Understanding the Negative Effects of Big Pharma's Profit-Motivated Drug Price Inflation

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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

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ABSTRACT

This paper performs an analysis of how Big Pharma, as an unofficial representative conglomeration of the world's largest pharmaceutical companies, has utilized medical drugs as a political technology to increase their own influence and financial success. To draw a rational conclusion, two key pieces of evidence will be presented. The first is to illustrate the high levels of price gouging insulin undergoes . When applying this practice to the marketing of insulin, it will be evident how unjust Big Pharma can be to patients in need of insulin medication. To give further context and relevance to this evidence, a case study from the state of Mississippi will be presented. The second piece of evidence will be an analysis of Big Pharma's exorbitant pricing of orphan drugs. There will be a relay of evidence recounting Big Pharma's rationale for setting orphan drugs so high. This will be followed by a thorough analysis of scientific studies and investigations that directly invalidate Big Pharma's rationale. The framework of technological politics will be applied to the analysis. To conclude, medical drugs have evolved through Big Pharma to shape power relations by privileging some and marginalizing others. Specifically, it is benefiting pharmaceutical companies by giving them complete control to decide the costs of all medicines with minimum oversight. This marginalizes those who are uninsured, reside in areas of minimal health infrastructure , or lack financial resources from accessing life-saving treatments.

INTRODUCTION TO BIG PHARMA

Why is the pharmaceutical industry, as a supposedly altruistic industry, so commonly detested? The global pharmaceutical industry is among the largest and most profitable markets today (IBIS World, n.d.). This is an industry that brings in close to 1.27 trillion dollars of profits in 2020 (Ledley et al., 2020; Mikilic, n.d.).The US carries the majority of the wealth and power of this trillion dollar industry. Six of the top ten pharmaceutical companies reside in the US and the US pharmaceutical industry contributes close to 550 billion dollars (Carbajal, 2021; Markets, 2021).

However, how does such an industry whose main focus is to develop and distribute life-saving medicine, become so publicly frowned upon? This may be because the pharmaceutical companies, conventionally referred to with the term "Big Pharma", are the center of constant unethical and immoral activities (Jerry, 2019). Accordingly, the industry spends billions every year on fines, settlements and jury verdicts. In fact, in a 24-year period, Big Pharma companies paid 373 settlements for marketing fraud. The settlements totaled $35.7 billion (Compton, 2020; Groeger, 2014). The atrocities of this industry is so widely denounced, that it is one of the few areas of reform in the American government that has bi-partisan support.

This is because Big Pharma will always value high profit results even if it is at the expense of their consumers' wellbeing. This is particularly the case for the medical drugs they develop and distribute. The Department of Health and Human Services (DHHS) estimates that Americans spent more than $460 billion on drugs (DHHS, n.d.). This comes to be 16.7 percent of total health-care spending (Emanuel, 2019; Pushkin, 2020). This is because of the exorbitantly priced medications Big Pharma markets. There are medicines that are prescribed that can cost a patient up to $100,000 dollars a year. Abiraterone, for instance, is a drug used to treat, but not

cure, metastatic prostate cancer. At its lowest price, it costs about $10,000 a month (Medline Plus, n.d.; Wang et al., 2021; WebMDRx, n.d.). This is not a unique case. The price of more than 3,400 prescription drugs skyrocketed in 2019, with an average increase of 10.5% (Kesselheim, 2016; Picchi, 2019). That average includes 41 drugs with high prices that shot up more than 100% (Miller, 2019). In contrast, wages are only expected to rise 2.5 percent. This means many Americans will not be able to afford their medications. Already, many individuals ration or forgo taking medication altogether as they cannot afford buying their needed supplies.

The significance of addressing these concerns from Big Pharma is that their practices will almost always play a crucial role in the lives of you or those around you. Therefore, the motivation of undertaking this research is to draw attention and develop a fundamental understanding of the ill-natured practices of Big Pharma. Ultimately, this may be able to be a step towards more accessible and equitable medicine.

