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The Turn Toward Value: An ethnography of efficiency and satisfaction in the American hospital

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The Turn Toward Value: An Ethnography of Efficiency and Satisfaction in the American Hospital

by

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DEDICATION

This dissertation is dedicated to my daughter, Anjali. And to Andrew, for his unending support.

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The Turn Toward Value:
An ethnography of efficiency and satisfaction in the American hospital

By Francesca Maria Nicosia

Abstract

This dissertation is an ethnographic examination of the policies and practices intended to create "health care value" in American hospitals – a phrase encompassing the goals of greater efficiency in hospital work, a reduction in perceived waste of time and effort, and increased patient satisfaction. To explore these phenomena, and the ways in which these abstract notions are brought into practice as hospitals seek to meet quality reporting metrics, I trace the ways in which the *turn toward value* shapes the contemporary notion of good medical care. Specifically, I explore how quality improvement approaches such as "Lean thinking" and "continual process improvement" are used in hospitals to improve efficiency and satisfaction and shape patient and provider experiences of care. Lean, originally developed as the Toyota Production System, is increasingly popular in healthcare and focuses on increasing "value" through eliminating "waste," especially time spent waiting.

The concept of *patient flow* has become a central organizing principle for the movement of patients through the hospital. This dissertation explores how this *imperative of patient flow* is central to the *logic of efficiency* – the assumption that improving efficiency will result in better patient care – and shapes all aspects of care delivery. The production of efficiency and satisfaction metrics as quality indicators are central to how clinicians, administrators and Lean consultants understand the *health of the hospital.* As clinicians are enlisted as agents of continual process improvement in addition to providing clinical care, I show how care practices are displaced from patients onto to the system. Through the proliferation of and reliance on patient satisfaction surveys as market-driven quality indicators, I argue that today, *satisfaction has become a proxy for care* and reduces patients' experiences of care to quantified metrics. Ultimately, this dissertation argues that the *turn toward value shifts the locus of care from the patient to administrative processes,* and in doing to places the system itself – rather than the patient -- as the object of care.

This investigation is based on two years of research conducted between 2013-2015 in community hospitals and among Lean consultants in California and nationally.

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Chapter 1 | Introduction

In the contemporary health care landscape in the United States, efforts to address the broken health care delivery system have focused on improving quality through increasing value. These goals depend on the production and measurement of particular kinds of metrics -- namely efficiency and patient satisfaction. To explore these phenomena, I trace the ways in which the *turn toward value* shapes the contemporary notion of good medical care. Through the chapters that follow, I show how the focus on creating value in health care intersects with larger themes in American culture -- the intimate relationship between the medicine and market forces – and shapes the ways in which patients and providers experience giving and receiving care.

As an ethnography about the concepts and practices that have recently emerged as essential to quality care, this dissertation explores how value-oriented health care relies upon the production of particular forms of efficiency and satisfaction. I argue that the concept of value organizes our collective experience of care even as it is a shape-shifter, simultaneously overflowing with and void of meaning. What I mean by this is that there are certain concepts that are nearly impossible to argue against, like quality, value and satisfaction. On the surface, improving quality and value is an inherently good and noble endeavor, and some have argued that attending to these aspects of health care delivery is in fact an implicit moral imperative of medicine. I am not going to argue for or against that position here. Rather, in approaching the current landscape of hospitals and health care delivery ethnographically, I trace the effects of the operationalization of these concepts on the ground.

A Crisis of Value(s)

Beginning in the 1970s, the problem of hospital quality and safety emerged as a central topic of public concern in the United States. As the nation with the highest per capita expenditure on health care -- but without the equivalent status in terms of health outcomes -- cost has been a central component of the perennial health care crisis. Early concerns over safety targeted overworked residents and the structure of medical training as a source of medical errors (Bosk 2003, Lerner 2006). Safety concerns were soon overshadowed by runaway costs as justifications for the rise of managed care and Total Quality Management (TQM) in the 1980s. In the late 1990s, the discourse of crisis shifted again from a focus on cost and highlighted a renewed concern with safety and quality. This discourse appeared throughout health care, policy and political spheres as well as within popular media and with the public.

The concerns of patients and their families, health care providers, and hospital administrators coalesced in the publication of the Institute of Medicine's 1999 report, *To Err is Human: Building a Safer Health System* (Kohn, Corrigan and Donaldson 1999). This report decried the growing "quality chasm" and the threat of medical errors to the nation's health care system. The problem of quality and safety was taken up in congressional hearings, by federal agencies and regulatory bodies, including the founding in 1999 of the Agency for Research in Healthcare Quality, whose mission was, and still is, "to produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable" (ARHQ 2015, Healthcare Research and Quality Act of 1999).[1] Along with research priorities set by private industry and other federal agencies such as the Centers for Medicare and Medicaid (see Kaufman 2005,

[1] The Agency for Healthcare Research and Quality (AHRQ) was founded in 1989 as the Agency for Health Care Policy and Research (AHCPR). AHCPR's controversial guidelines regarding back pain surgery, cataract surgery and reduction in the use of new drugs influenced the agency's name change with establishment of Healthcare Research and Quality Act of 1999.

2015), the importance of ARHQ for setting and providing funding for the national research agenda related to quality metrics, is notable.

Along with the national research agenda focusing on various aspects of quality, another contributing force to the discourse on value as a central component of quality is the more recent turn toward "value-based" health care. The concern with continued skyrocketing costs and inefficiency, combined with the focus on quality and the patient-consumer experience, have shaped the national discussion around health care value. A major driving force behind the regulatory turn toward value has been the Centers for Medicaid and Medicare's (CMS) Hospital Value-Based Purchasing Program (HVBP) (CMS 2015). HVBP sets quality benchmarks for hospitals in order to receive the full amount of federally reimbursable costs, discussed in greater detail in Chapter 6. Indeed, the power of CMS to shape the ways in which medicine and health care services are delivered in the United States cannot be understated (Kaufman 2015). Academic medical centers are leading the way in the promotion of increasing "health care value" through research, training and quality improvement initiatives. And industry-sponsored organizations such as the Institute on Healthcare Improvement (IHI) promote value as a prominent focal point for hospital administrators and clinicians by issuing white papers, running trainings and setting national agendas for "best practices" in health care management.

This dissertation explores not only *why* a particular notion of value-based quality has taken root within the American health care system, but also *how* health care value and values are produced on the ground, in hospitals across the country. Furthermore, I question why improving efficiency and increasing satisfaction as a means to produce value have become the accepted salve to the problems of the contemporary health care delivery system.

Highlighting the prominence of the themes of value, efficiency and satisfaction makes visible the relationship between larger forces within American culture: consumerism, neoliberalism and the structure of the health care delivery system. Referring to the health care delivery system, however, is perhaps misleading, for the "system" in the United States is a conglomeration of fragmented facilities and providers that is complicated by the structure of insurance. This is not, however, a story about the insurance industry's influence on health care. When I refer broadly to the "health care delivery system," I mean the organizations and facilities that provide direct care to patients and the assemblage of policies, regulations and payors that drive the ways in which treatments, procedures, prescriptions, therapies and the possibilities for care happen.

In this context, "consumerism" refers to two interrelated but separate forces that shape the experience of being a patient. First is the common association of what it means to be a consumer within a capitalist system of exchange. The second notion dates to the consumer movement among patients in the United States in the 1970s, particularly among people living with disabilities who actively resisted the rampant paternalism within the medical profession and sought to gain a degree of independence and recognition as the expert of their own experience. The label of consumer was adopted from within this social movement to point out that people could collectively use their purchasing power to force social change, self-determination and a recognition that patients' insights about their own experience were not inferior to medical expertise. Today, the boundary between patient and consumer is mediated through the framework of "patient satisfaction" and is explored in Chapter 5.

By neoliberalism, I mean a particular set of economic policies that prioritize deregulation and the idea that a "free" market will best serve the social good. Coupled with this economic

logic is a particular brand of socially oriented neoliberal ideals about the individual, namely that people or patients are rational, economic actors who value individual responsibility and personal accountability for their wellbeing. Despite the promise that market-based solutions will serve the public good, neoliberal thought and economic policies ultimately serve the consolidation of class power and accumulation of capital (Harvey 2007, 19). While this understanding of neoliberalism is compelling, in the case of health care policy and practice, I follow Jessica Mulligan's (2014) argument that Harvey's explanation is not entirely satisfying. Market-based solutions such as quality management and value-based purchasing rely not only on the underlying economic principles of capital accumulation but necessarily draw on the positive, hopeful aspects of neoliberal discourse -- the desire for improvement and better health outcomes in the context of very real problems of inefficiency and high costs. This hopeful discourse relies heavily on the rhetoric and ideal of patient choice as downstream expressions of free-market ideology that tether human health to consumer financial power. Yet the questions we must ask ourselves are: What kind of value is being created? Value according to whom and to what ends?

The Logic of Efficiency

Throughout my two years of fieldwork, I sought to understand why the solution to the problem of value in health care was to focus on efficiency and satisfaction and how particular bureaucratic and market-based solutions become solidified as *the* way forward. In many ways, an economic explanation of the relationship between value and efficiency is appealing. But an economic understanding of solutions to the cost and quality crisis ignores the complexities of the social relations of care and the complexities of treatment -- including over-treatment -- within the hospital. Central to the creation of value in hospitals is what I call the *logic of efficiency* – the assumption that improving the efficiency of

health care delivery by eliminating systemic "waste" will benefit both patients *and* the bottom line.

What this dissertation maps out is how patients and health care providers enter into and are shaped by the enactment of a logic of efficiency through the imperative of maintaining "patient flow." Other scholars have looked at the ways in which hospitals are structured to move patients through the system, including how disciplinary and state power shape forms of labor and care in psychiatric hospitals (Rhodes 1991) and the regulatory and bureaucratic mechanisms that shape hospitalization the end of life (Kaufman 2005). Yet today, the explicit principle of "patient flow" permeates all aspects of hospital care. The emergence of this organizing concept parallels larger cultural discourses around flexibility of labor and capital. In her ethnography of Wall Street, Karen Ho (2009) traces how the logic of liquid capital penetrates all aspects of Wall Street culture in the service of creating shareholder value. In this dissertation, I take a similar approach to the concept of flow in the American hospital. Through detailed ethnographic attention to efforts to increase value through improving efficiency, I trace the ways in which the logic of efficiency is enacted in the hospital, ultimately framing the ways in which patients and providers understand and experience possibilities for care.

A Brief History of Lean Thinking in Health Care

One approach that aims to aid in this reform toward greater efficiency and value is called "Lean," the latest methodology in a long line of quality management systems adapted from industrial manufacturing to the health care sector (see Pine 2011). Lean management principles evolved from an industry-based manufacturing process originally developed as the Toyota Production System. They are part of a larger transformation of labor within the global economy and the shift from Fordism to flexible systems of production (Harvey 2005, Martin 1994).

The term "lean" was coined in the 1980's by John Krafick, a research assistant at MIT's International Motor Vehicle Program, which undertook a five-year study on the auto industry in fourteen-country study. The resulting publication, *The Machine That Changed the World* (Womack, Jones and Roos 1990), gives a detailed analysis of the differences between the mass production style of General Motors and the Lean production system developed at Toyota. In the 1930's, the founders of Toyota sought to improve upon Ford's methods of assembly line production in order to offer a wider variety of vehicle models while simplifying the flow of production. Their changes to the manufacturing processes resulted in the Toyota Production System (TPS) and were founded upon three pillars: 1) "just-in-time" inventory with "just-in-time" production – producing goods according to demand instead of stockpiling a surplus; 2) *jidoka* -- building-in quality by identifying errors at each step of the manufacturing process; and 3) "respect for people," i.e.: employees – foregrounding the expertise and knowledge of "frontline" workers over managerial expertise (Chalice 2007).

As Toyota rose to the top of the international automobile manufacturers, TPS gained recognition for its innovations in management and production and its principles spread to other industries. In 1996, Womack and Jones (2010) published *Lean Thinking* as a guide for managers and administrators to implement a Lean transformation of manufacturing processes. In this seminal book, the original three pillars of TPS had by then evolved into a five-stage process:

1. Specify value from standpoint of the end customer
2. Map all the steps in the value stream
3. Make the value-creating steps flow toward the customer
4. Let customers "pull" value from the next upstream activity
5. Pursue perfection

These principles and the processes designed around them have been adopted by other industries beyond manufacturing to logistics and distribution, services, retail, construction, maintenance and government. Health care organizations have begun to adapt Lean thinking in order to address many of the challenges currently facing the health care system in the United States -- rising costs, concerns about patient safety and medical errors, price variation, and wasted time and resources. Womack and Jones were among the first to propose how to implement Lean in health care settings and stressed that the first step is putting the patient first by including *time* and *comfort* as key performance measures of the system. Health care organizations –hospitals, health maintenance organizations and public health care systems such as the United Kingdom's National Health Service and the Veterans Health Administration in the United States -- are using Lean thinking to address the myriad "crises" that are affecting the safety, quality, cost and value of medical care today.

While there are a variety of views as to what constitutes Lean in health care, it is primarily used as a process improvement approach focused on three areas that I explore in this dissertation: (1) defining value from the patient point of view, (2) mapping “value streams,” and (3) eliminating waste in order to create continuous flow. "Value stream mapping," one of the more popular Lean tools in health care, is a technique used to analyze and design the flow of materials and information required to bring a product or service to a consumer. By visually mapping out the connections and pathways between activities in health care settings -- often by using post-it notes to show steps in the "current state" followed by specialized software to print out diagrams and flow charts of the targeted "future state" -- locations of broken processes, inefficiencies and "pain points" can be highlighted and targeted for rapid improvements. Many components of Lean retain their Japanese names, for example, “rapid improvement events” are

referred to as *kaizen,* which are workshops intended to result in small, low-cost, low-risk changes to be implemented by front-line staff as mini-experiments with 30-, 60- and 90-day cycles.

Identifying areas of waste -- i.e.: processes that do not "add value" to the product or for the customer -- is also an important component of Lean value stream mapping. Waste, most frequently referred to as *muda,* is identified by mapping out the essential elements of every step in the delivery of patient care. Lean redesign processes are intended to eliminate all waste – for example, unnecessary patient wait time or duplication of services and testing – and then become standardized, implemented, analyzed and continually improved upon.

As a "systems philosophy," Lean is intended to provide a road map for producing quality products and services while maximizing value and minimizing waste. When adapted to settings where patients are cared for, Lean has been described by proponents as "a business system for organizing and managing product (or service) development, operations, suppliers, and customer (patient) relations that requires less human effort, less space, less capital, and less time to make products (services) with fewer defects to precise customer desires, compared with the previous system" (Chalice 2007). In practice, however, Lean has most often been adopted in health care as components of TPS or sets of individual tools, not necessarily the entire philosophy and practice of a Lean management system.

Critiques of Lean's applicability within in clinical settings often focus on the appropriateness of processes that are designed for high-volume, low-variety durable goods being translated to patient care (Waring and Bishop 2010). Over-standardization is another concern because it can lead to an inflexible system that is unable to adapt to unexpected variation that inevitably arises with people who are socially and biologically complex (Holden 2011). In addition, frontline staff may experience difficulties with continual change and improvements and

changes in the social organization of the workplace (Waring and Bishop 2010) despite the intended potential for increased empowerment and ownership over their day-to-day work.

The emergence of Lean and Toyota Production System principles in healthcare follows in a long line of international management phenomena and is thought to be particularly suited to health care because of its focus on micro-systems and involvement of frontline staff as supposed drivers and authors of experimentation and change. Emily Martin's (1994) analysis of the cultural discourse of flexibility linked understandings of immunology in the age of AIDS and the body as a flexible system with the changing nature of work and labor in a post-Fordist economy. She shows how the notion of flexibility within complex systems differs from earlier notions of equilibrium central to mechanistic understandings of both bodily and manufacturing systems. The shift toward flexibility as a central feature of post-Fordist work has impacted the way in which manufacturing and service industries reorganized under the concept of "Total Quality Management" (TQM) in which organizations have had to become "learning organizations" that engage in continual improvement in order to maintain flexibility and applicability within an ever-changing market.

Prior to the adoption of Lean management principles within healthcare, various systems and methods for quality improvement were implemented with limited to moderate success, most of which were restricted to individual processes and not system-wide change (McCarthy 2006). Variations on TQM have been used since the 1980s with little improvement or transformation of the health care industry as a whole due to lack of support from organizational structure and culture, and the cost, time and expertise needed for implementation. Six Sigma, is a quality management consulting offshoot of Motorola focused on reducing errors and defects through eliminating variation. The name is a reference to the goal of achieving fewer than 3.4 errors per

million opportunities – the "6th Sigma" of errors (see Pine 2011). This approach is heavily data-driven and has been facilitated in health care by the proliferation of electronic health records and health information technology. However, the appropriate level of staff with statistical expertise and the necessary tools for implementing Six Sigma have not been readily available within hospitals and health care systems (Printezis and Gopalakrishnan 2007). Lean, although heavily data-driven, has a lower threshold for the level of statistical expertise needed to inform practices of continual change and improvement, thus rendering Lean potentially more accessible to clinicians on the "frontlines" of hospital care. However, as I show in Chapter 3, the precision of measurement and data that is relied upon to inform Lean process improvement in hospitals is often arbitrary and illusory despite the rhetoric of scientific method used to promote Lean's affinity with "evidence-based medicine."

Since the 1990s and early 2000s, Lean thinking -- whether in bits and pieces or as a comprehensive management system -- has increasingly been adopted by hospitals and other health care organizations as a strategy for reducing waste, improving efficiency and increasing value.[2] While Lean is touted by many as a panacea to the problem of cost, quality and value, in this dissertation, I explore how the philosophy and practice of Lean intersects with the broader turn toward value in health care in the United States.

[2] Determining the number of hospitals employing a comprehensive Lean management system or elements of Lean methodology for process improvement is a difficult statistic to come by. There is no centralized location for this data, and many hospitals and health systems utilize elements of Lean or have incorporated Lean philosophy and methods into proprietary "improvement" systems. In an effort to address this lack of information, as well as build the "evidence base" of the case for Lean healthcare, the Center for Lean Healthcare Research was formed in partnership between Fisher College of Business at The Ohio State University and ThedaCare Center for Healthcare Value. In 2016, the University of California Berkeley's School of Public Health formed the Center for Lean Engagement and Research in Healthcare (CLEAR).

Satisfaction & the Quantification of Care

The ways in which we think and talk about value are shaped by cultural ideals around consumerism, choice, and increasingly, through the lens of satisfaction. Satisfaction, or more specifically patients' satisfaction with measurable aspects of care delivery in the hospital, is today produced through processes of quantification intended to capture the subjective nature of experience. Why though, at his moment in time, has satisfaction gained such a large degree of cultural traction?

Today, more than 25 years after the health care quality crisis was first identified, patients, families, providers, policy makers, politicians and hospital administrators alike are using the rhetoric of *value* as a stand-in for what are considered to be problems in efficiency and as the new quality frontier. The relationship between the quality of hospital care, efficiency and patient satisfaction is shaped by the discourse of value that has emerged at the nexus of structures of health care delivery, neoliberal policies, subjectivities of patients and the intimate relationship between health care and business. These relationships lead to questions about and new ways of understanding our understanding of experience, and the ways in which contemporary forms of patienthood are shaped by the quantification of care (Hunt *et al* 2017). In the context of the turn toward value, patient satisfaction surveys, because they are quantifiable, are taken for granted as a logical method through which to improve the quality of hospital care.

I am interested in understanding the contours of what is at stake for patients, providers and the health care system, in terms of the ways in which quality and value-oriented care are being interpreted and used. This dissertation shows how attention to satisfaction is transformed into an economic form of future-value through mechanisms of satisfaction surveys, reimbursement schemes and the speculation that satisfaction drives patient choice and ultimately

increased market share. Despite the proliferation of neoliberal principles underlying market-driven care, the ideal that patients will choose their hospital and health care providers with their dollars is largely an unrealizable assumption. In many ways, satisfaction – as measurable in quantitative surveys -- has become a stand-in for care.

The ways we respond to all aspects of hospitalization and the delivery of hospital care are inextricably tied to how we understand care more generally, and to what it means to be a patient. It is in relation to historical developments in medicine and health care restructuring, as well as the social imaginary and cultural values imprinted upon the hospital, that we draw on to shape our experience of being a patient. The hospital system in the United States is structured to move patients along through regulatory and bureaucratic mechanisms (Kaufman 2005). Yet within the ever-shortening window of time that patients stay in the hospital, market logics dictate the need for hospitals to putatively attend to the "experience" of patients while simultaneously moving them through as quickly as possible.

The dismantling of the welfare state and restructuring of health care delivery that began in the late twentieth century in the United States has displaced much of the care patients received in the hospital into the domestic and informal labor sector. At the same time, demands and expectations of patients-as-consumers and the evolution in health information technology has enabled a vast and lucrative industry surrounding patients' engagement with their own health and health care. In the past decade, we have seen an exponential growth in electronic medical records, mobile health apps, wearable devices, and the use of e-health and telemedicine as a means to improve efficiency and increase access to care while reducing cost. These technologies are indeed shaping the experience of being a patient today and are radically changing the nature of medicine inside and outside of the hospital (Greenfield 2015, Hunt 2017, Wachter 2015).

Within the contemporary health care landscape, the hospital remains a quintessential location of transformative and disruptive moments in the lives of patients and families. Here, more than anywhere else where people interact with the health care system, people are always patients in the classic sense: dependent, liminal. However, our understanding of what it means to be a patient is shifting. Today, a patient is often synonymous with "consumer" or "member" of a managed care plan. This dissertation explores how the category of the patient is shaped by the focus on satisfaction -- as opposed to health outcomes -- as a means to increase health care value.

Patients have learned to want things from their hospital stay. Pain relief. Service. A diagnosis. Information. Personalized care. We want the hospital to provide the best in medical, surgical and therapeutic technologies. People want to be repaired and return home quickly, but not too quickly that they feel as though they are being kicked out or rushed through the system. People also want, and increasingly expect, creature comforts and the affective experience of being pampered through efficient and individual-oriented customer service. Many patients described to me a desire for their hospitalization to be an "excellent experience" in spite of the often life-threatening or life-altering circumstances surrounding the need to be in the hospital in the first place. Ultimately, people want to feel cared for. Yet the ways in which that care is understood and desired are shifting from health outcomes to satisfaction metrics.

The production of quality indicators (such as efficiency and satisfaction metrics) is not the only way patients and providers experience the delivery of care in the hospital. In the United States, where normative and presumed values of individualism and consumerism inform the notion that access to health care is a privilege and an individual responsibility to be obtained outside of the welfare state, the ideals of choice in and control over one's medical care are persistent within the discourse of quality and value. The importance of satisfaction, efficiency,

and quality broadly construed all become factors in determining what we now call “quality of care.” This specific discourse of quality highlighting "satisfaction" and "efficiency" shapes and organizes the rhythm of care practices in the hospital.

The problems of efficiency and satisfaction are not as straightforward as the end product of quality metrics would suggest. Yet, they are displacing health outcomes as the measure of success. Making the ephemeral concepts of efficiency and satisfaction concrete is now essential to "measuring the health of the hospital" in its search for value. This dissertation problematizes the naturalization of these concepts and explores how they have become concretized and operationalized within health care policy and practice as the primary means through which to increase both economic and social value of hospital care.

The Hospital as Ethnographic Object

Imagine this. The hospital of the future is not “a place” but rather a collection of inpatient and outpatient facilities as well as patient homes interconnected through a shared information technology infrastructure. Care will no longer be defined by episodic events such as a hospital stay but rather by the episode of care required across settings and providers to fully recover from an illness or manage an exacerbation of a chronic disease. Patients and their families will access a “control center” website tailored to their needs in their homes to connect to the acute care team and manage their own care. Home monitoring devices will provide data and continuous feedback about clinical status. Readmissions to the hospital due to failure of care protocols and inadequate support will be markedly reduced. Healing will occur at home.

– Institute of Medicine (2010) report on *The Future of Nursing*

The hospital's functions and boundaries were negotiated in the past and are being renegotiated today.

– Charles Rosenberg (1987) *The Care of Strangers: The Rise of America's Hospital System*

The word *hospital* etymologically derives from the Latin *hospes,* signifying a stranger or a guest. It is also connected to the notion of hospitality – the relationship between guest and

host, friendly reception, providing shelter – derived from a related Latin noun *hospitium*. These terms conjure images of particular forms and ethics of care. During the Middle Ages, when a Christian ethos and monastic tradition were the primary social forces organizing institutions of healing and repair, hospitals in Europe were primarily hostels for travelers and pilgrims or almshouses for the poor Risse (1999). While not hospitals per se, the temples of Greece and Roman battlefields played an important social role focused on healing. Almshouses across Europe – most famously France's Hotel-Dieu – evolved out of the medieval moral, social and often religious obligation to care, and provided refuge, comfort and care for the destitute. Later, during the emergence of the modern state, the hospital functioned as a "house of rehabilitation," where efforts were made to restore citizens as productive members of society (Linker 2011, Risse 1999).

In the United States, almshouses emerged as the counterpart to county hospitals that provided care for the acutely ill, largely caring for the chronically ill and disabled (Sweet 2013, 7). While most "respectable" Americans of economic means preferred to be treated at home, the almshouse existed as a destination for society's dependent and indigent. Charles Rosenberg (1987) places the formation of the hospital within larger shifts in the social structure where a range of functions – education, welfare, work and health care – were moving out of the home to institutional sites. Increasing rates of urbanization and a growing workforce unable to return and be cared for at home would turn to the almshouse, which provided little in the way of medical intervention: "The hospital in early national America was defined primarily by need and dependency, not by the existence of specialized technical resources" (5).

The Civil War changed the relationship of the American public to the hospital in that it became not only an institution for the treatment of the dependent and urban working poor, but

also as a place "as safe in fact as a middle-class home" (99). By the late nineteenth and early twentieth centuries, the American hospital had certainly expanded both its technological and scientific possibilities. The growth and increasing acceptability of the hospital at that time had less to do with medical advances but "an activism informed by traditional views of social welfare and individual responsibility" (99). Later developments in the hospital system were not only shaped by technological advances but also through the close connection of American values of charity and social welfare alongside business interests that enabled the status of voluntary, not-for-profit hospitals to in fact function as privatized, profit-seeking institutions (Stevens 1989).

