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Against Three Arguments for a Free Market in Healthcare

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by

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Abstract

Healthcare is not like other commodities. Central features of healthcare undermine the benefits of a free market. A free market in healthcare fails to exhibit the same virtues as markets in other goods and services.

Proponents of free markets in healthcare often argue for their position based on efficiency, moral hazard, and innovation. I will address these arguments in turn to show that each one relies on unstable assumptions and unstated definitions.

According to the first argument, competitive free markets are efficient, so a free market in healthcare would be efficient; I demonstrate that free markets in healthcare are not competitive and thus do not promote efficiency. The second arguments states that in a healthcare free market, patients must pay for medical services, so will not use more healthcare than they need; I point out that on a medical definition of "appropriate use of healthcare," a free market fails to solve the problem of overuse and may introduce a problem of underuse. The third argument asserts that through competitive pressure and profit-based motivations, free markets foster innovation; I will argue that the on a free market, companies can only generate profitable innovations, which may leave research deficiencies in crucial areas of healthcare.

The way in which healthcare is distributed impacts the lives of the people who must access medical services: ostensibly everyone at some time or another. This project seeks to carefully examine and question the assumptions that underlie arguments in favor of a free market in healthcare in the hopes that a considered, informed debate can shape a better healthcare system.

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Chapter One: Introduction

A paradigmatic market commodity is a good or service, something that people want or need, that can be bought, sold, and traded. A market commodity is something that people will pay for and that others will sell to them. In many respects, healthcare seems not to deviate far from that description. People need it, other people can provide it. A free market in healthcare would allow patients to negotiate directly with providers, buying healthcare services in the same way consumers buy many other goods and services.

A successful market in healthcare would provide many benefits. Bureaucratic administrative inefficiencies would be replaced by the smooth automaticity of the market as each transaction satisfies the needs of the participants and drives the market toward new heights of efficiency. Only those people who actually need medical care would access the services, since few would be willing to pay for a service they do not want or require. Motivated by financial self-interest, companies working in a healthcare market would invest heaps of capital into research, trying to innovate the next revolutionary drug or device.

All over the world, people have taken note of the theoretical benefits of a free market in healthcare. In the United States of America, conservative think-tanks have advocated strongly for free market healthcare (Adorney, Melendez, Cannon). Similar suggestions have been put forth in the United Kingdom (Niemetz), and even in Canada (Kieff). In the meantime, India has put forth tentative new policy to try to distance its healthcare system from the free market, a move that has been met with opposition (Perumal).

The benefits of a free market in healthcare hinge on many assumptions; foremost among these assumptions is that healthcare is like other market commodities. If healthcare is like other commodities, then a free market will distribute healthcare to people who need it because these people will be willing to pay for it. Free market advocates claim that offering healthcare for free or subsidizing it significantly will increase demand and sharply raise costs:

> If the out of pocket expenses of ice cream, or band-aids, or shoe laces, or paper clips, or guitar lessons, were halved, or, wiped out entirely, there is no doubt that the demand for these items would increase, in some cases to a gigantic degree. Why should this basic law of economics function any differently in the industry now under discussion? Demand artificially rises when government offers welfare alternatives such as Medicaid, Medicare, and tax incentives for individuals to purchase private insurance through their employers. This ultimately raises cost, which in turn causes more spending for welfare. (Testa and Block 106).

In this thesis, I will endeavor to show that three common arguments proposed in favor of a free market in healthcare fail to justify such a distribution system. My technique will remain consistent throughout the work. I will demonstrate that each argument in favor of a free market relies on assumptions and unstated definitions. I will show that peculiarities of the practice of medicine frustrate each of these assumptions and definitions, and thus healthcare makes a poor market commodity. I have selected three of the most pervasive patterns of argumentation proposed by free market advocates: that a market in healthcare will 1) improve economic efficiency, 2) prevent "moral hazard," and 3) promote innovation.

The literature represented in this thesis is by no means comprehensive. The debate about the right shape for a healthcare system is widespread and the literature on the subject is massive. The debate about healthcare systems is also old, and recent sources rely heavily on past arguments. I have chosen to engage with a sample of literature that I consider highly representative of common perspectives, though the diversity of issues that this thesis covers precludes the possibility of engaging with a single proponent of a free market distribution system. Instead, the specific application of my strategy in each chapter will determine my use of sources.

For Chapter Two: Efficiency, I will not address any particular author or authors. Many theorists make efficiency claims for markets in healthcare. Instead of analyzing each version of the efficiency argument in turn, my approach to the issue addresses the theoretical underpinnings of welfare economics and the fundaments of the concepts upon which efficiency arguments are based. Thus, most of the exegesis in Chapter 2 will be focused on deconstructing the general relationship between markets and efficiency. Free markets are often praised for their efficiency: without requiring a corps of bureaucrats shuffling resources from one place to another, the free market is able to deliver goods and services to people who want and need them, to the mutual satisfaction of both buyer and seller. But the ability of the market to promote efficiency relies on meeting stringent criteria for competitiveness. I will show that healthcare fails to meet some of the conditions required for a market to promote efficiency.

Chapter Three: Moral Hazard engages partially with an debate from the 1960s between Kenneth J. Arrow and Mark Pauly. In his 1963 paper "Uncertainty and the Welfare Economics of Medical Care," Arrow proposed government health insurance to fill service gaps in healthcare caused by market failure. In 1968, Pauly challenged him by pointing to the concept of moral

hazard in his reply, "The Economics of Moral Hazard: Comment." Pauly claimed that government insurance would lead to overuse of healthcare, resulting in widespread inefficiency. While this debate played a foundational role in the development of the moral hazard discussion, moral hazard arguments have evolved significantly. I will rely most heavily on a recent source, Amy Finkelstein's 2014 book *Moral Hazard in Health Insurance.* Finkelstein provides an excellent summary of the current state of moral hazard arguments and cites empirical evidence for the correlation between healthcare subsidies and increased use of healthcare. I consider her work representative of modern moral hazard style arguments. I will also make extensive use of Rowell and Connelly's "A History of the Term 'Moral Hazard'" to clarify the confusing and unstable usage of the term, in an attempt to elucidate the evolving moral hazard debate. I will argue that the concept of moral hazard relies on a definition of overuse of healthcare, which in turn relies on a particular definition of appropriate use of healthcare. I will show that on a more plausible definition of what it is to use healthcare appropriately, the moral hazard problem no longer serves as a justification for a free market distribution of healthcare.

My final chapter, Chapter Four: Innovation, I will largely address two books: William J. Baumol's oft-cited and influential *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*, and Regina Herzlinger's *Market Driven Health Care.* Innovation is a commonly proposed benefit of free markets, and while Baumol's work is not specifically directed at the healthcare industry, it provides a lucid and insightful microeconomic analysis of the role of the free market in promoting innovation. Herzlinger's book addresses healthcare specifically and represents one of the most plausible versions of innovation arguments: that innovation driven by the market, which is driven by consumer preference, will yield an industry with features and technologies that consumers prefer. While Baumol's theory and evidence for

the innovative capacity of the market are convincing, I will show that the free market's ability to stimulate any given innovation is limited by the financial features of the innovation in question. I will then turn to Herzlinger's argument that the market innovates best according to what customers desire. I will demonstrate that important healthcare innovations may be neither profitable nor consumer preferred, leaving a dearth of research in potentially vital areas of healthcare.

This thesis is not an attempt to show that free markets make poor distribution mechanisms across the board for every good and service. My goal here is not even to show that all healthcare ought not to be distributed on a free market, merely that certain vital forms of healthcare violate assumptions that normally underlie arguments made in favor of free market distributions.

This thesis is meant to clarify a discussion of critical importance: the right shape of a healthcare system. The concept of a free market in healthcare may be appealing, and healthcare may seem like a suitable market commodity. Markets appear to promote efficiency and innovation, and curtail overuse. But this superficial assessment is built on dangerously unstable assumptions. Unfulfilled criteria, unstated definitions, and hidden limitations lurk in the background of each of the three popular arguments scrutinized in this work. Unexamined, the acceptance of these assumptions leads to a flawed conclusion: that healthcare is just like any other commodity, just like "ice cream, or band-aids, or shoe laces, or paper clips, or guitar lessons" (Testa and Block 106). This conclusion can ultimately justify a free market in healthcare. Whatever system we use to distribute healthcare will impact the lives of the people who must access healthcare, and a system built on erroneous assumptions could adversely affect patients, providers, and the practice of medicine.

Chapter Two: Efficiency

Introduction

In the field of welfare economics, efficiency is often construed as "Pareto efficiency," pioneered by Vilfred Pareto, which measures efficiency in terms of ordinal utility conferred by preference satisfaction (Aspers 521). In other words, whether a system is Pareto efficient depends on the satisfaction of some condition, X, which some system participant prefers over condition Y (with no regard for the magnitude of the preference). When an economic distribution shifts so that one or more preferences become satisfied and no preference is de-satisfied, the change is called a "Pareto improvement." Markets produce Pareto improvements when both buyers and sellers can recognize and then pursue those transactions that satisfy more of their preferences. When markets do not produce Pareto improvements, they are inefficient, and are said to be in failure. Problems with buyer or seller agency are a common source of market failure: when buyers or sellers cannot recognize transactions that would better satisfy their preferences, or when they are unable to perform those transactions, the market tends less toward efficiency. When these problems are widespread and long-term, the market fails.

In the following chapter, I will argue that some forms of healthcare cannot be distributed efficiently on the market. This thesis is not unique, nor is it uncontroversial; many economists have argued that the market cannot efficiently distribute healthcare, and many economists have argued to the contrary. I will approach this goal in a particular way, examining the character of individual transactions in a healthcare market rather than analyzing the market as a whole. I will show that agency problems render healthcare consumers (patients) unable to negotiate transactions that secure the satisfaction of their preferences. On a market, information asymmetries between patients and doctors become information asymmetries between buyers and

sellers. Combined with the inherent vulnerabilities of patienthood, the result is that in many instances patients cannot act on their own preferences, and cannot negotiate on their own behalf in a fashion conducive to Pareto efficiency. Patients must rely on providers to act as their agents. The fiduciary responsibility of providers clashes with the role of sellers on a market, whose best interest is profit. All told, neither patients nor providers are well positioned to negotiate on a free market in a fashion that promotes economic efficiency. My project is to untangle a set of established agency problems in healthcare and show that the nexus of these problems fundamentally undermines the competitiveness of a healthcare market at the most basic level: that of the individual transaction.

Section 1: Pareto efficiency

Pareto efficiency forms the foundation of welfare economics.[1] Pareto efficiency measures satisfaction of preferences, rather than resource input or product output. A Pareto efficient exchange, also known as a Pareto improvement, is an exchange after which at least one person's preference set is more satisfied and no one else's preference set is less satisfied (Weston and Townsend, ix). Start with one distribution of economic resources and call that distribution A. In distribution A, a certain number of people's preferences are satisfied; for simplicity, let us say that 20 preferences are satisfied. Now imagine distribution B, in which those same 20 preferences are satisfied, and a 21st preference is satisfied. Moving from distribution A to B is a Pareto improvement; no preferences have been dissatisfied and another one has become satisfied.

[1] Weston and Townsend, in their textbook *Welfare Economics,* describe welfare economics as analyzing social welfare as a function of the economic activities of individuals. Thus, "individuals, with associated economic activities, are the basic units for aggregating to social welfare, whether of a group, a community, or a society, and there is no 'social welfare' apart from the 'welfare' associated with its individual units" (Weston and Townsend, vii). Pareto efficiency is the common metric by which the economic activities of individual economic participants translates into overall, aggregate welfare.

Similarly, if distribution B de-satisfies one of the original 20 preferences but compensates the person with that preference in such a way that that person prefers distribution B (or is at least neutral toward it), then moving from distribution A to distribution B is also a Pareto improvement. In other words, it is possible to compensate people for de-satisfied preferences and still result in a Pareto improvement. Compensation that satisfies someone who would otherwise become unsatisfied can turn a Pareto disimprovement into a Pareto improvement.[2]

When all possible Pareto improvements have been executed, no changes can be made without violating at least one person's preferences. When there are no more possible Pareto improvements available, the distribution is "Pareto optimal." Given a set of resources and a set of people who require resources, multiple distributions may be Pareto optimal. Different Pareto optima have very different features; some optima may be dramatically unequal, with some people possessing most of the resources and many people lacking any resources at all. Other optima may have more equal distributions. For a system as large as an actual economy, there are many Pareto optima (Black et al. "Pareto Efficiency").

To illustrate Pareto efficiency with a simple example, let us examine a situation in which Smith and Jones both want pizza (both are pizza-maximizers; neither Smith nor Jones can ever have enough pizza). We divide the pizza in half and give half to Smith and half to Jones. No more pizza can be given to Smith without taking some away from Jones, so Smith's preference set cannot become more satisfied without making Jones less satisfied (and vice versa). Thus, this

[2] The concept of Kaldor-Hicks efficiency modifies Pareto efficiency to accommodate disimprovements. To be a Kaldor-Hicks improvement, an economic movement may be a Pareto improvement, or may be a possible, uncompensated Pareto improvement. If an economic exchange dissatisfies some preference, it may be possible to compensate the person who would otherwise be dissatisfied, turning a Pareto disimprovement into a Pareto improvement. A Kaldor-Hicks improvement may be a Pareto disimprovement in which one person's dissatisfaction could be compensated, but Kaldor-Hicks efficiency does not require that the compensation actually take place. Thus, an exchange in which someone's preferences are left dissatisfied may still be a Kaldor-Hicks improvement.

pizza distribution is Pareto optimal. If we divide the pizza into thirds and give two thirds to Smith and a third to Jones, once again no more pizza could be given to Jones without violating Smith's preferences, so this allocation too is Pareto optimal. Indeed, if Smith gets the entire pizza and Jones gets none, the allocation is still Pareto optimal, since Jones cannot acquire any more pizza without Smith losing some. The allocation becomes suboptimal if we divide the pizza in thirds, gives one third to Smith, one third to Jones and throw away the other third. In this case, Smith and Jones are treated equally, but the allocation is not Pareto efficient because the pizza that was thrown away could have been used to make Smith or Jones or both more satisfied. Giving the last third to Smith is a Pareto improvement, giving it to Jones is a Pareto improvement, but throwing away the third slice is not a Pareto improvement. Note that Pareto efficiency cannot be used to determine which of Smith or Jones should receive more pizza. The Pareto optimal allocations described are all equally optimal.

Welfare economics depends on the concept of Pareto efficiency. The first fundamental theorem states that for any given allocation of resources, A, a competitive market will adjust that allocation to eventually settle in some equilibrium, a Pareto optimum B (Blaug, 185). The competitiveness of the market is crucial; competition ensures that market participants can access those transactions that are Pareto improvements. The tendency of the market toward Pareto optima depends on the competitiveness of the market because the probability of each market transaction being a Pareto improvement depends on the voluntariness of the transaction (Blaug, 187). When market participants engage in transactions voluntarily, those transactions are likely to be Pareto improvements because participants presumably pursue the satisfaction of their preferences in each transaction. If a participant consents to a transaction, presumably that

transaction satisfies their preferences, making the transaction a Pareto improvement. Successive Pareto improvements shepherd the system toward an optimum.