Analyzing the Implications of Medical Drugs as Political Artifacts Through Technological Politics

Technological politics is a good framework to analyze how Big Pharma plays a role in developing power dynamics between the corporation executives and the individual consumers. I argue that medical drugs, as a technology, shape power relations by privileging some and marginalizing others. Specifically, it is benefiting pharmaceutical companies by giving complete control to decide the costs of all medicines with minimum oversight from governmental or other regulatory agencies. This marginalizes those who are uninsured, have inadequate education, or lack financial resources from accessing life-saving treatments. Furthermore, it puts individuals residing in areas with minimal healthcare infrastructure at risk as well. These geographic limitations typically are found in rural areas or Native American lands. Having inadequate health

infrastructure is a tremendous problem as the quality of treatment is lower and individuals are physically far away from hospitals. Often, this leads to patients resorting to relying on medical drugs even though they are expensive and less effective than in-hospital therapy. Therefore pharmaceutical companies contradict their mission to develop life-saving treatments, by making their products inaccessible to their consumers.

This paper investigates how the actions of the many pharmaceutical companies that are a part of Big Pharma have played a role in making life-saving treatments and medications inaccessible to many marginalized groups. Through this analysis, I will provide two separate cases that come together to clearly portray the role Big Pharma has played in creating inaccessible and unaffordable medicine. I will first examine the price gouging that has been a recurring concern with insulin. Next, I will discuss how Big Pharma rationalizes charging exorbitant prices for rare and low prognosis diseases, otherwise known as orphan diseases. Subsequently, I will provide a compare and contrast demonstrating how Big Pharma rationalizes high drug prices regardless of the demand and necessity of the treatment. Lastly, I will discuss two key counterarguments that can arise from my analysis and provide respective rationales as to why those counterarguments fail to affect the validity of the conclusion.

This analysis was conducted to provide clear and evident unjust and unethical practices that Big Pharma engages in for the purpose of maximizing profits. Specifically, this analysis is focusing on the hardships and peril faced by patients because of the financial predicament Big Pharma puts them in. The financial difficulties were chosen as they provide the most clear and high-impact evidence of Big Pharma's unethical practices. Therefore, the evidence in this paper presents two different cases where Big Pharma imposes financial difficulties on individuals in need of medication. These cases were chosen as they portray the extent at how many individuals

are affected by Big Pharma and how detrimental the high price of medications can be for patients. This analysis does not provide cases of other specific malpractices of Big Pharma. This is because these do not specifically address financial difficulties. This analysis also does not provide personal testimonies from individuals affected by Big Pharma as there are far too many compelling stories to share. Rather, the scope is to draw attention to the problems as a whole.

Projected Research and Methods of Big Pharma Analysis

How has Big Pharma, as a conglomeration of the world's largest pharmaceutical companies, played a role in creating inaccessible and unaffordable medicine.

To undertake this analysis, I will utilize evidence from interviews with relevant parties, press and public reports of the issues, and scientific articles discussing the history and practices regarding many of the involved companies. I will supplement this knowledge with articles reporting on the many malpractices and strategies used by Big Pharma to maximize profits. The specific cases I will be analyzing will be the price gouging of insulin and the high cost for orphan drugs.

CONTEXT AND RATIONALE ON BIG PHARMA STRATEGIES

To fully understand how Big Pharma has been able to consistently achieve such profitable revenues, while marginalizing its own consumers, it is necessary to identify several of their key strategies. The first is deceptive marketing and publicity (Freitas et al., 2014; Van Zee, 2009). Many investigations and interviews with pharmaceutical industries have attempted to garner a better understanding of the high pricing of medical drugs. One response from Johnson & Johnson stated "We have an obligation to ensure that the sale of our medicines provides us with the resources necessary to invest in future research and development." (Emanuel, 2019) This is a similar message among all Big Pharma corporations where they claim that the prices are necessary to fund expensive research projects to generate new and improved drugs. For the

uninformed, this rationale makes sense and relieves scrutiny. However, researchers found nearly two thirds of the 100 biggest pharmaceutical corporations spent at least twice as much on marketing as they did on R&D (California Nurses Association, 2016; Lexchin, 2018). Furthermore, the funding going towards marketing is spent on advertising and studies that are questionable at best. Massive advertising to the public includes idealistic and utopian visions of a better life because of a particular drug without fully explaining the risks of the drug. Incentives and pestering representatives also influence physicians' decisions to prescribe certain companies medications. Even more dubious is the utilization of smart statistical and epidemiological tactics to help obtain the desired results (Brezis, 2008).