As mid-twentieth century developments in American hospitals were influenced by the continued consolidation and professionalization of the medical profession, the teaching hospital and systems of internship and residency became central to professional development and specialization (see Kaufman 1993). The centrality of the hospital to medicine can be illustrated through employment statistics: in 1930 one out of sixteen doctors worked full-time in a hospital; one of every six doctors worked in a hospital by the 1950s (Starr 1984, 336). By the 1940s, the hospital was firmly established as the center of the medical world (Rosenberg 1987). The 1940s ushered in a "new era" of medicine with the discovery and widespread use of penicillin, beginning the "Golden Age" of medicine (1945-65) in which there was an unprecedented growth in medical schools, university medical centers, and biomedical research programs alongside the height of medicine's social prestige and political influence in the United States (Friedson 1970). Scientific advances, the promise of curative medicine and the effects of World War II on the prioritization of scientific and medical research spurned huge investments of federal funding to the medical establishment with the hospital at its center (Starr 1984, 335-340). In paying attention to the hospital as an ethnographic object, these scholars of the history of the hospital

remind us of the importance of understanding how the hospital itself is always a constellation of emerging practices, technologies, political pressures and scientific priorities.

Long, Hunter and van der Geest (2008) identify two main trends in hospital ethnography that follow along the historical trajectory of the anthropological gaze: "hospital-as-island" and "hospital-as-culturally-embedded" (72). Early ethnographies of the American hospital conceptualized it as an isolated entity and were informed by sociology of total institutions – places of work or residence like prisons or asylums where people are cut off from the outside world and all aspects of life are formally administered and routinized (Goffman 1961). Caudill (1958), for example, framed the psychiatric hospital as a small society. Coser's (1962) *Life in the Ward* moved out of the disciplinary institution into an "ordinary" American hospital where he conceptualized the ward from the perspective of the patient who is living on a "tight little island" (3) cut off from the normal world.

The notion of a bounded, isolated culture or institution as an ethnographic field has not been relevant nor practical for some time. Contemporary manifestations of total institutions such as prisons or psychiatric hospitals are not impervious to structural and cultural forces that shape the experience of work and life within institutional walls. Lorna Rhodes' (1991) ethnography *Emptying Beds* is an example of an institutional ethnography that frames the psychiatric hospital as a porous institution in which disciplinary and state power affect both patients, staff and forms of labor and care.

Medical anthropologists have, over the past twenty-five years, broadened the definition of the clinic within the context of global economic neoliberalism. The recognition that "the clinic" is a complex object that emerges at a particular historical moment and is enacted through specific practices (Foucault 1975) informed a large body of scholarship in medical anthropology

and sociology that sought to understand the social dynamics of clinical care in the United States. More recently, a number of anthropologists have produced a large body of scholarship based on the observation that the power of medicine to shape subjectivities and modes of being extends far beyond institutional walls into "extra-clinical" spaces (Biehl 2005, Garcia 2010, Greenfield 2015, Knight 2015, Patton 2010). The epigraph from the Institute of Medicine that envisions the future hospital and care located across a "collection" of places draws attention to the increasing diffusion of medical care outside of institutional walls, and perhaps calls into question the relevance of the hospital to the ways in which we think about forms of care. I argue, however, that the hospital is not irrelevant as an ethnographic object; rather, as an increasingly concentrated site, the hospital remains an increasingly important point of ethnographic entry to understand care and the creation of value(s). As an institution at the center of a huge sector of the American economy, the hospital is a microcosm for studying the ways in which socially constructed notions of fiscal and social value are changing.

The American Hospital: An Epicenter for the Production of Health Care Value

Hospitals are at the epicenter of changing social values, having historically been the locus of financial and social capital, symbols of hope and scientific achievement in the American cultural imaginary. The primary task of hospital medicine has been to identify, diagnose and treat acute injury and illness. However, as the epicenter of the medical industrial complex (Relman 1980), hospitals are more than powerful symbols of the achievement of scientific medicine. They are also sites for vast accumulations of capital.

Hospital care is expensive. Aside from investments in technology, the cost of labor and overhead to keep hospitals up and running is astronomical. There is a long and entrenched

relationship between capitalism and medicine (Stevens 1999). Despite the non-profit status of the majority of American hospitals, business strategy has become integrated into care delivery. At the very least, money must continue to flow in order to keep facilities afloat. Hospitals are increasingly creating and investing in alternate revenue streams like state-of-the art, family-friendly birthing centers, outpatient cancer centers and other ambulatory specialty services in order to widen the margins of financial profitability.

Efforts to reign in runaway health care costs have targeted the over-utilization of hospital care with particular attention paid to the length of time that patients stay in the hospital. As a result of these efforts the average length of stay for hospitalized patients has steadily decreased over the past fifty years. The impetus for this trend has dual origins. Primarily, the regulatory and reimbursement schemes implemented under the Center for Medicare and Medicaid's Diagnostic Related Groups, which set caps on the length of stay related to a specific diagnosis. For any given admission, hospitals must justify a patient's resource "utilization" and continued stay in the hospital. At the same time hospitals are financially rewarded to improve efficiency and move patients along, there is mounting evidence that the patients are at increased risk for iatrogenic infections and errors the longer they remain in the hospital. People not only recover more quickly at home, but most prefer to return to the comfort of their own home as quickly as possible. Given the simultaneous financial pressures on hospitals to get patients out and consumer demand, not to mention health risks, patients are increasingly able to receive health care services outside of institutional walls. Indeed, some have noted the explicit shift toward the "hospital at home" (IOM 2010, Leff 2015).

This diffusion of care is mirrored within policy and market trends, where the hospital is no longer the locus of the health care delivery system. The themes and concepts explored in this

dissertation -- value, efficiency, satisfaction, extend into all aspects of health care delivery. But the centrality of the hospital within the health care economy and the social imaginary make these themes and their enactment on the ground particularly salient and ripe for ethnographic investigation. The hospital is at the center of a network even as the locations of care are dislocated from a particular place into patients' homes and their day-to-day embodied lives. Despite these changes -- whose full impact on our understanding and relevance of what it means to be a patient we are just beginning to understand -- the hospital remains an important and critical part of the health care delivery system. In this dissertation, I argue that these trends and new institutional arrangements do not make the hospital irrelevant as an ethnographic object, but rather render the hospital an increasingly concentrated site of particular forms of care and production of subjectivities and values.

The particularities of individual hospitals and the ways in which their founding mission was reflected in the organizational culture and approach toward care and value (Reich 2014) were reflected in the various sites I observed in the course of my fieldwork. But all hospitals, regardless of the setting of care -- whether a Level 1 trauma center, safety-net hospital, academic medical center, religiously affiliated, community, rural or boutique hospital -- are subject to the same regulatory, market and policy pressures that shape our collective understanding of health care quality and value. Referring to *the* American hospital is perhaps an overgeneralization, but one I make in this dissertation with the intent to point toward larger trends in health care management and quality improvement. I do not describe the particularities of a single hospital or health care organization. Instead, I have distilled the multi-sited ethnographic fieldwork I have conducted in a way that allows me to speak broadly about the ways in which the turn toward value manifests in the contemporary American hospital.

Methods

In order to ethnographically explore the concepts and practices of efficiency, satisfaction and value in the American hospital, I followed these concepts along multiple fault lines within the health care landscape. Although I placed the hospital as the site of ethnographic entry, my fieldwork was necessarily multi-sited and employed multiple methods using an approach referred to as "studying through." Studying through is an adaptation of Laura Nader's (1974) term "studying up," in which ethnographic tools developed to observe and understand small-scale field sites or cultural systems were employed to "study up" in order to understand institutions or individuals in positions of financial, political or social influence. The notion of "studying through" extends the ethnographic lens in all directions to also look down and sideways in addition to up (Shore and Wright 1997). Studying through, therefore is a methodological approach for investigating systemic change at multiple levels among multiple groups of differentially situated actors and is particularly suited for an ethnography of health care policy and practice (Mulligan 2014:13).

The breadth of my field sites included: 1) conferences, webinars, workshops and online forums for clinicians, hospital administrators and management consultants focused on Lean philosophy and methods; 2) continuing education courses and conferences related to health care, technology and business; 3) ethnographic observation at three community hospitals in California; and 4) interviews with patients, providers, hospital administrators and management consultants. In addition, I read national policy documents, newspaper articles, blogs and listened to public radio programs relevant to this project.

Between September 2013 and October 2015 I conducted observations and began to meet consultants, patients and staff affiliated with three California community hospitals. In addition, I

spent four months as a research consultant to a group of Lean coaches and consultants affiliated with a large hospital group. During the course of my research, I told everyone I met that I was conducting dissertation research with a broad focus on understanding the impact of quality improvement on patient and provider experience of hospital care.

I conducted individual and focus group interviews with over 40 health care professionals including physicians, nurses, physical therapists, radiology technicians and pharmacists. I conducted 20 formal interviews and had numerous informal conversations with hospital administrators and Lean consultants. I interviewed close to 50 patients who had recently been hospitalized and in some instances I also spoke with family members and caregivers. When possible, I visited patients in their homes, assisted living or skilled nursing facilities. Otherwise, interviews took place in a hospital conference room. Roughly two-thirds of the patients whom I interviewed were white, had private insurance or Medicare and were over sixty-five years old. Throughout the course of my research, I had numerous informal conversations with friends, family, acquaintances and strangers, all of whom had something to say about their experiences with hospitals and the health care system.

This combination of ethnographic observation, in-depth interviewing, historical and policy analysis allowed me to understand the concepts and practices that constitute the creation of healthcare value -- including efficiency and satisfaction -- from multiple perspectives. This research was approved by the University of California, San Francisco Committee for Human Research.

Summary of Chapters

In Chapter 2, "Patient Flow and the Logic of Efficiency," I explore how the *logic of efficiency* is enacted in the hospital through what I call the *imperative of patient flow*. The concept of *patient flow* has become a central organizing principle for the movement of patients – and related care practices -- through the hospital. Within a flow-oriented system, the imperative of moving things along (Kaufman 2005) has expanded to encompass all patients, not only those at the end of life. This chapter explores these concepts ethnographically by illustrating their enactment through one hospital committee's attention to "length of stay" statistics. It explores how efforts to mediate the "discharge threat" – patients not leaving the hospital in a "timely" manner – through designing an "ideal discharge process" ultimately resulted in patients' individual needs taking a backseat to the needs of the system.

Chapter 3 addresses the centrality of metrics to the production of efficiency and patient flow as a means to "measure the health of the hospital." I use the concept of "vital signs" to illustrate the ways in which particular efficiency metrics – door-to-doctor time, time of doctor's order to discharge, etc. -- are used by clinicians, administrators and Lean consultants to take the "pulse" of the hospital. Central to this endeavor are concepts and practices of Lean such as "A3 thinking" and cycles of experimentation that draw on a "scientistic rhetoric" (Pine 2011) of continual improvement. The production of metrics is central to the logic of efficiency and measuring the health of the hospital. The ethnographic examples in this chapter show how an "illusion of precision" drives the arbitrariness of metrics that become sedimentized as the "truth" of efficiency. Ultimately, these practices illustrate how care is displaced from the patient onto to the system.

Chapter 4 interrogates the ways in which the concept of satisfaction has become central to efforts to improve the quality and value of health care. Unlike metrics centered on time, satisfaction is inherently a subjective concept rooted in experience. As such, satisfaction metrics are intended to capture the "patient experience." Patient satisfaction surveys were initially developed as a market-driven intervention intended to address the suffering of patients at the hands of the hospital. By attempting to make suffering legible through surveys that necessarily present a quantified picture of experience, I argue that *satisfaction has become a proxy for care*.

Therefore, I explore the history of patient satisfaction surveys in the United States and the mechanisms that transform and make legible particular aspects of experience into quantified satisfaction metrics. In doing so, I expose a profound institutional anxiety that resulted when one hospital's contract with Press Ganey Associates – a national leader in the satisfaction survey market – was cancelled, leaving them without access to familiar forms of metrics. The proliferation and institutionalization of patient satisfaction surveys as a market-based solution to suffering, the resulting reliance on satisfaction scores as a means to "take the pulse" of the patient population and the assumption that patients will utilize survey results as rationalized, health care consumers are what I refer to as the *tyranny of satisfaction*.

In Chapter 5, I highlight the relationship between time and waste, particularly in the context of Lean thinking and continual process improvement in the hospital. The concept and practices of eliminating waste as a means to increase value is central to Lean thinking. Here, I draw on Mary Douglas' (2003) notion that eliminating dirt "is not a negative movement, but a positive effort to organize the environment" (2) into a flow-oriented system. To do so, I explore the multiple concepts of waste in Lean thinking – *mura, muri,* and *muda* – and the ways in which the persistence of the Protestant Ethic (Weber 2002) has influenced how wasted time – the

“deadliest of sins” -- has become the “worst of the wastes” in the health care and hospitals in the United States.

Finally, Chapter 6 returns to the main theme of this dissertation – the turn toward value in American health care – and explores the multiple ways that value appears across the health care landscape. Anthropology has historically been concerned with theories of value in multiple contexts -- the economics of exchange and use value, sociality and creation and enactment of "values" in the context of beliefs and mores, and linguistic or discursive values (Graeber 2001). In the context of the contemporary hospital and health care landscape in the United States, these approaches toward understanding value collide. This chapter explores in detail how the concept of value is enacted through policy and regulations such as value-based purchasing, systems-based competencies for medical education, and how the unrealized Lean concept of creating value for the customer in fact foregrounds the system, not the patient, as the ultimate customer. The ethnographic examples throughout this chapter illustrate how the *turn toward value shifts the locus of care from the patient to processes,* and in doing to places the system itself – rather than the patient -- as the object of care.

Chapter 2 | Patient Flow & the Logic of Efficiency

Observing ED Flow

I arrived in the Emergency Department early one summer morning in 2014 to observe the busy morning shift. I wanted to better understand how things worked in order to create "perfect patient flow," a phrase I often heard as the goal of the hospital's efforts to implement Lean. Metrics such as "door to doctor" time and "left without being seen" rate were monitored religiously in order to track quantitative improvements in efficiency. Yet emergency departments are complex places with any number of variables impacting the movement of patients. It was therefore important for me to understand the concepts and practices that constitute what is referred to as "patient flow."

"Patient flow" has replaced the industrial term "throughput." Throughput refers to an assembly line: raw materials in, end product out. In the documentary film *Health Factor*y (2010), Norwegian filmmakers depict the arrival of Lean thinking and methods in the national health system and local hospitals. To overstate the impact of Lean's emphasis on throughput, the film relies on images of patients being literally strung up on meat hooks, their lifeless bodies paraded overhead in a dark and dingy factory. This dramatic effect alternates between segments of operating rooms and health systems experts. The term throughput insinuates volume and production, a concept that many find objectionable in relation to the care of patients in Norway, the United States, and elsewhere.

Patient flow, on the other hand, is a more delicate description of the same phenomena. Patients come in, they move through the hospital in a finely orchestrated dance with perfect timing. According to the rhetoric of patient flow, the events the take place during a hospitalization should unfold in a smooth process. The patient is carried along, something is

always happening to them, there is no wasted time. The river the patient is floating in should never stagnate. The phrase *patient flow* has overtones of something pleasant, moving along gently. Achieving a state of optimal flow sounds great, and in theory is difficult to argue against. When the flow of patients gets backed up, it creates a bottleneck, resulting in other patients down the line suffering the consequences of poorly designed care delivery. Many of us have had the experience of having to wait in the hospital, sometimes for an interminably long period of time.

I spent the morning shadowing Victoria, the ED charge nurse on the day shift. We sat behind the counter of the bustling nurses' station, surrounded by the constant buzz of monitors, pagers, patients moaning behind curtains or being rolled by on gurneys. In between the interruptions of the telephone from nursing units upstairs and the direct line for incoming ambulances, Victoria made a point to mention to me when she noticed a person or process that "obstructs flow," in her words. Things like the unpredictability of ambulances. Psychological Emergency Services and their mandated low ratio of nurses to patients -- they often needed the help of regular ED nurses to do procedures -- "they should be able to do themselves," pulling her nurses away from the regular ED floor. At times, registration would not be completed when patients arrived and they would have to finish the official registration process after the physician had ordered their discharge home. As another nurse put it, "doctors constipate the ED" when for one reason or another they do not follow processes implemented for optimal flow.

We monitored the computerized patient tracking system that tracks the status of patients and their rooms. She explained the color-coded categories to me. Yellow: patient has been seen by the doctor. Green: patient has been admitted to the hospital but waiting to move upstairs. Blue: conditional admission. Brown: dirty room. Black: patient is on a gurney in the hall.

Orange: pending discharge. Pink: patient is in the psych ER. Today, there was an abundance of green. "They're all ready with nowhere to go," Victoria lamented. Patients were not moving.

She explained to me, "It's after 10:30 and I've been waiting for a bed upstairs since 7:30 in the morning!" Inpatient bed availability was a continual thorn in the Emergency Department nurses' sides. They accused floor nurses upstairs of "hiding beds" from the Bed Supervisor by not indicating open rooms in the electronic record. ED nurses speculated that they were hiding beds because they did not want to take a new admission before the end of their shift. This was a common narrative for why beds were not available, causing a "bottleneck" for ED patients. The Bed Supervisor would not talk to me "on the record" -- that is, he declined to record a formal interview. He told me he was worried about saying something "negative" during his 6-month probationary period. Instead, I shadowed him on a number of occasions and he shared with me the challenges and headaches of coordinating patient bed assignments throughout the hospital. It really was a thankless job. He lasted less than a year. When Lean consultants were brought in and conducted a "root cause analysis" of the problem of lack of available inpatient beds, they found that late discharge times -- not hiding beds -- was the primary culprit. Regardless of the reason, ED nurses described backups in patient flow like a pressure valve, building up inside the ED. "We need something to turn the wheel," Victoria said. "Patients keep coming, but where do you put them?"

Moving Things Along: The Imperative of Patient Flow

The institutional imperative to move patients along is not new; various forms of this imperative have shaped the experience of hospitalized patients and the physicians and nurses who take care of them. Lorna Rhodes' (1991) ethnography of an emergency psychiatric ward

showed how disciplinary and state power shaped forms of labor and care that were oriented to move patients quickly through the system. Victoria Sweet (2013) has called attention to the "inefficiency of efficiency" that results from introducing managerial models of care that aim to shorten length of stay in long-term rehabilitation facilities. In the acute care hospital, Sharon Kaufman (2005) illuminates how regulatory and bureaucratic mechanisms drive the imperative to "move things along" and shape hospitalization the end of life. Today, the imperative of movement in the acute care hospital has shifted from an institutional anxiety around dying bodies to the bodies of all patients in the form of *patient flow* and affects all hospitals that operate within the particularities of the U.S. health care market and regulatory climate. Thus, hospitals everywhere are facing similar pressures to increase efficiency in the name of quality and value. This is the context in which I conducted my research and fieldwork.

Like so many other community hospitals around the country, the management and board of directors at one of the hospitals I worked in had explicit aspirations to become the best in the country. "Our goal is to become a destination hospital – "the Mayo of the West," one administrator told me. To that end, over the past few years, the hospital had been working toward certification as a Center of Excellence and Nursing Magnet. They had recently opened a new wing, including a new emergency department that was big and bright, where visitors were welcomed into an expansive atrium inside a wall of glass windows -- a modern vision of a hospital cathedral. This hospital was one of many who were implementing Lean process improvements to improve patient flow. Despite promises of this beautiful new wing breathing life into the hospital, making work easier for busy staff, more welcoming for patients and families, the opening of the renovated Emergency Department created a new set of problems and unintended consequences.

First, the size and layout of the new ED was "terrible," as some staff explained to me. As I walked the floors of the ED, it was obvious how spread out the floor plan was, making it more difficult for nurses and physicians to communicate. In emergency situations, when time and communication are critical, these physical barriers to communication were problematic. One solution to solve the communication problem was to outfit every staff person throughout the hospital with a personal pager linked to a centralized system, called "Vocera." These are essentially a digital pager and intercom. Nurses, physicians and others sign in to the system when their shift begins. When paged, the voice of the person paging you emanates from the speaker on the oblong, beige pager clipped to your shirt: "Calling Dr. Brown." The recipient then records a voice message and sends it back.

The rationale behind using the digital voice paging system was to eliminate wasted time staff spent physically looking for each other or calling nurses' stations that were empty (usually because nurses were taking care of patients). These pagers, however, created another layer of sound and commanded attention, adding to what has been referred to as "alert fatigue" -- a problem with serious consequences for patient safety (see Wachter 2015). In this ED in particular, the system often did not work as intended and most staff I talked to were frustrated and annoyed about the inconsistency of the pagers. The system of personal intercoms had become so unreliable someone on the ED's "Lean Team" -- a group of individuals who were charged with leading the continual process improvement efforts -- proposed purchasing walkie-talkies. "We need to go old school," one doctor said. "I'll buy walkie-talkies with my own money if I have to." What had been intended to be a way to save time, like so many technological fixes, was a source of perennial frustration and unanticipated consequences.

The second, more pressing problem threatening the smooth and unencumbered flow of patients was a combination of higher volume of patients and longer wait times. Only two years after the opening of the new Emergency Department, it was clear that the rapidly increasing number of patients had already outgrown the space. "Patient volume has gone through the roof" as one physician put it. This increase was partially due to the closure of a nearby Emergency Department as well as a slight uptick in patients newly insured under the Affordable Care Act who might have previously gone to the public county hospital for emergency care.

The Lean consultants hired to facilitate the redesign of patient flow -- admission, transfers, discharges – used forecasting models to handle 120 patients per day maximum. They were routinely above 130 to 140 patients coming into the ED every day and the flow was feeling the pressure. The organizational narrative, backed up by the metrics, was that these longer wait times led to a decrease in patient satisfaction scores. The dips in satisfaction scores, specifically related to wait times but also scores for the "overall experience," were seen as troubling indicators.

The Patient Flow Committee: In Search of an Efficient Length of Stay

The concept of *patient flow* has taken hold within hospitals over the past decade as management techniques from business and industry have become more prominent within health care. Hospital operations are increasingly organized around the imperative of patient flow. The flow imperative is evident through practices such as establishing committees and oversight mechanisms like Patient Flow committees, signaling an institutional priority to monitor the movement of patients into, within and out of the facility.

Over the course of my fieldwork, the number of patients being treated in the Emergency Department or admitted to one such hospital rose steadily, with inpatient units often at full capacity. During flu season in 2014, this particular hospital was bursting at the seams. One physician said, “the flow was horrendous” to describe it. The following year, in anticipation of higher numbers, the administration opened up beds on the otherwise empty top floor to house overflow patients. The movement of patients into and out of the hospital is a central focus of hospital administrators and managers. During my research in these hospitals, an extraordinary amount of time and energy was put toward maintaining optimal "flow."

One hospital had convened a Patient Flow Committee that met monthly to assess the hospital's overall picture of flow. This included reviewing monthly statistics on average length of stay on inpatient units to discussing "outliers," or patients who have stayed beyond their reimbursement limit with no place of disposition, family to take them in, or available placement in the community or long term care facility. The committee was comprised of administrators, directors and unit-level managers from across hospital departments. They also reviewed reports on the efforts of the Lean consultants and the staff "champions" to redesign throughput in the Emergency Department, improve handoffs and initiative to implement an "ideal discharge" process from inpatient units.

The committee also reviewed the movement of patients between the hospital and other facilities. Finding placements for patients was a perpetual challenge for reasons that ranged from limited number of beds in skilled nursing facilities, especially for an abundance of older patients this hospital served, to even fewer beds available for patients with MediCal, California’s Medicare insurance program. The possible movement of patients between a nearby skilled nursing facility affiliated with the hospital was often discussed. In general, there was a sense that

neither this nursing facility nor others had little incentive to attend to the hospital's flow concerns. At one meeting, Patient Flow Committee members discussed strategies on how to engage nursing home managers to change their staffing and shift start times to align with the hospital's push to discharge patients before noon. Another factor outside the hospital's direct control was the constant battle to get timely transportation for discharged patients to skilled nursing or rehabilitation facilities. Regulations require that patients being transferred from the hospital to another facility be done in an ambulance. Some committee members bemoaned that they were often at the "mercy" of third-party ambulance companies' schedules. For patients who are transferring to a nearby nursing home, the running joke was that they had to wait for an ambulance “just to shuttle them two blocks up the street.”

Inevitably, at some point during every meeting, a PowerPoint presentation would be projected overhead and stacks of slide handouts passed around the executive conference table. We would be presented with the recent trends in length of stay broken down according to types of payor -- Medicare, Medicaid, private insurance -- and unit-based variables like joint replacement center or family birth center patients, whose length of stay, barring complications, were more or less predictable. In February 2015, during the height of "the surge" -- the winter months when hospitals typically see a sharp rise in patient volume due to flu season -- we were presented with data from the previous few months. On average, patients stayed 4.38 days. To put these four days in perspective, in 1989, the average length of stay for inpatients in U.S. community hospitals was 7.2 days (Stevens 1999: xix). In 2012, the national average length of stay was 5.4 days (AHA 2012).

The cases of patients with supposedly excessive lengths of stay were often written off as outliers and extracted from the overall data points, charts and graphs, so that the committee could

see the "truth" of patient flow. One of these outliers was Mrs. Richardson, a 58 year-old woman with multiple chronic illnesses, including early onset dementia, who was hospitalized for complications from diabetes. After a week in the hospital, she was medically stable enough to be transferred to a long-term care facility. However, Mrs. Richardson was not yet old enough to qualify for Medicare and relied solely on Medicaid for her insurance. The hospital's Director of Case Management told the Flow Committee that Mrs. Richardson's case manager had not been able to find a Medicaid placement in a long-term care facility. So she remained in the hospital – 38 days and counting. Every month, there were at least two or three patients whose longer than average lengths of stay "contaminated" the data, sometimes bringing the hospital's reported average up by a day or two. Patients like Mrs. Richardson were written off as true "charity" cases, the Flow Committee acknowledging they simply had to absorb the associated costs with the extended length of stay. Yet by extracting Mrs. Richardson's data points -- and with them, the structural conditions that constrained her movement out of the hospital – and excluding them from the length of stay statistics, the committee presented a false representation of patient flow.

