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Organizational Economics and the US Healthcare System¹

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“Organizations are a means of achieving the benefits of collective action in situations where the price system fails.” (Arrow 1974: 33)

5.1 Introduction

To create value, firms and other organizations must come to grips with a core challenge: coordinating the actions of specialized agents performing diverse tasks and pursuing distinct goals when the price system cannot do the job. Organizational economics is the study of how organizations cope with this fundamental problem.

This essay assesses what organizational economics contributes to our understanding of the US healthcare system. We begin from the premise that the organizational problem is especially severe in the healthcare sector because of the high degree of autonomy and specialization between providers. Responses to these challenges commonly used in other economic sectors—such as incentive design—are difficult to implement in healthcare. The net result is that the US healthcare sector exhibits persistent inefficiencies and includes a rich and complex variety of organizational adaptations.

The essay begins with a brief discussion of incentive problems in the health sector. We then discuss the coordination problems that arise when a given patient's care is fragmented across multiple providers. Next, we discuss organizational rigidities that hamper successful innovation by incumbents. Finally, we consider two areas in which potentially compromised

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experts contribute to solving specific organizational problems in the healthcare sector. We conclude the essay with a discussion of persistent performance differences among providers. Understanding these performance differences is an important area for future research in the organizational economics of the healthcare sector.

We chose these topics because of their practical relevance and because they usefully illustrate some of the insights that organizational economics provides. We also knew a bit about them—sometimes from our own prior research.

5.2 Incentives in Healthcare

Medicare pays physicians for services rendered to beneficiaries according to a fee schedule. This schedule assigns a fee to roughly 7,000 distinct services. The fees are calculated to represent the relative amounts of “work” physicians contribute to the services they render (Reinhardt, 2010).

This fee-for-service approach to physician payments extends beyond Medicare and is the predominant payment model used throughout the US healthcare system. Fee-for-service has the advantage that compensation is based on a set of clear and ostensibly objective rules.² It also ensures that physicians will cover their costs for treating even the sickest and most expensive patients. While these advantages make fee-for-service attractive, the payment system also creates perverse incentives. Because the fees reflect costs to physicians rather than value to patients, fee-for-service allows physicians to profitably provide lots of low-value care. The result is a healthcare system that delivers too much low-value care.

Fixing the distortions of the fee-for-service incentive system is a first-order economic problem for the US healthcare system. A commonly discussed approach to mitigating these distortions is to introduce incentive contracts designed to reward providers for improving care quality or reducing cost. The theory is that if the healthcare system could manage to “pay for performance” rather than pay for procedures, the system would deliver higher value care at lower cost. In practice, however, pay-for-performance has mostly been a disappointment. Organizational economics offers some insights as to why.

² As we discuss in section 5.1 below, the calculations behind Medicare’s rules appear to also be influenced by rent seeking and lobbying.

In Section 2.1, we discuss some of the specific challenges that incentive contracting faces in the healthcare sector. Section 2.2 argues that provider organizations can potentially create richer incentive systems that can partially overcome these challenges. Section 2.3 considers how the fragmented payment system in the United States makes it hard for commercial payers to implement a better alternative to Medicare’s fee-for-service payment model.

5.2.1 Challenges for Pay-for-Performance Incentives

In this section, we briefly sketch some important challenges for implementing pay-for-performance incentives in the health sector. For more general surveys on the economics of incentives in organizations, see Prendergast (1999) and Gibbons and Roberts (2013). We highlight three sets of challenges: “flying blind,” strategic distortions of information, and the multiple dimensions of quality and costs. None of these incentive issues are unique to the healthcare sector, although the challenges are often magnified by its distinctive features.

5.2.1.1 Flying Blind.

The economic theory of incentive design typically imagines a well-informed and self-interested agent who makes decisions by balancing the marginal benefits of actions against their marginal costs. Properly designed incentives bring the agent’s individual marginal benefits and costs more closely in line with the social benefits and costs, leading to more efficient outcomes.

In healthcare, however, the scope for efficiency-enhancing incentives is limited by the fact that providers are often “flying blind” because information on the benefits and costs of treatment for a specific patient is often unavailable *ex ante*. The growth of evidence-based medicine over the past few decades reduces, but does not eliminate, the problem of flying blind. The rapidly growing evidence base and constantly changing treatment options make it hard for providers to connect the most recent research findings to a patient’s specific situation.

