change.[12] While these results indicate a collusive outcome similar to what happened in the Danish example, the author adds that the increases in retailer revenue varied regionally on the basis of local search behavior: areas where consumers were more likely to visit the website saw the smallest profit margin increases. The fact that consumer use of available information affects outcomes has important implications for US healthcare: "Whether margins . . . increase or decrease following information disclosure depends on whether firms or consumers use the disclosure mechanism more intensively," Luco concludes.[13] While the risk of provider collusion always looms, private companies and legislators can leverage this principle and design price transparency programs that focus on consumer usability.

University of Copenhagen economist Christian Schultz develops a model that suggests that in markets for homogeneous goods, price transparency will likely be anticompetitive and price-increasing. In markets for differentiated goods—a description that fits many healthcare markets—the effects of price transparency are ambiguous. Schultz says the result depends on whether transparency more effectively impacts consumer behavior or producer behavior. He writes, "Evidently, the better the measures can be targeted to the consumer side the better it is from a competition perspective. This may be hard, though."[14]

SERVICE CHARACTERISTICS: SHOPPABILITY AND HOMOGENEITY

One clear barrier healthcare consumers face in finding and acting on price information is that some healthcare is not "shoppable." When someone experiences a heart attack, the person's loved ones will not sit down at the computer to research the cheapest ambulance service. Formally, "shoppable medical services" are those that can be scheduled in advance.[15] According to one study, only

12. Fernando Luco, "Who Benefits from Information Disclosure? The Case of Retail Gasoline," *American Economic Journal: Microeconomics* 11, no. 2 (2019): 302.
13. Luco, "Who Benefits from Information Disclosure?," 302.
14. Christian Schultz, "Collusion in Markets with Imperfect Price Information on Both Sides" (working paper, University of Copenhagen, July 2009), 18. A revised version of this paper appears, without this final concluding remark, in *Review of Industrial Organization* 50 (2017).
15. James C. Capretta, "The New Hospital Price Disclosure Rule Is Important, but Only a First Step," *Health Affairs Blog*, August 26, 2019.

about 40 percent of the total dollars spent on healthcare services in 2011 went toward shoppable services, and less than 7 percent of the dollars spent *by consumers* on healthcare go to shoppable services.[16] Publishing the prices of services consumers never search for will not help them spend less on healthcare, and it will set up no barriers against provider collusion.

Caveats are in order about the definition of "shoppable." In many realms, we shop not for a particular product but rather for shoppers who, in turn, shop for the product. Hence, with automobiles, we may not wish to shop around for service at the time a car breaks down. However, when all is functioning well, we may shop around for warranties, so that when mechanical failure occurs, we have already long since designated a repair venue, and the residual financial risk falls on that venue or on the warrantor.

Studies that track the effects of price disclosure platforms on particular services typically find substantial price decreases for elective services and negligible results for emergency services. One study of states offering average-cost comparison websites examined hip replacement and appendectomy costs before and after the website launch dates. These surgeries have similar relative price divergence and both are offered at most hospitals, but while hip replacements are typically scheduled in advance, appendectomies are usually emergency operations. The authors find that the price charged for a hip replacement decreased by more than 7.3 percent, while the price of an appendectomy dropped by less than 1.0 percent.[17] The change occurred once states launched their cost comparison websites and was strongest in urban areas (with higher levels of competition) and among providers with the highest initial prices. These results, replicated in other studies of different services and geographical markets, demonstrate the irrelevance of price information in emergency situations but its promise in nonemergency transactions. Thus, most price transparency studies focus only on shoppable services, and any price transparency initiative will likely be successful only within this category.

Additionally, even among shoppable services, consumers often select their healthcare providers on the basis of nonprice considerations. For example, an MRI scan is a relatively homogenous service—a machine does the work—but a patient's experience during a visit to a physician's office strongly depends on the doctor's personality and manner. The patient-provider relationship is one people

16. Amanda Frost and David Newman, "Spending on Shoppable Services in Healthcare" (Issue Brief #11, Healthcare Cost Institute, Washington, DC, March 2016).
17. Hans B. Christensen, Eric Floyd, and Mark G. Maffett, "The Effects of Price Transparency Regulation on Prices in the Healthcare Industry," *SSRN Electronic Journal*, January 2013.

are willing to pay to protect; respondents to a 2017 survey overwhelmingly (77 percent) reported not considering a new provider in order to maintain an existing relationship.[18] When services are differentiated on such nonprice (and potentially nonquality) margins, price disclosure will not have much of an effect on patient behavior and thus may lead to provider collusion.[19] Empirical studies typically confirm this theory. In Christopher Whaley's study of web-based price transparency for laboratory tests, diagnostic imaging tests, and physician office visits, access to the online platform reduced lab and imaging test prices by 16 and 15 percent, respectively, but reduced the prices of office visits by only 1 percent.[20] (Whaley is a policy researcher at the RAND Corporation.)