The Discharge Threat

"Discharge threat." I first heard this term used by a nursing director during a meeting of the "Discharge & Transfer Team" -- Lean "champions"[3] who were tasked with overseeing the continual improvement of the hospitals' inpatient discharge process. In a meeting one day, we were looking at slides of tables and graphs, reviewing the progress that had been made over the past month toward meeting the target discharge time goals for inpatient units: 50% of patients

[3] The term "champion" is used in health care quality improvement to refer to a person, typically a clinician, who advocates for and "champions" the implementation of a new initiative or program.

discharged by noon, 75% by 2pm and 90% by 5pm. There had been a slight improvement in getting patients out by 2pm, but, as the Director of Nursing Operations described, "We still have a huge opportunity to improve our noon scores." The rhetoric of "opportunity" is pervasive in quality improvement culture.

Where did these target times come from? I wondered. When I first arrived in the hospital and sat in on the "Discharge & Transfer Team" meetings, they spent a lot of time reviewing charts, graphs and dashboards displaying target time metrics. I asked a number of people where the target times came from. Nobody was entirely sure. Yet these target times were seemingly written in stone. The most plausible response was that Lean consultants had recommend the times best based on nebulous "national best practices." Many hospitals around the country are in fact implementing discharges by noon -- or earlier. This is part of an emerging trend aimed at clearing out beds earlier in the day in order to help alleviate Emergency Department overcrowding.

Meeting after meeting, these target times were held up as the ultimate goal. Once the goal was achieved, they could point toward success and tangible proof that patient flow had been "transformed" and perfected workflows "hardwired." More importantly, achieving the target times would prove to the anonymous source of grant funds who poured in millions of dollars to hire Lean consultants that their investment had been worthwhile. Month after month, however, the team wracked its collective brain as to why the target percentages had plateaued and were not moving beyond a 50% improvement.

It was clear to some, including me, that simply setting new target times and redesigning a few processes and policies would not guarantee success. According to the "Discharge & Transfer Team" members the problem was twofold: patient expectations and staff behavior. To address

these problems, one physician who was a strong advocate for redesigning the discharge process and changing the entrenched mindset of his fellow hospitalists, proposed scripting and the repetition of a set phrase, as a tactic that could be used to set patient expectations. This phrase was: "Discharges occur between 9 and 11am." He argued that if every physician and nurse adopted this scripting into their daily lexicon, patients would be mentally prepared for leaving well before noon. The rationale, as explained to me, was that "patients will come to understand this if we all have the same messaging. It's like a hotel, they should be able to understand that we have a set checkout time." Some argued that the metric would be more easily met if the expectation were set even earlier -- if the target was 50% of discharges by noon then patients' expectation should be to leave between 9-11am.

The discharge threat, therefore, is a way to make sense of the institutional anxiety around the consequences for "flow" when patients do not leave the hospital according to the logic of efficiency. In these meetings, the discharge threat was rarely discussed in terms of a threat to the patient such as increased risk of contracting a hospital-acquired infection. *What the discharge threat signaled is a threat to the smooth operating of the system, which is slowly supplanting the patient as the primary beneficiary of process improvement.* In the larger context of systems improvement, I argue that the patient takes a backseat to the "health" -- that is, the ideal flow -- within the system itself.

Matthew's Story: The Ideal Patient Discharge?

The logic of efficiency is predicated on the ideal of certain kinds of docile bodies -- bodies that allow for the perfect conditions in which an "ideal discharge" can be achieved. As the following story illustrates, this is an unrealistic expectation, for the bodies of actual patients are

anything but docile. They are unruly, messy. They need attention. The bodies of real patients do not easily conform to the ideals of a flow-oriented system.

I visited Matthew -- a patient who had invited me to interview him in his home -- on a sunny morning in his ground floor condo in a suburban neighborhood. When we spoke on the phone earlier that week, he told me to just knock and walk in, that the door would be open. When I arrived, I knocked on the door, opened it tentatively and called out to announce myself. Matthew's deep and raspy voice traveled from around the corner, leading me to where he was in the back bedroom. His apartment was full of abstract artwork, oil and acrylic paintings on canvas, mostly brightly colored, some with dark, earthy tones, water color paintings and some pencil drawings. Masks from around the world hung on the walls, watching over us.

Matthew was sitting up in a hospital bed that loomed large in the small room. He told me to scoot his wheelchair out of the way. We pulled up chairs and after reviewing the interview consent form and a bit of small talk, we got to talking.

"I'm a C5/6 quadriplegic, spinal cord injury, so I use a wheelchair," he said. "I've been injured for 34 years now."

When he was a child, he dove into a swimming hole where the water was deceptively shallow, landed on his head and snapped his spinal column. He told us how his blood pressure is highly unstable, rapidly vacillating from high to low, resulting in bouts of dizziness and disorientation. Because of this, he does not go out in public by himself very often anymore. I asked him about the last time he stayed in the hospital. "I've been there so many times, I go there often," he said. Most recently, he had been hospitalized for twelve days with an upper respiratory tract infection.

When the Lean consultants and in-house "champions" met for a week-long *kaizen* to redesign the discharge process at this hospital, they used the phrase "ideal patient discharge" to refer to the "future state" of the discharge process, one that was supposedly designed with the patient "at the center." Like most patients who were on the receiving end of the "ideal discharge" initiative, Matthew was told repeatedly by nursing staff that he would "be discharged between 9 and 11," consistent with the messaging implemented as part of the impetus to improve patient flow. He described what happened on the day of his most recent discharge home:

> "I can't walk and I'm not going to be able to walk, so during the discharge process, I always have a lot of difficulty. It seems like the staff had a difficult time communicating together as a discharge team. You know, they should have the nurse and doctors and everybody communicate clearly with each other that this person is going to be discharged at this date and at this time."

I interviewed Matthew toward the end of my fieldwork in August of 2015 -- over two years after this hospital had embarked on their "Lean journey" and efforts to use continual improvement methods to "transform care." Yet, his retelling of his experience indicated that the process was far from being perfected from a patient point of view. Despite the scripting and push to get patients out before noon, his case was a challenge for the system. He continued:

> On the chalkboard in your room, they would write 'to be determined' for the discharge date and time. It was like the doctors don't seem to know the process. But the nurses and the case managers are kept up to date on it. I think those are the people that are getting pressure from the higher-ups to say that this person's ready to go, let's get him from ICU to step down, they really want to do that quickly. I can see that. It's much less expensive to move someone from the ICU to the step down [unit], and from step down to a regular floor. Sometimes they make the transition all in one day and then it just confuses me when they try to rush things and consolidate time and space and everything.

Matthew recognized the pressures on the nurses to maintain flow. He could see it from his vantage point as a patient in the middle of it all. He recognized the high cost of keeping a patient in the intensive care unit, and that moving patients to a lower levels of care was more

economical and medically appropriate. At the same time, from his vantage point as the patient "at the center of it all," the pace of movement required by the system outpaced the internal rhythms of his body. He experienced this pace of movement as confusing and consolidating "time and space and everything."

Matthew continued with his retelling of the morning he left the hospital:

> The discharge part is where I have difficulty because in the morning -- my caregiver Linda comes seven days a week to help me out because I can't get up out of bed by myself and do my morning routine. So, she was there every day that I was in the hospital.
>
> The timing is confusing because they want me to leave by 11am in the morning and my caregiver comes at 8. And for me to do my bowel routine and get ready and have just a little cup of oatmeal or something and a juice, would be sufficient time, if they could kick me out at 12 or 1. I'll leave, you know, I don't want to stay there. But, it's just, their timing is so early sometimes that it doesn't give me the adequate time to prepare. And on top of that, it's the doctors communicating with case managers and case managers communicating with the nurse that Matthew still has an IV and he has a central line. And they don't allow enough time or a nurse goes on break or it's change of shift, and they don't have an adequate person -- not a CNA, but an RN -- to change the catheter and leg bag. Or to take the IV out. You can't rip that out, you know.
>
> And then I need help to leave. This time there were two people from the ambulance, one man and one petite woman. And I'm a big guy, I'm 6'2". I've corrected my diet, but I'm still a heavy, big guy and I need two people to do this plus one person for my legs. I have osteoporosis. I broke my knee this last year. And this fibula and tibia break this year. So I need a third person to help.
>
> I have an idea, that the discharge should be the time that you want to go and leave happily, you know? Instead of in a rush, and poorly. You know, have the prescriptions called into the pharmacy already because Linda, my caregiver, takes care of all the stuff before I need to leave. She's been with me for seven years now. I need to get everything together in the morning and with the nurse coming in for five minutes and maybe the CNA comes in for 10 minutes, dropping off towels and pads and wipes. If Linda wasn't there, I'd be alone. I can't get up. You know people that are in wheelchairs, I'm sure. And if you can't get up and get a glass of water or something and you put the call light on and the nurses just switch it off up there.
>
> So, I don't know. Maybe I'm coming up with a bad attitude, but it's just really difficult, the discharge process. Especially last time. I don't even want to

> remember it. I think for two days, I didn't even move. I didn't get out of bed. I want to stress that it was really a stressful day for me. I mean, I ended up crying most of the rest of the day I think because I just couldn't let it go. I was upset.

Matthew's analysis of patient flow as "consolidating space and time and everything" points to his experience of the logic of efficiency as being out of step with the temporalities of his body despite the rhetoric of flow that places patients at the center of it all. Matthew's story, like many others, is a reminder that hospitals are not places to heal -- *healing* takes too long. Hospitals are where acute problems are triaged, diagnosed and treated until patients can be safely discharged and care shifted into other (less expensive) locations.

The consolidation of space and time that results from the flow imperative has its effects on patients. For the system, the logic of efficiency is necessary to keep things moving along. To have rooms and open beds for more patients, to ensure that resources are not "over-utilized" by patients staying longer. For Matthew, the flow imperative was experienced as a consolidation of space and time that forced him to short-change his necessary routines. Put another way, the logic of efficiency *tried* to enforce this flow imperative within its own temporality and need to maintain optimal "flow." A truly patient-centered process, rather than flow-oriented logic, would accommodate Matthew's embodied temporality necessary for his health and wellbeing -- his morning routine, bowel regimen, coordinating with his caregiver for transportation and picking up medications from the pharmacy, taking into account her schedule and labor flexibility. Yet these particularities are not accounted for within the logic of efficiency. Instead, his case, and others like it, was considered by many nurse managers and hospital administrators as an unavoidable barrier to timely discharge and impediment to patient flow.

What struck me about Matthew was his generosity with his time and desire to tell his story so that other patients wouldn't suffer, literally, for the sake of efficiency. His story is about

how the system failed its patient and literally left a grown man crying. This is where the logic of efficiency fails us: when the messiness of real lives and bodies does not conform to the notion of process and flow; when patients -- and this is likely the rule rather than the exception -- become an impediment to flow rather than the reason for the hospital's existence. *Patients need care, not process improvement.* In these moments, the logic of efficiency shows its underbelly -- it cannot contain difference, disability or bodies that do not conform to processes designed to keep things in motion. This dark side of efficiency is what prompts nurses to say, "Lean is mean." The initiative to improve patient flow through an “ideal discharge” was often framed as an effort to improve the “patient experience.” Yet, the "ideal" discharge process is not ideal for all, as Matthew's story shows. In fact, we should question whether or not the ideal of perfection -- in terms of efficiency, patient flow and discharge times -- is a discourse worth perpetuating or a worthwhile goal.

Chapter 3 | Measuring the Health of the Hospital

Vital

adjective \ vi·tal \ˈvī-tᵊl

1a: existing as a manifestation of life b: concerned with or necessary to the maintenance of life <vital organs> <blood and other vital fluids>
2: full of life and vigor
3: characteristic of life or living beings
4a: fundamentally concerned with or affecting life or living beings: as (1): tending to renew or refresh the living (2): destructive to life b: of the utmost importance <a vital clue> <vital resources>
5: recording data relating to lives

Miriam-Webster Online Dictionary

Vital Signs

"Systems thinking" approaches to health care quality improvement -- taking a "big picture" view -- rely on a proliferation of data to understand the functioning of the system as a whole. Tracking efficiency and quality indicators, what I refer to as *measuring the health of the hospital*, has become one of the primary means through which metrics drive the practices of quality improvement.

The analogy I use to explore the centrality of metrics production is that of a patient's vital signs. The word vital connotes the meaning of vitality -- "full of life and vigor." Vital signs -- "data relating to lives" -- therefore, are a set of measurements of physiological functions that indicate the state of a person's condition at a given point in time. When you arrive in a physician's office, emergency department or at regular intervals during a hospital stay, your vital signs are measured by a health care provider: blood pressure, pulse, oxygen level, temperature, respiration rate. These numbers are vital, i.e., essential to health care providers who can interpret them quickly either as diagnostic tools or data points within a trend.

Similarly, quality and efficiency metrics are a way to keep track of the ideal functioning of the hospital -- that is: maintaining flow and financial viability. This chapter presents an ethnographic account of the concepts and practices that enable the measurement of the health and viability of the hospital. In using the concept of vital signs as an analytic framework, I show how the hospital is framed as a living, breathing, and institutional organism that that is supplanting the patient as the object of care.

During a training for Lean consultants who were tasked with coaching hospital executives in choosing appropriate metrics to be measured in a "Daily Engagement System" pilot -- a specific way for visually managing standardized daily work by conducting "huddles" within a Lean "operating system" -- the group facilitator asked us to think about the most important things for their hospital to function properly. He showed a slide on the overhead projector screen: an icon of a red heart overlaid with the jagged lines of an EKG monitor. The sharp peaks and valleys trailed off across the top of the screen and underneath were a few bullet points that contained certain quality and efficiency metrics: Length of Stay; ED wait times; Patient satisfaction; Safety incidents. According to him, these were the vital signs with which we should be most concerned.

At one hospital where the focus of Lean initiatives was on improving patient flow, similar metrics functioned as the hospital's "vital signs," constantly monitored by nurse managers, executives and lean consultants in order to keep tabs on what one hospital administrator called the "pulse" of the organization -- the movement and flow of patients through the system. The hospital's Lean Team tracked a series of metrics focused on patient flow on a daily basis. These daily metrics -- Left Without Being Seen; Door-To-Doctor Time; Order to Discharge; "Order to Bed" time and the "20-minute Rule"; and Time of Order to Discharge -- ultimately "cascaded" up

through the organization and impacted the "high-level," administrative concern with Length of Stay.

Length of stay, referred to in shorthand as "LOS" or "ALOS" for the average length of stay, indicates how long a patient stays in the hospital, and is measured separately for the Emergency Department and the inpatient units. These statistics are typically calculated on a monthly basis by hospitals as an efficiency indicator. Length of stay statistics are usually presented as a global snapshot of all patients in the hospital. For internal review, length of stay statistics are often broken down by unit, type of payor (Medicare, Medicaid, private insurance), or type of patient (by age, diagnosis, or place of disposition, i.e., home, skilled nursing facility or board and care).

In Chapter 2, I discussed in detail how length of stay and daily discharge times figure prominently in organizational anxiety around patient flow and the "discharge threat." This chapter explains how the production of these vital metrics is fraught with imprecision and both overt and covert "massaging" of the data, excluding outliers in an effort to get to the "truth." Only by making these metrics visible, can they be acted upon through process improvement activities where the goal is to "improve flow" by reducing "waste" in the form of time spent waiting, thereby improving the health of the hospital.[4]

Emergency Department Flow Metrics: Left Without Being Seen & Door-To-Doctor Time

"Left Without Being Seen" (LWBS) is a metric that is tracked by Emergency Departments as both an efficiency and quality indicator. It refers to the number of patients who

[4] Recent work by anthropologists regarding the production of outcome and quality metrics in other settings such as global health includes Adams 2015 and Sangaramoorthy and Benton 2012. Regarding value in relation to metrics, see Erikson 2012 and 2016.

arrive at the ED and check in at the front desk but leave before being seen by a physician. According to hospital administrators and Lean "champions," the implications of patients leaving without being seen are twofold. First, patients needing emergency care are not receiving it, posing a potential problem for patients needing medical attention. It is also an indicator that the facility is either overcrowded, inefficient, or both. Second, from a management perspective, a high LWBS rate is a signal that a revenue opportunity was lost. LWBS was one of the metrics that was tracked closely as part of the Patient Flow initiative at one hospital discussed in Chapter 2. Reducing or reaching a zero percent LWBS rate was often referred to by administrators and managers as "low-hanging fruit." In other words, LWBS was thought to have an easy fix with the potential of a positive impact on the metrics.

Door-to-Doctor (DtD) time measures the length of time from patient arrival at the Emergency Department to interaction with a physician. More than any other factor in an Emergency Department, the speed at which you see a doctor after arriving largely determines how patients rate the hospital on satisfaction surveys (Welch 2006). This line of thinking and research literature was used as the evidence to support the rationale behind many of the changes that were made to the ED arrival process in the name of "flow."[5] Although no physicians, staff or Lean consultants I spoke with ever cited a specific study, or referenced the Joint Commission accreditation standards that required emergency departments to study and improve patient flow (Joint Commission 2013), the recurring narrative everywhere was that "patients want to see a doctor when they come to the ED." Regardless of how quickly a patient was seen by a nurse or

[5] In 2012, the Joint Commission published revisions to the Leadership Standard LD.04.03.11, revised patient flow standard and performance measurement for accreditation mandated ED efforts to study and improve flow; measuring and setting goals to manage the "boarding" of patients who enter hospital through the ED. Timeframes of more than 4 hours for "boarding" -- holding patients in temporary locations after a decision to admit or transfer -- considered adverse for patient safety and quality of care (Joint Commission Perspectives 2013).

taken to a room, it was the speed with which a doctor laid his eyes and hands on you that was thought to make the biggest impact in terms of satisfaction. Thus, this metric was closely tracked and was included in monthly reports from the ED medical director to the Patient Flow Committee and hospital administration on the status of the Lean team's activities.

Transforming Triage: Satisfying the "Bread & Butter" Patients

To address delays in patients being seen by a physician, and more broadly the movement of patients in and out of the ED, the external Lean consultants advised the members of the ED Lean team to implement a new system of low and high acuity tracks. This recommendation was in line with a paradigm shift (Taylor, Bennett and Cameron 2004) and emerging "best practices" that have unfolded in emergency medicine over the past decade, namely, streamlining arrival and rooming processes by abandoning the longstanding principle of "triage" where the most critically injured and ill patients are seen first and everyone else takes a number, waits in line and is seen in order of acuity. The history of the triage principle dates back to battlefield medicine, where decisions had to be made to treat fallen soldiers based on the balance between available resources and prognosis. The evolution of emergency medicine has followed along these lines so that when someone with a more critical condition than you arrives either by ambulance or walks in off the street, they get bumped to the front of the line. Today, not treating someone is no longer an ethical option because of the technological capabilities of life-sustaining treatment.

The practice of triage as practiced in the contemporary hospital has certainly saved countless lives by prioritizing those with the most acute illnesses and injuries. But it also results in situations where patients, who are not in imminent danger of dying yet are still suffering from pain and discomfort, wait for what seems like interminably long periods of time. Hence, the

trend of emergency departments to rethink triage and instead create separate tracks for patients depending on severity of illness or injury. Thus, a dedicated team of emergency providers will only see patients with less acute cases -- sprained ankles, colds, urinary tract infections -- that can be treated quickly, freeing up beds and resources in the "back of the house" for higher level acuity patients. One way this change can be accomplished is through redesigning the physical layout; newer hospitals are often built with this in mind. A low acuity track might consist of a separate pod of rooms right off the waiting area. Some rooms would only have a chair, others would contain a bed needed for certain procedures where a patient would need to lie down, such as repairing small lacerations on a leg. One refrain I commonly heard was that patients don't need to "own a bed" anymore.

Changing and financing the physical layout may not be feasible, and so other means of putting in place a multi-track solution must be devised within the available space. This was the situation in one hospital I observed. Regardless of how this type of system is implemented, the hoped for result is that greater numbers of patients can be seen more quickly. The public-facing discourse around these changes are that patients will benefit from shorter wait times. Having a dedicated team of nurses, physicians (or physicians assistants, whose labor costs are less) means that they won't be pulled away by more critical patients, code blues, emergency surgeries and other regular occurrences in a busy ED. While shifting to a two-track system is arguably better for patients in terms of the potential for reduced wait times, the financial benefit to the hospital also figured prominently in staff discussions about meeting efficiency metrics and maintain satisfaction scores.

One emergency physician who was a reluctant proponent of the two-track system told me how her fellow doctors did not want to be scheduled on the low acuity track. "Taking care of

sprained ankles isn't why we go into emergency medicine." Yet as the medical director of the ED, she rationalized that, from a business perspective, "this is the market segment we have to keep happy, for they pay the bills. Patients who come in with sprained ankles are our bread and butter." "What do you tell the mother who comes in with a baby who has nursemaid's elbow?" another physician posited during a Lean Team meeting. "She's suffering just as much as someone else. It's her child whose in pain and uncomfortable. Being able to get them in and out quickly, bringing some relief, is good for everyone." Maintaining a flow of lower acuity patients in and out of the ED was rationalized as good for *both* business and for patients.

Doctor's Orders

Other metrics specific to measuring the progress of the Lean redesign of patient flow were tracked diligently in the Emergency Department as well as the inpatient units. "Order to Discharge" was tracked to measure the time from a physician's discharge order to the moment the patient left the building. More accurately, the data that was pulled from the electronic health record and compiled into reports captured the time a physician entered the discharge order into the computer and when the nurse or unit coordinator manually entered the patient's discharge time in the patient's electronic chart.

During the initial week-long *kaizen,* or "rapid improvement event," that was focused on identifying problems to the efficient movement of patients between the Emergency Department and inpatients units, the Lean team identified one of the biggest hurdles to the ideal discharge time, "between nine and eleven." Physicians were writing discharge orders late in the day, often after noon. "If we want to get patients out of here in a timely manner, hospitalists are going to

have to come in earlier and write their orders before 9 in the morning,"[6] one of the nurse "champions" told me. But in the absence of clear physician guidelines -- especially in a non-academic community hospital without the structured scheduling requirements of rounding on patients with medical students, residents and fellows -- the personality and preferences of individual physicians strongly influenced their arrival time and discharge order timing.

There was a huge push from the Lean consultants, hospital administrators, and nurse managers to get physicians to arrive early and write discharge orders before 9am. This change was, according to its proponents, essential if the final stages of the discharge process -- medication reconciliation, transportation arrangements, an additional physical therapy session, lab tests, removal of catheters and central lines -- could be set in motion. The order in which physicians have traditionally rounded on their hospitalized patients typically goes from the most to least critical. First, hospitalists will start with patients in the ICU, then go to the ICU Step-down unit, followed by their more stable medical or surgical patients. The proposed change to this longstanding way of rounding that was for hospitalists to round on their patients according to "readiness for discharge," i.e., how soon they were anticipated to go home. Patients who were expected to be ready to leave that day would be seen first so that the physician could get the discharge orders into the computer. If one of their critical care patients needed immediate attention, however, physicians emphasized to me that this patient would take precedence. By reprioritizing the order of rounding, the rationale was that discharge orders could be written early and patients could be moved out sooner, thus freeing up beds for post-surgical or emergency

[6] Hospitalists are physicians who specialize and are board certified in the management of acute care patients. See Wachter (2006) Strelitz (2003) on the development of hospitalist medicine.

patients. One strategy used by the hospital administration to effect this change was including "time of order" as a performance metric within the independent physician's group contract.

During one "Discharge & Transfer" team meeting, the "time of order" metric and the variability in its accuracy was the topic of heated discussion among nurses. A nurse manager stood in front of the group and explained that there had been an uptick in the time of order to discharge over the past month. Since the responsibility for moving a patient along is transferred to nursing staff once the physician signs off on the order to discharge, the nurse manager was looking toward nurses on the "frontlines" to identify delays in the forward-moving trajectory of patients. A nurse jumped up and popped the cap off of a thick blue marker and scribbled on a large whiteboard as people shouted out possible culprits that could be causing the increase in the length of time reflected in the data. The two that gained the most traction with the group were: 1) that patients' families were not arriving on time and 2) the recent turnover and vacancies in case management staff was taking its toll.

One solution that stuck as "actionable," for the nursing staff was that the Unit Coordinator, the administrative staff on each nursing unit, in charge of entering the time of discharge in the computer often was unable to do so in "real time." Because of this, the discharge time that showed up in the reports did not reflect the actual time the patient stepped off the unit. The solution was for every patient who was being discharged to stop by the nurses' station and check out in person with the unit coordinator. The time of discharge would be entered in the computer at that moment, ensuring precise measurement of the "Order to Discharge" time. Nurses hoped they would be able to see either increases or decreases in the length of time from discharge order to patient departure and thereby be able to identify problems or delays that prevented target discharge times from being reached and dragged down daily efficiency metrics.

"Order to Bed" time and the "20-minute Rule"

Another metric that was tracked as part of the initiative to transform patient flow was "order to bed" time, or the interval from when the Emergency Department physician wrote an admission order to when that patient was assigned an open bed upstairs. When the times were first tracked in 2012, on average it could take over 100 minutes and occasionally reached upwards 4 hours for a patient to get a bed assignment. By tracking these particular points in time, the Patient Flow Committee and Lean Teams hoped to gain objective information on the extent of the problem of lingering patients, thereby informing solutions to shorten the duration of patients in limbo and ultimately increase ED "throughput."

The Discharge & Transfer team conducted a "gap analysis" of the problem of no open beds. They determined that the primary delays to "order to bed" time were that inpatient beds unavailable because: 1) the bed is occupied or 2) the bed is empty but the room has not been cleaned or 3) the bed is clean and ready to go but nursing staff have not yet checked a box in the electronic health record to turn the room from brown (dirty) to green (clean), indicating the room is ready for a new patient. Nurse managers and ED nurses often referred to the latter situation as "hiding beds." A common refrain was that some nurses were "stuck in their ways" and would do anything to avoid admitting a new patient toward the end of their shift, pushing the work onto to the next nurse. This may have been the case in some instances. But my observations and conversations with nurses indicated that this was seldom the underlying motivation. Instead, one of the primary drivers behind nurses' resistance to the new process was concern over patient safety and the ability to provide good care.

