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What's Exciting about Consumer Medical Price Transparency?

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Abstract

What is the message? Despite federal medical price transparency rules, U.S. consumers continue to face challenges in determining costs for medical services. Consumer-friendly price transparency software applications remain largely elusive. Could big tech provide much-needed solutions?

What is the evidence? The author outlines a use case to compile disparate data into an actionable platform to deliver digital services to consumers.

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Economists teach that robust markets require high-quality products, consumers willing to buy, and price information for the service or technology being purchased. And yet, because healthcare pricing can be opaque and confusing, a prospective U.S. healthcare consumer will likely encounter frustration when trying to find out the price of an MRI. They might search online, only to be met with a lack of transparent pricing information. Calling healthcare providers

may lead to long hold times and vague answers, or maybe remarks like, “it depends on how we provide the service,” adding to the frustration. Ultimately, the consumer experience highlights the systemic issues within the U.S. healthcare system, where pricing transparency remains a significant challenge.

Consumer medical price transparency has been a concept for over 100 years. It’s just never been called that. Before the age of private health insurance, almost all of U.S. healthcare was cash-based (like many healthcare markets around the world, and like cosmetic surgery markets in the United States); consumers were concerned about medical care prices. Beginning with the Great Depression of the 1930s, private health insurance entered the market throughout the United States and began to insulate consumers from direct payment for medical care. Today, with the high cost of insurance and models like high-deductible health plans, there is new interest in price transparency, driven by the current and previous presidential administrations. This new effort has the potential to finally give consumers prices and choices at the point of sale in a way not seen in American healthcare since the 1920s, when the probability of entering a hospital for an inpatient stay and exiting alive was a coin-toss.

In 2019, the Trump administration began to pursue two separate courses for price transparency through Executive Order [1]. The first effort was a federal rule that required all hospitals to list prices for shoppable services for specific Current Procedural Terminology (CPT®) and diagnosis-related group (DRG) codes. This hospital price transparency rule has received the most notice in academic literature and public policy discussions. The second Trump administration effort was to create a private insurer requirement to disclose on a monthly basis the allowed charges (i.e., provider payment plus patient cost-sharing) for all providers’ CPT codes. In other words, each health plan is now required to post their previously confidential prices actually paid to hospitals, not the hospital charges billed to the plan. Using these data, we can now see the actual prices, and variation in prices, across health plans for each hospital.

To make these data accessible, the federal requirement mandated that insurers must publicly post machine-readable files [2]. The goal from the beginning was that in structuring data this way, software application developers would be able to harness the disclosed records and transform them into consumer-friendly price transparency applications. Although the Biden administration revised or terminated many Trump administration executive orders, the price transparency rules were left unaffected. In fact, the Biden administration embraced and fully

executed them. As of July 2022, the insurer price transparency rule went into effect, and after that, almost every major US health insurer has disclosed their negotiated prices every month [3].

We have now had some time with these new rules to assess whether the price transparency strategy has succeeded as envisioned. Nearly two years since the requirement went into effect, what innovations have the data generated? Researchers have begun publishing their analyses of this data trove (see for example: https://hmpi.org/2023/12/10/price-variability-of-heart-transplant-and-ventricular-assist-procedures-across-the-united-states/). But the intent of this effort was to drive the data to consumers. While a handful of firms use the data to give consumers access, little of it has become the ultimate consumer shopping tool originally envisioned. Imagine the potential of medical price transparency for consumers with an experience similar to what they get shopping on Amazon or any other easy-to-use web-based interface largely platformed on a smartphone. Are we there yet? Sadly, the answer at this point is no.

But there is hope on the horizon, or at least an opportunity to argue that there are glimmers of hope. In 2023, I published a paper estimating the cost savings from transparency tools applied to the 70 shoppable services that CMS specified for consumer medical care shopping. [4] I assumed cost savings of approximately 40% or so associated with cash-based pricing for these medical services, based on earlier estimates by Laffer and VanHorn [5]. For insured patients, several scenarios were modelled, with variations based on different assumptions. The highest estimate was $80.1 billion in savings to the U.S. healthcare system, while the most modest was $17.6 billion in savings. These are annual savings estimates, with expectations that they will increase as medical care inflation increases. However, these estimates require consumer technology on the scale of Amazon, Apple, or Google entering this market and making these prices available to consumers for shopping.