Whaley suggests this is largely due to the personal nature of office visits. The information platform he studied also included nonprice information such as credentials and schooling, quality and safety measures, languages spoken, and patient reviews. Results show that patients who shopped for heterogenous services such as physician visits were sensitive to these other factors, even when they were not influenced by relative prices. All three of the services tracked in this study are shoppable, but only two were homogenous enough to respond to price information and competition. Thus, price transparency initiatives are most likely to succeed where services are both shoppable and relatively substitutable; these are the services for which public information is most likely to advantage consumers and enable market competition.

RAISING THE STAKES: CONSUMER INCENTIVES

However, equally important is the behavior of shoppers. Discouraging to many policymakers is the extremely low usage rate of price disclosure platforms even where they are available. Although a majority of people support better price transparency and say they would use a price comparison tool if one were available, few realize they already have price comparison tools at their disposal. Most private health insurers, and all the major national carriers, offer tools to compare expected out-of-pocket costs.[21] In 2012 an estimated 70 percent of enrollees in

18. Ateev Mehrota et al., "Americans Support Price Shopping for Healthcare, but Few Actually Seek Out Price Information," *Health Affairs* 36, no. 8 (August 2017).
19. Christopher M. Whaley, "Provider Responses to Online Price Transparency," *Journal of Health Economics* 66 (July 2019).
20. Christopher M. Whaley, "Searching for Health: The Effects of Online Price Transparency" (working paper, October 2015).
21. Chapin White et al., "Healthcare Price Transparency: Policy Approaches and Estimated Impacts on Spending" (Policy Analysis, West Health Policy Center, Washington, DC, May 2014).

private plans had access to a price tool (double 2011's estimated 35 percent).[22] By 2014, a survey study indicated that 94 percent of health insurance plans enabled price shopping in some form, and frequently for common, shoppable services such as outpatient surgery and radiology.[23] Customers simply do not use these platforms. To better understand particular consumer search patterns, researchers Anna Sinaiko and Meredith Rosenthal evaluated the use of a web-based search tool offered by Aetna, a major national insurance carrier, in 2011–2012. Ninety percent of Aetna's 16 million enrollees had access to the platform during the study, but only 1.6 percent actually searched in 2011.[24] That number rose to 2.4 percent in 2012. Another study of a smaller insurer-offered price estimator found that only 10 percent of users so much as logged onto the website within the first year, and only 3 percent searched on more than one occasion; and in fact, over the course of the study, researchers observed a slight *increase* in patient spending.[25]

The divergence between consumers' desires for more price information and their demonstrated use of the available information presents a puzzle for insurers and a warning for lawmakers. Private carriers are already experimenting with different approaches to increase awareness of price tools, from social media ads to online "Healthcare University" programs with interactive videos and quizzes.[26] On the state or national scale, legislators must consider what this disparity says about the existing incentive structures price transparency laws face.

Granted, since most research into the effects of price disclosure is relatively short term, spanning just a few years post-implementation, time will tell whether healthcare service shopping could become a norm, lowering costs over decades rather than months. But several barriers stand in the way of this possibility.

By far the biggest reason for high and rising healthcare prices is the simple lack of incentives to lower spending. Insurance plans protect patients from astronomical medical bills, and insurers negotiate with providers for reduced payments, but they also insulate their customers from the full financial weight of their health decisions—in the realms both of healthcare and of other decisions that influence health (e.g., diet and exercise). In 2018, out-of-pocket payments

22. Anna D. Sinaiko, "Examining a Healthcare Price Transparency Tool: Who Uses It, and How They Shop for Care," *Health Affairs* 35, no. 4 (April 2016).
23. Aparna Higgins et al., "Characterizing Health Plan Price Estimator Tools: Findings from a National Survey," *American Journal of Managed Care* 22, no. 2 (February 2016).
24. Sinaiko, "Examining a Healthcare Price Transparency Tool."
25. Sunita Desai et al., "Association between Availability of a Price Transparency Tool and Outpatient Spending," *JAMA* 315, no. 17 (May 2016).
26. Higgins et al., "Characterizing Health Plan Price Estimator Tools."