The second fundamental welfare theorem is opaque compared to the first. It states that for each Pareto optimum, there is an initial distribution of resources for which the action of a competitive market will result in that optimum. In other words, for any given Pareto optimum, some initial allocation will reach that optimum when that allocation is subject to a competitive market. Sen explains: "no matter which Pareto efficient state we specify, it is possible to have a competitive market equilibrium yielding precisely that state, by choosing the initial distribution of resources appropriately" (521). Instead of starting with the initial distribution A, which a competitive market will bring to optimum B, the second welfare theorem operates in reverse. It states that for a given optimum B, there is some initial distribution of resources (A) in the same system, which will, subject to a competitive market, equilibrate to B.

One objection to Pareto efficiency claims that the concept of Pareto efficiency is deficient because massive economic disparity, even that results in poverty and death, is Pareto efficient. These critics claim that such allocations are not efficient: it is possible for a Pareto efficient allocation to have most people miserable and inequality rampant because in such an inequitable society, few opportunities exist for Pareto improvements. In other words, the lot of the poor cannot be improved without violating the preferences of the rich. Consider the following example. Smith owns a comic book, which he prefers to keep, and Jones desires a diphtheria vaccine. Assume that we cannot provide Jones with the vaccine without selling off Smith's comic book, and we lack to resources to compensate Smith for the loss of his comic book. Since taking away Smith's comic book violates a currently satisfied preference and does not compensate for the loss, giving Jones the vaccine is not a Pareto improvement. Yet clearly

Smith's keeping a comic book is a frivolous and unimportant preference compared to a possible life-saving vaccine for Jones. The comic book is less important for Smith than receiving a vaccine is important for Jones, but Pareto efficiency makes no distinctions between slight preferences and dire preferences. If Jones receiving the vaccine depends on taking away Smith's comic book, then no matter how important Jones' life is compared to Smith's entertainment, the exchange of the comic book for the vaccine is still a Pareto disimprovement. Pareto efficiency can be criticized by pointing out that it would be strange indeed to employ a concept of efficiency that disallows taking away one person's comic book even if to do so could save the life of another person.

The above criticism mistakes what it is that Pareto efficiency is supposed to do. Saying that a distribution is Pareto optimal does not amount to the claim that that Pareto improvement results in a better distribution, all things considered. While Pareto efficiency is a mainstay of welfare economics and is thus concerned with aggregate societal well-being, simply being a Pareto optimum does not guarantee maximum wellbeing. Pareto efficiency gives information about an allocation, i.e., its degree of optimality, but does not immediately decide between allocations. It is possible to embrace the concept of Pareto efficiency and admit that there are other relevant factors to decide between allocations. One might, for example, claim that there are moral reasons for providing Jones with her vaccine rather than allowing Smith to keep his comic book. Or perhaps there are logistical reasons why we cannot give Jones her vaccine, and thus should allow Smith to keep his comic book. Simply because an allocation is Pareto efficient does not mean that we should, all things considered, adopt that allocation. As previously mentioned, there are often many possible Pareto optima for a single system, and the concept of Pareto efficiency cannot distinguish between two optima. That is not to say that all optima are equal all

things considered; one can use Pareto efficiency to locate optima, and use many other factors and values to choose the best optimum.

While Pareto efficiency does label Smith's keeping his comic book optimal and Jones' receiving the vaccine a disimprovement, Pareto efficiency expressly allows for choosing optima based on non-economic principles. The second theorem of welfare economics can be interpreted as showing that we can select a desired optimum by criteria other than Pareto efficiency and redistribute resources until we have achieved the distribution that will, under a competitive market, eventually yield the optimum that we desire.[3] The second theorem, combined with the idea that that optima are Pareto interchangeable, implies that some optima may be preferable for reasons other than Pareto optimality. Optima are Pareto interchangeable; as discussed above, any allocation is optimal if it cannot be altered to satisfy one more preference without violating another. Having no more possible Pareto improvements is a necessary and sufficient condition for an allocation being a Pareto optimum, so all Pareto optima are equal in the only respect that matters for Pareto efficiency, i.e., lack of available Pareto improvements. In other words, the concept of Pareto efficiency itself cannot distinguish between optima. The fact that all Pareto optima are equally optimal is the source of the objection described above, that the concept of Pareto efficiency counts some dramatically unequal allocations as being just as optimal as more equal allocations.

[3] Sen points out quite astutely the impracticality of actually using the second welfare theorem to pick our favorite optimum. Simple tweaks to the current allocation may not be sufficient to radically alter at what optimum a competitive market will equilibrate. He argues, "To use the competitive market equilibrium to achieve any social optimum, we have to get the initial distribution of resources right, and depending on how equity-conscious our social objectives are, this could require a total reallocation of ownership patterns from whatever pattern we may have inherited historically" (521). For my purposes, I simply seek to show that Pareto efficiency is not a sufficient and decisive criterion by which to select an allocation. Many allocations are optimal, and we may have good, non-Pareto reasons to prefer some allocations over others.

If, by way of the second fundamental theorem, we select our desired optimum and tailor an original allocation to bring the system to that optimum, then clearly some optima are more desirable than others. Since optima are Pareto interchangeable, the criteria for deciding which optimum to pursue must be unrelated to Pareto efficiency. Pareto efficiency is a minimum standard. If a Pareto improvement is available, the allocation can be improved because we can satisfy a preference without de-satisfying another. But we must use other metrics to decide which optimum we want. Pareto efficiency is not designed to be a measure of justice or equality, merely a basic standard for economic efficiency (Aspers 529). Pareto efficiency does not tell us what we should do all things considered, or which exchanges are morally permissible. The fact that a currently extant allocation is a Pareto optimum does not mean that we ought not switch to another allocation (Arrow 942). Imagine a case in which extra resources are injected into a system, and one must decide where those resources go. Giving them to anyone would be a Pareto improvement, bringing the system toward one or another optimum. The concept of Pareto efficiency is totally silent about whether these extra resources ought to go to person 1, person 2, person 3, or anyone else. One must consider other factors when deciding which optimum to pursue, and thus which Pareto improvement to execute. Thus, the claim that an allocation is efficient is not a claim that society ought to pursue that particular optimum, all things considered.

Section 2: Efficiency and Market Failures

Under certain conditions, markets are highly Pareto efficient because they allow people to satisfy their preferences through exchanges. If no intervening flaws in the market prevent their proper function, free markets produce Pareto optimality. If Jones wants Smith's economics textbook and Smith wants Jones' prize-winning zucchini, the two of them can trade. In the free market, both parties know the outcome of the trade and both parties consent to it freely, so it is

unlikely that the transaction will harm either of them. Thus, both are made better off by the transaction, and neither is made worse off. So, the exchange is Pareto efficient and brings the economy closer to Pareto optimality. Similarly, if Jones wants Smith's textbook and Smith wants to save up money to buy a cellphone, the exchange of money for goods is also Pareto efficient. After many successive iterations of Pareto efficient exchanges, the system achieves new heights of efficiency as exchanges progressively satisfy more and more people's preferences.

The market may be an appealing distribution mechanism, especially because equal distribution of resources can easily result in inefficient outcomes. People have different preferences, after all, and so a single package of goods and services will not satisfy everyone. For example, if the government distributed food packages to everyone, the outcome would be very inefficient. Let us say that Jones and Smith are two citizens of such a society, and each receives a package of food consisting of a slice of steak and a portion of vegetables. Jones is a vegetarian, and Smith has an iron deficiency. If they made an exchange such that Jones gets Smith's vegetables and Smith gets Jones' steak, that exchange would be Pareto efficient. Disallowing and regulating exchanges prevents people from pursuing their preferences, leaving inefficiencies that could easily be remedied.

Some theorists have argued that the market's propensity to increase distribution efficiency would increase healthcare's efficiency (Aggarwal and Bohinc). If healthcare were on the market they argue healthcare would be distributed more efficiently because people would be allowed to pursue their own preferences in a competitive market. In a system with competition between healthcare providers, consumers have more choices because there are more sellers (Shepherd and Shepherd 110). The availability of more choices for consumers drives prices down as providers compete for the business of consumers. Furthermore, having more choices

allows consumers to better pursue their preferences; if many providers are available and the providers are relevantly different from one another, then for most consumer preferences some provider will satisfy that preference. The consumer can satisfy their preference because some provider is available to satisfy the preference. Shephard and Shephard argue that, "The free market consumer chooses medical services based on price, location, and preference. The free market medical service provider competes for consumers by meeting price, location and preference considering their own profitability. In essence, competition will drive supply" (104).

In a non-market system with a central provider, consumers have little or no choice. The only medical services available to them are those of that one provider. Without choice, healthcare consumers fall into the same gap as Smith and Jones who received food packages from their government. Recall that the two had different preferences, and the package they received from the government was not particularly useful to either of them. When they were free to perform a market exchange (steak for vegetables) were their preferences satisfied. For healthcare, a single provider of homogenous services fails to provide consumers with the ability to pursue what it is about healthcare that they value. They cannot use market exchanges to satisfy their preferences, making uniform government distribution of healthcare inefficient.

Similarly, a heavily regulated market prevents providers from behaving in certain ways on the market. For example, a regulated market might prohibit providers from offering a treatment that has not been shown safe and effective. While well-intentioned, such regulations cut into the choices available to consumers. Consumers who are less risk-averse may prefer to access an unproven treatment. Yet a regulated market prevents consumers from accessing the service that would satisfy that preference, preventing a Pareto improvement. Another example is that some healthcare consumers may prefer to go uninsured. In a free market, they can choose

this option. In a regulated market that requires insurance, consumers are prevented from satisfying their preference. They are therefore less able to perform Pareto improvements that would otherwise be available to them in a free market, rendering the regulated system inefficient.

Certain conditions constrain the ability of a market to increase efficiency. If some factor hinders buyers or sellers pursuing their own preferences on a market, that market will be less likely to produce Pareto improvements and will fail. Competition is necessary for the first fundamental theorem of welfare economics. Because only a perfectly competitive market is guaranteed to produce a Pareto optimum, flaws in the market that result in less competition will hinder the market from achieving an optimum. Features of the market structure, transactions, and commodities on the market can dramatically alter the efficiency of the market. Those markets that tend strongly toward inefficiency fail, so certain features of the market cause market failures.

Agency problems prevent buyers or sellers from negotiating on their own behalf to advance their preferences, resulting in inefficiency. The term "agency" describes the ability of a person to act (Schlosser). For my purposes, I will employ a narrower, more economically focused definition. In this chapter, agency refers to the ability of a market participant to realize their preferences. Participants that lack agency are in some sense economically paralyzed; they cannot secure their preferred outcomes, and thus their preferences are no longer relevant to the direction of the market. For example, a person who lacks agency in this sense may prefer some outcome A, but this person lacks the ability to exercise that preference due to their poor agency. So the market, which usually responds to consumer preference because satisfying consumers is the best route to profit for sellers, will fail to recognize the person's desire for A. If many or most people who desire A lack the agency to act on that desire, a whole set of economic preferences will go unsatisfied. The result is that transactions are no longer *de facto* Pareto improvements

because we can no longer assume that transactions satisfy the preferences of consenting participants.

For this chapter, I will focus on three causes of agency deficits on a market. Information asymmetries between buyers and sellers constitute one class of agency problems. Principal-agent arrangements in which negotiation is performed on behalf of the transactor rather than by the transactor themselves may damage agency as well. Lack of meaningful exit from a transaction also poses a threat to agency. For the remainder of this section I will focus on problems with buyer agency, since these will be most relevant later when I argue that healthcare necessitates an agency deficiency on the part of patients that prevents proper market function. Lack of seller agency also produces inefficient outcomes, hindering their ability to negotiate for their preferences.

Information asymmetries occur when the buyer and seller do not have equal knowledge about the transaction in which they take part. When a seller knows more about the product being sold than the buyer does, the buyer may act in ways they would not if they had the same information as the seller. By manipulating the information available to the buyer, the seller may induce the buyer to behave in ways contrary to their own interest. Since the buyer does not possess sufficient knowledge to negotiate for their own preference, the buyer lacks agency.

Asymmetries between buyer and seller alter the balance of power in a transaction and can thus cause market failures. If a buyer does not understand enough about the product or service they are purchasing, they will be unable to recognize those transactions that satisfy more of their preferences and so will be unable to secure the satisfaction of their preferences. Severe information asymmetry leaves buyers open to exploitation, such that transactions in which they take part will not satisfy more of their preferences and will thus not necessarily be Pareto

improvements. Mild information asymmetries are commonplace; the seller knowing more about their product than the buyer is not sufficient to damage efficiency. However if a buyer cannot determine whether they have gotten their money's worth in a transaction, they will be unable to make an informed decision about whether to transact with that seller again, reducing the competitiveness of the market. If a seller misinforms a buyer about the nature of the good being sold, the buyer may make decisions contrary to their own preferences. Information asymmetries become problematic when they damage the ability of buyers and sellers to negotiate in ways that are conducive to the satisfaction of their preferences. For example, Park posts an advertisement in the local classified section to sell a bed frame. Jones, who is in the market for such a frame, contacts Park to transact for it. But Park knows what Jones does not: the bed frame has been invaded by termites. Park assures Jones that the bed frame is intact, tells her the age and dimensions of the bed, and refers to it as "lightly used" in the ad. Jones is convinced and purchases the bed frame from Park, which she would not have done if she had known about the termites. Later, Jones realizes her mistake but can do little to retrieve her money; *caveat emptor,* says Park. This transaction between Park and Jones is not a Pareto improvement. Park's preferences have been satisfied, but Jones' preference for a usable, termite-free bed frame has been violated. When information asymmetries are commonplace in a market, the market will fail. Successive transactions bring the market further from Pareto optimality, since information-deficient parties in transactions have their preferences violated.

The principal-agent problem refers to the issue of how to motivate third party agents acting on behalf of a principal to operate in the best interest of the principal. The agent is an entity that is supposed to act in the best interest of another entity, the principal. For example, a lawyer is supposed to advocate for their client. In this case the lawyer is the agent and the client

is the principal. But the principal has no guarantee that the agent will actually act in the best interest of the principal if the interests of agent and principal conflict. The client might suspect the lawyer of billing hours exorbitantly or a conflict of interest. If the agent's self-interest directs them to act in ways contrary to the best interest of the principal, the principal-agent relationship breaks down. The agent may no longer operate on behalf of the principal but in their own best interest instead. This is the crux of the principal-agent problem; how to motivate the agent so that the interests of the principal and the agent align (Black et al. "Principal-Agent Problem"). If the agent's interest does not align with the principal's, and the agent pursues their own interest, the preferences of the principal are not represented on the market. Thus, principal-agent relationships can constitute an important class of agency problems.

Principal-agent problems cause market failures. When an agent makes buying decisions on behalf of the principal, the principal loses their agency in the transaction. When the agent lacks the incentive to make decisions in the best interest of the principal, the ensuing transaction may not be a Pareto improvement, since the transaction does not rest on the preferences of one of the participants. For example, Smith accesses the services of Rodriguez, a financial advisor. Rodriguez is the agent, Smith is the principal. Rodriguez takes Smith's money to invest. If Rodriguez has no incentive to act as a fiduciary for Smith then she may invest his money according to her own interest rather than his. She can be induced to invest in ways contrary to Smith's interest and, by doing so, she removes Smith's preferences from consideration in a transaction. When she transacts on Smith's behalf but not according to his preference, the transaction may not be a Pareto improvement. Smith's preferences may be violated by the transaction, making the transaction Pareto inefficient. When principal-agent relationship breakdowns are common in a market, the market will tend to fail because many transactions will

not be Pareto improvements. The principal, who is actually the transactor on the market, does not have their preferences represented. Thus a whole class of market participants (the principals) cannot secure the satisfaction of their preferences by transacting with others. Many iterations of transactions that de-satisfy preferences (and fail to compensate) will bring the system farther from Pareto optimality.

