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ORGANIZATIONAL FACTORS INFLUENCING QUALITY AND EQUITY IN PEDIATRIC PRIMARY CARE: A MIXED METHODS STUDY

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ORGANIZATIONAL FACTORS INFLUENCING QUALITY AND EQUITY IN
PEDIATRIC PRIMARY CARE: A MIXED METHODS STUDY

A Dissertation Presented

by

SARAH L. GOFF

Submitted to the Graduate School

of the University of Massachusetts Amherst

in partial fulfillment of the requirements for the degree of

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PUBLIC HEALTH

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DEDICATION

To my big, beloved family.

ACKNOWLEDGEMENTS

I would like to extend my deep thanks and appreciation to family, friends, advisors, and mentors, who made this dissertation possible: To my parents, who fostered a lifelong love of learning and provided childcare at key timepoints; to my husband, Stephen, and my children, Anna and Ian, who encourage me to try new things every day; to my PhD advisor, Lisa Wexler, who taught me what it means to think differently and the importance of doing research that matters; to my minor advisor, Laurel Smith-Doerr, who has supported and encouraged my explorations in sociology and challenged me to expand my research toolkit; to Peter Lindenauer and Kathy Mazor, my longtime research mentors, who have encouraged and supported me at every step of my academic career and who will be co-authors on manuscripts stemming from the research reported in Chapters 4 and 5; to Penny Pekow, who has been an invaluable support in understanding the biostatistical approaches to the research conducted in Chapters 4 and 5 and who will also be a co-author on manuscripts related to these chapters; and to the remainder of my dissertation committee, who have provided important insights and support. I would also like to thank the patients, the students, my research teams, and the research participants who have inspired me and motivated me to try to improve healthcare quality and equity for women and children in the U.S. Finally, I would like to acknowledge the financial support provided by my K23 Career Development Award from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (K23 HD080870).

ABSTRACT

ORGANIZATIONAL FACTORS INFLUENCING QUALITY AND EQUITY IN PEDIATRIC PRIMARY CARE: A MIXED METHODS STUDY

SEPTEMBER 2018

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The research conducted for this dissertation broadly explored the relationship between characteristics of healthcare organizations and quality and equity in pediatric healthcare. The first of the three studies identified characteristics of pediatric practices with high scores on measures of quality and patient experience using qualitative methods. The second study assessed whether the candidate characteristics identified in the first study were quantitatively associated with performance on quality measures using a statewide survey and publicly available quality data. This study found several potentially modifiable factors associated with performance, including an organizational culture characterized by good communication and interpersonal relationships amongst providers and staff, having a designated quality champion, and offering co-located ancillary

services, such as behavioral health. The third study used ethnographic-style methods to explore implementation of community health workers in a pediatric practice in a new Medicaid accountable care organization. Observations and interviews identified a number of potential barriers to effective planning for integration of the community health workers, which could in turn limit the capacity of the community health worker program to improve quality and address inequities in healthcare for low-income children.

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INTRODUCTION

The U.S. healthcare system struggles to consistently provide evidence-based equitable care for all of its citizens. Healthcare inequity in the U.S., defined as avoidable differences in access, treatment, and outcomes between populations (Habersack & Luschin, 2013), stems in part from debate regarding society's responsibility for ensuring the opportunity to possess good health for all of its citizens. The research I undertook for this dissertation was motivated by observations and reflections made as a clinician caring for lower-income, racial and ethnic minority families in community health centers for nearly two decades and as a health services researcher embedded in a large healthcare organization. As a general pediatrician and internist, I have witnessed firsthand the challenges my patients have faced due to issues such as lack of health insurance or underinsurance, lack of transportation, and cultural and linguistic barriers. As an advocate for my patients, I have also witnessed how structural barriers, such as healthcare finance, can make it challenging for healthcare organizations to address inequities in care. Behind healthcare's outward facing institutions lie complicated human and machine systems, developed in the context of centuries of shifting political ideology and policy, that likely contribute to the inequities experienced by marginalized populations. I am motivated to conduct research that not only recognizes the challenges these complexities present, but also embraces the opportunities for change that lie within the complexities. My doctoral studies focused on developing expertise in theory, methods, and methodology that could enhance my ability to take advantage of these opportunities. Part of my studies focused on implementation science, a pragmatic, action-oriented, multi-disciplinary field in which

the complex interactions that impact healthcare quality and equity are recognized (Atkins, Rusch, Mehta & Lakind, 2016).

Quality Improvement (QI) has been an integral part of U.S. healthcare reform for more than two decades (Brook, McGlynn & Cleary, 1996). QI strategies have generally focused on improving care quality by standardizing care delivery and reducing costs. More recently, patient experience and population health have become part of the quality equation (Berwick, Nolan & Whittington, 2008). The Institute of Medicine (IOM) published three landmark reports nearly 20 years ago that illuminated the serious deficiencies in quality, safety, and equity in the U.S. healthcare system (Care, Policy, & Medicine, 2002; Institute of Medicine (US) Committee on Quality of Health Care in America, 2001; *To Err Is Human*, 2000). Since the publication of these reports, considerable resources have been dedicated to describing and quantifying problems related to healthcare quality and equity, identifying root causes of the problems, and developing and testing interventions to address the problems identified. Although improvements have been made in some areas, such as the percent of children receiving preventive dental care (Dougherty, Chen, Gray & Simon, 2014), overall progress has been disappointing. The lack of progress may be due, in no small part, to the complexity of the web of human systems, organizations, and institutions that are U.S. healthcare. Complex systems are susceptible to “wicked” problems - problems that are difficult to solve because the information needed to solve them is incomplete, contradictory, and/or changing (Churchman, 1967). Wicked problems are particularly challenging because a solution to a problem in one part of the system often generates a new problem elsewhere in the system. Politics, culture, history, and other human factors all influence healthcare

delivery in the U.S. Solving problems of quality and equity will require an approach that takes these factors into account.

Within the vast landscape of healthcare quality and equity, I am most interested in the ways in which organizational factors influence healthcare quality and equity for women and children. I am particularly interested in identifying effective strategies for implementing sustainable changes in care delivery that lead to higher-quality equitable care. These interests led me to ask the following questions for this dissertation: 1) What is the association between selected organizational characteristics and performance on common quality measures in pediatric primary care practices in Massachusetts? and 2) How do key stakeholders envision the role of community health workers in a new Medicaid ACO; how does the process of implementing workers into a pediatric practice in the ACO facilitate or hinder realization of the vision(s)?

Chapter 1 of this dissertation provides historical and sociopolitical context for the issues of quality and equity found in the U.S. healthcare system. Understanding this context helps to illuminate the potential structural challenges to improving quality and equity going forward. Chapter 2 describes efforts to define and measure healthcare quality in the U.S. and the role this movement has played and continues to play in identifying addressing these issues. Chapter 3 offers philosophical and theoretical support for the position that a just society must provide the opportunity for high-quality, equitable healthcare for its citizens, describes the role of organizations in providing high-quality equitable care, draws on implementation theory to explain the theoretical rationale for the research conducted for this dissertation, and briefly describes the three papers included in the dissertation. Chapter 4 is a qualitative study of high-performing pediatric practices

aimed at identifying organizational characteristics that might be critical to achieving high performance. Chapter 5 reports the results of a statewide survey in Massachusetts testing the association between characteristics identified in the qualitative study and performance on quality metrics. Chapter 6 represents the third paper for this dissertation, an ethnographic-style study of implementation of community health workers in a pediatric practice serving children from low-income, racial and ethnic minority populations and Chapter 7 discusses plans for subsequent research.

CHAPTER 1
A BRIEF HISTORY OF U.S. HEALTHCARE:
A MULTI-TIERED SYSTEM IS CREATED

1.1 The Healthcare System Takes Shape: Early 20th Century

Politics and political ideology have been shaping the U.S. healthcare system for centuries. Accounting for 17.9 percent of the gross domestic product in 2016 (Hartman, Martin, Espinosa, Catlin & The National Health Expenditure Accounts Team, 2017), U.S. healthcare is a large, complex business. As such, many stakeholders are involved in the healthcare system, stakeholders that may have competing interests. What follows describes how some of these interests have shaped and continue to shape healthcare in the U.S.

Medical practice changed radically in the late 19th and early 20th centuries when advances in the understanding of human physiology and disease and a national enthusiasm for science formed the foundation of healthcare's biomedical model (Oberlander, 2012; Quadagno, 2006; Sandy, Bodenheimer, Pawlson & Starfield, 2009). This model largely left social factors out of the purview of healthcare (Sandy et al., 2009). In addition to the scientific progress being made in medicine, other changes were taking place in the medical profession at the beginning of the 20th century. Medical training and medical practice had been largely unregulated prior to the publication of the Carnegie Foundation-sponsored Flexner Report in 1910 (Beck, 2004). While the Flexner Report strengthened healthcare by setting standards for training and practice, the changes it brought about may have contributed to some of the disparities that exist in healthcare

today. Many have reflected on the impact of the Flexner Report since it was first published, sometimes with differing opinions. Some have been critical of the report, expressing concern that Flexner's findings may have been influenced by the "captains of industry" that funded the report through the Carnegie Foundation and Flexner's position as a champion of the emerging dogma of "objective" science as a gold standard, which may have impacted his recommendations for both medical education and the structure of healthcare delivery. Others have rebutted such criticisms, feeling that Flexner's findings were reflective of the times (Berliner, 1975; Halperin, Perman & Wilson, 2010; Nachman & Marzuk, 2011; Schrewe, 2013; Stahnisch & Verhoef, 2012; Steinecke & Terrell, 2010).

Flexner's 1910 report established acute-care hospitals as the central institutions in the U.S. healthcare system. This entrenched medicine as a profession focused on disease detection and treatment rather than health promotion and disease prevention. Barbara Starfield and others have argued that a strong primary care system is essential to providing high-quality equitable care (Forrest & Riley, 2011; Shi & Starfield, 2001; Starfield, 1995, 1996) and that the establishment of hospitals as the centers of the healthcare system divorced healthcare from the social factors that affect the health of the communities it serves (Starfield, 2011).

In addition to locating hospitals at the center of the healthcare system, the Flexner Report also called for closing all but two of the traditionally all-black medical schools, because the schools reportedly could not meet Flexner's new recommended standards for medical training. The loss of these schools in a society in which segregation laws were still strong may have contributed to today's underrepresentation of physicians from racial

and ethnic minority groups in the workforce. Some feel that current inequities in healthcare stem, in part, from the paucity of physicians from racial and ethnic minority groups in the workforce (Komaromy et al., 1996; Nunez-Smith, Curry, Berg, Krumholz & Bradley, 2008; Saha, Komaromy, Koepsell & Bindman, 1999).

The current health insurance system also developed in response to a hospital-centered healthcare delivery system. In the era following the Flexner Report, hospital-based physicians (e.g., surgeons and radiologists) set the fees for their services. During the Great Depression, when most citizens could no longer pay hospital-based physicians' fees, Blue Cross Insurance was created to ensure that hospital-based physicians could collect their fees (Sandy et al., 2009). During this time, the Final Report of the Committee on the Costs of Medical Care (1932) recommended that the nation organize physicians into groups that provide care based on medical science, that emphasize prevention, promote cooperation between physicians and the lay public, treat individuals as a whole, facilitate continuity of care between a physician and a patient, coordinate medical care with social services, and provide all necessary services to all citizens regardless of ability to pay (King, 1933). The committee's recommendations were largely ignored, reportedly because they were contested by physician organizations because physicians enjoyed greater financial benefits from the fee-for-service system that was backed by private insurance companies (Sandy et al., 2009). Hospital-based physicians advocated for the third-party payer system, recommending the national uptake of the Blue Shield model that was created in California in 1939. Early health insurance plans were organized by state physician societies, which generally allowed physicians to set their own fees as long as they were within range of the "usual and customary fees" of the

region (Sandy et al., 2009). The Stabilization Act of 1942 (Roosevelt, 1942), designed to decrease the risk of inflation by limiting employers' ability to raise wages for scarce workers, led to employers offering health insurance as an added benefit to employment, establishing the current-day employer-based health insurance scheme.

There was also no oversight of the "quality" of care provided at this time, which meant that individual practitioners' judgment was assumed to be all that was needed to assure high quality of care. This system has persisted in various forms over the past 80 years. Although there have been periodic forays into capitated payment systems, in which healthcare organizations receive a fixed amount of money per patient to use towards their healthcare needs, the multi-tiered system of largely employer-based insurance has arguably contributed not only to the burgeoning costs of healthcare but also to the variation in quality and the inequities in the current system.

1.2 Politics and Healthcare: WWII to the Present

Following World War II, a series of federal policy decisions established the template for healthcare finance and delivery that exists today. These decisions, supported by labor groups, physicians' associations, and the burgeoning private insurance industry, firmly tied individual private health insurance to employment (Quadagno, 2006; Sandy et al., 2009). These policies maintained a fee-for-service reimbursement strategy that privileged and promoted the use of technology and procedures over prevention and population health. This structure advanced the science of medicine, but at some cost to public health. There was neither systematic evaluation of the effectiveness of the new technologies or

procedures nor comparisons of how well different practitioners used the technologies or procedures.

Relative value units, which set the fees that insurance companies will pay for specific services, were introduced in the 1950s; this system maintained higher payments for surgery, radiology, and subspecialty care, and further undermined the preventive and public health aspects of healthcare that might have addressed inequities in opportunities for high-quality healthcare (Oberlander, 2012; Sandy et al., 2009).

The American Health Care Paradox: Why Spending More is Getting Us Less described the political and social factors that have contributed to the separation of healthcare from social services in the 1950s and 1960s (Bradley & Taylor, 2013). Bradley argued that Lyndon Johnson's 1965 decision to create the Centers for Medicare and Medicaid Services (CMS) was the critical policy decision that determined that government support for healthcare would be limited to specialized groups in the U.S. This policy decision differed from the decisions being made by other developed countries at the time, many of which were creating plans for government-sponsored universal national health services (Bradley & Taylor, 2013). As the healthcare finance and delivery systems continued to develop as largely privatized models in the U.S., social service and public health institutions became increasingly linked to state and federal government agencies or to non-profit organizations (Bradley & Taylor, 2013). This meant that these agencies were dependent on political will or donations for funding and that their services were directed at the "fringes" of society. The resulting unstable and fragmented social service and public health systems have largely operated tangential to, rather than in coordination with, the healthcare system (Bradley & Taylor, 2013). Bradley has argued

that the divergence of social services, public health, and healthcare is responsible for the U.S.'s poor performance on numerous healthcare metrics, including inequities in health and healthcare, when compared to other developed countries (Bradley & Taylor, 2013).