Providers often rely on their own experience in assessing the benefits and costs of different treatments, and this can worsen the problem of flying blind. In healthcare, bad outcomes are often rare and have a significant random component. Purely as a matter of statistical inference, individual providers may have difficulty discerning the negative impacts of different care decisions. One way to bolster statistical power is to aggregate across the experiences of many providers. Yet optimal decisions in healthcare are, by their nature, tailored to individual patient circumstances, which complicates aggregating to gain statistical power.

A final contributor to the problem of flying blind is that effective treatment in healthcare often necessitates coordinated efforts by diverse providers. Addressing problems such as reducing patient falls or preventing hospital-acquired infections requires the transfer and integration of knowledge that spans professions and care settings.

5.2.1.2 **Strategic Distortion of Information.**

Incentive contracts require performance measures. In the healthcare sector, useful performance measures often rely on hard-to-verify assessments of the providers whose performance is being measured. For example, healthcare organizations and the public might be interested in incentives that discourage unnecessary use of antibiotics, but it is difficult to know whether a specific prescription is unnecessary without knowing the physician's clinical assessment of the situation. This issue extends to many decisions that determine care quality. For example, in end-of-life care, patients often benefit most when doctors take the time to elicit a patient's preferences or offer advice and counseling. Yet, important patient considerations and preferences may be impossible to observe without relying on the provider's assessment of them.

When performance measures rely on the actions and reports of self-interested providers, providers may benefit by acting or reporting strategically to obscure information about their patients. This issue has important implications for the design of incentives (Crawford and Sobel, 1982; Milgrom and Roberts, 1988). For example, to provide incentives to reduce costs, payers can pay providers by risk-adjusted capitation. However, this arrangement may induce providers to “upcode” patients because overstating patients' medical problems results in higher payments (Dafny, 2005; Geruso and Layton, 2020). Another example concerns penalties for hospital readmissions. In this case, hospitals can simply respond to these penalties by reclassifying patients who usually would have been admitted as instead being only under “observation” (Gupta, 2021).

The problem of strategic distortion of information is not limited to explicit pay-for-performance incentives—it can manifest in response to the incentives implicit in certain management practices. One example concerns the sensible policy of assigning patients to the least busy doctors. Providers in this situation may “foot drag” to make it appear that they are busier than they actually are (Chan, 2016).

Organizations may respond to the distortion of information by altering their incentives or policies to reduce the scope for such strategic behavior. These responses can themselves be a

source of inefficiencies. For example, Chan (2018) demonstrates that physicians in emergency departments have a strong preference not to work past the end of their shifts. Because doctors would rather admit patients to the hospital than stay past the end of shift, assigning patients near doctors' end of shift would cause unnecessary hospital admissions. In response, emergency departments allow their doctors to slack off by assigning them fewer patients as they approach their end of shift.

5.2.1.3 **The Multiple Dimensions of Quality and Costs.**

Pay-for-performance contracts often reward quality improvements or cost reductions. A challenge for these contracts in healthcare is that both quality and costs are multidimensional.

Mortality rates, for example, are an obviously important quality measure, but they famously fail to capture other aspects of quality of life and provide poor guidance for managing many diseases. The fact that care quality has multiple dimensions means that quality-enhancing treatment objectives or care measures can be at odds with one another. For example, aiming to keep blood pressure under control with antihypertensives can conflict with efforts to avoid drug interactions and related problems stemming from polypharmacy. Faced with multiple dimensions of quality, a seemingly reasonable solution might be to combine the various quality measures into a single performance measure. But this approach raises the question of how to weigh the various components. Ideally, the weights given to each indicator should reflect patient preferences, but patients may have difficulty forming and communicating their preferences.

Healthcare costs and quality also have a temporal dimension that complicates incentive design. Efforts to get patients to exercise and quit smoking impose short-run costs on providers and have few short-run health benefits, but if successful they can reduce long-term costs and improve long-term care outcomes. In environments where patients frequently switch providers or insurers over time, providers or payers may not capture value from long-term cost savings or quality improvements. It follows that incentive designs will excessively focus on short-term outcomes (Cebul et al., 2011).

Finally, certain dimensions of quality and costs can introduce undesirable distortions. These distortions are often referred to as multitask problems or the “folly of rewarding A, while hoping for B” (Kerr, 1975). Multitask problems occur when incentive programs measure and reward only a subset of economically relevant facets of performance (Holmström and Milgrom, 1991). For example, an incentive program that heavily rewards providers for having costs below

some target might lead to cost reduction, but it may also cause providers to skimp on quality of care. One response might be to design an incentive program that rewards quality as well as cost containment. This strategy makes the incentive program more complex and difficult to operate. In addition, if care quality is particularly difficult to reliably measure, dropping cost control incentives entirely may deliver more desirable outcomes than would a more complex and high-powered incentive program.

