Understanding Choice Architecture in the United States Healthcare System

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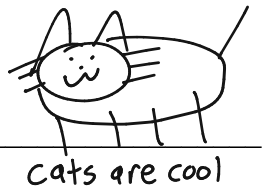
On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

Signature Evan Smith 

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Introduction

The murder of Brian Thompson, the former CEO of UnitedHealthcare, led to nonpartisan public support for his alleged killer instead of condemnation for a crime, which fundamentally goes against the framework of society (Sisak, 2025). This support was fueled by the overwhelming dissatisfaction of Americans with regard to the healthcare industry's tendency to delay paying for or covering a claim, which is indicative of the dysfunctionality of the United States healthcare system.

One factor contributing to this problem is the sheer complexity of health insurance. Roughly one-third of Americans do not know what costs are covered by their insurance, sixty percent do not know they have the right to appeal claim denials, and only half of Americans who had a problem with health insurance had the problem resolved and received treatment (Levitt & Altman, 2023). This brings one to question what the negative consequences are for the other half of Americans who did not have their problem resolved.

In 2024, sixteen percent of radiation therapy services, which are potentially lifesaving treatments for cancer patients, were inappropriately denied for patients covered by Medicare Advantage, which is offered by private insurance companies contracted with the federal government (Pasetsky et al., 2024). The only choices left for patients who face inappropriate denials are to either go through a potentially time-consuming appeals process, which still doesn't guarantee approval, pay for treatment themselves—whether out of pocket or through an unsecured medical loan—or simply abandon treatment altogether. None of these options are beneficial to the patient, especially when treatment can be time-sensitive. The obvious solution to this broader problem is to reduce the complexity of the health insurance system, but that has

not gained traction due to the conflicting interests of patients, providers, government, pharmaceutical companies, and insurance companies.

The focus of my research is to understand the perspectives of each stakeholder through the lens of choice architecture and incentives. Understanding how each stakeholder assesses their options can help make improvements by drawing attention to key flaws in those assessments, including a lack of transparency and claim denials, and what incentivizes insurance and pharmaceutical companies to maintain those flaws. With particular attention being paid to these systemic issues by a wider audience, including academics and the general public, it will be easier to encourage actionable legislation from the federal government and further research this topic from policy, economic, and health perspectives.

Methodology

As mentioned previously, the U.S. healthcare system and its handling of insurance is incredibly complex. In systems engineering, it is taught that multiple perspectives and approaches are necessary to fully understand the problems and consequences regarding complex systems. This paper is focused on answering the question: What problems regarding insurance within the U.S. healthcare system exist and why are they not being addressed? My approach to answering this question is to develop an understanding of why our current insurance system fails to serve the needs of patients from a choice architecture and incentives framework, which incorporates the perspectives of patients, healthcare providers, government, pharmaceutical companies, and insurance companies.

I have chosen choice architecture and incentives because it is the best approach for framing the insurance problem within healthcare in an understandable, intuitive manner and also highlights where issues with decision-making occur. It is important to understand how choices

are presented to the various stakeholders to identify the flaws and consequences associated with those choices. To develop an understanding of the current choice architecture and incentives, various papers from reputable, peer-reviewed academic journals and sources are utilized. The statistics and conclusions from these research papers and studies are factored into my comprehensive analysis of the current choice architecture.

Analysis

While the studies referenced in this section are representative examples, they are part of a larger body of research reaching similar conclusions. Their inclusion is intended to illustrate broader trends rather than to imply a singular or biased perspective.

The Pharmaceutical Industry and Government

It is important to note that the United States healthcare, and by extension insurance, system is not only complex but deeply interconnected. All of the relevant stakeholders have a nontrivial influence on the other stakeholders, although the strength of that influence varies. Based on publicly accessible campaign contribution data from between 1999 and 2018, the pharmaceutical industry provided $414 million to federal campaigns and spent a total of $4.7 billion on lobbying the federal government—with a primary focus toward high-ranking members of Congress—to pass industry-friendly legislation and block patient-friendly policies (Wouters, 2020). This leads to a conflict of interest for legislators, who were elected to Congress (presumably) to serve the needs of their American constituents, as these politicians require a significant amount of money to continue their campaign for reelection. Thus, these politicians are typically faced with two opposing choices: legislation in favor of the pharmaceutical companies who provide substantial funding or the citizens who voted for them.

While it is essential for a congressperson to carefully consider the interests of their constituents and the pharmaceutical industry at large, the information is not presented in a balanced manner. Connections to politicians have the highest financial cost when it comes to lobbying (Bertrand et al., 2014). Even though politicians will listen to some experts, they are still being exposed to significantly more information supporting the interests of pharmaceutical companies. Far fewer groups lobbied the federal government for benefits to the American public, such as lower drug prices, compared to groups representing industry interests (Wouters, 2020).

