Primary Care Physicians as Street-Level Bureaucrats

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Abstract

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This dissertation is a theoretical and empirical investigation of primary care physicians as street-level bureaucrats. In chapter one, I provide a brief overview of the dissertation and its contributions to the relevant literature. In chapter two, I establish the theoretical framework used in this dissertation by linking literature from public administration and health services, discussing policy implementation from the top-down and bottom-up perspectives, and the role of administrative discretion in these processes. Furthermore, I review the history of decision-making models in the US health care system, from paternalism to shared decision-making, and then discuss common barriers to implementing shared decision-making and the relevance of discretion in this space. In chapter three, I present findings from in-depth interviews with thirty primary care physicians that focus on perceived discretion. While participants initially perceive themselves to possess high levels of discretion, I identify five common threats to their discretion:

(1) the adversarial health care "machine", (2) difficult and time-consuming insurance interactions, (3) unattainable patient expectations, (4) high emotional labor, and (5) the undervaluation of primary care. Participants use multiple coping mechanisms to mitigate these threats, with varying success. This chapter contributes to a richer understanding of perceived discretion and its relationship with patient-centered care and physician burnout. In chapter four, I present findings from a vignette-based experiment with two-hundred primary care physicians that focuses on how they mentally sort patients based on perceived engagement and urgency, and whether these perceptions influence their promotion of shared decision-making with these patients. I find that respondents devoted more time in a fifteen-minute appointment to shared decision-making tasks that precede a decision with a fictional high (versus low) A1C patient. Yet, they were less likely to promote a shared decision with that patient or perceive them to be a good candidate for shared decision-making. Perceived patient engagement and urgency played a mediating role in this decision-making process. This chapter provides an additional explanation for why shared decision-making is not occurring as intended. In chapter five, I provide a summary of the dissertation. In summary, this dissertation emphasizes the importance of viewing primary care physicians as street-level bureaucrats. This perspective contributes to our understanding of policy implementation by focusing on primary care physician discretion, coping, and promotion of shared decision-making. Moreover, it underscores the relationship between discretion and well-being, which has broader implications for the public service workforce.

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CHAPTER 1. INTRODUCTION

Relevant Background

Street-level bureaucrats, or the public service workers who interact directly and regularly with citizens, are instrumental to the implementation of public policy on the ground (Lipsky, 1980/2010). Their work, which comes with nontrivial amounts of discretion, is often very challenging and requires the use of coping mechanisms. Traditional portrayals of bureaucracy, however, have argued that street-level bureaucrats, including teachers, welfare caseworkers, and police officers, among others, possess only trivial amounts of discretion, or the freedom over their decision-making processes, due to their placement at the frontlines of their greater bureaucratic organizations. Their day-to-day responsibilities and decisions are assumed to be established first by legislators, through the formalized policymaking process and second by their managers and the higher-level administrators within their organizations who are tasked with turning legislative directives and mandates into feasible organizational processes (Weber, 1921/2015). Policy implementation conducted in this manner is known as the "top-down" approach to policy implementation.

However, research conducted in the last four decades has maintained that both the policymaking process and policy implementation are filled with ambiguity that results in a nontrivial amount of discretion granted to street-level bureaucrats (Lipsky, 1980/2010). This discretion results in a "bottom-up" approach to policy implementation, in which policy is negotiated at the frontlines of services between street-level bureaucrats and their clients, and policy-as-written often differs from policy-as-executed (Hill, 2003).

While health workers more generally are often put forward as street-level bureaucrats by scholars of street-level bureaucracy, empirical work focusing on physicians in the United States

is extremely limited. Thus, in this dissertation, I argue that it is worthwhile to further investigate physicians as street-level bureaucrats, and contributions can be made to both street-level bureaucracy theory and the relevant health services literatures by framing physicians as street-level bureaucrats.

The portrayal of physicians as street-level bureaucrats stems naturally from modern definitions of street-level bureaucrats. Physicians interact daily with patients in face-to-face settings, where they are tasked with making decisions directly related to patient well-being. A growing number of individuals in the United States are covered by health insurance programs operated by either the federal government or state agencies, so the decisions of physicians immediately impact government resources and are impacted by government regulations. Furthermore, physicians undergo extensive education and training and possess relatively high levels of formal discretion. Yet, in recent years, the appropriateness of this discretion has been called into question. Additionally, much of their workday has transitioned away from the patient and to the computer, where they are tasked with ever-increasing clerical and administrative responsibilities. Thus, like other street-level bureaucrats, physicians are currently experiencing an epidemic of burnout (Shanafelt et al., 2022). Theoretical contributions from street-level bureaucracy theory, including perceived discretion and worker coping, enable a deeper investigation of this experience of burnout.

Central to much of the literature about street-level bureaucracy is the desire to better understand street-level bureaucratic decision-making as it relates to clients. Thus, to frame this general argument of physicians as street-level bureaucrats and further explore its validity, I narrow my focus to the current model of decision-making in health care that has been promoted as the ideal: shared decision-making. Shared decision-making is as it sounds, a patient-centered

decision-making process that requires two-way communication between the physician and patient, shared deliberation, and a shared conclusion about how to move forward, that is informed by in-depth discussions of the patient's goals, preferences, beliefs, and life circumstances (Braddock et al., 1999).

Despite shared decision-making's status as the ideal model and practice emphasized in the training of physicians since the 1980s, as well as the introduction of policies aimed at promoting shared decision-making in recent years, research consistently demonstrates that it is not occurring to the extent that is desired (Joseph-Williams et al., 2014; Scholl et al., 2018). A substantial body of literature within health services has explored some of the potential barriers to shared decision-making as they are perceived by physicians and their patients, at the micro-, organizational- and system-levels (Caverly & Hayward, 2020; Gravel et al., 2006; Joseph-Williams et al., 2014; Legare & Witteman, 2013; Scholl et al., 2018; Scholl et al., 2020; Schuttner et al., 2021). Insights from street-level bureaucracy theory, including frontline worker coping and mental sorting of clients can provide a complementary explanation to why shared decision-making is not occurring to the extent desired, even among well-intentioned physicians.

Overview and Contributions of the Dissertation

In chapter two of this dissertation, I bridge literature from public administration and health services to argue that it is worthwhile to explicitly frame primary care physicians as frontline policy implementers to understand physician behavior in a clinical setting and provide insight into policy implementation theory more broadly. First, I provide an overview of the history of policy implementation at the frontline, from the introduction of the top-down perspective (Weber, 1921/2015) to Lipsky's (1980/2010) groundbreaking development of the bottom-up perspective and street-level bureaucracy theory. Due to the prominent role of

administrative discretion in this history and this dissertation more generally, I then define frontline worker discretion and explore its role in both top-down and bottom-up implementation.

In the second part of chapter two, I argue that physicians should be considered street-level bureaucrats because of what their daily work with patients entails. Then, I provide a synthesis of the debate surrounding what constitutes appropriate or optimal discretion, both among street-level bureaucrats generally and for physicians in the provision of patient care. Given that a primary aim of street-level bureaucracy research is to gain a clearer understanding of decision-making during client interactions, I then focus my investigation on shared decision-making between physicians and patients, the contemporary ideal of high-quality health care. I thus present a brief history of decision-making models in American health care, from paternalism to shared decision-making, followed by a discussion of common barriers to the implementation of shared decision-making and the implications of physician discretion in shared decision-making.

In chapter three, I use semi-structured, in-depth interviews with thirty primary care physicians from across the United States to explore the perceptions they have regarding their own discretion, or decision-making freedom, and what factors shape that discretion. I find that despite initial perceptions that physicians possess high levels of discretion, participants consistently describe five threats to their discretion, all of which lead to feelings of ineffectiveness in their ability to provide patient-centered care and burnout: (1) the adversarial health care "machine", (2) difficult and time-consuming insurance interactions, (3) unattainable patient expectations, (4) high emotional labor, and (5) the undervaluation of primary care. Participants employ various coping mechanisms to attempt to thwart these threats to varying degrees of success, ranging from often unsuccessful attempts to establish clearer boundaries with

their work to perspective shifts, including acceptance of what they cannot control, a return to mission, and apathy, cynicism, or surliness. Finally, some participants make concrete changes to their work, including shifting to concierge care, working less than what is traditionally considered full-time, taking on other non-clinical roles, and leaving medicine entirely.

This analysis contributes to the relevant literature in multiple ways. First, it better conceptualizes perceived discretion as it differs from granted discretion; perceived discretion is important to understand due to its association with a physician's sense of loyalty to their patients and workplace, and their willingness to implement new policy. Second, it provides greater insight into who primary care physicians are, how they cope with the challenges they face in their work, and who is likely to remain in medicine through organizational and institutional transformations, which is especially crucial to understand in our current epidemic of physician burnout.

In chapter four of this dissertation, I use a vignette-based experimental design with two-hundred primary care physicians from across the United States to explore whether perceived patient engagement and urgency are relevant factors for physician mental sorting of patients, and whether primary care physicians' perceptions of patient engagement and urgency influence their promotion of shared decision-making with these patients. I find that primary care physician respondents devoted more time in a hypothetical fifteen-minute appointment to shared decision-making tasks that precede a decision with a fictional high A1C patient (versus a low A1C patient). However, they were less likely to promote a shared decision with that patient or perceive them to be a good candidate for shared decision-making. Perceived patient engagement and urgency were relevant mediators in this decision-making process, with the high A1C patient being perceived as less engaged and requiring more urgent care.

This work has clear health equity implications and can provide a complementary explanation for why shared decision-making is not occurring to the extent desired, even among well-intentioned physicians. Specifically, these findings highlight the existence of physician mental sorting of patients as a coping mechanism, as well as the importance of physician perceptions of patients when interacting with them and making decisions about their care.

In chapter five, I provide a summary of the findings of the dissertation.

CHAPTER 2. PRIMARY CARE PHYSICIANS AS STREET-LEVEL BUREAUCRATS: A THEORETICAL PERSPECTIVE

In this chapter, I argue that there is both scholarly value and practical value in characterizing primary care physicians as street-level bureaucrats. In the first half, I present an overview of the history of implementation theory as it relates to frontline work traditionally performed by street-level bureaucrats and the importance of administrative discretion in this space. Then, in the second half, I analyze primary care physicians in the context of street-level bureaucracy, focusing on the normative debate surrounding optimal discretion and the process of shared decision-making.

Implementation Dynamics in Public Administration

In the first part of this chapter, I will provide a brief overview of the history of policy implementation as it relates to frontline work, from Wilson's (1887) politics-administration dichotomy and the rise of the top-down perspective (Weber, 1921/2015) to Lipsky's (1980/2010) creation of the bottom-up perspective and his groundbreaking theory on street-level bureaucracy. Because of the central role administrative discretion plays in this story, as well as in this dissertation more broadly, I will then define discretion in the context of frontline work and discuss its relevance in both top-down and bottom-up implementation.

Understanding Street-Level Bureaucrats

According to the modern expert on street-level bureaucracy theory, Michael Lipsky (1980/2010), a street-level bureaucrat is any public service worker who interacts directly and regularly with citizens in the course of their work, possesses nontrivial amounts of discretion, and faces many challenges in their day-to-day work, resulting in a wide array of coping behaviors. Traditional street-level bureaucrats include teachers, police officers, social workers,

judges, public lawyers, health workers, and numerous other public employees who grant access to government programs and provide services within them (Lipsky, 1980/2010).

What makes street-level bureaucrats unique among bureaucrats more broadly is that they regularly have direct contact with citizens, and their organizations rely on them to serve as brokers between the bureaucracy and its clientele, or the government and its citizens (Scott, 1997). Even though many traditional street-level bureaucrats work in positions that are formally situated toward the bottom of organizational hierarchies, they are portrayed by public administration and public policy scholars as the *ultimate policymakers*. This portrayal stems from their ability to exercise wide discretion regarding the citizens with whom they regularly interact. Discretion is the freedom to decide what should be done in a particular situation (Lipsky, 1980/2010).

Furthermore, street-level bureaucrats are unique among frontline public service workers because of the multitude of pressures they face in their daily work (Lipsky, 1980/2010). First, they face ambiguous and often conflicting expectations and goals within their organizations. Second, they must work with both an ever-increasing demand for services from their clients, as well as consistently insufficient resources. Third, they may experience relative autonomy from organizational authority, but it is also difficult for both their managers and political superiors to gauge their performance. Finally, the people who try to obtain services do not necessarily do so voluntarily. Rather, agencies force themselves upon their clients, or social conditions are such that the only option clients face is to seek their help.

With this combination of pressures, Lipsky maintains that street-level bureaucrats work in a "corrupted world of service" (pg. xv), where it is impossible for them to act "according to the highest standards of decision-making" (pg. xi). Instead, they must lower their expectations of

themselves and their clients, and because they are the most direct controllers of access to services and benefits, this results in a basic and immanent tension in their work. Thus, they develop coping mechanisms to manage this tension.

Coping mechanisms include either physical or psychological withdrawal, self-determined modifications to work responsibilities, and treatment of preferred clients that is aligned with why the street-level bureaucrat first entered their position (Lipsky, 1980/2010). Tummers et al. (2015) organize behavioral coping mechanisms into three distinct categories. The first category entails behaviors where the street-level bureaucrat moves toward clients; in this case, they may bend or break rules to adjust to the client's needs, prioritize certain clients, or use personal resources to benefit the client. The second category entails behaviors where the street-level bureaucrat moves away from clients; here, they may avoid meaningful interactions with their clients and instead routinize or ration care. The final category entails behaviors where the street-level bureaucrat moves against the client; this may manifest as rigid rule following in a manner that goes against the client's wishes or engaging in hostile behavior (Tummers et al., 2015).

Street-level workers justify these coping mechanisms as pragmatic and reasonable, and this treatment enables them to minimize the dissonance between their ideals and the pressures they face on a daily basis (Lipsky, 1980/2010). Sometimes this treatment means that workers are entering what is called the *moral underground*, where they consciously ignore the rules of their organization to be responsive to an individual client's needs in the ways they determine are most appropriate. This decoupling, in which their behaviors might appear contradictory to the organization's policies and rules, often results in both their survival as well as the greater organization's (Lipsky, 1980/2010). As will be discussed below, efforts to understand these coping mechanisms are worthwhile because they "may widen the gap between policy as written

and policy as performed" (Lipsky, 1980/2010, pg. xvii), a central concern of implementation scholars.

Modes of Implementation: The Top-Down Approach

Although Lipsky's portrayal of frontline workers in bureaucracies is dominant in the realms of public administration, public management, and public policy today, the evolution of the theory to this point was contentious and still is to some extent today. For one, the legitimacy of public administration has perpetually been called into question in the United States (Svara, 2001). When the field of public administration was first established, scholars attempted to distinguish public administration as "a practice based on professional knowledge and value from political particularism," (Svara, 2001, pg. 176). This tension is well-highlighted in Woodrow Wilson's (1887) politics and administration dichotomy, which promotes the separation and insulation of public administrators from involvement in the legislative process. This dichotomy as an ideal continues to receive support today for multiple reasons, some of which include the following: (1) it protects public administrators from hyper-inspection, (2) it enables legislators to blame administrators for their unpopular decisions, and (3) only a few alternative models exist (Svara, 2001).

This dichotomy was particularly influential to the development of what is now termed the "top-down" perspective of policy implementation. Traditional depictions of bureaucracy from the top-down perspective assert that street-level bureaucrats possess only trivial amounts of discretion and are, instead, compliers. The goals of their corresponding bureaucratic organizations are predetermined by legislators. These goals, which may initially be quite complex, are deconstructed by those at the top of the organizational hierarchy into many feasible tasks that can be carried out at various levels of the organization. Strict hierarchy or hierarchical

specialization ensures that each worker understands what they are expected to accomplish and how they are expected to do so (Kaufman, 1960). In essence, the bureaucracy functions similarly to that of a well-oiled machine, in which activities must be precisely synchronized.

According to German sociologist Max Weber (1921/2015), street-level bureaucrats are purely cogs in this machine, responsible for meeting their assigned goals in the most efficient manner possible. This role ensures that uniform implementation, a basic principle of bureaucratic administration, is met. In addition, this approach suggests that bureaucrats should promote a core value of public administration professionalism: neutral competence, in which they execute a policy both in an impartial and competent manner (Kaufman, 1960; Svara, 2001). Bureaucratic behavior is thus both controllable and predictable, and value judgments are expected to be virtually nonexistent. The discretion that bureaucrats possess is simply technical, in the sense that they defer to those who are positioned higher up to set their objectives. Yet, they possess some flexibility in determining what is the most effective course of action to achieve those objectives; this type of discretion has been referred to as *discretion-as-granted* (Howlett, 2004; Thomann et al., 2018).

Accountability and success, two central concepts in implementation theory, are also gauged through a hierarchical lens in the top-down perspective. More specifically, street-level bureaucrats are held directly accountable to their superiors, and implementation success occurs when they follow the centrally decided plans that are passed down to them (Hupe & Hill, 2007; Thomann et al., 2018). Any divergence from the policy as written is considered shirking, deliberate destruction, or subversion of democratic order, and any worker who does not behave in ways that are aligned with their superiors' wishes is considered lazy or anti-state (Maynard-

Moody & Musheno, 2012, pg. S20). These assumptions are often associated with traditional principal-agent models.

Theory development succeeding Weber in the early to mid-twentieth century transitioned away from Weber's bureaucratic ideal of impersonal detachment in decision-making. This transition was motivated by three primary observations. The first observation was that decision-making within bureaucracies was far more complex than initially depicted. For example, in 1947, Simon put forth the notion that "decision-making is the heart of administration…and administration theory must be derived from the logic and psychology of human choice" (pg. xi). This led to his development of the theory of bounded rationality. Simon's (1947) theory argues that people simply do not have the time, resources, or cognitive capacity to contemplate all issues and alternatives in a choice set and then act optimally. Rather, they use informational shortcuts, heuristics, and emotional cues to ignore most decision paths and come to what they consider are good enough decisions. Because the costs of weighing all alternatives are so high, however, this act of satisficing can actually be perceived as efficient. A central takeaway from Simon's work as it relates to bureaucracy is that bureaucratic organizations are structured in ways that assist workers with their decision-making. Beyond that, organizations enable individuals to achieve a sense of human rationality (Simon, 1947).

The second observation was that policies were not being executed as they were originally intended (Pressman & Wildavsky, 1973). This was greatly concerning since "the logic of democracy requires that citizens and lawmakers alike have a high degree of confidence that enactment of a law will be followed by reliable implementation" (Lipsky, 2010, pg. 221). The final observation that was directly related to this mismatch between policy-as-written and policy-as-executed was that bureaucracies had a far greater role in the policymaking process than

initially intended (Kaufman, 1960; Lipsky, 1980/2010). Specifically, they and the individual workers inside them were perceived to possess administrative discretion.

It is important to note that administrative discretion can be observed at various levels. At the macro level, public agencies with administrative discretion can function with considerable leeway while implementing policies created by legislators (Sowa & Selden, 2003). At the micro-level, administrative discretion can be understood as the individual bureaucrat's freedom to choose between two or more courses of action, each of which is thought of as permissible in the eyes of policy. Discretion at the micro-level was the primary focus of Lipsky's work on street-level bureaucrats and will thus be the focus of this dissertation.

Moreover, discretion can be portrayed as weak or strong (Dworkin, 1977; Evans & Harris, 2004). Street-level bureaucrats possess weak discretion when they are only able to make decisions within specific rules; weak discretion is the type of discretion often associated with traditional street-level bureaucrats (Ellis, 2011). Alternatively, street-level bureaucrats possess strong discretion when they are able to both decide upon and develop the criteria through which they make decisions and then actually make those decisions. Strong discretion is often associated with workers with high professional status, including physicians (Hupe & Hill, 2007).

Modes of Implementation: The Bottom-Up Approach

Brodkin (2012) argues that Lipsky's *Street-Level Bureaucracy* was unconventional in its bridging of the literatures on bureaucratic discretion and policy implementation and in its portrayal of bureaucrats, who, at the time, were often depicted as "villains, resistant to managerial and political control, and at fault for frustrating policy goals" (pg. 941). Lipsky took issue with this portrayal because it neglected the extreme difficulties that frontline workers face every day in their jobs, as well as their personal commitment to public service. Moreover, he, as

well as Wilson (1989), insisted that bureaucrats are more than just utility maximizers; rather, they face multiple sources of motivation in their work, including material, solidary, and purposive incentives. This explains their participation in jobs that can be both difficult and dangerous (Wilson, 1989).

As Hill and Hupe (2009) note, Lipsky was "in many respects the founding father of the bottom-up perspective" (pg. 52), which was directly at odds with the long-supported top-down perspective. From Lipsky's perspective, "public policy is not best understood as made in legislatures or top-floor suites of high-ranking administrators, because in important ways it is actually made in the crowded offices and daily encounters of street-level workers," (Lipsky, 1980/2010, pg. xii). In general, proponents of the bottom-up perspective maintain that policy is not fixed by central planners; rather, policy is negotiated in the course of its implementation (Laws & Hajer, 2006). Furthermore, as Weatherly (1979, pg. 9) states:

> The pyramid-shaped organization chart depicting at the bottom the front-line worker as passively receiving and carrying out policies and procedures dispensed from above is a gross oversimplification. A more realistic model would place the front-line worker in the centre of an irregularly shaped sphere with vectors of differing size directed inward.

Navigating Administrative Discretion

Street-level bureaucratic discretion is a crucial concept from both the top-down and bottom-up perspectives of policy implementation. From the top-down perspective, discretion is a control problem and is generally unwelcomed (Davis, 1969; Polsky, 1993; Thomann et al., 2018; Tummers & Bekkers, 2014). Specifically, it is thought that having discretion enables street-level bureaucrats to work toward their own personal goals, which is potentially problematic for the effectiveness of a policy, as well as the legitimacy of the policy, the organization charged with implementation, and government more broadly (Brehm & Gates, 1997; Tummers & Bekkers, 2014). Moreover, there exist concerns that a street-level bureaucrat with discretion could harm

citizens or violate practices of fairness (Brodkin, 1997; May et al., 2004; Maynard-Moody & Musheno, 2003; Tummers, 2011; Tummers & Bekkers, 2014). In general, the room for interpretation that discretion allows makes it increasingly likely that a policy's means and ends will be mismatched (Howlett, 2004; Thomann et al., 2018).

From the bottom-up perspective, discretion is inevitable and is used when there exists ambiguity in policy itself, ambiguity within the organization in charge of carrying out the policy, or ambiguity in greater social norms (Lipsky, 1980/2010). Ambiguity in policy is both an intentional and unintentional outcome of the policymaking process (Lipsky, 1980/2010). For example, politicians from opposing political perspectives necessarily compromise to reach a legislative majority; this compromise often results in unclear and sometimes competing policy goals. Additionally, legislators might be reluctant to take a strong stance on a controversial issue in order to avoid turning off portions of their electorate, so incorporating ambiguity into legislation enables them to shift the responsibility of making difficult decisions to bureaucrats (Lipsky, 1980/2010; Svara, 2001). Finally, because legislators generally lack the necessary information and expertise, creating extremely detailed policy would require a significant and expensive investment of time and resources.

Thus, when an organization is tasked with implementing a policy, it is generally given ambiguous goals and mandates and is also granted considerable leeway in determining what to prioritize (Lipsky, 1980/2010). Not only are these organizations regularly given multiple ambiguous goals, but they are also often given competing goals. For example, as will be described in detail below and explored in this dissertation, physicians have been trained and asked to promote patient-centered care and shared decision-making with their patients, yet they face many competing demands, including productivity expectations to assist their workplaces in

improving patient access and remaining financially viable, expectations of more standardized care, and increased administrative responsibilities and reliance on computers for data inputting. This existence of multiple goals is not necessarily problematic; for instance, when organizations are given a single goal, they may designate too much attention toward achieving this goal, while neglecting other potentially important goals. However, the existence of competing goals inevitably calls for an exercise in moral judgments on the part of physicians.

Physicians as Street-Level Bureaucrats

In the second part of this chapter, I will first make the general case that physicians are street-level bureaucrats due to the nature of their work. Then, I will present a synthesis of the debate on what constitutes optimal or appropriate discretion, both generally among street-level bureaucrats and in the context of health care. Because a primary focus of street-level bureaucracy research is to better understand decision-making regarding client interactions, I will narrow my exploration to shared decision-making, which is the modern decision-making ideal present in health services and medical research between physicians and their patients.

While shared decision-making is consistently promoted as the ideal practice and ethical imperative in the provision of care, it is not occurring to the extent that researchers, policymakers, and practitioners would hope. In other words, shared decision-making constitutes a primary example of policy-as-written misaligning with policy-as-executed. By framing physicians as street-level bureaucrats who possess discretion during the decision-making processes of their jobs, we can borrow insights from street-level bureaucracy theory to improve our understanding of why this misalignment persists. Thus, a brief overview of shared decision-making as a model and practice will be presented, followed by a discussion of the consequential

nature of discretion in this context. Finally, I will present the currently understood barriers to shared decision-making from the perspectives of both patients and physicians.

Providing Care at the Frontline

The nature of work among physicians shares many defining characteristics that overlap with the work of traditional street-level bureaucrats. Specifically, physicians interact regularly and directly with patients in the course of their work, provide services within government programs, possess relatively high levels of discretion, and face many challenges that cause them to adopt various coping mechanisms.

The provision of patient care necessarily requires interactions with patients. For example, interacting with patients directly enables physicians to gather relevant medical history, perform physical examinations, and assess symptoms. This information gathering is necessary for physicians to make accurate diagnoses and create appropriate treatment plans. Simultaneously, these direct interactions allow the physician to establish rapport with the patient, as well as provide education and emotional support, all of which are crucial for fostering trust and cooperation (Kaplan et al., 1989). Finally, regular interactions with patients assist the physician with monitoring the patient's progress, evaluating the effectiveness of treatment, and adjusting care as needed.

Primary care physicians, who are the focus of the empirical work in this dissertation, are generalists with a wide range of responsibilities in the provision of health care. The National Academies of Sciences, Engineering, and Medicine (previously known as the Institute of Medicine) define primary care as "the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and

community" (Donaldson et al., 1996, pg. 31). Often internists, family physicians, or pediatricians, primary care physicians provide comprehensive care, including the treatment of common ailments such as the flu, the management of chronic conditions including diabetes and cardiovascular disease, and the delivery of preventive services such as vaccinations, screenings, and patient education (Gonzalez, 2019; Starfield et al., 2005).

Primary care physicians see patients of all ages and provide longitudinal care over the life course. Today, primary care work requires the coordination of care across large organizations with many specialists and other types of health care providers. Research investigating the value of primary care has found that greater patient access to primary care is associated with various positive outcomes, including lower mortality, higher birth weight, better self-reported health, increased preventive care measures, and improved patient satisfaction with care (Levine et al., 2019; Starfield et al., 2005).

Despite the absence of a national and universal health insurance program in the United States, most primary care physicians accept and see patients enrolled in Medicare and Medicaid. Medicare is the American federal insurance program to which all people ages 65 and older are entitled upon meeting specific work requirements, and in pooled 2017 and 2019 National Electronic Health Records Survey (NEHRS) survey data, Ochieng et al. (2022) found that 83% of primary care physicians accepted new Medicare patients, relative to 86% who accepted new privately insured patients. In 2017, approximately 76% of primary care physicians accepted new patients enrolled in Medicaid, the country's joint federal and state means-tested health insurance program, targeted at individuals with limited income and resources (Medicaid and CHIP Payment and Access Commission, 2021). In 2022, approximately 61.6 million (18.7%) Americans were enrolled in Medicare, while 62.1 million (18.8%) were enrolled in Medicaid and

the Children's Health Insurance Program, commonly referred to as CHIP (Keisler-Starkey et al., 2023). All of these programs are overseen by the Centers for Medicare and Medicaid Services (CMS), which is a federal agency housed within the U.S. Department of Health and Human Services. Thus, the decision-making of many primary care physicians is directly tied to government resources and oversight.

To provide this care, physicians undergo extensive education and training requiring seven to fifteen years (Association of American Medical Colleges, 2020). In the United States, prospective physicians complete a bachelor's degree often with a focus on pre-medical coursework. To then gain admission to most medical schools, they take the Medical College Admission Test (MCAT). Following their undergraduate years, becoming a physician requires a commitment of four years of medical school, three to seven years in a residency program, and sometimes a fellowship program that requires an additional one to three years of subspecialty training (AAMC, 2020). Following this comprehensive training, physicians are expected to exercise discretion within the field of medicine regarding patient diagnoses, treatment plans, medication prescriptions, medical procedures, and bedside manner.

The Toll of Burnout: Physician Well-Being and Health Care Delivery

Research demonstrates that physicians are driven, intelligent, competitive, independent, perfectionistic, and sensitive to others (Lemaire & Wallace, 2014). However, their intensive training, which is often competitive and extremely isolating, has been found to erode some of the essential interpersonal skills required for high-quality patient care, such as empathy (Hojat et al., 2013). As Penberthy and Penberthy (2020) note, "It seems a basic tenet of medical training that if trainees are overloaded with responsibility and information, they will rise to the occasion, and most do" (pg. 21). Most trainees successfully complete their training but not without costs; West

et al. (2011) found, for example, that many physicians meet the criteria for chronic stress disorder, and many develop a sort-of learned helplessness, in which they develop behaviors to help them survive yet never feel ahead of their workload (Penberthy & Penberthy, 2020). Lipsky (1980/2010) would likely characterize this behavior as coping.

Health services research tells us that physicians today work in a rapidly changing and extremely demanding environment. Physicians face longer working hours with fewer valuable resources, greater expectations surrounding productivity and patient outcomes, and an ever-increasing list of clerical and administrative responsibilities, many of which are performed on their computers and take away from the time they would like to spend on work they consider more meaningful (Khullar, 2023; Lathrop, 2017; Privitera et al., 2014; Rosenstein, 2012; Shanafelt et al., 2009). Major workplace transitions in the last twenty-five years include the consolidation of medical practices and the transition from physicians running private practices to becoming employees of larger medical organizations, the adoption of the Patient Protection and Affordable Care Act which led to changes in insurance models and reimbursement rates and new care delivery models, and increased reliance on electronic health records (EHRs), among others (Dyrbye & Shanafelt, 2011; Lathrop, 2017; Rosenstein, 2012; Shanafelt et al., 2009).

Many of these changes have led to decreased face-to-face time with patients. For example, Chaiyachati et al. (2019) found that first-year internal medicine residents spend almost ninety percent of their workdays away from patients. This large amount of time spent outside of direct patient care is also common for more seasoned physicians. In general, physicians spend approximately 27% of their workday in face-to-face interactions with patients and nearly one-half of their time inputting data into patient electronic health records (EHRs) and on other clerical work (Sinsky et al., 2016). Moreover, they spend an additional ninety minutes at home,

on average, doing more data entry (Sinsky et al., 2016). Thus, for each hour spent with patients, physicians effectively spend two hours with EHRs or on other clerical tasks.

The modern epidemic of physician burnout is often attributed to these growing demands and the increasing complexity inherent to providing patient care today. Occupational burnout is traditionally defined as experiencing emotional exhaustion, depersonalization, and a prevailing sense of reduced accomplishment in one's work (Freudenberger, 1974; Maslach & Jackson, 1981; Maslach et al., 2009; Maslach, 2021). Emotional exhaustion arises when a worker's emotional resources are so depleted that they do not feel that they can give any more to their work (Maslach, 2021). Depersonalization occurs when a worker feels an increased mental distance from their job or negative or cynical attitudes towards their clients or colleagues (Maslach, 2021). Finally, a reduced sense of personal accomplishment is as it sounds; it appears when a worker perceives their work to be less effective (Maslach, 2021). Even though burnout is standardly measured at a single point in time, more recently, it has been conceptualized as a *loss spiral* rather than a *static end-state*, meaning that it is a complex and dynamic process that unfolds over time (Williams et al., 2020).