accounted for only 10 percent of overall healthcare spending.[27] So it is not surprising that, for example, when insured employees at a large firm gained access to price information from Compass Professional Health Services, a third-party platform, their spending on care dropped by only 1.6 percent.[28]

Because Compass tracks the usage of the prices it displays, researchers were able to learn more details about the consumers who searched than most price disclosure studies allow. Most of the changes in spending came from visiting a new, cheaper provider rather than from forgoing care; at least 90 percent of searches resulted in use of the searched service. But in general, patients who had already reached their insurance plan's deductible were 90 percent less likely to search for price information. Patients who had not yet met their deductibles were slightly more responsive to the displayed prices, spending 1.8 percent less on their care, while patients who had already surpassed their deductibles were much less responsive, spending 0.7 percent less. These results align with Stigler's theoretical model: when the buyer is not responsible for paying much of the final price, the cost of searching becomes high relative to the potential personal savings, so the buyer will not shop much or at all. People will only use price information when they have the incentive to do so. And it's worth noting that a 1.8 percent reduction in costs may not be worth the time required to shop around.

Some experts take this economic reality to indicate that price transparency will only work when it is paired with other initiatives that increase consumers' "skin in the game." Consider the multistep rollout of Safeway's high-deductible employee insurance plan in 2010.[29] Safeway first introduced an online price comparison tool, which displayed the negotiated price and expected out-of-pocket costs. Researchers tracked the prices of laboratory tests and diagnostic imaging tests to measure success. They saw no change in the first year of access. But in 2011, Safeway introduced reference pricing, a payment structure in which the patient pays all additional costs above a set price threshold; in this instance, the reference price for lab and imaging tests was set at the 60th percentile of the local market's distribution. Once employees bore the cost of selecting a

27. Centers for Medicare and Medicaid Services, "National Health Expenditures 2018 Highlights," accessed July 21, 2020, https://www.cms.gov/files/document/highlights.pdf.
28. Ethan M. J. Lieber, "Does It Pay to Know Prices in Healthcare?," *American Economic Journal: Economic Policy* 9, no. 1 (2017). Notably, Lieber also found that the effect on nonemergency care was similar to the baseline result, but the price change in emergency services was negligible, lending credence to the importance of shoppability.
29. Christopher Whaley, Timothy Brown, and James Robinson, "Consumer Responses to Price Transparency Alone versus Price Transparency Combined with Reference Pricing," *American Journal of Health Economics* 5, no. 2 (Spring 2019).

pricier-than-average service, the average price of a lab test fell by 27.2 percent and the average price of a diagnostic test fell by between 12.5 and 13.6 percent, depending on the test type. The dispersion of prices also shifted down. This natural experiment shows that even a high deductible may not encourage consumers to search for prices, but a more direct incentive such as reference pricing raises the expected costs enough that search costs become worth it.

IF WE MAKE IT, THEY WON'T COME: PLATFORM USABILITY

There is also some evidence that the usability of the platform itself affects whether and how people use its information. A common complaint against early price transparency initiatives was the inscrutability of the complicated, jargony tables hospitals published online. Returning to Stigler's model, a complex delivery method increases the cost of price searching and discourages buyers from using the information. Additionally, consumers tend to conflate higher prices with higher quality, even where evidence shows little justification for said conflation.[30] This means that even a well-designed price comparison platform could be thwarted in its mission, steering users toward *higher*-priced services because the users falsely assume those services are "better." In other words, information delivery and contextualization are critical.

With this in mind, HealthCore's Sze-jung Wu et al. followed the impact of an insurer-provided, telephone-based alternative.[31] The literature reviewed thus far has focused on web-based platforms, where usage rates have been extremely low. But in 2010, AIM Specialty Health, a large nationwide benefit management company, introduced a different sort of price transparency initiative for MRI scans, one of the most common elective procedures in the United States. Within the study, MRI scans of the same quality ranged from $300 to $3,000, so potential savings were high. When a customer scheduled an MRI appointment, if there was a local option at least $400 cheaper, an AIM staff member called the customer and offered to change the appointment, only if the customer wanted. The staffer shared the negotiated prices, as well as information about relative quality ratings of the imaging providers available.