After many decades of separation, increasing attention is being paid to the relationship between social determinants of health, public policy, health, and healthcare (Braveman, 2014; Carey & Crammond, 2015a, 2015b; Preda & Voigt, 2015). Policy interventions, such as Massachusetts requiring its new Medicaid accountable care organizations (ACOs) to assess and address ACO members' social needs, are becoming more prevalent (Alley, Asomugha, Conway & Sanghavi, 2016; Carey & Crammond, 2015a; Farrer, Marinetti, Cavaco & Costongs, 2015; Ingram et al., 2014; Schaff et al., 2013). The effectiveness of policy and other interventions to address social determinants of health through changes in healthcare delivery remain to be seen.

Political ideology regarding the government's role in healthcare has become increasingly polarized since Johnson created CMS: progressive (sometimes referred to as "liberal") ideology supports developing and expanding public health insurance as a social responsibility while libertarian (sometimes referred to as "conservative" or "capitalist") ideology champions individual responsibility and supports competitive free markets with limited government regulation (Larsen & Stone, 2015). Prior attempts at healthcare reform have broken down along these ideological lines. Medicare, Medicaid, Social Security Disability Insurance, and the healthcare arm of the Department of Veterans Affairs are the only public health insurances that have emerged from numerous efforts to expand public health insurance over the past century (Oberlander, 2016; Oberlander, 2012). Inequities in health and healthcare have become institutionalized by decisions that

privilege some, such as senior citizens, as “deserving” of government-funded programs, while others considered less deserving, such as people working at low-paying jobs, receive limited or no benefits.

Contemporary neoliberal political ideology also contributes to inequities in healthcare (Larsen & Stone, 2015; Mooney, 2012; Nkansah-Amankra, Agbanu & Miller, 2013).

Larsen et al. described neoliberalism as “the normative political theory in which individual freedom is the highest political value, free market reforms are believed to increase economic productivity and innovation, and social welfare improves through a trickle-down effect” (Larsen & Stone, 2015). Neoliberal ideology opposes state power because it reduces individual freedom, defined from a capitalist perspective as the ability to exercise discrete consumption choices. However, this perspective gives little consideration to the ways in which poverty and powerlessness constrain those choices (Larsen & Stone, 2015).

Race and racism deserve special attention when exploring the ways in which public policy has contributed to inequities in healthcare in the U.S. When the founding fathers decided that the phrase “all men are created equal” meant all free white men, not women, slaves, or others, a precedent for policy that discriminates based on the selected characteristics of a group was set. This precedent created a political and social system in which discrimination was institutionalized and legitimized through laws that denied voting rights, access to high-quality neighborhoods, access to jobs that provided healthcare benefits, and other unjust discriminatory practices. Although the Constitution, federal, state, and local laws and policies have attempted to reverse these historical unequal protections of rights, the legacy of these discriminatory laws and policies persists

in the form of diminished opportunities for health and healthcare due to greater exposure to deleterious social determinants of health (Bailey et al., 2017).

Neoliberal policies of the past several decades have arguably perpetuated the effects of these historic injustices, contributing to racial and ethnic inequities in health, healthcare, and social determinants of health. In a 2013 review, Nkansah-Amankra et al. described increases in racial and ethnic inequities in poverty, health, and incarceration rates over the previous 30 years and associated these inequities with the advent of neoliberal policy-making (Nkansah-Amankra et al., 2013). When healthcare is treated as a commodity, as it is in a neoliberal framework, economically advantaged members of society have better access to healthcare and higher quality health services, increasing inequities in care. The authors acknowledged that correlation is not causation and that it is difficult to generate direct evidence for the link between neoliberalism and racial and ethnic inequities in healthcare. However, they used indirect evidence; such as multiple correlation studies, expert commentaries, and critical reflections from alternate approaches, such as critical race theory, to demonstrate how neoliberalism contributes to inequities in health and healthcare. Their key findings include evidence that one of the best ways to enhance citizens' participation in political and economic development is to provide adequate financial support for public service institutions such as education and affordable healthcare. Neoliberal policy, because it seeks to reduce government's footprint, does not adequately support these public institutions (Nkansah-Amankra et al., 2013). Arguments about the relationship between neoliberal public policy and healthcare inequities are further supported by a comparative study of population health in the U.S.

and Canada in the era of U.S. neoliberal policy, which also found worsening inequities in healthcare (Siddiqi, Kawachi, Keating & Hertzman, 2013).

1.3 Healthcare Reform in the 21st Century

Modern efforts to reform healthcare began in 1915, when members of the American Association for Labor Legislation failed to garner support for government-sponsored compulsory health insurance (Oberlander, 2012). Subsequent efforts to establish universal healthcare also failed under Harry Truman, Richard Nixon, and Bill Clinton. Powerful special interest groups, demagoguery, and fear of socialized medicine have consistently undercut these efforts (Oberlander, 2012). Neoliberal reforms of the early 1980s promoted what could be considered the antithesis of universal health insurance by seeking to: 1) Transfer public insurance and public delivery systems to private, for-profit companies; 2) Introduce market competition where formerly there had been public sector dominance or monopoly; and 3) Enable citizens to choose between multiple insurance plans and/or medical service providers (Larsen & Stone, 2015).

When President Clinton proposed the American Health Security Act (AHSA) of 1993, Republicans in Congress also created a proposal to reform healthcare, the Health Equity and Access Reform Today Act (HEART) of 1993. Clinton's AHSA was largely perceived as a failure, but some of the elements of the AHSA that were adopted in the 1990s laid the groundwork for President Obama's Patient Protection and Affordable Care Act (ACA). Interestingly, a number of the tenets of the Republicans' failed HEART program were also included in the ACA (Quadagno, 2014). The ACA was passed on March 23, 2010 with no support from Republicans in Congress. Generally seen by

political progressives as caving to the power of private insurance companies and neoliberal free-market ideology, political neoliberals were also not satisfied, seeing it as a government takeover of healthcare and a step towards socialized medicine (Quadagno, 2014). In reality, 11 of the 14 major provisions of the ACA were identical to the Republican's 1993 HEART proposal, including both employer and individual mandates and elimination of pre-existing condition exclusions (Quadagno, 2014). Federal regulation of the insurance industry and incentives for states to expand Medicaid to those near the federal poverty level and the "working poor" were also carried over from Clinton's reforms (Quadagno, 2014).

Although the ACA increased the number of lower-income individuals and families with health insurance, implementation of some of the provisions of the ACA has been challenging. This includes failure to keep costs to individuals as low as promised and people finding that having insurance coverage does not necessarily guarantee access to a routine source of care (Oberlander, 2016). Lack of access may be due, in part, to physician shortages in primary care, which in turn may be related to reimbursement schemes that reimburse specialty care at a higher rate. Physicians deciding to limit the number of patients with public insurance they care for because of low reimbursement rates may also contribute to the access problem. The overall impact of the ACA on healthcare quality and equity is not yet clear and may remain difficult to assess given the ACA's uncertain future.

1.4 Summary

In summary, changes to healthcare delivery in the U.S. over the last century have occurred in the context of macro-level policy decisions and the political ideologies that drive these decisions. A legacy of discrimination on the basis of race, gender, and other group classifications, along with neoliberal ideology regarding the role of government in a capitalist economic and political system, likely contribute to the issues of quality and equity endemic in the system today. The research conducted for this dissertation focuses on meso- and micro-level organizational solutions to address issues of quality and equity in pediatric primary care. This research, and other related research, must take these macro-level factors into account when seeking solutions to these issues.

CHAPTER 2

HEALTHCARE QUALITY AND (IN)EQUITY

“Quality ... you know what it is, yet you don't know what it is. But that's self-contradictory. But some things are better than others, that is, they have more quality. But when you try to say what the quality is, apart from the things that have it, it all goes poof! There's nothing to talk about. But if you can't say what Quality is, how do you know what it is, or how do you know that it even exists? If no one knows what it is, then for all practical purposes it doesn't exist at all. But for all practical purposes it really does exist. What else are the grades based on? Why else would people pay fortunes for some things and throw others in the trash pile? Obviously, some things are better than others ... but what's the betterness? ... So round and round you go, spinning mental wheels and nowhere finding anyplace to get traction. What the hell is Quality? What is it?”

- Pirsig, Robert M, *Zen and the Art of Motorcycle Maintenance*
(Pirsig, 1975, p. 163)

2.1 The Quality Chasm and Unequal Treatment

The Institute of Medicine (IOM) formed the Committee on Quality of Health Care in America in 1998 (Chassin & Galvin, 1998) and three years later published “Crossing the Quality Chasm: A New Health System for the 21st Century” (Institute of Medicine (US) Committee on Quality of Health Care in America, 2001). The report, which painted a stark picture of the state of healthcare quality in the U.S., included 13 recommendations for improvement. The recommendations were aimed primarily at systems-level changes and advocated for the use of quality measures as a means to hold healthcare systems accountable for the care they provided. The report defined healthcare quality as “the extent to which health services provided to individuals and patient populations improve desired health outcomes” (Institute of Medicine (US) Committee on Quality of Health Care in America, 2001) and specified six aims for achieving better quality of care. The aims included providing care that is: 1) **Safe** (avoids harming patients and is intended to

help them); 2) **Effective** (provides services based on scientific knowledge to all who could benefit and avoids underuse and misuse of services); 3) **Patient-centered** (provides care that is respectful of and responsive to individual patient preferences, needs, and values and insures that patient values guide all clinical decisions); 4) **Timely** (reduces wait times and avoids sometimes harmful delays for both those who receive and those who give care); 5) **Efficient** (avoids waste, including waste of equipment, supplies, ideas and energy); and 6) **Equitable** (provides care that does not vary in quality because of personal characteristics such as gender, race or ethnicity, geographic location and socioeconomic status (Institute of Medicine (US) Committee on Quality of Health Care in America, 2001). These aims have served as a blueprint for defining quality, with safety, effectiveness, and efficiency being the aims most often emphasized in the years immediately following the report's publication.

Two years after publishing "Crossing the Quality Chasm", the IOM published "Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care" (Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, 2003). The 100 studies reviewed for the report consistently demonstrated that marginalized and oppressed groups were less likely than dominant groups to receive needed care, even when the analyses controlled for variables such as insurance status and ability to pay. Inequities were found for racial and ethnic minority patients with diabetes, HIV/AIDS, cancer, cardiovascular disease, and mental illness, as well as for many routine procedures (Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, 2003).

Since “Unequal Treatment” was published, numerous studies have demonstrated persistence of racial and ethnic inequities (Alrwisan & Eworuke, 2016; Bond et al., 2016; DeSantis et al., 2016; Flores et al., 2009; Flores, Olson & Tomany-Korman, 2005; Flores & Committee On Pediatric Research, 2010; Flores & Lin, 2013; Flores & Ngui, 2006; Flores & Tomany-Korman, 2008; Fortune, 2016; Joseph, Redwood, DeGroff & Butler, 2016; K. Naylor, Ward & Polite, 2012; Newman et al., 2016). While those subscribing to neoliberal ideology might attribute inequities in healthcare to individual choices, the root causes of racial and ethnic inequities include a complex array of historical, social, political, and organizational factors.

Discrimination based on membership of a non-dominant population has been one of the ways inequities manifest themselves. This discrimination occurs both explicitly and implicitly. Discrimination based on race and ethnicity can manifest in a number of ways in a healthcare setting. For example, discrimination based on race has been identified in the management of some diseases, such as pain management for patients with sickle-cell disease (Maxwell, Streetly & Bevan, 1999), and in the management of acute coronary syndromes (Sheifer, Escarce & Schulman, 2000). More recently, micro-aggressions such as micro-insults (rude or insensitive communication) and micro-invalidations (diminishing or invalidating the importance of the individual’s lived experience) have increasingly been recognized as discriminatory behaviors experienced by racial and ethnic minority patients (Bleich, 2015). Implicit discrimination results in care that is neither patient-centered nor equitable, yet it is not yet commonplace to inquire about experiences of implicit discrimination such as micro-aggressions on patient experience surveys.

The IOM has recommended strategies for addressing inequities in healthcare in seven categories: 1) General; 2) Legal, regulatory, and policy; 3) Health systems interventions; 4) Patient education and empowerment; 5) Cross-cultural education in health professions; 6) Data collection and monitoring; and 7) Research needs (Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, 2003). While efforts have been made in each of these areas, the greatest emphasis appears to have been on educating health professionals. The focus on provider education is based on the assumption that physician behavior is a main driver of inequities, that physicians are unaware of inequities, and that knowing about them will address the problem. Teaching “cultural competence” to physicians has been a major focus of efforts to address racial and ethnic disparities (Betancourt, 2006; Betancourt & Cervantes, 2009; Betancourt, Green, Carrillo & Ananeh-Firempong, 2003; Flores, 2000; Smith et al., 2007). Although it is important to ensure that health professionals are aware of inequities and their contribution in this regard, this approach also arguably perpetuates the neoliberal belief that “fixing” individual behavior is the best solution to a sociopolitical problem. Some cultural competency curricula focus on teaching the dominant cultural practices of specific minority groups (Like, 2011). While this approach may have some merit, it also risks further stereotyping racial, ethnic, and cultural minority populations and often ignores the sociopolitical context in which inequities occur. Although there are guidelines for teaching physicians about disparities, their effectiveness remains unclear (Betancourt et al., 2003; Flores, 2009; Horner et al., 2004; King et al., 2008). Instead, it may be more productive to intervene at multiple levels: Increase recognition of individual implicit bias and practice strategies to mitigate its impact; measure disparities at the

healthcare system level and test system-based strategies to address them; and explore legal, policy, and regulatory interventions aimed at identifying and addressing structural barriers to eliminating inequities.