Even after controlling for hours worked and education, physicians are still found to have nearly twice the risk of burnout and work-life dissatisfaction compared to other professions (Shanafelt et al., 2012). The incidence of burnout among physicians has varied throughout the last decade but appears very high in the most recent years of data collection. In a 2014 American Medical Association national survey, 54.4% of practicing physicians reported at least one symptom of burnout, a figure nearly nine percentage points greater than in 2011 when the first wave of the study was conducted. In subsequent waves of the survey, experiences with burnout appeared to improve to an incidence of 43.9% in 2017 and 38.2% in 2020 (Shanafelt et al., 2019;

Shanafelt et al., 2022). However, during the first two years of the COVID-19 pandemic, physicians experienced a dramatic increase in burnout, with approximately 62.8% reporting at least one symptom of burnout (Shanafelt et al., 2022). Research has consistently demonstrated that those physicians who experience the most face time with patients, including general internists, family practitioners, and emergency room physicians, are most at risk for burnout (Shanafelt et al., 2015). Moreover, rates of burnout are higher for physicians who identify as female and younger physicians (West et al., 2018).

Physician burnout is a serious concern because of the negative implications it has for various stakeholders in the greater health care system (Williams et al., 2020). First, it is associated with various negative consequences for patients, including increased medical errors and risk of malpractice, longer recovery times, reduced patient satisfaction, and worse overall quality of care (Hall et al., 2016; Penberthy & Penberthy, 2020; Shanafelt et al., 2010; Wallace et al., 2009; West et al., 2006; West et al., 2018). Second, burnout is associated with various negative consequences for physician well-being, including diminished job satisfaction, increased perceptions of providing worse quality care, poor self-care, motor vehicle crashes, substance abuse, depression, and suicide (Rathert et al., 2018; Shanafelt et al., 2011; West et al., 2011; West et al., 2018). In fact, the rate of suicide is higher among physicians than among the general population (Gold et al., 2013). Finally, physician burnout increases health care costs for society more broadly through reduced productivity, higher turnover and early retirement, and less patient access (Shanafelt et al., 2016; West et al., 2018). Burnout is estimated to cost the health care system at least $4.6 billion annually, with the greatest costs stemming from turnover and work-hour reductions among primary care physicians (Han et al., 2019).

Some medical providers and health services scholars take issue with the current usage of burnout as the primary measure of provider well-being or portrayal of clinician distress. For example, Dean et al. (2019) argue that "burnout suggests that the problem resides within the individual, who is in some way deficient" (pg. 401). They further argue that a reframing of burnout to moral injury is appropriate. Moral injury, which was initially applied in the context of veterans returning home after war (Litz et al., 2009), arises when people "perpetrate, bear witness to, or fail to prevent an act that transgresses [their] deeply held moral beliefs" (Dean et al., 2019, pg. 400). In the context of patient care, physicians experiencing moral injury often describe working in an environment where they know what their patients need, but they feel unable to provide that care because of the many constraints they face that feel beyond their control (Dean et al., 2019).

This perceived loss of control creates tension with the oath all physicians took when becoming physicians to put the well-being of their patients before everything else (Talbot & Dean, 2018). Lathrop (2017) characterizes the current physician workforce as grieving; beyond regularly encountering literal loss through the death of their patients, physicians today constantly face loss with respect to their autonomy, duties, roles, and regard. Moreover, some physicians experience what is often referred to as compassion fatigue. Compassion fatigue is defined as the "stress resulting from helping or wanting to help a traumatized or suffering person," (Figley, 2013). In patient care, this manifests as the physician's diminished capacity to care as a consequence of repeated exposure to patient suffering (Cavanagh et al., 2020).

Regardless of how clinician distress is gauged, it is clear that physician well-being should be of concern to society. The Institute for Health Care Improvement's (2008) *triple aim* framework conceptualizes high-quality health care as simultaneous efforts to improve the patient

experience, reduce costs, and consequently improve population health. Today, advocates in the medical community have expanded this framework to the *quadruple aim*, which incorporates provider well-being as an additional primary focus (Dean et al., 2019).

More than one-third of currently active physicians are expected to retire in the next decade (Association for American Medical Colleges, 2024). This projection, in combination with the growing demand for physicians as the population grows and ages, as well as the current epidemic of clinician distress, begs the question of what will happen to the future of the physician workforce. In particular, demand for physicians is projected to grow faster than supply. The population of the United States is expected to grow by 8.4% by 2036, while the population of people ages 65 and older is projected to grow by 34.1% (Association for American Medical Colleges, 2024). Consequently, a shortage of between 13,500 and 86,000 physicians is projected (Association for American Medical Colleges, 2024). A shortage of primary care physicians, who are the focus of this dissertation research, is projected to be even more severe, with an approximate shortfall of 20,200 to 40,000 by 2036 (Association for American Medical Colleges, 2024).

This concern regarding frontline worker well-being is also present in other areas of street-level bureaucracy research (Sciepura & Linos, 2024) because burnout among other types of street-level bureaucrats, including teachers, police officers, and social workers, is also common (Carver-Thomas & Darling-Hammond, 2019; de Boer et al., 2024; Lin et al., 2015; Linos et al., 2022; Schaufeli & Peeters, 2000). Linos et al. (2022) synthesize findings that in multiple domains of frontline work, almost half of workers are expected to resign in the first few years of their service, thus leading to very serious and lasting shortages of staff in essential public service

areas. Consequently, recent research has focused on potential levers to reduce burnout among street-level bureaucrats in various settings (Eldor, 2018; Linos et al., 2022).

Striking a Balance: Optimal Discretion in Decision-Making

In recent years, the amount of discretion that physicians are granted has more explicitly come into question in both academic research and public discussions. Many relevant examples highlight calls for reduced discretion granted to physicians, yet others draw attention to the complex nature of discretion or call for expanded discretion. For example, the nation's opioid epidemic has partially been attributed to "loose" oversight of physician discretion concerning the prescription of opioids (Guevremont et al., 2018). Additionally, research focused on provider discretion in pain assessment and treatment recommendations has found that Black Americans are systematically undertreated for pain relative to White Americans (Hoffman et al., 2016). Similar research demonstrates the persistent underdiagnosing and undertreatment of cardiovascular disease in women compared to men (Bosomworth & Khan, 2023).

Also, medical error has been highlighted as the third leading cause of death in the United States (Makary & Daniel, 2016), thus prompting very serious debates about the proper amount of physician discretion as it relates to patient safety. Moreover, demands for greater regulation of "off-label" prescriptions, where physicians can prescribe medications for uses not approved by regulatory agencies like the US Food and Drug Administration when they deem it to be appropriate and clinically sound, are common (Dresser & Frader, 2009). Similarly, in some states, physicians can prescribe cannabis for medical use if they determine it to be appropriate (Gregorio, 2014). Finally, in end-of-life care, some advocate for stricter guidelines to ensure consistent and ethical decision-making, while others argue that physicians need greater

autonomy to respect patient's preferences and medical needs (Comer, 2019; Duberstein et al., 2019).

Questioning the proper amount of discretion to grant physicians fits with the often-normative depiction of discretion within implementation theory. Scholars and policymakers tend to characterize the discretion of workers as either inherently positive or negative. The normative status of discretion has prompted endless debates surrounding the correct or appropriate amount of discretion that should be granted to street-level bureaucrats (Brigham & Brown, 1980; Bunker, 1972; Davis, 1969; Edwards, 1980; Fyfe, 1979; Golden, 2000; Linder & Peters, 1987; Loyens & Maesschalck, 2010; Maynard-Moody & Musheno, 2003; Sabatier & Mazmanian, 1979; Sussman & Rhodes, 1982; Thompson, 1975, Wilson, 1989). These debates are complicated by a central paradox present in public service provision within democratic societies, as described by Lipsky (1980/2010): policies must be administered fairly, and people from similar situations should be treated similarly in their interactions with street-level bureaucrats. Yet, individuals expect policies and street-level bureaucrats to be flexible and responsive to their own individual circumstances.

Those in favor of granting street-level bureaucrats less discretion argue that less discretion enables greater fairness of process (Brigham & Brown, 1980; Davis, 1969; Edwards, 1980; Fyfe, 1979; Linder & Peters, 1987; Sabatier & Mazmanian, 1979; Thompson, 1975). Davis (1969), for example, asserts that discretion is a major source of injustice in the provision of goods and services. In the case of program access, for example, he asserts that street-level bureaucrats should be focused exclusively on eligibility determination. Recent technological innovations and changes have been adopted with this framing of discretion in mind. For example, agencies of all kinds are increasingly relying on computer programs where the

individual street-level bureaucrat must input a client's necessary information into the program, and the computer determines the client's eligibility (de Boer & Raaphorst, 2023; Keiser, 2010). In the provision of health care, physicians increasingly document their interactions with patients in EHRs, which may dictate the flow of the interaction. Additionally, physicians sometimes receive pushback from the software following their requests and orders for tests and new medications (based on algorithmic factors such as cost, the patient's condition, potential assumed redundancy of a test, etc.). In order to move forward, physicians must override the computer's decision.

Proponents of the top-down perspective would argue that additional rules can always be put into place to inhibit discretion beyond what is needed for simply technical matters. Additionally, greater control of discretion is often advised when implementation is not occurring as intended (Bunker, 1972; Golden, 2000; Sussman & Rhodes, 1982). However, Wilson (1989) disparages the country's "profound bias toward solving problems by adopting rules" (pg. 331), and Lipsky (1980/2010) points out that the overabundance of rules may be contradictory because these rules will eventually only be enforced and abided by selectively, largely due to basic human capacity.

Thus, discretion is regularly described as functioning similarly to a hydraulic system; in other words, if one tries to reduce or "squeeze" the amount of discretion at a certain decision point, it will simply increase or "bulge" at another decision point (Miethe, 1987). For example, the reduction of discretion granted to physicians via expectations of EHR usage gives hospital administrators who make design decisions within the software (partnered with EHR company representatives) greater discretion. Additionally, the requirement of prior authorizations for the prescription of specific medications takes discretion away from physicians and transfers it to

insurance companies. Maynard-Moody and Musheno (2003) express similar ideas: “like putty, discretion can be squeezed by oversight and rules but never eliminated; it will shift and reemerge in some other form in some other place. This is a fact of life in the modern state,” (pg. 10). The hydraulic nature of discretion certainly begs the question of the ethical and practical implications of diminishing the discretion of physicians who, in theory, are the workers best equipped to provide medical care.

Even though efforts to reduce street-level bureaucratic discretion do exist, particularly via increased reliance on computers and predictive algorithms, the nature of their work cannot entirely be reduced to programmatic functions. This is largely because the tasks that street-level bureaucrats perform require a human dimension, in which the street-level bureaucrat must have the capacity to remain flexible when responding to everchanging challenges (Lipsky, 1980/2010). For example, a physician may be expected to monitor the blood glucose levels of an elderly diabetic patient with cognitive impairment in order to prescribe certain diabetes medications. Traditional methods of monitoring, such as fingerstick tests, may be challenging to the patient; those in favor of discretion would argue that the physician should be granted the discretion to determine alternative approaches that may still allow the prescription of that medication, such as continuous glucose monitoring devices or non-invasive techniques.

Those in favor of greater discretion also argue that greater discretion enables bureaucratic responsiveness and that, in turn, reduced discretion negatively impacts responsiveness to a client’s individual needs. This reduced responsiveness has been found to have negative consequences for the quality of interactions, the efficacy of policy implementation, and social equity-based outcomes for clients, including discrimination (Hill & Hupe, 2009; Lipsky, 1980/2010; Marinetto, 2011).

Street-level bureaucrats with greater discretion are assumed to perform work more closely aligned with social work, in which they are focused on responding to the complexities of an individual client's life (Watkins-Hayes, 2009). These street-level bureaucrats are also more likely to use their social networks to connect clients to other providers of human services. In the case of health care provision, for example, a physician would consider multiple characteristics of a patient, including their values, preferences, and goals, as well as characteristics of their family caregiver, including their capabilities, values, preferences, and goals, when making important decisions surrounding how to involve the family caregiver in treatment decision-making. This philosophy of care in health services is referred to as patient-centered care and will be expanded on below. Skeptics of this style of decision-making argue that it is difficult or close to impossible to ensure that street-level bureaucrats have the necessary skills, experience, and training to exercise this large amount of discretion properly (Lipsky, 1980/2010).

Believers of the inevitability of discretion and proponents of greater discretion admit that discretion can and will be abused (Lipsky, 1980/2010; Loyens & Maesschalck, 2010). For example, Lipsky noted the following in his initial commentary on the appropriateness of discretion:

> At best, street-level bureaucrats invent benign modes of mass processing that more or less permit them to deal with the public fairly, appropriately and successfully. At worst, they give in to favoritism, stereotyping and routinizing – all of which serve private or agency purposes (1980, p. xii).

When delving deeper into the normative depiction of discretion as inherently good or bad, it becomes evident that a distinction arises between discretion-as-granted and discretion-as-perceived by the street-level bureaucrat. Within a single workplace, two street-level bureaucrats with comparable levels of formal control in comparable positions may actually perceive themselves to hold very disparate amounts of discretion, and there are cases in which this

perceived discretion is likely a better predictor of actual behavior than the traditionally used granted discretion (de Boer & Raaphorst, 2023). Thus, Thomann et al. (2018) make a clear distinction between the two concepts and define perceived discretion as the "degree to which frontline workers perceive to possess discretion" (pg. 584). Factors including the worker's tenure, education, and authority are positively associated with perceptions of discretion, as well as the number of women and BIPOC coworkers in their organizations (Durose & Lowndes, 2023; Jewell & Glaser, 2006; Sowa & Selden, 2003).

Understanding the factors that influence perceived discretion is worthwhile because of the positive implications associated with high perceived discretion. Workers who perceive themselves to possess high discretion, for example, are more loyal to their clients and workplaces and experience greater work satisfaction (Follett, 1924; McGregor, 1960; Thomann et al., 2018; Yukl & Becker, 2012). Moreover, frontline workers must feel *powerful* (Thomann et al., 2018) or that they have influence over decisions concerning a policy in order to actually implement that policy; additionally, these workers must also perceive the policy to be meaningful to society and their clients (May & Winter, 2009; Thomann et al., 2018; Tummers & Bekkers, 2014). Factors influencing the perceived discretion of primary care physicians will be the focus of the chapter three.

The Evolution of Medical Care: From Paternalism to Shared Decision-Making

Physicians inevitably possess discretion when making decisions regarding patients, and these models and practices of physician-patient decision-making have greatly evolved over time. In the United States prior to the 1980s, the most established approach to decision-making was paternalistic, with physicians adopting the dominant position (Charles et al., 1999). Charles et al. (1999) argue that this deference to professional authority was (and continues to be to some

extent) supported by a number of key assumptions. First, a single best treatment plan exists for most health conditions, and physicians are up to date on the most current and proper approaches. Second, not only do physicians know the best treatments, but they also implement them consistently. Third, physicians are best equipped to analyze an alternative's pros and cons and come to a decision because of their experience and expertise. Under these assumptions, the actual exchange of information between the patient and physician is not an essential prerequisite to decision-making (Charles et al., 1999).

Beginning in the 1980s, the reliability of these assumptions began to be disputed (Charles et al., 1999; Eddy, 1990; Levine et al., 1992). For instance, researchers found that patients with the same diseases experienced considerable variation in their treatments, even across relatively small geographical areas and when controlling for health status (Charles et al., 1999; Chassin et al., 1986, 1987; Iscoe et al., 1994; Leape et al., 1993; Roos, 1984; Roos et al., 1988; Wennberg et al., 1987). Even for those diseases where clinical guidelines and best practices had been established, variations in treatments were found (Lomas et al., 1989).

Pushback against paternalistic decision-making also stemmed from growing support for person/patient- and eventually family-centered care and the understanding that patients are not *empty vessels* (Charles et al., 1999). Patients come to their appointments with complex identities that are comprised of values, beliefs, needs, fears, goals, preferences, past experiences, cultural traditions, as well as information about their options, and person- and family-centered care is a holistic approach to care that considers these factors (Charles et al., 1999; Feinberg, 2014; Reamy et al., 2011). Furthermore, the patient and their family are placed at the center of the care team; this is done intentionally to respect the family and meaningfully involve them in the patient's care (Feinberg, 2014).

Thus, ethical care occurs when physicians focus their energy on trust-building in the physician-patient relationship, where the patient's autonomy is of utmost importance (Fetters, 1998; Hoshino, 1995; Levine & Zuckerman, 1999). The concept of person-centeredness stems from advocacy work led by people with disabilities in the early 1970s, during the independent living movement, and similar features have also been identified in the work of psychologist Carl Rogers, who developed client-centered counseling (Dowling et al., 2006; Feinberg, 2014). Today, this philosophy of care is often portrayed as the ideal of health care quality (Wolff & Boyd, 2015).

This movement away from paternalistic decision-making as the ideal resulted in the development of two primary alternative decision-making models: informed decision-making and shared decision-making. In informed decision-making, the exchange of information is still mostly unidirectional from the physician to the patient, but deliberation and the actual decision are determined by the patient (Braddock et al., 1999). Before a decision is made by the patient, the pair will discuss the patient's role in decision-making, the nature of the decision, alternatives, pros and cons of the alternatives, uncertainties associated with the decision, an assessment of the patient's understanding of the decision, and a thoughtful exploration of the patient's preferences (Braddock et al., 1999). In shared decision-making, the exchange of information is a two-way street between physicians and patients. This exchange of all relevant medical and personal information leads to shared deliberation, followed by a shared decision. Shared decision-making is commonly depicted as the *pinnacle* of patient-centered care (Barry & Edgman-Levitan, 2012).

Scholars of public administration might describe shared decision-making as a form of coproduction, in which patients are perceived as valuable participants in the delivery of health care (Ostrom, 1996; Tummers et al., 2016). In fact, coproduction as a concept has been adopted

by shared decision-making scholars in recent years (Batalden et al., 2016; Batalden et al., 2023; Elwyn et al., 2020). In public administration research, coproduction is described as the active participation of *both* the client and the street-level bureaucrat in the provision of public services (Nabatchi et al., 2017). This process is assumed to create value for multiple stakeholders, including: (1) the client receiving the service, who may experience greater satisfaction with the interaction and a sense of empowerment, (2) the involved bureaucrat and their organization, which may experience improved efficiency and innovation, and (3) society, through an increased sense of institutional legitimacy (Nabatchi et al., 2017).

In their systematic review, Chewning et al. (2012) find that patient preference for shared decision-making has consistently grown over time; most study respondents expressed a preference for shared decision-making in 43 percent of studies before 1990, 51 percent of studies between 1990 and 1999, and 71 percent of studies after 1999. In 2001, the Institute of Medicine formally endorsed shared decision-making as a component of high-quality care (Price et al., 2012), and more recently, researchers and practitioners have described shared decision-making as an ethical imperative (Elwyn, 2020). Today, most patients prefer a shared role in decision-making, and shared decision-making is associated with greater patient satisfaction and compliance (Brom et al., 2014; Laidsaar-Powell et al., 2013; Sepucha et al., 2004).

In recent years, the federal government and state governments have adopted policies with the intention of promoting shared decision-making, largely through the use of legal and financial incentives. For example, today, the CMS mandates shared decision-making as a condition of reimbursement for three specific health conditions (lung cancer screening for heavy smokers, left atrial appendage closure devices, and implantable cardiac defibrillators) (Elwyn et al., 2023). Furthermore, the Medicare Access and CHIP Reauthorization Act (MACRA) of 2015 included

shared decision-making as one of its four performance categories used to determine physician reimbursement (Elwyn et al., 2023; Spatz et al., 2017). Finally, in 2021, the CMS updated various longitudinal comprehensive care planning (LCCP) billing codes and documentation requirements for the first time in thirty years in an attempt to encourage increased physician usage of these codes (Elwyn et al., 2023).

Other policy changes include the incorporation of patient decision aids during patient interactions (Beach & Sugarman, 2019; Montori et al., 2017). Patient decision aids are the tools that help to inform patients about preference-sensitive conditions and elicit patient preferences at the point of care; they are provided either in print, audio-visually, or on the computer (O'Malley et al., 2011). In 2016, for example, Washington state became the first state to formally certify decision aids, and today, decision aids exist for maternity care and labor/delivery, total joint replacement and spine care, end-of-life care, cardiac care, and cancer screening (Spatz et al., 2017; Washington State Health Care Authority, 2024). Prior to the development of these decision aids, in 2007, Washington state became the first state to pass legislation that was intended to incentivize shared decision-making as an alternative to traditional informed consent procedures.

Finally, most medical professional societies create screening and treatment guidelines that explicitly recommend shared decision-making (Beach & Sugerman, 2019), and several federally funded research institutes have prioritized shared decision-making in their research agendas, including the Agency for Health Care Research and Quality, the John M. Eisenberg Center for Clinical Decisions and Communications Science, and the Patient-Centered Outcomes Research Institute (Spatz et al., 2017). Overall, the institutional promotion of shared decision-making is on the rise.

Obstacles to Collaboration: Barriers to Shared Decision-Making

Physicians regularly affirm that they are sharing decisions with their patients, and as Elwyn et al. (2016) note, “it is anathema for clinicians to be told they do not involve patients in decision-making” (pg. 2). Yet, poor implementation of shared decision-making is consistently demonstrated worldwide (Scholl et al., 2018). Important research, particularly in the last two decades, has explored the potential barriers that explain why. Barriers from the perspectives of both patients and clinicians and factors at the micro-level, organizational-level, and systems-level have been explored.

A significant barrier described by physicians is the persistent shortage of time they face in their daily work (Caverly & Hayward, 2020; Gravel et al., 2006; Joseph-Williams et al., 2014; Legare & Witteman, 2013; Scholl et al., 2018; Schuttner et al., 2021). In fact, Porter et al. (2022) found that a primary care physician would require 26.7 hours in their workday to provide preventive, chronic disease, and acute care for the average adult patient panel in the United States. Physicians attribute this shortage of time to multiple factors, including increasing patient volumes and complexity of care, growing administrative burdens and documentation requirements that differ depending on a patient’s insurance, and increased reliance of the industry on EHRs (Haas, Halamka, & Suk, 2019). For example, physicians spend nearly half of their workdays inputting information into EHRs at a cost of approximately $1 billion per day, according to researchers at the CMS (Cuckler et al., 2018). Increased time with EHRs generally means that physicians experience increased face time with screens and thus less connection with patients and their families. Patients report sensing the time constraints physicians face and express concerns about bothering physicians who already seem too busy. Some report feeling guilty about taking time during their appointments, others convey a sort of pity for physicians with high workloads, and some even leave their appointments early when they observe full

waiting rooms (Aasen et al., 2012; Bastiaens et al., 2007; Entwistle et al., 2008; Frosch et al., 2012; Joseph-Williams et al., 2014).

These time constraints are particularly pronounced during interactions with patients who are considered medically complex. Medically complex patients, who are more likely to be older, often struggle to sufficiently share and discuss their health information in these short periods of time (Chewning et al., 2012; Tai-Seale, 2007). In general, communication between physicians and patients in worse health or patients experiencing a complex illness is often compromised. For instance, both patients in worse health and their physicians report lower satisfaction with their interactions; moreover, physicians solicit less information and engage in less social dialogue with sicker patients, instead approaching their interactions with a more task-oriented approach (Braddock et al., 1999; Wolff & Roter, 2008).

Practice size may do little to ease these feelings of having too little time. Hinton et al. (2007) found, for example, that primary care physicians in large practices feel pressure to be as time efficient as possible, with very little say regarding their scheduling. Alternatively, physicians in smaller group practices or physicians in solo practices reported feeling greater flexibility in scheduling but express feeling pressure to see as many patients as quickly as possible to curb financial concerns (Hinton et al., 2007).

This persistent feeling of having too little time is unsurprising given the sheer amount of information that could and likely should be exchanged during an encounter; hypothetically, the potential amount of information that could be expressed is infinite. Thus, it is the task of the physician to work within the time constraints posed to determine how to move forward. Certain decisions are less complex in nature and, therefore, may not require such an elaborate discussion

(Braddock et al., 1999; Caverly & Hayward, 2020). In fact, a thorough discussion of each proposed element of a decision would likely be onerous, unachievable, and unsustainable.

Another commonly cited explanation from physicians for why shared decision-making does not occur is the lack of agreement that shared decision-making is applicable to either the patient or the clinical situation. The more certain a physician feels about the outcomes of a decision, the more likely they are to make a strong recommendation. Conversely, the more uncertainty that comes with a choice set and the more unsure a physician is regarding the *correct* choice, the more likely the patient will be asked to make a decision (Fried, 2016). Thus, those decisions with the greatest uncertainty are the decisions where the patient is likely to need the expertise of the physician the most (Chewning et al., 2012; Fried, 2016). Yet, physicians might be least willing to engage in shared decision-making in these scenarios (Fried, 2016).

Additional barriers to shared decision-making identified by prior research include missing information, inadequate trust or respect between physicians and patients, physicians' lack of training in shared decision-making, an unsupportive workplace culture or leadership, and the misalignment of incentives in payment models, among others (Gravel et al., 2006; Joseph-Williams et al., 2014; Legare & Witteman, 2013; Scholl et al., 2018; Scholl et al., 2020).

In chapter four of this dissertation, I use insights from street-level bureaucracy theory to explore physician mental sorting of patients as a coping mechanism that may impede shared decision-making. Specifically, I hypothesize that due to the commonly described time constraints that physicians face in their day-to-day patient interactions, they are likely coping with the potentially large amount of information exchanged by relying on the quick mental sorting of patients, using indicators such as perceived engagement and urgency. This mental sorting might

then result in reduced shared decision-making or the physician's belief that shared decision-making is appropriate.

Understanding the Impact: Consequences of Discretion in Shared Decision-Making

Whether a patient is included in the decision-making processes of their physicians is important and speaks to the general status of physician discretion in this context as being consequential. Within street-level bureaucracy theory, discretion is significant because it affects the legitimacy of the service provision state. When street-level bureaucrats possess discretion, their behaviors can help citizens to trust that they, as well as the institutions they work within, are trustworthy and hold the key to citizen well-being (Lipsky, 1980/2010; Rothstein & Stolle, 2008). Additionally, when citizens have positive interactions with street-level bureaucrats, both based on their receipt of goods and services with value but also in their perceived fair and efficient experiences with bureaucracy, they feel as if their society is well-ordered and bureaucracy holds public value (Moore, 1995). If, during their interactions with a street-level bureaucrat, a client consistently perceives that the bureaucrat's decisions are outside of their own control, they are likely to lose faith in the government's ability to help them. As Scott (1997) notes, "although discretionary decisions may at times seem insignificant, collectively they determine the texture of the relationship between citizens and government" (pg. 53). I argue that similar logic applies in the receipt of health care services; if a patient feels that their physician does not have the discretion to assist them, they are likely to lose faith in the health care system's ability to help them.

What occurs during actual encounters between citizens and bureaucrats is consequential in multiple ways. First, street-level bureaucrats determine who can gain access to scarce public resources, including payments, goods, and services. In health care, physicians partially determine

whether patients can gain access to certain medications, medical procedures, medical devices, and general health care resources, including hospital beds, intensive care units, or specialized medical facilities.

Second, street-level bureaucrats determine what these encounters will look like and whether they will feel "welcoming or transactional, considerate or inquisitive, and respectful or demeaning, to the client involved," (Zacka, 2017, pg. 9). Research consistently demonstrates that bureaucratic-citizen encounters can be degrading, disempowering, and paternalistic. They can intensify power asymmetries since the street-level bureaucrat has the advantage in most situations as the keeper of the keys, so to speak (Maynard-Moody & Musheno, 2000: Schram et al., 2003; Schram et al., 2009).

Some scholars argue that this power asymmetry, coupled with the street-level bureaucrat's inevitable discretion, allows them to engage in bias (Brodkin, 1997; Jones et al., 1977; Lipsky, 1980/2010; White et al., 2015). Acting on these biases may be further enabled by the reality that street-level bureaucrats often work alone and relatively free from supervision by superiors and the scrutiny of clients (Lipsky, 1980/2010). These types of discriminatory acts, coupled with the perceived faulty implementation that occurs with too much discretion, have led scholars to express concerns regarding the relative ease with which street-level bureaucrats can participate in "administrative evil" (Adams & Balfour, 2004; Adams et al., 2006; Cardenas & Ramirez de la Cruz, 2017). According to Adams and Balfour (2004), administrative evil exists on a continuum, with relative ignorance on one end and deliberate harm on the other. In other words, administrative evil's appearance is almost always masked, and individual street-level bureaucrats might engage in harmful acts without realizing the consequences of their decisions. They might also engage in harmful acts when they are convinced that their actions are justified

or serve the greater public good, or they may intentionally act with ill-will (Adams & Balfour, 2004; Adams et al., 2006). Examples of administrative evil in health care (that were mentioned briefly above) might include the undertreatment of pain in Black patients (Hoffman et al., 2016) or the underdiagnosis of cardiovascular disease in women (Bosomworth & Khan, 2023).

With illness often comes a sense of vulnerability; thus, the power asymmetries present during the physician-patient interaction are inevitable. As Elwyn (2020) argues, "a person who seeks help immediately positions themselves in the role of a supplicant," (pg. 2). Evidence of this power imbalance is commonly present in the patient-described barriers to shared decision-making. For example, substantial research demonstrates that patients are fearful of being labeled as difficult or communicating in a way that translates as disrespectful or distrustful to the physician (Aasen et al., 2012; Adler et al., 1998; Avis, 1994; Bastiaens et al., 2007; Clover et al., 2004; Cohen & Britten, 2003; Fraenkel & McGraw, 2007; Frosch et al., 2012; Henderson, 2002; Joseph-Williams et al., 2014; Larsson et al., 2011; Nordgren & Fridlund, 2001; Peek et al., 2010). Specifically, patients express concerns about these behaviors leading to worse quality care or less attention from the physician. Also, despite patients' expertise in what matters most to them, research demonstrates that they also undervalue their own expertise and often feel that they do not have enough information to contribute meaningfully to decision-making.

While this power imbalance warrants further exploration, research tells us that some patients do remain proponents of physician-directed decision-making. It is unrealistic to assume that all patients have similar needs and will thus be content with the same approaches to communication during their medical visits (Greene et al., 1994; Levinson et al., 2005; Stiles, 1989). There exist multiple opportunities for participation in any given encounter, and patients may choose to participate more or less in each of these individual opportunities (Levinson et al.,

2005). For example, one patient may very actively discuss care options but not want to make final treatment decisions, while another may listen passively to care options but confidently make a final treatment decision. Patients who actively participate or are engaged may experience better medical outcomes (Frosch & Kaplan, 1999; Kaplan et al., 1989; Levinson et al., 2005; Mahler & Kulik, 1991; Stewart, 1995). However, some patients do not want to be active participants.

Preferences for shared decision-making vary among various demographic characteristics. First, a larger share of female patients favors active involvement in all facets of decision-making than male patients, and relative to female patients, male patients are more likely to prefer to leave decisions to physicians (Brom et al., 2014; Levinson et al., 2005; Wolff & Boyd, 2015). Second, patients with less education are less likely to self-manage their health care and more likely to co-manage with a family caregiver or physician or delegate their health care activities entirely (Wolff & Boyd, 2015). Alternatively, patients with more education more frequently prefer an active role in decision-making (Almborg et al., 2009; Brom et al., 2014; Shin et al., 2013).