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30. Peter S. Hussey, Samuel Wertheimer, and Ateev Mehrotra, "The Association between Healthcare Quality and Cost: A Systemic Review," *Annals of Internal Medicine* 158, no. 1 (January 2013). It is important to remember that the quality dimensions that matter to scholars may not be identical to the dimensions that matter to consumers.

31. Sze-jung Wu et al., "Price Transparency for MRIs Increased Use of Less Costly Providers and Triggered Provider Competition," *Health Affairs* 33, no. 8 (August 2014).

Over two years, the program led to a $220 average reduction in overall price per scan (18.7 percent).[32] Despite not personally pocketing all these savings, more patients opted for lower-priced providers, and regional price dispersions dropped by an average of 30 percent. Wu et al. suggest that *overall* MRI costs fell by $57 per test in regions where the initiative was piloted. They attribute this above-average success to the phone service: "In contrast to the more commonly employed passive websites, this intervention program included outreach to members when they were scheduling an imaging procedure."[33] We cannot here address the myriad problems and costs that might arise from implementing a phone-based program like this at scale, but the results demonstrate the value of making price disclosure usable for the general public.

Another way to increase usability could be to broaden the set of shoppable services through bundled, or episode-based, pricing. Under a bundling scheme, hospitals and other medical providers receive one fixed payment for all the services, equipment, and administration involved in a common "episode" of care, such as a surgery or a baby delivery. Bundled payment structures are becoming more popular in the healthcare industry, especially since the Centers for Medicare and Medicaid Services launched its Bundled Payments for Care Improvement Advanced (BCPI Advanced) program in 2018. The Centers for Medicare and Medicaid Services lists 32 inpatient and outpatient procedures for which it would pay providers (only those who volunteer for the program) a lump sum for all the services a patient requires during the procedure; the list includes clinical episodes such as cellulitis treatment, coronary artery bypass grafts, and major joint replacements.[34] The five-year program will "begin [to populate] the market with meaningful prices that consumers can understand," argues policy analyst James C. Capretta.[35] Indeed, the translation of a hospital's service-by-service chargemaster data into a standardized care bundle is an arduous process, but it is one already underway in the private market.

It should be noted that bundling itself presents problems. If *only* standardized bundles are available, then this can amount to a tying arrangement, enabling sellers to elevate prices for the combined goods. This is because bundling means that customers cannot opt out of paying for any component of the bundle;

32. Wu et al., "Price Transparency for MRIs."
33. Wu et al., "Price Transparency for MRIs."
34. Centers for Medicare and Medicaid Services, BPCI Advanced, "General Frequently Asked Questions (FAQs)," accessed July 21, 2020, https://innovation.cms.gov/Files/x/bpci-advanced-faqs.pdf.
35. James C. Capretta, "How to Make Health Care Prices Transparent," *RealClearPolicy*, May 25, 2018.

it's the whole bundle or nothing.[36] This is why many tying arrangements are prohibited by antitrust law.

An encouraging story comes from Ohio, where Pomerene Memorial Hospital worked for years with the local Amish community to offer up-front, bundled pricing for more than 300 common services. Many members of Amish and other Mennonite churches prefer to pay for healthcare in cash and were desperate to know what costs to expect before agreeing to treatment. The initial pricing process for inpatient stays took hospital administrators nine months.[37] Pomerene Memorial's eventual success story reveals both the drawbacks and the immense benefits of bundled payment structures: organizing chargemaster information into comprehensible and consistent units is grueling and costly, but if it takes administrators at a small hospital nine months to do, imagine what a large value-add it would be for consumers who do not interpret chargemasters for a living.

Early assessments of bundled payment show that it tends to increase physician efficiency and slightly decrease overall spending.[38] When patients can shop for standardized, prepackaged units of care they already understand, they can compare prices and make decisions with greater certainty.

Healthcare is fraught with unfamiliar terminology, and consumers must overcome their general ignorance of stakes, alternatives, and quality. And—as with most other industries—price is not the only factor that matters. (Consider law, engineering, computers, automobile repair, etc.) David Goldhill, CEO of online health network Sesame, describes how treatment can be differentiated on a variety of important, but nonprice, factors, particularly a provider's error rate.[39] This kind of information about quality should accompany price disclosure if policymakers want patients to choose higher-value care. In an experiment testing the impact of various price platform designs, participants were most likely to

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36. Here's an illustration of a tying arrangement: Amelia is willing to pay $8 for beer and $2 for pizza—or $10 for both. Brad is willing to pay $5 for beer and $9 for pizza—or $14 for both. The pizzeria can set the price of beer at $5 (in which case Amelia and Brad will both buy one) or at $8 (in which case only Amelia will buy one). Since $10 > $8, the beer price will be set at $5. Similarly, the pizzeria can charge $2 or $9 for pizza: it chooses $9 and only Brad buys a slice, but $9 > (2 × $2). Total profits will be $10 + $9 = $19. But if customers can only purchase a beer-and-pizza combo, the pizzeria charges $10: both patrons buy the combo, bringing in $20 in revenues. Tying the goods together increases what customers pay.