2.2 Measuring Healthcare Quality

The Centers for Medicare and Medicaid Services and private insurance companies began to scrutinize the value of their purchases when healthcare costs began to rise sharply in the 1980s. Value can mean different things to different people, with political ideology and location in the healthcare system (e.g., patient, provider, administrator, payer) potentially influencing that meaning. In this case, “high value” lies at the intersection of higher quality and lower cost. The Institute for Healthcare Improvement (IHI) has developed a three-domain framework for assessing healthcare value: 1) Patient experience (including quality and patient satisfaction); 2) Cost; and 3) Population health. Healthcare systems’ early focus on safety, effectiveness, and efficiency may have been due to the fact that the quality measures developed by CMS, the Agency for Healthcare Research and Quality, and other national quality organizations emphasized these aspects of quality. Payers also started to link reimbursement for medical services to performance on metrics in these areas. Efforts to improve patient-centeredness and timeliness of care have increased since CMS began pay-for-performance based on patient experience scores. However, despite widespread racial and ethnic inequities in healthcare (Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, 2003), hospitals and medical practices are not yet held accountable for providing equitable care. Developing valid and reliable quality measures

is challenging, but what is chosen to be measured and hold healthcare delivery systems accountable for may also be a reflection of the same sociopolitical and economic forces that shaped the healthcare system.

The substantial body of research assessing the effectiveness of interventions to improve healthcare quality indicates improvement in some aspects of care and equivocal or limited improvement in others (Alshamsan, Lee, Majeed, Netuveli & Millett, 2012; Alshamsan, Majeed, Ashworth, Car & Millett, 2010; Bardach et al., 2013; Gillam, Siriwardena & Steel, 2012; Johnson, Johnson, Zimmerman, Marsh & Garcia-Dominic, 2015; Leape & Berwick, 2005; Mitchell, Schuster, Smith, Pronovost & Wu, 2015; Petersen, Woodard, Urech, Daw & Sookanan, 2006; Scott et al., 2011; Secanell et al., 2014; Starfield & Mangin, 2010). What one chooses to measure, how it is measured, and why it is measured may explain, in part, why issues of quality and equity persist to the degree that they do. Hospital administrators and physicians have criticized quality improvement (QI) measures (Berwick & Wald, 1990), expressing concerns that the statistical methods used to compare healthcare institutions and practices do not account for patient case-mix (e.g., sicker and uninsured patients make hospitals and practices appear “worse”); that smaller hospitals have relatively low numbers of overall cases, making them appear lower-performing; and that larger hospitals can “game” the system because they have more resources (Barr et al., 2008; Casalino, Alexander, Jin & Konezka, 2007; Lindenauer et al., 2014). Some physicians and administrators feel that current quality measures focus more on “what can be measured” rather than on “what matters most but is harder to measure” and that the focus on hospital-based care quality is driven more by an emphasis on reducing costs than by improving care (Goff et al., 2015).

Although few would argue against the importance of measuring healthcare quality and addressing the deficiencies in care identified, many questions remain about the best ways not only to measure quality, but also how risk and reward systems shape what is measured and where resources are directed. The current system of quality measurement and incentives is situated in the context of the political economy, political ideologies, and sociocultural history of the U.S. System changes to improve quality and equity will need to take these macro-level forces into account.

Some believed that standardizing care through QI would diminish racial and ethnic inequities by raising the overall level of care quality, but this has not occurred (Alshamsan et al., 2012, 2010). While it is possible that measures explicitly targeting racial and ethnic inequities in healthcare may have some impact, measurement alone is unlikely to bring about sustained and meaningful change, because compliance with many of the current quality measures can be achieved with relatively superficial change in practice (Ho & Antonucci, 2015). To fully address inequities in healthcare in a meaningful way, a different approach to both understanding and addressing the problem is needed.

The majority of healthcare disparities studies focus on individual bodies rather than on social determinants of health and healthcare delivery. However, social scientists have been exploring the social elements of healthcare inequities for decades. Calls for a paradigm shift in thinking about the problem of racial and ethnic inequities in healthcare (Malat, 2006) and some of the leading work on patient safety in the U.K.'s National Health Service (Dixon-Woods, 2010, 2010; Dixon-Woods et al., 2014; Dixon-Woods, Leslie, Bion & Tarrant, 2012; Lamont & Waring, 2015; Waring et al., 2014; Waring,

Harrison & McDonald, 2007) have also come from sociologists. Researchers in Australia have applied organizational change theory to their research on reducing racial and ethnic inequities in healthcare in Australia, believing that efforts to address institutional racism at the organizational level will be more effective than the ongoing efforts to change individual behavior (D. M. Griffith et al., 2007; D. Griffith, Yonas, Mason, & Havens, 2010; J. R. Griffith et al., 2013). Adopting a more interdisciplinary approach that draws not only on different epistemologies, but also different ontologies, and that not only considers, but attempts to address the historical and sociopolitical contributors to sub-optimal quality and equity, may move the United States closer to the goal of high-quality equitable care for all. Part of this dissertation adopts this perspective, introducing methods of studying healthcare quality more commonly used in social sciences than in health services research.

2.3 Quality and Equity in Pediatric Healthcare

Nearly all medical specialties, as well as academic disciplines such as public health, sociology, anthropology, political science, industrial engineering, computer science, organizational studies, and others, have contributed to the literature on healthcare quality and equity. My interest in pediatric healthcare quality and equity stem, in part, from my role as a pediatrician, my interest in the impact of social determinants of health on health and healthcare quality across the lifespan, and the relative paucity of research on healthcare quality and equity in pediatrics compared to other clinical disciplines, such as internal medicine.

Children under the age of 15 made an estimated 125 million visits for pediatric care in 2015, with approximately 90% of those visits made to a primary care provider (Rui, Hing & Okeyode, 2015). Despite national efforts to improve pediatric care quality, slightly more than half of children in the U.S. do not receive recommended primary care (Mangione-Smith et al., 2007). This lack of care negatively impacts children's health, disproportionately affecting children from low-income and racial and ethnic minority populations (Flores & Lin, 2013). Addressing gaps in care for children has the potential to improve health and healthcare for all children; addressing these gaps in care for children in marginalized populations may also reduce inequities in health and healthcare.

Insufficient preventive care and inappropriate treatment for acute and chronic illnesses in children are associated with individual and population health risks (Arason et al., 1996; Arason, Sigurdsson, Erlendsdottir, Gudmundsson & Kristinsson, 2006; Chung, Lee, Morrison & Schuster, 2006; Hakim & Ronsaville, 2002; Rosenberg, Zhang & Robinson, 2008; Tom et al., 2010; Tom, Mangione-Smith, Grossman, Solomon & Tseng, 2013). Failure to provide timely well-child care increases the risk of preventable hospitalizations (Tom et al., 2013), contributes to late diagnosis of modifiable developmental delays (First & Palfrey, 1994), and results in missed opportunities to engage parents and children in counseling on healthy behaviors (Chung et al., 2006). Failure to follow clinical guidelines for acute illnesses, such as prescribing antibiotics inappropriately for upper respiratory tract infections, increases individual and population risks (Arason et al., 2006). Finally, chronic disease management depends on high-quality primary care. Inadequate management of chronic childhood ailments, such as asthma, results in school absences and decreased work productivity for parents (Bhaumik et al.,

2013; Dean, Calimlim, Kindermann, Khandker & Tinkelman, 2009). High-quality pediatric primary care promotes health, prevents disease, and limits morbidity from chronic disease (Starfield, 2004).

In addition to these widespread issues of variation in quality of care, racial and ethnic inequities in pediatric care also exist. Disparities include, but are not limited to: Less access to high-quality care; lower scores on prevention and population health measures; lower-quality reproductive and sexual health care (Gubrium et al., 2016); lower levels of parent satisfaction with care; lower rates of specialty referrals; worse care for chronic diseases such as asthma; and higher mortality rates for diseases such as acute lymphoblastic leukemia (Flores & Lin, 2013). Racial and ethnic inequities have also been identified in pediatric pain management (Sabin & Greenwald, 2012), mental health care (Kataoka, Zhang & Wells, 2002), emergency room triage decisions (Zook et al., 2016), and medical errors (Flores & Ngui, 2006). Despite the extent of inequities across preventive and acute pediatric care, there is no systematic approach to identifying and addressing this care quality issue. Much of the discourse on inequities in pediatric healthcare has focused on describing and quantifying the problem from a largely clinical epidemiological perspective. The research for this dissertation takes a broad look at pediatric healthcare quality, but it also begins to hone in on both the macro- and meso-level factors that may contribute to socioeconomic, racial and ethnic inequities in pediatric healthcare using both traditional health services research and an ethnographic-style interpretive approach.

CHAPTER 3

HEALTHCARE ORGANIZATIONS: A POTENTIAL LOCUS FOR CHANGE

3.1 Introduction

Chapters 1 and 2 provided the historical and contemporary sociopolitical context for some of the structural factors that influence healthcare quality and equity, described how the current approaches to measuring quality developed, and illuminated issues of quality and equity specific to pediatric healthcare. This chapter offers a philosophical argument for why the current state of healthcare quality and equity is problematic in a just society, proposes that healthcare organizations can play a critical role in addressing issues of quality and equity, describes the theoretical basis for the research conducted for this dissertation, and addresses the research questions.

3.2 Capabilities Approach, Social Justice, and Healthcare

Given the starkly different political ideologies regarding the role of government in providing healthcare and the research questions' dependence on the position that a society is responsible for making high-quality equitable healthcare accessible for those who live in the society, brief theoretical justification is offered for this position. The capabilities approach is a theoretical framework that claims that: 1) The freedom to achieve well-being is of primary moral importance; and that 2) the freedom to achieve well-being is to be understood in terms of people's real opportunities to do and be what they value (Alexander, 2008). The capabilities approach has been called a theory of human welfare, a theory of human rights, and a theory of social justice. Although there is

overlap amongst the three, this author refers to the capabilities approach as a theory of social justice, because this resonates most closely with the specific problem of inequities in healthcare.

Amartya Sen, the economist-philosopher credited with developing the capabilities approach, initially described the capabilities approach in response to the injustice of poverty and famine, focusing on human development, but other capabilities theorists have described the applicability of the capabilities approach to inequities related to disability, race, and ethnicity (Alexander, 2008). Sen has argued that a society should consider the following when determining which capabilities it should support: Individual differences in the ability to transform resources into valuable activities; the variety of activities giving rise to happiness; the need to consider non-materialistic as well as materialistic factors in evaluating human welfare; and concern for how opportunity is distributed in society (Gasper, 1997). Opportunity distribution is of particular importance when considering the capability for high-quality equitable healthcare. Although much of Sen's work has focused on the ways in which poverty limits capabilities in health and education, which in turn reduce other capabilities, he has recognized that racism, sexism, and physical disabilities also reduce an individual's capabilities, thus hindering their well-being (Sen, 2002). The capability for health is often cited in other capability theorists' versions of the capabilities approach (Nussbaum, 2002; Venkatapuram, 2013), and some theorists have also argued that the capability for equitable healthcare is necessary to achieve good health, and is thus a critical "good" that a just society provides for its members (Nussbaum, 2002).

Sen's concept of the capabilities approach has been revised and refined by other philosophers. For example, Martha Nussbaum has developed a version of the capabilities approach that differs slightly from Sen's version. Nussbaum argues that functionings, not capabilities alone, are what render a life fully human, but she agrees with Sen that capabilities should be the focus of political action (Anand et al., 2005). She also agrees with Sen that societies should define which capabilities are essential to its citizens' well-being but argues that some capabilities are universal and that having a specified list is the only way a society can measure whether it is achieving its justice goals or not. Nussbaum's list of 10 capabilities include bodily health, or being able to have good health (Nussbaum, 2002), which in turn requires access to high-quality, equitable healthcare.

Although some might argue that it is possible to have good health without good healthcare and that equitable healthcare is not necessarily a capability that society is responsible for ensuring, numerous studies have demonstrated a relationship between having a usual source of healthcare and health (DeVoe, Tillotson, Wallace, Lesko & Pandhi, 2012; Starfield, 1992; Xu, 2002). This further strengthens the capabilities theorists' position that equitable healthcare is necessary to have the capability for good health and that equitable healthcare should therefore be a capability society ensures. This position lends support for the present research which starts from a position that it is society's responsibility to provide the capability for good health, including access to high-quality, equitable healthcare.

3.3 Healthcare Organizations, Quality, and Equity

Although interventions intended to change individual behavior may bring about small improvements in healthcare quality and equity, they are unlikely to bring about substantial sustainable changes unless they are accompanied by changes in the structures that shape and constrain individual behavior. Changes in these structures can, in turn, facilitate individual capabilities for health. Quality improvement strategies, such as the patient-centered medical home (PCMH) and QI collaboratives, have attempted to bring about changes at the practice level, but have had modest effects on quality and no measured effect on equity (Homer, Cooley & Strickland, 2009; Lannon, Miles & Stockman, 2013). Technological strategies, such as electronic health record (EHR) prompts for recommended care (Bordley, Margolis, Stuart, Lannon & Keyes, 2001; Litvin, Ornstein, Wessell, Nemeth & Nietert, 2012; Ramnarayan et al., 2006), and human strategies, such as designation of a team member as a quality “champion”, have modestly improved quality of care (Kaplan, Froehle, Cassedy, Provost & Margolis, 2013; Kaplan, Provost, Froehle & Margolis, 2012; Shaller, 2004). However, despite these and other efforts, issues of quality and equity persist. Fresh perspectives on how the healthcare system conceives of, measures, and tries to address deficiencies in quality and equity may help the United States move towards a society in which everyone has the capability to receive high-quality, equitable healthcare.

3.3.1 Learning Organizations and Learning Healthcare Systems

A learning healthcare system is one in which science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the care process, patients and families are active participants in all elements, and new knowledge captured as an integral by-product of the care experience.

(Roundtable on Value & Science-Driven Health Care, 2012)

The idea that organizational characteristics and traits are associated with the “quality” of a product is far from new. Peter Senge’s *The Fifth Discipline: The Art and Practice of the Learning Organization* (Senge, 1990) described five “disciplines” of a learning organization: 1) Personal mastery; 2) Mental models; 3) Building shared vision; 4) Team learning; and 5) Systems thinking. Garvin et al. moved the concept of a learning organization from Senge’s largely theoretical and aspirational concepts to one that could be applied at all levels of an organization and that offered strategies and metrics for an organization to assess whether it was functioning as a learning organization (Garvin, Edmondson & Gino, 2008), describing three “building blocks” that are common to a “learning organization”: 1) A supportive learning environment (psychological safety, openness to new ideas, and time for reflection); 2) Concrete learning processes and practices; and 3) Leadership that reinforces learning.