Third, patients who identify as Black and Hispanic/Latino express a greater preference to delegate treatment decision-making to physicians than patients who identify as White (Levinson et al., 2005). Some scholars have called into question the assumptions surrounding these differences. For instance, Cooper-Patrick et al. (1999) have argued that physicians may engage with their Black patients to a lesser extent than their White patients, regardless of the patient's preference. Others have found that physicians assume that patients' expectations vary by race, physicians' interpersonal behaviors are different when they interact with patients identifying with a different racial group than themselves, and physicians interpret patient symptoms differently by patient race (Beach et al., 2007; Van Ryn, 2002). Thus, patients who identify as BIPOC may

internalize a more passive role during decision-making due to physician behaviors and projections of expectations that they prefer a more passive role.

Next, research consistently demonstrates that preferences vary by age. In general, older patients are found to prefer physician-directed care, regardless of health status (Brom et al., 2014; Cassileth et al., 1980; Ende et al., 1989; Levinson et al., 2005; Wolff & Boyd, 2015). Levinson et al. (2005) found that this preference for physician-directed care arose once patients were approximately 45 years old. Others have found that older patients tend to ask fewer clarifying questions and communicate fewer concerns (Arora & McHorney, 2000; Eggly et al., 2006; Ende et al., 1989). In general, the dynamics of communication between older patients and physicians may be quite different than those between younger patients and physicians. Specifically, older patients are more likely to experience multiple chronic medical conditions, including sensory, functional, and cognitive impairments, which make their interactions more complex. Other research also shows that older patients are more likely to be ignored than their younger counterparts (Adelman, Greene, & Ory, 2000; Clayman et al., 2005; Haug & Ory, 1987).

Additionally, these preferences may stem from older patients having different expectations of their physicians and the role of the patient during medical encounters than do younger patients (Greene et al., 1994). For example, Srivastava (2010) found that elderly patients are often "used to trusting the doctor's word" (pg. 1788) while their companions, who are often adult children, "Google the disease and the doctor" (pg. 1788). These findings may, however, evolve with future cohorts (Coe, 1986); whether this age effect on preferences is due to changing attitudes toward health care as people age, or whether it is a cohort effect is not entirely clear.

Physician awareness of these preferences is necessary for trust-building because successful implementation of shared decision-making is greatly influenced by patients'

perceptions of physician competence and trustworthiness (Dy & Purnell, 2012; Ngo-Metzger et al., 2006). This trust is often based on assumed physician knowledge, length of training, and past positive experiences during interactions and is associated with greater quality of care and compliance with medical advice (Ngo-Metzger et al., 2006). Perceived trust between the physician and patient is especially important for the sharing of pertinent health information that patients may perceive as sensitive, embarrassing, shameful, stigmatizing, or disappointing to families, such as mental health issues or memory impairment (Ishikawa et al., 2006; Wolff & Roter, 2012). Trust can be diminished when physicians use jargon and terminology that is overly technical and confusing (Mitnick et al., 2010).

Within health care, physicians should be conscious that some patients have had negative experiences seeking care, including discrimination, thus resulting in distrust of the greater health care institution (Beach et al., 2006; Boulware et al., 2003; Dy & Purnell, 2012). Physicians may also consciously or unconsciously communicate that they do not want patients involved in the decision-making process, for example, by using negative verbal or non-verbal cues. In general, a disconnect is often present between how physicians believe they are communicating and how patients perceive them to be communicating. For example, physicians regularly assume that they are providing significantly more information to patients and their caregivers than patients and caregivers believe they are receiving (Mitnick et al., 2010).

The Significance of Investigating Physicians as Street-Level Bureaucrats

The framing of physicians as street-level bureaucrats has value for both street-level bureaucracy theory and health services research more broadly. As highly professionalized street-level bureaucrats, physicians assume wide discretion in their day-to-day work with patients. Specifically, they partially determine access to scarce medical resources and what interactions

with the health care system will look and feel like. They make these decisions in incredibly stressful and demanding environments, causing them to develop various coping mechanisms, including the mental sorting of patients.

Thus, focusing in on physician discretion and decision-making provides insight into policy implementation both in a clinical setting but also in more general frontline settings, especially for street-level bureaucrats who possess relatively strong discretion, including professors or prosecutors. Moreover, this focus on discretion and decision-making sheds light on explanations for why policy-as-written is misaligned with policy-as-executed, for example in the provision of patient-centered care or shared decision-making. This misalignment is relevant for patients receiving care, in terms of their experiences with health care and various health outcomes, physicians providing care, in terms of their perceived effectiveness in their work and their well-being, and policymakers and society more generally, in terms of the role of and performance of health care.

Additionally, the well-being of physicians, as well as other types of street-level bureaucrats, is of growing concern to relevant stakeholders, including physicians themselves, hospital administrators, researchers, and patients, among others. Physicians are currently experiencing an epidemic of burnout, a costly problem both for the present and the future. By adopting street-level bureaucracy's central concepts of discretion and coping, we can better understand this experience of burnout and how it is related to discretion. Moreover, due to the hydraulic nature of discretion proposed by street-level bureaucracy theorists, we can explore the implications of diminished discretion, as it is perceived by physicians.

CHAPTER 3. DISCRETION: PRIMARY CARE PHYSICIANS' PERCEPTIONS, THREATS, AND COPING STRATEGIES

Patient-centered health care is fundamentally about the individual patient, their values, preferences, and unique circumstances. Components of street-level bureaucracy theory lend themselves well to this framing of an effective client interaction. Namely, street-level bureaucracy theorists argue that frontline worker discretion is not just a luxury but a necessity for street-level bureaucrats to cater to the unique needs of their clients and be effective in their work; in other words, quality street-level bureaucrat work is client-centered work. Consequently, in this chapter, I explore the construct of discretion as it's experienced by primary care physicians in their direct patient care. A richer conceptualization of discretion as it is perceived by the physician provides greater insight into who primary care physicians are, how they think about their role in their patients' care, how they respond to threats to their discretion, and the factors influencing whether they choose to remain in medicine amid organizational and institutional transformations. This understanding is particularly crucial in the modern epidemic of physician burnout.

Micro-level administrative discretion, or the freedom an individual service provider holds to choose between two or more courses of action, each of which is thought of as permissible in the eyes of policy, is a central construct within street-level bureaucracy theory (Lipsky, 1980/2010). Work in this space has traditionally underexplored the concept of perceived discretion and its variation from granted discretion. Within a single organization, for instance, two workers with similar formal discretion may actually perceive themselves to hold very different amounts of discretion. This variation matters because perceived discretion matters. More specifically, street-level bureaucrats who perceive themselves to possess discretion are

more loyal to their clients and organizations, and they are more likely to want to implement new policies and practices. Within health care, variations in perceived discretion may, for example, explain why policy-as-written is misaligned with policy-as-executed.

We know little about why perceived discretion varies. Existing quantitative research tells us that characteristics like worker tenure and resources matter, as well as the demographic characteristics of workers within an organization, but qualitative research is better suited to operationalize the experience of perceived discretion beyond a simple measure of amount, which is ultimately relative, and which factors shape it. Thus, the research question for this chapter is as follows: what perceptions do physicians have about their own discretion, and what factors shape that discretion?

To answer this question, I conducted semi-structured interviews with thirty primary care physicians from across the United States in varied clinical settings with differing tenures in medicine. I found that participants initially perceived themselves to possess high levels of discretion in their work. However, through deeper conversation, it was unveiled that five primary factors diminish their perceived discretion, often to an extent that negatively influences their well-being and their perceived effectiveness at providing patient-centered care: (1) the adversarial health care "machine", (2) difficult and time-consuming insurance interactions, (3) unattainable patient expectations, (4) high emotional labor, and (5) the undervaluation of primary care. The coping mechanisms they employ to combat these threats to their discretion greatly vary, from often unsuccessful attempts to establish boundaries to perspective shifts to concrete changes to their work.

Literature Background

This chapter provides a nuanced exploration of primary care physicians' perceptions of their discretion, the positive and negative aspects of discretion, and the multitude of factors influencing their discretion and decision-making processes. Below, I summarize the current understanding of street-level bureaucratic perceived discretion and the relevance of studying perceived discretion in the context of primary care.

Perceived Discretion in Frontline Work

Discretion is the authority granted to street-level bureaucrats to make decisions in the course of their daily work (Lipsky, 1980/2010). Yet, perceived discretion and granted discretion are different constructs (Sowa & Selden, 2003). Within a single organization, two workers with similar granted authority may perceive themselves to possess very different amounts of discretion depending on worker and job characteristics. Research focusing on the determinants of and responses to perceived discretion finds that it varies along certain demographic characteristics and characteristics of the street-level bureaucrat's workplace. Specifically, it is positively correlated with the worker's tenure, authority, and education level, and the number of women and BIPOC workers in the organization (Sowa & Selden, 2003). Moreover, the street-level bureaucrat's gender identity matters (Durose & Lowndes, 2023).

Much of this work finds positive implications associated with high perceived discretion. For example, workers who perceive themselves to have wider discretion are more loyal to their workplaces and clients and experience greater job satisfaction (Follett, 1924; McGregor, 1960; Thomann et al., 2018; Yukl & Becker, 2012). Additionally, workers who experience greater perceived discretion are more likely to behave in accordance with the values of the populations they serve and implement new policy (May & Winter, 2009; Sowa & Selden, 2003, Tummers &

Bekkers, 2014). In other words, street-level bureaucrats need to feel *powerful* or that they can influence policy in order to implement policy (Thomann et al., 2018).

Related work focuses on the relationship between perceived discretion and social equity (Kelly, 1994). Frederickson (2010) insists, for example, that social equity is not achieved without judgment; rather, it is imperative that street-level bureaucrats engage deliberately with their clients to dismantle social inequities and produce social equities. To accomplish this, these workers need discretion (Maynard-Moody & Musheno, 2012). As Lipsky (1980/2010) observed and argued, in order to achieve results, street-level bureaucrats may actually need to treat different clients differently. This logic also applies to the ethos of patient-centered care.

The Significance of Perceived Discretion in Primary Care

Street-level bureaucracy theorists find that the discretion of frontline workers is consequential to the quality of experiences clients have when receiving goods and services (Lipsky, 1980/2010; Moore, 1995; Rothstein & Stolle, 2008; Scott, 1997; Zacka, 2017). In health care, physicians may influence the experiences of patients in multiple ways. First, they hold incredible influence over the texture of patient-provider interactions, partially determining whether an interaction is informative, respectful, collaborative, responsive, or empathetic, among other positive qualities (Maynard-Moody & Musheno, 2003; Zacka, 2017). Moreover, discretion is necessary for physicians to tailor their decisions to the unique needs, preferences, and circumstances of individual patients, thus promoting patient-centered care. For instance, two patients with the same diagnosis may have vastly different preferences and lifestyles. One patient may prioritize aggressive treatment, while another may prioritize maintaining their quality of life while minimizing disruptive side effects from interventions. A physician has the power to decide how to respond to these two patients.

Various factors associated with physician discretion impede the delivery of patient-centered care (a richer discussion of barriers to shared decision-making, a manifestation of patient-centered care, was presented in chapter two). A primary factor is the time pressures physicians face. The demand for health care services is increasing as the population grows and ages, and as the prevalence of chronic disease rises. This increased demand translates to a greater strain on health care organizations, resulting in higher patient volumes and shorter appointment times for most physicians (Chaiyachati et al., 2019; Khullar, 2023; Lathrop, 2017; Privitera et al., 2014; Sinsky et al., 2016). Additionally, increased complexity and coordination of care, including additional administrative burdens and extensive time spent using EHRs, intensifies these time shortages (Sinaiko et al., 2019). Insurance companies also have considerable power regarding physician decision-making; namely, they can reject physician requests for certain care options, including medications, tests, and procedures (Watts, 2009). Similarly, the corporatization of health care has created administrative and financial pressures often at odds with physician preferences for how to provide care (Beck et al., 2023). Researchers often tie this loss of autonomy to physician burnout and moral injury (Beck et al., 2023; Hartzband & Groopman, 2020; Panagioti et al., 2017; Watts, 2009).

Insights from street-level bureaucracy theory suggest that physician discretion and their ability to provide patient-centered care then affect the legitimacy of the greater health care system. When physicians have discretion, their decisions and behavior communicate to the patient that they and their workplaces are trustworthy and impactful (Lipsky, 1980/2010; Rothstein & Stolle, 2008). Moreover, when patients experience positive interactions, they have reason to believe that their society is orderly and that bureaucracies are effective (Moore, 1995).

Alternatively, if patients perceive their physicians to lack control, they are likely to lose faith in the system's potential to assist them.

This chapter seeks to investigate physician discretion and answer the following research question: What perceptions do primary care physicians have about their own discretion, and what factors shape that discretion? Further understanding of primary care physician discretion has multiple implications for street-level bureaucracy theory and health care practice. First, it further conceptualizes perceived discretion as it differs from granted discretion. Second, it allows for additional exploration of the relationship between perceived discretion and frontline worker well-being. Third, it provides insights into physician behavior and offers explanations for why physicians make decisions in the ways they do. For example, when faced with competing goals or ethical dilemmas, how do primary care physicians navigate and resolve them? Finally, an increased understanding of where discretion *goes* when physicians do not perceive themselves to possess it is crucial for understanding policy implementation and the common misalignment between policy-as-written and policy-as-executed.

Research Design

In-Depth Interviews

This is an observational, cross-sectional qualitative study using original interview data that I collected in January through April 2022 and February through April 2023 from primary care physicians who regularly interact with patients. I selected semi-structured interviews as my data collection strategy because they allow for the exploration of opinions and experiences of phenomena, including perceived discretion, in an in-depth manner (Johnson, 2015). Semi-structured interviews include a flexible interview protocol supplemented by follow-up questions, probes, and comments. Data are considered open-ended, particularly since participants can veer

off script; this allowance enables the collection of rich, personal data (Johnson, 2015). Interviews produce data with high measurement validity since interviewees speak for themselves with little direction from the interviewer. Reliability may, however, be considered low since replicability is unlikely. In addition, this method is not intended to produce findings that are generalizable to all physicians.

Sampling and Recruitment

My intended sample included primary care physicians who provided direct patient care at least one day per working week. I also wanted variation in physician characteristics associated with variation in discretion, including tenure in medicine, gender identity, medical practice type, and geography. In the winter of 2022, I located the first interviewees through contacts at the University of Washington. Then, in the winter of 2023, I recruited currently practicing primary care physician participants from another study (described in chapter 4) I was collecting data for at the time. Upon completion of their participation in that study, they were asked if they were interested in being contacted for an interview. Consequently, this is a non-probability convenience sample.

Table 1 shows the characteristics of this convenience sample. Participants' tenure varied greatly, from newly practicing physicians recently leaving their residency programs to physicians with more than forty years of experience. Roughly half the sample identified as female, while slightly less than half identified as male, and one participant identified as non-binary. The sample largely identified as either White or Asian/Asian American in terms of racial/ethnic identity collected in a free response textbox. Finally, over half of the participants resided in the West Census region, with a smaller number of participants from the Northeast and Midwest. No respondents resided in the South Census region.

Interview Methods

I conducted thirty interviews via Zoom between January and April of 2022 and February and April of 2023. Each interview lasted approximately 45 to 60 minutes. I audio and video recorded the interviews and then transcribed them modified verbatim, first using Otter AI software and second by myself to correct for errors. General interview topics included a discussion of why the respondent entered medicine, their perceptions of the ideal physician, factors that both enable and prevent the respondent from being a good physician, how they respond to these factors, how they think about their future work in medicine, and what could make their work better. The interview instrument (see Table 2) included open-ended questions and follow-up probes, and the flow of the interview was designed to be conversational. I focused on allowing the interviewees to tell a narrative with minimal interruptions.

To gauge perceived discretion, I inquired about the general factors they believe make their job easier or more difficult and how they respond to these factors. One way I accomplished this was by asking them to reflect and elaborate first on a time in which they felt as if they had a lot of discretion and second on a time in which they felt as if they did not have a lot of discretion. When necessary, I used more explicit language and asked them to describe specific rules, organizational processes, or policies. Their coping responses were also discussed with the intention of giving insight into the extent of their perceived discretion.

Analytical Approach

I used an abductive coding process, first by reading a few transcripts and coding deductively based on a preliminary codebook developed from the final interview guide. Simultaneously, I developed additional codes inductively by looking for both explicit and covert meanings in the raw text data (Deterding and Waters, 2021). On the one hand, my research

question is informed by previous research and theory, thus calling for a deductive approach (Timmermans & Tavory, 2012). On the other hand, I wanted to remain very open to surprising or unexpected findings, which are best captured through inductive coding (Deterding & Waters, 2021). Furthermore, physicians' sense-making efforts of their discretion are at the forefront of this empirical investigation, further calling for an inductive approach and open mind (Soss, 2006). After coding, I wrote analytical memos for each identified high-level code pertaining to perceived discretion. I then identified relevant quotes from each memo to include in the write-up of results. All quotes included use a pseudonym for the interviewee.

Results

High Perceived Discretion Overall

When interview participants were initially asked how they perceive the discretion they possess in their jobs, most responded that they hold very high levels of discretion or decision-making autonomy, especially concerning their clinical responsibilities. For example:

> Dr. Li (26 years in practice): It's all on me and up to me.
>
> Dr. Wong (10 years in practice): I think as a physician, you are given utmost discretion.
>
> Dr. Steinberg (6 years in practice): I could basically do what I need to…within the bounds of generally accepted practice.
>
> Dr. Goldman (37 years in practice): As far as the clinical decision-making…nobody has a say but me.

Participants explained that this perceived high discretion during clinical encounters is necessary because of the inevitable subjective nature of patient care in medicine.

> Dr. Farid (5 years in practice): There are actually very few absolutes in medicine, and even though we treat medicine as a scientific discipline, which theoretically is objective, and there are clear answers, there really aren't. A lot of what we do is subjective. In terms of managing people's medical problems, there's often many ways to do it.

Furthermore, they explained that high levels of discretion are warranted due to their extensive education and training, as well as their experience gained on the job and constant exposure to new and challenging circumstances. When decisions are bounded by professional guidelines, evidence, and patient preferences, the doctors I interviewed described these boundaries as justified and aligned with what they consider high-quality care. For example:

> Dr. Wu (13 years in practice): In direct patient care management, nobody's in the exam room telling me you can or can't prescribe this thing, or you can or can't see this patient for this diagnosis…I think I am able to use my clinical reasoning, use my training and background, make decisions that I want to in conjunction and collaboration with patients.

> Dr. Lin (24 years in practice): I think ultimately… we're fully independently practicing physicians. We have guidelines to hopefully keep ourselves safe, as well as the patient safe, and they are just guidelines. So, you do have a little bit of flexibility and discretion to kind of go outside that framework, should you deem that it's reasonably appropriate.

Physicians in the study often maintained that possessing high levels of discretion in their work is empowering, increases job satisfaction, and protects them against burnout. Some insisted that they could not perform the responsibilities of their jobs if high discretion were not the standard granted to them. In general, their perceived discretion grows the longer they practice medicine, as well as the higher they climb in the hierarchy of their organizations.

> Dr. Huang (11 years in practice): Having control is super important as a physician, and no one ever becomes an attending and says that they want to go back to residency.

> Dr. Murphy (4 years in practice): It seems to me how you spend your time, how you choose to spend your time, or how much control you feel like you have over how you spend your time is really important for satisfaction, fulfillment, just having that locus of control feel like it's…yours, and it's internal and not external. I think it's very protective for burnout.

> Dr. Bhat (20 years in practice): But for the most part, I am able to work with my patients and decide what's best for them and tell them what's best for them. And for the most part, they do agree with it. And that's how it works…if it didn't, I couldn't function as a physician.

> Dr. Farid (5 years in practice): It [having increased discretion after residency] made me feel powerful, honestly…I felt empowered to make medical decisions on my own without

> somebody telling me what to do. But also, I was like, *okay, I'm smart enough, and I can make the right decisions, and I can do it in a safe way, and I can take care of patients without somebody looking over my shoulder*.

In newer spaces of clinical care, such as addiction medicine (in which several study participants were experts), where clinical practices and guidelines are not as thoroughly established or standardized discretion feels even wider, which they stated is very satisfying.

> Dr. Kelly (3 years in practice): I do think one of the things that's fun about addiction medicine is that because it's a sort of newer space and more freeform, you can center that a little bit more. Because people don't know how to bean count it yet. They don't know how to make sure you check a million boxes…there just aren't a million boxes that anyone has put down on paper, so you get some more time to focus on the person, which…can be really nice.

Even though high levels of discretion are generally viewed positively, some interviewees described feeling intense pressure to regularly make such a high volume of decisions, leading to a sort of decision fatigue that contributes to a sense of being out of control.

> Dr. Jansen (5 years in practice): I probably make 1,000 decisions a day when I'm working. So, I don't think about them consciously 'cause I'd go crazy…so it's just every day, it's just kind of like Whack-a-Mole.

This pressure is especially noticeable for particularly consequential decisions, and a few participants contemplated what it might be like to work in other roles in health care or other industries where their decision-making power doesn't feel so heavy.

> Dr. Taylor (19 years in practice): Sometimes I think it would be so much better if I was a PA [physician assistant]. Like, I just do as good a job as I could, and then I leave at my shift time and dump everything on the doctors and be like *byeeee, you deal*…I feel like that would make things better for me because I wouldn't worry so much, and I wouldn't feel so responsible somehow…Would that make it all better?

Regardless, most interviewees enjoy being the leaders of their care teams, and some want to be involved in as many decisions as possible, even if these decisions technically fall within the purview of their other team members or could be taken on by other team members in order to alleviate the physician's workload.

> Dr. Mysore (12 years in practice): …I do have a large amount of flexibility or discretion in my patient-care-related decisions…and there certainly is some risk and anxiety that comes with that, but I feel like I'm given a lot of autonomy, and people on the care team will turn to me to approve things or decide things ultimately.
>
> Dr. Kelly (3 years in practice): I like being asked because I think my opinion matters.

Threats to Discretion

Despite initial statements that they possess high levels of discretion in their work as primary care physicians, upon further reflection and through deeper conversation, all interviewees discussed numerous examples of scenarios and factors they regularly encounter that cause them to feel as if their discretion is limited or threatened, often to an extent that does not feel warranted or impedes on their ability to provide what they consider to be high-quality patient care. In this section, I organize these most commonly discussed factors that contribute to a reduced sense of discretion into five central themes: (1) the adversarial health care "machine", (2) difficult and time-consuming insurance interactions, (3) unattainable patient expectations, (4) high emotional labor, and (5) the undervaluation of primary care.

The Adversarial Health Care "Machine"

Throughout the interviews, participants regularly characterized the health care system as a machine, a metaphor that reflects their perception of its rigid and impersonal nature. This mechanistic portrayal seems to partially arise from their perception of the system's overemphasis on efficiency and standardized processes. In fact, some participants described their greater professional standing as physicians as cogs within this complex apparatus beyond their control.

> Dr. Ivanov (4 years in practice): I'm seeing this mismatch between what the health care machine expects us to do, meaning the people who pay me, the people who pay the insurance, the payors, my employer…versus what patients expect. And I think that we are in a lot of ways caught in the middle.

Moreover, many participants characterized the health care system as a sort of amorphous entity that regularly acts as an adversary rather than an ally. Much of their time, which is already limited, is spent trying to figure out how to navigate the constantly evolving system, but this investment often proves ineffective when it comes to providing high-quality patient care.

> Dr. Dupont (5 years in practice): Just seems like a lot of it is trying to figure out how to work the system to get the things done that need to happen, as opposed to thinking about the medicine itself and helping people.

> Dr. O'Donnell (22 years in practice): We can see what the patients need, but we're not in a position to give it to them. Our system is not structured to help people meet their needs.

Several challenges associated with the greater system that profoundly influence their discretion and decision-making repeatedly emerged in conversation. First, participants described never feeling like they have enough time. Time constraints threaten a physician's discretion because they prevent the physician from doing their work in the ways they would prefer.

> Dr. Davis (43 years in practice): I grew up in the era where I had a lot more time to spend with people, and I really valued that…I wanted to be able to listen and hear people's stories and be a part of their lives and help them towards well-being, and seeing people in short periods of time does not lend itself towards that.

These time constraints follow providers both inside and outside of the workday and workplace, and during these interviews, it was apparent that this perceived shortage of time often results in a sense of loss of control. Many interviewees described in-clinic workdays where they consistently run behind and feel rushed. This was especially common for providers with fifteen- or twenty-minute appointment lengths or for providers serving patient populations with complex needs. Additionally, participants regularly reported feeling like there could never be enough time to complete the tasks that they are expected to complete. Many described regularly working during the evenings and on weekends. This constant demand for their time frequently leads to

negative emotions and feelings of ineffectiveness because they do not get to provide care in the way they would prefer.

> Dr. Chan (7 years in practice): Patients don't love having to be rushed. Like, they don't. They don't love having to come in and start talking a mile a minute to just try and get all of their concerns out of the way before the doctor shoos them on. I don't love that either. It's a lose-lose situation for everyone involved.

> Dr. Mysore (12 years in practice): I also think our time given to us during patient sessions is so limited that we often feel rushed and don't feel like we can do as good a job as we would like. So, if I want to do a good job…with a patient, I will almost always run late. And so, I have to sort of cut corners and say *alright, I'm not going to talk about this, not going to talk about that, just going to cut to the chase*. And…that doesn't feel as great.

Many participants described working in organizations with chronic shortages of support staff, especially nurses and administrative support, which further exacerbates their feeling of having too little time to accomplish what they want.

> Dr. Levine (8 years of practice): I think part of the problem is, when we lose support staff, nurses, or admin, everything by default falls on the physicians. And it just is this chronic thing that…we're always here, and so…we pick up the slack, and we're expected to. And most of us…you know, the classic, we went…into medicine because we wanted to help people. Like you want to do the right thing for your patient, but at some point, there's only so much time in the day.

Interviewees also described a persistent pressure to be as efficient as possible and generate revenue in order to keep their workplace's doors open. Striving to achieve this delicate balance between sustaining their practices and delivering high-quality patient care exerts considerable influence on their clinical decisions. Some participants explained scenarios where they felt compelled to prioritize revenue generation over other potentially beneficial but less financially lucrative options. This was most evident in decisions surrounding appointment lengths or the number of patients they see daily in their clinical practice. For many providers, scheduling decisions, which directly influence the number of patients they see in a shift, are largely outside of their control. Yet, others have a greater say, and despite being aware that seeing

a very high volume of patients is often detrimental to their own well-being and the quality of care provided, they often feel compelled to push toward and meet these high patient volumes to maintain practice viability.

> Dr. Lin (24 years in practice): The downside of health care right now is that it's still very budget-driven…you have to see patients, and you have to see a certain number of patients in order to support the system…A lot of providers would tell you…*to help support provider wellness, please have me see less patients per day rather than more*, but the system can't really support that because then we would be financially crippled.

> Dr. Levine (8 years of practice): We as a practice have talked about whether or not we should change our visit lengths from 15 to 20 [minutes], like the 20, 40, 60 cycle, but…the problem is we get pushback from administration because they're trying to get more people in and new patients in…we all would like to spend more time… with our patients, but it's just not a feasibility in terms of how medicine is practiced in the commercial world right now.

Additionally, many interviewees described how their billing system often dictates how care is performed because they feel compelled to prioritize billable procedures or specialty care over time-intensive but essential cognitive and administrative tasks. These competing incentives have influenced some of them to align their decisions with financial rewards rather than what they believe is in the best interests of their patients.

> Dr. Campbell (3 years in practice): I think the danger is that…your whole medical way of thinking ends up becoming influenced by billing.

> Dr. Jansen (5 years in practice): I think the way that billing platforms are, and insurance companies are…it incentivizes specialization because…you can charge more for certain encounters and certain types of visits.

> Dr. Mysore (12 years in practice): There's also in primary care this push and pull between sort of how we get compensated and what our priorities should be. So, on the one hand, we want to take care of our patients in a kind of population-based or preventive way, but on the other hand, we are paid based on how many patients we see and how much we bill…it's kind of mixed incentives. On the one hand, they say we should do more to take care of our patients in between appointments, and on the other hand, they say *well, you should see your patients more, so you make the money you need*. And I think those competing interests are frustrating to a lot of us.

Multiple participants also discussed how they are increasingly expected to align their care with specific quality metrics, many of which do not necessarily align with their clinical judgment. While this growing emphasis on standardized metrics in health care aims to measure and improve the quality of care, many described finding themselves grappling with metrics that do not fully capture the nuanced and individualized nature of patient care. Rather, these externally imposed metrics divert their attention from individual patient needs to predefined benchmarks. Thus, this misalignment often leads to a sense of frustration and professional dissatisfaction.

> Dr. Morgan (23 years in practice): In order to check this quality box, you need to shove the patient into this particular shoe box, regardless of whether or not they fit very well. Otherwise, you will not get this quality metric, and we will think you're a bad doctor…it both stifles creativity in terms of your ability to practice, which arguably in some cases is a good thing, and that's kind of the point. But it also makes it more difficult to individualize care for an individual patient when you're…having to try and figure out oh, well, what categories does this person fit into? And based on those categories, what do I have to do in order to make all the lights green on my dashboard?...I certainly went into medicine because what I value is having an individual relationship with the patient and try to do my best to come up with an individual plan for that patient.

> Dr. O'Donnell (22 years in practice): Everyone wants some things that they can measure. They want to be able to show that we're…providing primary care, and many people equate primary care with getting your colonoscopy done or your Pap smear or your mammogram…You treat the blood pressure, or you treat the glucose numbers. You treat the, to a lesser extent…the weight, the numbers, the things you can measure…I do really think that it's under prioritized…how well you know the patient, how well you build trust with the patient.

Some participants subscribe to this model of adhering to specific quality metrics and see clear value in aligning their practice with these metrics, believing that they can improve patient outcomes, enhance efficiency, and contribute to the overall success of the system. Furthermore, a few described how these metrics are particularly effective when they are tied to financial incentives because these rewards serve as a tangible recognition of their commitment to delivering high-quality care.

> Dr. Levine (8 years of practice): We, of course, have quality metrics and targets that we have to meet, but those are generally based in appropriate medical care, so we do have some compensation incentives to get those quality metrics, but it's always a carrot, not a stick, so they don't feel overwhelming…I got extra money last year from hitting all my quality metrics. I was like *yay, that's great! People like money. It's nice*. And I took good care of my patients, so everybody wins.

Alternatively, some participants believe that this codification of care and focus on quality metrics, especially those tied to financial incentives, makes the system seem algorithmic and diminishes the human touch required in patient interactions. They expressed concerns about medical schools and training programs increasingly emphasizing the codification of care and modifying their curricula to emphasize algorithms, protocols, and standardized procedures.

> Dr. Murphy (4 years in practice): I don't think that people are actually taught…how to be human in the medical setting. They're taught all of these standardized tests…formulas that they need to be using. And then they're trying to wrap their heads around how do I… get this patient down into a cute little blurb with an A, B, C, D, or E answer that I can easily choose from and then move on to the next patient?

Furthermore, some participants voiced reservations about how this shift may influence the types of individuals attracted to medicine, as well as the individuals who stay in medicine. Some were hopeful about the future role of physicians in medicine because of the fundamental human touch required to provide high-quality care.

> Dr. Campbell (3 years in practice): I think the real reason we still have physicians and not algorithms is because you have some sort of human connection. You're like *I kind of understand this person, not completely at all, but I have an idea of what you're looking for, and I'm trying to explain these things and help you navigate an incredibly bureaucratic and impersonal system and trying to just be someone who's helping you along*.