37. Harris Meyer, "Hospital Develops Package Prices to Lure Cash-Paying Patients," *Modern Healthcare*, February 2, 2019.

38. Caitlin Carroll et al., "Effects of Episode-Based Payment on Healthcare Spending and Utilization: Evidence from Perinatal Care in Arkansas," *Journal of Health Economics* 61 (September 2018).

39. David Goldhill, *Catastrophic Care: How American Health Care Killed My Father—and How We Can Fix It* (New York: Alfred A. Knopf, 2013), 85.

pick the highest-value provider (the best price-to-quality ratio) when they used a tool that displayed cost and quality information side by side.[40] Those who saw cost estimates but no quality indications were much more likely (wrongly) to conflate price with quality and select a higher-priced provider.

Of course, information asymmetries are not unique to healthcare; any complex service, from law to auto repair, is likely to perplex a consumer at some points. However, in some industries, the third-party information mediators that Stigler predicts emerge to bridge the information gap, as (for example) *Consumer Reports* does for appliances and electronics. Health insurance providers are beginning to experiment with similar information platforms—recall the Aetna example discussed above. We can expect the same market processes that refined the usability and availability of other information platforms to have a similar, although limited, effect on those offered by insurers. In any market, especially healthcare, price disclosure cannot be effective in a vacuum; those who hope to communicate prices must also communicate the meaning behind those prices.

It is worth noting here that, because health insurers negotiate discounted rates for their customers with certain hospitals and physicians, they complete the first "step" of price shopping on behalf of their customers. The standard service charges posted on hospital chargemasters, which are calculated prenegotiation, vary widely,[41] and they must be kept above whatever price per service hospitals charge Medicare and Medicaid to remain profitable.[42] Insurers can privately negotiate to bring these prices down, but research suggests that the amounts actually paid are quite varied, even in similar markets, and they may be different between insurers even within the same hospital.[43] We know very little about what these contracts look like or how much flexibility they would allow hospitals responding to external pressures from price disclosure. Some scholars have attempted to deduce information about health insurance contracts from payment databases and hospital surveys, and we know that fixed-rate plans—in which the insurer pays the hospital a predetermined amount for a service, rather than a percentage of the total—are becoming more common.[44]

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40. Judith H. Hibbard et al., "An Experiment Shows That a Well-Designed Report on Costs and Quality Can Help Consumers Choose High-Value Healthcare," *Health Affairs* 31, no. 3 (March 2012).
41. Chapin White, Amelia M. Bond, and James D. Reschovsky, "High and Varying Prices for Privately Insured Patients Underscore Hospital Market Power" (Research Brief No. 27, Center for Studying Health System Change, Washington, DC, September 2013).
42. Goldhill, *Catastrophic Care*, 187.
43. Sinaiko, Kakani, and Rosenthal, "Marketwide Price Transparency."
44. Ellerie Weber et al., "Peering behind the Veil: Trends in Types of Contracts between Private Health Plans and Hospitals" (working paper, November 2018).

Finally, the initial round of shopping and negotiations that insurers conduct does little to inform individual patient decisions in real time, because it does not address the value judgments and choices—especially between treatment options—that only individuals and their families can make. Discussing his father's death, Goldhill wrote that "Medicare served as the real customer for my father's care," but the program "had no conversations with the hospital about my father's treatment; it didn't ask for treatment alternatives." Bills only showed up after his father's death, so the hospital didn't have to weigh the alternatives from a cost standpoint; the hospital "already knew what Medicare would and would not reimburse."[45] All this reinforces the idea that actionable price information will come to consumers from their own insurance provider, postnegotiation—not directly from their hospital or physician.

REAL-WORLD IMPLEMENTATION

This paper intends mainly to examine the conditions that might make a price transparency initiative *more* helpful to the public and thus focuses on localized or narrow studies of various disclosure platforms. But transparency efforts happen at the state level, too; the majority of states have in the past 15 years implemented different types of price transparency regulations and websites. The impact of these efforts is much harder to quantify, because of the presence of many potentially confounding factors, but we may use some of the criteria outlined above to evaluate their structure.