Lack of ability to exit from a transaction is perhaps the most dramatic example of loss of agency. If a buyer cannot cancel a transaction, they lose all negotiating power. Locked into a transaction, they are at the mercy of the seller, who has little motivation to ensure that the transaction is good for the buyer as well. A buyer who cannot exit from a transaction loses their bargaining position; they cannot simply leave the transaction and go elsewhere to acquire the same good or service. The outcome of a locked transaction does not depend at all on the preference of the buyer, resulting in a loss of buyer agency. The buyer cannot see to it that their preference is met. A seller with a captive buyer can charge any price and provide a good or service of any quality because the seller cannot possibly lose the transaction, even if the price is exorbitant and the quality is poor. In a monopoly for example, there is only one seller. Thus, if buyers require the good or service offered by that seller, the buyer has no choice but to transact with that seller. Buyers cannot negotiate by threatening to walk away from the transaction if the good or service is necessary for their well-being. When many buyers in a market lack the ability to exit from transactions, the preferences of those buyers no longer influence the direction of the market. Sellers do just as well violating the preferences of buyers as they do satisfying those preferences. Widespread buyer dissatisfaction is inefficient. Thus, when lack of exit is common, the market fails.

In general, when a market becomes less competitive it will tend to produce less efficient outcomes. The competitiveness of a market is the source of its ability to promote efficiency. When a market is competitive its participants have strong economic agency: they are well-informed, free to enter and leave transactions, and able to effectively negotiate with one another.[4] If all participants have strong agency, all participants have their preferences represented and transactions will likely be Pareto improvements. A non-competitive market, one in which participants lack agency, will tend less toward Pareto optimality, and a market in which participants suffer from severe agency deficits will fail.

Section 3: Market Failure in Healthcare

In 1968, Kenneth J. Arrow pointed out that healthcare differs significantly from other commodities and based on those differences, predicted market failures for markets in healthcare. Arrow pointed out that demand for healthcare is irregular (948-949), that physicians are expected to behave in ways "divorced from self-interest" (950), that healthcare is riddled with information asymmetry (951), that there are significant barriers to entry into the medical profession (953), and that physicians often employ price discrimination in ways that do not maximize their profits (947, 954). Each of these features of healthcare cause a healthcare market to deviate from a normal competitive market. Arrow's work shows that there are many factors that contribute to the peculiarity of healthcare in a market setting. In the following section I will concentrate my analysis on two of Arrow's points: the information asymmetry and the fiduciary responsibility of physicians.

[4] This is not an exhaustive list of requirements for a competitive market, merely the ones of which I will discuss at length.

Information asymmetry in healthcare, and its negative consequences, create severe agency problems for patients that undermine their ability to participate in markets. Arrow discusses the uncertainty of healthcare and shows that patients lack the certainty and knowledge that would allow them to negotiate on equal footing with physicians (951). The information asymmetry between doctors and patients, and its negative effects on the market, are well established. "[Free market philosophy] suggests that the market determines value; however, information asymmetries between patients and providers make it impossible for these markets to work in the usual market efficiency sense" (Burgess 8). Mascarenhas et al. argue that, "Problems in the health care system that can be traced to information asymmetry include: increased inefficiencies, excess slack, wasteful procedures, unnecessary tests, malpractices, patient ignorance and wasteful consumption" (384). The prevalence of information asymmetry, as well as its consequences for healthcare and for markets in healthcare, has been recognized, but efforts to curtail the power asymmetry between patients and physicians have had mixed success (Pilnick and Dingwall 1375). The information asymmetry is persistent and leads to an unequal power dynamic between physicians and patients. The lack of power on the part of patients dramatically cuts into their ability to negotiate with providers: lack of information translates into lack of agency. Transactions in which the patients lack the ability to negotiate for the satisfaction of their preference are frequently not Pareto improvements. If a buyer does not understand the product they are buying, and thus cannot negotiate for the satisfaction of their preference, the resulting transaction will bring the system farther from Pareto optimality rather than towards it. This patient agency deficit remains so pernicious even in the face of efforts to dispel it that Pilnick and Dingwall describe it as "embedded within a wider functionality of the

institution of medicine in society" (1381). This tenacious asymmetry undermines the tendency of a market in healthcare toward efficiency.

Since patients lack the ability to negotiate on their own behalf, they rely on physicians to act as their agents. Physicians make decisions about which options to present to patients, which treatments are likely to work, which treatments are inappropriate, and which tests to run. All these decisions are made on behalf of the patient. As Arrow points out, physicians are expected to behave as fiduciaries for their patients (950). They act as agents for the principals, i.e., the patients.

On a market, the principal-agent relationship poses a particular problem for healthcare. Physicians are bound to act in the best interest of their patients but on a market, the best interest of a seller can easily diverge from the best interest of the buyer. On occasion, the best interest of the two parties may converge but most of the time a transaction requires negotiation to secure an outcome that satisfies the preferences of both parties. This is because both buyer and seller are pursuing independent best interests, and the challenge of completing the transaction is to find a compromise that may not be in the best interest of either party but sufficiently satisfies the interest of both. When Jones buys Smith's textbook for fifty dollars, both parties are amenable to the transaction despite the fact that Jones would prefer to have paid nothing for the book and Smith would have preferred any amount of money greater than fifty dollars. It is the best interest of Smith to charge as much as possible for the book, and the best interest of Jones to pay as little as possible. By negotiating, they find an outcome that serves the interest of both: a Pareto improvement. Both parties move from one allocation to another that they prefer (compared to the first allocation), even if the new allocation does not maximally satisfy both buyer and seller. If one party cannot meaningfully negotiate on their own behalf, the other party can easily secure an

outcome that better serves their own interest and violates the preference of the disadvantaged party. The result is a transaction that is not a Pareto improvement.

On a healthcare market, the buyer is the patient and the seller is the provider (for the sake of simplicity I will use the example of a physician as the provider). But recall that the physician is also the agent of the patient. Due to the information asymmetry, patients cannot effectively negotiate for the satisfaction of their preferences, so they rely on the physician to act in their interest. However, as discussed, the best interest of the seller is not usually the best interest of the buyer. So a physician in market healthcare has competing roles: that of a seller, whose role is to pursue their own best interest (maximizing profit), and an agent, whose role is to represent the best interest of the buyer. The result is a serious principal-agent problem, in which the best interest of the agent does not correspond with the best interest of the principal.

In theory, the combination of the information asymmetry and the principal-agent problem at work in healthcare erodes the efficiency of a healthcare market, but there are other industries with information asymmetries in which a principal pays an agent to operate on their behalf. If these other industries may be marketed without dramatic inefficiencies, then perhaps so healthcare can be sold on a market without facing a market failure. In the case of legal services, for example, buyers lack knowledge that the seller possesses, and the seller is expected to operate as a fiduciary for the buyer. Legal services are bought and sold with little evidence of market failure. The efficiency of the market in legal services may be a counterexample to my argument, if legal services are analogous to healthcare. [5] I will now turn my attention to another peculiarity of medicine that makes markets in some forms of healthcare inefficient.

[5] Legal services are sold on a market, but by no means a free market. Since I am arguing against a free market in healthcare, not any market in healthcare, the sale of legal services on a regulated market provides no real analogy to a free market in healthcare. Nonetheless, another idiosyncrasy of healthcare

Patients often lack the ability to exit healthcare transactions in a way that clients of a lawyer can. Usually someone accessing legal services can at any time choose to fire their lawyer without facing dire consequences. But a patient often cannot simply walk away from a medical transaction. Imagine that Jones is brought to the emergency department of her local hospital, having just been in a serious car accident. Jones' arm has been severed, and the attending physician, Williams, secures her consent to re-attach the limb. Jones cannot decline this surgery without losing her arm, so she has little possibility of meaningfully exiting the transaction. Nor is it feasible to expect Jones to shop around and price compare for arm re-attachment surgery. If the surgery is the service offered to Jones as a buyer, Jones lacks meaningful exit from the transaction. So much the worse for Jones' agency if she is unconscious. This is an extreme example, but the same vulnerability on the part of the patient remains pervasive in many medical transactions. Imagine that Jones' arm remains attached, but she is bleeding and disoriented. She is, once again, in no position to decline a medical transaction. The urgent, crisis-oriented nature of some forms of medicine, like emergency care, aggravate the agency problems in healthcare by making exit from such transaction less possible.

Perhaps Jones' problem is not trauma from an accident, but cancer. Assume Williams is an oncologist, a specialist in cancer medicine. On a market, Williams has significant motivation to present Jones with those options that give Williams the best outcome, likely the expensive options. While Jones is technically free to decline the treatment, doing so would endanger her life to a point that declining is unlikely to be a viable option. When the possible penalty for withdraw from a transaction is death, technical freedom to decline is insufficient to establish the possibility of meaningful exit.

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differentiates it from other services and the comparison to law will be illustrative, despite the weakness of the analogy.

Jones may be able to seek a second opinion, see another specialist and compare their proposed treatment with the one offered by Williams, but she cannot prescribe for herself her preferred treatment. The information asymmetry between Jones and her physicians exacerbates the exit problem; lacking information of her own, Jones must rely on her physicians to act as agents on her behalf. Any selection that she makes between sellers impacts her chances of survival and will be made from a position of vulnerability and fear, without detailed information, and with no guarantee that either seller will act in her best interest. All told, Jones is in an extremely weak negotiating position as a buyer.

Hudgins and Rising point out that the way people access medical care is unusual, rooted in fear, vulnerability and sacrifice: "patients' fears and anxieties are existential in nature, but are also entangled in the moral discourses, narratives and roles that define the self- family responsibilities and gender roles, among others" (Hudgins and Rising 51). The complex psychological vulnerability associated with patienthood further complicates the problem of exit from a healthcare transaction. Entry and exit into medical transactions are both largely motivated by fear. Unlike accessing legal services, access to healthcare is bound up by emotional, social, physical, and moral vulnerabilities. Patients' health is at stake, but often so is their relationship with their own body, their self-image, social status, and ability to provide for their family (Hudgins and Rising 51). These factors make exit from a medical transaction a much more complicated prospect, and it is unreasonable to expect patients to exercise their capacity to exit a healthcare transaction in the same way that someone exits a book-buying transaction, a house-buying transaction, or even transaction for legal services.

There may be some people who are sufficiently privileged to afford excellent care provided by sellers with sterling reputations, whom they trust to work as their agents. There may

be some patients who have the time to dedicate to researching alternatives, learning enough to meaningfully overcome the information asymmetry. There may be some who possess the emotional stability to make rational consumer decisions while facing death, pain, and disability. And there may be some circumstances in which these people could reasonably exit from medical transactions (though unconsciousness or severed arms remain problematically coercive). Perhaps such people exist, but the mere possibility that some portion of the population could retain the strong agency required to negotiate on a healthcare market is not sufficient to establish that such a market would not fail. A market failure occurs because of many transactions. Market failure describes a tendency of the market toward inefficient outcomes. Should agency problems in healthcare be sufficiently widespread, hindering negotiation and competition, the market will fail. The possibility that some patients may possess the type of agency required on a market is insufficient to show a market will not tend toward inefficiency.

In a healthcare market, sellers lack exit as well. I have claimed that Jones, the patient, lacks strong opportunities to exit market transactions, diminishing her agency as a consumer and leaving her open to exploitation by her physician, Williams. But even if one accepts that Jones can decline a medical transaction, it is less clear that Williams can decline to treat her. Given the obligations of a physician to operate in the best interest of the patient, vital treatment[6] cannot ethically be contingent upon the patient's ability to pay. The ethical obligations of a lawyer to act

[6] I wish not to include forms of healthcare like bandages, elective surgeries, and nutritional consultation. I take for granted here that the reader has some concept of the most important forms of healthcare that prevent death, remedy disability, and ease pain. The exact line between vital healthcare and non-vital healthcare I will leave to the reader, as this distinction will depend largely on values for which I will not argue. For example, whether birth control qualifies as vital medical care will depend crucially on the opinions of the reader. Other *penumbra* examples may include physiotherapy, diagnostics, preventative care, optometry, dentistry, and so on. I simply assume that there are at least some forms of healthcare that are clearly more vital than others, and that these forms of healthcare occupy a sizeable portion of healthcare in general. I will assume that the more vital the treatment, the more vulnerable the patients who require it. My project is to show that these forms, whose vitalness contributes to the vulnerability of patients, do not belong on the market.

as a fiduciary for their client may well be contingent on the client actually paying for legal service. But the ethical obligations of healthcare providers seem more comprehensive. The modern Hippocratic oath states: "I will apply, for the benefit of the sick, all measures [that] are required," and goes on to mention physicians' "special obligations to all my fellow human beings." (Tyson 2001). Note that neither of these aspects of the oath leave room for refusal of care to those who cannot pay. Quite to the contrary, it seems that swearing to pursue "all measures" for the sick precludes refusing to apply some measures for lack of payment, and the "special obligations" are to "all my fellow human beings," not merely those who can pay.

I have discussed agency problems on the part of patients, among them lack of exit from transactions. These factors significantly diminish the likelihood that any given transaction on a healthcare free market will be a Pareto improvement. If many transactions are not Pareto improvements, the system will tend away from efficiency. I have provided an analysis of a thin slice of the problem with a healthcare market. Arrow pointed to a handful of market flaws. Barriers to the entry of sellers into the market, for example, will further reduce competition; becoming a healthcare provider requires preliminary education, time and money for training. Lack of free entry into the market for possible competitors causes fewer competitors. Fewer competitors leads to less choice for consumers. Lack of choice translates to lack of negotiating power, Pareto dis-improvements, and when the problem is widespread, eventual market failure. Competition issues pervade healthcare, and agency problems on the part of patients constitute a fraction of the possible causes of healthcare market failure.

I have demonstrated that issues endemic to the practice of medicine make healthcare a poor commodity on a free market. I will now turn to briefly convince the reader of the catastrophic nature of a market failure in healthcare.

I take it that medicine is a fundamentally moral activity. One might argue that due to the moral nature of medicine and the high stakes in healthcare, market participants will behave more responsibly than participants in other markets. Thus, one might wonder why a failing market in healthcare would be catastrophic. Perhaps other benefits of a free market may justify a market failure if indeed the participants of the market behave altruistically enough. The question is: given that human lives are at stake, will altruism induce participants in a largely uncompetitive healthcare industry not to sacrifice care for the sake of cost?

In his book *Managed Healthcare Industry: A Market Failure,* Dr. Jack Charles Schoenholtz describes the market failure in the managed healthcare industry. My project here is to criticize theoretical arguments against a free market in healthcare and managed care is far from a free market. The causes of the managed care failure are largely regulatory (Schoenholtz 5), but Schoenholtz examines the result of the market failure as well. Part of his project includes descriptions of the outcomes of cost-containment in the healthcare industry. The results of cost-containment in a free market in healthcare may be quite similar. If the agency deficits on the part of patients, combined with other market imperfections in medicine, hinder competition on the free market then the results will likely be analogous: providers seeking to contain costs.