5.2.2 Provider Organizations

Organizations can get individuals to work hard and coordinate their activities, often with only minimal use of high-powered financial incentives (Roberts, 2004). Understanding exactly how organizations do this is an important area of research in organizational economics.

Part of the solution to this puzzle seems to be that successful organizations tap into motivational mechanisms that are de-emphasized in standard economic models of incentives. These nonstandard motivators derive their power from social identities, social status, peer pressure, reciprocity, and social norms (Akerlof and Kranton, 2005; Chan, 2016; Encinosa et al., 2007; Kandel and Lazear, 1992; Kolstad, 2013; Mas and Moretti, 2009). Healthcare organizations may be particularly good at mobilizing these non-standard motivators because the healthcare sector has well-entrenched professions with established ethical obligations and social missions (Starr 1984; Biller-Andorno and Lee, 2013).

Organizations that succeed in engaging these non-standard motivators can operate efficiently with low-powered financial incentives, but they must also manage the undesirable consequences of these motivational channels. Consider the example of patient safety. The cultural norms in healthcare have traditionally treated patient safety as the responsibility of individual providers, and lapses in safety signal a “weak” provider. Under such norms, providers have powerful motives to keep their patients safe even in the absence of financial incentives. But the same norms can *reduce* safety by making it harder to learn from mistakes and “near misses.” A norm that too strongly stigmatizes providers who own up to mistakes and near misses discourages the sort of open discussion and learning from experience required to continuously improve safety at the organizational level.

Organizations must also consider how non-standard motivators interact with conventional financial incentives. Such interactions may influence who selects into healthcare organizations in

the first place (Ashraf et al., 2020). A growing body of experimental research also raises the question of whether financial motives “crowd in” or “crowd out” non-financial motivators (Lacetera, Macis, and Slonim, 2012; Bowles and Polania-Reyes, 2012).

5.2.3 Fragmented Payers and Common Agency

If the fee-for-service payment model is so inefficient, why has it persisted for so long? After all, commercial health insurers have an interest in reducing incentives to deliver costly, low-value care, so why don't they implement alternative payment models with more desirable incentive properties? One possible answer to these questions is that the issues we discussed in section 2.1 above are so severe that they render alternative incentive arrangements ineffective. An alternative explanation highlights the common-agency problems that emerge from the fragmentation of private payers in the US healthcare sector.

Common-agency problems arise when multiple principals influence the actions of a common or shared agent (Bernheim and Whinston, 1986) and, as we explain below, can lead to the widespread use of inefficient contracts. The inefficiencies associated with common agency were first highlighted in the health economics literature by Pauly (1974). Suppose, for example, a patient receives health insurance from two different sources, Medicare and Medigap. Then Medicare and the Medigap insurance provider both act as principals, with the patient acting as their common agent. If some features of Medicare are aimed at reducing moral hazard, then Medigap coverage could undermine these incentives.

Common-agency problems can also arise between multiple payers whose patients share a single provider. Each payer may benefit if the provider makes efficiency-enhancing investments in, say, integrated care, and so each would like to give the provider the incentives to do so. The complication is that provider incentives to make such investments depend on the incentive contracts they have with all payers. If one payer puts in place a shared savings program that rewards a provider for hitting cost targets, this reward may motivate the provider to change practices in a way that affects the costs to all its patients, leading to spillovers across payers. Einav, Finkelstein, Ji, and Mahoney (2020) find evidence of these spillovers in a Medicare bundled payment reform for knee and hip replacements. The reform applied only to a provider's traditional Medicare patients, but it had a roughly equal impact on Medicare Advantage patients.

The existence of spillovers like the ones identified by Einav et al. (2020) leads to two distortions. The first is a free-rider problem among payers (Glazer and McGuire, 2002). Putting in place higher-powered incentives creates positive externalities, and so each payer will tend to put in place lower-powered incentives than would be jointly optimal for the payers.

The second distortion is a coordination failure. Payers may be reluctant to install high-powered incentives unless they think other payers will also put in place high-powered incentives. After all, why shoulder the entire burden of changing provider behavior if the other payers who benefit from such a change are not contributing? Parties can therefore get stuck in an inefficient “sticking point” equilibrium (Frandsen, Powell, and Rebitzer, 2019) in which contracts offer very weak incentives to control costs, even in a setting where Pareto-superior arrangements exist.