The “learning organization” concept has been adopted by healthcare organizations over the past decade after the IOM described learning healthcare systems (LHCS) in 2006 (Medicine & Medicine, 2007). A LHCS uses science and informatics to improve access to knowledge and care experience; promotes inclusion of patients, families and caregivers as part of the learning care team; incentivizes continuous improvement and transparency; offers a culture of learning instilled by leadership (Table 3.1); and supports system competencies through training and feedback loops that include patients, clinicians and communities (Smith et al., 2013). Although the idea of the LHCS has become popular in healthcare organizations, it is not entirely clear how well the concept is understood, how an organization should implement changes to become an LHCS, or

whether there is a business model to make the case for incurring the costs of implementing such changes. Studies that test both the effectiveness of changes made to develop an LHCS and the best approaches to making changes have been proposed as a mechanism to further the LHCS movement (Curran, Bauer, Mittman, Pyne & Stetler, 2012). Learning organization tenets offer a useful framework for studying the relationship between organizational characteristics, quality and equity in healthcare.

3.3.2 Medicaid Accountable Care Organizations

The creation of accountable care organizations (ACOs) represents a relatively recent effort at healthcare reform. Accountable care organizations are partnerships between provider groups (hospitals, practices) and payers (health insurance companies, state-administered programs) in which financial risk is shared. The CMS offered waivers to states to test innovative programs for their Medicaid populations in 2016. Massachusetts and several other states used the waiver to create Medicaid ACOs; 10 states currently have active Medicaid ACOs and an additional 13 have plans to implement them in the near future (Kocot, Dang-Vu, White & McClellan, 2013). Accountable care organizations aim to improve healthcare value (reduce costs and provide higher quality of care) by transforming how care is delivered under the waiver program. This is theoretically accomplished by payers and providers sharing financial risks and being released from some of the constraints of the current fee-for-service payment system. For example, the expansion of team-based care is a key intervention in many new Medicaid ACOs (Perrin et al., 2017). This expansion includes adding community health workers to clinical care teams and creating new multi-disciplinary teams that support patients' transition from hospital to home. The Massachusetts Executive Office of Health and Human Services

also mandated that its new Medicaid ACOs systematically measure and address social determinants of health for its members. Although the impact of social determinants of health on health has been recognized for some time, this mandate, coupled with a requirement that the Medicaid ACOs establish linkages with community partner organizations to address social determinants of health, represents a substantial shift in healthcare policy. This shift represents a unique opportunity for Massachusetts Medicaid ACOs to improve care quality and reduce inequities in care quality. Because many of the newly formed Medicaid ACOs bring different healthcare organizations together, this necessarily changes the way these healthcare organizations function. As new processes are developed for organizing and managing these ACOs, there is an opportunity to incorporate LHCS principles into the new organizational structures.

3.4 Research Questions

The research I conducted for this dissertation reflects my growing interests in how organizational factors influence quality and equity in pediatric healthcare and methods for implementing sustainable change to promote quality and equity at the organizational level.

RQ-1: What is the association between selected organizational strategies and contextual factors and performance on ambulatory pediatric quality measures?

To address this first research question, I used a mixed-methods positive deviance approach to identify organizational strategies and contextual factors common to high-performing pediatric practices (high scores on quality measures), then tested the association between the presence of these strategies and factors and performance on

quality measures in a statewide sample of pediatric practices. Further background and methodological details are found in Chapters 4 and 5.

RQ-2: How do key stakeholders envision the role of community health workers in a new Medicaid ACO; how does the process of implementing workers into a pediatric practice in the ACO facilitate or hinder realization of the vision(s)?

For the second research question, ethnographic methods were used to explore the process of integrating community health workers into a pediatric practice's care team in the context of a newly formed Medicaid ACO. Background and methodological details are found in Chapter 6.

3.4.1 Theoretical Framework

The theoretical frameworks used to study change in complex healthcare systems must take into account the systems' multi-level dynamic nature. The frameworks used in implementation research are particularly well suited for this set of research questions. The research conducted for this dissertation used the Consolidated Framework for Implementation Research (Appendix A) (Damschroder & Hagedorn, 2011) as a theoretical framework for understanding the phenomena observed, and was chosen because of its multi-level nature and extensive use of organizational theory in its development.

The framework was developed to support research regarding the process of translating research into practice. The framework is "meta-theoretical", meaning it was synthesized from existing theories; it does not specify interrelationships or hypotheses but provides a set of theory-based constructs that promote theory development about not only "what works" when implementing an evidence-based intervention in practice, but also where it works and why (Damschroder & Hagedorn, 2011). The Conceptual Model

for Considering the Determinants of Diffusion, Dissemination, and Implementation of Innovations in Health Service Delivery and Organization (Appendix A) (Greenhalgh, Robert, MacFarlane, Bate & Kyriakidou, 2004) was used extensively in development of the Consolidated Framework for Implementation Research. The “Determinants” model’s authors identified 13 research traditions that provided evidence relative to the diffusion of innovations in healthcare. The academic disciplines represented included sociology, organization and management, clinical epidemiology, psychology/social psychology, economics, political science, information and communications technology, marketing, anthropology, systems analysis, and literature. Classic works by Everett Rogers (Rogers, 1962), Coleman, Katz, and Mendel (Coleman, Katz, Menzel, Columbia University & Bureau of Applied Social Research, 1966) and Ronald Burt’s early work on social networks in organizations (Burt, 1992, 2004) that contributed the formative theory and concepts regarding how and why innovations are adopted were used in developing the “Determinants” model and are pertinent to the questions of quality and equity addressed in this dissertation. A Learning Healthcare System identifies evidence-based practices, both clinical and organizational, and implements these practices to provide patient-centered, high quality, high value care. The Consolidated Framework for Implementation Research and its underlying organizational change theories provide a flexible framework for Learning Healthcare Systems to implement evidence-based clinical and organizational practices.

3.4.2 Research Papers

Chapters, 4, 5, and 6 report the results of the research I conducted for this dissertation. The first paper, “Characteristics of High-Performing Primary Care Pediatric

Practices: A Qualitative Study”, reports the results of the in-depth interviews and focus groups conducted with high-performing general pediatric practices in Massachusetts (positive deviants). The second, “Associations Between Organizational Factors and Performance on Pediatric Quality Measures”, reports the results of the statewide survey I conducted to test the association between practice/organizational characteristics identified during interviews and focus groups and performance on quality measures. The third, “Transformation in Transition: Implementation of Pediatric Community Health Workers in a New Medicaid ACO”, explores how the process of implementing community health workers may, or may not, lead to effective integration of the community health workers into care and whether they are likely to realize their potential role in improving healthcare quality and reducing inequities in care.

CHAPTER 4

**CHARACTERISTICS OF HIGH-PERFORMING PEDIATRIC PRIMARY
CARE PRACTICES: A QUALITATIVE STUDY**

4.1 Abstract

Background: Children receive an estimated 46.5% of recommended primary care and children in families with lower socioeconomic and/or racial and ethnic minority status are least likely to receive recommended care. Although the relationship between organizational characteristics and quality of care has been studied for adult populations, less is known about how organizational characteristics impact this pediatric quality of care. Pediatric healthcare generally focuses on preventive care to a greater extent than adult care does, making the goals of care and measures of quality somewhat different. Pediatric care also involved not one, but two or more individuals, also making for different care dynamics. The purpose of this study was to identify organizational strategies and contextual factors (organizational characteristics) that may be associated with high performance on quality measures in pediatric primary care.

Methods: In-depth interviews were conducted with staff and pediatricians (n=35) at 10 purposively selected high-performing pediatric primary care practices in Massachusetts between September 1 and December 31, 2016. Sampling was based on geographic location, practice size, and practice type. A high-performing practice was defined as being in the top quartile of performance on composite clinical quality measures, patient experience measures, or both. Practices of all sizes are held to the same standards of care quality. Interviews were audiotaped and transcribed. Transcripts were analyzed by two

coders using qualitative content analysis techniques. Major themes and subthemes were identified throughout the iterative coding process and interpretation of the data was checked with participants.

Results: We identified four major themes related to the question of which organizational characteristics might be associated with performance on pediatric quality measures:

1) Practice culture; 2) Practice structures and quality improvement tools; 3) Attitudes and beliefs related to approaches to measuring care quality; and 4) Perceived barriers to achieving high performance on quality measures. Although participants did discuss the previously described quality improvement tools, such as use of an electronic health record to create patient registries, they spent more time discussing characteristics related to practice culture, such as high employee engagement, good teamwork, flattened hierarchies, and feeling respected as an employee.

Conclusions: Interviews with staff and pediatricians at high-performing pediatric practices identified both previously described organizational characteristics associated with high performance on quality measures as well as elements of organizational or practice culture. Testing whether these and other characteristics described are associated with high scores in a representative sample is an important next step in determining their relationship to performance.

4.2 Introduction

Although pediatric healthcare quality has been studied for several decades (Fairbrother, Friedman, DuMont & Lobach, 1996; Ferris, Dougherty, Blumenthal & Perrin, 2001; Mangione-Smith & McGlynn, 1998), the extent of the problems with

pediatric primary care quality were revealed in a 2007 landmark study of 12 urban pediatric primary care practices (Mangione-Smith et al., 2007). The authors of this study reviewed the medical records of a representative sample of 1,536 children, finding that less than half of them had received the indicated care. Subsequent research has also revealed both deficits in healthcare quality for children with specific health issues (e.g., asthma, autism, and special healthcare needs) (Eneriz-Wiemer, Sanders, Barr & Mendoza, 2014; Flores et al., 2009; Homer et al., 1996) and inequities in healthcare quality for children in vulnerable populations (e.g., racial/ethnic minorities and limited English proficiency) (Betancourt & Tan-McGrory, 2014; Flores, 2009).

In response to these and other studies, healthcare systems, payers, and policy-makers have attempted to improve pediatric healthcare quality in the ambulatory setting (Chin, Alexander-Young & Burnet, 2009; Coker, Windon, Moreno, Schuster & Chung, 2013). Examples of these efforts include the development of the PCMH model of care (Edwards, Bitton, Hong & Landon, 2014) and the formation of learning collaboratives focused on quality improvement (Devers, Foster & Brach, 2013). While some studies suggest these programs have improved quality of care, others have found little to no effect (Aysola, Bitton, Zaslavsky & Ayanian, 2013; Homer et al., 2008, 2009; Mangione-Smith et al., 2005; Margolis, Peterson & Seid, 2013; McAllister, Cooley, Van Cleave, Boudreau & Kuhlthau, 2013; Young, Glade, Stoddard & Norlin, 2006).

Variation in pediatric healthcare quality has been well described, but there is little empirical evidence to explain why the variation occurs. Organizational characteristics have emerged as a set of potential explanatory factors as to why QI strategies might be effective in one setting but not in others (Kaplan et al., 2010, 2012; McDonald, 2013a). A

study of pediatric primary care practices participating in a medical home learning collaborative found that a culture of continuous improvement, team-based and family-centered care, and care coordination were associated with high scores on the Medical Home Index measure (McAllister et al., 2013). However, little is known about what organizational aspects of care pediatricians and staff believe have the greatest influence on pediatric healthcare quality. People in these roles can speak to experiences and observations in daily practice that may be less visible to someone who is not part of a clinical team or is less familiar with the nuanced differences in how practices operate. We addressed this gap by interviewing key informants at a sample of high-performing pediatric practices in Massachusetts; the goal was to identify characteristics common to high-performing practices, which could then potentially inform future organizational change efforts.

4.3 Methods

4.3.1 Sample

Pediatric primary care practices in Massachusetts with clinical quality and/or patient/parent experience scores equal to or higher than the 75th percentile were identified using 2012 Massachusetts Health Quality Partners (MHQP) data. Massachusetts Health Quality Partners, a non-profit organization dedicated to improving healthcare quality throughout Massachusetts (Massachusetts Health Quality Partners, 2018), calculates practices' clinical quality scores for eight common Healthcare Effectiveness Data and Information Set (HEDIS) measures using administrative data from five of the largest private insurance companies in Massachusetts. Massachusetts Health Quality Partners

also measures patient experience with a 55-item periodic survey that contains elements of the Ambulatory Care Experience Survey and the Consumer Assessment of Healthcare Providers and Systems Survey (Lehrman & Friedberg, 2015) and publishes the results on its website.

Practices must have a sufficient number of patients eligible for a measure to meet MHQP's rigorous score validity criteria, which means that some practices have scores on some measures but not on others. Of the 227 practices with any pediatric data in the data set, 182 (80.2%) had scores for at least four of the eight clinical quality measures. Thus, we developed a composite clinical quality score comprised of four of the eight quality measures. Three of the four clinical quality measures selected were chosen because of the high number of children eligible for the measure compared to other measures: 1) Well visits for children age 0-15 months or 3-5 years; 2) Correct testing for strep throat; and 3) Correct antibiotic use for upper respiratory infections. The fourth quality measure included in the composite clinical quality score for each practice was "medicine use for people with asthma." We identified the proportion of pediatric primary care patients in a large integrated health system were eligible for the remaining quality measures. If a practice did not have sufficient data to have been scored on the asthma measure, one of these measures was included, with the order based on proportion of eligible patients in the test sample : 1) Well visits for adolescents ages 12-21 years; or 2) Follow-up with children starting medicine for attention deficit-hyperactivity; or 3) Chlamydia screening (ages 16-20 years). Further details on clinical quality and patient experience measures are located in the Appendix B. From these quality measures, we defined a composite score as the ratio of the sum of the number of patients receiving appropriate care (numerators) to

the sum of the number of patients eligible for the measure (denominators). Composite clinical quality scores ranged from 0.57 to 0.97, indicating that there was sufficient variation in quality for a designation of “top performer” to be meaningful.

A total of 162 of the 227 (71.4%) practices with pediatric data had patient experience scores. We created a composite patient experience score using a process similar to that used for calculating the composite clinical quality score. The composite patient experience score was determined by the percentage of survey respondents in each practice that gave the practice the highest rating for each of the eight patient experience measures (Appendix B). Practices’ composite patient experience scores ranged from 0.78 to 0.97.