Related to the problem of ED patients lingering, was the length of time it took for patients to physically leave the ED after being assigned a bed. During the initial *kaizen* where the ED patient flow was redesigned from a triage- to high/low 2-track system, the Lean consultants suggested that the hospital institute a "20-minute rule" for patient handoffs. This new rule was applied to the time from when the ED nurse called upstairs to notify the inpatient nurse that a new patient was on her way upstairs. The ideal and intended situation would look like this: patient is assigned a bed, ED nurse calls upstairs to notify receiving unit the patient is on his or her way and would arrive within 20 minutes. ED nurses had long complained about the problem of inpatient nurses' availability to take calls, effectively preventing verbal handoffs over the phone from taking place. The 20-minute rule eliminated this phone call. Instead, the ED nurse would write an electronic "ED Encounter Summary" and the receiving nurse would have 20 minutes to review it. The new electronic summary would theoretically contain the necessary information the new nurse would need to take care of his or her patient when they arrived upstairs.

When nurses give a verbal report to another nurse, either face-to-face or over the phone, it is often referred to as a "warm handoff." Patient handoffs have been identified nationally as period of significant risk for patient safety and continuity of care. Nursing reports, either at shift change or when patients transfer to a new unit, are the primary means of communication for nurses to relay vital information about the patient and place in context, i.e.: what brought the patient to the hospital, what happened to the patient in the ED, physician's admission orders, recent vital signs, lab results, medications, treatment protocols and any other relevant information needed to adequately care for the patient. Many hospitals use a standard format for handoff reports. Similar to the physician's SOAP note (Subjective, Objective, Assessment, Plan),

information communicated during nursing handoffs often follows the SBAR format: Situation, Background, Assessment, Recommendation. During a warm handoff, the new nurse has the opportunity to ask follow up questions that might not have a place in the medical record but are nonetheless informative for taking care of the patient. One provision in the new "20-minute rule" was that the receiving nurse could call the ED nurse to clarify if she had additional questions. However, in practice the ED nurses were notoriously difficult to get on the phone.

When I spent time with bedside nurses and asked how the Lean initiative impacted their work, the "20-minute rule" was the least liked aspect of the new, flow-oriented way of doing things. To say they hated it would be an understatement. The primary problem was that ED nurses were not filling out the electronic summary notes with adequate information. I saw more than one ED Encounter Summary that had little more than diagnosis and vitals. These nurses would frequently have to call an ED nurse in search of "warm" communication rather than "cold" information.

Once the new process for ED-inpatient handoffs was implemented and the electronic summary template was created, the tables turned and the "wasted time" making phone calls shifted onto inpatient nurses. Aside from the safety implications of having incomplete information, one nurse explained, "This makes us look bad, like we don't communicate with each other and don't care about the patient." Even when the information in the electronic summary was technically "complete," the "cold" handoff was just that -- an impersonal way of communicating about a sick person coming to be cared for. And despite being codified into the redesigned handoff process that bedside nurses were free to call the ED if they had any questions, ED nurses seldom answered their calls, effectively displacing the intended time savings and circumventing the flow metrics. While the 20-minute metric was quantifiably

improved, the downstream consequences of inpatient nurses spending more time calling the ED was not reflected in the metrics. There was no way to track through the electronic medical record -- the mechanism for measuring time trends -- the wasted time of inpatient nurses in search of complete information and communication.

Nevertheless, the new process and technological fix did help to move patients out of the ED more quickly. The metrics showed that they were "moving to the left," as one Lean champion would point out when presenting graphs at Patient Flow Committee meetings. Regardless of the effects on inter-unit communication, nurse morale and potential patient safety concerns, the official picture presented by the 20-minute metric statistics was that there was measurable improvement in patient flow. "Moving the metrics," as one nurse liked to say, was the ultimate goal, not necessarily improving the patient experience.

Time of Order to Discharge

One of the "pain points" in the current patient flow process identified by staff during the initial *kaizen* to redesign discharge was how long it took for patients to physically leave the hospital after his or her physician wrote the order giving the all-clear for them to return home. This observation was corroborated by running reports from the electronic record to determine a baseline metric for "Order to Discharge." More accurately, this metric captures the time from when the physician enters the order in the electronic record to when the discharge time is electronically recorded by nursing staff or the unit coordinator. At the baseline period in 2013, the average length of time was close to 3.5 hours.

In between the time when the order is written and the patient is able to leave the hospital, a myriad of things must happen that largely, but by no means exclusively, revolve around nursing

tasks. Before a patient can go home, central lines need to be taken out and catheters removed. During my fieldwork, there was momentum nationally to reduce unnecessary catheterization in the first place -- it is often used out of habit and convenience for staff rather than being medically necessary. Once a catheter is taken out, a patient must have a normal urination before being cleared to go home. Nurses cannot legally remove catheters or central lines without a specific physician's written orders. Many hospitals are instituting automatic orders to remove catheters and central lines that get triggered when a discharge order is made, lest the physician forget and get pulled away, delaying an important step in the discharge process. Discharge orders are sometimes conditional, meaning that lab tests must return with numbers acceptable enough for a patient to leave the skillful watch of an acute care environment. In these cases, the laboratory's timetable and efficiency in processing tests comes into play. Other times, a patient is cleared to leave after an additional session of physical, occupational or speech therapy. All of these are events accumulate in time spent waiting.

For patients with more complex medical needs and requirements for home care, case managers -- often a registered nurse or a social worker -- coordinate with vendors and service-providers to set up durable medical equipment in the patient's home. If a patient needs a hospital bed, portable commodes or oxygen, for example, they cannot leave the hospital until those things are already ordered, delivered and in place. Although hospitals are 24-hour operations, case managers are constricted by business hours when coordinating services and medical equipment with third-party vendors. For patients who are being transferred to a skilled nursing or rehabilitation facility, arrangements for transportation in an ambulance are made but only after a bed in the new facility has been confirmed. This can take hours or even days. Transportation was a major factor that prevented "timely discharge." Nursing staff and members of the Discharge &

Transfer Team consistently complained about the challenges to getting family members to pick up patients "on time" and earlier in the day.

An increasingly common conceptualization of this is reflected in the idea that "discharge begins upon admission." Within this framework, all of the components necessary to prepare patients are not triggered when the discharge order is entered into the computer – they are happening simultaneously, being planned for and anticipated throughout the patient's stay. From a patient perspective, rethinking the way discharges happen can be beneficial so they do not have to wait interminably and suffer from preventable delays. Indeed, most patients with whom I spoke with wanted to leave as soon as medically possible. At the same time, the reorientation of the system toward discharge beginning upon admission points toward the prominence of the flow imperative. When "discharge begins upon admission," everything ultimately revolves around the goal of getting patients out as quickly as possible to "move the metrics."

Dashboards

The data that comprise the hospital's "vital signs" are collected in various ways. The most common method is facilitated by the use of health information technology (HIT), where data that correspond to metrics like Door-to-Doctor time or Order to Discharge are automatically pulled into a series of electronic dashboards. The type of dashboard you might be most intimately familiar with is the one in your car. This is where all the instruments and gauges live that are most important for a driver to monitor. They are positioned within the driver's line of sight so that at any moment you can check them with a quick glance of your eyes. In newer vehicles, the computerized system will alert you when something is outside the range of normal. A car's dashboard typically contains a speedometer to track how slowly or fast you are driving, an

odometer to track accumulated mileage, a temperature gauge to alert you if the engine is overheating. The tachometer shows engine speed in revolutions per minute. If you drive a diesel engine, your dashboard might contain a glow plug light. Most cars today also have a check engine light, a parking brake light and an indicator that alerts you when the oil level is low.

In business management, a dashboard is a tool used to visually present various aspects of the business or production process. A dashboard can be created using a simple excel spreadsheet or more complicated software platforms. They often use a red/yellow/green color scheme to indicate the status of projects, goals or metrics. Red indicates the goal has not been met; yellow means it is in progress; green signals a project or task is complete or that a particular metric has been met. A common saying among Lean consultants was that instead of having an all-green dashboard, i.e., your goals have been met, it is better to immediately set new goals and return the dashboard back to red. The notion that a green dashboard indicates stagnation is at the heart of continual improvement. There is always more work to be done, more waste to be eliminated, more metrics to be moved, more perfection to be pursued.

As such, dashboards are one of the primary technologies used to measure the health of the hospital. "You're taking a pulse," one Lean consultant liked to say. What does it mean that the organizational pulse has shifted onto dashboards? One of the small group exercises I participated in with Lean consultants was to draw an illustration of what "daily engagement" with process improvement -- a central component of a Lean management system -- looked like. Carl was one of the four people in my group and had recently come to health care after working for a decade as a Lean consultant in the aviation industry. He took the lead in our small group and drew a mockup of a car dashboard with a heartbeat monitor on a large sheet of flip chart paper, which he then tore off and stuck to the conference room wall so we could "show and tell" to the other three

groups. He explained that he often used the analogy of the heart beat monitor to help "frontline" nursing staff and managers connect to the importance of daily measurement of metrics. To get them to care about process improvement as something other than managerial oversight – "top down QI" were his exact words – he explained that the work of Lean had to be connected to the health of the hospital as if the hospital itself were the patient. In order to engage clinicians in process improvement, an explicit connection had to be made between efficiency and care, wherein the hospital, in addition to patients, was envisioned as an object of care.

Dashboards, however, give only a particular picture of the health of the hospital. Although the analogy Carl used was "taking a pulse," using dashboards to visually monitor metrics is not the same as taking a pulse through touch or feel. Although assessing patients' physiological vital signs involves forms of measurement, there is necessarily an element of qualitative understanding -- a relationship between the patient and the person on the other end of the instrument. For example, a high blood pressure reading on one way may be atypical for a particular patient and not a concern for their physician. Instead, dashboards are a quantified aggregation of data points that are distal to the actual work being done, distal to the point of care. As such, dashboards obscure the social relations of care and labor that produce the data and by design present a particular picture of the health of the hospital that is focused on flow and detached from patients' lived experience.

A3 Thinking

One of my first interviews with a hospital executive was with a Chief Operations Officer. He asked me if I knew what an "A3" was. I did not want to appear as if I had not done my homework. But being new to the culture of Lean and process improvement, my ignorance was

obvious. He picked up on the fact that I was not conversant in the lingo, and gave me a cursory explanation of A3: "It's a tool we use to systematically work through problems." I would later learn that his explanation was correct, yet incomplete.

Most simply, "A3" refers to an international size of printer paper -- 11.69 x 16.53 inches -- that is not commonly used in the United States. The origin story of the A3 method, which was repeated at most every introductory Lean training I observed, goes something like this: in the early days of the Toyota Production System, a matrix was developed and used to identify a problem, a solution, and steps to address said problem. This matrix was printed on A3 size paper and the name "A3" stuck. A3, however, is not only shorthand for the size of paper, but also refers to a structured method of problem solving known as "A3 thinking."

One medical group published a monthly newsletter with the tagline, “By physicians, for physicians.” One issue featured an article written by a physician self-identified as a “Lean Promotion Physician Champion” who sought to unpack the “mysteries” of A3 thinking and promote it as a “scientific,” data-driven method to identify and solve problems. That physician explained that, “Many physicians and clinical staff may find the Lean term “A3” somewhat foreign, but “A3” thinking is nearly identical to something we use regularly to solve clinical problems — the scientific method.” The article recounts the history of A3 as originating in the use of the international paper size A3 and the premise that “every problem should be able to be captured in a visual format on a single sheet of paper (A3 being the convenient size for this).”

For illustration, he provides a fictitious example of a “4-box A3” that presents a clinical conundrum — John Smith’s uncontrolled diabetes as evidenced by his elevated levels of hemoglobin A1c (see Figure 1). The four boxes are designed to take the physician through structured steps to solve the problem. First, identify the “gap” (i.e.: the difference between Mr.

Smith's target versus actual A1c levels) through a "carefully crafted" problem statement. This, the author tell us, is both the "most difficult and the most vital step in the process" and ideally is done using numbers without jumping to conclusions that hint at possible solutions.

The second box seeks to identify the root cause(s) of the problem utilizing a "waterfall" diagram. Box 3 then ranks the root causes in order of importance. Box 4 is the final step in which an action plan is developed to address the various root causes. The author of the article highlights that "each of these is essentially a small experiment or treatment plan that is designed to help close the gap identified in Box 1." He reminds the reader that each action step should connect to a root cause and have an explicitly stated goal, owner (i.e.: the person who is responsible for following through) and due date to assess progress.

I rarely saw a clinically focused, 4-box A3, however, as most A3's were "process" oriented. The typical A3 used to address "process" problems like specific components to patient flow contained 7 boxes and was undoubtedly more complex. In making the point about the structured method of "problem solving," however, the physician-author's claim was that "regardless of the number of boxes, or the size of the paper, the A3 remains a simple but powerful tool for solving a wide variety of problems because it incorporates the same rigor physicians have used on a daily basis in clinical problem-solving."

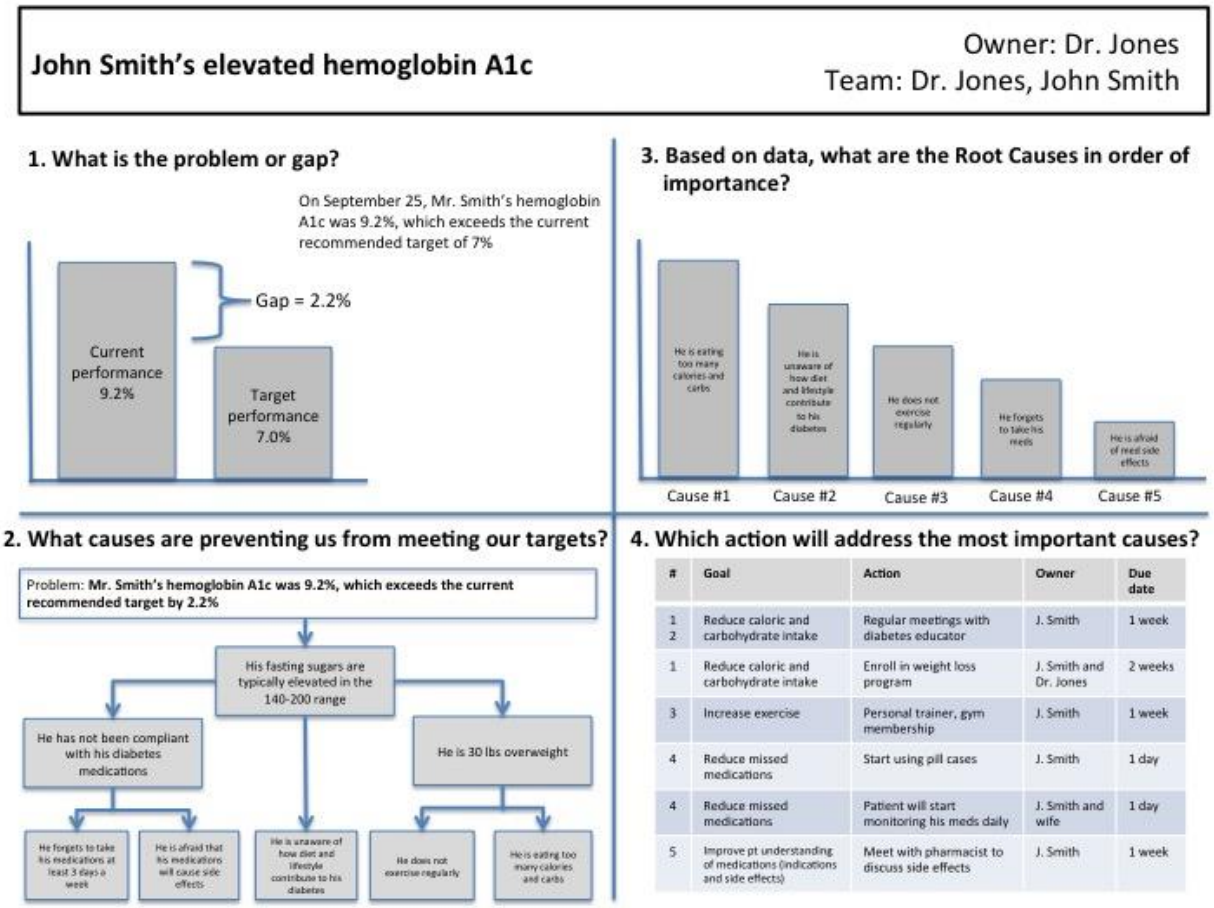

Figure 1: Reproduction of 4-box A3

When I asked an in-house Lean consultant at one hospital what was different about a Lean management system from the typical way of running hospitals or health care organizations, he explained to me that Lean is not unique in terms of concepts for process improvement. "It's a little hard to answer," he said, "because I think a lot of things aren't unique to Lean. There's a lot of concepts that were around long before Lean and will be long after, when there's another name for different things. I think in some forms, a lot of those have been around for a long time." He did, however, single out A3 Thinking as a structured method for problem solving unique to Lean.

> One thing that really sticks out in my mind as sort of a core thing, is the structured way of thinking that almost always takes the form of A3 thinking in Lean. The truly repeatable structured way of thinking is what really differentiates it. That essentially you have standard work for solving a problem and I think that's very different, whereas I think in a lot of places it's an individual talent as to how good

> you are at solving problems. That's not necessarily something that organizations spend a lot of time focused on -- what is that thought process for how to identify and approach a problem.

Lean experts and physician-champions made correlations between A3 thinking as a structured method for problem solving and the scientific method as a way to connect process-oriented quality improvement to the scientific training of clinicians. In doing so, the hope was that physicians, nurses and others would made a connection with the methods of process improvement as akin to their clinical work and decision-making processes. This "scientistic rhetoric" (Pine 2011) is heavily informed by the rise of evidence-based medicine (EBM) (Timmermans and Berg 2003) and the rhetoric of experimentation and randomized control trials.

Experimentation & the Fear of Failure in Health Care

Interventions that rely on Lean and process improvement to affect the "health of the hospital" are predicated on the practice of "experimentation." Rapid improvement cycles are designed to make "small tests of change" -- similar to isolating dependent variables in a controlled experiment -- to see if one small change brings about the desired effect. The notion of experimentation in continual improvement plays off the idea that there is pure scientific method free from external influence, which will uncover a definitive truth about the current state of the hospital's health. However, process improvement is by its nature *experiential.* Change does not occur in a vacuum devoid of people or context.

Brian, the Lean consultant we met in Chapter 2, told me that when he introduces Lean to groups of health care workers, he always highlights the concept of experimentation. "It's a way for them to get on board with Lean because they are used to thinking scientifically and systematically," he said. But in practice, he admitted that often people's actual clinical practices

are not rooted in evidence, nor are "they designed with the system in mind." His job -- getting them to see the connection between the individual provider, the unit or department in which they work, and the big picture of the hospital as a system -- is key. Once he has accomplished that, only then can they appreciate how small "experiments" can impact change. A mainstay tool of continual improvement experimentation, Lean or otherwise, is the PDCA cycle: Plan-Do-Check-Act. This cycle of action is a method for implementing a small change and studying its effects in a systematic way. Perhaps the components seem obvious, but let me explain.

The first step is to plan. In order to plan, a problem has to have been identified. One problem -- or "opportunity" as they were often recast by hospital administrators, managers and Lean consultants -- I watched unfold in one hospital was that the number of patient call lights to the nurses' station was "too high." This was a problem because when patients were using their call button, it indicated that there needs were not being met. Too many call lights at the nurses' station invariably contributed to "alert fatigue." Alert fatigue refers to the phenomenon whereby an abundance of call lights or electronic alerts in patients' charts contributes to providers' mental overload and the inability to multitask and process information, leading to missed communication, potential errors and adverse events. However, it was not addressing alert fatigue among nurses that was foremost on the minds of hospital administrators and mangers. Rather, it was the possible correlation that patient satisfaction scores suffered when rates of call lights remained high. Furthermore, nurses bemoaned the fact that satisfaction scores did not account for “impatient patients,” or reflect the realities of staffing shortages.

The second step in a PDCA cycle is “Do.” This is the implementation of said change. The how-to of doing is where the million-dollar question for QI comes in.

After “doing,” comes “checking,” to study the effects of the change within a set timeframe, typically "30-60-90" day increments. At these punctuated intervals, you pause and assess whether or not the desired result was achieved, however small.

The final step is to “Act.” Based on the data from dashboards and audits, either you maintain the current process or tweak it, plan, do, study and then act all over again. This ideal cycle of experimentation is at the heart of continual improvement.

The problem of call lights was a national issue at the time of my research and hospital management turned to research on "best practices" to determine a solution. Prior to convening a *kaizen* -- rapid improvement event -- the solution was already decided upon: hourly rounding using the principles of 5P. Nurses were to round on patients every hour using scripted questions about 5P's -- pain (is the patient's pain adequately addressed), position (to avoid pressure sores), potty (assisting with toiling needs), periphery (helping patients with items out of their reach) and pump (checking IV pumps). Yet instead of being true to the Lean pillar of "people first" in which the frontline staff led the change by identifying problems and coming up with solutions that could be systematically tested and improved upon, this problem and its solution were predetermined by management. The solution of hourly rounding did not come from within the rank and file nurses whose work would be most affected and audited for compliance. One manager who was participating in a year-long training to become certified as a "Lean leader," explained to me that they were required to facilitate two *kaizen* events and as the "owner" of the process improvement projects, demonstrate their ability to facilitate the implementation of PDSA cycles.

I asked Brian, the Lean expert who we met in Chapter 2, about his experience implementing Lean and PDSA cycles in health care settings. He said that health care

professionals understand the notion of experimentation, but they also want to get it right the first time. "Health care," he said, "is high on execute, which is also a downfall" in the context of continual process improvement and rapid experimentation.

> "It's a very nerve–racking thing for a lot of people because we're asking them to do something in a different way. And it creates what can potentially be a very stressful situation for them and being perfectionists in so many cases. We're used to focusing so much on quality in healthcare that we don't want to make mistakes. We're very fearful of mistakes in healthcare. I think that mentality transfers to the nurse manager and so on, and they want to do that huddle perfectly. They don't want to mess it up in some way, so it's asking them to do a whole new way of thinking in some cases."

I asked him about the relationship between success, failure and experimentation in continual improvement cycles. Specifically, I wanted to know about the discharge times that seemed to be set in stone despite the intended purpose of PDSA cycles to reassess and make small changes. "At what point can those times be reassessed and processes re-tweaked to see if something else works a little better?" I asked. He replied:

> I think obviously it is very continuous and to your comment about failure, I think that's very accurate. There are all kinds of sayings around that about failing forward where you learn something through the process. So it's not a failure in the traditional sense but rather a tested hypothesis that you learned something from. I think another concept we really push in Lean is to fail fast so you can test something very quickly, rather than think it through to death but really try it out to see how it works. Getting to that experiment point very quickly and give it that opportunity to fail and get the learnings. That way you're conserving the Lean team's time as well so that they don't pamper something through that's not working. . . .
>
> I definitely think that if everything goes well, then you're not trying hard enough, you're not thinking out of the box enough. It's not like taking one swing of a baseball bat, not getting the hit and then spending the next weekend analyzing that one swing. You have to keep taking swings and that's what will make you better baseball player. Knowing that each one you are going to get continually better. Your learning will be limited if you expect perfection like, "I'm going to do one and I'm going to study it to death and then the next one is going to be perfect." No. The next one can only be incrementally better.

The concept and practice of failure -- and the notion of "failing fast" -- is a central principle within the innovation and quality improvement circles. Because if you fail fast then a new solution can be put in place more quickly instead of becoming invested in something that is not working. In health care, however, the notion of failure is loaded. What is potentially at stake is patients' lives. With product assembly or development, the stakes are not as high. But when patients and health care professionals are added into the mix -- particularly doctors who are held up as experts in everything, and executives who are groomed to be problem solvers and not accustomed to admitting failure -- then the practices of continual improvement, including the *necessity* of failure, pose a challenge to the ways in which the hospital's "health" is assessed and intervened upon.

The "Illusion of Precision"

I had been invited to join a group of Lean consultants and coaches who worked in hospitals throughout a large health care network in California. One morning, I met the group in a conference room in the back corner of a nondescript hotel in an industrial park off a highway exit. They were interested in having a research consultant who could help them make sense of their "learnings" as they implemented various pilot projects for "daily engagement systems" in their respective hospitals and administrative support services. A "daily engagement system" is one aspect of a comprehensive Lean management system that incorporates a number of elements that facilitate the ideal of experimentation in continual improvement: daily huddles for frontline staff, *gemba* walks for management – the Lean practice of getting out onto the floor to see the work where it happens -- and visual display of daily metrics and goals.

The morning session included extensive discussion on how best to coach executives and medical directors on selecting meaningful metrics that could be linked to organizational values and "high-level" goals. For example, reducing average length of stay might link to an organizational value of "affordability." Reducing the number of falls might link to an organizational value of "quality." The main focus of the meeting, however, was to determine "success criteria" that would indicate when each coach could give the green light for the executive with whom they were working to proceed with launching this new system for daily management.

Prior to today's meeting, a smaller working group had come up with a list of 50 criteria that could be used to determine the degree of executive "readiness" for implementing the pilot projects. The discussion among the coaches focused on how many of these criteria the executive would need to pass: Should they be required to meet all 50 criteria with 100% competence? Or would it suffice to pass all 50 criteria with only 80% competence? Are 50 criteria in fact too many to measure? In the end, the consensus was that they would require that 80% of the criteria – which the group whittled down to 30 – would need to be met with an 80% competency or confidence level.

As the group broke for lunch, one of the 20 or so participants walked over and introduced himself. He told me he was happy to have me with them, that they could use the insights of an anthropologist to help them figure out how to best apply their "learnings." Then he leaned in close and whispered, “Really, this is all about the illusion of precision." This experienced Lean coach with "Black Belt" credentials, who had worked at Toyota for decades before transitioning into health care quality improvement, reinforced my observation that often all of this talk of choosing metrics boils down to totally arbitrary decisions. This is but one way in which metrics

become truth. In the hospital, the illusion of precision colored all of the improvement activities, including auditing, "report outs" of progress and most importantly, the very process of determining which metrics would count as vital to the health of the hospital.