Another successful strategy of Big Pharma in the US is their lobbying efforts. They use their vast wealth to hire numerous lobbyists to spread influence in the country's representatives and senators (Forrest et al., 2021). From 1998 to 2016, Big Pharma spent nearly $3.5 billion on lobbying expenses which is more than any other industry (Compton, 2020). In 2016 alone, it spent about $246 million. That is more than the defense industries and corporate business lobbyists combined. This pervasive lobbying and political ties has certainly succeeded as it has limited the independence of regulatory bodies. Lobbying has also prevented any large regulation from the government despite having bipartisan support actions against them. Rather, the lobbying has led to governmental tax breaks and incentives for the pharmaceutical industry to generate more innovative and effective medicine (Torbati, 2021; Wouters, 2020b). This lack of governmental action against Big Pharma has resulted in the majority of settlements with drug manufacturers involving significant cash payments from their liability insurance, but no admission of wrongdoing, no loss of patents, and no restrictions on the particular company's ability to sell its drugs in the marketplace.

Big Pharma also fully takes advantage of patent law. When a new drug hits the market, it is immediately placed under patent and drug exclusivity protection (Fox, 2017; Meller, 2019; Smith, 2016). Drug exclusivity means that other pharmaceutical companies can't compete by developing generic drugs with similar effects. Therefore, since there is no other product in the market like the new drug, the pharmaceutical company can raise prices as high as they would like. On top of this, another tactic is patent 'evergreening', where corporations file for additional patents on small changes to existing drugs (Collier, 2013). Examples of drugs that Big Pharma has utilized this tactic on are Nexium, Suboxone, and the EpiPen (Feldman, 2020). This will lengthen the control of the drug price and prevent cheaper generic brands from releasing similar drugs. Lastly, as there is minimal government oversight and regulation, there is no real incentive for these companies to drop their prices. Rather, it incentives them to continue increasing their prices.

These are some of the devious and harmful strategies Big Pharma has made use of to reach the level of influence and control they have today. The result is unethical and immoral as some of the world's most successful companies put billions of lives at risk for the goal of increased profits. The ethical principle of "respect for persons" indicates the requirement to respect the dignity and individuality of others and to avoid using them solely as a means to an end. Big Pharma is violating this ethical principle by using its consumers as a means to a higher profit and not respecting their health needs. The rationale of this paper is to analyze specific high-impact atrocities committed by Big Pharma in their continuous pursuit for higher profits. In doing so, we can better understand the system that allowed for such power dynamics to exist and work to rectify such mistakes.

STS FRAMEWORK

My analysis of Big Pharma's immoral actions draws upon the conceptual framework of technological politics where technological artifacts have political effects and the power to affect power relations (Winner, 1980). This will pave the way for a better understanding of how Big Pharma, as a conglomeration of pharmaceutical companies, fails to fulfill their mission to fairly distribute medical drugs to those in need of them.

Technological politics is a framework developed by Langdon Winner. Winner argues that these technological artifacts or systems can not only have positive and negative properties and consequences, but that they introduce a power dynamic (Winner, 1980). Technologies are built with either intended or unintended design aspects that have political implications. As a result, these technologies can give a level of power and influence to certain groups and put other groups at a disadvantage. This applies to the pricing of medical drugs as they give increased profits and power to Big Pharma, while putting many consumers at risk.

Winner argues that technologies can become political through technological development or they can be inherently political (Winner, 1980). Previously, technologies have classically been viewed as neutral objects with defined and unbiased uses. However, technological politics claims that there can be implicit biases present throughout the design of a technology. These implicit biases lead to the technology having a level of inherent political power before even being introduced to society. Alternatively, through technological development, a technology can be used to increase the power of some over others (Schraube, 2021). This means that any political consequences or power dynamics that develop subsequently is a result of the choices of the individuals who utilize or develop the technology.