Practices scoring in the 75th percentile or higher on either clinical quality or patient experience scores were purposively recruited, aiming for variation in geographical location in the state (Western, Central, Metro, and Cape and Islands), practice size (number of providers), and organization type (private, multi-specialty organization, academic). We mailed an invitation to the practice contact (practice owner or practice manager if there was no practice owner). After mailing the letters, practices were called to ascertain whether the letters had been received, to provide the practice contact an opportunity to ask questions, and to schedule interviews for interested practices. Practices were offered the choice of a \$100 gift card for the practice or lunch for participants.

4.3.2 Interviews at High-Performing Practices

Each practice contact was asked to name key informants and participants were also asked at the time of the interview whether anyone else in the practice should be interviewed. Interviews were conducted using an interview guide (Appendix C) that had

been pre-tested during interviews with two pediatric practices that provided preliminary data for the grant that ultimately supported this work. The interview guide was mailed or e-mailed to the practice contact in response to feedback provided during pilot-testing, along with a copy of the study fact sheet, one week before the interview. Interview questions were developed using appreciative inquiry principles, a strengths-based form of inquiry used in studies of organizational change (Cooperrider & Srivastava, 1987). For example, the interviewer opened the interviews by asking the participants what they liked best about working in their practice. Interviews were conducted individually or in groups, depending on each practice's preference. Interviews were conducted in person for seven practices and by phone for three others. Interviews lasted between 30 and 90 minutes, were digitally recorded with participants' permission, and transcribed verbatim by a trained transcriptionist; observations made during the interviews were captured in field notes. Informed consent was obtained from participants prior to conducting the interviews; Baystate Medical Center's Institutional Review Board approved the study.

4.3.3 Analysis

Interview data were analyzed using qualitative content analysis principles (Hsieh & Shannon, 2005). This approach is generally used (versus methods such as grounded theory) when some knowledge about the phenomenon in question exists, as is the case for performance on quality measures. A provisional codebook was developed using the first three transcripts. A co-investigator then read three subsequent transcripts and made recommendations for revisions of the provisional codebook. Line coding of transcripts proceeded in an iterative process with the lead author and a research assistant coding each transcript independently, discussing code choices, and using consensus to decide upon

final codes; independent agreement on codes reached 85%. Coding decisions were recorded in an “audit trail”. Major themes and related subthemes were identified in the process of coding and formalized during second-level coding after completion of line coding. Practices were enrolled until theoretical saturation was achieved (no new concepts introduced in three consecutive interviews) (Strauss & Corbin, 1998).

4.4 Results

A total of 35 key informants at 10 practices across Massachusetts were interviewed. Practices were located in each of four major regions of Massachusetts: Western, Central, Metro, and Cape and Islands. Practices ranged in size from two to 23 pediatric healthcare providers and included privately owned, hospital-owned, and multi-site healthcare organizations. Two of the practices were in the top quartile for composite clinical quality scores, four were in the top quartile for composite patient experience scores, and four were in the top quartiles for both composite clinical quality and patient experience scores. Key informants included practice managers and administrators (n=12), nurse managers, medical assistant managers, front-desk managers (n=7), attending physicians (n=13), and a medical home coordinator (n=1); two participants did not provide information about their roles in the practice. Most participants were female (n=28), white (n=31), and ranged in age from 35 to 70 years. While this is generally representative of physicians and managers in small private practices in Massachusetts, perspectives of physicians and staff from minority and racial ethnic groups or those who have less experience providing pediatric care may have offered different perspectives. The number of participants per practice ranged from one to six (Table 4.1). We checked our interpretation of the data by

mailing a summary of our analysis to participating practices and requesting feedback; one participant responded with a clarification regarding the use of scribes.

Four major themes related to performance on clinical quality and patient experience scores were identified: 1) Practice culture; 2) Practice structures and quality improvement tools; 3) Attitudes and beliefs related to approaches to measuring care quality; and 4) Perceived barriers to achieving high performance on quality measures. Although the interview guide included open-ended questions directed specifically at clinical quality or patient experience, participants' responses generally intermingled these concepts and our analysis reflects this observation. Major themes and their associated subthemes are described below with illustrative quotes; additional quotes are located in Table 4.2.

4.4.1 Practice Culture

Participants described good interpersonal relationships amongst team members, provision of patient and family-centered care, and leadership traits as important contributors to their practices' success. Some participants used the term "culture" to describe their work environment.

4.4.1.1 Interpersonal Relationships

Many participants referred to their clinical team as "a family" and felt that this cohesiveness kept staff and clinicians engaged in their jobs. Some felt that engagement in and enjoyment of work had a "trickle-down effect"; participants felt that patients and parents could tell that the staff and physicians enjoyed their work and worked well together, and that this led to better patient experiences.

... We are all family. We all talk to each other like we are family. We work through things when there is problem here, problems at home ... we're one ... [we are] here for each other ... (Female practice manager of a medium-sized private practice in

response to an open-ended question about why they felt their practice performed well on quality measures)

Some participants also discussed how well their practice worked as a team. Most felt that everyone's input was valued, communication between members of the clinical team was excellent, and that there was not a strong hierarchy within their practice.

4.4.1.2 Patient-Centered Care

Participants felt that the people who worked in their practices prided themselves on providing strong patient- and family-centered care. They offered the following examples to demonstrate this element of their practice's culture: Partnering with parents on care, striving for physician-patient continuity, tailoring services to a patient's needs, offering specialty services such as behavioral health on site, taking extra time with families that seem dissatisfied, offering pleasant waiting spaces, having short waits to get appointments, having appointments start on time, offering plentiful close parking, and providing good "customer service", which was understood to mean providing timely care that was respectful of and met a parent or patient's needs.

Participants also described a generally positive approach to work as part of patient-centered care. This included the team's work ethic, careful attention to detail, and positive attitudes.

4.4.1.3 Leadership

The role of leadership in quality of care was a common theme across all of the participating practices. "Leaders" included physicians with and without formal managerial roles and practice/office, nurses, and front-desk staff managers. Some felt that their practice's physicians had an "old-fashioned" approach to care that set a positive tone for the practice: They took their own phone calls, did home visits, and exhibited

high degrees of professionalism. Some staff members felt that their practice's physicians and managers cared about them as a person, their life outside of work, and their professional development. Some participants in leadership positions also felt that caring for staff was important.

... if your employees aren't well taken care of, then you're not going to have the good output and they [the practice owners] do support us and they do treat us very well. ... if you have happy employees, you're going to have a great machine and it runs well ... (Female practice manager of a medium sized private practice in response to prompt regarding the role of leadership in quality of care)

Physicians in many of the participating practices had special skills, such as in the field of information technology. Others held leadership positions related to quality outside of the practice, such as serving on the QI committee at the hospital their practice admitted their patients to or in their physician-hospital organization.

Participants believed that an "open-door policy" and lack of "micro-management" contributed to staff satisfaction and subsequently to higher quality of care, as did flexible scheduling and adequate staffing. One participant commented that her managers made her feel that it was "okay" to admit to making a mistake, which made it easier to address systems-level issues that might have contributed to the error.

4.4.2 Practice Structures and Quality Improvement Tools and Strategies

Participants described practice structures and QI tools and strategies that they felt created an environment conducive to providing high-quality care.

4.4.2.1 Practice Structures

Participants described the impact of practice size (advantages of both smaller and larger), the perceived strengths of a physician-owner/partner model, an office that was designed to be efficient and put providers and staff in close proximity to each other, and

access to both formal (e.g., pediatric research in the outpatient setting and independent physician associations) and informal (e.g., field trips to other practices) social-professional learning networks as important contributors to providing high-quality care.

I ... meet [informally] with local ... large practice administrators on a regular basis ... we consult each other via e-mail quite a bit ... we're able to use our collective knowledge, collective power ... (Female practice manager of a medium-sized private practice)

4.4.2.2 Quality Improvement Tools and Strategies

Participants shared details of QI strategies they used to try to provide the highest quality care. For example, one practice began using “scribes” when they noticed that “face time” with patients had decreased due to new documentation requirements, which in turn decreased satisfaction for both patients and providers. The “scribes” document the details of the visit and retrieve data from the electronic medical record during the visit, allowing the physician to spend more time with patients and families.

So, the plus for the patient [of using scribes] is that they can deal with the doctor directly ... so the patient experience is actually better. The doctor's experience is much better because I can talk to you as a patient and not have to be doing this [mimed typing in the computer]. (Male pediatrician in a medium-sized private practice in response to question about specific initiatives they had taken to improve care quality)

Other practices' strategies included designating a provider and/or a staff member to be the quality “champion” (an individual in the practice who generally has time set aside to specifically work on quality improvement initiatives), using “plan-do-study-act” (PDSA) cycles (Taylor et al., 2014) (a process common to quality improvement in which a problem is identified, a plan to address it made, assessment of the impact of the changes, and then changes made to the plan made in response to this assessment) when they implemented a quality improvement project, and using a suggestion board. A

number of practices had obtained patient-centered medical home recognition or were in the process of doing so and two practices had recently formed family advisory councils. Participants also attributed their practice's high performance to availability of both internal and external training opportunities. One practice's preferred provider organization required all staff to receive patient experience training.

Tools available in the electronic health record (EHR), such as patient registries, intra-staff communication systems, patient-call reminder lists, and automatic "warnings" were all felt to contribute to better quality of care. Participants also discussed the limits of the EHR as a QI tool, noting that it is only as good as the data entered into it.

4.4.3 Attitudes and Beliefs Related to Care Quality

Participants shared their thoughts and opinions regarding the approaches to measuring care quality, including thoughts on the measures themselves, and what it means to provide high-quality care.

4.4.3.1 Approaches to Measuring Care Quality

When asked for their thoughts on approaches to measuring care quality, participants offered both positive and negative perceptions of current approaches to quality measurement. One positive perception was that, although it required a good deal of administrative time to measure, document, and report performance, doing so was worth it if it improved care. Others felt that the care they provided was already high quality and that measuring quality "probably helped lower performing practices" more.

Negative responses to questions about quality measures included that they do not necessarily measure what is most important, it is possible to "game the system," a practice could do the right thing and not get "credit", and that complying with quality

measures sometimes had unintended consequences for patients. Some participants were of the opinion that the measures were too rigid, that they did not allow a provider to consider an individual patient's needs, and that quality measures held them responsible for things that were beyond their control. This speaks to the historical context of quality measurement in healthcare (Chapter 1). Because the practice of measuring quality developed from health insurers' desire to lower costs of care, the metrics are not necessarily perceived as valuable or relevant to patients or providers.

... what I hate the most is ... antibiotics prescribed for URIs [a quality measure] ... because a lot of the time ... they came in for upper respiratory infection ... and we get a culture and we didn't prescribe any antibiotics from the first round. But then, all of a sudden, the culture comes back positive and we prescribe antibiotics two days later. We prescribe antibiotics not for the URI, [but] for the strep. The claim was not revised, she's now [got] streptococcal pharyngitis; the insurance company is going to have a mismatch. (Female practice manager of a medium-sized practice in response to a question of how she felt about quality measures)

This means that even though the pediatrician followed the guidelines and treated the strep pharyngitis appropriately, because the diagnosis came back after the patient had been in the office and the practice did not revise the insurance claim, the billing code did not match what had actually happened clinically and they were penalized.

In the context of discussion quality measures, participants were asked what it meant to them to provide high quality care, recognizing that the quality measures may not capture what they felt was most important. One male physician-practice owner who had started his medium-sized practice more than 35 years previously mused:

Well this is a very difficult question ... about how you measure quality in a field that likes to think it's a science. There's a lot more than we can measure. How do you measure art? (Male pediatrician/practice owner in response to the question "What does high quality care mean to you?")

Participants were asked what high-quality care meant to them, acknowledging that existing clinical quality patient experience measures may not capture everything they feel is important. Responses included the need to provide equitable versus equal care, supporting a child's and family's overall well-being, and the importance of both relational and technical elements of care.

4.4.4 Perceived Challenges to Achieving High Scores on Quality Measures

Some participants described reasons why it can be difficult to perform well on quality measures. These reasons included not having the resources needed to document all that they do, no time to follow up on errors in documentation with insurance companies, and that an action indicated by a quality measure is sometimes not appropriate for a given patient. Some also discussed how the reporting system does not have the flexibility to take into account the realities of actual practice. One of the quality measures practice are held accountable for is not prescribing antibiotics for a throat infection without a throat culture. A nurse at a medium-sized practice agreed that it is important to get a culture, but also described the difficulty one can encounter when trying to obtain a throat culture on a frightened child:

I have to say one of my pet peeves is ... I won't treat your tonsillitis or strep without a throat culture, but ... I'd love to have one of the HEDIS [Healthcare Effectiveness Data and Information Set] people come ... get a throat culture on them. (Laughter) I'll actually give you [the HEDIS person] an hour and I'll give you three support people. You know what I'm talking about.

Participants discussed financial pressures related to quality measurement. Since performance on quality measures has been increasingly tied to reimbursement, some practices felt that they have had to use scarce resources for documenting and reporting of quality measures, but that the process had not improved the quality of care they provided.

One practice owner shared that joining an ACO had prevented her from retiring when she had planned to because of financial losses related to being in the ACO. She reported that even though her practice had done fine on quality performance, the non-pediatric practices in the ACO had not.

[The local insurance companies] have this new deal ... where you share benefit, but you also share risk ... it's not just you, it's a cohort ... so I did everything I needed to, my cohort didn't, and I am going to end up paying [the insurance companies] ... and that is just [unfair]. (Female pediatrician/practice owner of small private practice in a lower income neighborhood).

4.5 Discussion

In this qualitative study of high-performing general pediatric practices in Massachusetts, pediatric providers and staff offered insights into contextual factors and organizational strategies that they felt helped their practices perform well on clinical quality and patient experience measures. Participants reported using tools and strategies that are commonly discussed as being part of QI (e.g., use of EHR-based registries and deployment of PDSA cycles for QI interventions), but when participants were asked open-ended questions about why they thought their practice performed well on quality measures, they were more likely to describe elements of organizational culture and factors associated with employee engagement, such as staff feeling respected and everyone in the practice being part of decision-making (Graffigna, 2017; Simpson, 2009; White, Butterworth & Wells, 2017).