Rationale For Entry by Big Tech

While these tech giants have yet to emerge in this market, the opportunity is ripe for them to do so. Here are three reasons why:

The first is that the insurer files were structured entirely for big tech. Right now, the average

entrepreneur who wants to engage in this market needs to be able to download hundreds of terabits of data every month. As noted in an early data blog column [6], the amount of data currently being released monthly by private insurers, uncompressed, runs into the petabyte range, dwarfing the Library of Congress, the LibGen catalog, the full English Wikipedia, and the entire HD Netflix Catalog — combined. The average entrepreneur working in this space must procure data storage space from cloud providers if they do not have the data stored on their own servers. A 2022 start-up firm downloading these data estimated a data storage cost of $85,000 per month through Amazon Web Services. Large tech platform companies are ideally suited to this task. They have already internalized their storage costs for a task like this. When the Trump administration designed the specifications for price transparency, the federal rule was written with the assumption that large-scale tech platforms could machine-read the data (based on a JSON file structure) and summarize it quickly. Thus, big tech firms can do precisely with these files what they excel at: downloading the data quickly, stripping out the necessary information, and putting the data together into consumer-usable applications.

The second reason big tech should engage is that they have been searching, largely unsuccessfully, for game-changing applications in the healthcare market that makes up 18% of U.S. GDP. Many who have watched this space for the better part of 25 years, when healthcare e-commerce emerged as a topic back in the late 1990s, know that these tech firms have seen limited successes in the health sector. For example, Amazon has been successful with PillPack and their echocardiogram device. Still, the market in which they operate is limited. On the other hand, their endeavors to acquire primary care practices and develop a medical care market have improved with the combined store front of Amazon Health and primary care clinics (One Medical), telehealth, and online pharmacy [7]. Google Health has tried different efforts in this market but has yet to achieve the potential of what it envisioned or delivering a product/service with the same ubiquity of their search engine. Other tech firms, ranging from Best Buy to Apple and Facebook, have explored this space but also without breakout success. Thus, they've essentially left relatively untouched a $4.5 trillion US opportunity for digital transformation. For these firms, there should be an opening to build from these new data to kickstart this market at scale.

The third reason big tech should move into this market is that consumers already trust their platforms. On the transaction side, many millennials and older consumers know that the notion of actually sharing credit card information on the Internet to buy a product was considered risky

in 1996, two years after Amazon was birthed as an alternative to Barnes & Noble bookstores. Yet, firms took that risk seriously and, in the end, security and convenience trumped that risk concern for the average consumer. Today, almost all Internet commerce operates on credit card platforms, with reliable websites offering a relative degree of safety, and the consumer's privacy concerns have diminished. The need for convenience should be one of the primary reasons medical price transparency through tech firms has the most significant potential to shape the market.

On the data side, consumer tech firms have already proven to consumers some degree of data security. Without this assurance, we as a society would not buy a range of digital services, from streaming services to online banking to shipping logistics, that are entirely dependent on daily credit card transactions operating in microseconds. Of course, medical privacy is a significant concern for any consumer. The new shopping tool could reveal confidential medical information – how else could someone shop for the price of a total joint replacement or some more sensitive medical procedure.

Back to the Market

This all comes together with some very novel service concepts for consumers. Outside of the federal transparency rule, the 21st Century Cures Act and subsequent federal regulations included a critical provision that reconfirmed consumer ownership of their medical record data [8]. While most consumers think of their medical records as simply information that medical providers access when they are seen, they should also understand that the documentation that health insurers keep from claims data is, while not comprehensive in terms of medical detail, still quite revealing regarding the timing, pricing, and sources of care. In fact, in some instances claims data is superior to many very siloed hospitals' electronic medical record systems!