The result of cost-containment methods employed by health management organizations provide an answer to the above question: altruism is insufficient to motivate market participants to mitigate the effects of a healthcare market failure. Cost-containment measures save money at the cost of human lives. Schoenholtz demonstrates that the blossoming of HMOs "was associated directly with a 50 percent decrease in days of hospital care per one thousand persons, a 24 percent decrease in surgical procedures, yet an increase of more than 50 percent in total annual patient visits to physicians in the same period" (4). This data implies that while patients visited

the doctor more, they received less expensive care in the form of hospital visits and surgeries. To be charitable, let us examine an alternative explanation: more visits to doctors resulted in less need for hospital stays and surgeries. Schoenholtz goes on: "According to the Commerce Department's Statistical Abstract of the United States, though the national death rate from all causes had been steadily dropping from 9.5 per one thousand Americans in 1960 to a low of 8.6 in 1990, it rose to 8.8 percent by 1995 during the rapid growth of managed care" (4). This reversal in the death rate belies the assumption that patients needed less care during the period in which hospital stays and surgeries dropped so precipitously. Further,

> The death rate dropped once more to 8.5 percent in 2002 and 8.1 percent in 2006…However, the Statistical Abstract's 'deaths from all causes' included both good and bad news. The good news was the decrease in heart disease, cancer, accidents, homicide, and surgical failures. The bad news was double-digit increases in complications from diabetes, septicemia, and pulmonary diseases, illnesses that have been found to accompany premature, shortened-stay discharges from the hospital. (Schoenholtz 4)

Schoenholtz's data indicates that cost-containment measures in healthcare can and do kill people. When patients cannot negotiate on their own behalf, self-interested profit-seeking entities take the opportunity to transact with them in ways that do not satisfy the preferences of the patients. The altruism traditionally associated with the practice of medicine is insufficient to curb the negative effects of a healthcare market failure. Many doctors are compassionate, caring people who would prefer not to put their patients in harm's way. But this fiduciary instinct is incompatible with the position of a seller on the market. A free market in healthcare opens vulnerable patients to exploitation, due to their reduced agency, and Schoenholtz work on

managed care shows that exploitation of patients does take place in a failing healthcare market, and that this exploitation takes lives.

Conclusion

The role of the patient is endemically riddled with agency deficits, from information asymmetries, emotional, physical, and social vulnerabilities, and thus lack of possible exit from transactions. These agency problems make patients poor buyers on a market. The role of the physician to act as a patient's fiduciary, exemplified by their lack of possible exit from transactions, make them poor sellers on a market. The result is a mix of complex factors that undermine the competitiveness of any putative market in some forms of healthcare, such as emergency care, life-saving treatments, and other forms of vital healthcare. Lack of competition stemming from the inability of participants to negotiate with one another causes transactions to fall short of being Pareto improvements. Since many market transactions will not be Pareto improvements, the system will not tend toward Pareto optimality, rendering a market in healthcare inefficient. Widespread inefficiencies represent a market failure.

According to the first fundamental theorem of welfare economics, competitive markets tend toward one or another Pareto optimum. To achieve an optimum, the market must be competitive. Agency problems on the part of patients and providers reduce the competitiveness of a free market in healthcare, causing such a market to tend away from optima. The second theorem states that for any optimum, a competitive market will bring some initial distribution to that optimum. But no initial distribution of resources is likely to reach a Pareto optimum if the market it is subjected to is uncompetitive (unless that initial distribution is itself a Pareto optimum). Healthcare suffers from competitive flaws, caused by inescapable agency problems in medicine. These competitive flaws cause inescapable failures in free markets in healthcare.

Recall that there are many Pareto optima, all of which are Pareto interchangeable. Recall also that being a Pareto optimum is not sufficient for an allocation to be socially desirable or morally permissible. We have powerful moral reasons to prefer some optima over others. Even if a competitive market in healthcare were to tend toward a Pareto optimum, it may not be a morally acceptable optimum. The yielded optimum, per the second theorem, will depend on the initial distribution, but as Sen points out, selecting an initial distribution that a competitive market will bring to a particular optimum may not be feasible (521). In other words, we have little control over the character of the optimum at which a market equilibrates. Healthcare is critically important, morally salient, and uncompetitive; thus a distribution mechanism that we cannot control, like the free market, can easily fail to deliver either efficient or desirable outcomes.

Chapter Three: Moral Hazard

Introduction

According to Kenneth J. Arrow, "it is frequently observed that medical insurance increases demand for medical care" (961). Arrow was the first to explicitly apply the concept of moral hazard to health insurance. Since then two different interpretations of moral hazard have been identified (Finkelstein et al., 17). The first, "*ex ante* moral hazard," claims that when people have health insurance they will be less likely to take care of their health. Since insured people will not suffer the financial burdens of the consequences of their actions, these people will care less for their health and be more inclined to smoke, drink, and so forth. They will consume more healthcare, raising its cost. According to the second type, "*ex post* moral hazard," insured people will be more likely to consume healthcare regardless of their health status. People with insurance may not behave any more recklessly but they choose to consume more healthcare than those who would be obliged to pay for it themselves.

The theory of moral hazard in general states that since insured people do not suffer the full financial consequences of their actions, insurance removes a financial disincentive for some behaviour (Rowell and Connelly 1051). Insurance pays when something bad happens and prevents catastrophic loss to individuals. But if that catastrophic loss disincentivizes some behaviour (presumably the behaviour that caused the loss), and insurance removes the catastrophic loss, then insurance removes the disincentive. Thus, the behaviour that causes loss becomes more likely because the disincentive is removed.

To illustrate moral hazard, throughout this chapter I will use the example of car insurance. I will take up this example to explain *ex ante* and *ex post* moral hazard later in the chapter, but here I will present it to give an example of moral hazard in general. Smith lives in a

place where car insurance is not required by law. Smith has a car, but no insurance. He knows that if he gets into a car accident, he will bear the full financial burden of repairing his car, possibly thousands of dollars. Smith is extremely careful with his car, minding the speed limit and taking pains not to scratch or dent his or anyone else's vehicle. One day, Smith buys insurance that will cover the whole cost of his car and any other car he damages. Smith now has less incentive to avoid accessing car repair services. He no longer must pay for these services and thus he feels he can access them all the time. If Smith begins to access an inappropriate amount of car repair services, his insurance has caused moral hazard.

Some proponents of a free market healthcare system argue that third-party payers such as insurance companies or single-payer government insurance cause moral hazard. Testa and Block argue that, "demand artificially rises when government offers welfare alternatives such as Medicaid, Medicare, and tax incentives for individuals to purchase private insurance through their employers" (Testa and Block 106), and that these rising costs would be checked by a free market in healthcare. Leibowitz argues that, "third-party payment mechanisms have raised the total consumption of medical resources to unprecedented levels," and that "to lower the currently very large medical expenditures in the United States, the third-party payment system must be reined in" (Leibowitz). Third-party payment systems include single-payer systems such as that of Canada in which the government provides health insurance (Shaw 1064), but also systems that rely on private insurance companies. If the phenomenon of moral hazard occurs in these third-party payer systems, there might be good reason to avoid such systems. Moral hazard in healthcare manifests as increased healthcare use, which may become quite expensive (Leibowitz). The relationship between cheaper or free healthcare and increased use of healthcare

can therefore be used to argue that third-party payer systems are more expensive compared with a free market in healthcare.

In this chapter, I will argue that while free healthcare may cause increased use of healthcare, that increased use does not necessarily constitute overuse of healthcare. I will not claim that free healthcare does not promote the use of healthcare. I will show that moral hazard, construed as overuse of healthcare when healthcare is free, is not a necessary consequence of third-party payer systems. To that end, I will defend the claim that an increase in use of healthcare does not necessarily constitute a problematic overuse of healthcare, and that free markets in healthcare may be subject to problematic overuse as well as underuse. I will first examine *ex ante* moral hazard and argue that using claims of e*x ante* moral hazard to defend a free market model of healthcare fails to account for the impact of the free market on non-disincentivizable medical need. I will then turn to *ex post* moral hazard and show that using *ex post* moral hazard to defend a free market approach to healthcare relies on an unintuitive definition of what it means to use healthcare appropriately.

Section 1: *Ex Ante* Moral Hazard

Ex ante moral hazard claims that when someone is insulated from the consequences of a certain risky behaviour, they will more likely engage in that risky behaviour (Rowell and Connelly 1051). Applying *ex ante* moral hazard to healthcare, those people with health insurance will more likely behave in a way that risks their health (Finkelstein et al. 17). Since their insurance company will pay for their treatment, why not drink, smoke, run with the bulls, or climb mountains? Why should they be extra careful if they are not the ones who have to pay for their medical bills?

Ex ante moral hazard states that, in the example of Smith's car, Smith will be more likely to drive recklessly once he acquires car insurance. He no longer needs to pay for any car accident he gets into, so he has less of an incentive to be as careful as he was before he got insurance. Insurance has removed a disincentive for risky driving. Because he no longer suffers the full financial consequences of his actions, Smith drives more recklessly and gets into more accidents. Since he meets with more accidents, his car is damaged more often and he accesses car repair services more often. When Smith gets car insurance, he uses car repair services more than he did before he had car insurance (moral hazard) because he behaves in a risky fashion (*ex ante* moral hazard).

One might be initially suspicious of *ex ante* moral hazard with regard to healthcare. People certainly have non-financial reasons not to risk their health. Health is desirable, not only because it is cheaper to be healthy. Losing one's health is a reasonable motivation in and of itself to avoid unhealthy behaviours. Let us re-examine Smith and his car for a moment. Once insured, Smith no longer has any financial reason to avoid car accidents. Now let us say that his insurance comes with a disturbing catch: every scratch to his car contributes to his risk of cancer. With this new consideration, Smith might be very nearly as careful with this car when insured as he was when he was uninsured. The risk of damage to his health now provides a good reason to avoid car accidents, even in the absence of a financial disincentive for accidents. Bad health is its own disincentive. Regarding health insurance, taking away a person's financial responsibility for their health does not remove all consequences of risky behaviour. Lung cancer provides an excellent disincentive for smoking. Paying for one's own lung cancer treatment may be prohibitively expensively for some people and the financial burden of medical treatment might disincentivize smoking. Money is not, however, the only reason people might fear lung cancer, so it is possible

that *ex ante* moral hazard is not a problem for health insurance. If people who can access free healthcare still have powerful reasons to avoid risk, then perhaps the impact of free healthcare on people's risk tolerance will be minimal.

While the above objection to *ex ante* moral hazard in healthcare has significant bite when the possible consequences of risk are as frightening as cancer, many risks have less severe consequences. The possibility of severe or life-threatening illness may deter people from engaging in risky behaviour but people might not be as careful if the possible consequences of their actions are limited to pain and inconvenience. Lung cancer may deter people from smoking as much as or more than a hefty medical bill, but a broken arm only amounts to six weeks of pain and inconvenience. Without the financial disincentive of needing to pay for care, people might engage more in these behaviours that carry lesser risk. They may choose to ski, drive too fast, and so forth. Without the deterrent of financial expense for their actions, they may behave more riskily, if what they are risking is pain and inconvenience rather than death.

I am addressing the phenomenon of *ex ante* moral hazard as it is used to argue that free markets in healthcare will result in people exercising more caution to avoid having to pay for medical treatment. In theory, when people need to pay for their own healthcare they will risk their health less than if healthcare were free. A free market in healthcare disincentivizes risking health.

The trouble with the concept of *ex ante* moral hazard is that having to pay for one's care disincentivizes risky behaviour only indirectly by disincentivizing accessing medical care. If Jones behaves in a risky way and breaks her leg, she is still able to avoid the financial disincentive of needing to pay for treatment. She can simply not seek treatment. Once Jones has already been injured, the disincentive (having to pay for healthcare) still exists, and it is applied

to the act of accessing healthcare. Perhaps Jones would be more likely to engage in the risky behaviour that resulted in her injury if the financial disincentive did not exist, but the disincentive provided by financial loss in a free market healthcare system applies to risky behaviour only indirectly by disincentivizing treatment. Jones' risky behaviour is disincentivized because risky behaviour might require treatment, and treatment is disincentivized.

The indirectness of the disincentive applied to risk by free markets in healthcare is problematic because disincentivizing access to healthcare disincentivizes all access to healthcare regardless of whether the healthcare consumer's behaviour resulted in their requiring healthcare or not. If lack of health insurance (such as in a free market) and the resulting price for treatment disincentivizes injury, it does so for all injury regardless of cause. For example, Smith gets into a car accident even though he was driving quite carefully. His medical bills amount to a thousand dollars. Jones gets into a car accident while driving in a very risky way. Her medical bills also amount to a thousand dollars. Thus, the disincentive for Jones' risky driving and the disincentive for Smith's driving at all are the same, provided the medical expenses are the same. For any given individual who has a medical expense, the price of healthcare does not differentiate between those people who were behaving in a risky way and those who are simply unlucky.

A substantial portion of healthcare consumers not only falls short of being responsible for their conditions, there is absolutely nothing they could have done differently to avoid needing medical care. Those people who are afflicted with some forms of cancer, infections, or genetic illnesses did not behave in any way to cause their need for healthcare. For example, Huntington disease is an inherited condition that no one with the Huntington disease gene can avoid by adjusting their behaviour (Mahalingam and Levy 1070). Surely, the free market would not disincentivize people from having Huntington disease. Yet, a free market healthcare system

applies financial burdens onto people with Huntington disease. Lack of health insurance and the need to pay for one's own treatment does not disincentivize people afflicted with Huntington disease from having Huntington disease; it disincentives people with Huntington disease from seeking treatment.

The free market in healthcare may disincentivize risk, but it also disincentivizes seeking medical treatment for everyone, not merely the risk-takers. There are ways to disincentivize unreasonable risk (driving recklessly) without disincentivizing reasonable risk (driving at all) or blameless conditions (Huntington disease). For example, speeding tickets disincentivize a particular variety of risky driving. A tax on cigarettes disincentivizes smoking without targeting people who do not smoke. Perhaps a benefit of a free market in healthcare is that is disincentivizes risk, but there are ways to disincentivize risk in more specific ways that do not affect healthcare in a way that may harm people who behave in ways that we do not wish to disincentivize.

Ex ante moral hazard describes a problem wherein people take more risks when they are not financially responsible for the consequences of their risks. In a free market healthcare system, financial disincentive for risky behaviour comes in the form of needing to pay for one's treatment, which effectively acts as a disincentive for needing treatment. Free market proponents argue that having to pay for treatment adjusts the individual's behaviour away from risk because risk may cause the individual to need treatment and treatment costs money. But many prosaic and benign activities carry a risk of injury. A financial disincentive for those people who need medical treatment does not distinguish between those people who are taking egregious risks and those unfortunates who were taking normal, everyday risks and happen to get unlucky. In a free market system, even people with no control over their illness will need to pay for their treatment.

What free market fees for medical care disincentivizes is all forms of medical treatment, no matter how necessary the treatment and no matter how blameless the patient. A free market may cause people to use less healthcare by causing people to take fewer risks with their health, but it will also disincentivize people from using healthcare even if they were not responsible for their condition. A free market in healthcare does not *merely* disincentivize risk, it disincentivizes risk by disincentivizing access to healthcare.