A “learning organization” offers a supportive learning environment, concrete learning processes and practices, and leadership behaviors that reinforce learning and improving (See Chapter 3) (Garvin et al., 2008). These three “building blocks” were similar to the organizational culture and structures described by many participants in the current study,

suggesting that the successful practices we interviewed were “learning organizations.” The concept of a learning organization differs somewhat from the IOM’s “learning healthcare organization”, which places a greater emphasis on the importance of technology in learning cycles (Budrionis & Bellika, 2016). Although organizational culture has been studied fairly extensively in hospital-based care (Dixon-Woods et al., 2014; Macedo et al., 2016), this concept has not been studied as extensively in pediatric primary care. In one of these few studies, King et al. described the impact that a negative culture can have on the implementation of interventions to improve quality in a qualitative study of seven primary care pediatric practices (20 providers and 70 staff members) that had varying success in implementing the Reach Out and Read program (King, Muzaffar & George, 2009). They found that the physicians and staff at sites that struggled to implement the program viewed their jobs as cumbersome, found communication lacking, and were not respectful of patients, whereas those that successfully implemented the program had positive work cultures similar to those described by participants in the current study (King et al., 2009). The findings of the King study and the current study suggest a relationship between employee engagement in their work (Helfrich et al., 2017; Humphries et al., 2014), organizational culture, and quality of pediatric primary care. Finally, the majority of the practices in the study were smaller, privately-owned practices, which was reflective of the types of practices found in the top quartile of performers. This may suggest a need to further explore the relationship between practice type, employee engagement, and quality of care.

In addition to elements of organizational culture, we found that access to informal information channels, such as social-professional networks outside of traditional formal

structured QI resources, may provide an advantage for practices seeking to improve care quality. Participants described learning through casual discussions with friends who had similar jobs in other practices, through informal links to other practices, and by observing other practices. While there is a substantial literature on social networks in large healthcare organizations (Dunn & Westbrook, 2011; Jippes et al., 2010; Meltzer et al., 2010), much less is known about the social networks of small to medium sized primary care pediatric practices. Such future investigations could include studies of the relationship between intra- and interorganizational weak ties and performance on quality measures; organizations that are rich in weak ties may perform better than practices with social networks characterized by predominantly strong ties because of increase diffusion of new strategies to improve quality through weak ties (Granovetter, 1973 & 1983).

The patient centered medical home model was introduced a decade ago as a strategy to revolutionize primary care (Jackson et al., 2013). There was overlap between elements of a patient centered medical home and the characteristics described by the practices participating in the study, some of which had met the National Committee for Quality Assurance's criteria for certification as a PCMH. Although there is no standard definition of a PCMH, four leading primary care physician organizations, including the American Academy of Pediatrics, endorsed a set of patient centered medical home principles, which have been classified as "high touch" (e.g., continuity of care, adequate communication with specialists) and "low touch" (e.g., use of EMR, short wait times for appointments) (Ferrante, Balasubramanian, Hudson & Crabtree, 2010; Jackson et al., 2013). A 2013 review paper found that patient centered medical home certification improved both staff and patient experience, but its effect on quality and outcomes was not as strong (Jackson

et al., 2013). A 2010 study indicated a strong association between the “high touch” principles and receipt of preventive services when compared to the “low touch” principles (Ferrante et al., 2010). Participants in the current study spent more time discussing relational, or “high touch”, factors in response to open-ended questions about why they thought their practice performed well on quality measures.

Participants described some of the problems they saw with both the process of measuring quality and the actual quality measures. Some of their concerns were consistent with other studies of perceptions of quality measures (Goff et al., 2015; Lindenauer et al., 2014) and opinion pieces on the subject (Nehal, Maypole & Sadof, 2018). In a paper describing their practices’ experiences with achieving PCMH Level 3 recognition (the highest level), the authors noted that the PCMH program “makes sense” on paper, but hypothesized that it largely fails to achieve its goals due to three erroneous assumptions: 1) documentation equals actualization; 2) form equals function (e.g., that checking items off on a list equals a functional change in care delivery); and 3) technological capability equals utility (Ho & Antonucci, 2015). These sentiments were echoed by some of the current study’s participants. The concern expressed by a practice owner about the financial impact quality measurement may have on small independent pediatric practices in ACOs due to the shared risk also bears further investigation, as ACOs are increasing in number (Epstein et al., 2014).

4.5.1 Strengths and Limitations

This study’s strengths include use of a unique statewide data set that provided comprehensive validated quality data from the majority of pediatric practices in the state. However, as participants pointed out, there is likely more to providing high-quality care

than performing well on these quality measures. It is also a strength that we included performance on both clinical quality and patient experience measures. Potential limitations include a focus on a single state and reliance on quality data derived from a database of privately insured patients that were collected three years prior to conducting interviews. The practices we interviewed cared for both privately and publicly insured patients, and it would be interesting to see if quality of care varies within a practice based on insurance status, but that is beyond the scope of this study. We allowed practices to determine who participated in the interviews, most participants were either physicians or were in managerial roles, so it is possible that different perceptions may have been offered by different staff members. We also allowed practices to choose whether to hold interviews individually or in groups, in person, or by phone. While this approach was pragmatic and necessary for scheduling interviews, some individuals' perspectives may have been silenced due to power differentials in group interviews. Because participants spoke broadly about quality of care and did not generally differentiate between clinical quality and patient experience scores in their comments, we often could not determine whether comments pertained to one of these constructs or both. Our study design intentionally sought participants' perceptions of "what works", and a larger quantitative study is needed if associations between perceptions and performance are to be assessed. Finally, patient interviews were beyond the scope of this study, but the patient experience data used to identify high-performing practices served as a proxy for patients' perceptions of their practice.

4.5.2 Conclusions

This study offers new insights into the potential relationships between organizational culture, employee engagement, and pediatric quality of care, while also lending support to the potential effectiveness of the use of technology, such as EHR-based patient registries. The study's findings also reveal some of the potential unintended consequences of well-meaning incentives to provide higher-quality care. Although the qualitative methods used in this study preclude drawing generalizable inferences, pediatric practices seeking to improve the quality of care they deliver could consider assessing their organization's work culture and employee engagement. Future research should determine which of the organizational characteristics identified in this study are associated with performance on pediatric quality measures in the primary care setting. This, in turn, may offer practices evidence-based guidance on where to direct their organizational change efforts

CHAPTER 5

ASSOCIATIONS BETWEEN ORGANIZATIONAL CHARACTERISTICS AND PERFORMANCE ON PEDIATRIC QUALITY MEASURES

5.1 Abstract

Background: Despite concerted efforts to improve pediatric healthcare quality in the U.S. over the past several decades, many children still do not receive recommended healthcare. The potential impact of organizational characteristics on healthcare quality has received increasing attention, but little is known about the specific organizational characteristics that impact performance on quality measures in pediatric primary care. This study assessed the relationship between selected organizational characteristics and performance on clinical quality and patient experience measures in primary care pediatric practices in Massachusetts.

Methods: 172 pediatric practices in Massachusetts were surveyed with a 60-item questionnaire designed to determine the presence of selected organizational characteristics. The questionnaire, which contained yes/no, Likert-style, and open-ended response questions was sent to practice managers between December 2017 and February 2018. Analysis of variance (ANOVA) models were used to analyze the association between the organizational characteristics and publicly available clinical quality and patient experience scores; open-ended questions were qualitatively analyzed.

Results: A total of 86 practices responded (50.0%), with 80 (46.5%) having sufficient data to include in the primary analysis. Having a designated quality champion ($p=0.03$); offering co-located specialty services (e.g., behavioral health, social work ($p=0.04$); being a privately-owned practice ($p=0.04$); believing that patients and families feel respected by

the practice's clinicians and staff ($p=0.03$); and having a lower percentage (10% to 25%) of patients in a practice covered by public health insurance ($p=0.04$) were associated with higher clinical quality scores. Being a privately-owned practice ($p=0.0006$) and respondents feeling that they had control over their schedule ($p=0.03$) were associated with higher patient experience scores. Questions regarding perceptions of important contributors to quality and qualitative analysis of open-ended questions demonstrated that adequate staffing and good communication were felt to be important contributors to the quality of care a practice provides. Participants' perceptions of what was important were not always consistent with the organizational characteristics identified.

Conclusions: This study found an association between several potentially modifiable organizational characteristics and higher performance on quality measures. Practices seeking to improve their performance on quality measures may benefit from implementing change in their practice by developing or adopting these characteristics. Taking into account differences in key stakeholders' perceptions of "what works" and what empirically appears to work will be an important factor to consider during implementation.

5.2 Introduction

Quality improvement (QI) has become an integral aspect of pediatric practice over the past several decades; change may be driven, in part, by payers' increasing use of pay-for-performance strategies, which are intended to decrease costs and increase quality (Alshamsan et al., 2010; Baker et al., 2013; Bardach et al., 2013; Casalino et al., 2007; Chien et al., 2014a; Gleeson, Kelleher & Gardner, 2016a; Hearld, Alexander, Shi &

Casalino, 2013; Petersen et al., 2006). The movement to improve quality has included efforts to transform healthcare delivery, such as through patient centered medical home (PCMH) certification (Ferrante et al., 2010), the creation of new pediatric-specific quality measures (Mistry, Chesley, LLanos & Dougherty, 2014), and the development of ACOs (Slonim, 2015). Despite these and other efforts, gaps in pediatric healthcare quality have persisted. Approaches to QI that take multiple levels of healthcare delivery into account (e.g., patient, provider, practice, organization, and policy) and consider how organizational characteristics (organizational strategies and contextual factors) may impact the quality of care the organization provides.

The IOM introduced the concept of learning healthcare systems (LHCS) in 2006 (Medicine & Medicine, 2007). Large integrated healthcare systems across the country have become interested in the concept of the LHCS (Greene, Reid, & Larson 2012) as have some children's hospitals (Britto et al., 2018; Seid, Margolis & Opiari-Arrigan, 2014), but its utility for smaller, independent pediatric ambulatory practices has not been fully explored. Other frameworks for examining the relationship between organizational characteristics exist and may be more pertinent to a diverse range of practice settings. For example, dissemination and implementation theories, conceptual models, and frameworks incorporate contextual factors from multiple levels into efforts to understand both why gaps in quality exist and how to address them (Alexander & Hearld, 2011; Birken et al., 2017; Damschroder et al., 2009; Helfrich et al., 2010; McDonald, 2013b; Nilsen, 2015).

Although there are numerous theories about how organizational characteristics may impact pediatric quality of care, there is little empiric evidence as to which modifiable

organizational characteristics have the greatest impact on care or how dependent the degree of impact is on context. This survey study explored the relationship between selected self-reported organizational characteristics and performance on clinical quality and patient experience measures in pediatric primary care practices in Massachusetts. The goal of the study was to assess the association between these characteristics and performance on quality measures, with the aim of developing evidence-based guidance to pediatric practices seeking to address care quality through organizational change.

5.3 Methods

This study was part of a two-phase positive deviance study, in which high-performing entities are studied to try to determine “what works” to achieve a desired outcome (Figure 5.1). In the first phase of this study, in-depth interviews and focus groups were conducted with key stakeholders at 10 high-performing pediatric practices in Massachusetts. The goal of Phase I was to identify organizational characteristics that might be common to high-performing practices (see Chapter 4). In Phase II, we used the qualitative data from Phase I to develop a questionnaire aimed at determining the presence or absence of selected organizational characteristics in pediatric practices in Massachusetts. We then quantified the relationship between the presence of these factors and a practice’s performance on quality measures.

5.3.1 Questionnaire Development and Administration

Chapter 4 described the qualitative study of high performing practices used to identify candidate organizational characteristics to include in this survey study. These characteristics grouped into six a priori scales that informed the content of the

questionnaire: general organizational strategies; QI-specific organizational strategies; organizational structures; relationships/communication; staffing resources; and QI-specific resources. We took into consideration elements of a LHCS, such as use of technology, when developing questions within the scales.

The questionnaire was pre-tested with a psychometrician and an expert in healthcare quality metrics to assess content and structure appropriateness. In the next phase of pilot testing, I used cognitive interviewing techniques (Subar et al., 1995) with health services researchers with expertise in survey design and ambulatory clinical staff (e.g., clinicians, nurses, and practice managers) to further assess question clarity and completeness of concepts. Finally, both the online and paper versions of the questionnaire were pilot-tested with local primary care internists and practice managers to assess ease of use of the web-based version of the questionnaire and to determine the average length of time it took to complete the questionnaire. A total of 32 people participated in pilot testing.

The questionnaire was comprised of 60 questions (Appendix D); eight yes/no questions regarding a practice's use of specific quality improvement strategies (e.g., presence of a designated quality "champion"); 22 Likert-style questions eliciting the respondents' level of agreement with statements about the characteristics of their practice (Strongly Disagree/Disagree/Agree/Strongly Agree/Don't Know); one open-ended question regarding perceived barriers to providing high-quality care; 12 Likert-style questions asking the respondents' opinion about how much specific organizational characteristics influence quality of care (No Influence; Little Influence; Some Influence; Strong Influence); one question asking the respondent to name three organizational characteristics they felt most impacted quality of care; one open-ended question eliciting

thoughts on other important characteristics not already mentioned; 14 demographic questions; and one open-ended question that elicited additional thoughts on organizational factors and performance on quality measures. Questions were categorized into one of six domains: organizational strategies (general and quality-specific); organizational structures; relationships/communication; resources (staffing and quality-specific); attitudes about quality measures; and efforts to address healthcare inequities.

All pediatric primary care practices with performance data on the MHQP website (see Chapter 4) were eligible to participate in the study (n=172), including those that participated in Phase 1 of the study. These practices included federally qualified community health centers, hospital-owned practices, multi-specialty practice systems, and privately-owned practices. For this study, practices were considered privately owned if they self-identified as such on the questionnaire or if their website did not indicate ownership by a hospital, health maintenance organization, or other externally located administrative center. Practices were located in rural, urban, and suburban settings. If respondents provided services for more than one practice, they were asked to consider one of the practices in their responses.