Yet others described a future (and sometimes present) scenario in which physicians will be replaced by providers with lower-level licenses or advanced algorithms.

> Dr. O'Donnell (22 years in practice): I would predict that in 10 years from now, you'll find very few MDs doing primary care. It'll be all your NPs or PAs…just because that's the way I see the economics moving. I don't think that's a good thing. I just think that that's what's gonna happen. Because it's becoming so much more codified…if this, then

> that…without getting to know the patient and finding out what they want to do and what their priorities are.

In general, the greater health care system's hyperfocus on efficiency and specific quality metrics is creating a culture of care for many of these physicians that inadvertently devalues the emotional aspects of patient care. Moreover, this culture intensifies a conflict between the intrinsic motivations that lead many providers to pursue a career in medicine and the systemic challenges that erode their ability to remain compassionate over the intended length of a career in medicine. Many interviewees were explicit that the well-being and job satisfaction of individual providers have been deprioritized by the greater system. The pressures to see more patients, meet stringent and often impersonal quality metrics, and navigate countless administrative burdens, all under intense time constraints, contribute to high levels of stress and burnout. Yet, the system seems to express an apparent indifference to individual provider well-being, leaving many participants to feel trapped after lengthy education and training timelines and often substantial debt.

> Dr. Morgan (23 years in practice): Any individual person can burn themselves out without a ton of consequence for the system, but when everybody's doing it, the system falls apart.

> Dr. Kelly (3 years in practice): The system is predicated on just demanding as much as possible. And if people quit, then they quit. It's not actually designed around patient or physician well-being.

> Dr. Campbell (3 years in practice): …And then the way the system functions is that you have to buy in. So, you take on enormous debt, and I think it's kind of genius, right? It's part of a feature of that system…Med school, you can't quit…and I think having that debt hanging over your head makes you less willing to challenge the status quo, right? They own you, and you're dependent on the system to pay back this debt that you took on.

Difficult and Time-Consuming Insurance Interactions

Participants consistently described how insurance companies intervene in their relationships with their patients and push back against their initial decisions. When providers

recommend care to their patients, they typically submit a claim to the patient's insurance company. The insurance company then assesses whether the request is medically necessary and aligns with their coverage terms and policy guidelines. In this process, prior authorizations are common. During a prior authorization, providers seek approval from the insurance company before delivering certain care; they are especially common for tests or treatments that are considered costly or require special justification. If the provider's request is initially declined, they may sometimes initiate what is called a "peer-to-peer." During a peer-to-peer, the requesting provider and a provider representing the insurance company discuss the request. In theory, these discussions allow the requesting provider to present additional information or evidence in real-time.

Insurance companies maintain that prior authorizations and peer-to-peers are necessary to ensure that coverage decisions are made based on established medical evidence. However, interview participants regularly cited these interactions with insurance companies as some of the most unpleasant in their work, clearly reducing their decision-making power. For example, many participants see them as intentional hurdles created by health insurance companies hoping to reduce the coverage they are responsible for.

> Dr. Li (26 years in practice): It irks me that in my 25 years of doing this job, I have had zero peer-to-peers that did not get approved. So it feels like a speed bump they put in the way for busy doctors who don't have time to do it…So that's why I have said to multiple people, and I don't mind saying it to you…the day that I think about going over to that side and become one of their doctors is a day I need to quit. I don't want to be that speed bump for my colleagues.

> Dr. Campbell (3 years in practice): Prior auths…they'll blame you. They'll block you from ordering some things. Someone with trigeminal neuralgia…they blocked me on the prior auth, so then I have to call them…30 or 45 minutes later, I talked to someone, and the person is really nice. She's like *oh, wow, this person has trigeminal neuralgia. I didn't realize it was part of the workup that you need an MRI. Of course I'll approve this*. So, I say *who blocked me? Why don't I get to talk to that person because they were violating*

> *standards of care?* They're intentionally slow walking it, so they want to take up like 30 or 40 minutes of your time, so you don't do it. It's pretty clear.

Furthermore, many participants described these processes as explicitly wasteful of both providers' and patients' time and resources. Providers often do not hear back from insurance companies quickly enough to perform what they believe is necessary and time-sensitive care. Consequently, they sometimes must create workarounds, such as sending their patients to emergency care settings, when they believe they could perform the proper care onsite in a timely manner. According to the Centers for Medicare and Medicaid Services, starting in 2026, various insurers, including Medicare, Medicaid, and the Children's Health Insurance Program, will be required to respond to non-urgent prior authorization requests within seven days and to urgent requests within 72 hours (CMS, 2024).

> Dr. Silva (7 years in practice): I've had a patient who I wanted her to get a CAT scan of her head because she had a fall, and she didn't go to the emergency room. She came to our clinic instead, and as an outpatient, you need to get prior authorization to get approval to get a CAT scan for certain insurances. And so, I was like, *this is a time-sensitive thing. There's no way I can get a prior authorization for you in a time-sensitive manner…I need to tell you to go to the emergency room because in an emergency room…you don't need the prior authorization*…which feels like such a waste of resources…if she could have just gotten it done in clinic. We have a scanner on site. We have the availability for somebody to get it done same day, but insurance-wise, it can't happen.

Additionally, insurance companies often have standardized flowcharts for care, where providers must carry out earlier steps in the flowchart before they can provide the care in later steps, even if the provider believes those in-between steps are unnecessary.

> Dr. Morgan (23 years in practice): The thing that comes up…increasingly frequently…well, I am thinking diagnosis X, and in order to confirm diagnosis X, I need imaging study Y, but I know that in order to get imaging study Y, I also need to order imaging studies Z and A' before they'll even cover imaging study Y, even though neither of those would confirm the diagnosis that I'm interested in. And it's just like, this is a waste of time and money and effort.

Finally, some participants characterized prior authorizations and peer-to-peers as explicitly risky and harmful for patients. By being unable to provide care in the way they believe is clinically indicated, some worry about what happens if something goes wrong that they could have prevented.

> Dr. Patel (22 years in practice): I've gotten rejects for CT abdomen/pelvis, where they said you have to make it a CT abdomen. And I'd be yelling at the person. I'm like, *do you want to come here when this guy perfs, when he has a bladder lesion? I'm gonna write your name down*! And, they're fine. They're fine because they probably hear it like 1,000 times a day. I yell at them like I'm yelling at the…Verizon representative…I'm like *you're an asshole*! *Why don't you come take care of this patient? Oh, you just sit on the other side*…There's no discretion there.

In general, for many interviewees, navigating these processes feels like a direct questioning of the provider's clinical judgment and an attack on their discretion. They often described their general approaches to clinical decision-making as consciously judicious, clinically indicated, and aligned with guidelines. Thus, this constant questioning feels unwarranted on principle.

> Dr. Chan (7 years in practice): When insurance comes back and is like *I see you ordered this thing. Did you really mean to order this thing? I need you to talk to someone on the phone who has lesser qualifications than you,* but you have to wait on hold for an hour to talk to them in the middle of your workday just to tell them that *yeah, you did mean to do the thing that you did.*

> Dr. Ivanov (4 years in practice): I'm following the guidelines. Why don't the insurance companies have to follow the guidelines? Like…why do I have to follow some shadow set of guidelines that they created?

> Dr. Silva (7 years in practice): They have to deem it to be clinically necessary. Somebody outside of my clinical judgement has to deem it to be clinically necessary…If it were something that was actually making me stop and think about my decision-making, maybe it would be meaningful, but it's often just like *did you prescribe the medication for indication, which actually is used for the medication?* Like, yes. Otherwise, why would I prescribe it?

> Dr. Murphy (4 years in practice): I'm very much so like a less is more kind of person, and I'm shocked at how often I have to fight with insurance companies…I only order tests

> that are medically indicated and am very judicious about this. And yet…not only will they reject it, but then they'll give me the wrong phone number to call.

Even though interactions with insurance companies can feel incredibly frustrating, a few respondents argued that the insurance companies' policies are justified because the providers themselves are not directly responsible for the costs involved. Rather, some of the costs fall on the patient, and often, an even larger cost is taken on by the insurance company itself.

> Dr. Li (26 years in practice): Every time I prescribe a medicine, and then there's a message that comes back *sorry, not covered by insurance, here's the alternative.* But, how do I cope with that? I balance that out with the insurance companies…the people paying for this drug for this patient. I'm not, and the patient may have a copay or may have a…deductible…I don't like that they countermanded me. But…I'm not paying for it, and clinically, it's hard to argue that that's evil.

> Dr. Campbell (3 years in practice): I think the number one cause of bankruptcies in this country is medical care, which is kind of astonishing. So, realizing that some of your patients are foregoing care because of the cost, or they're losing their house…how confident are you about ordering the MRI now…now that you know that it cost someone their house? It's a reality.

Additionally, a few participants argued that physicians historically have not consistently demonstrated financial stewardship. Consequently, they perceive external oversight and some number of constraints as necessary measures to ensure responsible resource utilization.

> Dr. Morgan (23 years in practice): These constraints are imposed on us externally because we have never been willing to actually contain ourselves.

> Dr. Park (23 years in practice): If I choose option A, which is more costly, then I may not be being a good steward of the overall resources in the health care system because B is almost as good or just as good. And so, if I want to choose A because it's newer, it works faster, maybe it works a little bit better, but it costs 20 times as much. I don't have that discretion. Somebody in the health care system is gonna say *well, hold on, are you sure?* And I think that's appropriate.

Unattainable Patient Expectations

According to the doctors in this sample, patient expectations play a pivotal role in the delivery and experience of health care and in physician perceived discretion. A patient's

expectations include not only their anticipation of effective medical treatment but also their desire for compassionate communication, respect, and involvement in the decision-making process. When providers understand and address patient expectations, this can contribute to trust-building, compliance with physician recommendations, and an overall better patient-provider relationship. On the other hand, unmet expectations may lead to breakdowns in communication, reduced engagement, and patient dissatisfaction with care. Thus, provider alignment with patient expectations is crucial to delivering patient-centered care.

As partners in this collaborative process, patients wield power, and as was uncovered in these interviews, with this power, patients can make physicians feel like their discretion is limited through various circumstances or behaviors. First, it was quite common for interviewees to describe patients who regularly insist on or demand care that does not align with medical guidelines or care that the provider deems unnecessary. Often, they portrayed these patients as seeing clinical care as transactional in nature, thus feeling encouraged to demand what they want, as if they were shopping for care. Participants seemed to observe this behavior most often with patients they described as younger or with generous insurance coverage.

> Dr. Chan (7 years in practice): As a doctor, I have noticed some shift in coming to the doctor in the way that you would go to a fast-food restaurant to order your food, like *hi, I'm having this issue, and I want this, this, and this, place the orders*.

> Dr. Steinberg (6 years in practice): I think more so, especially in the younger population and just the way clinics are running, competing with each other…it's a much more consumer model, which can be hard…How many times can you explain to a patient *well, this is not indicated*, even though that's what the patient's demanding?…You don't walk into a clinic and go down an aisle and choose what you want.

> Dr. Dupont (5 years in practice): I have a lot of patients who have very specific expectations about what labs get ordered and what services they want. And I'm not always convinced that they know. It's hard to convince them that…the outcome that they are pursuing and the resource they think they need to achieve it…there's not actually a connection between them. And because they generally all have good insurance…there's no forcing function to where I can say *well, your insurance probably won't cover it*.

> Because their insurance will cover whatever they want, but…that seems really wasteful, and it could actually produce all of this extra anxiety and chasing down a false positive.

Interviewees regularly attributed this behavior to patients' beliefs that they know better than physicians, often because they can look things up on the internet or have conducted what they consider to be their own research.

> Dr. Goldman (37 years in practice): I think that patients Google too much. They read too much. They think they know what's wrong with them. Sometimes I'll just say, *well, what do you think's wrong? What am I up against today?*

Other providers stated that they believe patients view physicians generally as paternalistic or as gatekeepers trying to limit care in the name of cutting costs. This perception suggests a lack of trust in the motivations behind health care decisions.

> Dr. Dupont (5 years in practice): We used to order a bazillion labs every year for everybody as part of routine. We just learned that that actually doesn't do that much. So, changing expectations based on practice…I think there's a perception on the patient's part that the only motivation is to decrease costs. And, while everybody likes to complain about health care being too expensive, they don't necessarily want to do things to make their own care cheaper because they assume higher costs means better care, and that there's just a rationing thing going on, and like, no, actually I think it kind of indirectly harms you to do all these tests, even though it's in this diffuse way.

Moreover, interviewees expressed a growing sense of patient skepticism or distrust in experts and science more broadly, which makes establishing a provider-patient relationship difficult.

> Dr. Chan (7 years in practice): I'm getting a lot of pushback…I think there's been a trend towards less relying on expert opinion, like less belief in science. I've seen a rise in anti-vax people…people who aren't vaccinating their kids at all because of blah, blah, blah they've seen on YouTube…I'm not against people doing their own research and whatnot. I feel like people should be educated, but I feel like there are a lot of people coming in feeling like they have all the education they need when really they've just Googled something and found the person in the internet…who agrees with them and been like hey, look, I have research. And, it's like, I have a medical degree.

Sometimes, this distrust turns into anger, aggression, or threats against the providers or their loved ones. A few providers described encounters with patients where they could not provide

specific care at all or in a timely manner, and this led them to feel unsafe and sometimes even unsupported by their workplaces in handling these situations.

> Dr. Adler (11 years in practice): If we can't get care to what people think is a need, they just go crazy…I've had people tell me they wish my parents were dead…where does that fit into what's a normal human interaction because I can't get you an MRI within a week?

A second related way in which patients cause providers to feel that their discretion is limited is by holding very high or unrealistic expectations about what can be accomplished, especially given the provider's limited time and resources. For example, some providers described patients who expect immediate and extended one-on-one attention, underestimating the constraints on a physician's time due to high patient volumes and administrative responsibilities.

Additionally, they described patients with expectations that their providers be available at all hours for non-urgent concerns and questions, disregarding the provider's need for work-life balance and the provision of care to other patients. This was especially common with the use of electronic patient portals like MyChart, where patients may anticipate immediate responses to messages sent through these portals. Providers also often described patient assumptions that their providers could address complex medical concerns solely through brief electronic messages, underestimating the need for in-person consultations for certain issues.

> Dr. O'Donnell (22 years in practice): One of the things I think probably is a part of burnout…is patient's expectations are very high. They want their pain to be gone. They want their cold to be gone. They want their cough to be gone, and…we simply can't…we don't have magic wands. We joke about that…I left my magic wand at home today.

> Dr. Ivanov (4 years in practice): Patients, I think, expect me to spend unlimited time with them…I don't think they have the awareness that my patients, my visits are booked back-to-back. I don't have time in between, and they expect me to respond immediately to all their requests about medications and other questions and results and to engage with them over MyChart about new problems. I don't think they understand that the health care system has put me in this position to grind all day, leaving very little time to address those other things.

Multiple interviewees explained that to cope with these high patient demands and expectations, they often give in to the patients because they don't have the time or energy to push back.

> Dr. Desai (11 years in practice): That actually makes me feel pretty uncomfortable…people second-guessing and kind of demanding things…I just deal with them, and I move on.

> Dr. Dupont (5 years in practice): I think there's just a perception that physicians don't listen…and they're paternalistic, and they don't care about patient input…I think if you have time to do the visit the right way, where you get what people are worried about, and you have time to explain what your recommendation is and why, a lot of these patients will accept that recommendation. But, at the end, I usually wind up saying *this is my recommendation; this is why*. I'll wait for a reaction, and if they seem ill at ease, and they seem angry, I usually wind up saying that *if you need this for your peace of mind, there's probably a way we can get this*.

High Emotional Labor

Participants experience themselves as engaging in a profound form of emotional labor as an inherent aspect of their profession, often at the cost of providing care in the way they would like to. Beyond the medical expertise they bring to patient care, physicians must maneuver the very complex space of human emotions, serving as pillars of empathy and support for their patients and their families. Every day in their work, they encounter patients who are grappling with a wide spectrum of emotions, ranging from anxiety, fear, and anger, to joy, hope, and relief. Simultaneously, they are responsible for their own emotional responses.

Most interviewees described working in environments where they constantly witness the pain and distress of their patients but do not have enough capacity to process it, resulting in a sense of loss of control. Furthermore, many providers explained that they feel responsible for and deeply invested in their patients' well-being and outcomes. Thus, when things do not go as intended, it impacts them immensely.

> Dr. Bennett (19 years in practice): I also think there's a burden that comes with being a caregiver that…adds up. And…when you are seeing patients all day long, you're bearing

> witness to their suffering, and that takes a toll if you don't take time to process it and deal with it…So, it's really this kind of crushing system that's expecting you to just be more efficient and do more, and in taking on the weight of what people are experiencing, and not having really time to…process that or to deal with it…
>
> Dr. Fraser (40 years in practice): We're human, and we absorb the emotions and challenges of the people that we are in contact with. And there's a certain element of…responsibility that exists within medicine…there's an attachment and a sense of ownership around outcomes and around response. So, because of that, there's an emotional attachment…The vast majority of our interactions are dealing with issues, problems, challenges, and we absorb that energy that is not always positive.

This high emotional labor inherent to their work often leads to a sense of helplessness, and many providers explained that this perceived helplessness is exacerbated by working within such a complex and dysfunctional system that does not address the greater social determinants of health. Many participants described the influence of social determinants of health, such as income, education, housing, and access to quality food, on patient health outcomes but believe that their ability to address these factors directly within the confines of a medical visit is often very limited.

Multiple interviewees described how they regularly witness the impact of systemic issues like poverty, discrimination, and lack of access to education on their patients' health but feel powerless in the face of such complex challenges. They reason that addressing these broader structural issues requires comprehensive systemic change that extends well beyond the scope of individual medical care.

> Dr. Chan (7 years in practice): Primary care is full of chronic problems that either aren't going to be fixed, or there's huge barriers to them being fixed, and patients can't or won't for whatever reason fix those, or there's a system-wide problem that you can't fix on your own. So, there's a risk of burnout inherent in being a doctor.
>
> Dr. Park (23 years in practice): I think some of the biggest challenges for physicians is when you look at patients, and you do the best that you can within the existing environment to be able to care for patients, but there are factors that play a role in the overall health outcomes, and these are the social determinants of health that are outside of control of many and most health systems, like housing, access to food, ability to get

> to…appointments, just as some examples. And I think that the inability to make an impact on some of those things and seeing patients have recurrent exacerbation of their condition is a challenge. And I think that breaks the heart of many providers because it's just a recurring theme, and I think people…are just heartbroken to see that for patients.

In recognizing the profound impact of social determinants on health outcomes, multiple interviewees portrayed the existing health care system as inherently unfair and described feeling powerless in their ability to change it. For example, some explained how the presence of such significant health inequities linked to social determinants causes them to feel that their patients are not starting on an equal footing. Consequently, these patients face additional barriers to achieving optimal health outcomes. Additionally, many participants work within organizations that have limited resources; these constraints heighten their perceptions of unfairness, especially when they feel they cannot provide the same level of care for all patients.

> Dr. Farid (5 years in practice): It feels frustrating knowing that people are limited by their access to care, in terms of their quality of life, and that a lot of that has to do with, even just what insurance you have is so dependent on your other life circumstances or even if you have insurance at all…It's totally arbitrary whether or not somebody can get adequate medical treatment. I think that's what's so frustrating…It's not fair.

> Dr. Morgan (23 years in practice): Every system is perfectly designed to achieve the results that it produces, and in our case…we have a ton of inequality in our society, and that is reflected in our health care system. So…if you're wealthy and privileged, then you have access to all kinds of stuff. And if you're not, then you don't. And for people like me, that is not a comfortable system in which to practice.

While many providers described patients with high and sometimes unrealistic expectations, others described patients who acknowledge physicians' inability to do more within the greater health care system. Often, these patients come from traditionally underserved backgrounds.

> Dr. Huang (11 years in practice): I've never had a patient be like *you tried, but you failed, so you suck*. I've never had a patient do that…obviously, they're sad when I fail, but I think…especially many of the patients that we have around here who have experienced a lot of hardship their entire life, somehow…sometimes it doesn't faze them. They're like, *yeah, to be expected*.

While rooted in noble intentions, the cultural values of altruism and martyrdom in medicine intensify the high emotional labor experienced by many of the interviewees. The expectations surrounding the commitment to prioritize patients' needs above their own sometimes lead physicians to excessive self-sacrifice. This culture also fosters unrealistic expectations among physicians themselves, where they feel pressure to be continuously available and give their all without acknowledging the toll on their mental and emotional well-being.

> Dr. Morgan (23 years in practice): In a lot of aspects of the profession, there is this culture of martyrdom…of I'm going to work until the work gets done.

Then, fear of stigma heightens the issue, as multiple participants admitted that they are hesitant to express their emotional struggles. Furthermore, the emphasis on martyrdom discourages some participants from taking adequate self-care practices, worsening their emotional exhaustion and diminishing their professional resilience. One participant argued that his colleagues who choose to practice in what he considers a more comfortable environment with patients with less need are not actually serving, highlighting how deeply these cultural values are internalized.

> Dr. Kelly (3 years in practice): I think that my colleagues who go practice suburban medicine are… at some point, maybe you preserve your own mental health, but you're not actually serving, which is the reason that I thought we did this.

In general, this culture of altruism and martyrdom seems to lead to blurred professional boundaries, with physicians feeling compelled to absorb excessive emotional burdens from patients and the greater system in the name of being a caregiver. Thus, the constant need for participants to manage their own emotions, navigate empathetic responses, and handle the emotional challenges of patients in what they characterized as an unforgiving and sometimes hostile system comes at the cost of providing care in the way they would like. This leads to emotional exhaustion, a general sense of ineffectiveness, and burnout.

> Dr. Fraser (40 years in practice): I think that burnout happens because…we're kind of a bottomless pit of need…literally, we could never meet that need. So, as much as we would try, there's really not resolution.

> Dr. Morgan (23 years in practice): I think one of the core values of medicine that is problematic…is the value of altruism…We are, in theory, supposed to put the welfare of our patients ahead of ourselves…So, I feel like…the fact that there's this core value of sacrificing your own well-being to further that of your patient, which is not wrong, and that's the problem is that that's not wrong. But…there needs to be more attention with the idea that medical professionals in general are a relatively scarce resource. It takes a fairly long time to grow one. And if…people are sacrificing so much of themselves and so much of their wellness that they are unable to sustain themselves in the profession, then that's squandering a valuable resource. And ultimately, patients suffer for that.

The Undervaluation of Primary Care

Primary care physicians play a foundational role in health care, regularly serving as the first point of contact for patients, providing comprehensive and preventive care, and coordinating care across multiple domains. Despite the critical role they play in patient care, many interviewees described feeling undervalued by the greater health care system, disempowering them in their work. For instance, a few participants described how the significance of primary care already felt undermined during their training.

> Dr. Wu (13 years in practice): I'm not sure actually why this happens because it seems people in our system would know the value of primary care by now. But even in medical school…people ask, *oh, what specialty are you going to go into?* And if you say…family medicine or something else…that is more primary care oriented, you'll often get comments like, *oh, but you could do so much better than that*, or…*why didn't you consider another specialty, something more "prestigious"*?

For some participants, this sentiment persists in their jobs today.

> Dr. Murphy (4 years in practice): Everyone's like *ooh, primary care is so important, and we don't value it enough*. But nobody actually does anything about it.

Multiple participants described how the undervaluation of primary care is also formally reflected in common compensation and reimbursement models that disproportionately reward procedural interventions over cognitive and administrative work. The prevailing fee-for-service

model, as they explained, often explicitly favors procedures, thus creating a financial incentive structure where the thoughtful, time-intensive aspects of primary care, including diagnostic reasoning, counseling, and comprehensive care coordination, are undervalued. Participants described how this imbalance frequently leads them to feel under-compensated for the cognitive and administrative responsibilities that define their daily practice and are necessary to provide patient-centered care.

> Dr. Wu (13 years in practice): I think primary care is undervalued and also under-reimbursed, compared with specialty care, just because it's more of a cognitive specialty compared with a procedural specialty. But, we do so much behind the scenes, even outside of the office with patients, and much of that is not billed or not reimbursed.
>
> Dr. Silva (7 years in practice): Procedures you can bill for, but…all this other stuff that we're doing as primary care physicians…we don't get any extra compensation for, so I think it's a hard job to do that nobody wants to really do because it's a lot, and it's underpaid.
>
> Dr. Taylor (19 years in practice): I think that what we are reimbursing for is just wrong…what America reimburses for is procedures. They're reimbursing for sticking a needle in something, cutting something open…where the money should be spent on talking to people and explaining things and making sure that the loop is closed.

Like all physicians, primary care physicians are highly trained and hold extensive credentials. Yet, many interviewees described working in environments where other physicians, normally from other specialties, repeatedly give them additional work that feels both insurmountable and incongruent with their level of licensure. In other words, other physicians are telling participants what they should be doing.

> Dr. Silva (7 years in practice): Everybody dumps on the primary care physician…something didn't happen, and it's up to the primary care physician to now fill in the gap and make it happen. I'm like, why did this become my job to do this?
>
> Dr. Jansen (5 years in practice): Every single day, we're being asked to do other people's jobs, whether it's the emergency room, the inpatient, it's just like, too much is expected of primary care.

Often, this work involves dealing with administrative burdens, repetitive paperwork, and other tasks that participants believe could be delegated to non-physician staff. This pervasive sense of being burdened detracts from their ability to focus on the complex medical issues they are trained to address. Moreover, it exacerbates time constraints and results in a sense of loss of control.

> Dr. Patel (22 years in practice): Pretty much every day, I'm like, man…I'm a really good secretary…I'm an Ivy League professor. I'm an associate professor, and I'm just a fucking secretary. But they pay me a lot of money to be a secretary. It's not enough money, but a lot of money.

> Dr. Desai (11 years in practice): The pay discrepancy between primary care physicians and other positions…that's pretty wide. And there's a lot of deferment to PCPs. *Your PCP can manage this*. So, you're kind of told by other people what you should be taking on.

Coping

Interviewees employ various coping mechanisms in response to perceived threats to their discretion, ranging from overwork and poor boundary setting to perspective shifts to concrete adjustments to their work life. These coping mechanisms, which vary in their effectiveness, allow them to maintain a sense of control in their professional roles.

Poor Boundary Setting

Many participants described a general overextension of time and energy to their work, including working long hours, taking work home, and neglecting personal well-being in an attempt to reclaim discretion they feel is lost during their traditional workday.

> Dr. Huang (11 years in practice): I think one way to cope [with reduced discretion] is to do more work. A lot of doctors do too. Like, I don't have time to think about that. I'm just gonna do something else. I've got ten thousand things, like we don't have enough hours in the day.

Jokes about physicians struggling to establish boundaries were quite prevalent, and participants attributed this poor boundary setting to many explanations rooted in the demanding nature of

medicine. For example, cultural norms within medical practice often value self-sacrifice in the name of a strong commitment to patient care.

> Dr. Dupont (5 years in practice): Establishing good boundaries and not caring about your patients as much are actually really similar. They're on a spectrum. And I might have done it in the right measure, but…this idea that you, what is it? You lose empathy when you're burned out…this is true.

These cultural norms then attract providers with certain personality traits to medicine; many interviewees characterized physicians as "type A" implying that they are ambitious and hold a strong work ethic, thus finding it particularly challenging to establish and maintain clear boundaries. Consequently, some providers expressed hesitations about setting stricter boundaries or saying no to additional responsibilities or requests due to concerns that they might be perceived as uncommitted to their work.

> Dr. Fraser (40 years in practice): Physicians are not good at saying no.

> Dr. Chan (7 years in practice): A lot of doctors are kind of type A. We like to have things just so and have things be exactly right. And…life is messy, and it's hard to accept that.

> Dr. Patel (22 years in practice): And we're OCD… most doctors are OCD. So, I'm like, well, I'll just answer this. I see it, I'll answer it, or it'll sit there for days because no one else will answer it.

Technological advancements in patient care, like patient portals and the electronic health record, enhance communication between patients and providers, but they also enable constant connectivity, making it very difficult for some providers to disconnect from work outside traditional hours. Even though the blurring of professional and personal boundaries seems to provide a temporary sense of control or regaining of power, it also appears to lead to burnout and compromise overall job satisfaction.

> Dr. Wong (10 years in practice): In the era of the electronic medical record, patients have been able to access communication with their providers at anytime, 24/7. And that has been a benefit to patient care but also a detriment to provider well-being…I think

> providers…have this desire to help their patients, and unfortunately, I think they don't always know how to draw their line.
>
> Dr. Fraser (40 years in practice): We create a mechanism so people can take their work home with them. So pretty soon, there's not boundaries. There's no separation between work and home, and people are on Epic for two or three hours at night doing their charts. And now their day, which started out…maybe 10 hours in the clinic, now has become…13, 14 hours' worth of work.

Perspective Shifts

Another way participants appear to cope with reduced perceived discretion is by adjusting their perspectives of their work. Many adopt a mindset of acceptance, acknowledging the inherent limitations, systemic pressures, and uncertainties that come with practicing medicine. In other words, this mindset shifts their perspective away from the factors they cannot control to the factors they can. A few interviewees elaborated on how acceptance does not result in complacency but rather a pragmatic acknowledgment of the realities of medical practice today.

> Dr. Bhat (20 years in practice): I've learned to not worry about these things…I try to make a difference in things I do. I cannot worry about things I can't control...I think initially, I was getting too worked up and more emotional and all that. And then, I think with maturity…with age and all that…things get, I don't know.
>
> Dr. Jansen (5 years in practice): I want to keep doing this a long time, so I'm trying not to let perfect be the enemy of the good. I could drive myself nuts and work 40 hours a day…like calling insurance companies and harassing and trying to get the best thing for my patient, but then I'll burn out within a few years. So, I've learned to try to pace myself and try to put a little bit more on the patient…so trying to empower the patient to learn more about how the health care system works so that I don't burn out trying to fix the health care system for them.
>
> Dr. Kelly (3 years in practice): I get very used to telling patients…I put this referral on the computer, and in my experience, it's taking X weeks or months for patients to see this consultant, and that's got to be good enough for you and me…when I had more time, when I was more bright-eyed, I would have been like oh, I'll get on the phone. I'll call…you need a sooner appointment. Let's get this done…I don't have half an hour or an hour to take that special, personal care of somebody…sometimes…you can step back and say, I'm not going to do as much of that, so I can come home and eat dinner…there's a constant recalibration.

Furthermore, a subset of participants insinuated that this perspective of acceptance sometimes manifests negatively toward apathy, cynicism, or surliness, all of which are indicative of the toll that these challenges take on provider well-being and job satisfaction.

> Dr. Desai (11 years in practice): I don't think we cope well…you're surly maybe, and you will vent.

> Dr. Wagner (14 years in practice): I've given up…10 years ago, I would still be doing a lot more prior authorizations and writing more letters…so, unless there's a real sticking point, like, you're telling me to put this patient on this…if I think there's gonna be a bad outcome from their choice, then I will go to bat for the patient and write the letters and do all of this stuff.

> Dr. Mysore (12 years in practice): I kind of just accept it, and I think I probably have an element of apathy, which I know is a strong negative word to use. What I mean to say is, I know what I can do, and I do it, and if I can't do more, I kind of just think to myself, well, that's not something I can do anyway…So that's kind of like a passive way out, I guess.

> Dr. Huang (11 years in practice): I don't want to be saying that…I'm hardened or jaded…because I still very much feel upset when those things don't happen. But I think I've learned to a degree…not to blame myself, that I've tried my best for the patient…I guess I try to tell myself that if it weren't for me…at least I tried that…maybe another physician may not have.