Conclusion

By illustrating the ways in the practices of Lean and process improvement are used to "measure the health of the hospital," this chapter has shown how the production of process metrics has become the focus of efforts of create health care value in the hospital. The concept of "vital signs" infused the language of consultants and administrators whose attention focused on optimizing the flow of the system. This discourse, and the practices and infrastructure that supported its proliferation – audits, A3 thinking, PDCA cycles, dashboards and visual data displays – show how the hospital itself, often at the expense of individual patients, has become the object of care.

Chapter 4 | Satisfaction and the Quantification of Experience

Satisfaction as a Proxy for Care

Satisfaction has become a proxy for care in the hospital. This phenomenon is not limited to the hospital or health care settings. Indeed, satisfaction has become ubiquitous throughout the service industry as the concept has become woven into consumer capitalism. In the hospital, however, the measurement of satisfaction and the production of satisfaction scores as the primary means through which the inherently subjective experience of patients is quantified and made legible to the system. The prevalence and prominence of satisfaction metrics as a means to assess health care quality and value in turn shape our understanding of experience and care. This is what I refer to as the *tyranny of satisfaction.*

Hospitals have often been regarded as institutional and impersonal. A place for patients to come to be repaired and put back together through the magic of modern medicine. The technological advances in surgery, imaging and laboratory diagnostics have no doubt contributed to the cultural imaginary of the hospital as the hallowed halls of scientific achievement. Surgeons are elevated to the role of demigods. Medicine revered for its salvific promises. Yet hospitals were once thought of -- and avoided -- as a place you go to die. In many parts of the world, this may still be the case. However, since the 1970s and the routine use of life-sustaining technologies, hospitals in the United States and elsewhere have become places where heroic measures are taken to save and extend life. Death, once a natural, biological occurrence outside of medicine's ability to prevent has become medicalized (Kaufman 2005, Lock 2001). This has resulted in countless lives being saved, with many grateful patients and family members. But it has also resulted in the possibility for patients to exist in limbo -- persistence vegetative states, brain death, induced comas -- and a profound renegotiation of the boundaries between life and

death. The use of these new technologies led to what has been called "the problem of death in America" (Kaufman 2005). This problem was centered in and made possible by hospitals.

Decades before death moved with greater frequency into the hospital, the hospital became the location where the majority of births in the Unites States occur. Many anthropologists and clinicians have written about the problems that result from the over-medicalization of birth (Davis-Floyd 2004), including the cascade of interventions and high rates of cesarean sections. Despite, or in fact because of, the high level of technological intervention available -- and used-- in hospital births, the United States has among the poorest birth outcomes in relation to other industrialized countries. But as one Lean consultant with whom I worked closely said, the hospital's birth center is "the happy place." "It's the only time people are happy to come to the hospital," he said.

There has been a slow but steady shift over the past decade in the options available to birthing mothers, and not just because there is increasing evidence for more mother- and baby-centered practices like skin-skin contact and rooming in. Birth is big business -- hospitals *have* to pay attention to the experience and satisfaction -- of mothers. Mothers-to-be, unlike most other patients who are hospitalized, *do* have some degree of choice in where they decide to go. And in most cases, they have a little more time to plan. The situation has changed in part due to the women's health movement and consumer pressure from expectant mothers, resulting in hospitals that are redesigning labor and delivery wards into family-friendly and women-centered birthing centers. Private rooms with more hotel-like than hospital decor. This is not only what women are asking for but is also indicative of the potential for corporate co-optation of the discourse of women's health empowerment since labor and delivery remains one of the most lucrative business opportunities for a hospital (Thomas and Zimmerman 2007).

The current efforts of hospitals to improve the quality of care through attention to patient satisfaction can be traced to the ongoing concern with cost and quality that has colored American health care policy since the 1980's when there was a general sentiment among the public, health care professionals and policy makers that health care was in a state of crisis. The issue of patient satisfaction came to a head during the Reagan administration (1980-88), whose general approach toward conservatism was rooted in neoliberal economic and social principles that favored privatization and deregulation. This included efforts to privatize the welfare state and restrict federal spending on domestic programs, including health care. Medicare and Medicaid -- the country's single-payer safety net for the poor and elderly -- were framed as a budgetary problem. These programs became the focus of political attack as a means to reduce the rising budget deficits.

As part of large-scale economic reform, market-based solutions that favored competition in the health care sector flourished. Consumer choice and competition between private insurance plans were promoted as market-based means to restrain spending on medical care. Cost-containment policies for CMS payments to doctors and hospitals went into effect with support across political party lines and backing from the American Medical Association, a conservative organization that has historically supported the consolidation of professional power of the medical establishment. This trend toward increased privatization and neoliberal market logic as the driving force behind health care reform continued into the 1990s and 2000s.

Making Suffering Legible: A Brief History of Patient Satisfaction

In 1985, Irwin Press and Rod Ganey founded a company whose mission is to "reduce suffering through compassionate connected care" (Press Ganey Associates 2015). Their

company, Press Ganey Associates, introduced the concept of patient satisfaction as a quality metric that would transform the ways in which hospitals and health care organizations measure their quality of care – a central feature of "audit culture" and the rise of managerialism and accountability structures of neoliberal governance (Strathern 2000). This laid the foundation for the centrality of patient satisfaction metrics in the turn toward value-oriented health care.

Irwin Press was an anthropologist and professor at the University of Notre Dame whose early research had focused on comparative medical systems. The mission of Press Ganey came from a question that Press, like many anthropologists at that time, was interested in: "Does the way in which cultures around the globe treat health, illness and healing have any relevance to contemporary medicine?" (Press Ganey Associates 2015). Around this time, medical anthropologists began to shift their attention from comparative medical systems to understanding the "illness experience" of patients in cross-cultural contexts, including within biomedical systems in the United States (Good 1994, Kleinman 1988). Foregrounding the meaning and experience of illness directly informed the notion of cultural sensitivity and patient-centeredness that have become components of what it means to provide "good care."

After leveraging his ethnographic experience as a consultant to hospitals in the United States, Press formed a company dedicated to address poor quality hospital care from a patient perspective. He recruited a statistician named Rod Ganey to help develop a rigorous survey to assess patient satisfaction with hospital care. Measuring and quantifying satisfaction was a particular type of intervention intended to shed light on the suffering of patients inflicted by the culture of hospitals and the health care delivery system. Today, their mission is to:
"…present key metrics in a single, integrated view of performance to enable alignment and accountability across the organization under a shared mission to reduce patient suffering. This

gives clients the confidence to make changes, based on proven best practices, to reduce suffering and improve the patient experience" (Press Ganey Associates 2015).

How exactly is the suffering of patients made legible to health care systems? First, particular aspects of suffering first needed to be measured and quantified. Press Ganey Associates did this by creating a mechanism to measure patient-reported satisfaction of their hospital stay. By making the feedback from patients visible in this way, the logic was that hospital administrators and health care providers would be motivated to improve the way that they cared for patients and ostensibly reduce suffering as well as cost. Press Ganey marketed their hospital survey as a voluntary means by which hospitals could track patient satisfaction in order to make comparisons with other hospitals with similar characteristics. Their success depended upon building a network of hospitals all using the same metrics -- the ability to compare one hospital to another was essential for the potential of data-driven, market-based changes in the delivery of care. Thus, from their inception, patient satisfaction surveys have always been a market-based diagnostic to the problem of quality and value.

Press Ganey initially focused their survey on inpatient hospitals, as the hospital was the location where the problem of patient suffering was most apparent. Hospitals were able to sign up voluntarily and pay a premium for the proprietary survey and results. Trends in an individual hospital's metrics could be compared over time to gauge fluctuations in the hospital's overall satisfaction scores as well as down to the unit, department, or individual physician level. Central to Press Ganey's marketing was the ability to compare hospitals to other similar facilities. The database of hospitals had to be built up over time in order to make meaningful comparisons across hospital types with similar characteristics, such as size and patient volume. Today, virtually every hospital in the United States measures patient satisfaction, either through

companies like Press Ganey (which is now publically-traded) or through the federally mandated HCAHPS survey, discussed below.

The patient satisfaction market has ballooned since its inception into a lucrative market. Today, Press Ganey Associates is a publicly traded company, with annual revenue over $300 million.[7] Since Press Ganey's founding in the 1980s, the number of companies providing similar services has expanded. Other companies such as NRC, Gallup, HealthStream, PRC and Avatar are making inroads into the satisfaction market, each with their own niche. These companies' focus on patient satisfaction has expanded well beyond the walls of the inpatient hospital to include ambulatory care (outpatient clinics) and emergency departments, as well as physician and staff satisfaction. Satisfaction survey companies not only sell the surveys and their results, but like Press Ganey, are increasingly offering consulting services to help hospitals and organizations improve their scores and become more competitive within the marketplace.

Institutionalization of Federally Mandated Satisfaction Surveys

The federal government's development of its own patient satisfaction survey points toward the degree with which the concept of satisfaction has become central to our understanding of quality and value. In 2002, the Centers for Medicare and Medicaid and the Agency for Research in Healthcare Quality developed the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey. This is a standardized 27-question survey that was developed to measure patient satisfaction with certain aspects of inpatient care such as communication with physicians and nurses, pain management and the hospital environment (see

[7] On March 12, 2016, the New York Stock Exchange (NYSE) price of a share in Press Ganey Holdings, Inc. (PGND) was $28.82 (72,305 shares).

Figure 2). HCAHPS was approved in 2005 by the National Quality Forum after an extensive public comment period, implemented by CMS in October 2006, and results first reported in March 2008. At the time, reporting was voluntary for participating hospitals. This changed with the enactment of the 2005 Deficit Reduction Act, which provided financial incentives for hospitals who participated and reported results from HCAHPS beginning in 2007. Participation rates, quickly rose close to 95% (CMS 2010). The 2010 Affordable Care Act strengthened "pay-for-performance" incentives so that hospital Medicare reimbursement to hospitals would partially based on comparative performance and improvement of HCAHPS scores. Satisfaction scores, along with other key quality metrics, now form the backbone of CMS' Hospital Value-Based Purchasing (VBP) program, disused in more detail in Chapter 6.

Hospitals contract with a third party vendor -- like Press Ganey or other survey companies -- to administer HCAHPS. The hospitals in which I conducted fieldwork sent out two surveys. First, the federally mandated HCAHPS, which is focused on inpatient units and publicly available scores are factored into CMS reimbursement rates. In addition, these hospitals, like many others, also contract with private companies like Press Ganey to administer a more extensive and customizable survey. The full results of these surveys typically are not publicly available but are used internally for performance measurement.

HCAHPS & the Quantification of Experience

At the top of the HCAPHS survey, a disclaimer from the OMB reminds you: "Questions 1-25 in this survey are part of a national initiative to measure the quality of care in hospitals." The OMB disclaimer does not make any claims to the ways in which this measurement might be used to improve patient care at any given hospital. Nor does it tell patients that hospitals whose

scores are too low can lose out on federal reimbursements through a complicated system of which most patients I spoke with were not aware.

The instructions read: "Please answer the questions in this survey about your stay at the hospital named on the cover letter. Please do not include any other hospital stays in your answers." On face value, this seems like a reasonable request. Indeed, the results and ability to measure and compare a particular hospital to its scores in the previous "performance period" is necessary. However, my experience talking with patients about their hospital stay showed that people are often unable to stay on a narrow mental path and reflect on only one hospital episode. Particularly for patients who have had multiple hospitalizations close together, the discrete episodes blur into one continuous or overlapping series of events. For example, one patient admitted, “Well, I don’t entirely remember all of it and maybe I’m confusing with another time.” Another patient, a 79-year old woman who had been recently hospitalized twice for atrial fibrillation, said, “It might have been more than one night, honestly, I don’t’ remember.” At one hospital where I interviewed patients, they were recruited based upon a particular hospitalization with discrete dates of admission and discharge. But for most of these patients, the fact that we were talking about their experience at one hospital did not limit their responses to that particular hospital. The ways in which they talked about this hospital was at once distinct from other nearby facilities yet also the same.

It is precisely this blurring and extending of time, the fuzziness of memory, the continuity of or ruptures in care that shapes the ways in which patients reflect upon their hospital experience. If people were so often unable to keep within the discrete boundaries of the hospital stay in question during our interviews, how certain can we be that they are able to maintain the level of rigor and isolation asked of them when filling out satisfaction surveys? If not, does the

edifice of measurement start to crumble, ever so slightly, so that satisfaction might not be so reliable? Or, in fact, that satisfaction is more complicated than simply asking patients about discrete events? That time and the cumulative encounters with the health care system, this hospital or that, this nurse or that, that doctor from this time or the other one from before, starts to blur. How then, can we be certain we are measuring what is intended?

2015 HCAHPS survey questions (Most questions include Likert-scale answers: Never, Sometimes, Usually, Often)

Your Care from Nurses

1. During this hospital stay, how often did nurses treat you with courtesy and respect?
2. During this hospital stay, how often did nurses listen carefully to you?
3. During this hospital stay, how often did nurses explain things to you in a way you could understand?
4. During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?

Your Care from Doctors

5. During this hospital stay, how often did doctors treat you with courtesy and respect?
6. During this hospital stay, how often did doctors listen carefully to you?
7. During this hospital stay, how often did nurses explain things to you in a way you could understand?

The Hospital Environment

8. During this hospital stay, how often were your room and bathroom kept clean?
9. During this hospital stay, how often was the area around your room quiet at night?

Your Experiences in this Hospital

10. During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?
11. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
12. During this hospital stay, did you need medication for pain?
13. During this hospital stay, how often was your pain controlled?
14. During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?
15. During this hospital stay, were you given any medications that you had not taken before?
16. Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?

17. Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?

When You Left the Hospital

18. After you left the hospital, did you do directly to your own home, to someone else's home or to another health facility?

19. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?

20. During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?

Overall Rating of Hospital

21. Using any number from 0 to 10,where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?

22. Would you recommend this hospital to your friends and family?

Understanding Your Care When You Left The Hospital

23. During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left.

24. When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.

25. When I left the hospital, I clearly understood the purpose for taking each of my medications.

About You

26. During this hospital stay, were you admitted to the hospital through the Emergency Room?

27. In general, how would you rate your overall health?

28. In general, how would you rate your overall mental or emotional health?

29. What is the highest grade or level of school you have completed?

30. Are you of Spanish, Hispanic or Latino origins or descent?

31. What is your race? Please choose one or more.

32. What language do you mainly speak at home?

Figure 2. 2015 HCAHPS questions

The tyranny of satisfaction is predicated on the quantification of experience – what gets counted as "experience" in the context of HCAPHS survey questions. The questions about experience focus on basic bodily needs: elimination, pain relief and the effects of new medication, often which are essential to the physical or psychological stability of patients before

they are able to be discharged. These three things – toileting, pain relief and medication -- get framed as important components of experience while the other aspects of the hospital stay are categorized in different ways. Care, for example, centers on whether or not patients felt their nurses and physicians treated them with courtesy and respect, listened carefully and explained things in a way that you could understand. Satisfaction surveys do not make a claim to help us to *understand* experience but rather they seek to quantify particular aspects of experience that then become solidified as candidates for intervention. Once measured, it can be improved.

Satisfaction scores not only enable a hospital to gauge how happy their customer base is with the care they receive, but also allow them to compare themselves to other facilities that are similar in size and shape. In the course of my fieldwork with patients and non-management hospital workers, this aspect of satisfaction surveys was not often talked about. More often, comparisons were made based upon reputation -- every hospital has one, for better or for worse. One Emergency Department Medical Director, however, showed me her department's Press Ganey scores, a series of colorful charts and graphs. It showed the hospital's rank by mean and percentile within the group of hospitals in its national database that were of a similar size based on the number of inpatient beds. She warned me that the results should be taken with a grain of salt. Her hospital did not quite fit the typical category for a mid-sized facility, she explained. For its size, the daily patient volume was much higher than average. So, although the scores gave her a rough picture of their place in the pecking order of the market share, this information was "not useful" to her. Comparison to other hospitals, therefore, is not always a meaningful measure of quality since any negative comparison or slight deviation from the norm could be explained away by a variety of particularities like, "our hospital has an incredibly high patient volume for its size**."** Another explanation I heard attributed lower scores to patients' cultural background

influencing whether or not they would mark "excellent" and "5 out of 5" on a survey even if the care they received was “exceptional.”

Consumers of hospital care, unlike most other industries, fill out HCAHPS in relative droves. The 2015 HCAHPS results were based on 3.1 million completed surveys from 4,167 hospitals (HCAHPS Executive Insight 2015). Roughly 8,400 people fill out an HCAPHS survey every day, out of 30,000 surveys sent out by third party vendors on behalf of hospitals. Indeed, many patients whom I interviewed told me that they typically completed surveys from hospitals. Yet only a handful ever followed up and looked at quality and satisfaction metrics to make decisions about where they got their care.

“Oh, I'd probably start with the Internet and I'd probably go to Google and it would say, ‘hospital ratings,’” one person told me when I started asking patients if they had ever looked up hospital quality scores. The neoliberal discourse of value-oriented health care assumes that patients will make decisions based on quality metrics. Yet in the midst of the mountains of data that percolate into the production of satisfaction scores and quality ratings, this information seems to have little impact on patients. In fact, the vast majority of patients with whom I spoke knew of the existence of comparison websites such as the Leapfrog Group or CMS' Hospital Compare, despite many of them having filled out surveys, sealed the envelope and dropped them in the mailbox. Most, but not all, of the patients I interviewed with went to hospitals based on proximity and which hospital was covered on their insurance plan. Some who had complicated surgical cases sought out specialists available at the region’s two major academic medical centers – one public, one private. Many, however, went to the community hospital based on word-of-mouth “reputation,” not quantified quality metrics available online.

The Temporary Disappearance of Satisfaction Scores

I poked my head into a hospital conference room, which was empty except for a food services staff person setting up black plastic trays of food and nestling cans of seltzer water and diet soda into a bowl filled with ice. The conference room was typical, nondescript. Rectangular tables in modular form that were arranged in a larger rectangle that paralleled the walls of the room. Surrounding the table and edges of the room were chairs with wheels, padded with light, muted turquoise upholstery. One of the long walls was made up entirely of windows. The shades were partially drawn as dusk fell. It was mid-December 2014, and the final Patient Advisory Council meeting of the year. The monthly meetings alternated between a large room nestled into the corner of the hospital's conference center and the comparatively plush executive board room located on the hospital's top floor administrative suite. Upstairs, was a large, polished, wooden table surrounded by ergonomic leather chairs. The two internal walls were made of transparent glass and the external wall had floor-to-ceiling windows with expansive views.

As I sat waiting for other members of the council to arrive, I made small talk with a nurse named Carole. She was the only other non-patient or family member on the council aside from the Chief Experience Officer (CXO)[8] and the Director of Patient Relations. We talked about how busy we both were, what our children were up to, and plans we had for the upcoming holidays. As we chatted, we helped ourselves to the spread of platters from the hospital cafe -- crackers, cheese, fruit plate. Often a council member would bring in baked goods -- today it would be chocolate fudge and homemade peppermint toffee. One of the council's co-chairs handed out gift

[8] Hospitals are increasingly creating executive positions specifically focused on patient experience (see Appold 2015, Wicklund 2015).

bags and cards, including one for me as the newest honorary member after I had invited myself to their meetings a few months earlier.

At the end of the meeting after presentations and updates from a few "owners" of various Lean improvement projects throughout the hospital, the Chief Experience Officer gave her monthly "state of the organization" update. Many of the council members had heard rumblings that the hospital and its associated health care network were cancelling their contract with Press Ganey for reasons that were not made public. Being the oldest and largest patient satisfaction survey company in the United States, the hospital had used their surveys for over 20 years. The cancelation of the contract was a hot topic for many of the hospital's executives, as most of them had come of age professionally in the era of Press Ganey's monopoly on the patient satisfaction survey market. The CXO explained that, "I grew up in my health care career with Press Ganey. I'm comfortable and familiar with the way they present our data, it's like second nature. We're exploring other options, but it's going to be a major shift." It would be at least six to eight months, she told us, before a new contract with another company was finalized.

Press Ganey's longevity in the field of patient satisfaction surveys produced particular forms of knowledge that were familiar to hospital administrations. The metrics and the particular way they are visually presented had become so central to the operations decisions of the hospital that without them, there was a profound anxiety around the lack of information. The general mood among administrators around the cancellation of the contract was one of anxiety and discomfort at not having the measurements at their fingertips. How would the hospital conduct business as usual in the absence of satisfaction scores? What would be the implications for an absence of metrics? At the December meeting, Patient Advisory Council members voiced concerned with how the lack of scores was going to impact patient care. "If we can't measure

patient satisfaction anymore, how will we know what's going on?" someone said. If you cannot measure what patients report about their experience, the feeling was, how would you know if there was a problem? According to this logic, problems only exist when they are made legible.

Physicians, on the other hand, were less concerned about the temporary loss of satisfaction scores. Many doctors I spoke with never looked at their individualized scores. Others took them with a grain of salt. One hospitalist physician told me, "There have been a lot of studies showing that patient satisfaction isn't the most important bottom line. At the end of the day, the most important bottom line is that you do good, sound, quality medicine. Patient satisfaction is seen as a secondary, not necessarily a primary concern." However, other high profile hospital physicians like Robert Wachter (2015), have praised the strategy of showing doctors their individualized satisfaction scores as a way to spur behavior change in areas that need improvement. Despite physicians' personal or professional opinion on the usefulness of patient satisfaction scores, the compensation of physicians at this hospital, like many hospitals around the country, was tied to an incentive-based contract linked to patient satisfaction scores and other performance metrics. The hospitalist physician group's contract also included performance metrics that had to be met in order to qualify for financial incentives. Using financial incentives as a dangling carrot to improve patient satisfaction scores has become a primary means through which to change the entrenched “behaviors” of physicians, a group that historically has resisted impositions on their professional autonomy and being told how to practice medicine (Friedson 1970).

Nurses at this hospital, however, had an entirely different viewpoint on the usefulness of patient satisfaction scores. Unlike physicians, their labor union contract prohibited remuneration based on patient satisfaction scores. This was negotiated on their behalf, as nurses have the most

face time and physical contact with patients and often bear the brunt of patient complaints. In fact, hospital care is at times uncomfortable and aversive. Nurses in particular are responsible for enacting (or denying) forms of physical care that are uncomfortable or painful yet required for patients to progress – getting patients out of bed to walk after a surgery, depriving them of food or fluids when indicated, cleaning out wounds, placing and removing catheters or intubation tubes. In instances like these, there is a violence that is required in the physical care of the body. At the same time, nurses' work demands emotional labor (Hochshild 2012) as the expectations of customer service are increasingly oriented around meeting satisfaction metrics.

As labor costs are among the largest expenditures for inpatient facilities, anywhere cost can be cut is an area ripe for managerial scrutiny. By separating compensation from patient satisfaction scores, nurses' have at least one layer of protection from salary cuts in an already understaffed and overworked profession. One day, I was eating my lunch in the hospital cafeteria and found myself sitting nearby a nurse whom I had met in passing on her unit. In the course of our conversation, we talked about her impressions of Lean, quality improvement and the hospital's efforts to improve the patient experience. "There used to be a lot of celebration," she said with a bit of sarcasm. "If we had especially good patient satisfaction scores one quarter we might get a pizza party." That pizza party stood in stark contrast to the thousands of dollars of incentives written into physician contracts.

Patient satisfaction scores had been relied upon as an internal benchmark for quality. Occasionally, they were used as a secondary outcome metrics for the Lean process improvement work. In an absence of metrics, how would the hospital know if its patients were satisfied? If the hospital administration as a whole was thrown off by the disappearance of Press Ganey scores, the CXO was coolheaded about it. "What's the opportunity here?" she asked us, not knowing

herself at that time what the answer would turn out to be. In Lean parlance, "going to the gemba" means going to the location where the work is performed to best understand how to improve it. The absence of Press Ganey scores, although experienced as a void in knowledge, however, forced administrators to leave their offices, walk the floors and talk with patients. As the CXO put it, not having the scores was "a blessing in disguise." In the absence of metrics, the system was forced to develop a different method to take the pulse of the patient population.

Satisfaction & The Possibilities for Care

The ways in which we understand our experience of being a patient is changing. The fundamental elements of disease and illness have not changed -- our biological fallibility remains essentially the same. As anthropologists have shown for a long time, the experience of illness is largely dependent on a constellation of biological, cultural and structural factors. Although the fundamental mechanisms of disease have not dramatically changed over the last century, what *has* dramatically shifted are the structures within which giving and receiving care occurs -- in whatever technological form it takes – and the ways health professionals respond to the demands of these structures. Thus, patient experience -- in both the phenomenological *and* consumer sense -- is shaped by these things.

Medical anthropologists, particularly in the latter half of the twentieth Century, have focused on the clinical encounter and the nature of communication between patients and physicians within the exam room or hospital room. This continues to be an area of study especially with the introduction of new technology, most notably electronic medical records and the use of computers in exam rooms. Patients typically want health care providers to have a combination of competency in clinical and technical skills and an adequate expression of

humanistic skills once referred to as bedside manner and increasingly conflated with customer service. My interviews with patients show that they desire all of this and more. We want the health care system itself to do a better job of caring.

One could argue that the task of the clinician is to develop empathy and cultivate a relationship in which healing can take place. This is necessarily done in relation another person. The possibilities for this depth of this relationship is arguably limited in an acute care setting, where hospitalist physicians, surgeons and other specialty consultants typically do not have longstanding relationships with the most of the patients they see each year. Yet knowledge of the patient is still gained by being there, listening, touching. This too is changing with the growing sectors of telemedicine (Sinha 2000), wearable devices and digital health (Greenfield 2015, Oudshoorn and Somers 2007), and computerized imaging (Tillack 2012). Yet in the hospital it remains impossible to entirely escape the human connection between patient and provider.

But when we scale up to the level of a hospital or health care system, how does an organization "touch" its patients? We now have expectations that the system will “learn” how to do a better job at caring. What kinds of knowledge about patients does the system need to have in order to improve and provide better care? Removed from these intimacies of the ability to compute information based upon sensorial interactions and clinical judgment based on experience, a "learning system" depends on the input of information from its constituent parts -- the professionals that provide hands on care for patients and the computerized infrastructure and algorithms for making sense of the mountains of data. The practices and techniques of "continual improvement" are one way in which organizations have decided they can learn to be more responsive, attentive to patients' needs, provide better care and have more satisfied customers.