According to Winner's terms, medical drugs are a technological development because the marketing choices made by Big Pharma have led to medical drugs evolving to become a

medium to increase the power of Big Pharma and disadvantage all of its consumers. Medical drugs are not inherently created to increase the power of some individuals, but the pricing of it has allowed it to marginalize certain populations. In particular, those of lower socioeconomic status and those who are uninsured are severely disadvantaged because of the increasingly high prices of many medical drugs. This continues to give power over to Big Pharma as they continue to make greater profits. Therefore, in this analysis, I will continue to apply this framework to demonstrate that medical drugs act as a political technology influenced by the politics of pharmaceutical companies. These policies empower large companies while neglecting the needs of patients in need of medication. I will also elaborate upon Winner's concept of intentionality to illustrate further that the profit-oriented politics of these companies have intentionally increased the cost of medical drugs to maximize profit, which comes at the expense of individuals' health and welfare.

ANALYSIS

Price Gouging Insulin

A widely recognized and relatable illustration of Big Pharma's cruel use of medication as a political technology is to make insulin unaffordable to many diabetes patients in need. Diabetes is a disease affecting a large portion of the population. Accordingly, insulin treatments have broad significance and high potential for profits. Diabetes is a chronic disease that results in abnormally high levels of blood glucose after eating. In a healthy state, the body will store excess glucose through the release of insulin from pancreatic islet cells (Wilcox, 2005). The prevalent and most effective treatment for diabetes is injecting insulin directly into the body. These insulin medications often need to be taken for the rest of the patient's life. Therefore, a common concern is that insulin costs are incredibly high. It has been established that insulin has been undergoing

"price gouging". Price gouging refers to when retailers and others take advantage of spikes in demand by charging exorbitant prices for necessities (Morton, 2022). As there is a continuous and increasing demand for insulin, the pharmaceutical companies continue to increase the cost of insulin rapidly. After decades of steady price increases by the companies within Big Pharma, a vial of insulin now costs about $350. This is roughly 30,000% more than the original cost of the patent (Lazarus, 2021).

Today, insulin can cost individuals close to $1500 dollars a month (Tseng et al., 2020; Willner et al., 2020). With the average salary being close to $4,125 a month, it is evident that it is financially impractical for individuals to pay for life. Strangely, while the cost of producing insulin has gone down and the same materials are being utilized, the prices of common types of insulin have roughly tripled over the past decade. This is likely the result of pharmaceutical companies raising prices to maximize profits gained. This has resulted in one-fourth of diabetic patients no longer being able to afford their prescribed treatment plans (Hayes, n.d.). If pharmaceutical companies continue to increase insulin costs, it will result in diabetic patients resorting to rationing their supply or neglecting treatment altogether.

These unjust practices particularly impact individuals who are uninsured, uneducated, and at lower socioeconomic status. Unfortunately, these individuals coincidentally are often at high risk for diabetes as well. A clear case study of insulin price gouging affecting the aforementioned individuals can be examined in Mississippi. Mississippi is a state plagued with Type 1 Diabetes with the most diagnosed cases in the entirety of America. Over 400,000 people in the state are living with diabetes. This represents 13.6% of the states' population (*Diabetes - Mississippi State Department of Health*, n.d.). Local medical professionals and epidemiologists

attribute some responsibility towards inadequate awareness of the disease, high rates of uninsured families , lack of resources, and high cost of treatment.