A few participants described coming to a realization that their role encompasses not only the intellectually stimulating and fulfilling aspects associated with being a highly-trained physician but also elements of what is colloquially termed "scut work". As they explained, navigating administrative tasks, paperwork, and routine procedures is not always exciting or aligned with the envisioned image of the esteemed medical professional, but these responsibilities are part of the daily realities of providing care, and someone needs to do them.

> Dr. Murphy (4 years in practice): One of the things that I've gotten really interested in is this concept of…what is a doctor's job?...When I first heard someone mention the question, I was like *what do you mean? I know what my job is*. But they were talking about people going into medicine and thinking that they're going to be like Sherlock Holmes every day, and that it's just this super intellectual job where you're this sage, this diagnostician…and the reality of a lot of what we do is documentation paperwork. And people get pissed off about all of these forms…There's this concept that's constantly

> floating around…I want to be operating at the top of my license. That's the verbiage. And so, it's like, I don't fill out forms because I don't need to. You don't need a doctor to fill out the form. Anyone can write the words on the paper. I should be there for the intellectual work, the procedures that no one else is allowed to do, and everything else should be punted. I don't need to document in the chart…a scribe can do that. And…I don't know. I think that that's not necessarily what the job actually is.

To cope with a reduced sense of discretion, other participants have adopted a perspective focused on a sense of mission or medicine as a calling. By focusing on the positive impact they have on patients' lives, they are able to empower themselves with a renewed commitment to the fundamental purpose of medicine. This perspective not only helps them to navigate challenges; it also combats feelings of helplessness by emphasizing meaningful outcomes.

> Dr. Wong (10 years in practice): I'm not doing it for the prestige. I'm not doing it for the monetary gain. I'm not doing it…because it's fun for me. It is, but that's not the main reason…ultimately this is what I am called to do. And if that's truly what I'm called to do, then I'm going to do it and do it to the best of my ability.

> Dr. Fraser (40 years in practice): Medicine is an intimate relationship or an opportunity to be present in someone's life, to provide assistance and guidance, and to me, it's sort of a sacred component. Because it's very unique in that way. And I feel privileged to be able to do that.

> Dr. Davis (43 years in practice): I did a reframe, and I was like oh my gosh, today, the people who come to see me, this is probably one of the most important parts of their day. It's nerve-wracking to go see your doctor, and they're about to reveal personal things about themselves to me. They're about to share…be open with me about who they are, and I'm so lucky to have that privilege of being a part of their lives in that way. And I can tell you, from that moment on, that little reframe in my brain did wonders.

For many participants, this sense of mission is directly reflected in their decisions regarding where they practice. Most explained that they became physicians due to a strong desire to serve and make a positive impact on their communities. Thus, participants who currently work in settings where they feel they can provide medical care to underserved populations, advocate for health care equity, or address public health issues, described these workplace characteristics as essential to their well-being.

> Dr. Mysore (12 years in practice): Being in a…hospital specifically that has that very overt mission of wanting to serve people and wanting to do the right thing…it's always out there and talked about and emphasized, and so that also motivates me to want to…keep doing a good job of that.

Concrete Career Changes

Concrete career adjustments were a final common strategic adaptation among participants to combat the many challenges posed by reduced discretion and the greater systemic issues within health care. A handful of participants had either transitioned to concierge care or discussed regularly contemplating the transition. Concierge care is a model of patient care that is often membership-based, where providers can have more direct control over practice dynamics, often with a smaller patient volume, and these participants described the transition to concierge care as an explicit way to regain autonomy and control over their practice. Under these models, providers can limit the number of patients they serve and invest more time in each patient interaction. Moreover, administrative burdens are often perceived as lesser because providers do not have to interact with insurance companies in the same way. While participants noted the advantages of concierge care as a model, some argued that it may exacerbate health care inequalities due to issues surrounding scalability and access.

> Dr. Goldman (37 years in practice): Actually just a year ago June, my partner and I decided to go full concierge. It was becoming a little overwhelming, just the amount of emails and prescriptions and everything. And it was, I was not happy anymore practicing medicine, so we went full concierge.

> Dr. Patel (22 years in practice): This is why everyone goes to concierge. I mean, it's like slam dunk. If you don't really have the moral calling to see patients of all stripes, then it doesn't make any sense to stay in what I do. Just find people who are willing to pay, and you can see a lot fewer patients. Now, those offices also, because I have friends who are concierge doctors, have much better staff because they all make a lot more money, so…they have fewer patients, so they have a better ratio of help per patient. And things run like clockwork. So, I've thought about leaving a couple times. But I haven't yet, and my wife keeps telling me to leave. She's like, *go do concierge, and I can quit*…she could quit her job.

A second notable trend among participants was working less than what is traditionally considered one full-time equivalent (FTE) and/or taking on other non-clinical roles in medicine, such as teaching, administrative responsibilities, or involvement in research. Many participants who do formally work less than one FTE did note that they often still work more than forty hours each week, largely to complete administrative tasks and remain accessible to their patients.

> Dr. Wong (10 years in practice): In primary care, amongst other specialties, there's this decreasing FTE creep. Now I'm gonna work a one point, I'm gonna work a 0.8, I'm gonna work at 0.6, I'm gonna work a 0.5, in order to allow that type of self-sufficiency long-term.

> Dr. Chan (7 years in practice): I'm 60% full-time right now. I work Monday, Tuesdays, and Thursdays, but really, I probably work an extra 20 hours on top of that just replying to messages and phone calls and refills, prior auths, and all that jazz.

A few participants view this coping mechanism of actively seeking ways to minimize involvement in clinical care as paradoxical to why people become physicians.

> Dr. Mysore (12 years in practice): So that's something that I have mixed feelings about because the whole reason to work as a doctor is to do the patient care. But the patient care is also the stressful part of the job. And so it's hard to figure out how to enjoy the thing that I'm supposed to be doing the most of when it's also the thing that causes the most workload for me…I've often thought it's strange that we get hired to work as primary care doctors seeing patients, and the advice I get from 100% of the people who work at the place is, if you want your job to be easier, do less primary care. Find ways to have other things going on…whatever it can be to work less sessions a week, and you will be happier for it. And that seems very backwards and unfortunate to me.

Yet, many described these adjustments as clear efforts to improve work-life balance, restore autonomy by disengaging from systems that limit discretion, and pursue long-term sustainability in practicing medicine. For some, if they were not able to make these adjustments, they vowed that they would retire early. In fact, at least two participants were actively leaving their current jobs or medicine entirely at the time of these interviews.

> Dr. O'Donnell (22 years in practice): I mean, quite honestly, I'm leaving clinical medicine…I see people retiring early, no question about that, earlier than they otherwise would. People cut back hours. When I started in my former practice, all but two or three

> people were part-time, and when I left, there was only one full-time doctor left, and that was the youngest person in the practice, the newest person.

Discussion

Findings from these interviews highlight the inherent complexity and subjectivity present in everyday physician decision-making, calling for the relevance of studying perceived discretion in greater detail. At first glance, one might assume that primary care physicians, as highly professionalized frontline workers, possess very high levels of discretion. Interviewees in this study initially agreed with this portrayal, stating that these high levels of discretion contribute to their job satisfaction. Even though the weight of the responsibilities they bear is at times overwhelming, their high discretion protects them from burnout because it is empowering. Yet, upon further conversation, it became apparent that physician discretion is not absolute. Rather, it is subject to many constraints that lead to a sense of diminished perceived discretion. In turn, this diminished perceived discretion often leads to feelings of ineffectiveness and sometimes moral injury and burnout.

Many standard factors of clinical work are relevant to this dynamic. First, the health care machine, as it is characterized by many participants, demands efficiency and standardization of care, leading some to question what the future role of primary care physicians will be and whether care with a human touch will be at the forefront. Moreover, there simply isn't enough time in the day for most participants to accomplish all that they would like to or are expected to. This often leads to participants running behind schedule while in clinic or working in the evenings and on weekends. Second, insurance companies have created numerous hurdles, such as prior authorizations and peer-to-peers, that providers regularly encounter; many participants see these hurdles as both wasteful and harmful and a direct interrogation of their clinical judgment. Third, many patients hold very high expectations; they demand specific care even if it

is not clinically indicated, expect their physicians to be immediately accessible and responsive, and increasingly display wariness and distrust toward their providers. Fourth, high emotional labor is inherent to patient care, as participants constantly witness suffering and issues consequential to patient well-being, including social determinants of health, that feel beyond their control. Moreover, perceptions of the health care system as fundamentally unfair and reliant on physicians as martyrs exacerbate their feelings of helplessness. Fifth, sentiments that primary care, in particular, is undervalued are common. This is reflected both financially through reduced compensation and reimbursement for the many cognitive and administrative tasks primary care physicians perform, and culturally through the extra work other specialists expect primary care physicians to perform.

Participants try to cope with these threats to their discretion in many ways, some of which appear more effective than others. In general, they admit to being unsuccessful at setting boundaries, as medicine tends to attract particular personality types susceptible to overwork, and health care technology further blurs the lines. Many engage in what might be depicted as a conscious shift in perspective toward their work, ranging from acceptance of what they can't control to a return to mission to apathy, cynicism, or surliness. Additionally, many make concrete changes to their work, including transitioning to concierge care models, working part-time in clinical work, taking on non-clinical roles in their workplaces, or leaving medicine entirely. Finally, their initial high perceived discretion may be a coping mechanism in and of itself and warrants further exploration.

These findings make clear that perceived discretion among primary care physicians is incredibly nuanced. Simultaneously, while this work is not generalizable, there exist obvious shared experiences of discretion among primary care physicians of different demographic

backgrounds and tenure in different parts of the United States, practicing in very different settings, ranging from federally qualified health centers to university clinics to concierge care settings.

Moreover, this work yields two additional broad takeaways. First, perceived discretion is closely associated with physician well-being and burnout. In these interviews, an expanded sense of discretion with reasonable limitations is tied to improved provider well-being, while reduced discretion is tied to feelings of ineffectiveness, moral injury, and burnout. This relationship and the directionality between perceived discretion and burnout warrants further exploration in an epidemic of physician burnout.

Second, providers clearly view discretion as necessary for the provision of high-quality patient-centered care. As patients are individuals with unique values, preferences, lifestyles, and life circumstances, many argue that their care should be individualized; in fact, this philosophy of patient-centered care currently stands as the ideal in most medical institutions. This individualized approach to patient care necessarily requires physicians to use discretion.

It is important to acknowledge several limitations inherent to this study. First, the usage of a convenience sample results in data that is not representative or generalizable to the greater population of primary care physicians. Second, relying on a single interviewer and analyst may lead to interviewer influence or biased interpretations. Finally, it was not uncommon that I had to provide a definition of discretion for participants; this may lead to participants constraining their responses to fit within the bounds of the definition, potentially overlooking more nuanced perspectives or variations in understanding.

Future work in this space could move in multiple directions. First, research should include perceived discretion as a relevant outcome variable in and of itself because of its

association with provider well-being and the provision of patient-centered care. This framing holds relevance for implementation research, for example. Research questions might include how the adoption of specific policies, organizational practices, and technologies influences physician-perceived discretion. This is especially important when trying to understand why policy-as-written is misaligned with policy-as-executed. Second, future work should investigate patient perspectives on physician discretion and the role of these perspectives in shaping patient expectations, trust, satisfaction, and health outcomes. Finally, longitudinal research on perceived discretion can give further insight into the nuanced nature of perceived discretion throughout a provider's career, as well as its influence on provider well-being and coping strategies.

Table 1: Characteristics of the Qualitative Sample (n = 30)

Tenure in medicine	N	%
0 - 4 years	4	13%
5 - 10 years	8	27%
11 - 20 years	9	30%
21 - 30 years	6	20%
Over 30 years	3	10%
Gender identity		
Female	15	50%
Male	14	47%
Non-binary	1	3%
Racial/ethnic identity		
White	14	47%
Asian/Asian American	12	40%
Multiethnic	1	3%
No response	3	10%
Census region		
West	16	53%
Northeast	9	30%
Midwest	5	17%

Source: Author's interviews with primary care physicians

Table 2: Interview Guide

Question #1	Will you start by telling me about why you became a physician? *Can you tell me about your training experience? *Can you tell me about your current workplace? *Can you tell me about your current patient population and the neighborhood you are serving?
Question #2	What do you think is most important to being a good physician?
Question #3	What factors of your current job help you to do your job well?
Question #4	What are the greatest challenges that you face to being a good physician in your current job?
Question #5	Research conducted prior to the COVID-19 pandemic (Rikinkumar et al., 2018; Shanafelt et al., 2015; Penberthy & Penberthy, 2020) finds that more than 50 percent of practicing physicians meet the criteria for burnout, and those physicians who experience the most face time with patients, including primary care physicians, encounter the greatest stress. Why do you think that is? *Have you experienced burnout? *If so, how did/do you cope?
Question #6	How do you think about the discretion you possess in your job when it comes to decision-making?
Question #7	Can you tell me about a time in your current job when you felt like you had a lot of discretion to act in a way that you wanted to, and it was impactful?
Question #8	Can you tell me about a time in your current job when you felt like you did not have the discretion to act in a way that you wanted to, and it was consequential?
Question #9	What would make your job better?
* Additional prompts	

CHAPTER 4. PRIMARY CARE PHYSICIAN MENTAL SORTING IN SHARED DECISION-MAKING

Physicians possess the discretion to promote or hinder shared decision-making with their patients. These decisions are consequential because they may align or misalign with patient preferences, thus influencing relevant outcomes, including patient satisfaction and compliance. Furthermore, since shared decision-making has been promoted as the ideal model and practice of decision-making in health care settings (Wolff & Boyd, 2015), it is necessary to understand why it often does not occur, even among well-intentioned physicians. Barriers to shared decision-making identified in the health services literature include time constraints, the inevitable power imbalance between physicians and their patients, variations in patient preferences, physicians' lack of skills regarding how to engage patients, and more (Joseph-Williams et al., 2014; Scholl et al., 2018).

In this chapter, I argue that theoretical insights from street-level bureaucracy theory may further contribute to our understanding of why shared decision-making is not occurring to the extent intended. Shared decision-making is a collaborative decision-making process that calls for extensive two-way communication between physicians and patients (Braddock et al., 1999). This communication includes discussions of the patient's goals, preferences, beliefs, and support system, among other topics that are considered person-centered and result in a holistic identity. Modern shared decision-making expert Glyn Elwyn (2021) argues that "while recognizing that shared decision making has strong roots in evidence-based health care, it is equally important to acknowledge that decision-making draws deeply on narratives, personal connections, intuitions, emotion, and relationships," (pg. 4).

Due to the commonly described time constraints that physicians face in their day-to-day patient interactions, physicians are likely to cope with the potentially large amount of information exchanged by relying on the quick mental sorting of patients (Maynard-Moody & Musheno, 2000). Thus, the research questions for this study are as follows: Do clinical indicators of patient disease management influence primary care physician promotion of shared decision-making? Are perceived patient engagement and urgency relevant factors for physician mental sorting of patients? And, do primary care physicians' perceptions of patient engagement and urgency influence their promotion of shared decision-making with these patients?

To answer these questions, I used a vignette-based experimental design with two-hundred primary care physicians across the United States. I found that primary care physician respondents devoted more time to shared decision-making tasks that precede a decision in a hypothetical appointment with a fictional high A1C patient (versus a low A1C patient). Yet, they were less likely to promote a shared decision with that patient or perceive them as a good candidate for shared decision-making. Patient A1C is a lab result measuring average blood glucose levels (a standard clinical indicator of patient diabetes management) in the prior two to three months, so it is likely relevant to the physician's mental sorting process. Perceived patient engagement and urgency were relevant mediators in this decision-making process, with the high A1C patient being perceived as less engaged and requiring more urgent care.

Understanding the impact of physician perceptions on shared decision-making has important implications for health care practice. By recognizing the role that perceptions play in shaping physician behavior, health care organizations can develop interventions and strategies to promote shared decision-making. Additionally, identifying and addressing any misconceptions

physicians may have about patient engagement or urgency can foster a more collaborative and patient-centered approach to care.

Literature Background

Shared decision-making, a collaborative decision-making process that calls for extensive two-way communication between physicians and patients, is often promoted as an ideal model of health care (Batalden et al., 2016: Beach & Sugarman, 2019; Elwyn et al., 2020; Spatz et al., 2017). Shared decision-making positively influences many relevant outcomes, including patient satisfaction, compliance, and health (Brom et al., 2014; Charles et al., 1999; Chewning et al., 2012; Laidsaar-Powell et al., 2013; Vladeck & Westphal, 2012). Yet, shared decision-making often does not occur, even among well-intentioned physicians. Barriers to shared decision-making, which were covered in greater detail in chapter 2, include perceived time constraints, the inevitable power imbalance present between physicians and their patients, variations in patient preferences, and physician lack of skills regarding how to engage patients, among others (Joseph-Williams et al., 2014; Scholl et al., 2018).

Moreover, as I hypothesize in this study, due to the commonly described time constraints that physicians face in their day-to-day patient interactions, they are likely coping with the potentially large amount of information exchanged by relying on the quick mental sorting of patients, using indicators referred to as “soft” evidence. Thus, this chapter explores the process of primary care physician mental sorting of patients, its implications for direct patient care and shared decision-making, and the patient factors that influence this process. Below, I summarize the current understanding of street-level bureaucratic mental sorting of citizens and how this process may occur in direct patient care.

Street-Level Bureaucrat Mental Sorting of Citizens

Street-level bureaucrat perceptions of the citizens they interact with play an important role in determining how they make decisions in their work (Hasenfeld & Steinmetz, 1981; Scott, 1997). This is largely attributed to the reality that individuals do not fit neatly into categories outlined by policy rules (Hasenfeld, 1992; Keiser, 1999, 2010; Lipsky, 1980/2010; Prottas, 1979; Sandfort, 2000; Stone, 1984). Thus, street-level bureaucrats face the responsibility of fitting their clients into categories defined by the bureaucrats themselves. This process of mental sorting involves categorizing and making distinctions among the citizens they interact with based on the information they gather (Maynard-Moody & Musheno, 2000). Then, this mental sorting helps them make decisions, allocate resources, and prioritize client interactions (Hasenfeld & Steinmetz, 1981; Scott, 1997). They sort citizens in order to cope with the complexity and ambiguity of their work (Maynard-Moody & Musheno, 2000).

Mental sorting by street-level bureaucrats is a critical process because it directly impacts the quality and equity of services (Adams & Balfour, 2004; Adams et al., 2006; Cardenas & Ramirez de la Cruz, 2017; Scott, 1997; Zacka, 2017). By categorizing and making distinctions among citizens, bureaucrats determine who receives certain benefits, their level of assistance, and the speed at which their needs are addressed. However, the subjective nature of mental sorting can introduce bias or discrimination, as bureaucrats may inadvertently favor certain groups or individuals based on personal judgments or stereotypes (Brodkin, 1997; Jones et al., 1977; Lipsky, 1980/2010; White et al., 2015). This can result in unequal treatment and resource access for citizens with similar needs (Maynard-Moody & Musheno, 2000; Zacka, 2017). Therefore, understanding and addressing the implications of mental sorting is crucial for ensuring fair and equitable service delivery.

Various factors about the citizen and their scenario are relevant to this process. For example, policy rules, professional guidelines, and codes of conduct significantly impact how street-level bureaucrats mentally sort citizens (Brodkin, 1997; Maynard-Moody & Musheno, 2000; Tummers & Bekkers, 2014). These guidelines, emphasized in training and outlined in policies, provide a framework for ethical behavior and decision-making, influencing the bureaucrats' interactions with citizens and the criteria they use when sorting them. In the street-level bureaucracy literature, these factors include the citizen's eligibility for a program, their urgency of need, the severity of their issues, their perceived vulnerability, and their history with the bureaucratic organization, among others (Goodsell, 1980, 1981; Jilke & Tummers, 2018; Maynard-Moody & Musheno, 2000).

Categorizing citizens and patients, however, is a complex process, and because each person has unique characteristics, no number of rules or guidelines could ever entirely simplify or solve this problem (Hasenfeld, 1978, 1992; Keiser, 1999, 2010; Lipsky, 1980/2010; Prottas, 1979; Roth, 1971; Sandfort, 2000; Stone, 1984). As a result, street-level bureaucrats often rely on qualitative and experiential "soft" evidence to categorize their service recipients (Zacka, 2017) and particularly to determine a citizen’s deservingness. For example, Larsen (2008) finds that a client's attitude during an interaction is a significant factor in the street-level bureaucrat's perception of their deservingness. Those who exhibit gratitude, obedience, and a willingness to improve themselves are deemed more deserving. Hasenfeld and Steinmetz (1981) found that caseworkers were less likely to provide benefits to citizens they perceived as challenging or troublesome, making the application process more difficult and withholding helpful information. Similarly, Scott (1997) observed that service providers were more likely to grant benefits to citizens who showed high levels of compassion, primarily based on their attitude.

Two other types of soft evidence that emerge from the literature on mental sorting are reciprocity and control. Reciprocity is the idea that the more an individual has contributed in the past or is expected to contribute to the future, the more program staff consider them to be deserving (Van Oorschot, 2000). This standard is often applied to tax-based entitlement programs such as Social Security and Medicare, which are funded through contributions made by workers during their active working years. Consequently, people view beneficiaries of these programs as more deserving than those who receive transfer programs (Howard, 1993). Another relevant factor in the street-level bureaucrat's assessment of the client's worthiness is their perception of the client's control over their neediness. Research on the perceptions of deservingness among people experiencing poverty supports this idea. For example, Will's (1993) findings reveal that the degree of control families have over the issues they face while living in poverty is the primary factor in determining their deservingness. Program staff view families with larger sizes, higher unemployment, and physical disabilities more generously than others (Will, 1993). Other studies suggest that during periods of low unemployment, street-level bureaucrats attribute poverty to a lack of willpower or laziness, which are believed to be within one's control (Blekesaune & Quadagno, 2003; Larsen, 2008).

In general, it should be noted that relying on "soft" evidence introduces subjective biases and does not accurately reflect a client's actual needs (Adams & Balfour, 2004; Adams et al., 2006; Cardenas & Ramirez de la Cruz, 2017). Furthermore, a focus on worthiness or deservingness perpetuates a moralistic view of assistance-seeking and may neglect the structural factors that contribute to health disparities and inequalities more broadly. Regardless, evidence demonstrates that "soft" evidence plays a role in these critical street-level bureaucrat-client

interactions, and acknowledging this influence is crucial for understanding and addressing potential biases in service delivery (Maynard-Moody & Musheno, 2000).

Primary Care Physician Mental Sorting of Patients

In direct patient care, physicians are expected to mentally sort patients in order to make medically sound decisions (Bate et al., 2012). These categories they utilize and create help them diagnose and treat various medical conditions, provide preventive care, and offer ongoing health care management. Many categories are biophysical in nature, such as vital signs, physical examination findings, laboratory test results, and imaging studies. Other characteristics are psychosocial, including patient lifestyle behaviors, their occupation and environment, their life events and stressors, and their support systems. The patient's age, gender, medical history, presenting symptoms, and stated preferences are also essential. In aggregate, this data, as well as the use of the best available scientific evidence to guide clinical decision-making, enables physicians to practice evidence-based medicine (Sackett et al., 1996). Two types of soft evidence that may be of particular importance to the physician’s promotion of shared decision-making and warrant further explanation are perceived patient engagement and urgency.

Assessing Patient Engagement

Patient engagement refers to the active involvement of patients in their health care and encompasses both a patient’s willingness and ability to participate in decisions about their health and health care (Carman et al., 2013; Coulter, 2012; Coulter & Ellins, 2007; Gruman et al., 2010; Higgins et al., 2017; James, 2013; Longtin et al., 2010). Engaged patients are more knowledgeable, confident, motivated, and willing to participate actively in their care. Patient engagement is associated with various positive outcomes, including improved patient compliance with treatment plans and preventive care, better communication and collaboration

between patients and their providers, greater patient satisfaction, and reduced health care costs (Carman et al., 2013; Coulter & Ellins, 2007; Frosch & Elwyn, 2013; Hibbard et al., 2005; Hibbard & Greene, 2013; Simmons et al., 2014; Sloan & Knowles, 2017; Street et al., 2007; Street et al., 2009). Furthermore, shared decision-making cannot occur without patient engagement because it relies on the patient's active involvement in the process (Charles et al., 1997; Makoul & Clayman, 2006).

While physicians are trained to base treatment decisions on clinical needs, evidence-based practices, and ethical principles rather than "soft" evidence, I argue that physician perceptions of patient engagement can influence how they mentally sort and then interact with their patients. In fact, the American Medical Association explicitly calls for patients to participate in the healing process actively and outlines a specific set of patient responsibilities when seeking care in its code of ethics (described in Appendix 1), implying that engaged patients are worthy or deserving.

Physicians assess patient engagement through a variety of methods. For example, they observe patients during their appointments, noting if they ask questions, express their preferences, and actively engage in discussions about their health (Gruman et al., 2010). Additionally, physicians evaluate the quality of communication with their patients, looking for open and honest conversations, the sharing of relevant information, and the expression of concerns and goals (Gruman et al., 2010; Sloan & Knowles, 2017). Furthermore, physicians review patient follow-up and compliance with treatment plans, assessing if patients adhere to prescribed medications, make necessary lifestyle changes, engage in self-care activities, and utilize their electronic patient portals (Coulter & Ellins, 2007; Gruman et al., 2010; Irizarry et al., 2015). Lastly, physicians may employ patient-reported outcome surveys to collect information

on the patient's involvement in decision-making, satisfaction with care, and feelings of empowerment and control over their health. Together, this multifaceted approach allows physicians to assess patient engagement.

Alternatively, disengaged patients may exhibit several common characteristics or behaviors, and disengagement can manifest in various ways that may be temporary or persistent. Examples include appointment absenteeism, lack of communication with providers, minimal progress toward health goals, reluctance to seek more information, and explicit non-compliance with physician recommendations (Jin et al., 2008; Ofei-Dodoo et al., 2019). Patients may disengage for various reasons, many of which do not reflect their attitude or willingness to cooperate. For example, they might feel that their preferences are not being considered or might not be familiar with shared decision-making (Frosch et al., 2012). Disengagement may also stem from fear, lack of trust in the provider or health care system more broadly, misunderstanding, health literacy challenges, cultural or language barriers, or a lack of access to sufficient health care resources, among other reasons (Bombard et al., 2018; Carman et al., 2013; Coulter, 2012; Frosch & Elwyn, 2014). These factors can make it difficult for patients to participate in their care and make informed decisions.

Research demonstrates that physicians might perceive disengaged patients negatively or find it challenging to work with them, and this perception can directly influence physician behavior (Bombard et al., 2018; Street et al., 2007) For example, physicians may exhibit behaviors contributing to an unwelcoming or judgmental atmosphere. This can involve expressing frustration or disappointment toward the patient, and a lack of empathy for the patient's challenges or circumstances can leave the disengaged patient feeling unheard or dismissed (Sloan & Knowles, 2017). Moreover, some physicians may opt for minimal

communication with patients they perceive as disengaged, conveying disinterest in their concerns and reluctance to address their needs. They may avoid engaging in shared decision-making with these patients altogether (Street et al., 2007).

Gauging Urgency

When it comes to mentally sorting patients, the urgency of the patient's condition also plays a crucial role in determining the physician's behavior and decision-making approach. Patient urgency is associated with the perceived need for timely medical attention and measures how quickly a patient's health care issues must be addressed. When triaging, physicians assess the urgency of the patient's situation based on the severity of the medical condition, symptoms, and potential risks (Iserson & Moskop, 2007). Patients with life-threatening conditions, of course, require immediate attention, while those with less severe conditions can wait.

Urgent situations often demand quick decision-making and immediate intervention to address the patient's health needs. This is well-documented in research on shared decision-making in emergency settings (Hess et al., 2015; Kanzaria et al., 2015; Schoenfeld et al., 2018). Furthermore, chronic conditions, especially when urgent or poorly managed, may involve complex medical decisions requiring more in-depth discussions to ensure the patient understands the options and potential implications. These complex decisions may also come with risks if delayed.

Thus, perceived urgency may hinder a physician's willingness to engage in shared decision-making with a patient due to the pressure to make rapid and critical decisions. Physicians may feel a sense of responsibility to engage in extensive discussions with patients in more urgent or complex scenarios to convey the urgency of managing their condition but

ultimately determine the most appropriate course of action based on their medical expertise, defaulting to a more physician-driven or paternalistic approach to decision-making.

This research seeks to answer three main questions:

1. Do clinical indicators of patient disease management influence physician promotion of shared decision-making?
2. Are perceived patient engagement and urgency relevant factors for physician mental sorting of patients?
3. Do primary care physicians' perceptions of patient engagement and urgency influence their promotion of shared decision-making with these patients?

Based on the literature described above, I hypothesize that variations in clinical indicators influence primary care physicians' promotion of shared decision-making. Additionally, I hypothesize that primary care physicians are less likely to promote shared decision-making with patients they *perceive* as less engaged, regardless of whether they *are* less engaged. Finally, I hypothesize that primary care physicians are less likely to promote shared decision-making with patients they perceive as requiring more urgent care. These hypotheses are grounded in the understanding that physicians, as street-level bureaucrats, rely on their perceptions of patient engagement and urgency as heuristics when deciding how much effort can and should be invested in shared decision-making. By examining the influence of perceived patient engagement and urgency on physician behavior and the potential interplay between the two, we can shed light on additional barriers to shared decision-making in health care.

Research Design

Between-Subjects Vignette Experiment

I used an online between-subjects experimental design in Qualtrics, where I assigned participants to either the experimental or control condition based on a vignette about a patient. Vignettes are generally comprised of three central components: (1) experimental conditions, (2) control conditions, and (3) contextual aspects. Experimental conditions are manipulated between

vignettes to measure their effect on the dependent variable of interest. Control conditions are those details that are kept consistent between vignettes to minimize extraneous variance. Finally, contextual aspects are elements that might vary across the vignettes to improve the representativeness of the vignette but are not thought to affect the dependent variable. In this case, the vignettes are identical except for the experimental condition. A standard addition to vignette-based experimental designs is the inclusion of self-reported questions about the vignette. These questions resemble traditional survey questions, are standardized, and are answered by all respondents.

Vignette studies have been promoted as a hybrid methodology with the strengths of external validity that comes with survey research and internal validity that comes with traditional experimental methods (Atzmuller & Steiner, 2010). Vignettes are flexible and efficient, and they avoid the need to bring in actual patients or confidential health data, which can raise ethical concerns. If done well, they allow the researcher to investigate sensitive issues and biases that respondents may not be aware of or want to disclose in other research settings, such as interviews or focus groups. For example, participant distance from the explicit research question diminishes social desirability bias. Most importantly, high-quality vignettes allow the researcher to determine how participant attitudes and biases influence decision-making (Steiner et al., 2016). This is particularly useful for this set of research questions, in which I was trying to understand perceptions of patient engagement and urgency and their impact on physician decision-making approaches in a clinical setting.