Section 2: *Ex Post* Moral Hazard

Ex post moral hazard is another version of the moral hazard problem, which recognizes that paying for one's own healthcare disincentivizes access to healthcare. In this version, the disincentive created by paying for one's treatment applies at the point where an agent decides whether to access insured services (Finkelstein et al. 17). To revisit Smith's car example, let us say once again that Smith has terrific insurance; it covers at no penalty everything that could possibly need to be done to his car. If Smith is subject to *ex post* moral hazard, this insurance may not affect his driving, but it does affect the frequency of his access to mechanics. With his great insurance, Smith can now get his car checked over once a month or even once a week for any problems it might have, regardless of whether he has been having trouble with it. Or, if Smith gets a tiny scratch on the hood that he might have ignored if he had to pay for it himself, he may be willing to have it fixed. After all, he does not need to pay to get the work done. For healthcare, *ex post* moral hazard occurs when people have health insurance and use healthcare more than they would have if they had to pay for the healthcare themselves (Finkelstein et al. 17). They will go to the doctor more often and for less important reasons. Conversely, being uninsured makes people circumspect about their access to healthcare so that they will only seek

medical help when treatment is truly necessary, thus lowering demand for and expenditure on medical services.

Before I continue the discussion of *ex post* moral hazard, I will take a moment to address the history of moral hazard to clarify the nature of the concept of moral hazard at issue in my discussion. The use of the word "moral" in moral hazard has been a matter of debate, and has little do with right or wrong action. To clarify the meaning of the word "moral" in moral hazard, I will briefly delve into the history of the phrase. Rowell and Connelly point out that the uses of the term "moral hazard" have varied across time and by the intellectual field of the user of the term. In economics, moral hazard has little if any normative weight: "The phrase 'moral hazard' was initially developed within insurance-industry literature 150 years ago to describe a positive correlation between possession of insurance and incidence of the insured event" (Rowell and Connelly 1069). Moral hazard has since then been co-opted by other disciplines and eventually used by insurance companies to shape public opinion against claiming against insurance policies (Rowell and Connelly 1064). The term began to describe not a mere correlation between low price and increased use, but that increased use is caused by low price. Famously, Mark Pauly argued that "the problem of 'moral hazard' in insurance has, in fact, little to do with morality, but can be analyzed with orthodox economic tools" (Pauly 1968). Rather than the claim that having insurance is correlated with the insured event, claims of moral hazard imply that having insurance causes increased incidence of the insured event. Furthermore, while the origin of the term and its usage by economists may not by design involve moral judgement that the use of more healthcare is bad, disciplines such as political science and philosophy have appropriated and injected normativity into the idea of moral hazard (Rowell and Connelly 1071).

Hale argues that moral hazard need not be moral at all, and that the normative rhetoric about moral hazard is not a true reflection of the concept (Hale 2). Hale demonstrates that moral hazard is "a central and inextricable feature of insurance and public policy more generally" (2), and claims that we need not be alarmed by moral hazard. I do not disagree, and I pursue a similar angle on moral hazard, i.e. increased use of healthcare in a free healthcare system need not signify that anything immoral has occurred at all. While I agree with Hale's approach, I will not address his amoral version of moral hazard, since the versions of moral hazard frequently used to defend free market healthcare are those versions that attach normative weight to increased consumption of healthcare.

The normatively loaded version of moral hazard must be carefully distinguished from the value-neutral use of the term. This paper criticizes the normative version, as it is used to argue against third-party payers for healthcare. Moral hazard as a simple correlation between increased healthcare coverage and increased use of healthcare cannot alone be used to argue against third-party payment systems. Increased use of healthcare in a system where access to healthcare is free shows price-sensitivity of healthcare (Finkelstein et al. 17), but it is possible that the increased use of healthcare when healthcare is free is not overuse of healthcare. If the increased use is not overuse then free healthcare is not problematic since it does not cause overuse of healthcare. Thus, even if a free healthcare system is more costly, those costs may not be problematic since they are associated with appropriate use of healthcare, not overuse. Indeed, increased use of healthcare can just as easily indicate prior underuse, such that the insured person used much less healthcare than they should have before acquiring insurance. Value-free moral hazard may be economically interesting, but the version of moral hazard used to argue for a free market healthcare system must involve establishing overuse of healthcare (overuse itself is a normative

notion) and thus must be the normative notion of moral hazard. I am interested in the use of moral hazard to argue against third-party payers, so I am addressing this normative usage of the term.

Finkelstein et al. describe a possible response to *ex post* moral hazard. They discuss a 2005 article by Malcolm Gladwell of the *New Yorker* entitled "The Moral Hazard Myth." Gladwell's argument, as explained by Finkelstein et al., is that people do not consume healthcare the same way that they do other goods. People do not want to spend their time at a doctor's office. They would rather not access medical services if they can avoid doing so. The trouble of visiting a doctor is enough of a disincentive to prevent most people from accessing healthcare frivolously. Therefore, *ex post* moral hazard will not cause people to access more healthcare than they otherwise would.

Finkelstein et al. seek to investigate Gladwell's claim with empirical evidence from the Oregon Medicaid lottery. Medicaid is a government program in the United States that provides health coverage to vulnerable groups, including poor Americans. In 2008, Oregon expanded its Medicaid program by allowing people to put their names in a lottery. Randomly selected individuals were allowed to apply to Medicaid. Baicker et al. compared the group that was eventually given Medicaid coverage to the group that was not selected. After 2 years, the winners of the lottery accessed significantly more healthcare but did not exhibit a clinically significant decrease in hypertension or high cholesterol. The winners of the lottery used healthcare amounting to 25% more expense than the control group and spent more time in the emergency room. Therefore, argue Finkelstein et al., those with Medicaid use health services more and go to the emergency room for issues that are not serious or time-sensitive (assuming the winner group and control group have a similar number of actual emergencies).

The empirical evidence from the Oregon Medicaid lottery seems damning for those who argue that moral hazard is not a problem in health insurance. People who could suddenly access healthcare at a much lower price used much more healthcare, and their health status did not significantly improve along the metrics[7] chosen by Baicker et al. It appears that these individuals accessed more healthcare without gaining much benefit from the expenditure. This evidence suggests that moral hazard is indeed taking place; having access to free healthcare for the winners of the lottery encouraged those people to access more healthcare than their uninsured counterparts without significant benefit to their health.

Baicker et al.'s study indicates that the winners of the lottery used more healthcare and did not see a significant improvement along some health metrics. The study also shows (rather unsurprisingly) that winners of the lottery suffered less healthcare-related financial burden, including medical debt. Oregon's Medicaid lottery provides some interesting data, but examining larger data about the Medicaid expansion under the Affordable Care Act gives a bigger picture. In most Medicaid expansion states, emergency department use stayed level or declined slightly. The mix of payers for healthcare did change:

> In difference-in-differences analyses, Medicaid expansion increased Medicaid-paid ED visits in those states by 27.1 percent, decreased uninsured visits by 31.4 percent, and decreased privately insured visits by 6.7 percent during the first year of expansion compared to nonexpansion states. Overall, however, total ED visits grew by less than 3 percent in 2014 compared to 2012-13, with no significant difference between expansion and nonexpansion states. (Pines et al.)

[7] Baicker et al. studied blood pressure, cholesterol, and glycated hemoglobin as these are indicative of common conditions and are measurements that ought to have responded to treatment in 2 years.

The evidence from the ACA Medicaid expansion contradicts the conclusions that Finkelstein et al. drew from the Medicaid lottery. However, I am not confident that evidence comparing insured and uninsured people can be used to compare third-party payer and free market systems. Empirical evidence may play a significant role in the moral hazard debate, but comparing insured and uninsured Americans may be more obfuscating than elucidating. On one hand, it seems dubious to claim that a person who has suddenly gotten access to free healthcare, where before medical services could have bankrupted them, will behave in the same way as someone who lives and has always lived in a single-payer system. On the other hand, I am not convinced that the behaviour of uninsured people would be the same behaviour as that of people in a free market system, since the prices for healthcare in a free market system may be lower than the price of uncovered health services in an otherwise insurance-based system.

Comparisons between different single-payer systems, insurance-based systems, and free market systems may shed more light on the problem, but caution in drawing conclusions is required here too. Comparing systems across time (e.g. comparing United States now with the United States in 1930) can easily fail to account for differences in consumer attitudes, the economy, level of healthcare technology, level of urbanization, political regulation, and so on. Similarly, comparisons between countries must be made with caution, since a daunting number of variables can confound such comparisons as well.

Since empirical evidence can provide little more than indications accompanied by stern caveats, I will turn now to a theoretical argument about whether or not the phenomenon of moral hazard can be used to argue for a free-market healthcare system.

Section 3: Appropriate Use of Healthcare

In this section, I will clarify some concepts that have largely been assumed in the moral hazard debate. By examining these concepts in greater detail, I will show that arguments for a free market in healthcare that use the phenomenon of moral hazard rely on an implausible definition of appropriate use of healthcare.

To claim that moral hazard is taking place in healthcare is to claim that insurance will incentivize people to access medical services, even when they do not need them. This claim relies on the idea that removing a disincentive for performing some action is the same as applying an incentive to perform that action. This assumption is dubious. Insurance removes a disincentive for accessing healthcare, which is not strictly the same as providing an incentive. For example, let us imagine a parking lot whose guards regularly issue tickets to illegally parked cars. The tickets are disincentives for parking illegally. To stop issuing tickets is to remove the disincentive. However, removing the disincentive does not incentivize illegal parking. Free ice cream for the drivers of illegally parked vehicles incentivizes illegal parking. Simply removing a disincentive may make the behaviour more likely than it was when the disincentive applied but does not provide anybody with a positive reason to park there illegally: if someone has no need to park in that lot they will not start parking there illegally just because the possibility of tickets has been removed.

Let us take a moment to look at what sorts of behaviours are having disincentives removed in the case of health insurance. The behaviour in question is accessing healthcare, as I argued in section 1. Moral hazard arguments claim that having insurance removes a disincentive from seeking treatment. In general, when someone goes to a healthcare provider, they are seeking to maintain or regain health. It may be true that needing to pay for healthcare is a

disincentive to engaging in healthcare-accessing behaviour and it may be true that removing that disincentive through insurance will cause people to access healthcare more often, but free healthcare does not incentivize accessing healthcare any more than an unpatrolled parking lot incentivizes parking. If an individual has no reason to park in the lot, a lack of disincentive is not enough to cause them to park there. Similarly, people without a positive reason to access healthcare will not be incentivized to access healthcare simply because of a lack of disincentive. This is an important distinction: those who claim that moral hazard is a reason to avoid a system that includes health insurance cannot simply claim that we ought not to incentivize the use of medical care. They need to explain why we ought to disincentivize the use of healthcare.

While there is a relevant difference between removal of a disincentive and application of an incentive, my argument does not rely entirely on this difference. Even if removing a disincentive and applying an incentive are the same, advocates of a free market healthcare system still need to explain why the degree of disincentive applied by healthcare price is appropriate. To do this, they must either claim that there is a level of healthcare use that need not be disincentivized, a level of appropriate use, or they must claim that all healthcare use is the sort of behaviour that ought to be disincentivized. I take the latter position to be *prima facia* unreasonable, since there are clearly acceptable and appropriate uses for healthcare. Therefore, advocates of the free market must explain why the level of disincentive applied by free market prices is appropriate.

According to those who advance theories of moral hazard in healthcare to defend free market distribution, having to pay for one's own healthcare disincentives the overuse of healthcare. As I have argued, it is also a disincentive for accessing healthcare in general, but presumably those people in genuine need of healthcare will have such a powerful incentive to

access medical services that they will disregard the disincentive of needing to pay. Presumably free market pricing for healthcare is not meant to penalize healthcare access; it is meant to discourage healthcare overuse. I will now turn to the question: what is it to overuse healthcare?

I will assume that it is possible to quantify the annual use of healthcare by an individual person. I will not here argue for a particular method of quantification; I will merely use the best candidate available, i.e. money. I will assume that healthcare can be accurately quantified according to how much money it costs, such that $5,000 worth of healthcare is a reasonable way to express the amount of healthcare bought by that amount, and that $50,000 worth of healthcare is more than $5,000 worth. I will assume stable prices commensurate with the actual value of healthcare consumed. While I am not convinced that any of the preceding assumptions hold, nor do I wish to imply that healthcare is the type of commodity whose value is best expressed in dollar amounts, I will use money as a simple stand-in for the amount of healthcare consumed.

I will also assume that if it is possible to overuse healthcare, it is possible to use the "right" amount of healthcare. Presumably, it is desirable for everyone to access just the right amount of healthcare: not too much, not too little. How we choose to define the right amount is important to clarify the concept of overuse.

An intuitive definition of appropriate level of healthcare use would be based on medical expertise. Perhaps the appropriate level ought to be defined as the level of healthcare that a rational, well-informed, and disinterested physician would recommend. We will dub this model for the appropriate level of healthcare use "medically appropriate," and we will define overuse and underuse accordingly, "medical overuse" and "medical underuse." If we use the medical model for appropriate use, then moral hazard-based arguments for a free market system must be interpreted as making the claim that a free market system will discourage people from using

more healthcare than their (rational, well-informed, and disinterested) doctor recommends. A third-party payer system, on the other hand, will remove the disincentivize for medical overuse, causing people to use more healthcare than their doctor recommends. I will return to the medical definition of appropriate use later, but I will now turn to a second possibility for defining appropriate use.

A second possible definition of appropriate use of healthcare is the economic definition. Proponents of a free market healthcare system use moral hazard to argue that fees disincentivize the overuse of healthcare. Third-party payers, according to moral hazard-based arguments, result in people using more healthcare than they would if they had to pay for their healthcare. If the problem with moral hazard is that people use more healthcare than they would if they had to pay for it, then to overuse healthcare in a way relevant to moral hazard may be to use more healthcare than one would if one had to pay. If one accepts this definition of overuse, clearly the definition of appropriate use will be the level of healthcare for which a person would be willing and able to pay, given their other economic circumstances. We shall henceforth call this definition of appropriate use "economically appropriate use," and likewise we will refer to "economic overuse" and "economic underuse."

The economic concept of appropriate use has many virtues and free-market proponents may find it attractive. In this view, healthcare is treated like any other commodity, the appropriate amount of which is decided by the consumer. If one accepts the view of healthcare as a commodity, it would be bizarre indeed to accept a medical model for appropriate use since under the medical model the provider of the commodity decides how much of it the consumer needs. If car salesmen (even rational, well-informed car salesmen) decided how many cars people should have, a decidedly pathological seller-buyer relationship would develop (see

Chapter 1). Everybody would be told by their car salesmen that they need more cars, even if they did not, since the car salesmen have financial motivations to convince people that they need more cars. Those people who advocate for a free market system may reject the medically appropriate view for similar reasons. If healthcare is a commodity, the sellers (physicians) will have every reason to cause the buyers (patients) to consume more healthcare.