The 21st-century Cures Act permits the consumer to ask for their medical record data and their health insurance data from United Healthcare, Aetna, Humana, or any other major health insurer. Now imagine if a big tech firm representing that consumer has consent to access their insurer data and their medical records [9]. The tech firm could then use a combination of medical price data from the insurers and abstraction of their claims records to examine the consumer's previous medical care preferences and care pattern. With this information, the firm can predict future health needs and provide real shopping options. It could help consumers shop

for future primary or secondary prevention services, or for medical procedures. It could also highlight that given their utilization pattern, a given insurer has the best prices in their local market.

Integrating health data will require technology firms to obtain adequate and clear patient consent and abide by strict data privacy protocols. Once the insurers provide their data, the claims data will effectively provide a longitudinal record locator to find additional clinical data from the medical providers that rendered services and were paid by that insurer.

The insurer data trail must be maintained for between five and 10 years, regardless of whether that person has left that health plan. Why is this information valuable? A person's medical data might be spread across disparate health systems; for example, imagine a snowbird living between Minnesota and Phoenix. While both healthcare systems may use the electronic health record software from Epic, the largest platform in the United States, they may need to have those systems connect and share data. Because the customer has a health benefit with insurance claims being paid to both providers in Phoenix and Minneapolis, they can see all those transactions and effectively reach out to those medical providers for additional data. Now, this may seem like an odd way to get one's medical data, but the digital data ecosystem for a patient is vastly complex and not always interconnected. The best mechanism to see a timeline of a person's prior medical history is the very clunky yet highly efficient health insurance claims data trail of the consumer's journey.

Transforming Healthcare

We have just outlined a pretty compelling use case to bring together disparate data into an actionable platform to deliver digital services to consumers. While the personal health record is an ideal architecture for service delivery, it has never achieved its promise in the U.S. A price transparency tool on smartphone should provide the right catalyst for consumer engagement since most of us now care about healthcare prices. Why would big tech care? Because they've tried in so many different ways to get the consumer to hand-enter their data or scan their data and largely failed. If as an alternative big tech can get consumers' permission to extract the data that is already in electronic form, they would automatically create the continual data feed sought by either Apple or the Google health platforms. That, combined with a robust shopping experience, would enable the medical price transparency revolution that folks are so eagerly

waiting for.

Will this transformation be easy? Not likely, based on a recent survey data from Vanderbilt University: 78% of Americans surveyed expect prices to vary less than twice the price [10]. Most consumers need to realize that there could be a sixfold variation for the same medical procedure in the same geographic area and potentially the same hospital system [11]. This lack of consumer awareness is a primary stumbling block to getting consumers to see the value of medical price shopping tools. As already discussed, consumers with high-deductible health plans are concerned about paying for care before that deductible has been met and keeping costs low, so they would benefit from such technology. Furthermore, for millennials and most likely Gen Z, who are the true digital natives in this space, the potential for pinpoint-click-and-buy-and-reserve medical care might evident far sooner. What I have found in 20 years of qualitative consumer-driven health plan research is that when folks finally have a high-deductible health plan, either by choice or for security reasons, they frequently go through several stages of grief. Finally, they end with acceptance and, even more importantly, empowerment regarding medical care choice and cost.

The year 2025 is right around the corner. When I was in government, that is the year I forecasted up to $80.1 billion in savings from medical care price transparency. That estimate seems a bit premature, unfortunately. However, the opportunity is still ripe for the taking. A handful of startup firms are beginning to realize how to harvest this data efficiently and, more likely than not, will come forward with different plans to either license technology to big tech to go to the next level.

My hope is that the entrepreneurial spirit that drove the Trump and Biden administrations' federal rules on price transparency will persist. With the new insurer price disclosure information, the necessary conditions for market change have been met with petabytes of data. It is still an open question of whether we will ultimately see consumer tools that enable full medical price transparency and opportunities for consumers to own their medical data and take control of their medical lives. Realization by consumer tech of the enormous financial potential from harnessing these new price transparency data will be one sufficient condition to make it so.

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