I selected a between-subjects design over a within-subjects design for practical and scientific reasons. The between-subjects design is easier to set up and complete. By encountering a single vignette, a respondent was more likely to be able to complete the entire experiment in

fifteen minutes or less. Furthermore, the between-subjects approach allowed for a clearer distinction between groups, as each participant only encountered one vignette. This minimized the potential for confusion, order effects, or spillover effects arising from exposure to multiple vignettes in a within-subjects design. My ability to control some aspects of the vignette scenario while manipulating others is a crucial strength of vignette-based experimental designs. This allowed me to gain insight into how these experimental conditions affected the respondents' feelings, behaviors, thoughts, and decisions—information frequently tricky to access in real-life scenarios due to situational complexity and confounding variables. Furthermore, vignette-based experimental designs allow for testing causal mechanisms that are difficult to gauge through other research design approaches. In this case, for example, I could manipulate characteristics associated with patient engagement and urgency while holding other relevant characteristics of the patient constant as a way to explore whether shared decision-making was being promoted or hindered by respondents in response to these perceptions.

A potential weakness of this research design approach was the possible disconnect between hypothetical behavior in the experiment and the actual behavior of the participant. However, research in health services using clinical vignettes finds that participants respond similarly to hypothetical and real-life scenarios (Evans et al., 2015; Kirwan et al., 1983; Langley et al., 1991; Lunza, 1990; Murphy et al., 1986). Additionally, clinical studies using standardized patients (i.e., trained actors), which are often considered the gold standard, are found to produce similar findings to studies with clinical vignettes (Evans et al., 2015; Peabody et al., 2004; Shah et al., 2007; Veloski et al., 2005). Key to developing a vignette-based experiment with construct and external validity is the creation of a vignette that is easy to understand and representative of a scenario that the respondent would encounter in their day-to-day work.

Sampling and Recruitment

Between January and April 2023, I emailed 3,384 primary care physicians across the United States. Email addresses were sourced from various organizational websites, with a significant proportion originating from academic medical institutions chosen for their accessibility. Respondents' primary practice types can be seen in Table 3.

Out of the initial outreach, my final sample comprised 200 participants, yielding a response rate of 6%. This sample size was determined after conducting an a priori power analysis using G*Power 3 software to test which sample size would allow me to detect a small to medium effect size (0.4) with 80% power and an alpha of 0.05 (Faul et al., 2007). Notably, these participants were distributed across 29 different states (see Table 4) across all regions of the country (see Table 5).

Protocol

Respondents completed their surveys in a computer internet browser or on their smartphones using Qualtrics software after receiving a reusable anonymous link that did not record identifying information, including names or email addresses. However, the respondents' IP addresses and location data based on that IP address were collected to manage repeat submissions. As an incentive for participation, upon completion of the experiment, participants were able to register for a raffle for a $500 donation to a non-profit organization (a tax-exempt organization operating under section 501(c)(3) of the Internal Revenue Code that is a member of the Washington State and the University of Washington Combined Fund Drive) of their choice and/or receive a $20 virtual gift card. Participants were redirected to a second survey that asked only for their email addresses to separate experiment answers from the raffle and gift card entry and maintain anonymity; as an option, they could also provide a phone number and their name.

Upon opening the survey, participants first found a consent form where they were presented with the study's purpose, risks, and potential benefits. My contact information was also listed. They were informed of their right to abstain from participation or withdraw their consent to participate at any time during the survey. Participants who gave consent and self-identified as currently practicing primary care physicians then continued with the experiment. Participants were then asked to carefully read the vignette of a patient (in Appendix 4B) that a primary care physician has encountered in a clinical setting. It was emphasized that this vignette was relevant for the rest of the study.

Patient details that are conventionally included in a patient profile were included in the vignette, as well as relevant information that may influence shared decision-making. The vignette is concise at 164 words, uses a logical narrative progression, and uses the present tense other than for relevant patient background details (Evans et al., 2015). Most survey questions following the vignette asked participants what they thought *the average primary care physician* would do. This was done to mitigate observer effects (Veloski et al., 2005). Additionally, participants were asked what they thought the average primary care physician *would* do in the scenario, not what they *should* do. This was done to avoid responses that were biased towards the morally correct decision. In general, these combined approaches enabled the collection of data that is most aligned with what participants would do because they allowed participants to reveal their most honest perceptions without being implicated.

Experimental Condition

For this study, the experimental condition was a patient's lab result that the respondent viewed in a vignette prior to a hypothetical interaction with the patient. I chose to manipulate a lab result for two primary reasons. First, as described above, lab results are standard heuristics

used in the mental sorting of patients. They provide physicians with objective data about the patient's medical conditions and health status, which they then use to diagnose, assess severity and urgency, determine treatment plans, and monitor treatment progress. Second, lab results provide insights into a patient's level of engagement. For example, if a patient's lab results indicate that their condition is not well controlled despite being prescribed a medication, it may suggest non-adherence to treatment. Importantly, physicians may use these results to assess a patient's level of engagement before any interactions with the patient occur, as is the case in this experiment, where respondents read the profile of a patient they have never met.

In this study, the fictional patient has type 1 diabetes and is seeking routine care. An individual with type 1 diabetes has a pancreas that does not produce or produces very little insulin (American Diabetes Association, 2024b; Centers for Disease Control and Prevention, 2024). When insulin is absent from one's body, blood sugar cannot enter the cells and accumulates in the bloodstream. When sugar enters the bloodstream, it attaches to hemoglobin, a protein in red blood cells. All people have some blood sugar attached to their hemoglobin, but people with high blood sugar levels have more. High blood sugars are concerning in the long run because they can cause serious health problems, including nerve damage, heart disease, and kidney disease. Consequently, type 1 diabetics must take insulin shots or wear an insulin pump to administer insulin regularly.

One way that a physician can gauge a patient's blood sugar levels over the past two to three months is with a hemoglobin A1C test. This test measures the percentage of one's red blood cells with sugar-coated hemoglobin. According to the CDC (2024), the A1C test is "the main test to help [a patient] and their health care team manage [their] diabetes." Similarly, the American Diabetes Association (2024a) refers to the test as a *powerhouse* of information.

Thus, the primary experimental condition for this experiment was the patient's most recent A1C lab result. Current medical literature states that patients with diabetes should aim for an A1C value of 7% or less (however, individuals who experience severe lows or hypoglycemic unawareness may have a higher A1C goal; this is the case for the patient in this vignette) (American Diabetes Association, 2024). This value of 7% translates to an estimated average glucose (eAG) of 154 mg/dL. Here, the control condition is an A1C of 7.2% (an eAG of 160 mg/dL), a value more closely associated with well-managed diabetes for a type 1 diabetic with hypoglycemic unawareness. Alternatively, the treatment condition is an A1C of 9.6% (an eAG of 229 mg/dL), a value more closely associated with poorly managed diabetes.

I hypothesize that a diabetic patient's A1C is relevant in the physician's assessment of the urgency of the scenario, the patient's engagement, and, consequently, their perceived deservingness. Specifically, the A1C of a patient who has had type 1 diabetes for twenty-three years is likely to inform the physician's perceptions of the patient's knowledge of their disease, their level of control in their disease management, their compliance with physician-recommended diabetes self-management practices, their motivation to self-manage their disease, and their truthfulness surrounding their management. Thus, to gauge physician perceptions of this patient's engagement, respondents were asked how they thought the average primary care physician would perceive this patient's knowledge of diabetes, including the short- and long-term complications, recommended self-management practice, and treatment options; they were also asked about their perceptions of the patient's control, compliance, motivation, and truthfulness. Furthermore, to gauge the perceived urgency of the situation, respondents were asked when they recommended follow-up with the patient.

Details in the vignette, which are identical for both versions, provide insight into the patient's diabetes management. These details were meant to represent the realistic behaviors of someone living with type 1 diabetes, and they were selected to be ambiguous in their implications for overall health and management. For example, using a fingerstick glucometer, carbohydrate counting during meals, and insulin pump therapy are standardly recommended management tools. Also, the patient's behavior of artificially decreasing the carbohydrate content of meals to prevent low blood sugar is a coping technique that the physician may perceive as intentional or unintentional; regardless, this practice leads to higher blood sugar levels in the long run. Finally, non-proliferative diabetic retinopathy is evidence of early complications.

Outcome Variables

For this analysis, I developed three outcome variables to measure the extent to which the participant proposes and supports shared decision-making with the fictional patient. I used components of various instruments deemed reliable in the literature in their measurement of shared decision-making in a clinical setting. In general, reliable instruments must include measures of the following elements:(1) physician explanation of the patient's current health status, (2) physician presentation of options for care, (3) a discussion of the risks and benefits of these care options, (4) a discussion of patient values and preferences for their care, (5) a discussion of patient ability and self-efficacy, (6) the offering of physician knowledge and support, (7) physician clarification of patient understanding, (8) explicit decision-making or postponement of a decision, and (9) plans for a follow-up (Clayman et al., 2012; Elwyn et al., 2000; Elwyn, 2020).

I modified items from the Observer OPTION5, SDM-Q-9, and SDM-Q-Doc instruments to create measures appropriate for experimental use in this survey. The Observer OPTION5

instrument (Elwyn et al., 2018) is used to assess shared decision-making from the perspective of a third-party observer using audio or video recordings of medical appointments. The nine-item Shared Decision-Making Questionnaire (SDM-Q-9) was developed to gauge the patient's understanding of the extent to which shared decision-making occurs during medical interactions. The Shared Decision-Making Questionnaire for Physicians (SDM-Q-Doc) is an adaptation of the SDM-Q-9 to gauge the physician's perspective of shared decision-making during a medical encounter (Kriston et al., 2010; Scholl et al., 2012). Details of these three instruments' items and scoring approaches are included in Appendix 4C.

Outcome Variable #1: Percentage of Appointment Allocated to Shared Decision-Making Tasks Preceding a Shared Decision.

For the first outcome variable, participants were asked how the average primary care physician would allocate a 15-minute appointment with the patient described in the vignette. Appointment activities included (1) discussion topics and actions mapped to the shared decision-making elements described above and (2) clerical and routine tasks, most of which involve minimal communication from the patient or physician. Participants were also given a free entry text box to include *other* appointment activities missing from the predetermined list; these responses were coded based on the typology described below in Tables 6 and 7.

When completing this survey activity, participants could view a running total of their utilized appointment time at the bottom of the page, a standard design detail for a constant sum question. A constant sum question is beneficial to use here because it allows for the measurement of both the prioritization and weight of the appointment activities; this structure also allows for ties in the scoring of individual items. Furthermore, Taylor (2006) finds that designs that increase

respondent engagement, such as solving a real-world problem rather than simply answering a list of survey questions, produce data of particularly high quality.

Additionally, a constant sum approach aligns with the decision-making processes that street-level bureaucrats go through during client encounters. For example, according to contributions from the citizen-agent narrative described above, street-level bureaucrats first assess the character and deservingness of their service recipients and then select an approach to that encounter that best fits with the value judgment they have made regarding that client. This systematized way of interacting with the client and then coming to a decision is a coping mechanism, as described above. Thus, a physician's determination of how they will allocate their limited time with a patient is likely second nature and likely varies by patient. It is possible, however, that physicians approach appointments with a standardized allocation of time.

Outcome Variable #2: Promotion of Shared Decisions

For the second outcome variable, I created a composite variable (Cronbach's alpha = 0.79) to gauge the respondent's promotion of shared decision-making with the patient by focusing on their intended decision-making approach. Specifically, respondents were asked the following three questions:

1. How likely is it that the average primary care physician will thoroughly weigh treatment and/or management options together with the patient?
2. How likely is it that the average primary care physician will select a treatment and/or management option together with the patient?
3. How likely is it that the average primary care physician will reach an agreement with the patient on how to move forward?

Responses were collected on a Likert scale, ranging from 1 = very unlikely to 5 = very likely. These questions were selected because they represent the byproduct of engaging in shared decision-making with a patient without using the phrase *shared decision-making*. In fact, the

term shared decision-making was not used in the survey until the final outcome variable was measured.

Outcome Variable #3: Perceptions of Shared Decision-Making Candidacy

For the final outcome variable of interest, respondents were asked explicitly how they thought the average primary care physician would respond to the following statement: *The patient is a good candidate for shared decision-making.* Responses were collected on a Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. This statement was chosen because it is likely to have the highest face validity in measuring the promotion of shared decision-making.

Covariates

Perceived discretion is a composite variable (Cronbach's alpha = 0.69) that measured the extent to which respondents felt they had control over how they did their work and the pace at which they did their work, as well as a say in choosing who they worked with, and a say in which patients they saw. Each of these statements was measured on a Likert scale ranging from 1 = not at all to 4 = to a great extent. The low A1C group had a mean score of 2.61 (SD = 0.51), while the high A1C group had a mean score of 2.54 (SD = 0.59). The difference between the two groups was -0.07 and was not statistically significant (p-value = 0.37).

Perceptions of shared decision-making is a composite variable (Cronbach's alpha = 0.78) that measured the respondent's perspectives on physician familiarity with, support of, and implementation of shared decision-making and their perspectives on whether shared decision-making is easy to understand for primary care physicians. Each statement was measured on a Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. A higher composite score indicated more positive perspectives of shared decision-making. The low A1C group had a mean

score of 3.84 (SD = 0.69), while the high A1C group had a mean score of 3.81 (SD = 0.70). The difference between the two groups was -0.03 and was not statistically significant (p-value = 0.76).

Respondent burnout symptoms were also measured. Specifically, respondents were asked what percentage of the time (where 0% represents never and 100% represents every day or all the time) they agreed with the following statements regarding their current job as a practicing primary care physician.

1. My work is emotionally draining.
2. I worry that this job is hardening me when it comes to interacting with patients.
3. I feel that I accomplish a lot in my job.

Burnout is standardly defined as experiencing emotional exhaustion, depersonalization or cynicism towards service recipients or patients, and a reduced sense of personal accomplishment (Maslach & Jackson, 1981). If respondents reported above the median value for the first two statements and below the median value for the final statement, they were coded as demonstrating symptoms of burnout. Approximately 20% (SD = 0.40) of the low A1C group exhibited symptoms of burnout, while 20% (SD = 0.41) of the high A1C group exhibited symptoms of burnout. The difference between the two groups was 0.01 and not statistically significant (p-value = 0.89).

The average tenure for the low A1C group was 16.91 years (SD = 11.30), while the average tenure for the high A1C group was 16.89 years (SD = 11.18). The difference between the two groups was -0.02 and not statistically significant (p-value = 0.99).

Respondents self-reported gender identity and racial/ethnic identity in free text responses. Consequently, the non-response to these questions was significant. Twenty respondents did not report gender identity, and thirty-seven respondents did not report racial/ethnic identity. 44% of

the low A1C group identified as male, while 52% of the high A1C group identified as male. The difference between the two groups was 0.08 and not statistically significant (p-value = 0.30). In the low A1C group, 74% of respondents identified as White, non-Hispanic/Latinx, while 71% of the high A1C group identified as White, non-Hispanic/Latinx. The difference between the two groups was -0.03 and not statistically significant (p-value = 0.64). In the low A1C group, 17% of respondents identified as AAPI, non-Hispanic/Latinx, while 21% of the high A1C group identified as AAPI, non-Hispanic/Latinx. The difference between the two groups was 0.03 and not statistically significant (p-value = 0.58). In the low A1C group, 2% of respondents identified as Black, non-Hispanic/Latinx, while 1% of the high A1C group identified as Black, non-Hispanic/Latinx. The difference between the two groups was -0.01 and not statistically significant (p-value = 0.56). In the low A1C group, 6% of respondents identified as Hispanic/Latinx, while 2% of the high A1C group identified as Hispanic/Latinx. The difference between the two groups was -0.04 and not statistically significant (p-value = 0.24). Finally, in the low A1C group, 0% of respondents identified as other, non-Hispanic/Latinx, while 5% of the high A1C group identified as other, non-Hispanic/Latinx. The difference between the two groups was 0.05 and statistically significant (p-value = 0.04).

Analytical Approach

Data analysis involved several steps to examine the influence of the patient's A1C value on physician promotion of shared decision-making while considering various covariates and mediating factors. First, I conducted a descriptive analysis of the data using a balance table. Then, because the data collected involves two independent groups (i.e., the low A1C control group and the high A1C treatment group), the primary analytical method employed to examine the relationship between the treatment variable and the dependent variables was the independent

samples t-test. This test assesses whether there are statistically significant differences between the means of the outcome variables for the two groups. Regression analysis was also performed to assess the impact on shared decision-making promotion, controlling for covariates, including relevant physician characteristics and environmental factors. Finally, mediation analysis techniques were used to explore the potential mediation of perceived patient engagement and urgency. The significance level for all t-tests was set at alpha = 0.05, corresponding to a 95% confidence interval. This means that statistical significance was declared if the p-value associated with the t-test was less than 0.05. All statistical analyses were conducted using STATA 18 SE.

Table 8 is a balance table for key covariates to ensure that the low and high A1C groups were comparable. The two groups are well-balanced in all covariates, with standardized mean differences below the recommended threshold of 0.1. The examined covariates were perceived discretion, perceptions of shared decision-making, symptoms of burnout, proximity to type 1 diabetes (T1D), tenure, gender, and racial and/or ethnic identity.

For the full sample, 102 respondents were randomly assigned to the low A1C group, and 98 respondents were randomly assigned to the high A1C group, indicating that the study was adequately powered to detect differences within these covariates. Overall, the balance table provides assurance that the two groups were similar with respect to the examined covariates prior to vignette randomization, supporting the validity of the subsequent analyses.

Results

Outcome Variable #1: Percentage of Appointment Allocated to Shared Decision-Making Tasks Preceding a Shared Decision

Respondents randomly assigned to the high A1C patient spent more time on shared decision-making tasks preceding a shared decision (see Figure 1). The low A1C group spent a

mean of 53.693% (SD = 0.162) of their time on these tasks, while the high A1C group spent a mean of 58.776% (SD = 0.189) of their time on these tasks. A two-tailed independent samples t-test revealed a significant difference between the two groups, where the t-value was -2.042, and the associated p-value was 0.043. These results suggest a nontrivial difference in time spent on shared decision-making tasks preceding a shared decision between the two groups, which warrants further exploration.

Outcome Variable #2: Promotion of Shared Decisions

Respondents were less likely to promote shared decisions with the high A1C patient (see Figure 2). The low A1C group exhibited a mean response of 3.700 (SD = 0.679), while the high A1C group had a mean response of 3.442 (SD = 0.829). A two-tailed independent samples t-test revealed a significant difference between the two groups, where the t-value was 2.395, and the associated p-value was 0.018. Specifically, the low A1C group exhibited greater shared decision promotion than the high A1C group. These results suggest a meaningful difference in shared decision-making promotion between the two groups, with potential clinical implications.

Outcome Variable #3: Perceptions of Shared Decision-Making Candidacy

Respondents were less likely to agree that the high A1C patient was a good candidate for shared decision-making (see Figure 3). The low A1C group demonstrated an average response of 4.265 (SD = 0.820), while the high A1C group displayed an average response of 3.970 (SD = 0.999). Once again, to assess a distinction between these two groups, an independent samples t-test was conducted. The resulting t-value was 2.280, and the associated p-value was 0.024, indicating a statistically significant divergence.

Regressions with Covariates

Additional analyses were conducted for each of the outcome variables with relevant covariates (see Tables 9, 10, and 11). Models 1/4/7 serve as the baseline for each analysis. They include only the randomly assigned experimental condition variable, which represents the core relationship of interest. These findings are the same as the previous findings from the independent samples t-tests.

In Models 2/5/8, I introduce relevant physician characteristics that might influence their promotion of shared decision-making. These characteristics include tenure (years of experience at their current job), perceived discretion (the degree of autonomy they have in their jobs), perceptions of shared decision-making (a greater score indicating more favorable perceptions of shared decision-making), presence of symptoms of burnout (a binary variable where 1 indicates the presence of all symptoms of burnout), and relationship proximity to type 1 diabetes (whether a close friend, relative, housemate, or the respondent themselves has type 1 diabetes). By adding these variables, I aim to capture the influence of these physician-specific factors on shared decision-making.

Models 3/6/9 take the analysis a step further by considering relevant environmental factors. Here, I include practice type (e.g., solo practice, hospital-based, university-affiliated, etc.) and region (geographic location of their practice). These factors may impact how shared decision-making is implemented in the respondents' work settings, as well as the general culture towards shared decision-making.

In all models, I observed that the treatment variable remained statistically significant. This consistent significance indicates that the experimental condition has a stable impact on the outcome of interest. This finding also underscores the robustness of the treatment effect and

suggests that the other factors I explored in subsequent models do not negate the influence of A1C value on respondent promotion of shared decision-making.

Mediation Analysis

My initial analysis uncovered three main findings. First, physicians were more likely to engage in shared decision-making tasks that precede a decision with the high A1C patient. Second, physicians were more likely to recommend a shared decision with the low A1C patient, and third, physicians were more likely to believe that the low A1C patient was a good candidate for shared decision-making.

The first finding suggests that when confronted with patients with high A1C values, indicating poorer disease management, physicians are more inclined to engage in preliminary tasks that set the stage for shared decision-making, including providing additional information and discussing treatment options. Yet, they're less likely to perceive this patient as a good candidate for shared decision-making or recommend a shared decision with this patient. While these findings appear contradictory, they highlight some interesting nuances in physician behavior in response to patients with high and low A1C values and warrant further exploration. Thus, I chose to conduct mediation analyses informed by my initial literature review on the mental sorting of patients, with a focus on physician perceived patient engagement and urgency.

In the conceptualization of the mediation analysis, I hypothesized that perceived patient engagement played an important role in mediating the relationships between the fictional patient's A1C value and the respondent's promotion of shared decision-making with the patient. Specifically, as outlined above, I argued that patients with a higher A1C value were likely to be perceived as less engaged, which would lead to less shared decision-making promotion. Furthermore, I hypothesized that the physician's perception of the urgency of the patient's

situation was relevant. Specifically, I hypothesized that physicians might promote a more physician-led decision-making approach for the high A1C patient.

Thus, the full analytical model for the mediation analysis included patient high versus low A1C as the independent variable, perceived patient engagement as the first mediator (M1), perceived urgency as the second mediator (M2), and promotion of shared decision-making as measured in the three ways previously done in the analysis as the dependent variable (Y), as shown in Figure 4.

Mediation was evaluated in STATA using the commonly known Baron and Kenny approach, adjusted for use with structural equation modeling (Iacobucci et al., 2007). The Sobel test was conducted to assess the significance of the indirect effects, and Monte Carlo replications were used to estimate the sampling distribution of the indirect effect with 5,000 replications. The correlation between the two potential mediators was 0.1327.

Perceived Patient Engagement

To measure physician perceptions of the patient's engagement, I created a composite variable (Cronbach's alpha = 0.85) comprised of five sub-measures. Specifically, respondents were asked how the average primary care physician would respond to the following statements on a scale from 1 = strongly disagree to 5 = strongly agree:

1. The patient is knowledgeable about the short-term complications of diabetes.
2. The patient is knowledgeable about the long-term complications of diabetes.
3. The patient is knowledgeable about recommended diabetes self-management practices.
4. The patient is knowledgeable about their treatment and management options.
5. The patient is in control of their diabetes management.
6. The patient is complying with recommended diabetes self-management practices.
7. The patient is motivated to self-manage their diabetes.
8. The patient is truthful about their diabetes self-management.

These statements were selected because, as described above, patient knowledge, control, compliance, motivation, and truthfulness are crucial for fostering effective patient engagement in

health care. Patient knowledge ensures that individuals understand their conditions and available options, enabling them to actively participate in decision-making, ask informed questions, and make choices that ultimately align with their preferences and values. When patients are in control of their health care decisions and treatment plans, a patient-centered approach to care is more straightforward for the physician to promote. Furthermore, patient compliance is vital for achieving treatment goals and managing chronic conditions effectively. Motivated patients, driven by personal goals or external support, are more likely to take an active role in their health care. Lastly, patient truthfulness in their communication with physicians is paramount for accurate diagnosis and treatment, enabling providers to make informed decisions.

The study's findings reveal marked disparities in how respondents perceived the engagement of the low versus high A1C patient. In general, the high A1C patient was perceived as less engaged by respondents. All differences were statistically significant.

Perceived Patient Knowledge

Respondents perceived the low A1C patient as having higher knowledge compared to the patient with the high A1C (see Figure 5). In an independent samples t-test, the low A1C group reported a mean patient knowledge score of 3.614 (SD = 0.656), while the high A1C group reported a mean patient knowledge score of 3.041 (SD = 0.793). The difference in means was statistically significant, with a t-value of 5.583 and a p-value less than 0.01.

Perceived Patient Control

Respondents perceived the low A1C patient as having greater disease control compared to the patient with the high A1C (see Figure 6). In an independent samples t-test, the low A1C group reported a mean patient control score of 3.451 (SD = 1.166), while the high A1C group

reported a mean patient control score of 2.306 (SD = 1.170). The difference in means was statistically significant, with a t-value of 6.930 and a p-value less than 0.01.

Perceived Patient Compliance

Respondents perceived the low A1C patient as having greater compliance compared to the patient with the high A1C (see Figure 7). In an independent samples t-test, the low A1C group reported a mean patient compliance score of 3.284 (SD = 0.989), while the high A1C group reported a mean patient compliance score of 2.367 (SD = 1.029). The difference in means was statistically significant, with a t-value of 6.426 and a p-value less than 0.01.

Perceived Patient Motivation

Respondents perceived the low A1C patient as having greater motivation compared to the patient with the high A1C (see Figure 8). In an independent samples t-test, the low A1C group reported a mean patient motivation score of 3.745 (SD = 0.930), while the high A1C group reported a mean patient motivation score of 3.102 (SD = 1.050). The difference in means was statistically significant, with a t-value of 4.589 and a p-value less than 0.01.

Perceived Patient Truthfulness

Respondents perceived the low A1C patient as being more truthful about their disease management compared to the patient with the high A1C (see Figure 9). In an independent samples t-test, the low A1C group reported a mean patient truthfulness score of 3.961 (SD = 0.954), while the high A1C group reported a mean patient truthfulness score of 3.551 (SD = 0.943). The difference in means was statistically significant, with a t-value of 3.055 and a p-value less than 0.01.

Total Perceived Patient Engagement

When analyzing the composite patient engagement variable, respondents perceived the low A1C patient as being more engaged than the high A1C patient (see Figure 10). In an independent samples t-test, the low A1C group reported a mean patient engagement score of 3.604 (SD = 0.627), while the high A1C group reported a mean patient engagement score of 2.953 (SD = 0.651). The difference in means was statistically significant, with a t-value of 7.211 and a p-value less than 0.01.

Perceived Urgency Via Recommended Follow-Up Time

To account for this additional potential mediator of physician-perceived urgency, I measured the respondent's recommended follow-up time with the patient. In many cases, physicians base their recommendations for follow-up on their clinical judgments of the urgency of the patient's condition. A shorter recommended follow-up time may indicate a perception of higher urgency, ensuring that the patient receives timely medical treatment. On the other hand, longer follow-up times suggest a lower urgency level. For this study, respondents were given a free text response box to recommend when they thought the patient should be seen again by the physician. Responses given with a range (e.g., 3 – 4 months) were coded at the lower bound.

Respondents recommended a quicker follow-up appointment with the high A1C patient, indicating a greater sense of urgency (see Figure 11). In an independent samples t-test, the mean follow-up appointment time for the low A1C patient was 3.343 months (SD = 1.322), while the mean follow-up appointment time for the high A1C patient was 2.571 months (SD = 1.101). The difference in means was statistically significant, with a t-value of 4.476 and a p-value less than 0.01.

Mediation Analysis Findings

Outcome Variable #1: Percentage of Appointment Allocated to Shared Decision-Making Tasks Preceding a Shared Decision

The mediation analysis results for the first outcome variable reveal distinct patterns in the relationships among the variables under consideration. When examining the pathway from patient A1C to perceived patient engagement (M1), a significant coefficient ($a = -0.651$, p-value < 0.01) suggests that the high A1C patient is perceived as less engaged. However, the subsequent pathway from perceived patient engagement to the percentage of the appointment allocated to shared decision-making tasks ($b = -0.019$, p-value $= 0.33$) is not statistically significant. The indirect effect through perceived patient engagement ($c = 0.012$, p-value $= 0.34$) is also not significant, indicating that perceived patient engagement alone does not mediate the relationship between patient A1C and the percentage of the appointment allocated to shared decision-making tasks.

Conversely, the analysis of the pathway from patient A1C to perceived urgency (M2) measured by recommended follow-up time reveals a significant negative coefficient ($d = -0.772$, p-value < 0.01), suggesting that the high A1C patient has a shorter recommended follow-up time. The subsequent pathway from follow-up time to the percentage of the appointment allocated to shared decision-making tasks ($e = -0.028$, p-value < 0.01) is not only negative but also statistically significant, indicating that a shorter follow-up time is associated with more time in the appointment allocated to shared decision-making tasks (or a longer follow-up time associated with less time in the appointment allocated to shared decision-making tasks). The indirect effect through follow-up time ($f = 0.021$, p-value $= 0.02$) is also significant, signifying that perceived urgency partially mediates the relationship between patient A1C and the percentage of the appointment allocated to shared decision-making tasks. The total direct effect is not significant

(g = 0.017, p-value = 0.54), while the total indirect effect, which includes both pathways, is significant (h = 0.033, p-value = 0.03), demonstrating the presence of a combined mediation effect.

Outcome Variable #2: Promotion of Shared Decisions

The mediation analysis for the second outcome variables also revealed insightful findings regarding the relationships among patient A1C, perceived patient engagement (M1), perceived urgency (M2), and the promotion of shared decisions (Y).

The negative and significant coefficient (i = -0.651, p-value < 0.01) for the pathway from patient A1C to perceived patient engagement suggests that the higher A1C patient is perceived as less engaged. Subsequently, the positive and significant coefficient (j = 0.370, p-value < 0.01) for the pathway from perceived patient engagement to the promotion of shared decisions indicates that higher perceived engagement is linked to increased promotion of shared decisions. The resulting negative and significant indirect effect through perceived patient engagement (k = -0.241, p-value < 0.01) suggests that perceived patient engagement mediates the relationship between patient A1C and the promotion of shared decisions.

Similarly, the negative and significant coefficient (l = -0.772, p-value < 0.01) for the path from patient A1C to perceived urgency implies that high A1C levels are associated with shorter recommended follow-up times. The negative and significant coefficient (m = -0.092, p-value = 0.03) for the path from perceived urgency to the promotion of shared decisions suggests that lower urgency or longer follow-up times is linked to decreased promotion of shared decisions. The resulting positive and significant indirect effect through perceived urgency (n = 0.071, p-value = 0.05) indicates that perceived urgency partially mediates the relationship between patient A1C and the promotion of shared decisions.

The direct effect (o = -0.087, p-value = 0.46) is not statistically significant, while the total indirect effect (p = -0.170, p-value = 0.02), which combines the mediation pathways through perceived patient engagement and urgency, is significant. These results collectively suggest mediation through both mediators.

Outcome Variable #3: Perceptions of Shared Decision-Making Candidacy

The mediation results for the final outcome variable once again illuminate the intricate relationships among the variables of interest. The negative and statistically significant coefficient (q = -0.651, p-value < 0.01) from patient A1C to perceived patient engagement signifies that the high A1C patient is perceived as less engaged. Subsequently, the positive and statistically significant coefficient (r = 0.504, p-value < 0.01) for the pathway from perceived patient engagement to perceptions of shared decision-making candidacy suggests that greater perceived patient engagement is linked to a more positive perception of being a candidate for shared decision-making. The resulting negative and statistically significant indirect effect through perceived patient engagement (s = -0.329, p-value < 0.01) points to mediation, indicating that perceived patient engagement explains the relationship between patient A1C and perceptions of shared decision-making candidacy.