The current approach advocated by the health officials of the state to address this increase in diabetes is through educating the population about living a healthy lifestyle and to start on treatments of insulin. However, insulin costs are immensely expensive and continue to rise. Sources claim that prices have gone up by 1000% in the state (Jaglois, 2021). In addition, the average monthly salary for parts of Mississippi with the highest levels of diabetes is $3,285 and monthly insulin treatments can cost up to $1,500 per month. As a result, insulin is inaccessible to many diabetic individuals and many have had to resort to rationing their insulin injections or forgo treatment. To combat this, the state spends $3.5 billion per year, which represents 1 in 4 health dollars spent (Hagen, 2021). This has been met with little improvement. The inaccessibility of insulin treatments has led the state's Attorney General to file a lawsuit against Eli Lilly, Novo Nordisk, Sanofi, CVS Caremark, Express Scripts, and OptumRx which are pharmaceutical companies and Pharmacy Benefit Managers (PBMs) that are responsible for producing and charging for insulin production (Anderson, 2021). The lawsuit claims that pharmaceutical drugmakers are allegedly fixing prices of insulin by raising prices and refunding a substantial percentage of that price back through rebates to PBMs. Thus, the state is seeking $10,000 for each purchase of an at-issue diabetes medication (Mitchell et al., 2021). This demonstrates the complication that the benefits of insulin in society are limited by its inaccessibility to all diabetic patients. If we continue to consider insulin in purely functional terms, we will miss its effects on political power relations. Consequently, if society is informed of the effects that unreasonable costs of insulin treatments have, there can be greater efforts made to advocate for alternative treatments or regulation on pharmaceutical pricing.

This case study demonstrated that insulin plays a role as a political technology and is marginalizing certain groups and giving power to others. In particular, it is benefiting pharmaceutical companies and PBMs by giving complete control to decide the costs of all insulin treatments with minimum oversight from governmental or other regulatory agencies. This marginalizes those with inadequate education or financial resources, particularly diabetic residents of Mississippi, from accessing life-saving treatments. Furthermore, price gouging insulin demonstrates the intentionality of Big Pharma as they have intentionally increased the cost of insulin to maximize profit which comes at the expense of diabetic individuals' health and welfare.

High Cost for Orphan Drugs

Another high-impact demonstration of Big Pharma's manipulation of medicine as a political technology to maximize profits is the high cost of orphan drugs. Orphan drugs are pharmaceutical medicines developed to treat medical conditions which would not be profitable to produce (FDA, 2022; Orphanet, n.d.). There are many different forms of orphan drugs. The predominant orphan drugs are those developed for orphan diseases. These are diseases that are rare and are conditions that affect fewer than 200,000 people in the United States (NCI, 2011). These diseases are often serious and life threatening. In 1983, the U.S. government passed the Orphan Drug Act. This gave pharmaceutical companies financial benefits for developing orphan drugs that are safe and effective.These included a 50% tax credit for clinical testing expenses related to drug development, the allowance to waive some of the cost of regulatory fees necessary for development, and provided grants to drug companies to help keep costs down (Herder, 2017). The financial motivation behind these incentives falls back on Winner's claim

that a technology, such as medical drugs, can develop to become a political force in creating power dynamics that would favor groups such as Big Pharma companies.

All of these financial incentives are needed because the development of a drug for a particular disease or condition is a demanding task. It requires tremendous financial resources and can take up to 10 years before bringing it into the market (Caroll, 2021; Wouters, 2020a). Furthermore, the process is uncertain. Among 10 different formulations evaluated, perhaps only one will progress to further development. Lastly, recovering research and development costs from a small patient population is harder compared to drugs developed for common conditions (Jandl et al., 2020; Simoens, 2011). Unlike insulin, there is not as great of a demand for these drugs. As a result, drugs for rare diseases are generally priced much higher than medications for common conditions. To attempt to offset these costs and incentivise Big Pharma companies to produce orphan drugs, the government passed the Organ Drug Act. This was done to ensure patients will be able to afford the drugs they need.

Orphan drugs are now helping the 30 million Americans who have a rare disease live healthier lives (Biotechnology, 2021). However, the cost for patients is still exceedingly expensive despite the government incentives. A comprehensive study performed by America's Health Insurance Plans (AHIP) has shown some daunting cost spikes for orphan drug pricing. In the study it showed how the average annual orphan drug cost rose from $7,136 in 1997 to $186,758 in 2017 (AHIP, 2019; Reed, 2019). Furthermore, the prices of orphan drugs are 25 times more expensive than traditional drugs. Other studies have found that approximately 39% of drugs with orphan indications cost more than $100,000 annually (IQVIA, 2020). Accordingly, two of the most expensive prescription drugs in America are coincidentally orphan drugs. One such drug is Myalept. This is a drug to treat various forms of dyslipidemia. Myalept costs