A 2013 "census of state healthcare price transparency websites" takes stock of the types of information states typically offer to their residents.[46] Of 62 state-based websites (maintained by state agencies or hospital associations), over 70.0 percent reported prices for inpatient care, such as surgeries and treatment for medical conditions. Only 37.0 percent offered information about diagnostic imaging procedures, and very few reported laboratory test prices (9.7 percent). Moreover, the vast majority (80.0 percent) of websites reported billed charges, not negotiated prices, and less than 10.0 percent took the searcher's insurance plan into account. Only 13.0 percent of websites included quality indicators. In other words, prices available at the state level are primarily for nonshoppable services, do not indicate the patient's expected expenditure, and do not emphasize the overall value of a service. These patterns clearly do not reflect best practices for

45. Goldhill, *Catastrophic Care*, 91.
46. Jeffrey T. Kullgren, Katia A. Duey, and Rachel M. Werner, "A Census of State Healthcare Price Transparency Websites," *JAMA* 309, no. 23 (June 2013).

medical-service price reporting. We would not expect these websites to influence consumer behavior.

A 2020 study by three business professors, Hans Christensen, Eric Floyd, and Mark Maffett, analyzes the prices over time of five common procedures in 27 states that began disclosing prices on public websites between 2005 and 2009. The authors find that price transparency did not, in general, affect final payments or consumer search behaviors, but it did lead hospitals to reduce their posted charges by around 5 percent. They conclude that "reputational costs of perceived overcharging is the most likely explanation for the reduction in charges."[47] However, since the slightly lower charges did not influence final payments, the primary role for charge disclosure seems to be a small political victory for hospitals and lawmakers.

New Hampshire was an early adopter of price transparency, launching its HealthCost website in 2007. The site displayed bundled costs of 30 common healthcare services and included insurer-specific cost estimates. Outside evaluators tracked the prices of five of those services, some more shoppable than others,[48] to evaluate the program and found no impact on prices or price dispersion over two years.[49] In their report, they suggest that the underwhelming results are owing to a lack of financial incentive to use the system, because at the time less than 5 percent of New Hampshire residents had high-deductible insurance plans. They also suggest that patients' "long-standing, deeply held preferences," particularly for religiously affiliated hospitals, kept them from pursuing cheaper options; in other words, consumers kept making choices on nonprice margins. These outcomes align with our expectations about the characteristics of a successful price transparency project.

PRICE TRANSPARENCY: ONE TOOL AMONG MANY

The long-term success of the Trump administration's efforts to lower patient spending through price transparency will depend on the details of implementation. Requiring hospitals to post charge information will likely

47. Hans B. Christensen, Eric Floyd, and Mark G. Maffett, "The Only Prescription Is Transparency: The Effect of Charge-Price-Transparency Regulation on Healthcare Prices," *Management Science* 66, no. 7 (2020).
48. The five tracked services were knee surgeries, colonoscopies, MRI scans, ultrasounds, and emergency room visits.
49. Ha T. Tu and Johanna R. Lauer, "Impact of Healthcare Price Transparency on Price Variation: The New Hampshire Experience" (Issue Brief No. 128, Center for Studying Health System Change, Washington, DC, November 2009).

not decrease overall spending unless policymakers can somehow clarify the incentives facing consumers by including insurer-specific information and out-of-pocket cost estimates. Requiring insurers to disclose price information has greater potential, but only for services that are shoppable and homogenous, and only if the insurer can entice its customers to *use* the price tools available to them, whether through easily comprehensible bundled care structures or through reference pricing. Price transparency brings sensible economic reasoning into the healthcare debate, but proponents should take note of its extreme limitations in the face of complex market structures and should consider it, at best, one tool among many to help Americans make better-informed, higher-value decisions about their healthcare.

In sum, transparency requirements must be applied surgically, as with a fine scalpel, and not bluntly, as with a machete. And, as a final thought, lowering barriers to entry for providers may be a better strategy than price transparency for achieving cost reduction. Examples include easing physician licensure requirements, eliminating certificate-of-need laws, allowing more telemedicine, and allowing broader scope of practice for nonphysician providers.[50]

50. For these and further examples, see Jared M. Rhoads, Darcy N. Bryan, and Robert F. Graboyes, "Healthcare Openness and Access Project 2020: Prerelease" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, March 2020).

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