In contrast, the negative and statistically significant coefficient (t = -0.772, p-value < 0.01) for the pathway from patient A1C to perceived urgency measured through recommended follow-up time suggests that as patient A1C increases, recommended follow-up time decreases. However, the negative but not statistically significant coefficient (u = -0.064, p-value = 0.20) for the path from perceived urgency to perceptions of shared decision-making candidacy, as well as the non-significant coefficient for the indirect effect (v = 0.049, p-value = 0.21) suggests that the

relationship between patient A1C and perceptions of shared decision-making candidacy is not mediated by perceived urgency.

Moreover, the non-significant direct effect (w = -0.016, p-value = 0.91) and the statistically significant total indirect effect (x = -0.279, p-value < 0.01), encompassing both pathways through perceived patient engagement and urgency, indicate mediation.

Discussion

This research was motivated by the consistent finding in health services research that shared decision-making does not occur to the extent desired in direct patient care (Joseph-Williams et al., 2014; Scholl et al., 2018). Using insights from street-level bureaucracy theory in public administration, where frontline workers mentally sort citizens to cope with their work demands (Maynard-Moody & Musheno, 2000), I conducted an experiment to gauge whether physician mental sorting of patients partially explains why shared decision-making is not occurring as intended, as well as whether physician perceptions of patient engagement and urgency have relevance in this mental sorting process.

There are three central findings from this experiment. First, primary care physician respondents devoted more time in their 15-minute appointment with the high A1C patient to shared decision-making tasks that preceded a decision. Second, they were less likely to promote a shared decision with that patient or perceive them as a good candidate for shared decision-making. This relationship was maintained even after considering various physician and environmental factors that were balanced between the control and treatment groups. Third, physician perceptions of patient engagement mediated the pathway from patient A1C to the promotion of shared decisions and perceptions of the patient as a good candidate for shared decision-making. However, they did not mediate the pathway from patient A1C to appointment

time allocation toward shared decision-making tasks preceding a decision. Alternatively, perceived urgency mediated the pathway from patient A1C to appointment time allocation toward shared decision-making tasks preceding a decision and the promotion of shared decisions but not to perceptions of the patient as a good candidate for shared decision-making.

These findings provide insights into how primary care physicians' perceptions and behaviors vary when interacting with patients based on their A1C levels, emphasizing the importance of perceptions for both the practice of medicine and the development of health care policies. When patients are perceived as engaged, for example, physicians might not feel the need to engage in as much conversation with these patients and instead trust their involvement in decision-making. This was seemingly the case for the low A1C patient. Furthermore, when physicians perceive a patient's scenario as urgent, they may choose to have detailed discussions to gain understanding and provide education but ultimately take the lead in decision-making. This was seemingly the case for the high A1C patient. Going forward, shared decision-making researchers focused on barriers to shared decision-making should consider the process of mental sorting and the impact of physician perceptions on the provision of care.

There are a few limitations to this study that are worth noting. First, the nature of an online experiment about hypothetical behavior with a fictional patient may limit the generalizability of these findings to real-world settings. Also, while respondents were randomly assigned to either the control or treatment vignette, a large portion of respondents worked in university health care settings at the time of the survey, thus reducing the representativeness of the sample to the general primary care physician population in the United States. Additionally, while informed by existing shared decision-making instruments, the measures used to gauge shared decision-making promotion were newly developed for experimental use in this study.

Finally, while the phrase shared decision-making was not utilized until after the appointment allocation activity, responses to questions pertaining to shared decision-making (with the actual usage of the phrase *shared decision-making*) may be subject to social desirability bias or observer effects. In order to mitigate this, phrasing was altered to what *other* respondents *would* do, rather than what the *respondent* themselves *should* do.

Future research in the realm of physician mental sorting and shared decision-making holds great promise for advancing our understanding of the intricate dynamics at play in clinical interactions. One avenue for exploration involves delving into the realm of unconscious bias and its impact on how physicians categorize and prioritize patients. Understanding the nuances of these biases can guide the development of interventions aimed at mitigating their influence and fostering more equitable decision-making processes. Additionally, incorporating patient perspectives will illuminate the impact of mental sorting on patient experiences, trust, and satisfaction. Finally, the influence of organizational- and system-level factors on physician perceptions represents a critical area for further inquiry. In essence, these research directions have the potential to shape interventions, training programs, and policies that foster more equitable and patient-centered health care practices.

Appendix 4A: American Medical Association's Code of Medical Ethics

Opinion 1.1.4

Successful medical care requires ongoing collaboration between patients and physicians. Their partnership requires both individuals to take an active role in the healing process.

Autonomous, competent patients control the decisions that direct their health care. With that exercise of self-governance and choice comes a number of responsibilities. Patients contribute to the collaborative effort when they:

a) Are truthful and forthcoming with their physicians and strive to express their concerns clearly. Physicians likewise should encourage patients to raise questions or concerns.
b) Provide as complete a medical history as they can, including providing information about past illnesses, medications, hospitalizations, family history of illness, and other matters relating to present health.
c) Cooperate with agreed-on treatment plans. Since adhering to treatment is often essential to public and individual safety, patients should disclose whether they have or have not followed the agreed-on plan and indicate when they would like to reconsider the plan.
d) Accept care from medical students, residents, and other trainees under appropriate supervision. Participation in medical education is to the mutual benefit of patients and the health care system; nonetheless, patients' (or surrogates') refusal of care by a trainee should be respected in keeping with ethics guidance.
e) Meet their financial responsibilities with regard to medical care or discuss financial hardships with their physicians. Patients should be aware of costs associated with using a limited resource like health care and try to use medical resources judiciously.
f) Recognize that a healthy lifestyle can often prevent or mitigate illness and take responsibility to follow preventive measures and adopt health-enhancing behaviors.
g) Be aware of and refrain from behavior that unreasonably places the health of others at risk. They should ask about what they can do to prevent transmission of infectious disease.
h) Refrain from being disruptive in the clinical setting.
i) Not knowingly initiate or participate in medical fraud.
j) Report illegal or unethical behavior by physicians or other health care professionals to the appropriate medical societies, licensing boards, or law enforcement authorities.

Table 3: Respondent Main Medical Practice Type

Main Medical Practice	Frequency	Percent	Cumulative
Academic Medical Settings	112	56.00	56.00
Hospital and Related Services	33	16.50	72.50
Group Practices	30	15.00	87.50
Veterans Affairs (VA)	11	5.50	93.00
Primary Care Facilities	4	2.00	95.00
Federally Qualified Health Centers	3	1.50	96.50
Independent Practices	2	1.00	97.50
Managed Care Organizations	2	1.00	98.50
Other	2	1.00	99.50
Missing	1	0.50	100.00

Table 4: Respondent State of Residence

State	Frequency	Percent	Cumulative
Washington	33	16.50	16.50
New York	29	14.50	31.00
Wisconsin	15	7.50	38.50
California	14	7.00	45.50
Illinois	11	5.50	51.00
Massachusetts	12	6.00	57.00
Texas	11	5.50	62.50
Pennsylvania	10	5.00	67.50
Georgia	9	4.50	72.00
Minnesota	7	3.50	75.50
Florida	6	3.00	78.50
North Carolina	6	3.00	81.50
Alabama	5	2.50	84.00
Kansas	5	2.50	86.50
Missouri	4	2.00	88.50
Connecticut	3	1.50	90.00
Idaho	3	1.50	91.50
Michigan	3	1.50	93.00
DC	2	1.00	94.00
Kentucky	2	1.00	95.00
Ohio	2	1.00	96.00
Arizona	1	0.50	96.50
Maryland	1	0.50	97.00
Nebraska	1	0.50	97.50
Nevada	1	0.50	98.00
New Jersey	1	0.50	98.50
South Carolina	1	0.50	99.00
Utah	1	0.50	99.50
Virginia	1	0.50	100.00

Table 5: Respondent Region of Residence

Region	Frequency	Percent	Cumulative
Northeast	55	27.50	27.50
West	53	26.50	54.00
Midwest	48	24.00	78.00
South	44	22.00	100.00
Note: region categories come from US Census Bureau			

Appendix 4B: Patient Vignette Used in the Experiment

The patient is a 30-year-old female with Type 1 diabetes mellitus who was diagnosed at age 7. She currently uses a fingerstick glucometer between 1 and 3 times a day. Her most recent hemoglobin A1C is **7.2/9.6*%,** with multiple daily injections (including long-acting insulin analogues).

The patient says she counts carbs at each meal but sometimes rounds down or artificially decreases the carbohydrate content to prevent lows. She has a history of non-proliferative diabetic retinopathy and hypoglycemic unawareness. She had a severe episode of hypoglycemia two years ago while driving, which required intervention by paramedics. She tried insulin pump therapy 1.5 years ago, but the trial was unsuccessful as she found it too intrusive.

The patient lives with her spouse and works in an office setting. She walks outside for 30 minutes a day and does yoga once a week. She is here for routine care and has had a relationship with her current primary care physician for the last 5 years.

Note: * is the experimental condition

Appendix 4C: Shared Decision-Making Instruments

Instruments that measure shared decision-making from various viewpoints exist.

Observer OPTION

The Observer OPTION instrument (Elwyn et al., 2018) is used to assess shared decision-making from the perspective of an individual observer using audio or video recordings of medical appointments. The observer scores the appointment along five criteria, from 0 = no effort to 4 = exemplary effort.

Observer OPTION Instrument

Item #1: For the health issue being discussed, the clinician **draws attention to or confirms** that alternate treatment or management options exist or that the need for a decision exists. If the patient rather than the clinician draws attention to the availability of options, the clinician responds by agreeing that options need deliberation.

Item #2: The clinician reassures the patient or reaffirms that the clinician **will support the patient to become informed or deliberate** about the options. If the patient states that they have sought or obtained information prior to the encounter, the clinician supports such a deliberation process.

Item #3: The clinician **gives information or checks understanding about the options** that are considered reasonable (this can include taking no action), to support the patient in comparing alternatives. If the patient requests clarification, the clinician supports the process.

Item #4: The clinician makes an effort to **elicit the patient's preferences** in response to the options that have been described. If the patient declares their preference(s), the clinician is supportive.

Item #5: The clinician makes an **effort to integrate the patient's elicited preferences** as decisions are made. If the patient indicates how best to integrate their preferences as decisions are made, the clinician makes an effort to do so.

A detailed scoring guide is given with the instrument (Elwyn et al., 2018) that includes multiple examples of statements that may be given in a physician-patient exchange, as well as what score those responses should be given. For example, for item four, the following statements would warrant the following scores:

Recommended score for Item #2	Clinician statements
0 = No effort	The clinician makes no effort to elicit the patient's preferences, or if the patient declares their preferences, the clinician makes no effort to be supportive.
1 = Minimal effort	"What do you think?"

2 = Moderate effort	"Now that I have described the options, did you think that one of them seemed to fit in with your wishes or views?
3 = Skilled effort	"What did you think of the options? Were you able to form an opinion about them? Did some aspect of them worry you or appeal to you?"
4 = Exemplary effort	"Maybe you heard some things you liked? Or were worried about? That is normal, and my work is to try to understand your views about the options."

A raw total score ranging from 0 – 20 is calculated by summing the score from each of the five items. This raw score is regularly rescaled from 0 to 100 for ease of interpretation. A higher score indicates the observation of more shared decision-making during the medical encounter.

SDM-Q-9 and SDM-Q-DOC

The nine item Shared Decision-Making Questionnaire (SDM-Q-9) was developed to gauge the patient's understanding of the extent to which shared decision-making occurs during their medical interactions, and the Shared Decision-Making Questionnaire for physicians (SDM-Q-Doc) is an adaptation of the SDM-Q-9 to gauge the physician's perspective of shared decision-making during a medical encounter (Kriston et al., 2010; Scholl et al., 2012).

The SDM-Q-9 and SDM-Q-Doc instruments contain almost identical language except for the subject and object of each statement. First, respondents are asked to give free text responses to indicate which health complaint/problem/illness the consultation was about, and which decision was made. Then, they respond to the nine statements with Likert-scale responses ranging from 0 = completely disagree to 5 = completely agree.

SDM-Q-9 Instrument

1. My doctor made clear that a decision needs to be made.
2. My doctor wanted to know exactly how I want to be involved in making the decision.
3. My doctor told me that there are different options for treating my medical condition.
4. My doctor precisely explained the advantages and disadvantages of the treatment options.
5. My doctor helped me understand all the information.
6. My doctor asked me which treatment option I prefer.
7. My doctor and I thoroughly weighed the different treatment options.
8. My doctor and I selected a treatment option together.
9. My doctor and I reached an agreement on how to proceed.

SDM-Q-Doc Instrument

1. I made clear to my patient that a decision needs to be made.
2. I wanted to know exactly from my patient how they want to be involved in making the decision.
3. I told my patient that there are different options for treating their medical condition.

4. I precisely explained the advantages and disadvantages of the treatment options to my patient.
5. I helped my patient understand all the information.
6. I asked my patient which treatment option they prefer.
7. My patient and I thoroughly weighed the different treatment options.
8. My patient and I selected a treatment option together.
9. My patient and I reached an agreement on how to proceed.

A raw total score ranging from 0 to 45 is calculated by adding the score for each item. Then, the raw score is multiplied by 20/9 in order to have a scale ranging from 0 to 100. A score of 0 indicates the lowest level of perceived shared decision-making, while a score of 100 indicates the highest level of perceived shared decision-making (Scholl et al., 2012).

Table 6: Shared Decision-Making Appointment Activity Options

SDM Element	Associated Appointment Activity
Physician explanation of the patient's current health status	Explaining to the patient their current health status
Physician presentation of options for care	Explaining to the patient that alternative treatment and/or management options exist
A discussion of the risks and benefits of these care options	Explaining the risks and benefits of alternative treatment and/or management options
A discussion of patient values and preferences for their care	Eliciting patient values and preferences about their care Discussing with the patient their role in the decision-making process
A discussion of patient ability and self-efficacy	Eliciting patient knowledge about their care Discussing patient efficacy
The offering of physician knowledge and support	Explaining to the patient the physician's preferred treatment and/or management plan Explaining to the patient why the physician's preferred treatment and/or management plan is preferred Explaining to the patient how the physician can support the patient
Physician clarification of patient understanding	Answering patient questions
Explicit decision-making or postponement of a decision	Measured outside of the appointment activity
Plans for a follow-up	Measured outside of the appointment activity

Table 7: Clerical and Routine Appointment Activity Options

Reviewing past patient information and labs
Eliciting further information from the patient about their current health status and behaviors
Conducting a physical exam
Inputting patient information into their electronic health record
Ordering lab work

Table 8: Balance Table

Variable	Low A1C	SD	High A1C	SD	Difference	SD	N
Perceived discretion (mean)	2.61	(0.51)	2.54	(0.59)	-0.07	(0.37)	200
Perceptions of SDM (mean)	3.84	(0.69)	3.81	(0.70)	-0.03	(0.76)	200
Burnout (%)	0.20	(0.40)	0.20	(0.41)	0.01	(0.89)	200
Close friend with T1D (%)	0.31	(0.46)	0.37	(0.48)	0.06	(0.37)	199
Relative with T1D (%)	0.18	(0.38)	0.20	(0.41)	0.03	(0.64)	199
Housemate with T1D (%)	0.02	(0.14)	0.02	(0.14)	0.00	(0.98)	199
Respondent with T1D (%)	0.02	(0.14)	0.00	(0.00)	-0.02	(0.16)	199
Tenure (mean)	16.91	(11.30)	16.89	(11.18)	-0.02	(0.99)	198
Female (%)	0.56	(0.50)	0.48	(0.50)	-0.08	(0.30)	180
p-values: * 0.1 ** 0.05 *** 0.01							

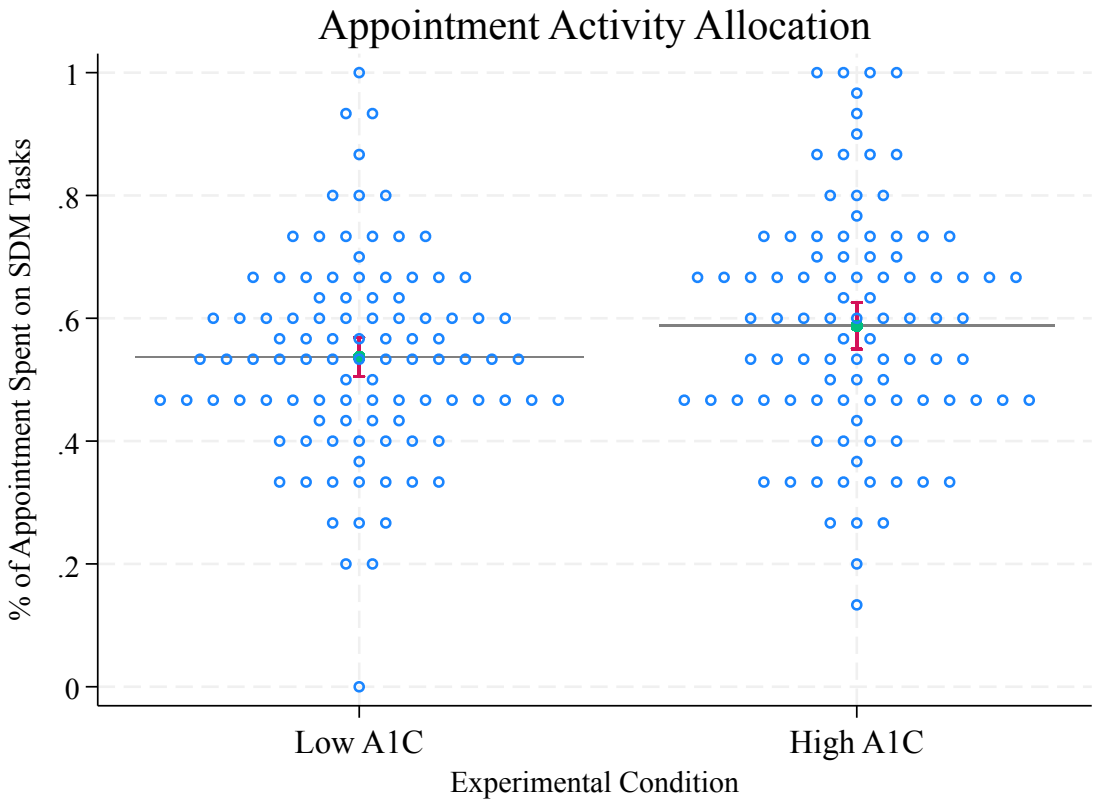

Figure 1: Appointment Activity Allocation by Patient A1C

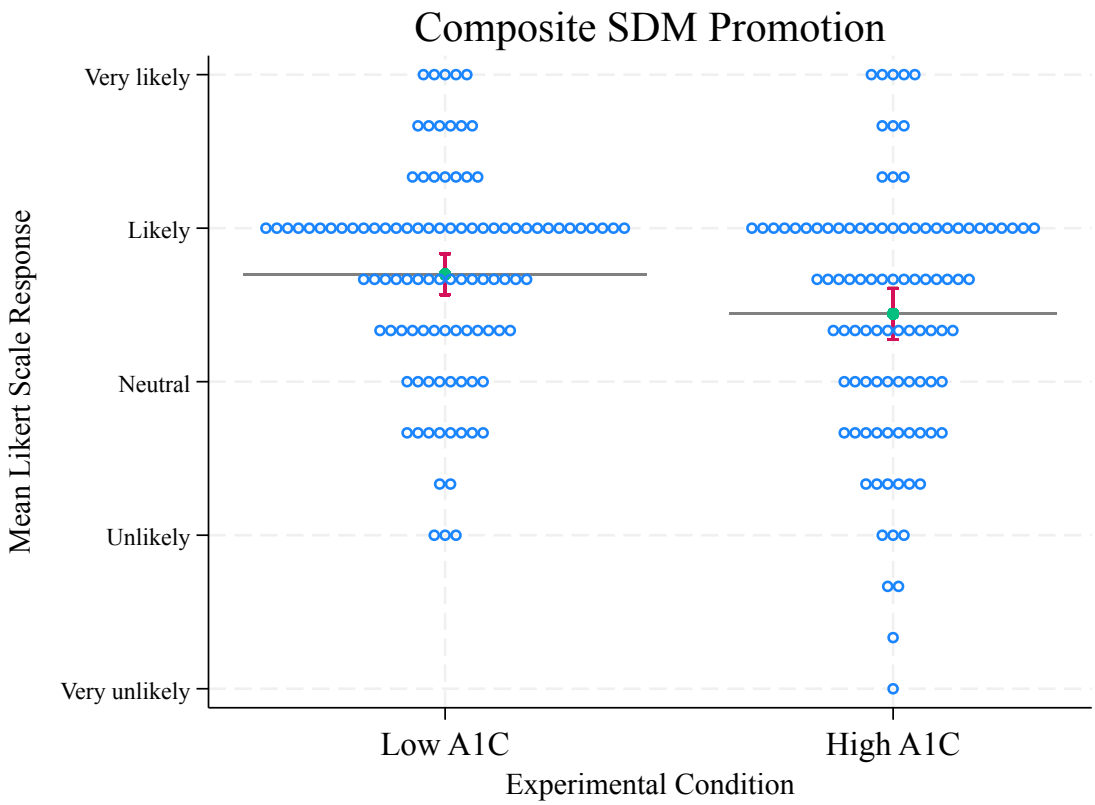

Figure 2: Composite SDM Promotion by Patient A1C

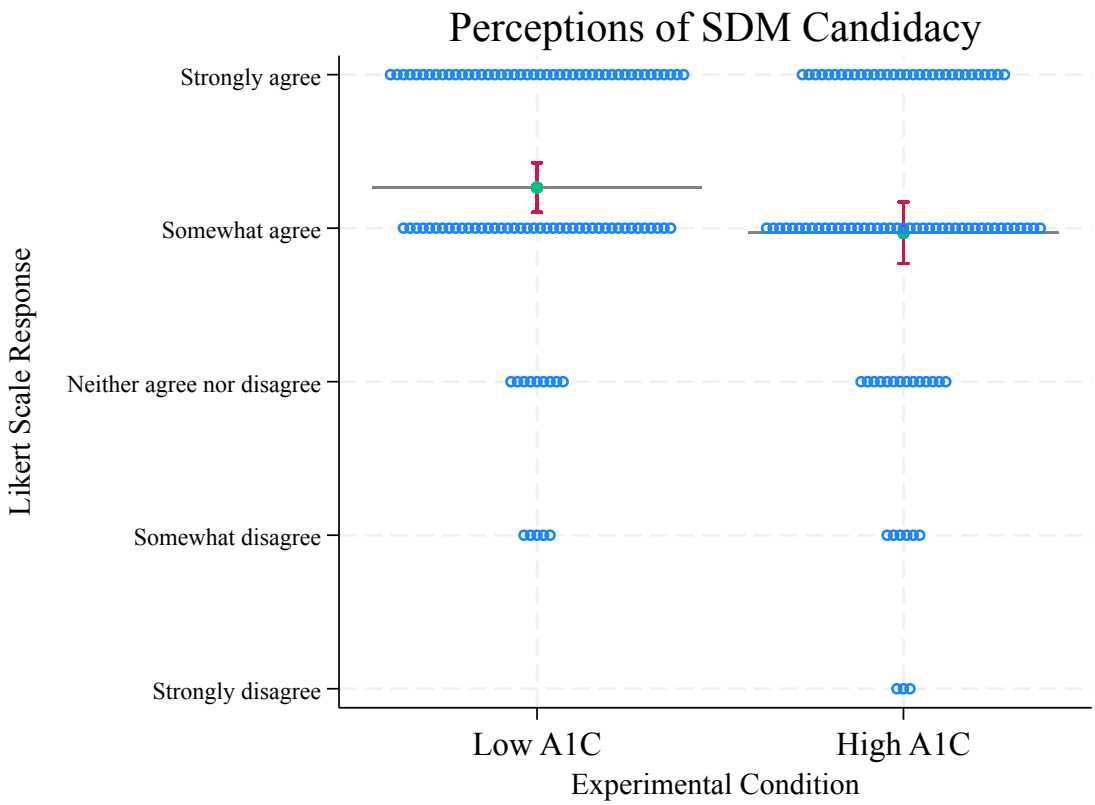

Figure 3: Perceptions of SDM Candidacy by Patient A1C

Table 9: Percentage of Appointment Allocated to Shared Decision-Making Tasks Preceding a Shared Decision

Variable	Model 1	Model 2	Model 3
Treatment (0 if low A1C; 1 if high A1C)	0.051** (0.025)	0.058** (0.026)	0.066** (0.027)
Tenure (years)		0.001 (0.001)	0.001 (0.001)
Perceived discretion		0.042* (0.024)	0.049* (0.026)
Perceptions of SDM		-0.003 (0.019)	-0.008 (0.020)
Burnout		0.040 (0.034)	0.051 (0.035)
Proximity to T1D	No	Yes	Yes
Practice type	No	No	Yes
Region	No	No	Yes
Constant	0.537*** (0.017)	0.424*** (0.108)	0.430*** (0.115)
Observations	200	198	198
R^2	0.021	0.051	0.089
* p<0.1, ** p<0.05, *** p<0.01			

Table 10: Promotion of Shared Decisions

Variable	Model 4	Model 5	Model 6
Treatment (0 if low A1C; 1 if high A1C)	-0.257** (0.107)	-0.224** (0.100)	-0.221** (0.101)
Tenure (years)		0.009** (0.005)	0.008* (0.005)
Perceived discretion		0.020 (0.094)	0.076 (0.098)
Perceptions of SDM		0.458*** (0.074)	0.466*** (0.076)
Burnout		0.069 (0.131)	0.173 (0.134)
Proximity to T1D	No	Yes	Yes
Practice type	No	No	Yes
Region	No	No	Yes
Constant	3.699*** (0.075)	1.742*** (0.424)	1.632*** (0.438)
Observations	200	198	198
R^2	0.028	0.207	0.284
* p<0.1, ** p<0.05, *** p<0.01			

Table 11: Perceptions of Shared Decision-Making Candidacy

Variable	Model 7	Model 8	Model 9
Treatment (0 if low A1C; 1 if high A1C)	-0.295** (0.129)	-0.282** (0.127)	-0.256** (0.126)
Tenure (years)		0.000 (0.006)	-0.003 (0.006)
Perceived discretion		-0.033 (0.119)	0.069 (0.123)
Perceptions of SDM		0.355*** (0.093)	0.324*** (0.095)
Burnout		0.157 (0.166)	0.183 (0.168)
Proximity to T1D	No	Yes	Yes
Practice type	No	No	Yes
Region	No	No	Yes
Constant	4.265*** (0.090)	3.072*** (0.536)	2.990*** (0.548)
Observations	200	198	198
R^2	0.026	0.135	0.237
* p<0.1, ** p<0.05, *** p<0.01			