As a theoretical matter, these types of coordination failures are more likely to arise when the provider actions that payers want are, as Einav et al. (2020) put it, “high fixed cost, low marginal cost” or lumpy actions such as the adoption of a health IT system or a complete reorganization of physician practices into multispecialty group practices. Common-agency models tend to emphasize the efficiency gains from markets in which each provider interacts with fewer, more concentrated payers. For example, such models predict that more efficient incentives would arise in vertically integrated delivery systems that finance care and employ their own providers, such as Kaiser Permanente and the VA.

These models also suggest that public policy can have transformative effects on the contracts offered by private payers. For example, introducing Medicare Accountable Care Organizations (ACOs) can potentially create “jump-start effects” that spur private payers to follow suit. But these models also caution against incrementalism: Jump-start effects may only manifest following sufficiently large reforms. Weak reforms may have little or no effect on the incentives offered by private payers (Frandsen, Powell, and Rebitzer, 2019).

5.3 Coordination Problems in Healthcare

The benefits of specialization noted by Adam Smith (1776) and Stigler (1951) are robustly manifest in healthcare. The gains from specialization are, however, limited by the costs of coordination between specialized entities (Becker and Murphy, 1992).

In healthcare, the relevant costs of coordination are often the result of interactions between the various referring physicians who all share responsibility for a given patient.

Coordination may be especially challenging when care is fragmented or spread across several providers or provider organizations (Cebul, Rebitzer, Taylor, and Votruba, 2008).³ Assessing the effects of care fragmentation on the cost and quality of care is important for understanding the efficient limits of specialization in the healthcare sector.

Quantifying the role that care fragmentation plays in determining care costs and quality requires overcoming two difficulties: measuring the degree of fragmentation in a patient's care and separating the effects of fragmentation on care outcomes from variation in patient characteristics that may drive both fragmentation and care outcomes. In this section, we discuss how the literature has addressed both challenges.

One way to measure a patient's care fragmentation is to use a Herfindahl-Hirschmann-type concentration index (HHI) based on the share of a patient's total visits with which each provider (or provider organization) is associated. Frandsen, Joynt, Rebitzer, and Jha (2015) use this measure to quantify care fragmentation, and they document that patients with chronic conditions whose care is more fragmented by this measure experience lower quality and higher costs of care. However, the correlation between care fragmentation and these outcomes could be driven by sicker patients clustering within certain providers, which would confound estimates of the causal effect of fragmentation on care outcomes.

Several research designs help identify the empirical effect of fragmentation on care outcomes. Agha, Frandsen, and Rebitzer (2019) find that the HHI-based measure of fragmentation varies systematically across regions in ways that are unrelated to patient characteristics. By focusing on patients who move between regions with different levels of fragmentation, they find that moving to a region with higher fragmentation leads to higher overall utilization. The increase in utilization is not necessarily wasteful, however; part of the increase in utilization is driven by high-value services. This observation highlights the tradeoff between the benefits of increased specialization and the costs of coordination in care fragmentation. Improved coordination of care sometimes reduces wasteful expenditures, while at other times it improves access and corrects underuse of high-value care (McWilliams, 2016).

³ Referrals are often the result of non-contractual, non-market interactions between physicians, but they can also be influenced by the competitive environment and by technical factors, such as the degree of interoperability of the IT infrastructure.

One negative feature of fragmentation is that it occurs across organizational boundaries. Informational flows across organizational boundaries are notoriously problematic, as health information technology systems frequently lack interoperability. Agha, Ericson, and Zhao (2020) measure the concentration of referrals within an organization (the flip side of the fragmentation coin) and use physician exit from a local healthcare delivery area to identify exogenous changes in referral patterns. They find that when referrals are concentrated within organizations, utilization of resources falls, and some aspects of care quality improve. These results suggest that the gains from specialization may be realized without incurring high costs of coordination when multiple specialties are included within the same provider organization and when a patient's care is coordinated largely within that organization.

The idea that improved coordination within organizations leads to better outcomes is also supported by evidence from a recent study of ambulance rides by US veterans over the age of 65, who are eligible for care both at the Department of Veterans Affairs (VA) and at non-VA private hospitals financed by Medicare (Chan, Card, and Taylor, 2021). The paper shows that veterans who are quasi-randomly transported to a VA—the nation's largest integrated healthcare delivery system—have lower mortality and incur less spending. The paper also finds that the VA is much more likely to follow up with their patients, through office visits and telephone calls, while non-VA hospitals are more likely to concentrate utilization of resources during the initial visit.