One of the touted benefits of free-market systems is the freedom enjoyed by consumers to spend their money as they wish and to use their money to express their valuations of things, allowing people to live their own lives freely by making their own choices (Dworkin 284). If one prefers to purchase a boat rather than a car, one is free to do so. If one prefers to buy a car over healthcare, then one is free to do so. Spending money provides people with the ability to acquire goods and services that they value, prioritized according to their own personal valuations, and the price of a good on the market is set by how important that good is to others (Dworkin 289). If someone does not value healthcare highly in a free market system, their choices of how to spend their money will reflect that valuation. If someone values healthcare greatly, they will budget more money for healthcare (Satz 68). According to the economic model of appropriate care, each person will prioritize their expenses. A person balances all their economic preferences, rent, food, clothes, recreation, transportation, savings, healthcare, and so on. The amount of money that a person wishes to spend on healthcare, given their other economic preferences, is the appropriate amount of healthcare for that person- who is to say otherwise? Only they should be the one to decide how much of anything they need in their life, and to attempt to make the decision for them is paternalistic. Just like any other economic preference, healthcare preferences can be formed based on advice from experts but ultimately are generated by the consumer themselves.

On the economic model, to overuse healthcare is to use more healthcare than the level defined by the balance of economic preferences. In other words, to overuse healthcare is to use more healthcare than one would value in a particular way, i.e. economically. The amount of money one is willing to spend on a commodity expresses one's valuation for that commodity. To use more healthcare than one's economic preferences dictate is to use more healthcare than one values, which is to say to use it frivolously, to overuse it. This is the crux of a moral hazard argument, that people will use more healthcare than they would if they had to pay for it. Applying a fee to medical services ensures that people will not use more healthcare than they value. This is the structure of the use of moral hazard in the argument for a free market distribution of healthcare.

The economic model of appropriate use has intuitive appeal to free-market theorists, but it is problematic. If one accepts the economic model, one must accept that the appropriate level of healthcare for a person will vary not only with that person's individual preferences and healthcare needs, but with that person's other economic circumstances as well. The economically appropriate model does not state that the appropriate level of healthcare is the amount of healthcare that a person wants, but rather what they are willing and able to spend on it. According to this view, the appropriate level of healthcare will change depending on a person's income, other economic commitments, and the price of healthcare.

For example, let us imagine James, a young person who makes $30,000 a year. James is healthy and has few other economic commitments. When he balances his economic commitments, he is willing to spend $5,000 on healthcare this year. According to the economic model, James' appropriate level of healthcare is $5,000 worth. In a third-party payer system, James is not responsible for his own healthcare fees, so he may end up consuming $8,000 worth

of healthcare, much more than he economically values. According to free market proponents who accept the economic model of appropriate use, James has overused healthcare by $3,000.

Now let us imagine that James is diagnosed with leukemia. Now that James is sick, his economic priorities shift. He spends less money on recreation and budgets $7,000 for healthcare. James' doctors, who are rational, well-informed, and disinterested, recommend that he consume $10,000 worth of healthcare this year. If James spends the $7,000 he can afford, he is using less healthcare than his doctors recommend for him. Nonetheless, on the economic view of appropriate use, $7,000 is the right amount for James. Indeed, under the economic view, $10,000 would be overuse for James.

To illustrate the inverse of this problem, let us imagine Brenda, a wealthy woman who makes $1,000,000 per year. Young, healthy Brenda values healthcare at $20,000 this year, and thus on the economic view the appropriate amount of healthcare for Brenda is $20,000. Let us imagine once again that Brenda gets leukemia, the same type of leukemia as James. Her doctors, being rational, well-informed, and disinterested, prescribe the same level of healthcare to Brenda as to James: $10,000. Spending more than $10,000 will not gain Brenda more medical benefit. If Brenda follows her doctors' advice, on the economic model she is underusing healthcare.

These examples are meant to underscore an intuitive difficulty with the economic model of healthcare use. A person may require a certain amount of healthcare just to survive and be unable in a free market system to afford that level. If we accept the economic model of healthcare use then if that person were to receive their life-saving healthcare for free they would be overusing healthcare even though they need it to live.

If we embrace a more intuitive medical definition for appropriate use of healthcare then the problem of moral hazard is much less problematic. Under the medical model for healthcare

use, showing moral hazard requires showing that, when healthcare is free, people not only use more healthcare, but they use more healthcare than their rational, well-informed, and disinterested doctor would recommend for them. This type of overuse is possible in third-party payer systems, but it is not inevitable. The problem for free market proponents deepens: the possibility for medical overuse of healthcare does not disappear in a free market system the way that the possibility for economic overuse does. If people can pay for as much healthcare as they want despite doctor's recommendations there may be more medical overuse in a free market system than in a third-party payer system.

Conclusion

To claim moral hazard in health insurance is to claim that people who have health insurance will either expose themselves to more risk (*ex ante* moral hazard) or will overuse healthcare (*ex post* moral hazard). Advocates of a free market healthcare system claim that moral hazard is problematic for healthcare systems that rely on third-party payers, either single-payer governments or insurance companies. Some theorists use *ex ante* moral hazard to argue that free market healthcare disincentivizes risky behaviour by requiring those who engage in risk to pay for the consequences of their risky actions. However, while fees for healthcare may disincentivize risk, they do so only by disincentivizing access to healthcare in general. Disincentivizing access to healthcare also affects people whose healthcare needs have nothing to do with their own behaviours, such as those people who simply got unlucky despite their reasonable risk avoidance or those who have medical conditions due to genetics or other uncontrollable factors.

Those who use *ex post* moral hazard to argue for free market in healthcare claim that possessing health insurance will cause people to overuse healthcare. The claim that health

insurance will cause healthcare overuse requires a definition of overuse, which depends on a definition of appropriate use. The implicit definition of appropriate use of healthcare at work when *ex post* moral hazard is used to argue for free market healthcare is that to use healthcare appropriately is to use it according to one's economic preferences. In other words, such arguments claim that to overuse healthcare is to use it more than one would if one had to pay for it. These definitions of appropriate use and overuse are not unreasonable if one considers healthcare to be a commodity like any other, but it yields unintuitive results. If to use healthcare appropriately is to use the amount one would pay for given one's other economic commitments, then it is possible for life-saving treatments to be considered overuse if the recipient of those treatments could not afford them in his or her particular economic circumstances. Conversely, someone may spend far more money than required to treat his or her condition and still be using an appropriate amount of medical care if appropriate use is defined by how much money a person is able to expend for healthcare.

A much more intuitive definition of appropriate healthcare use is a medical one: to use healthcare appropriately is to use the amount of healthcare that a well-informed rational physician would prescribe. If we adopt this version of appropriate use, however, the moral hazard problem in healthcare that would be fixed by a free market system evaporates. If appropriate use of healthcare is what an ideal physician would recommend, then a free market system invites both underuse and overuse, as some people would not be able to afford the medically appropriate amount of healthcare and some people would purchase far more than they require. A third-party payer system, on the other hand, risks far less underuse on this definition of appropriate use, since people will be able to carry out their doctor's recommendations regardless of income. While a third-party payer system may not be able to eliminate medical

overuse of healthcare, such systems have tools available to regulate the use of healthcare by requiring medical reasons for access to healthcare. If a specialist's referral is required for access to expensive and resource-intensive medical services, then problems of overuse of healthcare on the medical definition can be effectively managed.

Some advocates of the free market may argue that my approach here has relied too strongly on a normative reading of moral hazard. Instead of claiming that free healthcare will result in healthcare overuse, they may take themselves to be arguing merely that the price sensitivity of healthcare raises the costs of healthcare. Since rising healthcare costs are extremely problematic, in the United States especially (Leibowitz), moral hazard is a matter of concern for healthcare. I have here argued that free healthcare does not cause the (medical) overuse of healthcare, but I have not shown that in a system where healthcare is free people will not use more healthcare. I have shown that the increased use of healthcare should not necessarily be considered overuse. The argument that free medical services will raise the cost of healthcare because people will consume more does not show that a free healthcare system is inferior to a free market. Even if a free system were to cost more than a free-market system, the extra costs may come from people using healthcare appropriately (implying that they would underuse healthcare in a free-market system). Free-market advocates have yet to show that the extra costs are not worth paying. A healthy population of people who need not fear bankruptcy from medical costs has its own benefits, perhaps compensating for extra costs in healthcare. Even if the money spent in healthcare cannot be recouped in extra productivity, the extra cost may represent appropriate use of healthcare. If so, then the argument for a free market in healthcare based on preventing moral hazard is in essence an argument against appropriate use of healthcare.

Chapter Four: Innovation

Introduction

In this chapter, I will argue that the putative connection between profit and innovation is counter-productive in healthcare. Some theorists argue that in a free market, companies must innovate to remain profitable and have used this connection to argue that a free market in healthcare will result in more medical innovation, since healthcare-providing companies will act on the mandate for profit and thus for innovation. I will argue that the concept of innovation is not monolithic. Rather, there are many types of innovation, even many types of medical innovation. Whether the free market can deliver a particular type of innovation will depend on many complex factors. I will present some good reasons to think that the market will fail to produce many important medical innovations. While the free market may drive some forms of innovation, a free market in healthcare will not necessarily drive *medical* innovation specifically. The connection between the free market and innovation relies on companies innovating based on their need for profit, and the financial concerns that drive companies to innovate will not necessarily promote medical innovation.

I will discuss William J. Baumol's *Free Market Innovation Machine: Analyzing the Growth Miracle of Capitalism.* Baumol points out that in a free market economy innovation is a mandate; firms must either innovate or become obsolete[8] (Baumol 2). Without a steady stream of innovation, a company becomes uncompetitive and unprofitable. Because companies must remain profitable, they must innovate to survive. Thus, the market results in the "routinization" of innovation (Baumol 18). Even if investment in innovation does not pay off for companies,

[8] Baumol does not argue for the innovative capacity of a market in a particular service or product, like boats, exotic pets, or healthcare. He argues that innovation is the weapon of competition for high tech companies in an oligopoly (18).

they must continue to invest in innovation or risk falling behind. Healthcare demonstrates many of the features that Baumol takes to be central to the innovative capacity of the market: oligopolistic competition, and routine, productive innovation (Baumol 18). Thus, Baumol's arguments that a free market produces innovation ought to apply to healthcare.

Clearly the healthcare industry meets Baumol's requirements for an industry that innovates prolifically, but I will argue that the type of innovation produced by the market may not be the type that best accomplishes medical goals. While a market in healthcare may promote innovation, it will not necessarily promote medical innovation. I will show that markets are not unconstrained innovation machines that will innovate anything; companies must maintain financial viability through their innovation, and thus companies will only innovate in ways that create profit. Whether the market will promote good medical innovation depends on whether good medical innovation coincides with profitability.

To analyze the question of whether good medical innovation is profitable, I will examine the views of two theories of why a market best promotes medical innovation and discuss the good-making features of medical innovation. The first argument I will address is advanced by Regina Herzlinger. In her book *Market Driven Healthcare,* Herzlinger argues that there are good-making features of medical innovation, such as convenience and cost-saving, which the market is ideally suited to delivering because consumers prefer those innovations with these good-making features. Since the market delivers innovation based on consumer-preference, Herzlinger argues that the market will promote good innovation. The second theory I will discuss is that good innovations are by definition those that consumers prefer. The only good-making feature of innovation is consumer preference; nothing else can make an innovation good. Since

the market delivers consumer preferred innovations, the market purportedly delivers good medical innovation.

I will address the arguments of free market proponents by claiming that innovation comes in a variety of distinct types, and the goodness of some types of medical innovation may not be compatible with the market. Good-making features for medical innovations may not be good-making features for market innovations. In other words, what makes an innovation appealing for a company to pursue may not correspond with what makes a medical innovation good. Markets may impressively produce some types of innovation, but other types may be left unpursued in a market system. The market delivers potentially profitable innovations. Many good medical innovations are not potentially profitable, and thus the market will not deliver these innovations. I will argue that these overlooked innovation types may be quite important for saving lives and improving healthcare, and if the market cannot deliver these innovations then we may have reason to doubt the innovative efficacy of healthcare markets.

Section 1: What is innovation?

According to Baregheh et al., "Whilst there is some overlap between the various definitions of innovation, overall the number and diversity of definitions leads to a situation in which there is no clear and authoritative definition of innovation" (1324). I will not seek here to provide a definition of innovation in general, nor will I argue against the tendency of free markets to innovate. In the course of making my argument I will propose some intuitive features that I take to be key to a definition of medical innovation, but I do not mean for these features to be an exhaustive list of necessary and sufficient conditions for innovation or even medical innovation. I will instead show that the argument that a free market in healthcare promotes good medical innovation depends on the what features make a medical innovation good.

Different types of innovation will have different sets of necessary features. The only feature common to all forms of innovation is newness. Newness, however, is not sufficient to establish innovativeness. Not everything new is innovative. A new table is not innovative, even if it was crafted yesterday. Every type of innovation requires more than simply being new, but the necessary conditions for innovativeness differ wildly between types. What makes an idea or product innovative will depend on a host of complex and related factors more or less unique to each type of innovation. Improvements, novel applications of an old technology, and clever implementations all have newness features, but beyond that, innovation shares little commonality. Surely innovation in general need not be constructive; one can imagine innovative crime. Innovation need not solve a problem; one can also imagine innovative art. No features unite innovative crime, innovative art, innovative science, innovative food, innovative travel, innovative management techniques, *et cetera*. Innovation is not monolithic. The concept of innovation is a cluster, and each type of innovation will possess its own criteria for innovativeness. Even if innovation in art and innovation in engineering have little in common, artistic innovation may have something in common with culinary innovation, which may have something in common with nutrition innovation. Nutrition innovation may have elements in common with scientific innovation, which may share some features with engineering innovation. Each type of innovation is defined by its own metrics and success criteria within the cluster of the concept of innovation.

Given that innovation is not monolithic, I will turn now to examine medical innovation in particular. Medical innovation surely has some connection to healthcare. Improving patient health seems like a logical starting place for medical innovation, but on careful inspection the field of what may count as medical innovation expands significantly. Diagnostics, preventative

care, and public health measures may be innovative, and surely are medical. Innovation may come in the form of organizational techniques to improve healthcare delivery, or cost-saving measures, or even patient education. Unfortunately, this broad scope captures some definitively strange innovations as medical. The internet surely improved efficiency of information transmission in healthcare, but calling the internet a medical innovation is counterintuitive. Perhaps the medical part of the innovation of the internet came later, when the internet was implemented in the healthcare system. The internet is not a medical innovation, but applying the internet to healthcare is medically innovative. This seems a plausible solution to how the internet can be a medical innovation, but applies less cleanly in other counter-intuitive cases. Nicotine gum certainly improved public health by increasing the chances that any given smoker will be able to quit their habit. The dubious medical-ness of nicotine gum cannot be solved by claiming that the gum itself is not medical but its implementation was a medical innovation. For the purposes of my argument I will assume that medical innovations must minimally have an application to healthcare. I acknowledge that this minimal requirement alone will label too many innovations as medical, and for that reason I do not propose that it exactly defines what it is to be a medical innovation. Indeed, as I have shown, medical innovation itself is not a single, well defined concept. Attempting to outline more stringent conditions could easily exclude plausibly medical innovations, such as those in preventative care, public health, health education, or diagnostics. Since medical innovation is not singularly defined, I will leave it largely to the reader to decide what constitutes a medical innovation. While some *penumbra* cases may prove difficult to analyze, much of medical innovation will be uncontroversial. My argument does not require a rigorous definition of medical innovation, merely that medical innovation is different

from other types of innovation and that medical innovation is not a singular concept easily defined by one or a few features.