Massachusetts Health Quality Partners staff partnered with the research team to send e-mail invitations and up to three reminders with a link to the electronic version of the questionnaire to the practices for which they had active e-mail addresses (n=74). The research team sent a paper copy of the questionnaire with the introductory letter to each practice for which MHQP did not have an e-mail address and to practices that did not respond to the initial e-mail invitation from MHQP. The mailed paper copy of the questionnaire included a stamped, addressed return envelope. The letter sent with the

paper version of the questionnaire included a link to the electronic version of the questionnaire and the practice's unique identification number so that respondents could choose to respond electronically if desired. We used survey best practices (Dillman, 2011) to maximize our response rates, which included designing an attractive paper questionnaire; sending up to five reminders after the initial contact; including two e-mail reminders and a paper copy of the survey to e-mail non-respondents; sending a reminder postcard and a second copy of the survey to practices without e-mail addresses; providing an electronic link to the questionnaire in mailed introduction letters; including a \$10 bill with paper questionnaires; and mailing thank you cards with \$10 to the practices that responded electronically to the initial e-mail invitation. REDCap, a secure, web-based data management system (Harris et al., 2009), was used to administer the electronic version of the questionnaire and questionnaire responses returned via paper questionnaire were entered into the REDCap database by a research assistant.

5.3.2 Outcomes

The primary study outcomes were average clinical quality and patient experience scores. Practices' average performance scores were calculated from individual item scores on quality measures extracted from the MHQP website in November 2017. Massachusetts Health Quality Partners classified practices' clinical quality scores into one of four categories of performance and represented practices' scores graphically on their website with circles, similar to the representation used by *Consumer Reports* (full circle+=highest score; empty circle=lowest score). Massachusetts Health Quality Partners derived patient experience scores from a survey they developed and administered. Further details on MHQP's methods for generating clinical quality and patient experience

performance scores are located in Appendix B. Of the responding practices with clinical quality scores on the MHQP website (n=66), the majority (n=61) had four or more of the eight clinical quality items scored, and of the practices with patient experience scores on the MHQP website (n=63), 61 had four or more of the seven patient experience items scored. We assigned 3 points for a score of full circle +; 2 points for a full circle, 1 point for a half circle; and 0 points for an empty circle and calculated average clinical quality and patient experience scores for practices with four or more of each type of score available. Including practices with four or more scores contributing to the average score enabled us to include the majority of the responding practices in the primary analysis while having those included have a similar number measures included.

5.3.3 Quantitative Analysis

Factor structure and score reliability for the six a priori scales were examined: organizational strategies (general and quality-specific); organizational structures; relationships/communication; and resources (staffing and quality-specific) using Cronbach's α , Kendall's Tau-b, and principal components analysis (PCA). Two scales, relationships/communication and resources, were sufficiently related (Cronbach's $\alpha > 0.7$) to be analyzed as composite scale scores.

Analysis of variance (ANOVA) models were used to test the association between predictor variables (organizational characteristics) and the primary outcomes (average clinical quality and patient experience scores). For the composite scales that approached but did not reach significance for an association with clinical quality or patient experience scores ($.05 < p < .20$), we evaluated individual items to determine whether a particular organizational characteristic drove the association. Likert-style questions were

dichotomized into “strongly agree” vs. all other, reflecting response distributions. A practice was considered to have higher than expected average clinical quality/patient experience score with certain organizational characteristic compared to the referent group if the parameter estimate was positive.

Participant characteristics and responses to questions about which organizational characteristics participants felt contributed most to quality of care were described using counts and percentages.

5.3.4 Qualitative Analysis

Questions with open-ended responses elicited participants’ perspectives on: 1) Barriers to providing high quality care; 2) Influences on care quality; and 3) Additional thoughts on factors that impact pediatric healthcare quality. These responses were combined and analyzed for thematic content using qualitative content analysis (Hsieh & Shannon, 2005). A codebook was developed after reading all of the open-ended responses, then codes were assigned to comment excerpts. Codes were then organized into major themes with associated subthemes.

5.4 Results

Responses were received from 86 of the 172 pediatric practices surveyed (50.0%). However, two of the respondents omitted their practice identification numbers so were excluded from the primary analysis. Four of the respondents served as practice managers for two practices, each of which had different quality scores; we reached out to these respondents to find out which practice they had in mind when they responded and analyzed their questionnaire data accordingly. For the two respondents that we could not

reach, a coin flip was used to randomly selected which of their two practices to include in the analysis. This resulted in responses from 80 practices for the primary analysis. Of these, 14 had no clinical quality data available on the MHQP website; of the 66 that did have clinical quality data on the website, 61 had scores for four or more measures. For patient experience scores, 63 practices had data on the MHQP website, and of these, 61 had scores for four or more patient experience measures. The median of participating practices' average quality scores was 1.83 (IQR=1.63 to 2.00) for clinical quality and 1.71 (IQR=1.57 to 1.86) for PE. We found no statistically significant differences between responding and non-responding practices on the following characteristics: Number of providers, median clinical quality scores, median PE scores, median income for the zip code in which the practice was located, and private vs. non-private practice status. We also did not find differences in average practice patient experience or clinical quality scores for respondents compared to non-respondents.

Most respondents were between 46 and 65 years of age (n=48; 63.1%); were practice/office managers (n=58; 74.4%); had worked in their current role for 16 years or more (n=33; 42.3%); and were female (n=66; 85.7%). Half of the responding practices took care of patients at a single site (n=39; 50.0%); most practices had between three and 10 pediatric practitioners (n=51; 65.4%); and nearly one third of practices (n=24; 32.0%) reported that their practice's case-mix included 25.0% to 49.0% of patients with MassHealth (public) health insurance (Table 5.1).

For yes/no questions regarding the presence of general organizational strategies, most respondents (n=67; 83.8%) indicated that their practice was part of a network (e.g., physician-hospital organization), while only a few (n=6; 7.5%) employed scribes (Table

5.2). For yes/no questions regarding the use of specific QI strategies, the majority of practices (n= 65; 81.25%) reported having a process for measuring the impact of changes they made to improve quality, while a minority (n=22; 27.5%) had a parent advisory board.

5.4.1 Primary Outcome Measures

For the practices with sufficient data to calculate an average clinical quality score (n=61), the following organizational characteristics were associated with higher average scores on clinical quality measures ($p < 0.05$): Offering co-located specialty services (e.g., behavioral health, social work) ($p = 0.04$); being a privately-owned practice ($p = 0.04$); having a designated quality champion ($p = 0.03$); and believing that patients and families feel respected by staff and clinicians ($p = 0.03$). Several other organizational strategies and contextual factors approached statistical significance for association with higher clinical quality scores (Table 5.2). Neither use of technology for QI, nor being part of a network, such as a physician-hospital organization were associated with higher clinical quality scores.

The analysis of the association between organizational characteristics and patient experience data revealed that being a privately-owned practice was associated with higher average patient experience scores ($p = 0.0006$). In addition to this finding, the following organizational characteristics approached statistical significance for association with higher patient experience scores: feeling that clinicians and staff communicate well with each other ($p = 0.08$); believing that patients and families feel respected by staff and clinicians ($p = 0.06$); believing that patients and families trust staff and providers ($p = 0.07$); and having adequate nurse staffing ($p = 0.09$) (Table 5.2).

5.4.2 Perceptions of Importance of Selected Organizational Characteristics

All characteristics were listed in the top three factors by at least one respondent. The majority of respondents (n=70; 91%) felt that having adequate staffing had a strong influence on the quality of care provided, while fewer (n=31; 39.7%) felt that patient centered medical home certification had a strong influence. Sixty-six participants (82.5%) named three characteristics that they felt had the most influence on healthcare quality. The two factors most frequently selected as one of a respondent's "top three" were: Having sufficient staffing at all levels (n=43; 65.1%;) and having good communication between clinicians and staff (n=37; 56.0%). The least frequently endorsed factors were: Being a certified patient centered medical home; (n=2; 3.0%); being part of a network that offers resources for quality improvement (n=8; 12.1%); and having a quality champion with time set aside for quality improvement (n=9; 13.6%) (Figure 5.1).

5.4.3 Perceived Barriers and Facilitators to Providing High-Quality Pediatric Care

Twenty-eight participants (35%) provided a total of 51 responses to the survey's three open-ended questions. Some responses included multiple concepts, resulting in 62 coded excerpts. These coded excerpts were categorized into seven major themes related to potential barriers and facilitators to providing high-quality pediatric primary care: 1) Access to care; 2) Communication; 3) Patient-centered Care; 4) Leadership; 5) Electronic Health Record; 6) Patient Behavior; and 7) Structural issues. Each major theme had associated subthemes, as presented in Table 5.3 with representative excerpts from respondents' comments.

Comments about “access to care” occurred most frequently, with 28 coded excerpts relating to this major theme. The “Access to care” theme included the sub-themes of “adequate staffing” and “time”. Perceived barriers to achieving adequate staffing and having sufficient time to provide the highest quality of care included the time it takes to hire staff and credential providers; time spent on administrative issues related to reimbursement from healthcare insurance companies (e.g., prior authorizations); having providers slowed down by the use of an HER; and the negative impact of productivity-based salaries. Patient complexity was also cited as an issue related to time and productivity-based salaries; one respondent felt that there was insufficient time to provide the best care possible to complex patients in a 15-minute appointment. Other sub-themes for Access to Care included a need for Co-located Specialty Services and Evening Appointments. Continuity of care was also described as impacting quality of care, with issues such as patients being seen at freestanding urgent care centers and providers seeing patients at multiple practice sites being put forth as potential barriers to good continuity.

“Communication” and “patient-centered care” were closely related major themes. Good communication between staff and providers, respect, working well together, and having a “lessons learned” and “teachable moment” attitude about mistakes were all felt to contribute to care quality. Systems that do not “talk to each other” were cited as a barrier to good communication. Similarly, “patient-centered care” sub-themes included topics related to communication: Listening to patients, engaging families in care, treating patients like they are part of one’s family, and believing that all parents concerns are legitimate and should be treated as such were all felt to be necessary to provide high-quality care.

Some respondents felt that “leadership characteristics” contributed to the quality of care a practice provides. Subthemes included a leader’s attitude towards change, knowledge of and commitment to QI, willingness to educate staff about QI strategies, and designating a quality champion. One respondent felt that a leader’s antagonistic relationship with insurance companies was a barrier to providing the best quality of care.

The EHR was perceived to be a barrier to providing high-quality of care by some respondents. They commented that they did not feel that the EHR facilitates reporting of performance on quality measures and that the EHR makes clinical care more difficult.

Some respondents felt that “patients’ behavior” could present a barrier to providing high quality of care. Reasons included not having their insurance updated before coming to a visit, not being aware of their insurance responsibilities, and not scheduling or coming in for visits when requested, particularly patients over the age of 18.

Finally, structural issues participants considered to be barriers to providing high-quality care included feeling that pediatric primary care is undervalued and under-resourced compared to specialty care, that the quality measures pediatric practices are required to report on do not align with practices’ quality goals, and that insurance companies do not allow practices to remove patients from their panels who are not part of the practice.

5.5 Discussion

In this survey study of pediatric primary care practices in Massachusetts, we identified organizational characteristics associated with higher performance on both clinical quality and patient experience measures. Some the characteristics identified were

potentially modifiable, such as offering co-located ancillary services (e.g., behavioral health), designating a quality champion, and creating an organizational culture in which staff strongly believe that families and patients feel respected, while others, such as being a privately-owned practice, were not modifiable.

Being a privately-owned practice was the only organizational characteristic that was statistically associated with both high clinical quality and patient experience scores. It is possible that the privately-owned practices in this sample differ from non-privately-owned practices in other ways, such as practice size, patient case-mix, or physicians' behaviors (Chapter 4, Goff et al., manuscript under review). Given the strength of the association and the novelty of the finding, additional studies are warranted.

Perhaps not surprisingly, many of the organizational characteristics associated with or revealing a trend towards a statistically significant association, were related to communication and interpersonal relationships amongst staff and providers. This could manifest itself in having staff who are happy to be at work and who give a maximum effort on supporting patients because of a strong sense of team. Although developing good communication between providers and staff may be a more complex strategy than appointing a quality champion, these characteristics are measurable and modifiable (Scott, Mannion, Davies, & Marshall, 2003). Efforts to develop strong, supportive clinical teams could have a substantial impact on patient/parent experience. Also notable was the finding that practices in which respondents felt they had control over their time had higher patient experience scores. Lack of control over one's time and/or schedule is associated with provider and staff burnout (Linzer et al., 2015) and this finding speaks to the importance of developing a better understanding of burnout and how to address it.

In this study, there was an inverse association between the estimated percentage of patients in the practice with public health insurance, an indicator for lower socioeconomic status, and performance on clinical quality measures. Interestingly, a recent study has demonstrated that publicly insured children were more likely to have had a preventive visit than children with private insurance (Kreider et al., 2016). The difference in these findings may be related to the use of composite scores or other unmeasured factors in the current study. Health care providers have indicated that they feel caring for a lower-income population can result in worse quality scores due to factors beyond providers' control (Goff et al., 2015; Lindenauer et al., 2014). The findings of the current study support this position, but additional research may be needed to determine appropriate adjustment for insurance type in studies of pediatric ambulatory care quality.

Interest in the relationship between organizational characteristics and healthcare quality has been growing, but this interest has been focused more on inpatient adult healthcare than pediatric primary care to date. Pediatric primary care differs from adult care in that the emphasis of the majority of care is on prevention and the focus of care is on the patient-parent(s) dyad rather than an individual patient. These and other differences could in turn influence which organizational characteristics have the greatest impact on healthcare quality in this setting. Because of these differences, frameworks such as the LHCS may not be the best fit for thinking about how organizational characteristics may influence pediatric primary care. The Integrated Determinants of Practice Checklist (TIDC) is a checklist developed by Flottorp et al. that incorporates a number of frameworks and taxonomies of factors that prevent or enable improvements in healthcare professional practice (Flottorp et al., 2013). Although the TIDC is not specific

to pediatrics, six of the seven domains in the checklist (individual health professional factors; patient factors; professional interactions; incentives and resources; capacity for organizational change; and social, political, and legal factors) are consistent with areas identified as associated with quality of care in this study, lending strength to the current study's findings. The TIDC checklist's domains also have some overlap with the LHCS characteristics (Budrionis & Bellika, 2016), but the TIDC offers a broader set of characteristics that may make it more applicable in a wider variety of practice settings, such as ambulatory pediatrics.