This potential productivity advantage has been attributed by a prior descriptive literature to care integration (i.e., reduced fragmentation) and the adoption of health IT. Examining a sample of veterans who only use non-VA hospitals, Chan et al. (2021) offers some suggestive causal evidence of the importance of these mechanisms. Among these veterans, those who are transported to a non-VA hospital with which they have had a prior relationship have higher survival rates, especially after these hospitals have adopted within-hospital IT systems and after they have joined efforts to integrate care, as prompted by recent legislative efforts.

It is worth noting that even within organizations, coordination does not happen automatically or for free. Much recent theoretical work in organizational economics has focused on how best to manage these costs between and within organizations (Alonso, Dessein, and Matouschek, 2008; Dessein and Santos, 2006; Rantakari, 2008).

5.4 Organizational Rigidity and Incumbent-Driven Innovation

Many parts of the healthcare sector have entrenched incumbents who use their monopoly power to increase the price of healthcare services in the United States (Papanicolas, Woskie, and Jha 2018; Cooper et al., 2018; Dafny, Duggan, and Ramanarayanan, 2012). In this section we consider whether monopoly power also influences the rate and direction of innovation. In keeping with the theme of this essay, we focus on the role played by organizational issues.

A large economic literature has wrestled with the relationship between monopoly power and innovation (Federico, Scott Morton, and Shapiro, 2020; Shapiro, 2012; Holmes and Schmitz, 2010). Monopoly profits give incumbent market leaders a powerful incentive to adopt innovations that preserve their dominant market position against potential rivals. From this perspective, monopolists ought to be a wellspring of innovation (Gilbert and Newbery, 1982; Holmes, Levine, and Schmitz, 2012). Yet history is full of instances where dominant incumbents ignore or overlook key innovations. Why are monopolies sometimes sluggish and sometimes aggressive innovators?

A promising answer to this question focuses on switchover disruptions within organizations. This term refers to the transitory disturbances that occur when new innovations are phased in (Holmes, Levine, and Schmitz, 2012). During the phase-in period, firms struggle to make new products, processes, or services work. These struggles can upend profitable operations in the short run and can create winners and losers within the organization in the long run.

The sources of switchover disruptions are an area of ongoing research, but it seems clear that sometimes disruptions can be the result of largely technological features of the new innovation that require new production processes or novel organizational capacities. For example, Gans (2016) argues that incumbent phone makers were slow to innovate in response to the threat of the iPhone because the new approach involved an “architectural” innovation that imposed especially severe switchover disruptions on the then-dominant phone makers.

Because switchover dynamics can create winners and losers within the organization, powerful players may campaign to block beneficial innovations. Incentives within organizations often take the form of promises about future decisions and decision-making rather than monetary transfers. The prospect of future power and influence can motivate parties to act in ways that make the organization more successful. Empowered parties contribute to a firm’s current

success, but the power they acquire enables them to disrupt future innovations perceived as counter to their interests (Li, Matouschek, and Powell, 2017). Schmitz (2005), for example, found that the threat of disruption by mining unions slowed the introduction of efficient new work practices among dominant iron ore mining operations on the Mesabi Iron Range.

A good example of switchover disruptions in the health sector is Kaiser Permanente's early introduction of telemedicine. A defining feature of Kaiser Permanente is the set of multi-specialty, self-governing Permanente Medical Groups. Permanente physicians, like physicians everywhere, wanted to care for their patients without outside interference. They also wanted control over how they use their time during the day. The rise of a system of call centers to schedule appointments and provide advice threatened these cultural precepts. Would patient care and the physician's schedule now be taken out of the physician's hands and delegated to call centers? Addressing these concerns required the painstaking work of cultural change (Pearl, 2017). Kaiser Permanente executives and physician leaders had to make an enormous investment in designing the new way of doing business and implementing it in a way physicians would accept—including negotiating the introduction of revised compensation systems so that physicians were credited for the time they spent delivering care over the phone, via email, or through video. Such profound change took years of fine-tuning before all stakeholders agreed on a workable solution.