I will refer on many occasions to the goodness of an innovation. I will not here endeavor to provide a list of these features. I will merely assume that such features exist. For medical innovation, I will assume that a good medical innovation improves the effectiveness of healthcare. I will assume that there is a fact of the matter about whether an innovation improves the effectiveness of healthcare. I will also assume that when people make such statements as "the market produces medical innovation," they mean that the market produces good medical innovation. I will pick up the question of what makes an innovation good later in this chapter, when I discuss the role of the market in delivering what I will call 'good-making features' of innovation.

The reader may be wondering what my contribution will be, given that I provide no definition for innovation in general, nor a definition of medical innovation specifically, and no metric for the evaluation of the goodness of an innovation. I will use the variability of innovation to show that while the market may drive some sorts of innovation extremely well, it leaves other types of innovation largely unpursued. If these types of innovation are critically important to delivering effective healthcare, then I propose that we have good reason to doubt the claim that the market's innovative capabilities make it a superior choice for the distribution of healthcare.

Section 2: Markets and innovation

The mandate for a company to innovate relies on a relationship between innovation and money. If an innovation is not profitable, or if the company could not recoup the cost of investing in an innovation, that innovation will not be pursued by the company. A company must remain profitable to survive. According to Baumol, a company must innovate to keep up with its

competitors, just to have a chance to survive in the market. Thus Baumol-style arguments rely on a connection between innovation and financial viability. In this section I will show that this connection results in a particular type of innovation on a free market: profit innovations. Profit innovations are not necessarily medical innovations. I do not mean to imply that the market is a callous moral vacuum, and that its members are devoid of responsibility and altruism. The motivation of researchers and even companies is not at issue here. The problem is not a lack of magnanimous and humanitarian motivation. The problem is that the market itself restricts the innovations that a company can pursue to those that maintain financial viability for that company. If an innovation has little potential profit and a company that pursues the innovation has no possibility of recouping its investment, the market will fail to promote that innovation. Thus, a free market in healthcare does promote innovation in the form of profit innovation, but there is no reason to think that profit innovations and medical innovations will necessarily overlap. Financially viable innovations will not necessarily improve healthcare, and medical innovations will not necessarily be financially viable.

Another related argument for a free market in healthcare is that overregulation stifles innovation, making it more difficult to turn ideas into full-fledged, implemented innovations. Because regulation makes innovation more expensive at best and impossible at worst, regulation supposedly discourages innovative activities. I will not address this claim here. If the source of this argument is that companies require a profit motive to be innovative and regulations cut into profits, my argument that profit-seeking entities will pursue only profitable innovations still stands. But I am not arguing specifically for regulations on a market in healthcare. I am trying to show that markets in healthcare will not specifically promote medical innovation. Whether this

problem can be addressed with regulation, or whether regulation comes with its own set of troubles, is another matter.

According to Baumol, companies in the free market need to innovate in order to ensure their continued existence[9]:

> The market mechanism achieves much of its efficiency and its adaptation to consumer desires through financial incentives, by providing higher payoffs to those firms that are more efficient and whose products are most closely adapted to the wishes of consumers. The same mechanism obviously drives innovation in an even more powerful way. For oligopoly firms in the high-tech sectors of the economy, it is in fact a matter of survival. The firm that lets its rivals outperform it substantially in innovative products and processes is faced with the prospect of imminent demise. The firm must innovate or die. (23)

Baumol points to several required factors for the innovative capacity of the free market to be realized. These conditions obtain in the healthcare industry, so Baumol's mechanism of free market innovation ought to work for healthcare. Baumol outlines the five most important of these conditions. I will discuss them briefly here, but I will largely assume that they apply to healthcare because if they do not, Baumol himself would be forced to conclude that a market in healthcare would not innovate prolifically.

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[9] Baumol does not claim that companies are motivated to innovate by the promise of profit. He argues that in a high-tech oligopoly with routine innovation, companies do not expect that any given innovation will provide them with profit. Nonetheless, they must continue to innovate or they will be unable to compete with other companies. Baumol notes that if the barrier to entry into an innovating market is high, expected profit may be higher: "There is some tendency under the regime of routinization for economic profits to be driven toward zero. However, where the sunk costs of the innovation process are significant, these constitute a barrier to entry that restores the possibility of positive profits for the affected industry as a whole, and not just for its most successful innovators." (54)
Since the barriers to entry into the innovation market in healthcare are high, I will often refer to profit as a major feature of market innovation, but the necessity of financial viability yields the same result in my argument. For the purposes of my argument, what matters is that financial concerns dominate company decision-making.

The first condition for free market innovation is "oligopolistic competition among large, high-tech business firms, with innovation as a prime competitive weapon" (18). Much of the innovation sector of the healthcare industry meets this requirement; biotech firms and pharmaceutical companies, for example. Secondly, for the free market to innovate in the way Baumol claims, firms must innovate perpetually. Baumol explains this condition as the "routinization of these innovative activities, making them a regular and even ordinary component of the activities of the firm, and thereby minimizing the uncertainty of the process" (18). The constant stream of new drugs, procedures, technologies, and practices constitutes evidence of the routinization of innovation in healthcare. The three final conditions are "productive entrepreneurship," as opposed to patenting an idea and then suing those who infringe on the patent, "the rule of law, including enforceability of contracts and immunity of property from arbitrary expropriation" and finally "technology selling and trading, in other words, firms' voluntary pursuit of opportunities for profitable dissemination of innovations" (18). I will assume that healthcare meets these conditions.

Let us examine a generalized and dramatically simplified example to illustrate the proposed relationship between the market and innovation. This example, with a single pair of companies and one product, is not meant to be reflective of Baumol's view, but it will serve as a platform for theoretical arguments. The company Widget-Time Inc. makes widgets, in competition with Widget-Life Ltd. Widget-Time's research and development team create an innovation: a widget with more features. Widget consumers prefer the innovation, so they are willing to spend more money to get a new and improved widget. Widget-Life loses some market share to Widget-Time. Thus, Widget-Time's innovation has increased its profitability and Widget-Life has become less profitable. In this example, the company that innovated did better

than the company that failed to innovate simply because the Widget-Time's innovation was preferred by consumers.

Adapting Baumol's argument, assume these widget firms and their competitors in the widget industry routinize innovation, which changes the widget economy. Baumol argues that the routinization of innovation in an industry "is a change in the character of its expected profits. This is a two-way relationship: the profit-earning mechanism drives firms toward routinization of the innovation process, and routinization, in turn, tends to limit the resulting profits" (47). The two companies put out a new widget every season, constantly innovating to compete. Constant innovation renders each individual design less risky, and turns innovation into the primary means for widget companies to compete. Instead of competing by lowering prices, the companies compete to put out the newest, most cutting edge 'it-widget.' Investing in innovation is simply necessary for Widget-Time and Widget-Life to compete with one another. Innovation has become routine, a cost of doing business, rather than an occasional boon that gives the innovating company a boost. Widget-Time and Widget-Life are always designing a new widget, hoping that their design will be the most preferred by consumers and make the company the most money.

But one can easily imagine an innovation that is not preferred by consumers. Widget-Time's research and development team redesign their widget to make it smaller. Unfortunately, many widget consumers find the new widgets more difficult to use and switch to Widget-Life for all their widget needs. Widget-Time's innovation has not resulted in more profit or greater financial viability. Next time the R&D team suggests a smaller widget model, Widget-Time's executives shoot down the idea; smaller widgets may be more advanced in some regards, but they are not preferred enough to be profitable. So even if smaller widget technology is

impressive or interesting, the company will not pursue widget-miniaturization. Even if the mini-widget were critically important to saving lives, the market would not deliver a mini-widget innovation if no or very few people would buy it. If few consumers prefer the mini-widget then no profit can be found in mini-widget technology, and the market will not innovate widget miniaturization. Once again, the profitability of the innovation depends on consumer preference, and whether the company pursues the innovation depends primarily on financial concerns.

Demand for a product, not merely its popularity, is the major determinant of its profitability. Imagine that Widget-Time develops a third innovation: a perma-widget, which lasts forever. The perma-widget is so durable and long-lived that no one who buys one will ever need another one. Perma-widgets will be passed down through generations as heirlooms. Consumers would love to need only one widget in their whole lives. The perma-widget would be consumer preferred, but demand for widgets will plummet if Widget-Time releases them. Because demand for widgets would drop, Widget-Time is unlikely to put them on the market; the perma-widget is not profitable. Clearly, the perma-widget is in some sense an improvement over a regular widget, but selling one widget to a customer, even at a steeper price, is less profitable than selling a hundred widgets to a customer. Once again, whether the company pursues an innovation depends on the financial future of that innovation, and only reflects consumer preferences insofar as consumer preference results in profitability. If meeting consumer preferences does not result in profit, even a very popular and high quality innovation will not receive funding and attention on a market. The market cannot act on the value of an innovation unless that value can be directly translated into financial benefit for a company. Virtues like the durability of a perma-widget, positive outcomes for society in general, or even the capacity to save lives may not correspond to financial benefit. If an innovation lacks possible financial benefit, it does not matter which other

values it promotes or which other functions it accomplishes. The market will not produce an innovation that provides no possibility of profit.

The feature-widget, mini-widget, and perma-widget are innovations, but which one Widget-Time pursues is determined by the potential profitability of the innovation. Innovation in general is not the mandate of the market; profitable innovations keep companies competitive, but unprofitable innovations, even useful and consumer-preferred ones, will not be pursued by profit-seeking entities. Baumol is entirely correct that an oligopolistic market with routine innovation, such as that of healthcare, promotes innovation. But the above widget-based examples are meant to show that the market will not generate innovation indiscriminately. The market will not promote all innovation equally, and there may be innovations that the market will never produce at all. If these unprofitable innovations are useless or bad, then the market may still be the best mechanism for stimulating innovation since the innovations that it would fail to produce would be those that we disprefer anyway. But if these unprofitable innovations are desirable, good innovations, then the failure of the market to promote these innovations is a serious flaw in the market's capacity. Worse, if the unprofitable innovations are necessary and life-saving, the market becomes a much less appealing innovation machine. To evaluate whether a healthcare market promotes good medical innovations, I will now turn to examine what makes a medical innovation good.

Section 3: The market and good innovation

To recap: the connection between markets and good innovation relies on the connection between profit and good innovation. The connection between profit and good innovation relies on but is not totally determined by the connection between consumer preference and good innovation. The relationship between consumer preference and good innovation depends on the

ability of consumer preference to track goodness of the innovation. In other words, the relationship between markets and innovation is tenuous. If some feature or circumstance disrupts the chain, the relationship between the market and innovation may crumble. If consumer preference does not track goodness of innovation, then the connection between consumer preference and goodness of innovation will be severed. Without the connection between consumer preference and goodness of innovation, the relationship between profit and innovation will be compromised, because to be profitable an innovation must be consumer preferred. Once the relationship between profit and innovation fails, the market will lose its tendency to produce good innovations. If consumer preference does not track a good-making feature of innovation then the market would not deliver this feature.

For many markets, those innovations that are profitable coincide with the innovations that are most desirable; I will now analyze whether this relationship holds in healthcare. Presumably demand for a product reflects (albeit imperfectly, as illustrated by the mini-widget) the desirability of that product. Widget companies profit most from those innovations that increase demand for their product or service. The question to address is whether healthcare works the same way as widgets. Immediately one might be suspicious: surely good innovations in healthcare are not those that increase the demand for healthcare. But recall that medical innovation is not monolithic. Convalescent care innovations are one type but not the only type of medical innovations. A new vaccine may greatly increase demand for healthcare as people rush to vaccinate themselves and their children. A cheaper, more effective version of a procedure may loosen the guidelines for who qualifies, allowing more patients to undergo the procedure, thereby increasing demand. However, claiming that good medical innovation differs from good widget

innovation because good medical innovation decreases demand for healthcare is much too simple.

For widgets, good innovations are those innovations that are consumer preferred.[10] In the widget examples, companies innovate according to consumer preference, since consumer preference directly impacts the companies' possible profits. If medical innovation works the same as widget innovation and good medical innovations are those that are consumer preferred, and consumer preference ties closely to profitability, we have good reason to think that the market will produce good medical innovation. I will now redeem my promise to examine what makes an innovation good by unpacking the claim that markets produce good innovation.

Those who advocate for market-based medical innovation argue that if an innovation is successful on the market then the innovation is consumer preferred.[11] Furthermore, consumer preference has some relationship with the goodness of the innovation. Good innovations and consumer preferred innovations overlap. The market delivers good innovation because the market delivers innovations that are consumer preferred. If consumers want innovation A the most, presumably A is the best innovation. To claim that B is a better innovation is to claim that consumers do not actually know what they want or need; innovating B is paternalistic. On a market, companies will actively research A because consumers want A, and A is thus likely to be profitable. Since A is the best innovation, and the market promotes the innovation of A over B, the market produces the best innovations reliably.

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[10] One may think that the perma-widget is an exception to this principle. Note that the market may not always innovate the most consumer preferred innovation, but each innovation will be, at least in some measure, consumer preferred. Assuming a non-monopolistic market, consumer preference is necessary but not sufficient for profitability.

[11] Notice that the reverse is not true: simply because an innovation is consumer preferred does not make that innovation profitable. Recall the perma-widget. Consumers would love the perma-widget, but the perma-widget is not profitable for reasons unrelated to consumer preference.

Regina Herzlinger claims that a market in healthcare will innovate cheaper, more effective healthcare delivered in a more convenient way. She points out that no business would be able to survive if it were as inconvenient to access as American healthcare. Since a business needs to satisfy consumer preference to stay afloat, businesses are more accountable to consumers. Consumers, argues Herzlinger, know what they want and can educate themselves about their options. As a market, the healthcare industry, including providers, insurance companies, biotech firms, and pharmaceutical companies, would have to target their innovations to attract consumers. Innovations that consumers prefer will be successful, and companies that listen to consumers and innovate according to consumer preference will profit. Herzlinger argues:

> The American economic system automatically sorts out winners from losers by permitting the customers to pick their favorites. Consumers vote with their dollars, choosing retailers, cars, and information services that best meet their needs for convenience and mastery. The system encourages entrepreneurs as well, handsomely rewarding those who succeed. Those rewards are well earned- after all, the innovators take tremendous risks to ferret out the best ways to satisfy demanding, assertive consumers. (Herzlinger 15).

Herzlinger goes on to comment that "responding to the needs of the consumer revolutionary requires a daring, visionary businessperson, not a bureaucrat or a social engineer" (15). Herzlinger argues that when the government innovates in healthcare, it does so in ways that are insensitive to consumer preferences. Herzlinger argues that in a government-managed system, innovation becomes more difficult because the government is the only entity that can pursue a medical innovation. Thus, people with innovative ideas must always pitch them to the

government. Someone with an idea will have to convince the government that the idea is worth research and implementation. Even if people despise the innovation, if the government approves of the idea it will be pursued. If people love the idea and the government disapproves, the innovation will fall flat (Herzlinger 275). Consumers have different desires from the government; consumers want convenient, low-price healthcare (Herzlinger 16-17). The government does not prioritize these desires, instead favoring bureaucracy and low-cost healthcare. Hurdles such as high price and inconvenience prevent people from accessing healthcare (Herzlinger 27). In a free market there are far more actors, companies with the capacity to fund and pursue an innovation. If an innovator cannot convince the government or one company to fund their idea, another company may pick it up. Thus, markets can rely on the wisdom of crowds. Furthermore, the companies have a motive to provide what the consumers want: convenience and low price. Therefore a government-controlled system will be a worse innovator than a free market, both in quantity and quality of innovation.