However, the system can only understand the experience of patients when mediated through quantifiable constructs. Patients' self-reported satisfaction is one means to this end.

Yet some important questions remain: To what degree has Press Ganey's original intent of reducing suffering through the measurement of satisfaction been realized? Are hospitalized patients suffering less as a result of efforts to improve satisfaction? In what ways do the use of satisfaction surveys shape the ways in which patients are cared for? Is measuring satisfaction the appropriate solution to addressing the myriad ways in which patients might suffer at the hands of the health care system? Why has satisfaction become the remedy to suffering?

Errors, Safety & The Problem of "Unhappy" Patients

Every hospital has a designated department to receive and respond to patient complaints. A large focus of these departments has traditionally been to ameliorate patient complaints and stave of litigation for malpractice. The Office of Patient Relations at one hospital where I conducted field work fielded patient complaints, coordinated with satisfaction survey vendors, sifted through survey comments, relayed satisfaction scores to individual departments, units and physicians. They also worked closely with the Patient Advisory Council on a number of projects, included a "secret shopper" initiative and acting as the go-between for vendors who wanted patient input on upgrades to the hospital's interactive television system. Some patient relations offices fall under quality and risk management departments; this one reported to the hospital's Chief Experience Officer.

When I began to see how much time, energy and money went into hospitals' efforts to improve the patient experience, it led me to ask what makes patients unhappy. What counts as a bad "experience"? Medical errors -- for example, a surgical sponge being left inside you, a limb

on the wrong side is amputated, or an error in medication dosage -- are obvious culprits. Errors, according to Lean thinking, are one of the seven wastes that decrease value (see Chapter 5). Yet for patients, errors are experienced as something other than waste. Errors were seldom talked about in the open during my fieldwork, as they fell under the purview of risk management and potentially involve litigation and malpractice cases. I observed in one hospital how when floor nurses from inpatient units complained that the "20-minute rule" and elimination of warm handoffs when patients were admitted from the Emergency Department were unsafe, they were met with resistance and demands from some in the administration to "prove" that safety errors had occurred as a result.

Many hospitals are attempting to change the culture around speaking up about potential errors and safety concerns by implementing policies and procedures where anyone can "stop the line." Within the hospital, stopping the line -- a central concept in Lean thinking -- is most easily adapted to the operating room, where there are multiple safety checks in place to ensure that events like wrong site or wrong patient do not happen. In his book about the rise of health information technology, Robert Wachter (2015) details publicly a case in which a serious medication error and overdose occurred as the results of a series of failed safety checks. Computerized health information technology systems are put in place to ostensibly improve safety and remove the element of human error. What these systems do not take into account, however, is the assumed authority of the system itself and the belief in the truthfulness and accuracy of electronic data.

Another safety concern during my fieldwork, both nationally and within individual hospitals, was patient falls. Falls are one of the leading causes of hip fractures in older adults and can lead to a rapid functional decline in the hospital. Falls pose a risk for possible head injuries

and require previously unnecessary imaging and longer hospitalization. This, in turn, can lead to complications, new medications, increased high-tech monitoring, higher utilization of resources and, of course, cost. For a hospital, it does not look good when the fall happens within their walls. Falls trigger a cascade of risk management actions starting with an investigation followed by a rectification plan put in place, not just for that particular patient but also for the entire hospital. The logic of safety and risk management is that falls should -- and can -- be prevented.

The nursing units in one hospital started tracking falls as an outcome measure as part of a Lean rapid improvement project. Just like in many factories that post the number of days since the last safety incident, the units in the hospital had their fall number written in thick red dry-erase marker at the nurses' station: "29 days since last fall." One nurse manager would always point out her unit's fall statistic to me. "We had a fall today," she said first thing one day when I arrived on the unit. At the morning huddle, the nurse manager erased the "29 days without a fall" and drew a big zero.

In the spirit of Lean, the manager encouraged the nurses to come up with solutions to how this morning's fall could have been prevented. The general consensus among nurses was that it was probably not preventable. The patient had a mild cognitive impairment and was not able to remember that he needed to stay in the bed. One nurse said, "I guess we need to get a sitter for every patient with cognitive impairments then," referring to state regulations that hospitals provide someone to supervise patients with restraints or on psychiatric holds. Another nurse hypothesized, "The bed alarm was turned on, maybe the patient turned it off." Others questioned whether or not it was possible to anticipate falls through more sophisticated technology like mattress sensors. "Even if someone was able to rush into the room in time in response to an alarm, the patient weighed 250 pounds!" one nurse exclaimed. "How would a

nurse who is 5'3' and 115 pounds have been able to stop his fall without getting injured?" was one rhetorical question posed. To address the challenge of preventing falls, the hospital had already installed hydraulic lifts over every bed. As part of the effort to institute hourly rounding and the 5P's to reduce call lights, fall reduction was tacked on as a secondary outcome measure.

It might seem obvious that falls result in unhappy patients and family members. But why do patients fall in the first place? One obvious reason which patients discussed with me but was the desire to get out of bed and walk around. To emerge from a private room and interact with other people. To begin to move their body, regain a sense of normalcy. Perhaps they had to use the toilet and nobody was responding to a call light to help them get make their way across the room. Sometimes, the preventative measures and technological fixes put in place to prevent falls cause more dissatisfaction in patients than the consequences of actually falling. Perhaps, like one patient whom I interviewed, a patient wants to go outside a smoke a cigarette, something now strictly forbidden inside the hospital.

Most of the patients whom I interviewed for this research had positive experiences overall with their hospital stay. Nothing is ever perfect, however. There are a number of factors that shape our perception of the experience of hospitalization -- degree of disruption to normal life, individual personality, cultural background, familiarity with hospitals, level of pain and discomfort, etc. On many occasions, people whom I interviewed would say things like, "It was a great experience, considering I was in pain" or "for having to be in the hospital in the first place, it was great." Often, patients would relay stories of one or two individual staff with whom they had less than ideal interactions: "Everything was perfect except for that one nurse who was rude."

I wondered about patients' motivation for agreeing to be interviewed about their hospitalization. Most of the patients I interviewed were recruited through a research study associated with patient flow in the hospital and were first contacted through a letter from the hospital's Chief Nursing Executive. Like many research studies, some patients participated in order to receive a nominal monetary incentive. Others told me that they wanted to give something back because they were a long-time supporter of their community hospital, had donated money to the hospital in the past, or they were so impressed with the care they received that they felt compelled to share their story. A handful of patients, however, were what I called "last chance" respondents, that is, people who had a negative experience at the hospital and felt like their previous complaints were not adequately addressed. They hoped that in speaking with me, they had one last chance to talk with someone who might understand, take them seriously and perhaps be able to resolve their issues or at the very least, listen.

Chapter 5 | Time & Waste

"There is no such thing as absolute dirt: it exists in the eye of the beholder. If we shun dirt, it is not because of craven fear, still less dread of holy terror. . . . Dirt offends against order. Eliminating it is not a negative movement, but a positive effort to organize the environment."
-- Mary Douglas (2003, 2)

"Waste of time is thus the first and in principle the deadliest of sins."
-- Max Weber (2002)

What is Waste?

Waste. Waste denotes something that we do not want. That which we no longer need. Something that has outlasted its usefulness. Waste is what is excess, something that can no longer be contained. Waste is trash -- disposable or dirty. Outside the borders of acceptability, in need of purging. Waste is dangerous, it is threatening. Classical anthropological thought sought to interpret the words and meaning of dirt in different cultures. Scholars like Mary Douglas (2003) wanted to understand how the elimination of pollution (in the form of dirt or bodily waste) was a cultural strategy for organizing and making sense of the environment, setting parameters for what was considered sacred, clean and unclean.

Eliminating waste as a strategy for organizing the environment is one way in which to understand how waiting has become a form of waste in the hospital setting. Waste reduction through the methods of process improvement and systems thinking are, in a sense, ritual acts through which hospital workers attempt to organize their environment so that an efficient "flow" can be achieved and maintained. When the organizing principle for the hospital is one of flow -- of patients and information -- eliminating waste in the form of waiting makes sense. In this chapter, I explore the cultural underpinnings of how, in a flow-oriented system, time spent

waiting is transformed into waste in need of elimination and the implications for how we understand the relationship between time and the possibilities for care in the hospital.

As a medical anthropologist -- particularly an ethnographer of hospital care -- the study of efficiency in the hospital causes me regularly to ask questions about the forms of care that are made possible in the contemporary health care landscape, one that is intimately linked with neoliberal forms of value. By tracing waste's conceptual and applied meaning within Lean thinking and the logic of efficiency, this chapter attempts to highlight the delicate, contingent and shifting relations between the value of time, and the possibilities for care.

The Fishbone Diagram

I met Brian in a conference room at the hospital. It was a rainy day in February 2015. Brian had recently been hired to establish an improvement office in a hospital that wanted to implement Lean across multiple service lines.[9] I always enjoyed talking with Brian. Like most of the Lean consultants I met during my research, he was quite reflective about his role – and the hopes and limitations of Lean – in improving the quality and value of hospital care. He also had a deep understanding of the philosophy and practice of Lean that intrigued me.

I had entered the hospital looking for insight into the ways in which the structure of care delivery shapes contemporary experiences of what it means to be a patient or a health care provider. I had not expected to find myself in the middle of a strange world of management consultants, where business lingo and the injection of Japanese terminology into the daily milieu shaped what it meant to provide quality care. Lean was a perfect foil for the broken health care

[9] A "service line" is a business term for "horizontal" groupings of similar services or products related to a specific aspect of business, or health care delivery, together under a single management and financial accountability structure. For example, a hospital might orient their departments around service lines such as pediatrics, oncology, imaging, Emergency Department, Surgical Services, etc.

system because of its focus on creating value for the patient-customer. When I started my fieldwork, Lean was a black box – a system of thinking and working of which I had never heard. I did not anticipate that Lean would become an object of my ethnographic gaze. Brian was one of the people who helped to make sense of it all.

I attended numerous meetings where Brian and other Lean experts facilitated groups of healthcare providers in what were referred to as "process improvement activities." In one such meeting, the facilitator instructed a small group of us -- mostly bedside nurses, one physician, a nurse managers and an anthropologist -- on how to make a "fishbone diagram"[10] to help us identify reasons for delays to patient discharges from inpatient units. It went something like this: first, take a large roll of paper, a yard wide, and unfurl a length approximately eight feet long. With a wide felt-tipped marker, draw a line across the middle of the paper, almost the entire length. This becomes the spine of the fish. In a diagonal fashion, the facilitator draws parallel lines resembling the fish's skeleton. Fish bones. Along these bones, we will fill in the constitutive elements of a pre-defined problem. Today's problem is one of the culprits of the "bottleneck" in the Emergency Department: delays to inpatient discharge.

On the table in front of each person are a few pads of sticky notes in a variety of bright colors. The facilitator tells us to use one sticky note to write each reason for delay to discharge we can think of. Then, we stick our colorful squares of paper, one at a time, on the paper on the wall. A critical mass of color soon takes shape along the group's most frequently identified

[10] Fishbone diagrams are a standard quality improvement technique to identify causes of problems or structure a brainstorming session. They are also referred to as "cause and effect" diagrams or "Ishikawa" diagrams, a reference to Kaoru Ishikawa, a Japanese quality control expert who popularized its use in the 1960's at Kawasaki. They have also been called "fishikawa" diagrams.

reason for delay. These sticky notes, in turn, will lead us to the truth. Only then can we begin to make a plan to eliminate this source of waste.

At the end of each slender bone a sticky note gets placed. "Each bone represents one category," Brian tells us. "If you have a sticky note that duplicates another's category, go ahead and group them together, along the same bone." This way, we are told, we can see which bones have the most stickies and identify which of these causes for delay should be the focus of improvement. By filling out and sticking our colorful sticky notes along the ribs, we constitute the elements of the predetermined problem.

The facilitator walks up to the right side of the paper and points out that he forgot to draw the fish head. In a traditional fishbone diagram, the head would contain the "problem statement," in this case, delays to discharge. The head here serves no purpose but for illustration, to remind us of the fish. This entire exercise of eliciting reasons for delays could in fact be accomplished without the visual device of the fish. It could have been more angular, the head a rectangle with space for text, less anthropomorphized. But would it be nearly as much fun? A list could do the same job, but would it have the same novelty or visual impact? The facilitator draws a convex arc, scribbles in an eye, a crooked line for a mouth. The fish is smirking now. This smirking fish was our template for making visible forms of waiting into waste.

Once we have all hovered around the fish on the wall, sticking 2-inch-by-2-inch magenta, neon orange and aqua squares of paper and grouping them around their appropriate bone, we step back and admire our work. There are a few bones that were the most colorful, indicating some kind of consensus among those who were in the room, that indeed, these were the biggest culprits contributing to the problem of delays to discharge: time of doctors' orders; consultant clearance; transportation home. These are our potential targets, were are told. Fix these processes, eliminate

the waiting and waste they produce. In Lean parlance, these types of diagnostic exercises are intended to lead to one thing: the pursuit of "perfection." This pursuit was to be our motivating factor.

Waiting is the Worst of the Wastes

The first time Brian and I met, we talked about our backgrounds and he confessed he had studied anthropology in college. Unlike most of the people I interacted with during my fieldwork, with Brian I did not have to explain or justify the value of an ethnographic approach to understanding efficiency and value in health care. After finishing college, he went on to get a graduate degree in biomedical engineering. He had an analytic mind and felt like he wanted to do something that would have an immediate impact to help people. While working as an engineer, he volunteered at a warehouse for a large international, humanitarian medical aid organization that distributed medical supplies and equipment around the world. It was there that he was first exposed to Lean. At the warehouse, he was put in charge of testing donated medical equipment.

One day, a group of people who worked at nearby manufacturing facility arrived, ready to volunteer. They introduced Brian to Lean production methods they used at their factory including "the way they collected information and the way they moved things through the warehouse." They showed him the basics of process improvement and "how to get things in and out faster." Brian explained how they were struggling to match needs for equipment and supplies around the world with what donations were available in their multiple warehouses around the United States:

> "It was always about, where can you find the things that you need to match what a particular hospital in Uganda needs? So we did a lot of work around that -- how do we increase the transparency of what we have so we know how to best match it and say that, "No, Nashville needs to meet this order," and, "Phoenix needs to meet this order," and so on. We did a lot of work around how can we ensure that donated equipment is functional and then get them into our database faster?"

Using Lean as a way to make sense of the chaos inside the warehouse full of medical equipment inspired him to return to graduate school and get a degree in health care management. Lean was for him a systematic way to affect change. It helped him put care into practice. He has since become an expert in applying Lean thinking in hospitals and health care systems.

I asked Brian about Lean's approach to reducing waiting as a means of eliminating waste. "I'm sure as you know," he said,

> "it depends on the model [of Lean], they will say there are seven ways or eight wastes and what you'll often hear is that waiting is the worst of the wastes. And they're all very interconnected. You almost never see one without another. You'll do some over-processing for example. Say for example you have a defect, and you had to do some rework to fix it, so the defect has resulted in some over processing. In the meantime, you're not keeping the line moving. You're going back on something so there's going to be waiting of some type based on you being pulled away to do that other thing. Here [in health care] often waiting is the worst waste, because it's time, and that's the only one you can't get back. In a factory, if you're working on a piece of metal or something, and you drill a hole in the wrong place, that piece of metal can be recycled, and you can essentially get a mulligan.[11] But time is all any of us have, and so spending it in the wisest way we can I think is really important. So I think that's at the heart of what we're doing and why there's such an emphasis on time in everything."

In this conceptualization, time spent waiting is a zero-sum game. In a flow-oriented system, time is a non-renewable resource. There is literally nothing worth waiting (in excess) for. The temporality of procedural or bureaucratic processes that punctuate and drive a patient's movement through the system thereby shape the capacity to produce particular forms of value through eliminating wasted time.

[11] A mulligan refers to an extra chance to perform an action if the first attempt suffered from bad luck or a blunder. The term is thought to originate in golf, whereby a player can take extra shot that is not counted on the scorecard despite this practice is not reflected in the official rules. More generally, a "mulligan" refers to a "do-over" without consequence.

The Seven (or Eight) Deadly Wastes

In the original Toyota Production System, there are three forms of waste: *muri, mura,* and *muda* (Ohno 1998). *Muri* (meaning unreasonableness, impossible, excessiveness, immoderation in Japanese) (Koh 2003: 2537) occurs when management places unreasonable expectations on workers and machines. *Muri* includes things like working beyond natural limits. *Mura* (literally meaning unevenness, irregularity, lack of uniformity, inequality) (2536) is waste produced in the design of work, such as scheduling or operations. I seldom, if ever, heard the words *muri* or *mura* referenced during the time I spent observing Lean process improvement events or while spending time with Lean consultants and coaches. Instead, *muda* was the most frequently targeted form of waste.

Muda (translated as futility, uselessness, idleness, waste, wastefulness) (2530) is waste discovered after processes are designed and implemented. With *muda,* waste leaves the conceptual realm and becomes something tangible. In manufacturing, *muda* is made visible through variation in output. Eliminating *muda,* therefore, is a reactive strategy. *Muda* is most frequently the primary focus when Lean is applied in health care delivery settings. Eliminating *muda*, as Lean health care experts propose, has the potential to fix long-standing problems and entrenched ways of working in clinics and hospitals.

Brian was right: depending on which lineage of Lean one ascribes to,[12] there are seven or eight forms of *muda*. According to seminal texts in Lean (Krafcik 1988, Liker and Hoseus 2008, Ohno 1998, Womack, Jones and Roos 1990, see also Womack and Jones 2010), the seven deadly

[12] There are diverging schools of thought related to the application of Lean methods. In health care, the most prominent differences appear between consultancy firms, which are often connected with or offshoots of hospitals such as Virginia Mason in Seattle or ThedaCare in Wisconsin. During my fieldwork, there was also a noticeable social capital amongst Lean consultants around one's Lean "lineage" or pedigree, i.e., how closely one could trace his or her training back to Toyota, with whom one studied and earned black or brown belt status, etc.

wastes are: defects; over-production; waiting; transportation; inventory; motion; and over-processing. The most commonly cited eighth waste is unused human talent.[13] In health care, utilizing the expertise of frontline staff to identify and eliminate waste is not only an example of reducing waste for its own sake; it is a method to ensure "buy-in" and "ownership" of changes to the way that work is done.

In the manufacturing process, identifying and eliminating waste seem straightforward. Defects: something is wrong with the product. It is unusable and has to be thrown away, recycled or reworked. This extra work wastes time. Over-production: the plant produced too many widgets without corresponding demand. Now they have to be stored somewhere, taking up space. Over-processing: more work is done than is necessary resulting in wasted time. Motion: Conservation of bodily movement in the manufacturing process. Having supplies and tools stored within arm's reach. Waiting: any time the line is stopped. Transportation: moving parts or materials from one location to another within the factory. Moving finished products to point of sale. Inventory: having the right amount of products to meet demand. Not storing excess inventory. Not utilizing employees: managers solve problems instead of tapping into the intimate knowledge of a frontline worker in order to identify waste, problem solve and improve processes.

Health Care Waste | *muda* | non-value-added work

1 | Defects	Damage or error due to production process; medication error, wrong procedure or wrong patient, missing information
2 | Over-production	Production levels greater than customer demand; medication given early, duplicate diagnostic tests
3 | Over-processing	More work done than required; duplicate procedures, tests or paperwork
4 | Motion	Excess motion of people or equipment; searching for the right chart, looking for supplies

[13] See Bicheno and Holweg (2016) for a discussion and comparison of the "old" and "new" wastes.

5 | Waiting	Non-work time waiting for input materials or equipment; patients waiting for procedures, test results, bed assignment
6 | Transportation	Unnecessary movement of parts, materials, patients
7 | Inventory	Excess volume of raw materials or finished goods, pharmacy stock, supplies, specimens waiting for analysis
8 | Under-utilization	Not using latent skills of employees to improve processes

Figure 3. Muda (waste) in health care

In health care, sometimes waste appears in the same form as in a manufacturing setting. "Defects" in health care are easily identifiable as medication errors. In surgery, defects come in the form of wrong site or wrong patient. "Over-production" often gets translated as the performance of duplicate diagnostic tests or giving medication earlier than indicated. "Over-processing" can include duplicate and redundant paperwork, performing more "work" than necessary on the patient-body such as extra procedures or tests. "Motion" might create waste when a nurse has to walk to a supply closet to find the correct needle gauge for an IV. Excess motion could also be looking for a patient's chart, or searching within an electronic medical record for pertinent information. "Transportation" is the unnecessary movement of patients. "Not utilizing employees" is the justification for a new style of managing, where leaders refrain from problem-solving and staff are empowered to identify waste, collect data and experiment. Finally, we come to "waiting." This is the waste that contains the accumulation of all the others. The worst of the wastes.

(Mis)alignment of Time and Waste in Manufacturing and Health Care

The equivalence of waste between manufacturing and health care is not always easily grasped. In a hospital, one might argue that the product is the patient who moves through the facility in the same way a car moves along the assembly line. The repaired patient, to the degree they are medically stable and able to be safely discharged, who is wheeled or walks through the

exit doors, is a product of a multitude of inputs. One might also argue that the "products" of commodified hospital care are in fact the constellation of discrete services provided to the patient-customer. Both are true. But patients, unlike durable goods, with their unpredictable biological bodies and culturally ensconced lives, can complicate the identification and elimination of waste. And clinicians, with their implicit moral imperative to care – which often reveals the "inefficiency of efficiency" (Sweet 2013) – also complicate the elimination of waste.

Research literature on the adaptation of Lean to health care identifies numerous challenges of adapting process improvement methods designed for industrial manufacturing into the health care sector. Some of the challenges noted include contextual differences with regard to competing notions of value in health (Radnor, Holweg and Waring 2012, Young & McClean 2008), difficulties with transforming organizational culture (Harrison *et al* 2016), the ability to utilize freed-up resources in a capacity-driven setting as opposed to supply-and-demand production (Radnor, Holweg and Waring 2012), and implications for the social organization of health care, including its political and professionalized context (Stanton *et al* 2014, Waring and Bishop 2010).

My research highlights how adapting Lean principles of waste -- *mura, muri, muda* -- into health care settings in the United States presents conceptual challenges that influence the ways in which we think of value and the "products" of health care. Here, I want to call attention to how, in the hospital, the "product" is not always clear and presents a challenge to the unexamined application of Lean in health care settings. Are patients akin to cars on an assembly line? Are hospitals selling information or an experience? Is value in health care an economic or social good? What happens to our notion of time and waste when the "product" is the entirety of a commoditized "patient experience"?

Despite the multiple ways that Lean thinking conceptualizes and identifies "waste," during my fieldwork there was an almost exclusive focus by administrators, consultants *and* clinicians on time -- in the form of waiting -- as waste. Unlike in manufacturing, where variability in a material good is an indicator of waste, things are more complicated in the hospital. In health care in general and the hospital in particular, time spent waiting has become a seemingly easy target upon which to make measurable change -- how long it takes for a patient to see a physician after arriving in the Emergency Department, the amount of time it takes from when the physician writes a discharge order to when the patient walks off the unit, etc. In these hospitals, errors were outside the purview of the impetus to improve patient flow, although Lean can and has been used to reduce errors. Lean coaches and administrators did not focus on errors. Errors, although a form of *muda*, were bracketed out under the rubric of "never events." Despite the broad conceptualizations of waste within Lean philosophy, time spent waiting has become the *worst* form of waste in the American hospital.

Time, Waste and Efficiency: The Persistence of the Protestant Ethic

Why is time spent waiting such a compelling form of waste? In Lean philosophy, as we have seen above, the notion of waste is multifaceted. Lean contains a multitude of wastes, which are not necessarily hierarchical. They are part of a system, a whole. The identification and elimination of waste as a component of "continual improvement" practices is intended to create value, a concept that I explore in more detail in Chapter 6. *Muri, mura* and *muda* are concepts within Japanese thought that describe qualities or characteristics of waste, including workers and the ways in which work is approached. Even the experienced Lean consultants, who conversed

fluently in the Japanese Lean lexicon behind closed doors, seldom, if ever, invoked the comprehensive view of waste that encompasses *muri, mura* and *muda.*

Muda, on the other hand, was the singular source of waste because of its accessibility within an American health care environment. My sense is that this occurs for two reasons. First, *muda* is a downstream form of waste. It is identifiable after processes or products are designed and implemented. With this conceptualization of waste, the blame for its presence can more easily be placed on the workers themselves, rather than looking upstream to management expectations, or the design of work, organizational culture and the ways policies play out. Second, *muda* is most closely aligned with the commonly notion of wasted time as the "deadliest of sins." *Muda* – futility, uselessness, idleness, waste, or wastefulness – resonates with an American work ethos that has its roots in Protestantism and a particular notion of time and efficiency.

The Protestant Ethic, famously elaborated by Max Weber at the turn of the twentieth century, is a moral code emphasizing hard work, asceticism, and the rational organization of one's life in the service of God. Weber argued against the (Marxist) interpretation that the economic forces (of dialectical materialism) were not solely responsible for the rise of capitalism. Instead, he showed how religion was a motivating force related to work in eighteenth century northern Europe. In particular, the Puritans and other Protestant denominations overcame anxieties around salvation and the afterlife through enacting an ethos of hard work and good deeds on earth as outward signs of faith. Traces of this ethos contributed to the promotion of efficiency as a central value for public administrators and the bureaucratic apparatus in early twentieth Century United States at the height of the Efficiency Movement and the rise of scientific management. This aversion to laziness, idleness, and framing wasted time as one of the

deadliest sins continues to shape neoliberal ideals around efficiency, flexibility and productivity. It comes as no surprise, therefore, that waiting has risen to the top as the worst of the wastes in the American hospital.