Switchover disruptions can shift innovation incentives between incumbents and potential rivals. When switchover disruptions are unimportant, dominant incumbents will have more powerful incentives than new entrants do to adopt new technology to defend their currently profitable market position. In this case, the fact that the healthcare sector has entrenched incumbents with market power may not be a drag on innovation. However, when switchover disruptions are high, an incumbent's incentive to adopt the new technology falls relative to potential new entrants because of the greater monopoly profits lost during the switchover. So long as the costs of switchover disruptions are not too great, monopolists may still have more powerful incentives to adopt innovations their rivals. When switchover disruptions become very significant, however, the situation reverses. In this case, the losses from switchover disruptions cause dominant firms to value the innovation less than their rivals. These incentives create an opening for new firms to take up efficient innovations that dominant firms choose to ignore (Holmes, Levine, and Schmitz, 2012).

The history of retail clinics illustrates how switchover disruptions can cause new entrants to innovate rather than incumbents.

One way to lower the cost of healthcare is to focus physicians on the more complex visits and to use less highly trained providers for the more straightforward tasks. Retail clinics are a business model innovation that attempts to do this. Retail medical clinics offer customers convenience, transparency, low cost, and flexibility. They are open late and on weekends, and they do not require a prior appointment or medical insurance. At the time of the visit, patients are charged a low flat fee. The menu of services offered at the clinic is limited, and prices are posted for all to see. The large retail clinic chains typically have no physicians on-site. Instead, a nurse practitioner delivers care, supported by a software application that employs standard care protocols. The first retail clinics appeared in Minnesota grocery stores in the year 2000. By 2006 the two most prominent retail clinic companies were acquired by CVS and Walgreens, respectively. There were about 200 such clinics in 2006 and over 1,200 by 2009 (Galperin, 2020).

Why was the innovation of retail clinics promoted by pharmacies rather than by groups of primary care physicians whose practices previously delivered such care? Physicians and the new corporate entrants both had access to the technology of the new business model; in principle, either of them could have profited from implementing it. Indeed, state-level corporate practice of medicine laws prohibiting non-physicians from owning medical practices would seem to give incumbent physician practices a regulatory advantage in introducing the new practice form.

Retail clinics are for-profit entities that employ non-physicians who are not under a physician's direct guidance to deliver medical care. This model directly challenges what Paul Starr characterizes as the "sovereignty of the medical profession" (Starr, 1984). Resistance to such a violation of established professional norms and ethics constitutes a switchover disruption for physician organizations. Pharmacies, in contrast, are not burdened by the norm of physician sovereignty. As a result, pharmacies, rather than physician-based organizations, implemented retail clinics. One can see traces of this norm violation in the campaigns that physicians conducted to block the new entrants. A recent study finds that physician organizations responded to the entry of retail clinics by arguing that they were unsafe, illegitimate, and possibly even immoral (Galperin, 2020). The physician campaign argued that the absence of physicians at retail clinics was dangerous for patients because nurse practitioners lacked the training and skills

of primary care doctors. Furthermore, profit-oriented corporations would put commercial interests ahead of the patient's interest. They argued medicine ought to be delivered by professionals motivated by patient welfare, not businesses focused on profits.

Incumbent physicians failed in using the regulatory structure to exclude retail clinics. But the resistance of physicians likely precluded physician-led organizations from taking advantage of an apparently efficient new business model.

Our more general point is that switchover disruptions often have their roots in the power dynamics and administrative challenges inherent to organizations. Taking these factors into account can be important for understanding how innovation happens in the healthcare sector.

5.5 Delegation to Potentially Compromised Experts

The Relative Value Scale Update Committee (RUC) and pharmacy benefit managers (PBMs) each play a central role in determining critical prices in the healthcare sector. The RUC helps set fees for physician services in Medicare. These Medicare prices exert influence throughout the healthcare system. PBMs operate the formularies that determine the transaction prices of branded pharmaceuticals.

According to some critics, self-interest and side payments compromise the decisions made by the RUC and PBMs. Why has the health system come to rely on such potentially compromised experts? The field of organizational economics offers some insights.

5.5.1 Relative Value Scale Update Committee (RUC)

The RUC plays an influential role in setting reimbursement for physician services. Convened by the American Medical Association and filled with representatives from medical specialty societies, the committee is tasked with overseeing a process of making recommendations to Medicare on how physicians should be reimbursed for the services that they perform. Strikingly, Medicare adopts more than 90% of the committee's recommendations without any revision. This arrangement is rife with potential conflicts of interest (Laugesen, 2016). Indeed, influential voices in organized medicine, including former RUC members, have complained that some specialties, such as primary care, are underrepresented on the committee and have been chronically underpaid as a result (Ginsburg and Berenson, 2007).