Due to the imbalance of information presented to federal legislators, who are key decision makers for the federal government, the choice of passing legislation in favor of pharmaceutical companies is more enticing than supporting the interests of Americans. Even if a congressperson wishes to support their constituents, it is more difficult to make the choice to do so as the pathways for getting relevant information and opinions from the public are more restrictive for grassroots organizations and low/middle income individuals due to the excessive costs associated with forming political connections and meaningfully contacting a congressperson. Lobbying by pharmaceutical companies is an important factor influencing the decisions of members of Congress, but it is one among many considerations, such as constituent needs, political strategy, and broader policy goals.

From an existing pharmaceutical company's perspective, it is important to make choices that will maximize profitability, such as enforcing patents and lobbying to keep drug prices high. These companies provide an essential service by manufacturing life-saving drugs, inhibitors, and hormones. However, many of the companies manufacturing these products are a part of a monopoly or oligopoly, where there is little to no incentive to lower drug prices. For example, an economic evaluation found that some sodium-glucose cotransporter 2 inhibitors (SGLT2Is) could

be manufactured for as low as $1.30 to $3.45 but cost hundreds of dollars for patients (Barber et al., 2024). The evaluation analyzed data between 2016 and 2023 and compared prices with 12 countries, which represented different levels of income and geographies. The companies producing SGLT2Is have patents in place to prevent competitors from manufacturing comparable products, meaning that the only things that could prevent astronomical prices are legislation from the federal government and the ability of patients to pay.

While it is the government's role to protect patients in situations like this when there is little to no competition for essential medications, lobbying from the pharmaceutical industry can help to prevent legislation which would limit the prices that can be set by these companies. As mentioned earlier, the pharmaceutical industry at large spent $4.7 billion on lobbying the federal government, which is a small drop in the bucket compared to their gross profit. Between 2000 and 2018, just 35 pharmaceutical companies made a gross profit of $8.6 trillion (Ledley et al., 2020). Even though the money spent on lobbying by these companies is small relative to their overall profitability, it is exceedingly difficult for ordinary Americans and grassroots organizations to amass enough money to lobby for their own benefit. Thus, it remains an easy decision for existing pharmaceutical companies to continue funding their lobbying efforts to help maintain extremely high prices, which comes at the expense of these medications becoming inaccessible to a considerable number of Americans.

Insurance Companies and Their Effects on Patients

The second factor that could have limited drug prices is the ability of patients to pay for them. No matter how valuable a product is and how willing the buyer is to purchase it, that product simply cannot be sold if the buyer, which in this case is ultimately the patient, is unable to afford it. Given the low cost of mass-producing a variety of drugs, pharmaceutical companies

should still be able to make a sizable profit by offering prices lower than current market prices (even when accounting for recuperating research and development costs). However, these companies are able to attach a high price tag to their drugs because of health insurance, which will cover these exorbitant costs under certain conditions.

Health insurance exists to mitigate the financial risk associated with covering medical expenses for unexpected and/or serious health problems (Institute of Medicine, 2001). By nature, it is meant to cover costs that most Americans would not be able to afford normally. This is done by effectively distributing the costs between all of the people enrolled in the insurance program. Both government-provided and private insurance plans exist to cover the high costs associated with healthcare, although this means that pharmaceutical companies only have to ensure their products are 'affordable' through insurance. This means that when making choices regarding the pricing of their drugs, pharmaceutical companies will attempt to align their prices with the maximum an insurance company could cover.

Just like pharmaceutical companies, private insurance companies are also incentivized to make a profit in order to remain in business as well as to satisfy their owners and shareholders. One way they can increase their profits is to collect monthly payments from their customers and simply not spend that accumulated money. In addition, health insurance companies tend to have both a large regional/national presence and employee count, meaning that it can be difficult for individuals to dispute claims and have them resolved in a timely manner.

With an incentive to make more money by not using it to cover healthcare expenses in addition to a vast amount of human and financial resources, the most obvious choice for private insurance companies to make is to deny a majority of their patients' healthcare claims, even when medical professionals believe the care is necessary. A study conducted in 2019 observed

that 64% of patients faced initial denial and that after appealing 32% of denials were maintained by their insurance companies regarding approval for proton beam therapy, which is a potentially lifesaving treatment for cancer patients (Gupta et al., 2019). It was also noted that patients covered by private insurance had higher initial denial rates in addition to increasing how long a patient has to wait for their treatment to begin compared to patients covered by Medicaid.