Though she does not make explicit her view on what makes innovation good, Herzlinger may have in mind one of two good-making criteria for medical innovation. Either innovation is consumer preferred because it is good, or innovation is good because it is consumer preferred. In the first case, consumer preference overlaps with some independent good-making feature of innovation. Because consumers have become well educated and capable of advocating their own interest, they can recognize good innovations (Herzlinger 7-8). This first interpretation of innovation goodness likely better represents Herzlinger's view. She writes a great deal about consumer assertiveness and education as key factors for the delivery of innovations that would make healthcare cheaper and more convenient to access (Herzlinger 3, 11-14, 49-50, 61-62, 82-83). The second possible interpretation of the goodness of innovation is that innovations are

good because they are consumer preferred; consumer preference confers goodness onto an innovation. According to this view, there are no independent good-making features of innovation. To be a good innovation simply is to be consumer preferred. I will address each of these interpretations and show why each of them fails to adequately address goodness of innovation in healthcare.

On the first view, innovations are consumer preferred because they are good. Herzlinger's view, for example, relies on the idea that consumer preferred innovations will correspond with good innovations, but in healthcare, good innovations that solve critical problems may not be consumer preferred. Thus, there are many cases in healthcare in which the chain that connects the market and good innovation is broken. If consumers do not prefer an innovation, either because they do not like it or do not care one way or the other, then the market will be unlikely to deliver the innovation. I will refer to these innovations as "mini-widget innovations," those innovations that have some sort of value but are not consumer preferred. Recall that in the widget example, the mini-widget innovation provided technological improvements but consumers found the technology difficult to use, making the mini-widget unprofitable to pursue for the innovating company. Thus the market would not promote the mini-widget innovation. If comparable medical innovations exist, i.e. those that are important but not consumer preferred, these medical innovations will similarly be ignored by the market.

Some medical innovations are important to research despite the fact that the majority of consumers do not strictly prefer them. These are akin to the mini-widget, a piece of technology that has some benefit but that most consumers will not buy. Rare diseases, for example, are those that affect few people. Thus, most healthcare consumers have no interest in innovations that help people with rare diseases. Nonetheless, while each rare disease may not affect many people, the

collection of rare disease affects an estimated 25-30 million Americans (Rodriguez-Monguio et al. 2). The pharmaceutical industry has largely ignored these conditions, and most patients with rare diseases have few treatment options: "The lack of clinical alternatives for the prevention and treatment of rare diseases and conditions has been attributed to the difficulty of recovering the R&D cost due to the small size of the population and potential for profits" (Rodriguez-Monguio et al. 2). Because of their semi-abandoned status, pharmaceuticals for rare diseases are called 'orphan drugs.' Even though many people depend on orphan drugs for their lives (Rodriguez-Monguio et al. 1), a free market in healthcare would not promote orphan drug research. Orphan drugs are akin to mini-widget innovations.

Treatments for diseases that primarily affect people who cannot pay for healthcare would also be largely ignored by markets. On a market, healthcare consumers are those that can pay for healthcare. The preferences of people who cannot pay for healthcare would not be represented by the market. Poor people who cannot afford healthcare on the market are not strictly healthcare consumers, so their preferences are not represented on the market. The market only responds to the preferences of paying customers. Consumer preference picks out the good-making features of innovations *for those consumers,* which according to Herzlinger, are price and convenience. Those people who are not healthcare consumers because they cannot afford to participate in a market in healthcare will not be able to assert their preferences. Yet again, an important class of good medical innovation, those that would be preferred by the poor, will not be represented by consumer preference, and thus would not be promoted by the market. Innovations preferred only by the poor are also akin to mini-widget innovations.

Note that my claim is not that markets are incapable of medical innovation, or that the chain is always broken in healthcare. As I argued in section 1, the concept of medical innovation

is discontinuous and nebulous. The market may quite plausibly encourage some types or instances of medical innovation quite well. Indeed, perhaps convenience-type medical innovations will be delivered best by the free market. If convenience innovations are consumer preferred and profitable, as presumably they would be, the market may very well deliver convenience innovations. Convenience innovations are, as Herzlinger points out, quite important and good: "Inconvenience denies many Americans the health care services they need" (23). My claim is that even if in some cases the market does promote good innovation, there remain significant gaps in which the market-innovation chain fails. Recall that medical innovations may come in the form of convalescent care, diagnostics, public health, patient education, medical techniques, and so on. Distributional innovations, such as those that improve convenience, are simply one sort of innovation. Even if the market delivers excellent distributional innovations, its failure to deliver innovations that are not consumer preferred is a concerning flaw in a market-based medical innovation system.

One possible response to my claim that not all good innovations are consumer preferred is to redefine the goodness of innovation such that good innovations are by definition those that are consumer preferred. While defining good innovation as consumer preferred may seem radical, the move may be motivated by powerful anti-paternalistic principles. Such an argument may be based on fundamental values of liberty and self-determination. If there are good-making features besides consumer preference, someone must determine what these features are. Preservation of human life, human dignity, defeating disease, reducing disability, lowering costs, and maximizing well-being are examples of some principles that may guide the evaluation of medical innovation. Each principle may be guided by different values such as equality, utility, or freedom. Well-meaning and intelligent people disagree about what principles and values should

guide innovation priorities in healthcare. A top-down edict prescribing what society ought to value in health innovation would ignore the valuations of anyone who disagrees with the principles at work. If one believes in the primacy of liberty and self-determination as values, then any attempt to circumscribe the goodness of innovation according to a particular set of values automatically overrides the values and preferences of some people, making such an attempt a fundamentally wrong exercise.

The definition of good innovation as consumer preferred innovation eliminates the possibility that consumer preference might miss a good innovation, or that consumers may prefer an innovation that is not good. Since the goodness of innovation simply is consumer preference, this definition avoids the problem of the mini-widget, i.e., innovations that have some good-making feature but are not consumer preferred. If all consumer preferred innovations are good and all good innovations are consumer preferred, then the market would deliver good innovations because the market delivers consumer preferred innovations.

While this reply addresses the mini-widget objection, the chain of relationships that connect the market to innovation may be broken by a failure of the relationship between profitability and consumer preference as well. If an innovation is consumer preferred but not profitable, the market will not tend to produce that innovation. Even if consumer preference defines the goodness of innovation, the market still may not pursue all consumer preferred innovations. If the consumer preferred innovation is not profitable, then the market will not innovate according to that consumer preference. For example, the perma-widget is indubitably consumer-preferred, but it is not profitable for a company to innovate. The perma-widget is a good innovation, and consumers prefer it. Nonetheless, the market will not deliver the perma-widget innovation because despite being consumer preferred, the perma-widget lacks potential

profitability. If comparable innovations exist in healthcare, then those will not be pursued by the market either. I will refer to these as perma-widget innovations.

In healthcare, a perma-widget is akin to a cure for a disease as opposed to a treatment. Like a perma-widget, a cure is not profitable for a healthcare company to innovate. Once a healthcare consumer receives a cure for a disease, they will not seek further treatment for that disease. Thus, they will spend less money over the course of their lives on a cure rather than a treatment, unless the cure is prohibitively expensive. In that case, however, many fewer consumers will be able to purchase the cure, once again decreasing its profitability. Compared to a treatment, a cure profits a company less. For example, research into antibiotics that cure an infection is less profitable than a treatment for a chronic illness. The only way to make antibiotics profitable is to make an individual course of antibiotics prohibitively expensive or to prescribe them to many more patients. The current level of use of antibiotics already poses the problem of antibiotic resistant strains of bacterial infections. Harbarth et al. points out that

> Traditionally, in order to recover R&D costs and ensure financial returns, pharmaceutical companies aim to maximize the sales potential, and thus the consumption, of their products. In the case of antibiotics, however, this simple sales-based model runs counter to the public health mandate to 'steward' the consumption of these drugs in order to preserve their efficacy. (1604)

Because of the relative unprofitability of antibiotic research, "a substantial gap in the discovery of antibacterial drugs has been created, which is responsible for the current lack of newly approved systemic antibacterial agents" (Harbarth et al. 1604). Antibiotics are a perma-widget innovation; regardless of consumer preference, innovations in antibiotics are not profitable to pursue.

Antibiotics and other perma-widget innovations in healthcare provide examples of situations in which the market does not respond to consumer preference. Thus, even if the goodness of innovation is defined by consumer preference, there remains no guarantee that consumer-preferred innovations will be promoted by the market.

Conclusion

The decoupling of innovation and profit disrupts the relationship required for a Baumol-style argument. Baumol-style arguments claim that companies have a financial mandate to innovate. The mandate relies on a relationship between innovation and the company's bottom-line: if the company does not innovate, it will not be profitable or financially viable. If Baumol is right, innovations are mandated in the market because innovations will bring the money necessary to keep the innovating company competitive. In healthcare, some innovations are not profitable, either because they are not consumer preferred, or because they are unprofitable for other reasons. If we rely on a free market in healthcare, innovations in unprofitable areas will not be pursued. The very aspect of a market that Baumol and Herzlinger point to as a driver of innovation, namely the market's mandate for profit, can make the market inflexible and unable to promote certain types of innovation. The market may innovate prolifically in some areas, while ignoring other types of innovations. Overlooked innovations like antibiotics are important, like antibiotics, and the stakes in healthcare are human lives. A market in healthcare cannot deliver the targeted, specifically medical innovation necessary to responsibly negotiate healthcare's tenuous balance between cost, access, equality, and choice.

Chapter 5: Conclusion

Free-market advocates often defend the idea of a market in healthcare with three arguments: 1) that a market in healthcare will be more efficient, 2) that a market in healthcare will prevent moral hazard (the overuse of healthcare), and 3) that a market in healthcare will promote medical innovation.

In this project I have considered each of these arguments. I have demonstrated that each argument relies on unstated assumptions, and I have challenged these assumptions. I showed that the tendency of the market toward efficiency relies on strong agency on the part of market participants and I argued that in healthcare, multiple factors undermine the agency of patients to the point where a market in many forms of healthcare will fail. I disputed the concept of overuse of healthcare that underpins moral hazard arguments by showing that if we define appropriate use of healthcare in medical terms, a market in healthcare allows for both significant overuse and underuse of healthcare. I outlined the mechanism by which the market promotes innovation and argued that this mechanism limits the feasibility of certain highly desirable medical innovations in a market system of distribution.

I have not argued for government distribution of healthcare, nor have I argued for particular public policy or regulation or contended that no aspects of healthcare ought not be distributed on a market. A free market may be able to effectively distribute some forms of healthcare, such as back braces or elective surgeries. The free market by its nature cannot be tailored to a goal other than profit, and it cannot be directed independently of consumer preference. The goals of medicine, however, are problem-solving, non-financial, and frequently distinct from consumer preference. I have demonstrated that three major claims made on behalf

of a free market in healthcare fall short of justifying such a distribution. In each case, I have argued that the free market is an inappropriate tool to distribute healthcare in general, because certain features of healthcare, and the metrics by which we evaluate healthcare, and the goals of medicine make some forms of healthcare poor free market commodities. I have so far been silent on the subject of what a good distribution mechanism for healthcare might look like.

A superior distribution mechanism for healthcare is one that can be directed according to the goals of medicine and can mitigate the problems that accompany the peculiarities of healthcare. To secure efficient outcomes, patient agency must be protected at the level of provider-patient interaction, and also at the level of the healthcare distribution system. A superior distribution mechanism will ensure that patients are represented and protected, and thus combat endemic agency problems in the practice of medicine. To control the use of healthcare, a distribution mechanism must address the problems of underuse as well as overuse. Overuse and underuse must be defined carefully, based on recognition of appropriate use of healthcare and according to the goals of medicine. Finally, the medical value of innovation is distinct from the financial value of an innovation. While controlling costs is important, to promote medical innovation a distribution mechanism must be able to overcome some financial barriers to generate medical innovations that are not profitable.

A heavily regulated market may be able to accomplish what a free market cannot. Regulations can protect patient agency by forbidding exploitive healthcare transactions and enforcing ethics rules for healthcare providers. A regulated market would be better positioned to control the use of healthcare, ensuring sufficient access while inhibiting overuse. Regulations, incentives, and subsidies can channel the energy and focus of profit-seeking entities on a market toward innovation that would otherwise go overlooked by a free market.

Similarly, a government may be able to directly overcome the deficiencies of a free market by carefully structuring healthcare distribution. By legally requiring healthcare providers to act as fiduciaries for patients, a requirement that would undermine a free market in healthcare, a government could enforce the protection of patient agency directly. By providing basic healthcare for free, a government can dramatically diminish underuse of healthcare and by requiring physician recommendations for expensive procedures, a government can eliminate the worst costs of healthcare overuse. A government could set priorities and provide funding for medical innovation, removing the need for any given innovation to be profitable.

Free market advocates may argue that despite all the problems associated with a free market distribution of healthcare, a free market is a superior mode of distribution because governments are prone to corruption and mistakes. Poorly designed regulations could do far more damage than the flaws of the free market. Government bureaucracy, ineptitude, and corruption would make any central distribution disastrous. These concerns are understandable. However, the distribution mechanism is a tool that we use to deliver healthcare to those people who need it. To depend on the free market is to use a tool that cannot be aimed or directed. For healthcare, the results of the use of the free market are inefficiency, inappropriate use, and loss of some important medical innovation.

Healthcare is like a river, whose water is necessary for the development of a civilization and well-being of the people. To allow the free market to distribute the goods of medicine is to allow the river to wander where it may; if it turns out that the river comes to a city that needs its water, then to leave the river alone is indeed a good plan. If, however, it turns out that the river meanders only to some people who need it and not to others, then perhaps we ought to adjust the course of the river and guide it toward where we need the water, or take the water out of the river

and bring it directly to those who need it. It is possible to do this badly; a corrupt planner or inept builders may dam the river quite badly, perhaps even taking it farther from where it needs to be than before. Incompetent distributors might fail to bring water to those who need it. But it is also possible to do the job well. With thoughtful planning that remains responsive to change, uniform and responsible implementation, and careful oversight, the water can be brought all who need it. By guiding the river or bringing the water directly, we can ensure that everyone gets enough water to live, not merely the people who happen to live near the river. The water is important and life-saving. For such a good, it is better to have a tool that we can aim, even though it can be aimed wrongly, then to simply accept the course of the river. The free market fails to properly distribute healthcare; the river, uncorrected, brings the water only to some people. Healthcare possesses features that undermine the market's efficiency. The market does not curtail overuse, but may actually allow it. The innovative capacity of the free market is limited by its requirement for profit. The free market, like an undirected river, may bring life-saving healthcare to some people, but many people will be left without it. Healthcare regulations may be poorly crafted, and central distributions may be corrupt, but these flaws are not necessary features of the regulated market or single-payer system. Simply because a tool may be aimed badly does not mean that it cannot be aimed properly. For the distribution of vital and life-saving healthcare, it is better to use a tool we can aim rather then relying on the free market.

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