The conflicts of interests that influence the RUC are common to many advisory committees, yet this model is widely used for governmental regulatory and procurement decisions. In 2006, for example, 916 such advisory committees, with 67,346 members, provided input in government decisions (Brown, 2009). Industry participants on advisory committees pose the same dilemma as specialist representatives on the RUC. On the one hand, the involvement of industry participants seems necessary; they have expert information that is key for policy decisions. On the other hand, industry experts have incentives to provide selected or distorted information to direct policy according to their own interests. The process of obtaining information from industry participants may therefore provide a pathway toward regulatory capture (Stigler, 1971; Peltzman, 1976).

In healthcare, this dilemma seems particularly acute. Pricing the thousands of procedures that physicians perform requires up-to-date knowledge of the material inputs, skills, effort, and risk required to deliver these services. Physicians are well-positioned to provide this information. Indeed, in every developed country, government decisions to pay for healthcare involve formal input from healthcare professionals.

Chan and Dickstein (2019) study interactions between “specialty societies,” which represent physician specialties, and the RUC, which is composed of voting representatives from specialty societies. The authors find that common interests between proposing specialties and the RUC leads to higher prices. A one-standard-deviation increase in common interests leads to a 10% higher price granted by the RUC. This finding suggests some degree of regulatory capture, because specialties that are more closely affiliated with the RUC receive higher reimbursements from the government.

Organizational economics helps us to understand the reliance on potentially compromised experts. What appears as a conflict of interest is better understood as an organizational solution to an information transmission problem. The RUC needs information from specialty societies to make informed decisions. Some of this information is “soft,” or unverifiable (Crawford and Sobel, 1982). When specialty societies have more closely aligned interests (i.e., high affiliation) with an intermediary such as the RUC, those specialty societies can be more confident that the RUC will use the information the way the societies want. As a result, they are more forthcoming with useful or credible information, and the RUC is in a better position to price services than Medicare would be. In contrast, if a decision-maker (e.g., the RUC or Medicare) has no

alignment of interests, the specialty societies will be tempted to distort the information they provide so as to present a more compelling case that serves their own interests. If soft information is important enough, the RUC can serve as a useful intermediary to make better decisions for Medicare by extracting information from specialty societies (Dessein, 2002). Efforts to impose impartiality of intermediaries, such as the RUC, may result in prices that allocate resources less effectively.

5.5.2 Pharmacy Benefit Managers (PBMs)

PBMs are for-profit non-governmental companies that manage pharmacy benefits on behalf of health plans and other payers. If a drug maker wants to sell their drugs to members of commercial health insurance plans in the US, they typically must sell through a PBM. PBM services are also used by Medicare Part D drug plans, Medicare Advantage plans, and many Medicaid prescription drug plans. The market for PBM services is dominated by a handful of large companies, each acting as a common agent for several diverse payers. In 2018, three PBMs accounted for 80 percent of prescription drug volume (Feldman, 2020).

For many observers, it seems evident that PBMs' expertise in bargaining with drug makers must be weighed against the fact that PBMs receive rebates from drug-makers for every unit of drug sold. The existence of these rebates is common knowledge in the industry. How can a PBM bargain honestly on behalf of its clients while receiving payments from the other side? Why do insurers and governmental payers use PBMs, given that they appear to be compromised agents?

The key to answering these questions is to understand the complex organizational relationships operating in the market for branded drugs. On the one hand, PBMs are intermediaries between patent-holding drug makers and consumers. On the other hand, PBMs are a common agent acting on behalf of multiple payers. The PBM balances these two relationships through the design of its formulary. Formularies compel drug makers to compete for a preferred position on the formulary by offering rebates off the list price. The equilibrium formulary structure allows consumers to purchase most patented medicines at prices close to marginal cost. Relying on the PBM as an intermediary is therefore much more efficient than the alternative of selling patented drugs at monopoly prices. As common agents, PBMs share enough of the resulting gains with payers to ensure the payers benefit from using PBMs as their agents.

Rebates, from this perspective, are not side payments aimed at compromising PBMs. Rather these payments are part of a set of organizational relationships that makes drug markets work better than they otherwise would (Conti, Frandsen, Powell, and Rebitzer, 2021).

5.6 Conclusion: The Problem of Persistent Performance Differences

We began this essay with a quote from Nobel Laureate Kenneth Arrow suggesting that organizations are a means for creating value that would otherwise be lost due to the failures of the price system. But a central message of this review is that organizations can also fail to create value. These organizational failures have their roots in incentive problems, coordination problems, and organizational rigidities.