$74,159 for a monthly supply. Patients have to self-administer Myalept once a day and typically use 14 vials per month. This brings the yearly total to $889,904 (Sagonowsky, 2020). Because Myalept is the only treatment available to control this rare condition, there are no other cost-saving alternatives. Another orphan drug is Zokinvy. It is used to treat an orphan disease by the name of Hutchinson-Gilford progeria syndrome. At an estimated monthly price of $86,000, it costs more than $1 million a year for patients to buy this medication (Liu, 2021). At costs like these, patients simply cannot afford to pay their medical bills on top of basic living expenses. Furthermore, these diseases typically result in the patient being bed-ridden and unable to make a living to pay bills. This is a circumstance that should not be acceptable for anyone to deal with. It is ethically wrong for the companies of Big Pharma to put individuals in these health-care predicaments. These companies claim that the reason prices are so high is that they need to make up the cost for development of the drug. Pharmaceutical companies report that they spend around $1 to $2 billion over a course of 10-15 years on orphan drug development (Jayasundara et al., 2019; Paranjape, 2020). Furthermore, they claim that the low patient population for these drugs make them unprofitable and have minimal potential for being best-sellers. While these claims appear to have a level of validity, it is merely a guise to distract public scrutiny. The reality is that Big Pharma has developed lucrative business models that ensure a profit margin of more than 80% – compared to an average profit margin of 16% for the rest of the pharmaceutical industry (Phillips, 2013). An investigation revealed that pharmaceutical companies made these profit margins by utilizing two key strategies: repurposing commonly used drugs and getting approval to use one product for multiple orphan diseases (Kwon, 2018). Repurposing drugs are particularly effective in cutting down development costs as they can take only 5-8 years to reach the market. Big Pharma's preferable utilization of repurposing is evident as it is estimated that

30% of FDA approved new drug products are repurposed (Walker, 2017). As a result of these strategies, companies of Big Pharma can develop drugs for a lower price than anticipated while still spiking the sale price. In addition, in 2017, 7 out of 10 of the best selling drugs were orphan drugs (Reed, 2019). These numbers demonstrate that orphan drugs are not only profitable, but more profitable than the rest of the products distributed by the companies of Big Pharma.

Today, many individuals facing the challenge of fighting deadly orphan diseases cannot afford their biggest weapon: medical drugs. By intentionally raising prices of orphan drugs at the pretense of needing to cover development costs, the companies within Big Pharma have created a power dynamic that favors company executives. Surprisingly, this is the same rationale Big Pharma provides for why insulin is so costly. They claim that to ensure high levels of innovation, development costs a lot of money. However, studies have shown that one vial of insulin that can cost up to $350, only costs $2.28- $3.42 to produce (Single Care, 2020). This shows the incredible profit margins made by these Big Pharma companies despite claiming that production takes a large financial burden. It is saddening to see that prices are high for medications whether demand is high or low. Insulin is needed for about 8 million patients every year, whereas orphan drugs are only needed by about 200,000 every year. However, Big Pharma still uses the excuse of needing to cover developmental costs despite consistently achieving high profit margins. The reality is that even if a drug is in high demand and is cheap to produce, Big Pharma will make substantial efforts to reap profits by increasing drug prices. It is evident now that Big Pharma has played a crucial role in evolving medical drugs into a political technology that represents profit and wealth for certain privileged groups, but sickness and poverty for others. This power dynamic unfairly puts the health and wellbeing of those stricken with various diseases in jeopardy.