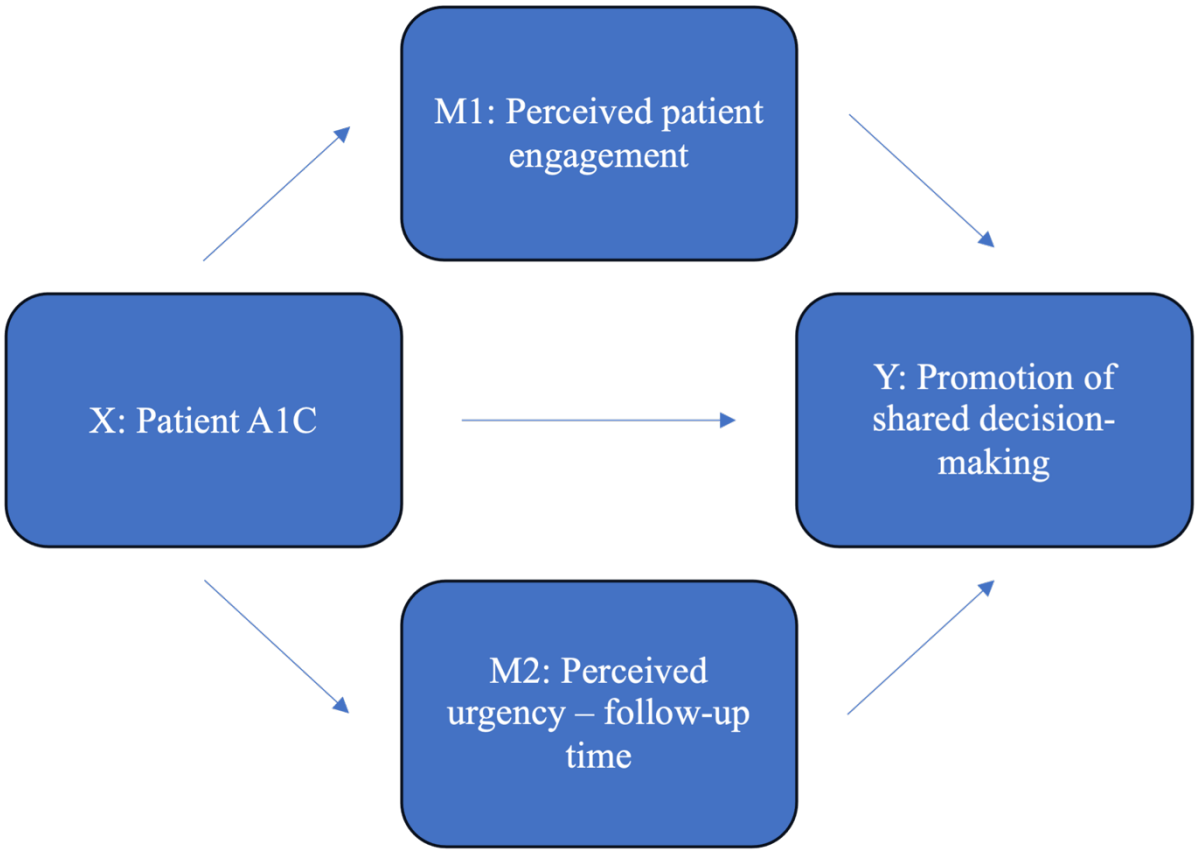

Figure 4: Full Analytical Model for Mediation Analysis

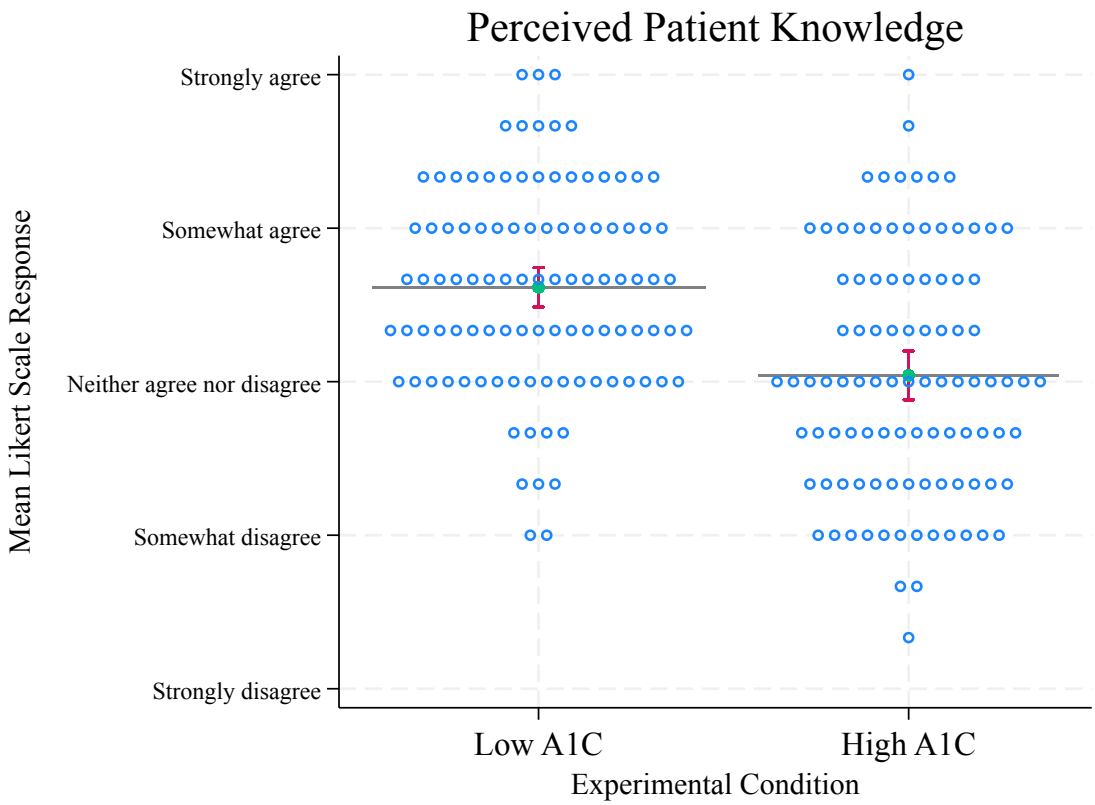

Figure 5: Perceived Patient Knowledge by Patient A1C

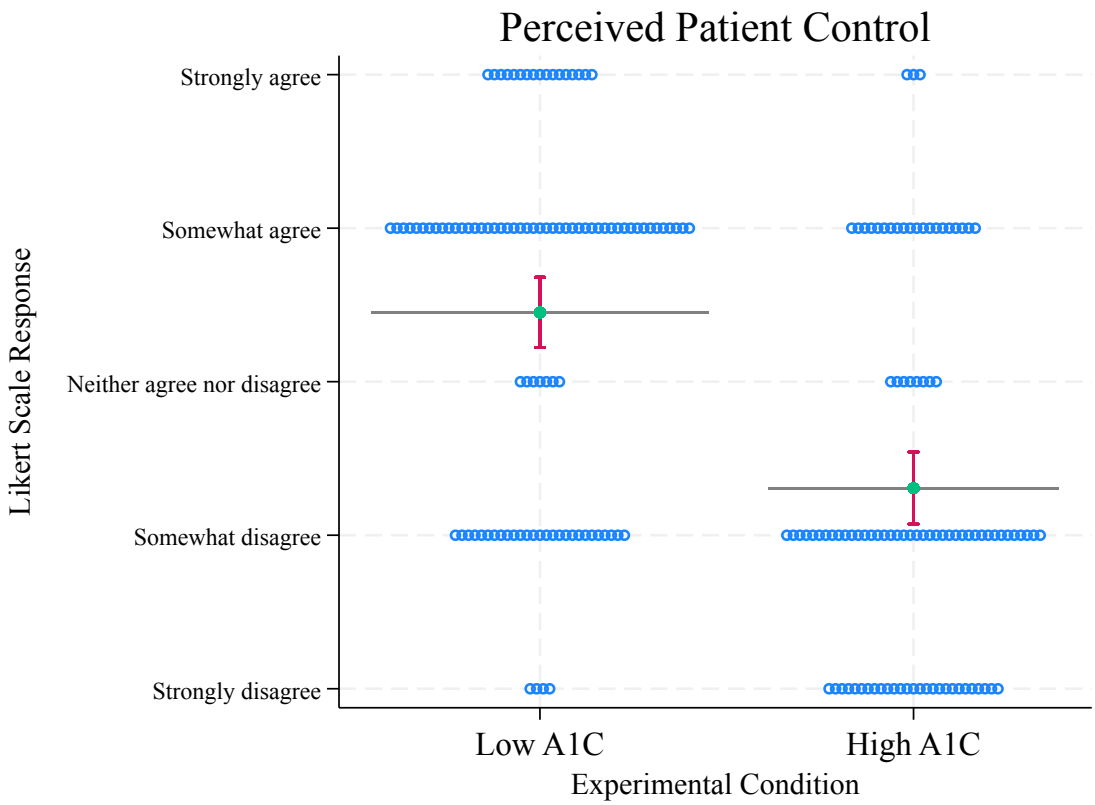

Figure 6: Perceived Patient Control by Patient A1C

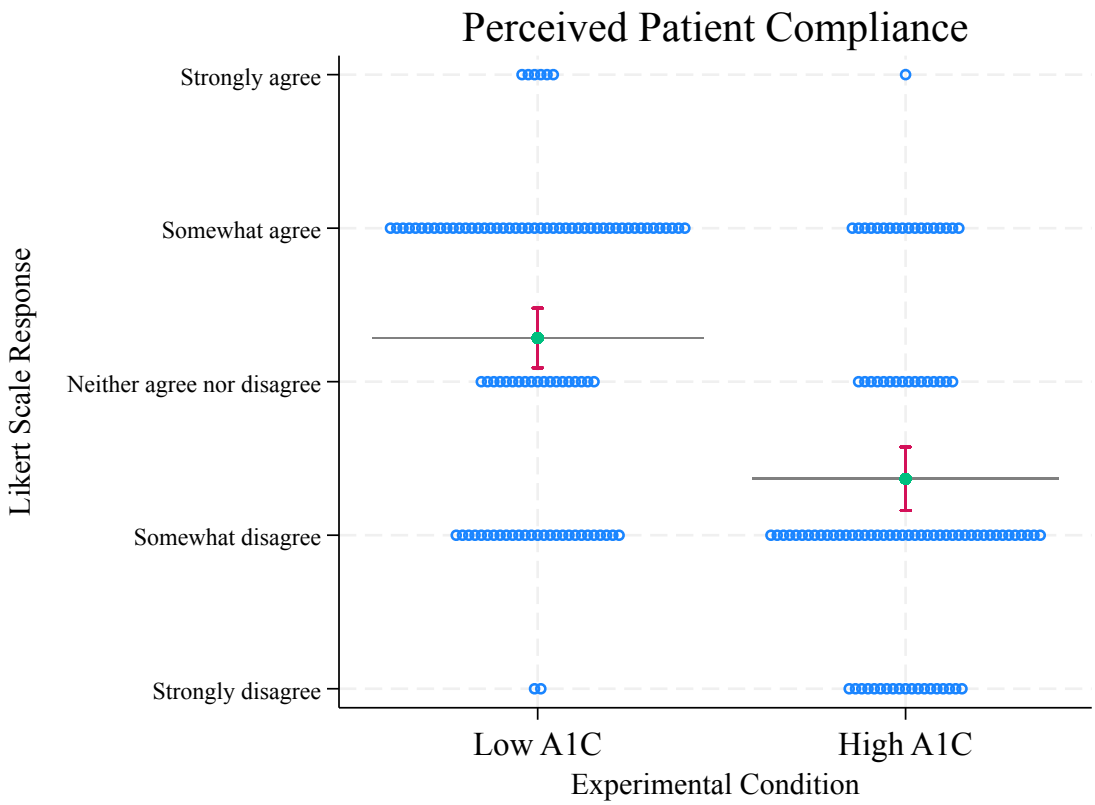

Figure 7: Perceived Patient Compliance by Patient A1C

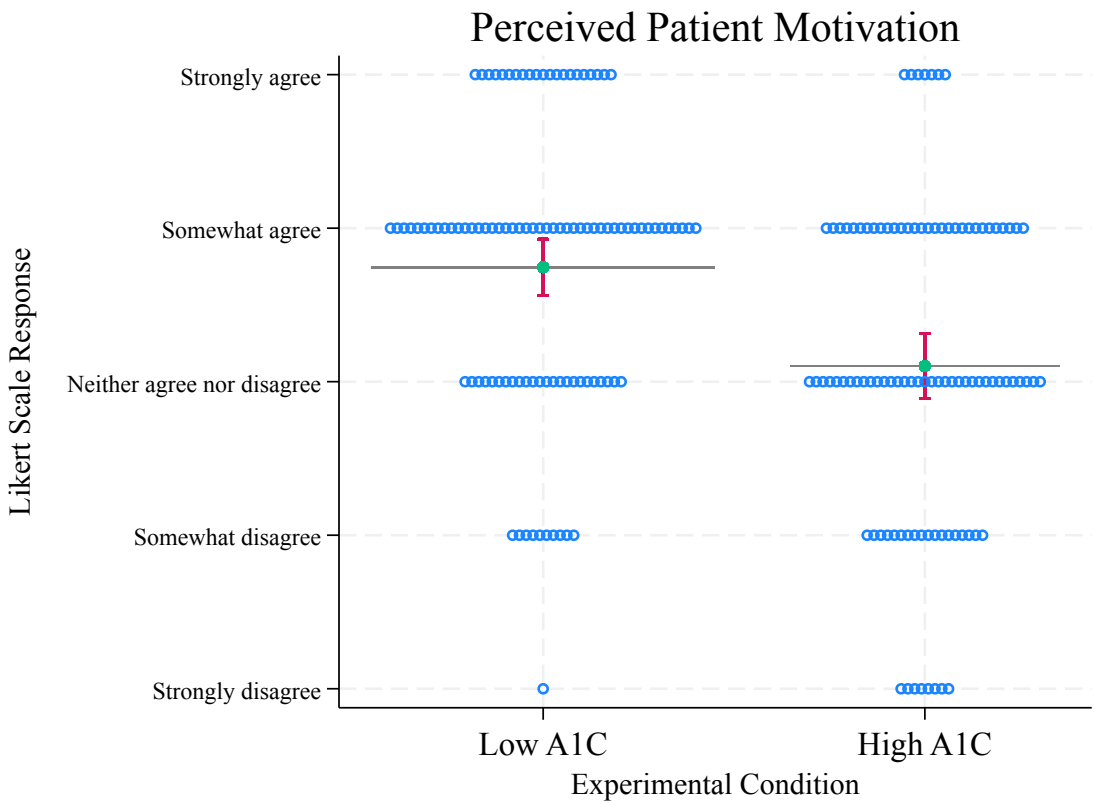

Figure 8: Perceived Patient Motivation by Patient A1C

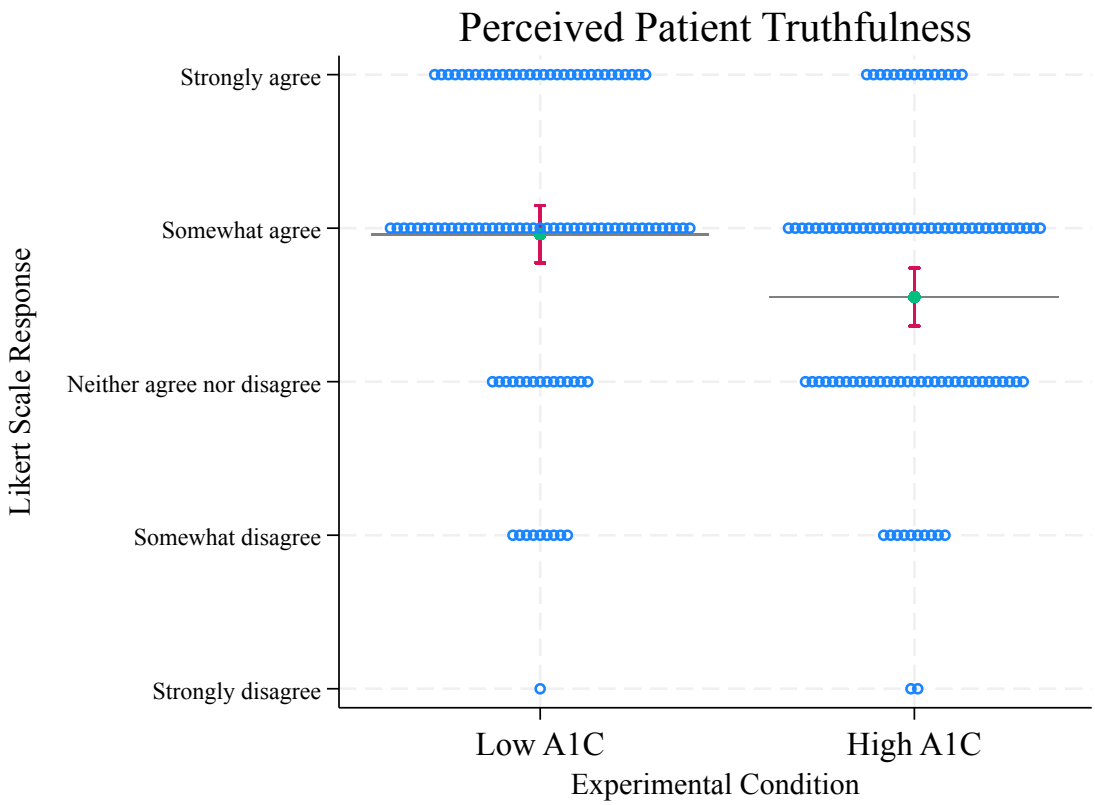

Figure 9: Perceived Patient Truthfulness by Patient A1C

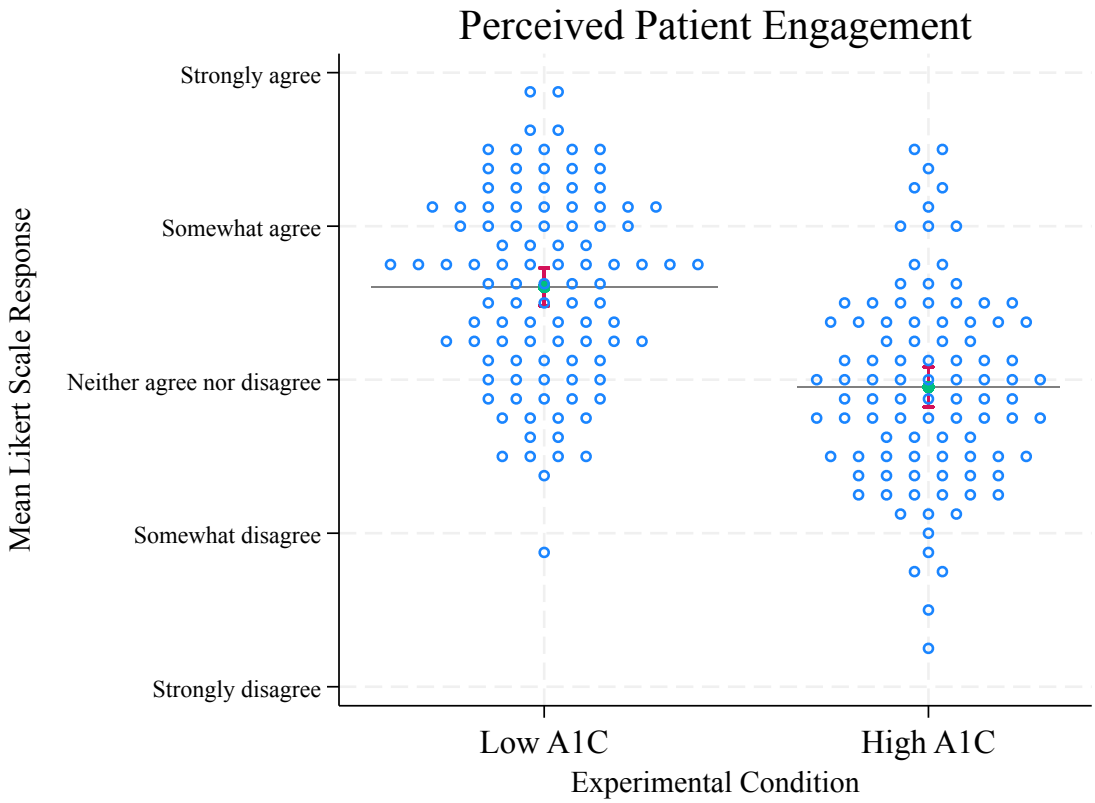

Figure 10: Perceived Patient Engagement by Patient A1C

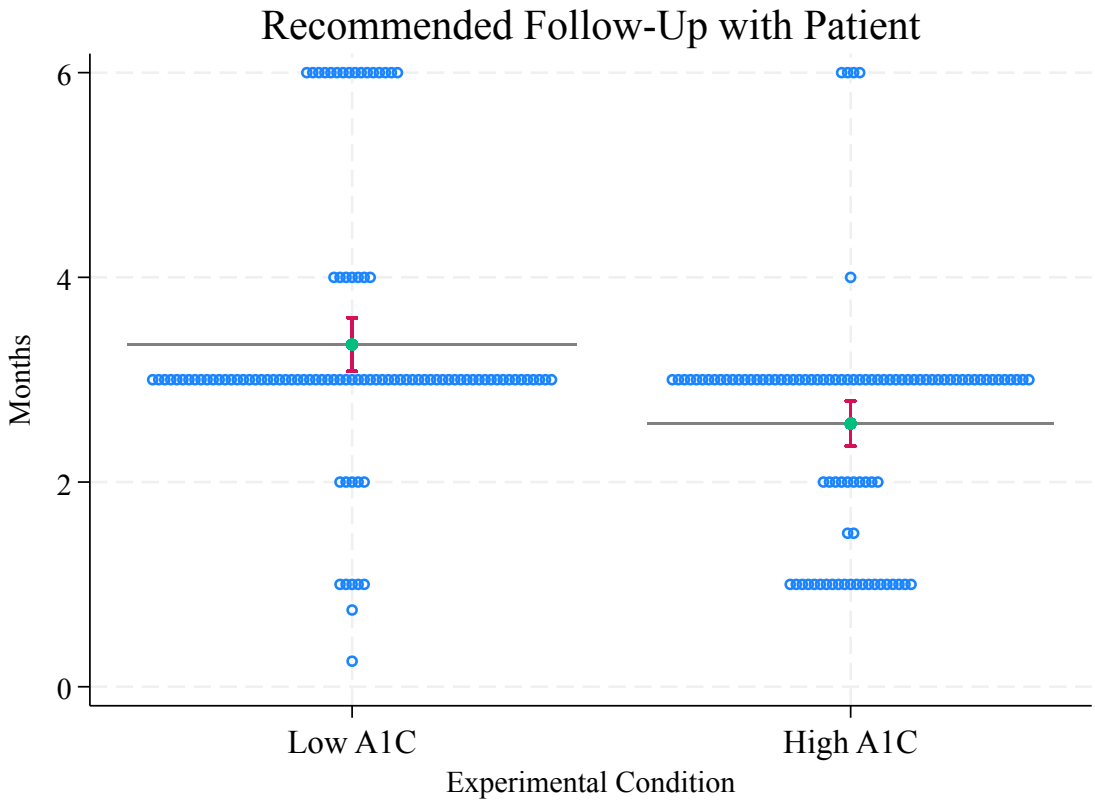

Figure 11: Recommended Follow-Up with Patient by Patient A1C

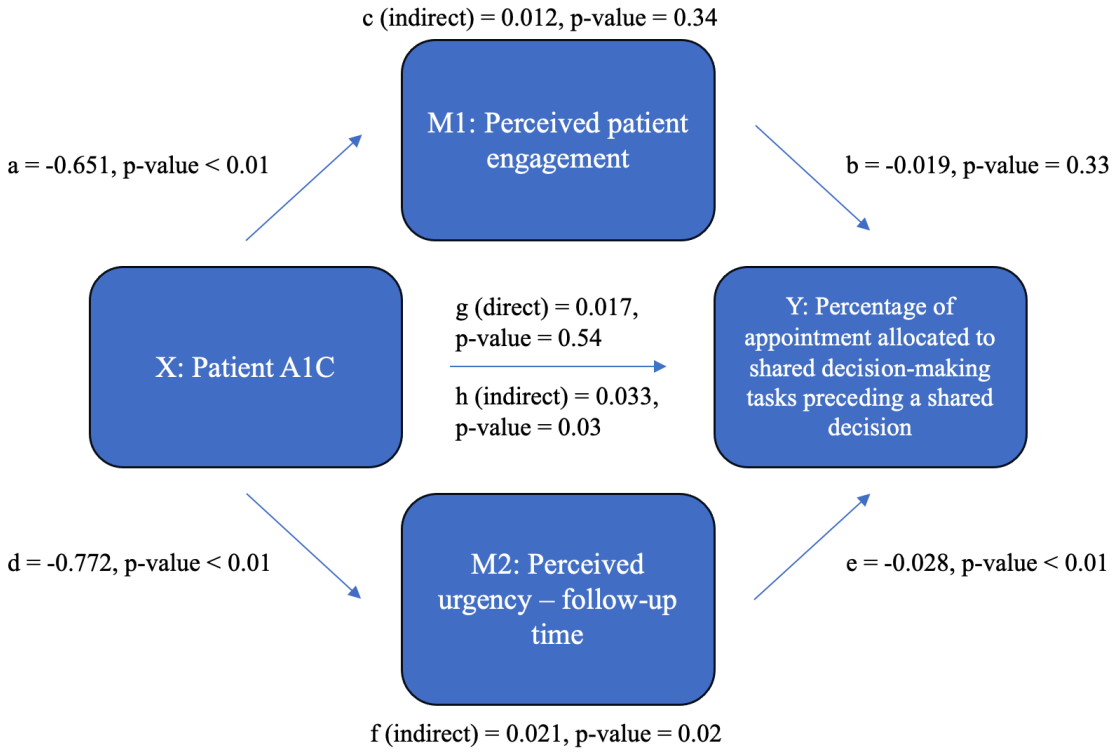

Figure 12: Mediation Analysis of Outcome Variable #1 - Percentage of Appointment Allocated to Shared Decision-Making Tasks Preceding a Shared Decision

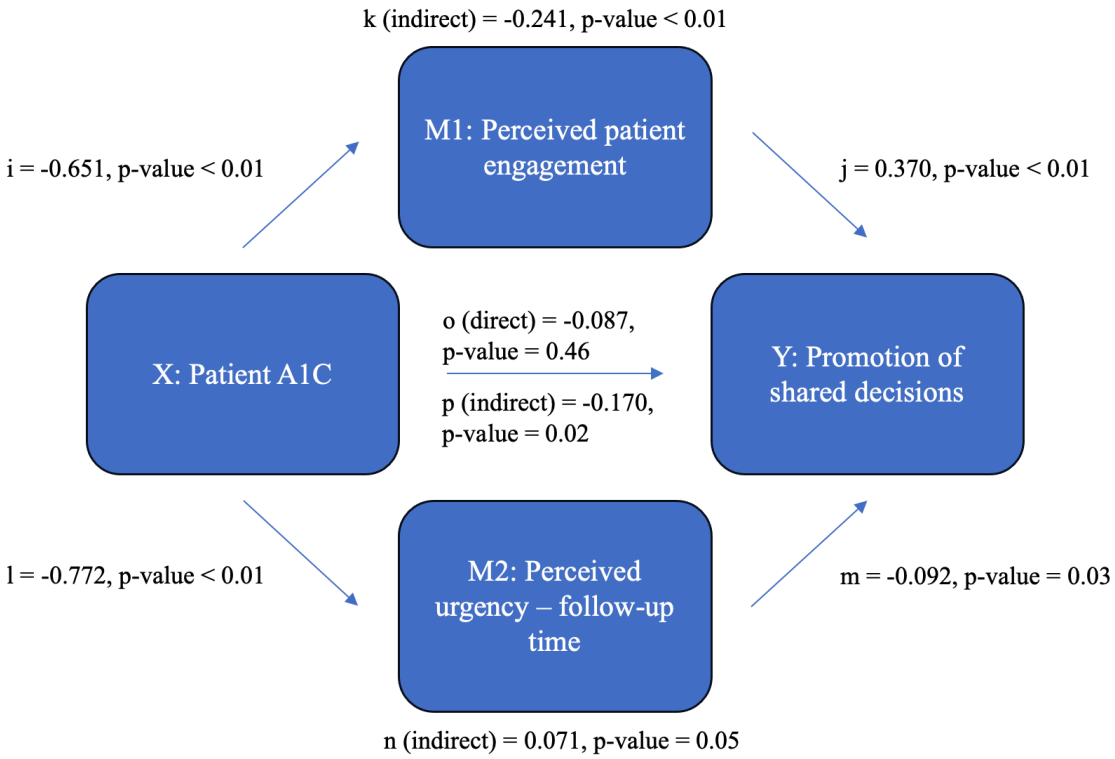

Figure 13: Mediation Analysis of Outcome Variable #2 - Promotion of Shared Decisions

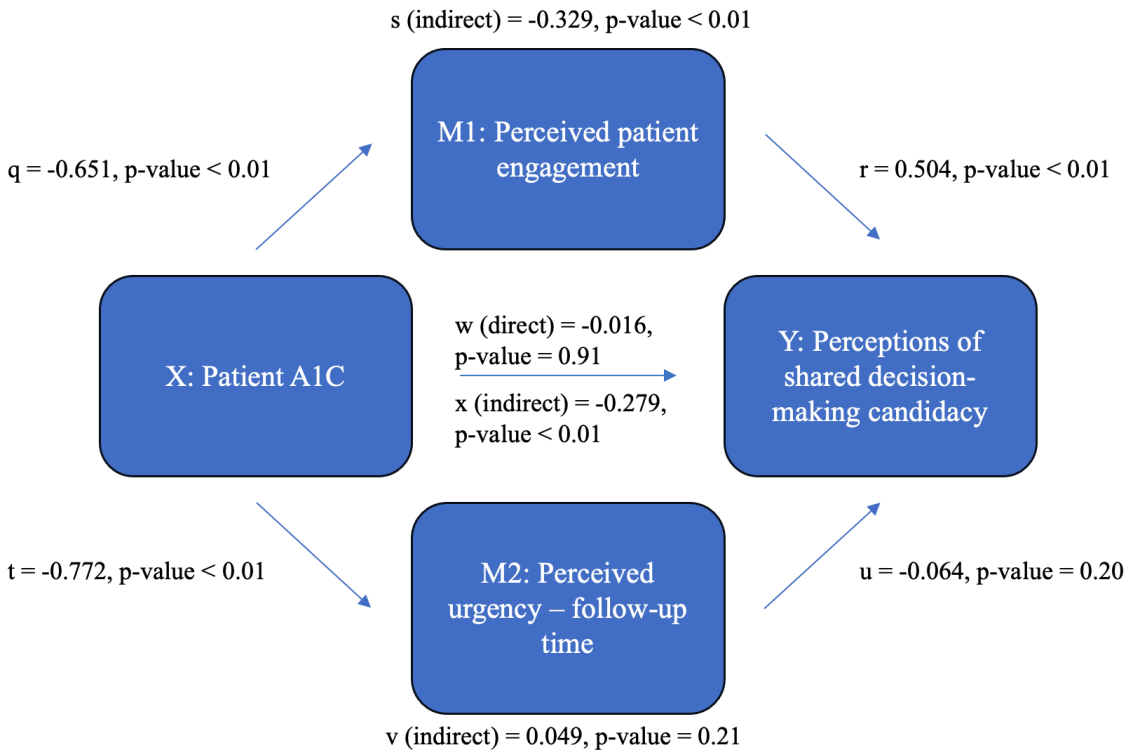

Figure 14: Mediation Analysis of Outcome Variable #3 - Perceptions of Shared Decision-Making Candidacy

CHAPTER 5. CONCLUSION

This dissertation is a theoretical and empirical investigation of primary care physicians as street-level bureaucrats. In chapter two of this dissertation, I make the theoretical case that primary care physicians are street-level bureaucrats, using literature from public administration and health services. I initially review the history of policy implementation in frontline work, starting with the introduction of the top-down perspective (Weber, 1921/2015) and leading to Lipsky's seminal bottom-up perspective and street-level bureaucracy theory. Because of its critical role in this history and the dissertation more broadly, I introduce and define frontline worker administrative discretion and discuss its standing in both top-down and bottom-up implementation.

In the second half of chapter two, I outline why physicians should be considered street-level bureaucrats using details of their work. I then synthesize the debate regarding what constitutes optimal discretion, both in street-level work generally and in the provision of patient care. Because street-level bureaucrat and client interactions are a central focus in the literature, I use the example of shared decision-making between physicians and patients to explore their discretion and behavior. I give an overview of the history of decision-making models in the US health care system, from paternalism to shared decision-making, and then discuss common barriers to the implementation of shared decision-making and the role of discretion in this space.

In chapter three of this dissertation, I use semi-structured, in-depth interviews with thirty primary care physicians from across the country to examine their perceptions of their own discretion and what factors shape that discretion. Initially, I find that participants perceive themselves to possess high levels of discretion. Yet, upon further discussion, I uncover five

consistent threats to their discretion, all of which impede their ability to provide patient-centered care and lead to burnout: (1) the adversarial health care "machine", (2) difficult and time-consuming insurance interactions, (3) unattainable patient expectations, (4) high emotional labor, and (5) the undervaluation of primary care. In an effort to combat these threats, participants employ various coping techniques, including attempts to establish clearer boundaries with their work, perspective shifts, and concrete changes to their work; the apparent success of these techniques varies greatly.

There are two primary contributions from this chapter. First, it offers a richer conceptualization of perceived discretion, and perceived discretion is worthwhile to understand because of its relationship with a physician's sense of loyalty to their patients and workplace, and their willingness to implement new policies and practices. Second, it illuminates who primary care physicians are, how they cope with the difficulties of their work, and who is anticipated to stay in medicine following organizational and institutional changes. This is critical in an era of physician burnout.

In chapter four of this dissertation, I use a vignette-based experimental design with two-hundred primary care physicians from across the country to explore whether respondents mentally sort patients based on their perceived engagement and urgency, and whether these perceptions influence their promotion of shared decision-making with these patients. I find that respondents devoted more time in a fifteen-minute appointment to shared decision-making tasks that precede a decision with a fictional high A1C patient (versus a low A1C patient). Yet, they were less likely to promote a shared decision with that patient or perceive them to be a good candidate for shared decision-making. Perceived patient engagement and urgency did play a

mediating role in this decision-making process; specifically, the high A1C patient was perceived by respondents as being less engaged and requiring more urgent care.

These findings offer a complementary explanation for why shared decision-making is not occurring as intended in existing health services literature. Specifically, they demonstrate the role of mental sorting of patients as a coping mechanism, as well as the significance of physician perceptions of patients when interacting with patients and making decisions about their care.

In summary, this dissertation finds and argues that the framing of primary care physicians as street-level bureaucrats is valuable to scholars and practitioners within street-level bureaucracy theory research and health services research more broadly for multiple reasons. First, physicians are highly professionalized frontline workers who are expected to exercise wide discretion in their provision of patient care. Their decision-making is consequential, influencing whether patients are granted access to scare medical resources and what their interactions with the health care system will look and feel like, including whether they will receive care that is considered patient-centered. These decisions are made under very stressful and demanding circumstances, resulting in the adoption of various coping mechanisms, including the mental sorting of patients.

Thus, narrowing in on physician discretion and decision-making assists us in better understanding policy implementation in clinical settings as well as in more general frontline settings. Namely, it partially clarifies why the misalignment between policy-as-written and policy-as-executed exists, for example when physicians are expected to promote shared decision-making with their patients. This misalignment is of concern to multiple stakeholders. For patients, for example, it negatively influences their experiences with health care and various health outcomes. For physicians providing care, it diminishes their perceived effectiveness in

their work and impairs their well-being. Finally, for policymakers and society more broadly, it negatively impacts the performance of health care.

Another reason this framing of physicians as street-level bureaucrats is important is because of its focus on the well-being of physicians and the potential application of these findings to other street-level bureaucrats, many of whom are also experiencing burnout at high rates, highlighting concerns for the future of the public service workforce. Street-level bureaucracy theory's central concepts of discretion and coping enable a richer exploration of burnout and its relationship to discretion. Additionally, because of the hydraulic nature of discretion proposed by street-level bureaucracy theorists, we gain insight into the implications of diminished discretion experienced by our frontline worker workforce.

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