We conclude our review by suggesting that persistent performance differences among seemingly similar enterprises are a useful indicator of organizational failures in the healthcare sector.⁴ A substantial body of empirical research documents large regional differences in the resources required to deliver healthcare (Finkelstein, Gentzkow, and Williams, 2016). Hospitals also exhibit meaningful differences in productivity. Chandra et al. (2016) find evidence of substantial cross-hospital quality differences for several different health conditions: heart attacks, congestive heart failure, pneumonia, and hip and knee replacements.⁵

An important, and as yet unresolved, question for organizational economics is to what extent different management practices within healthcare organizations can account for these performance differences. Qualitative case studies suggest that management practices and relationships between providers within healthcare organizations correlate with productivity differences (e.g., McCarthy and Blumenthal, 2006). Large-scale quantitative studies similarly point to the importance of management practices. McConnell et al. (2013) studied 597 cardiac units located in hospitals. Using a careful survey technique, they scored management practices in these units along four dimensions: standardizing care, tracking performance indicators, setting targets, and incentivizing employees. They found a wide distribution of management practices

⁴ For a review of the general topic of persistent performance differences see Syverson (2011) and Gibbons and Henderson (2013).

⁵ These conditions together account for almost one-fifth of Medicare hospital admissions and spending. The study relies on a variety of quality measures including: clinical outcomes, conformance with processes of care, and measures of patient satisfaction.

across hospitals. Good management practices were correlated both with a reduction in 30-day mortality and with the use of quality-enhancing process measures. A related subsequent study implemented a cross-national study of hospital management practices in the United States and eight other countries, using a survey tool to assess best practices within operations, monitoring, target setting, and human resource management (Bloom et al., 2020). The survey finds considerable variation in management practices both within and between countries. Hospitals with better management practices have high clinical performance levels, as assessed by measures including survival rates from emergency heart attacks. These hospitals also tend to have a higher proportion of managers with an MBA or similar degree.

The correlation between management practices and performance raises a challenging follow-up question. If management matters for performance, then why don't the managers of poorly performing organizations in the healthcare sector simply catch up to the high fliers by adopting best practices? Gibbons and Henderson (2013) describe four classes of answers to this question, highlighting four sets of problems that lagging enterprises would need to overcome in order to catch up with high performers:

- The perception problem: laggards don't know they're behind.
- The inspiration problem: laggards know they're behind, but they don't know what to do to catch up with the leaders.
- The motivation problem: laggards know they're behind, and they know what to do to catch up, but it's not worth their while to make the necessary changes.
- The implementation problem: laggards know they're behind, they know what to do to catch up, they want to do it, but they just can't seem to get it done.

Each one of these problems provides fertile ground for further research at the intersection of healthcare and organizational economics. Addressing these problems may also have important implications for improving productivity in healthcare organizations. Work by Bloom et al. (2013) shows that a randomly assigned intervention providing free consulting on management practices to Indian textile plants raised productivity by 17% in the first year, improving quality and reducing inventory. Within three years, this intervention led to treated firms opening more plants. The researchers also find evidence that lagging firms were unaware of performance deficits, that they did not know whether simple management practices would improve their performance, and that they had not even heard of some management practices.

Within healthcare organizations, understanding how each of these problems manifests is important for future research. Janke et al. (2019) and Bloom et al. (2020) focus on management practices and the impact of top managers at hospitals. Chan (2020) shows that the presence of relatively junior clinical “managers” in residency teams explains the vast majority of variation in decision-making across teams. Characterizing the perceptions, motivations, and actions of individuals within organizations could shed light on the types of problems that explain productivity differences across healthcare organizations.

Literatures outside of healthcare may offer some models to expand the empirical research frontier. Consider, for example, a series of important papers from the education literature on improving the performance of low performing schools. The first paper in the series looked at charter schools. Charter schools are often able to adopt educational strategies that can be difficult to implement in traditional public schools. Dobbie and Fryer (2013) collected extensive data on the inner workings of 39 charter schools in New York City and found that five management strategies together account for roughly half the cross-school variance in charter school effectiveness. Absent some sort of experimental intervention, of course, it is impossible to know if these novel management approaches have a causal effect on school performance or are simply correlated with other factors. In a follow-up study, Fryer (2014) conducted such an intervention for the Houston public schools and found that the bundle of practices that correlated with better outcomes in NYC charter schools substantially increased math achievement scores in elementary and secondary schools. Analogous interventional studies could greatly enrich our understanding of persistent performance differentials in the US healthcare sector.

5.7 References

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