"Wasting Time to Save Time"

In one hospital where the discharge process was redesigned using Lean methods, the Lean Team came up with the solution to track patients' progress toward discharge using an electronic checklist. Over the course of a weeklong *kaizen,* the group created a prototype for an interdisciplinary discharge checklist that was intended to be incorporated within the electronic health record (EHR) and interactive in real time. Within a few months, however, it became clear that the hoped-for electronic solution was not feasible. The hospital was affiliated with a larger health care network that shared a common EHR. At the time, the umbrella organization – what one Lean coach referred to as "the Mother Ship" – was still in the process of getting all of their affiliate hospitals online to be in compliance with requirements set forth by the Health Information Technology for Economic and Clinical Health Act.[14] Because of this massive, ongoing IT operation, the Lean Team learned they would have to wait in line to get tailored templates tailored for the discharge process until all the hospitals in the system were online.

The original intent of the discharge checklist was for it to be an interactive, real-time, "living and breathing" interdisciplinary tool, as one nurse called it, so that patients' "progress toward discharge" would be accessible to all members of a patient's care team in a centralized location in a seamless technological fix. The form -- a purple piece of paper -- ended up living in

[14] The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009, was signed into law on February 17, 2009. It was intended to promote the adoption and "meaningful use" of health information technology.

a folder at the patient's bedside. Its fate was relegated to a nursing-driven tool that physicians, physical therapists and case managers seldom looked at or updated, much to the dismay of nurses.

Over a period of eighteen months, nurses continually complained -- to me as I shadowed them on nursing units, as well as to their managers and charge nurses -- about the discharge checklist, its format, location, redundancies. During this time, the discharge checklist was revised four times and I was continuously asked for my “impartial” input. In addition to interviews with nurses who were part of the Lean Team, one hospital administration/Lean project manager asked me to conduct focus groups with nurses from inpatient units to understand their general impressions of the discharge checklist and how they incorporated the form into their daily workflow so that the Lean Team could revise the form yet again and hopefully increase compliance to improve rates of completion -- one of the mini-metrics that was being tracked.

Nurses' responses from focus groups indicated that the Lean Team's initial plan for an electronic checklist had been anticipated as a way to improve communication around the discharge process. "They had good intentions with the redesigned process. We were excited to be able to use [the EHR] to communicate with everyone in real-time about the patient's progress toward discharge. But that didn't happen," one charge nurse commented.

An additional source of frustration for nurses was the location of the paper checklist at the patient bedside. This effectively prevented non-nursing staff, including case management, rehabilitation staff and physicians, to actively utilize and update the tool. Nurses disproportionately felt the burden of extra work. One bedside nurse who identified as a Lean "champion" commented: "On the original paper [form], there used to be a part for the physician and the case manager. None of them wanted to fill it out because they know it's another waste of

their time, so they pass it on to the nurses because – well, they don't want to do it." The nurses I spoke with consistently expressed frustration that the form created redundancies: "It's created extra work having to document things in the medical record and again on this paper. I feel like I'm just wasting time to save time."

Wasting time to save time. This nurse, like many others, wanted to provide the best care for her patients and struggled with the way in which she was expected to enact efficiency practices. She was expected to fill out a redundant form that was not useful to her clinical care yet her "compliance" -- measured by whether or not she had erased the previous shift's penciled-in initials and replaced them with her own, even if nothing on the patient's status had changed -- was audited and became a data point to show the level of "success" of this drawn out "experiment" in continual improvement. The form, and the time it took to fill it out, was intended to save time by shortening the length of the discharge process. To make it more "timely." To bring into nurses' awareness the principle of "discharge begins at admission" so that at every step along the way, this concept would guide their work. Filling out the discharge tool, however, was a displacement of time to be saved -- from shaving off minutes or hours of the metrics and displacing it onto nursing labor and time available to spend in direct care of patients.[15] The month before I concluded my research, the purple form was discontinued.

[15] Despite its failures as a useful tool, one question that was posed within the Lean team was whether or not the discharge checklist increased awareness of the discharge process. On the one hand, this could have been true. On the other, it is difficult to tease out the effects of the presence of the checklist in the midst of other elements of the redesigned process such as tracking anticipated date and time of discharge on the white board, prioritizing the day's patients to be discharged during daily huddles, etc.

Waste and the Flow Imperative

Sharon Kaufman (2005) describes the "two faces of waiting" in the hospital, focusing on patients who are dying. The first face of waiting is bureaucratic and enables and anticipates movement through the system. For example, waiting for test results that will enable a decision to be made. The second face of waiting thwarts movement. For example, the kind of waiting that happens when families wait to make an often-impossible decision about turning off a mechanical ventilator. These dual forms of waiting are still present in the hospital today, particularly at the end of life. Yet the flow imperative and focus on waste reduction shapes a different relationship to waiting. Time, when it is framed as waste, illuminates new aspects of waiting.

First, on a systems level, waiting as waste engenders an institutional anxiety around the "discharge threat," throughput metrics and reimbursement maximization.

Second, waiting as waste shapes the ways in which providers do their work and interact with patients. A focus on early discharge, for example, produces a different form of anxiety for patients who might not be prepared to go home.

Third, the concept of waiting as waste assumes that for patients, waiting is assumed to always be experienced as a negative. Yet patients experience hospitalization in a multitude of ways, often in ways that are incommensurate with the strictures of patient flow and efficiency imperatives, as Matthew's story from Chapter 2 illustrates.

Time, Waste and Experience

I met Margaret for an interview in a hospital conference room. She was in her late thirties. She lost a kidney when she was a teenager, has had close to fifty operations and been frequently hospitalized most of her adult life. She told me how twenty years ago:

> They made a bladder out of my intestines. And so now, I have to catheterize myself through my stomach. I've had so many operations and sometimes things culminate into bowel obstructions and severe constipation. It hurts like a mother. I'd rather have a kidney infection than a bowel obstruction or severe constipation because it really hurts.

She had recently been to the emergency room because of severe constipation. She told me about how she knew the routine of taking laxatives to "you know, get my stomach moving, get me to have a bowel movement. First they had me on liquids and then little by little, slowly get me to regular food. Then that's when I can go home." She said that normally, she is able to keep a stash of catheters in her hospital room so that she can change it every two hours when she is on IV fluids. This time, however, she asked for extras but,

> They said I can't have ten catheters in my room because I'd be taking all the catheters from storage. I'd be taking all of them. I'm like, 'This is ridiculous!' I mean, if I need them then they're going to an obviously good, medical purpose. I can't be waiting for nurses to come to my room to get me a catheter. I need to cath right away or else I'm going to, it's going to overflow and the urine will come out if it gets too full. And I don't like that. I hated that. It pissed me off. I need them for medical reasons. It's not like I'm going to tie them together and make a jump rope or something.

The particularities of Margaret's medical condition bring into explicit relief the importance of bodily waste to moving things along. Yet this theme was more or less present for all patients, especially post-surgical patients whose discharge readiness was dependent on regaining bowel and urinary function.

Lean frames waste as something to be eliminated, that which belongs outside the system. Waste "offends against order," in the words of Mary Douglas (2003). Eliminating waiting within a Lean system is an effort to organize the environment in a particular way. Yet what happens when waste is thought of not as something separate from but as a necessary part of the system? Like bodily waste is the byproduct of nutrition and life-sustaining inputs, I argue that "wasted"

time is not waste at all, but rather time that is part of the medium for patients' experience. Time can never be eliminated. It can only pass through. And in that passing of time, experience is accumulated and assimilated.

Matthew's and Margaret's stories are illustrative of the potential for disconnection between the temporality of the flow imperative and the rhythm of embodied routines, much of which centered on elimination. Particularly Matthew's close attention to management of his bodily waste and the hospital's obsession with eliminating waste in the form of "wasted" time were incommensurable. The powerful forward momentum of the logic of efficiency, however, lies in its capacity to gloss over the needs of individual patients, rendering them data points along the pathway to target times. When time spent waiting is framed as waste from the perspective of the system, do we negate the potential value of those accumulated moments of time?

On the other hand, the argument for increasing the value of health care by focusing on efficiency and flow is compelling in situations when there is little time left to live. One Lean consultant who worked in a national cancer center, spoke about how "time is all anybody has." In the case of very sick patients, those with a terminal cancer diagnosis, time -- as a medium for experience -- is really all we have left. In this context, one could argue, like Brian did, that Lean, continual improvement and the elimination of waste are in fact forms of care. This was how the logic of efficiency was framed by consultants and Lean champions as benefiting both the system and patients -- that shaving off any amount of wasted time while in the hospital showed respect and concern for the more valuable time patients will gain on the outside.

Multiple Temporalities of Continual Improvement

In the context of Lean and continual process improvement, time is twofold. Time is both a limited and expansive resource. It is limited in the sense that time is constrained within the confines of admission-to-discharge. The limits of time are predicated on patients' progress and are also shaped by the regulatory and fiduciary concerns that place arbitrary limits on maximum levels of reimbursement for hospitalized patients according to their diagnoses. Time is also an expansive resource. Time extends forever into a never-ending future. This expansive aspect of time is what enables the work of continual improvement to be never-ending and never finished.

Susanne Cohen (2014) is one of few anthropologists to write about the implications of Lean and continual improvement on the experience of work. Based on fieldwork in a Russian factory, she argues that continual improvement and corporate temporality are mobilized in practices of post-Fordist quality and process management techniques as a means to elicit a moral relationship between workers and the corporation. The very nature of continual improvement, she argues, implies that the corporation is an enduring entity than can be improved upon -- as opposed to theorists and scholars who argue that flexible labor has rendered the corporation obsolete (Boltanski and Chiapello 2007, Ho 2009, Martin 1994) -- thus casting corporations and their employees "into a spatial and temporal narrative of progress" with a moral overtones (Cohen, 3).[16] Similarly, many health care policy experts and others have pointed out that the hospital is becoming less relevant as the location of care shifts into the home and less expensive outpatient settings (IOM 2010). Yet the institution of the hospital endures. In the hospital, a place

[16] Cohen (2014) notes that some scholars of capitalism and corporations have pointed out the demise of the corporation as a "stable social institution" beholden to workers (Ho 2009, 3). Similarly, Martin (1994) has shown the shift toward organizations as "fleeting, fluid network[s] of alliances" while Boltanski and Chiapello (2007) argue that the corporate form is less relevant as professionals rely on personal networks to access project- versus place-based work (114). Her argument is that the corporate form is in fact not as ephemeral as it seems.

where business and care are in a complicated relationship, the logic of efficiency relies upon a particular narrative of progress and value creation with overtones of an implicit moral imperative. This logic enlists and demands practices of care -- for the system -- from health care workers by enlisting them in the identification, measurement and elimination of waste in the form of time spent waiting. The practices of continual improvement and waste reduction are framed as an integral part of caring first for the system and by extension for the patient.

Hospitals and health care organizations operate under a benevolent imperative to care for the sick. At the same time, the turn toward value makes explicit the connection between providing good care while also attending to the efficiency and long-term financial viability of the institution -- the premise of "caring wisely" discussed in the following chapter. In this context, the logic of efficiency attempts to reorient health care workers' moral compass toward the viability of the organization over time in a fundamentally different way than the experience of clinical time. Organizational health and longevity is predicated on the assumption of maintaining fiscal viability, attending to the business of healthcare, enlisting frontline workers in that fight, even when it might be at odds with clinicians' professional duty and ethos of care toward their patients. Progress, productivity and value, therefore, are not only measured in terms of patient outcomes as a result of clinical work but are also framed within a moral exercise of corporate progress, albeit a kind of progress that is never-ending, never good enough and selectively recognizes only certain types of outcomes. Health care providers within Lean systems are expected to be workers whose priority is to engage in a never-ending form of process-improvement work distinct from but related to clinical work. This is the re-orienting of care from patients to systems.

Chapter 6 | The Turn Toward Value

American voluntary hospitals have been expansionary, income-maximizing organizations throughout the century; that is, in many respects they have behaved as businesses. But . . . the hospitals have simultaneously carried symbolic and social significance as embodiments of American hopes and ideals: not only of science, technology, and expertise, but of altruism, social solidarity and community spirit. The ideal of "charity" has been at least as important as the "business of business."

– Rosemary Stevens (1999), *In Sickness and In Wealth: American Hospitals in the Twentieth Century*

Medicine has completed its metamorphosis from craft to profession to commodity, and health-care providers now sell their wares – that is, their time – by the piece on the open marketplace.

– Victoria Sweet (2013), *God's Hotel*

Creating value is the new frontier of quality improvement in health care. In the 1990s and early 2000s, concerns about quality and patient safety rose to the forefront of national health care policy (Kohn, Corrigan and Donaldson 1999). Today, cost and quality are central to the "value equation" -- a loose term used in health care policy and administration circles designating a combination of cost, quality and time as the key to creating value -- as hospitals and health care systems try to reconcile the altruistic ethos of providing medical treatment within the context of market-driven services. This uneasy marriage -- of care and capitalism -- lies at the heart of American hospital medicine. In this chapter, I discuss how what I call the *turn toward value* is not simply the new frontier of quality but one that sits alongside -- and tries to bring together -- the longstanding relationship of capitalism and care within the United States health system.

The notion of a health care system that is oriented toward value has risen to the forefront of national discourse, policy and practice as the latest market-oriented solution to the perennial quality and cost crisis. Under a fee-for-service system, which has been the predominant payment model in the United States, physicians and healthcare organizations are financially motivated to

order more tests and perform more procedures. An unmitigated fee-for-service system, however, has in large part been responsible for driving up the cost of health care, as the lure of profit encourages more testing, procedures, and what author and surgeon Atul Gawande (2015) has termed "America's epidemic of unnecessary care." "Value-based healthcare," in contrast, promotes the idea that healthcare providers should be rewarded for outcomes, not volume. So-called "value-based" outcomes frequently side-step clinical measures such as effectiveness of treatments and rely more on "process-based" performance measures and patient satisfaction scores. In this chapter, and throughout this dissertation, I refer to "value-oriented" versus "value-based" health care. “Value-based” refers to specific purchasing or reimbursement structures, such as CMS’ Hospital Value-Based Purchasing Program, that rely on hospitals’ meeting specific quality metrics in order to receive maximum reimbursement for hospital services. By using the term "value-oriented," I am referring to the larger trend of the *turn toward value*, not just specific policies or programs that are “value-based.”

As value circulates as the latest buzzword in health care policy, research and clinical care, what exactly is meant by "healthcare value"? How are we to understand this term? In what ways is value operationalized across the healthcare landscape? Value, similar to the broad concept of quality, is a term whose meaning is often taken for granted. Creating value, like improving quality, is an endeavor that is difficult to argue against. Precisely because of the taken-for-grantedness and ubiquity of the term "value," it is imperative to think critically about what is at stake for patients and providers within healthcare settings, particularly in the hospital. What kind of value is being created for whom and by whom? How is value conceptualized through the discourse and practice of Lean and continual quality improvement as both a social good and economic necessity? Where and how does the question of value get linked to – and at the same

time dislocated from – the production of health outcomes? What are the implications for patients, who in a value-oriented system, are not only consumers but are transformed into producers of value by completing satisfaction surveys that have the potential to drive up market share? When the logic of efficiency is one of the primary operating principles in the contemporary hospital, in what ways are patients producers, rather than consumers, of value? Where does value intersect with health and care?

Anthropologists have long been interested in issues related to value and values. One approach toward value that influenced generations of anthropologist has been the writings of Mauss (2000) and Malinowski (2002) who showed that objects in circulation have a social purpose beyond economic exchange value. This was in contrast to the theoretical approach rooted in Marxist analyses of capitalism, commodification and labor theories of value that influenced later generations of anthropologists. However, the ambiguity of the term "value" has resulted in a lack of a systematic theory of value within anthropological thought (Graeber 2001).

David Graeber (2001) outlines three streams of thought on value within anthropology: a sociological or philosophical sense of value; economic value; and linguistic notions of value. He argues that a sociological or philosophical approach toward value seeks to understand what is good, proper and desirable among a particular group. Approaching value through a traditional economic lens leads us to inquire about the desirability of objects measured by how much people are willing to give up to get them. Put another way, we might speak of the market value of an object, service or piece of information. This approach toward understanding value is rooted in neoclassical economics, where the value of an object became disconnected from its "natural price," i.e.: its desirability in relation to other objects. Rather, the economic value of an object became tied to a price according to its subjective and market-driven desirability. A third approach

outlined by Graeber frames the inquiry of value through a linguistic lens in the structuralist tradition of de Saussure (28). Here, words take on meaning only in relation to other words in the same language. This is the linguistic basis of the ways in which discourses of value are deployed and understood. In the context of health care and hospitals in the *turn toward value,* this chapter inquires into the multiple ways in which these approaches toward value are deployed and understood by different groups -- patients, providers, health systems leaders and policy experts.

Scholars of neoliberalism such as David Harvey (2007) have pointed out the contradictions inherent in market-based solutions to social problems. Despite the rhetoric of social good, at the heart of neoliberalism is the project of consolidating class power and accumulation of capital (19). In the case of health care reform, however, Jessica Mulligan (2014) argues that this understanding is compelling but not entirely satisfying. She explores why in health care -- specifically the privatization of Medicare in Puerto Rico -- market reforms persist as the only solution to improving quality and efficiency through increasing patients' choice of managed care plans. The rhetoric of value draws on the positive, hopeful aspects of neoliberal discourse -- the desire for improvement in the context of very real problems of inefficiency and high costs.

My aim in this chapter is not to argue for or against value-oriented health care, but rather to problematize the taken-for-granted notion of value. To call attention to how conceptual slippages between the meanings of value shape how health care is delivered. That when patients talk about what they value regarding their health care, it is not the same thing as regulatory or policy notions of value-based purchasing and pay-for-performance incentivization. My aim is not to challenge the voracity of the commitment to value as a way to improve patient care. Rather, I want to highlight the multiple ways in which the discourse of value is deployed.

Value, as the new quality frontier, explicitly links market-based solutions to the problems of the health care system and not to patients per se. Concerns with value, in the economic sense, have always been present within the American health care system. With the *turn toward value* in a market-driven system, however, these concerns have been placed center stage as we grapple with how to make an economic motive align with socially and experientially-oriented forms of value and care.

Value-Oriented Policy

Changes to the ways in which hospital services are paid for -- and the downstream effects on hospital care practices -- are driven largely by policy and legislative changes that increasingly rely on market-based mechanisms. In 2006, an Institute of Medicine report on preventing medication errors recommended aligning financial incentives to hospitals and providers with patient safety goals in order "to strengthen the business case for quality and safety." In the decade since then, numerous initiatives that rely on financial incentives as reward for meeting performance measures have been implemented under the broad rubric of "value-based" healthcare -- improving quality and reducing costs. Performance measurement and other forms of "audit culture" (Strathern 2000) have been quintessential techniques of neoliberal models of governance and accountability in contexts beyond health care.

Value-based purchasing (VBP) was first introduced during the 1990s during the backlash against managed care and the critiques of capitation. However, the notion of VBP did not catch on until quality concerns solidified as several landmark studies highlighted widespread quality and safety concerns (see IOM 2006). With the passage of the Affordable Care Act in 2010, value-based purchasing and mandatory pay-for-performance measures were incorporated for the first

time into national policy for federal reimbursements to hospitals.[17] The term *pay-for-performance* (P4P) refers broadly to an approach that financially rewards doctors and health care organizations for improvements in process measures – specific, measureable steps that lead to an outcome measure like "length of stay" -- as opposed to clinical or financial outcome measures related to quality of care. P4P is frequently positioned as an alternative to *fee for service* (FFS), the dominant model for health care reimbursement where providers are rewarded based on volume of defined services. Within health care policy circles, P4P receives robust support despite a lack of clear evidence of its effectiveness as a mechanism of changing physician behavior or improving patient outcomes (Cromwell *et al* 2011).

Related to this, CMS has promoted bundled payments, which provide a flat fee per "episode of care" such as joint replacements or hospitalization for a specific diagnosis. For example, under the Hospital Readmissions Reduction Program, if a patient is readmitted for the same problem within 30 days, a hospital will receive no additional payment for that "episode." The rationale is that this will motivate hospitals to prioritize the discharge process and coordinating of post-acute care and that costly hospitalizations that are might be avoided.

A central component of the turn toward value has been the Centers for Medicaid and Medicare's Hospital Value-Based Purchasing (HVBP) initiative (CMS 2015). Like the other initiatives above, HVBP is founded on market-based reforms and "rewards acute-care hospitals with incentive payments for the quality of care they provide to Medicare beneficiaries." HVBP performance criteria are based on three things: quality of care, how closely "best practices" are followed, and "how well hospitals enhance patients' experiences of care during hospital stays."

[17] Prior to the Affordable Care Act, pay for performance was utilized in CMS demonstration and pilot projects (Cromwell *et al* 2011).

Like many market-based solutions, HVBP relies on a form of pay-for-performance in order to incentivize hospitals to meet quality and efficiency goals. Typically, pay-for-performance payment models offer financial incentives to hospitals, physicians, medical groups, and other providers for meeting specified performance metrics. Instead of providing financial incentives in the forms of "sharing in the savings" or bonuses, however, HVBP's incentive structure introduced the threat of penalties in the form of deductions in reimbursement rates if performance and outcome measures fall short.

Penalties for poor performance are levied by withholding a percentage of participating hospital's Diagnosis-Related Group (DRG) payments to those institutions which have low marks according to the HVBP's "Total Performance Score." Total Performance is based on “Achievement” and “Improvement” scores as measured by the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey, which I discussed in detail in Chapter 4. HCAHPS survey domains include: 1. Communication with Nurses; 2. Communication with Doctors; 3. Responsiveness of Hospital Staff; 4. Pain Management; 5. Communication about Medicines; 6. Cleanliness and Quietness of Hospital Environment; 7. Discharge Information; and 8. Overall Rating of Hospital. At its outset, HVBPP withheld reimbursements at the rate of 1.00% -- a significant amount in the operating budget of a hospital. The withholding rate increased annually to 2.00% in 2017 and subsequent years.

"Caring Wisely" and the Value Equation

Value-based purchasing touches all hospitals that receive Medicare reimbursements -- over 3,000 hospitals in the United States (CMS 2016). Yet the turn toward value in health care extends beyond value-based purchasing in the hospital setting. The discourse of health care value

permeates the landscape of health care delivery, from business management, administration and the training and education of future clinicians, informing the way that the work of providing health care is done.

A commonly accepted understanding of "value" in health care is that value is the result of some combination of cost and quality. For care to be considered of "value," it must not only be the "best," it must also be the most cost-effective -- conceptually linking and blurring the lines between multiple forms of value. The value equation appears in various forms in centers and institutes affiliated with major academic medical centers, health care systems and organizations like the Institute for Healthcare Innovation and the Agency for Research in Health Care Quality.

For example, Dartmouth-Hitchcock was an early leader in advocating for value-based metrics. Before mandates from CMS and HVBP, they promoted the idea that health care delivery should be based on "value not volume" and proposed a "value equation" of "Quality over Cost over Time" (Dartmouth-Hitchcock 2017). The impetus behind this were studies that revealed wide discrepancies in billing for the same procedures across geographic areas in the United States -- what Atul Gawande (2009) has termed the "cost conundrum" -- fueled by reimbursement models that rewarded providers and hospitals for doing more without attention to outcomes.

This conception of value delineates between the perspectives of patients and those of providers and the health system:

> For patients, this means safe, appropriate, and effective care with enduring results, at reasonable cost. For us, it means employing evidence-based medicine and proven treatments and techniques that take into account the patients' wishes and preferences.
>
> A critical component of understanding value is measurement. How can we know what works unless we measure our results and track them over time? Any patient considering a procedure should be able to know from their physician what it will

> cost and what his or her results will be, with firm data, from performing that procedure. Without that data, patients lack the tools to make informed choices. We would not accept this absence of information when we buy a car or dishwasher or any other kind of product or service; why should it be acceptable in health care? A focus of health reform has been to more closely track value measures such as complications, hospital-acquired infections, and readmissions. Hospitals now face financial penalties if their rate of readmissions is too high, for example (Dartmouth-Hitchcock 2017).

Central to the value equation here -- "a critical component" -- is measurement. As discussed in Chapter 3, measurement and metrics are at the heart of how the "health of the hospital" is constructed through practices of quantification (see also Erikson 2016, Adams 2016b). In this explanation of the value equation, multiple forms of value are invoked -- value for patients and value for "us," i.e.: the health care system -- under a singular rhetoric of value. Yet the call for health care professionals to lead the charge in providing information regarding the cost to consumers has gone largely unrealized.

Training health care professionals in the practice of value-oriented health care is another emerging frontier within the turn toward value. For example, the Center for Healthcare Value (CHV) at the University of California, San Francisco, was established in 2012 to "Leverage academic medicine to reduce costs, increase value and enable innovation" (CTSI 2012). They are one of many academic medical centers that are incorporating training and competencies in "systems-based practice" (SBP) for medical students, residents and fellows.

According to the CHV, this includes "advancing rational, science-driven and clinician-tested healthcare solutions that reduce cost and improve quality." Its focus areas include three initiatives: delivery systems, research and policy, and training. In line with the shift toward "systems thinking," the focus on delivery systems here promises to ensure "that care is delivered

in an efficient and value-focused way. For this to be sustainable, the overall health care system must reward value-focused care."

Regarding research and policy, the CHV "supports multi-center and multi-stakeholder projects that highlight and incentivize high-value care to demonstrate that value can be improved across the system." On face value, so to speak, these seem like clear goals. Value here and elsewhere is a byproduct of reducing costs and improving quality. Yet the tautology of value within equations like these results in a vagueness discerning what exactly is meant by value -- according to whom, by whom -- and is particularly difficult when the term becomes self-referential.

"Caring wisely" is the slogan employed by the UCSF's Center for Healthcare Value. In this context, the phrase "caring wisely" links the notion of value to the ethos of care. We are led to believe that without attention to value -- in the form of reduced costs and higher quality -- health care providers are failing to care in the right way (CHV 2016). How exactly, does one care wisely? Creating value, or having an ethos of value-focused care -- one that is attuned to efficient utilization of resources in addition to customer service -- is becoming intertwined with how health care professionals are expected to understand their job.