Insurance companies are able to stall the amount of time it takes for a patient to receive treatment through prior authorizations, which require significant amounts of paperwork to be sent back and forth between a healthcare provider and the insurance company. This negatively influences how options are presented to patients, as it makes treatments/therapies which are not ideal a more appealing option as treatment can begin in a shorter time frame compared to waiting weeks or even months for the most effective treatment to be approved. Even worse, when having to choose between these options, some patients may end up choosing not to receive any treatment at all. In the study mentioned earlier, 19% of patients who were denied discontinued seeking radiation treatment entirely (Gupta et al., 2019).

In addition to complications added by insurance, patients also must make decisions regarding treatment without knowing the financial burden that will be imposed upon them. Some Americans do not know what is and is not covered by their insurance policy (Levitt & Altman, 2023) in addition to treatment costs generally not being presented upfront by healthcare providers, especially because costs may differ based on the insurance policy and the rates negotiated between the provider and insurance company. It is incredibly difficult for a patient to make an informed decision regarding treatment when they are unaware of the financial cost associated with each choice relative to the benefit.

Choices Faced by Healthcare Providers

Healthcare providers are also faced with conflicting decisions regarding their interactions with insurance companies and patients. Providers ultimately exist to provide care to patients and ensure their life and well-being, but this sometimes conflicts with the interests of insurance companies. Providers are able to negotiate lower prices for their patients with some insurance companies to secure in-network rates, but not all of them. The rest of their patients who are insured will be burdened with out-of-network prices, which are typically much higher than their in-network counterparts.

Healthcare providers may not always know straight away how much a treatment will cost a patient because of the convolution added by varying insurance policies, especially with regard to coverage. Despite the administrative burden that insurance companies place on healthcare providers, providers are highly incentivized to negotiate and collaborate with these companies as it is usually the only way a patient has a chance to afford treatment without going into medical debt. This comes at the cost, however, of having to deal with high denial rates from insurance companies for potentially life-saving treatments that the healthcare provider deems necessary for a patient.

How Everything Connects

The choices faced by the federal government, pharmaceutical companies, insurance companies, patients, and healthcare providers are clearly intertwined and maintained by competing interests and differences in political and financial influence. The current system is dysfunctional as it supports artificially high prices of life-saving medications through political lobbying and insurance companies while those same insurance companies will deny the coverage of life-saving treatments to increase profitability. Healthcare providers must still interact with

and prefer insurance companies as they are, in essence, a necessary evil despite the indirect harm done to patients through administrative delays and varying prices. At the center of it all, the most effective treatments and medications become choices that patients are effectively unable to choose unless they are able to wait for weeks or months to receive approval from their insurer, if they have one at all. Uninsured patients have the worst burden, as they usually must pay the full amount of the artificially-inflated medication/treatment costs out-of-pocket, which can lead to an immense amount of medical debt.

While there is no silver bullet solution for solving the problems regarding the United States healthcare system, potential solutions to mitigate the problems in both the short- and long-term exist. For instance, increasing the transparency—with a focus on monetary expenditures and interests/positions lobbied for—surrounding lobbying efforts by large corporations could lead to increased accountability from the wider public. Additional restrictions or spending limits on lobbying from large corporations could also limit how much a particular company can influence health-related legislation. Incentivizing the lowering of medicinal and treatment costs and the increasing of insurance coverage/availability through the introduction of new policies and regulations could improve the pricing situation in both the short- and long-term depending on the structure, although these policies would have to be closely monitored for loopholes and negative impacts to patients.

Conclusion

Ultimately, the federal government is at odds with balancing the interests of pharmaceutical and insurance companies with the interests of their constituents, the patients. Legislators are incentivized to pass laws in favor of the companies as those companies have increased representation and influence through lobbying and campaign funding. Meanwhile,

insurance companies enable the predatory prices of life-saving medicines set by pharmaceutical companies who have little to no competition. The same insurance companies focus on making a profit by denying coverage for expensive, albeit life-saving treatments. Despite the problems imposed by insurance companies, patients continue to pay into insurance policies due to a lack of viable alternatives while healthcare providers must negotiate with those companies. Patients who need care the most but cannot afford it or obtain coverage—despite their provider's recommendations—are the most impacted by the U.S. healthcare system's shortcomings.

By highlighting problems pertaining to the U.S. healthcare system and why they aren't being addressed from a choice architecture and incentives perspective, this paper lays the foundation for a deeper understanding of the vicious cycle within the system. These findings imply that a radical change—such as nationwide protests or restrictions on lobbying—is necessary to reform U.S. healthcare, which could impact medical, economic, and policy-related fields. However, this paper's reliance on a subjective analysis through the lens of choice architecture and incentives may lead to differing interpretations among experts. Future research should aim to further understand the choices and incentives faced by various stakeholders in the U.S. healthcare system, as effective legislation depends on a comprehensive understanding of the problem and the identification of key areas for meaningful reform.

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