BIG PHARMA'S RESPONSE AND THE ETHICS OF FUTURE DRUG PRICING

This analysis has comprehensively discussed two crucial pieces of evidence to conclude that while medical drugs were not originally designed to become a political technology, Big Pharma has taken advantage of medical drugs' demand to garner large profits. In particular, those faced with fighting diabetes or orphan diseases are at a substantial disadvantage as they have to balance providing for their household and paying for their medication. More often than not, many of these individuals have to unfortunately choose between the two. The two cases presented show that despite Big Pharma's capability to lower costs while still being profitable, they refrain from doing so. Therefore, it is evidently shown that from Winner's TP framework, medical drugs represent a political technology influenced by the politics of pharmaceutical companies. These drugs empower Big Pharma while neglecting the needs of the many marginalized patient groups in need of medication. This analysis also portrays Winner's concept of intentionality found in the profit-oriented politics of these companies as they intentionally increase the cost of medical drugs to maximize profit. Their practices are especially detrimental to those uninsured, uneducated, rside in areas of poor medical infrastructure, and are of lower socioeconomic status. This situation is fundamentally unethical and unjust. According to justice ethics, all individuals are entitled to fairness, equality, and equitable treatment. Big Pharma has not allowed this to happen. Therefore, the evidence and conclusions come together to draw attention to a need for change in Big Pharma's detrimental methods to attaining higher profit margins.

However, to ensure the validity of the conclusions, it would be prudent to address some arguments raised on behalf of Big Pharma. In a capitalistic market structure, companies have the right to and are encouraged to generate large profits. In these markets, the profits are what attract

many of the brightest minds to work and innovate better medicine and technology. Therefore, regulating Big Pharma in this capitalistic market, can lead to diminished innovation. This supports the notion to incentivise these companies to innovate towards new drugs, instead. However, even if drug prices decreased substantially, the profit margins will only decrease slightly. This is because the demand and market for these products will never diminish.

In addition, Big Pharma discusses how there are many current medications that are available at affordable prices. Medications that are commonly used that fall within this category are Ibuprofen (Advil), Acetaminophen (Tylenol), dextromethorphan (Robitussen), and Diphenhydramine (Benadryl) (Wedro, 2020). The reason these, and numerous other over-the-counter medications, are so affordable is that the original patent on the medication has expired (Marsh, 2018). As mentioned earlier, patents on medications give pharmaceutical companies complete control over the market value and prevents competitors from releasing their own products. However, once these patents expire, then competitors are free to enter the market with their own versions of the brand. As more manufacturers compete to sell their version of a generic drug, the free market economic system of the US forces prices to go down (Drug Patent Watch, 2018; Vondeling et al., 2018). Therefore, there is a chance that many of the high-cost drugs will run out of patent protection and be forced to lower prices as competitors enter the product. However, because Big Pharma's companies continuously develop new drugs, repurpose drugs, and extend their patent protection, the cost of many medical drugs will continue to be exceedingly high. Ultimately, despite the lower costs from these over-the- counter medications, the tremendous expense that accrues from many other drugs will almost always render medical treatment unaffordable for many groups.

Another counter-argument that can arise is that the high cost medications such as Zokinvy, Myalept, and Insulin are the costs associated with individuals without insurance. However, there are numerous groups in America who cannot get insurance, are uninsured, or do not have good enough insurance. In fact, there are still 31 million people in the US who do not have insurance (Stasha, 2020). Therefore, they will have to pay the full price for these medications. Furthermore, I have heard experiences from individuals with Kaiser health insurance who cannot get their prescriptions because Kaiser does not have a local facility and/or Kaiser does not support the coverage of that medication. Even with premium insurances, copays for insulin and orphan drugs are demanding as well. With a constant push to repeal the Affordable Care Act and modify Medicaid, there is a chance that the number of uninsured will rise drastically. This demands the need for free and equal access to healthcare for all with substantial support to ensure payments for all medications are affordable.

While medical drugs were never developed with the intentionality of having an ulterior purpose, it has developed into becoming a political technology that yields great profits for Big Pharma. Ultimately, it is the government's role and responsibility to rectify this situation and develop a plan to change Big Pharma's profit-oriented tactics. This is not an unfamiliar concern the government has faced as there are constantly petitions and bills attempting to limit the power of Big Pharma. However, with inflation rates continuously rising at unprecedented rates (up 8.5% this year), the prices of medical drugs will rise even more. Accordingly, the concerns and issues raised in this paper will continue to worsen in the future unless there is immediate legislative action leading to increased regulation and a price ceiling on medical drugs Furthermore, as chronic diseases and orphan disease prevalence continue to rise, it is of the

utmost importance for the government to further their efforts to stem the efforts of Big Pharma and ensure affordable and accessible medical treatments.

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