The third arm of the CHV's mission is to train "the next generation of health care leaders to understand the importance of value, and how to create it." Medical and nursing schools across the United States are increasingly incorporating systems-based thinking -- and an explicitly stated focus on value -- within curricula. To that end, there are a number of graduate medical education programs that are promoting competencies in "systems-based practice" (SBP). In 1999, the Accreditation Council for Graduate Medical Education (ACGME), introduced mandates for medical residents and fellows to demonstrate competency in "system-based

practice" (Leach 2004). SBP competency requires knowledge of the clinical and organizational context in which physicians function and practice medicine. One way this competency can be demonstrated is by utilizing data (enabled by health information technology infrastructures) to make *measurable* systems improvements.

Following the trend toward financial incentives as a means to encourage engagement with quality improvement -- or as one hospitalist physician put it, "to coerce compliance" with performance measurement and efficiency initiatives -- medical schools have started incorporating incentives as part of resident and fellow training programs. The rationale being that performance measurement is part of the real world of medical practice and should be included as part of CMS remuneration for teaching hospitals based on quality performance metrics (MEDPAC 2010).

A few months after talking with a nurse practitioner (NP) about his experience with Lean and process improvement in a safety-net hospital, he sent me a follow-up email. His message was colored with a twinge of outrage and a bit of despair at the expectation from his supervisor that he, along with other NPs in the clinic, attend an after-hours quality improvement "retreat." He was expected to attend the retreat on his own time. His email read:

> So today, boss said something about planning a retreat for the NPs, with the goal of re-envisioning what that role looks like in our clinic and involving NPs at all levels -- QI, committees, etc. -- beyond only patient care. I said, 'I think everyone will want to know where that time will come from." [My boss] said, 'You're highly paid professionals and we need to think about what that means.' I then said, 'Wait, we're highly paid professionals and so we should work extra hours unpaid?" She said I was being confrontational and didn't answer the question. Instead, she asked me to "keep an open mind."

I asked him what his boss meant by keeping an open mind. He interpreted her comment as meaning that being a "highly paid professional" meant that "they own us 24-7."

The expectation to attend to value creation, often through practices of continual improvement, as integral to one's clinical work was widespread and appeared across multiple locations throughout my fieldwork. In one hospital that was implementing Lean process improvements to patient flow, the additional time required for auditing and data collection, the making of the metrics, was frequently completed by nurse "champions" after their shift was done on a voluntary basis. The dedication to the cause of improving patient care was framed as central to caring and the expectation that nurses would feel compelled to take extra unpaid time after their shift to round on nursing units to conduct audits of forms. Nurses' time spend in *kaizen,* or rapid improvement events, was compensated through grant funding in one hospital to offset their time away from their regular clinical shifts and pay for a per diem replacement nurse on the unit. However, many nurses who had been handpicked by their managers to fill the role of "champion" were encouraged to attend scheduled events even on their days off. For nurses on evening or night shift, they would attend these events from 8-5 and often work a shift on their unit afterward. Here, "caring wisely," meant that nurses were expected to go above and beyond their job descriptions and regularly scheduled shifts for the benefit of process improvements in order to create value and care for the system.

Value in Lean Healthcare

Lean thinking is yet another location in the current health care landscape that aligns with the turn toward value. Indeed, value is at the heart of Lean thinking: specifically, creating value through the elimination of waste. In Chapter 5, I explained how identifying and eliminating waste -- in the form of time spent waiting -- is the focus of efforts to operationalize value creation in hospital settings through Lean thinking.

The Lean Enterprise Institute (LEI) is an organization founded by James Womack, who popularized Lean in the United States through his books *The Machine that Changed the World* (1990) and *Lean Thinking* (2010). LEI's mission is to conduct research, publish and educate companies and organizations on "how to make things better, through Lean thinking and practice." According to the LEI, the "core idea" of Lean,

> is to *maximize customer value while minimizing waste*. Simply put, lean means creating more value for customers with fewer resources. A lean organization understands customer value and focuses its key processes to continuously increase it. The ultimate goal is to provide *perfect value* to the customer through a perfect value creation process that has zero waste (emphasis added) (LEI nd).

This adage -- to maximize value while minimizing waste -- was so commonplace throughout my fieldwork that it became clear that healthcare professionals of all stripes -- clinicians, consultants, managers -- took it for granted. That is, many of them engaged in the work of continual process improvement without necessarily questioning the underlying assumption of what it meant to "maximize value" or how time spent waiting was transformed into waste. The meaning of value in this framing is not only vague, it is implicit and assumed. In the hospital, what does it actually mean to "maximize customer value"?

The field of Lean thinking in healthcare, and the ways in which it is implemented, differs from manufacturing, especially in terms of how the concepts of waste and value are constructed. Value in the context of Lean thinking in health care appeared in two distinct ways during my fieldwork: process-oriented and patient-oriented. The salient difference between these two orientations toward value were most apparent in efforts to improve efficiency and flow (see Chapter 2) on the one hand and the "patient experience" (see Chapter 5) on the other. Often, it was assumed that by focusing on improving the efficiency of flow that "enhancing" the patient experience -- and satisfaction -- would logically follow.

One prominent Lean consultant and I spoke at length about the concept and creation of value in Lean thinking. I asked him to explain his take on value and how he understands what it is that patients value. "Can you talk a little bit about value?" I asked.

"That's a million dollar question," he replied, laughing at the magnitude of the scope of such a simple question.

“I think it's an interesting concept in health care," he said. “In some ways I feel like there are two pieces to it. You'll hear a lot of definitions of value that come from manufacturing. You'll hear things like 'the steps that change the form, fit, or function.' Or you'll hear 'things that the customer's willing to pay for' - those kind of things."

He went on to explain two different kinds of "products" in health care -- information and "services" -- that facilitate healing:

> I think health care is different [than manufacturing] in some ways because I really think [these two definitions] of value are very interconnected. But there are really two different products that we're offering, two different services. For one, we're offering information. When someone comes to us for help, they don't often times know what's wrong. They're trying to figure it out, to know what's wrong with you, what's the prognosis, when can I get back to a certain type of activity. That's different than someone going shopping for a phone where they may not be familiar with all the features and the sales person's going to talk them through different options on various models, but they know they want a phone. They know more about their own personal preferences that they know what they're looking for or will recognize it when they see it.
>
> In healthcare, they [patients] don't always know what they need. The clinician may say, "You need this lab test," or "You need an MRI," or something like that. I think the public's very informed, and they get a lot of information from the internet, from TV shows, from everything, so they may have a take on what they need, and then sometimes there's the perception that more is better even when it's not, that the doctor looks at them and says, "Oh you've got a sprained ankle," or something, and they feel they're not getting good care unless they get a CT even when the doctor is fully confident they just need to rest, ice, take some Ibuprofen, that kind of thing.
>
> So I think we are complicating value because patients are coming for information yet they don't always know what they need. First, patients are coming to our

> experts, our specialists, to learn what's wrong with them, what needs to happen to make them better. Second, they are getting those services that fall more in line with the traditional view of value which are the steps that are healing the patient, that are making them better**.** As a result, there is a more complicated notion of value than saying 'things that truly heal the patient are the only things that give value.'

According to this Lean expert, value in healthcare cannot be measured simply by looking toward health outcomes and "things that truly heal the patient" -- a constellation of elements including expert knowledge, diagnoses, diagnostics, procedures, medications, time and comfort. Value, according to this interpretation, exists outside of economics or monetary exchange. Yet, he is also saying that patients, as consumers, cannot be the best judge of what is "valuable" (i.e.: medically appropriate or a prudent use of resources from a system perspective) in terms of getting to that place of healing.

Who is the customer?

The position of the patient-as-customer in Lean health care is complicated, since patients are an atypical customer in the traditional sense. There is more at stake to deciding on which procedure to have, to go to the ER in the first place, or to withdraw life-support, than which bells and whistles to include on a new smartphone or car. In this sense, how do patients fit into the role of *customers*? Whether or not patients can be considered a "customer" in the truest sense, they are not the only customer in Lean in health care settings, despite the rhetoric of Lean that emphasizes creating value for the customer. Many Lean consultants were quick to point out that hospital staff and administrators are also customers. In fact, in their job facilitating the work of process improvement, their primary customers, or people whose "buy-in" was necessary for success, was in fact nurses, physicians, and administrators, *not* patients. One of the main roles of the consultant or "Lean leaders" -- clinicians who took on a leadership role and went through

training and certification in Lean -- within a hospital was to show, through coaching in continual improvement methods, how adopting Lean could create a "value-add" to their clinical work.

Furthermore, the hospital or health system as a whole is in many ways the ultimate "customer" in that the implementation of Lean is a radical shift in thinking from business as usual. To justify the considerable expense of hiring consultants to initiate a "Lean transformation," hospital administrators need to demonstrate Return On Investment (ROI)-- an economic indicator of value (represented by Net Profit / Cost of Investment) x 100). One Grants Manager who oversaw the progress of the Lean initiative at one hospital, remarked that they needed to “make it work” and have the data to show the private donors and hospital’s Board of Directors that their investment was paying off. Administrators also frequently looked toward surveys of staff satisfaction or "engagement" as a consideration of ROI of investments in Lean. Although not a direct form of monetary value, staff satisfaction is factored into savings related to the costs of turnover and training. Hence, the gathering of data and production of quality, efficiency and satisfaction metrics, regardless of the degree to which they are oriented toward patient-oriented forms of value, must ultimately be converted into fiduciary form.

(The Value of) Doing More with Less

The notion of "doing more with less" was another phrase that was invoked by some proponents of Lean as a justification for what Lean thinking can offer to hospitals concerned with improving their value equation. This was one of the most contentious aspects associated with Lean and most consultants and administrators were careful not to highlight it. The thinking behind the notion of doing more with less is that by working on "processes" and eliminating wasted time, more can be done (i.e.: increasing "productivity" and throughput) with the same

amount or fewer resources. Yet, hospitals in the United States are often already short-staffed and the concept of "doing more with less" was frequently translated to me by nurses as "Lean is Mean." Another common refrain was, “we don’t need more efficiency, we need more nurses.”

The perception of Lean thinking as an enabler for austerity was more or less prominent depending on whether or not a particular hospital had ongoing "labor-management partnership" disputes or negotiations between nurses' unions and hospital administration. In this context, value that was most apparent to nursing staff was in the form of the "bottom line."

Lean re-designed processes were often idealized by consultants and administrators to enable movement toward "perfect" workflows -- facilitated by the electronic medical record. The reality on the ground in many hospitals I saw was that there was indeed room for improving the way that work was done. Yet as we have seen with the "20-minute rule" and elimination of warm handoffs from the Emergency Department, instead of embracing the "value add" promised by "process improvement," nurses instead contrasted the value of improving selected efficiency metrics by eliminating verbal reports with the value of adding an additional nurse or transportation tech in order to relieve much of the time pressure they faced to turn beds.

In Search of Perfect Value

Lean discourse promotes the notion of "perfect value," as we saw in the definition from the Lean Enterprise Institute. In the manufacturing process, the notion of perfection centers around the evidence that standardization of process will decrease variation in output, thus improving the reliability of quality standards. In hospitals and health care setting, the concept of "perfection" – and the hope that standardized processes will result in a more consistent "product" – is more complicated and arguably unattainable.

The ideal of perfection is found elsewhere in hospitals, namely with regards to patient safety. For example, the concept of "Never Events" has become commonplace. A "Never Event" refers to an adverse, or "serious reportable event" such as having a surgery performed on the wrong site, preventable injury or death -- things that should "never" happen to a patient while in the hospital. Keeping never events at zero is a goal on the road to "perfection," one with easily quantifiable or identifiable results.

Following the principles of continual improvement, Lean techniques are leveraged in search of a state of "perfection" that is always on the horizon but never quite within reach. The notion of creating a "perfect" patient experience evolved in parallel to the rise of Lean healthcare. Numerous hospitals are now making forays into the "experience economy" (Pine and Gilmore 1998) and enlisting the expertise of consultants from the hospitality and "experience industry" – such as Disney and the Ritz Carlton -- in an effort to improve the totality of the hospital "experience" (see Gawande 2012, Lee 2004). These two trends – Lean and the "patient experience" – converged in many of the hospitals in which I conducted fieldwork. Improving both the patient experience *and* efficiency were the dual goals of the "ideal discharge process" discussed in Chapter 2.

Promoting the idea of an "ideal," whether a process or experience, was more attainable than that of "perfection." An ideal denotes something to strive towards, it contains a motivational promise that aligns with neoliberal discourses of value. After two years of continual process improvement to meet target discharge times -- aiming for fifty percent of patients would be discharged by noon -- the "Discharge and Transfer Team" returned to a discussion of why the metrics had "plateaued" at 35%. During one meeting, a heated discussion ensued about whether or not it was demoralizing to set unattainable goals without recalibrating. A majority of nurses

present argued that setting a lower threshold and rewarding staff would be a better way to approach the problem of the plateau instead of expecting them to work toward a goal that will never be met. The nursing administrator who "owned" the discharge time piece of the patient flow puzzle ultimately decided not to revise the target discharge times, "so that staff will not rest on their laurels." By using the "ideal" or "perfect" process as a future state to be achieved, the unattainability of the target time goals ensured the necessity of eternal continual improvement and tinkering with processes.

Annemarie Mol (2008) writes about "tinkering" as a back-and-forth process of care between patients and providers, working together (see also Gawande 2017). In a chronic disease setting such as the care and management of diabetes or other chronic conditions, this kind of tinkering – a back and forth between patients and providers that unfolds over time -- is possible. In an acute care setting, however, there is little time for tinkering with clinical care as patients' time is limited. Indeed, the hospital is a place for "fast medicine" in the most generous and heroic sense of the term (see Sweet 2013). The tinkering of care processes that occur in the hospital, however, are not directed toward the patient but rather to the processes themselves. This is how *the turn toward value shifts the locus of care from the patient to processes* and in doing so, the system itself becomes the object of care. And when care is displaced onto the system, it can only be translated into a quantifiable form of value.

Chapter 7 | Conclusion

The concept of value is often taken for granted in relation to health care. Value can refer to multiple things – a price, the amount that people are willing to pay for something, profit and exchange value, or the value of labor. Value also refers to social mores, and cultural norms. Or, to something that is sentimental, a gift, beyond financial valuation. The concept of value, because it contains multiple meanings, is simultaneously overflowing with and void of meaning. On the surface, increasing the value of health care is an inherently good and even noble endeavor, and some have argued that attending to that aspect of health care delivery is in fact an implicit moral imperative of medicine. By approaching the current landscape of hospitals and health care delivery ethnographically, I have examined the operationalization of value in health care today — through increasing institutional efficiency and patient satisfaction — on the ground, or more specifically, on the hospital floor.

The current focus on increasing value as a means of improving the quality and delivery of hospital care is the latest instantiation of a longer history of the ways in which the discourse and practices of "accountability" have been deployed in American hospitals (Weiner 2000). Despite efforts to address the myriad cost and quality crises since the 1980's, the quest to hold hospitals accountable for their use of resources, improvements to clinical care, and measurable improvements proved elusive (Weiner 2000). Through the rise of audit and accountability structures in health care delivery, "improvement" is shown through the production of performance and process-oriented outcome metrics, developed by the Centers for Medicare and Medicaid, the National Quality Forum, the Joint Commission for the Accreditation of Hospitals, as well as private patient satisfaction companies and individual institutions, that have become standard practice in hospitals and health care organizations. In this dissertation, I have argued

that today, the measurement of efficiency and patient satisfaction has become the marker of value. Specifically, I have explored how the discourse of value is enacted on the ground through the philosophy and practices of Lean, continual process improvement, and the reliance on patient satisfaction surveys as a proxy measure for actual patient care.

Patient Flow and the logic of efficiency

Hospital costs account for almost one-third of all health care expenditures in the United States. Alongside technological innovations that have facilitated decreases in the duration of hospital stays, efforts to decrease cost, including reducing overhead and labor expenses, have been instrumental in shortening the time patients stay in the hospital. At the same time, the diffusion of post-acute care locations has been facilitated by information and mobile technology infrastructures and by low-paid or domestic care workers. The hospital of the future is imagined not as a "place" but rather a "collection" of locations including patient homes and technologically-connected spaces (IOM 2011). I argue that through shorter, more concentrated hospital stays and the diffusion of hospital-like care, such as the emergence of "hospital at home" programs (Leff 2015), the ways in which we think about forms of care are changing. In the hospital, care is not only found in the interactions and sentiments that occur between patients and providers, but increasingly as enactments of institutional improvement that place the hospital at the center of care practices.

Patients are staying in the hospital for ever-less time as hospitals are under pressure to move patients through quickly in order to maximize reimbursements according to Diagnostic Related Groups and the Center for Medicare and Medicaid's prospective payment system. Over the past fifty years, lengths of stay have steadily shrunk so that the average length of stay has dropped from over a week to a little over four days. The continual push and constant attention to

these metrics by hospital administrators, managers and Lean consultants makes one wonder just how low this metric can go without completely eliminating patients as the beneficiaries of hospital care and the reason for its existence in the first place. The push to decrease length of stay means that the same number of steps in the discharge process happen in a shorter period of time, impacting the speed with which providers must complete tasks. Shorter lengths of stay also mean that hospitalized patients are sicker than previously when discharged. Thus the post-acute period is initiated earlier and responsibility for continued and follow up treatments is shifted to domestic and familial relations or other less expensive community settings.

The general imperative for movement within the hospital is nothing new (Rhodes 1991, Kaufman 2005). What my dissertation highlights, however, it the temporality and breadth within which what I call the *flow imperative* operates. This flow imperative manifests through the institutional anxiety around the "discharge threat." That is, the threat of patients lingering in the hospital past early "check out" times, thereby preventing effiency metrics – not improved patient outcomes – from being met.

This flow imperative around patient discharge times, which I illustrated in detail in Chapters 2 and 5, is part of a national trend aimed to reduce Emergency Department overcrowding and maintain optimal "flow" throughout the hospital system. It is also indicative of a shift toward "systems thinking" and a focus on "patient flow" that seeks to transform the hospital into a smoothly operating system of interconnected parts in which the patient is carried along on a journey from admission to discharge.

Throughput, which has been used to describe the management and movement of patients through the hospital, conjures images of patients being moved along in an industrial setting, the epitome of a kind of "health factory" that Ivan Illich (1974) identified in an earlier era as a

symptom of medicine's collusion with capitalism's need for healthy enough workers. In Chapter 2, I describe another take on the "health factory" illustrated in the documentary film by the same name. This film is a critique of the application of Lean and other industrial manufacturing methods to hospitals, arguing that patients are not products that can be mass produced. My argument, however, is that with rise of the rhetoric of patient flow and reliance on satisfaction scores to drive reimbursement and hospital scorecards, we are seeing a new kind of health factory that creates value in new ways. Patient flow is a new manifestation of the concept of throughput and the idea that patients are to be moved through the system in the service of capital accumulation. While this logic remains an underlying principle of efficiency, the rhetoric of patient flow recasts the movement imperative patients at the center of an "experience" of being carried along smoothly through the system.

The discourse of flow is part of a larger shift in the global economy toward flexibility of labor and capital. Lean thinking and the adaptation of the Toyota Production System philosophy and methods to hospital management and operations has proliferated over the past decade. Lean's particular approach to creating value by eliminating waste, aligns with the larger turn toward value in health care through its focus on increasing efficiency and the philosophy of putting the customer, or patient, at the center. Yet, on the ground, on the hospital floor, enacting efficiency is more fraught: implementing continual process improvement does not necessarily create ideal experiences for patients. While the stated goal of efficiency initiatives is to broadly improve the "value" of health care, the elements of care that patients value is often overshadowed by the institutional imperatives of meeting metrics, maximizing reimbursements and increasing market share.

Caring for the Hospital

Throughout this dissertation, I have shown ways in which the hospital itself has displaced patients as the object of care. In many ways, the hospital has become a stand-in for the patient through the practices of process improvement and measurable forms of accountability. Measuring the 'health' of the hospital has become paramount. This is most apparent in efficiency and process metrics enabled by electronic health records as well as patient satisfaction survey results that consultants and clinicians rely on as ways to take the "pulse" of the hospital. Metrics like average length of stay, door-to-doctor time and discharge times are explicitly framed and leveraged as "vital signs," likening the institutional organism to the patient-body.

This reframing of the institution as an object of care, or *the* object of care, is furthered through the introduction of "systems thinking" that envisions the hospital and its constituent parts as an interconnected organism. The hospital is seen to be a fluid system, one in which a "learning organization" is comprised of multiple interactive and responsive parts. The shift in production models from mechanistic mass assembly to lean, flexible "just-in-time" production has infiltrated health care quality improvement.

Part of the lure of Lean philosophy within health care that is capitalized on by consultants, administrators and "champions," is the systematic, even "scientific" approach to rapid experimentation and problem-solving through continual process improvement. Health care professionals, I was told numerous times, should understand and appreciate Lean's systematic approach to problem solving known as A3 thinking and experimentation through Plan Do Check Act cycles because of their training in the scientific method. Yet most providers in the community hospitals in which I conducted fieldwork were reluctant to embrace this reframing of their professional responsibility.

Approaches to health care quality improvement that rely on a "*scientistic"* rhetoric that capitalizes on medicine's scientific mindset are wildly profitable tools for the management consultant business not because the scientific approach is necessarily correct, but because it has become hegemonic. Adrienne Pine (2011) has argued this point in the case of health information technology aimed to reduce human error through computerized decision supports for nurses. In the case of Lean, A3 thinking and rapid experimentation, the scientistic rhetoric – not an actual adherence to a "pure" scientific method – are presented as common sense solutions to the problem of inefficiency as Lean has proliferated throughout American hospitals. In many places, Lean and other forms of systems thinking have become the only viable or imagined way forward through the fragmented complex of hospital and treatment practices that we call the health care system. We are led to believe that if the system is broken, surely it must need systems improvements. Yet Lean and systems thinking maintain the forward momentum of health care and hospitals first and foremost as businesses and secondarily as places of care. In this way, the fundamental structure relationship between care and capitalism at the heart of American medicine is not challenged. Rather, the turn toward value enables the creation of more markets – for patient satisfaction survey companies, Lean and patient flow consultancies – and relies on a hopeful discourse of neoliberalism that promotes the idea that patients and providers will be "responsibilized" to choose hospitals based on quality scores and to prioritize organizational efficiency as though these were the keys to ideal medical care.

Where Lean and earlier instantiations of the "scientific management" of health care diverge, however, is in what many refer to as the art of medicine: doctor-patient conversations; clinical team discussions; time and attention from nurses; uncovering an accurate diagnosis. These are the kinds of interactions and relationships where patient care actually happens, often

enabled by time. The social and interpersonal dynamics between and among players within the hospital play an important role in the smooth operating of the system, and they are mostly ignored by the new metrics. As Victoria Sweet (2013: 84) has put it: "sometimes, what has no place in the Excel spreadsheet is the key to what makes a system, even a hospital, work."

Within the context of efficiency and practices that intend to create value in the hospital, I have shown that care is not only being displaced from the patient onto systems, but that care is taking a new form. That in an era of simultaneous yet disproportionate austerity and profitability, patients are cared for by proxy through attention to the health and vitality of the institution through the tinkering of continual process improvement. In the context of chronic illness, care can be thought of as a process with which patients and providers iteratively "tinker" over the *longue durée* of disease (Mol 2008). Care, I argue, can also be found in the practices of Lean and continual improvement in the hospital, where we are seeing a new form of "tinkering" that shifts the object of care from patients to the institution.

Through framing the "tinkering" of continual improvement as an integral part of "caring wisely," health care professionals are called upon to attend to the efficiency of work practices and financial viability of the hospital over time. In this way, engaging in process improvement has become an implicit moral imperative of medicine. Being a good doctor or nurse in many places calls for involvement in and leadership of quality improvement activities. For many hospitalists specifically, physicians who specialize in the management of acute care patients, quality improvement is increasingly viewed as a central aspect of their clinical role. Yet in the community hospitals where I did conducted research that was not the case – yet. Getting hospitalists on board with process improvement was challenging, partially due to the fact that in California, physicians are not hospital employees, with the exception of those who work in

academic medical centers and HMOs. One physician explained to me how, as a hospitalist, he was supposed to be the "captain of the QI ship." However, despite being a Lean "champion" in charge of paving the way for his fellow physicians to engage in process change, he had a great deal of ambivalence about that role and did not think Lean was the best way forward.

Toward a Critical Anthropology of Systems Thinking

An often-used phrase in business and health care management to describe the "big picture" is the "30,000 foot view." This refers to a view from above, where you can step back from the system – in this case the hospital – and have an unobstructed view of its constituent parts, their fit, and how upstream events have downstream consequences. Lean is in many ways a radical departure from long-standing ways of working in the hospital, where departments, and the work that takes place within them, exists in silos and very real and massive inefficiencies abound. As an anthropologist, I often found myself drawn into the holistic rhetoric of interconnectedness. It is compelling. But the rhetoric of systems thinking also poses a problem, or perhaps an opportunity. Systems thinking and its 30,000-foot view is neither big enough, nor is it small enough.

I have shown how an ethnography of efficiency foregrounds policy, regulatory and structural conditions that shape the ways in which value is constructed and efficiency happens on the ground. From this ethnographic vantage point, we can account for the relationship between care and capitalism and neoliberal modes of understanding value that are rooted in a hopeful discourse of market-based solutions to social problems, such as in the hospital quality comparison websites that promote consumer choice. At the same time, the ethnographic lens allows us to telescope closer in to the ground, to account for the lived experiences of patients on

the receiving end of practices enacted in the name of efficiency and flow. Lean pays lip service to creating value for the customer – which in healthcare is actually not always the patient – but individuals and their stories are all too often glossed over, ignored as outliers, or seen as anecdotal, not quantifiable. Instead, satisfaction surveys become proxy indicators for care.

Medical anthropologists have promoted the notion of "structural competency" as an intervention in medical education that moves beyond "cultural competency" and seeks to link larger structural and political economic conditions to social determinants of health and inequality (Metzl and Hansen 2014). As increasing numbers of medical schools implement quality and process improvement modules and requirements for "systems-based practice" competencies for residents and fellows, it is imperative that we broaden the narrow definition of "the system" and engage in a larger dialogue about the political economic, policy and socio-cultural structures in which these systems exist. At the same time, we must account for the messiness of moving patients along and ask ourselves what kind of value do we, as patients, providers and as a society, want in health care, and for whom.

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