Some of the responses to questions about which organizational characteristics respondents felt had the greatest influence on pediatric healthcare quality, as well as comments made in response to open-ended questions, contradicted the empiric findings on which organizational characteristics are most associated with higher performance on quality measures. For example, early studies of the impact of EHRs on quality of care were equivocal or were not associated with improvement (Romano & Stafford, 2011), but a recent review has indicated that when there is a thorough approach to implementation, the use of EHRs is associated with greater efficiency and quality (Campanella et al., 2016). Practices that endorsed the statement regarding frequent use of technology did have higher scores on clinical quality measures in the current study, but a number of respondents commented that they felt that the EHR hindered quality. This raises several important questions: How does implementation of an evidence-based strategy for improving quality of care impact the effect of the strategy and how does skepticism about an intervention's efficacy, regardless of the evidence base, potentially impact its effectiveness?

Endorsement of the statement that the practice's patients feel respected by staff and providers was significant for clinical quality and close to significance for patient experience. Although it is not possible to fully understand the reason for this finding in the present study, one could hypothesize that practices that endorsed this statement may explicitly tend to this element of care, whether through customer-service training for staff, leadership emphasis of this aspect of care, or other cultural elements of the practice. While it is somewhat harder to understand the relationship between this and performance on clinical quality measures, it may speak to a global approach to care quality within a practice.

5.5.1 Strengths and Limitations

Although there was an adequate response rate for the survey, this study's results should be considered in light of its limitations. We purposefully requested that each practice submit one response to the survey, but others in the practice may have offered different perspectives on Likert-style and open-ended response questions. Also, few respondents disagreed or strongly disagreed with Likert-style questions, leaving a limited range of responses. Social desirability bias may have played a role in some survey responses, such as for the question regarding efforts to address healthcare inequities. The publicly reported performance data used for this analysis were not available for all practices, the data reported on the website were collected three years prior to survey administration, and the clinical quality data were derived from private health insurer data alone. Massachusetts Health Quality Partner's publicly reported scores are categorized into four tiers, making it unfeasible to conduct a more granular analysis. We could not reliably describe the strength of the associations between organizational characteristics

and performance on quality measures because of the nature of the data used in the analysis. Finally, the study was underpowered for multivariable analyses.

5.5.2 Conclusions

This study suggests that pediatric primary care practices seeking to improve the quality of care they provide should consider working to bring co-located services to their practice, designating a quality champion (see Chapter 4) and exploring how all elements of the care teams communicate respect to patients and families. Another important finding from this study is that understanding team members' beliefs about "what works" may be as important as what actually does "work." Attitudes toward a behavior, such as changing clinical practice to improve quality, is a determinant of behavioral intention and thus behavioral change (Ajzen, 1991). If a practice intends to make organizational-level changes to improve quality, broadly engaging staff and providers may be critical to bringing about effective and sustainable change.

CHAPTER 6

**TRANSFORMATION IN TRANSITION: IMPLEMENTATION OF
PEDIATRIC COMMUNITY HEALTH WORKERS IN A NEW MEDICAID
ACCOUNTABLE CARE ORGANIZATION**

6.1 Abstract

Background: Massachusetts created 17 new Medicaid accountable care organizations (ACOs) in 2017 through CMS's 1115 Medicaid waiver program. Community health workers are being integrated into many of the new ACOs' primary care practices to support care transformation initiatives. Although community health workers have become more ubiquitous in adult primary care, there is less experience integrating community health workers into pediatric primary care teams. This ethnographic study explored how communication between ACO leaders, healthcare providers, and staff in a new ACO's pediatric health center affected the integration of community health workers.

Methods: Data sources included approximately 50 hours of participant observation during ACO committee meetings, semi-structured interviews, and review of meeting agendas and minutes over the course of nine months. I organized my observations from multiple sources into structured field notes and analyzed them using three constructs from the Consolidated Framework for Implementation Research domains: Process (planning, engaging, reflecting and evaluation), Inner Setting (networks and communication, implementation climate, readiness for implementation), and Outer Setting (patient needs and resources and external policy and incentives).

Observations: Key stakeholders (executive leaders, medical directors, community health workers) expressed a common vision for the community health worker role as liaisons between the community health centers and the community and as healthcare navigators. However, despite leaders' awareness of the need for effective communication systems (Process), the communication challenges observed between the ACO implementation committees and the "on-the-ground" workers hampered the effort to integrate community health workers into the ACO's only pediatric community health center. Specifically, the limited strategic planning around sharing information and reflecting on on-going efforts made course corrections difficult. Issues related to the Inner Setting included no other pediatric practices in the ACO, which limited the community of practice to help solve problems efficiently. Additionally, the pediatric primary care setting struggled to hire a pediatric community health worker supervisor, which made developing an implementation plan difficult. Outer Setting pressures related to finances seemed to redirect community health workers efforts in ways that did not support their integration into the pediatric primary care team and issues of power and bias may have influenced communication both during committee meetings and between committees and the pediatric community health center.

Discussion and Conclusions: Newly formed ACOs require multiple previously independent organizations to function as an integrated organization. This ethnographic-style study illuminated the importance of developing effective cross-organization communication channels in achieving this integration as well as barriers, both potentially modifiable within the ACO, and others that will require larger structural changes to healthcare. Efforts to develop effective and inclusive communication practices and tools

are likely to increase the likelihood of pediatric community health workers realizing their full potential as valued members of the healthcare team in this setting.

6.2 Introduction

Section 1115 of Title XI – General Provisions, Peer Review, and Administrative Simplification of the Social Security Act (SSA) of 1962 gives the federal government the authority to grant states waivers to carry out demonstration projects that are exempt from some of the Centers for Medicare and Medicaid Services’ rules (Centers for Medicare & Medicaid Services (CMS), HHS, 2012). The federal government granted a modest number of Section 1115 waivers between 1965 and 1993, but the number of waivers increased substantially after the Clinton administration adjusted the regulations, making make it easier for states to launch demonstrations (Gusmano & Thompson, 2015). The Centers for Medicare and Medicaid Services granted waivers to six states, including Massachusetts, at the end of 2014 under the Delivery System Reform Incentive Payment program; Delivery System Reform Incentive Payment funds are only disbursed to waiver recipients if they achieve pre-specified levels of performance on both clinical quality metrics and care transformation goals. The metrics, which are determined by the state, focus on system redesign, improvements in clinical care, and population health. The Delivery System Reform Incentive Payment program is aligned with the Institute for Healthcare Improvement’s Triple Aim to “improve care for individual patients, improve population health, and reduce per capita costs for care of populations” by transforming care delivery (Berwick et al., 2008); the program tests whether costs are reduced and care is improved by holding ACOs financially accountable for the value of the care they

delivered, with value defined as lower cost and higher quality. Each state had flexibility in how they designed their demonstration projects. For example, Texas and New York opted to organize their initial demonstration projects around regional networks, while New Jersey and Massachusetts organized their initial demonstration projects around hospitals (Gusmano & Thompson, 2015). The Delivery System Reform Incentive Payment program was renewed for five years for the original six states and expanded to include other states in 2017. Massachusetts used its waiver extension to create 17 new accountable care organizations (ACOs), each of which went “live” March 1, 2018 after one year of planning activities.

One of the ways the Massachusetts Medicaid ACOs are seeking to transform care is to integrate community health workers into their primary care practices. Community health workers have been part of the U.S. healthcare landscape for more than 50 years (Rosenthal et al., 2010), but language in the 2010 Patient Protection and Affordable Care Act brought renewed interest in integrating community health workers into interdisciplinary healthcare teams (Shah, Heisler & Davis, 2014). The American Public Health Association Community Health Worker Section defines the role of a community health worker as: “a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range

of activities such as outreach, community education, informal counseling, social support and advocacy” (Wennerstrom & Rush, 2016).

There is growing evidence that community health workers are at least as effective as nurses and other care team members at providing support for chronic disease management and that their presence on a care team may be cost-saving because community health workers are able to help patients better manage their chronic disease, which then results in fewer emergency department visits and preventable hospitalizations (Fedder, Chang, Curry & Nichols, 2003; Felix, Mays, Stewart, Cottoms & Olson, 2011; Kangovi et al., 2014; Kim et al., 2016; Raphael, Rueda, Lion & Giordano, 2013).

Community health workers’ success has been linked to the process by which they are integrated into interdisciplinary teams (Allen, Brownstein, Jayapaul-Philip, Matos & Mirambeau, 2015; Allen, Escoffery, Satsangi & Brownstein, 2015; Hynes, Buscemi, Quintiliani & Society of Behavioral Medicine Health Policy Committee, 2015; Islam et al., 2015). Successful processes include: educating healthcare staff, administrators, and payers about community health workers and their roles early and throughout the implementation process; helping community health workers to form relationships and build trust; having a program champion during the integration process; including community health workers in building institutional practices; and giving community health workers access to the electronic health record to facilitate communication with the care team (Allen, Brownstein, Jayapaul-Philip, Matos & Mirambeau, 2015). Some of these elements link to organizational theory regarding development of a shared vision (Senge 1990). In a mixed-methods study of community health workers, 265 community health workers were surveyed and 23 were interviewed in an effort to better understand

perceived opportunities and challenges to their integration into teams (Allen et al., 2015). The community health workers who participated in the study endorsed team meetings, training inside and outside the organization, access to electronic health records, and staying connected to the community outside the organization as important for integration. A position statement by the Society of Behavioral Medicine that supported integration of community health workers into patient centered medical homes offered three consensus-based recommendations for integration: 1) Establish standards that ensure high-quality community health worker programs and a skilled community health worker workforce; 2) Clearly define roles for community health workers; and 3) Expand the scope of reimbursable prevention and primary services to include those provided by community health workers (Hynes et al., 2015). Because community health workers have not been as commonly used in pediatric care, the additional considerations for integrating them within care teams is not yet known. This study provides some perspectives to understand the unique challenges and potential benefits in this care context.

This study focuses on implementation: the process by which a change in healthcare delivery is integrated into clinical practice has important ramifications for the uptake, effectiveness, and sustainability of the change (Brownson, Colditz, & Proctor, 2012). Here, data collection and analysis focus on the planning and early implementation of a new initiative aimed at integrating community health workers into a pediatric community health center. This study investigates how planning for the integration of community health workers into an ACO's only pediatric community health center shaped early integration of the community health workers into one pediatric community health center. Although many factors can impact the planning process, this study focused on the ways

in which the ACO's leadership committees, which were overseeing all aspects of change across five community health centers, envisioned and communicated the roles and responsibilities of the pediatric community health workers and how the ACO's pediatric community health center experienced the planning and integration of the community health workers into their clinical care team.

6.3 Methods

This ethnographic-style study used an extended case method approach, a method that “deploys participant observation to locate everyday life in its extra-local and historical context. The extended case method emulates a reflexive [interpretive] model of science that takes as its premise the intersubjectivity of scientist and subject of study ...” (Burawoy, 1998, p. 4). The extended case method seeks to learn about the “general” from the “unique” and to connect local phenomena to broader sociocultural phenomena (Burawoy, 1998). It would be nearly impossible to understand what was “going on” in the new ACO without locating it in the web of existing health policy and healthcare delivery systems because these entities can have a marked influence on the decisions and actions undertaken by those responsible for delivering care to patients.

The study was approved by the investigator's institutional review board as part of a larger ethnographic study of healthcare quality. ACO leaders gave permission to conduct participant observations during ACO committee meetings and interviewees provided verbal informed consent prior to their interviews. Potentially identifying details have been omitted from the manuscript and gender-neutral pronouns used where necessary to protect the privacy of those observed.

The extended case method builds theory based on pre-existing theory. For this study, organizational theory embedded in the Consolidated Framework for Implementation Research (see Chapter 3) served as a scaffold for organizing and understanding the planning processes observed (Damschroder et al., 2009). The framework encompasses five domains that “... provide[s] a pragmatic organization of constructs upon which theories hypothesizing specific mechanisms of change and interactions can be developed and tested empirically” (Damschroder et al., 2009). Recommendations for effective use of the framework include explicitly justifying the selection of constructs used in the study, integrating the framework throughout the research process (e.g., study design, data collection, and analysis), and using the framework in a manner appropriate to the phase of the implementation or integration (Kirk et al., 2016). The ethnographic-style approach taken in the current study is relatively unique for this type of implementation study in healthcare, but the Consolidated Framework for Implementation Research has been used previously to assess the organizational processes for integrating changes in care delivery, similar to the current study (Breimaier, Heckemann, Halfens, & Lohrmann, 2015; Forman et al., 2014; Shaw, Sidhu, Kearney, Keeber, & McKay, 2013; Zulman et al., 2014). Few implementation frameworks meet the needs of a given study and it is common to combine elements of different frameworks. Although the Consolidated Framework for implementation Research was designed to be flexible, some investigators have found it to be relatively underdeveloped for use in multi-level complex systems where elements of context vary with time, location, and organizational unit (Rojas Smith, Ashok, Morss Dy, Wines, & Teixeira-Poit, 2014). This potential limitation of the framework was addressed in the current study, in part, by limiting the current study’s

primary focus to communication between ACO committees and the ACO's pediatric community health center about planning the integration of community health workers into the community health center.

The study ACO was created by forming a new partnership between a large integrated healthcare system's community health centers, an independent federally qualified health center located in the same city as the other health centers, and a local health insurance company. The community health centers' patients generally have limited financial resources and are predominantly people of color. Only one of the health centers in the ACO provides healthcare solely for children and adolescents. Each of the partnering organizations was represented on an ACO committee that has decision-making capacity for the ACO; four committees and five subcommittees sit under this decision-making committee in the ACO's organizational structure.

Data sources used for the study included participant observations, in-depth interviews, and review of ACO committee meeting agendas and minutes. Participant observations and interviews took place over a nine-month time frame that included five months prior to and four months following the ACO's "go-live" date. The majority of the estimated 48 hours of formal participant observation took place during twice-monthly meetings of two of the ACO's committees (Table 6.1). These two committees (Committee A and Committee B) were selected for observation because their charters included objectives aligned with this study's research questions. Committee A was tasked with establishing principles of care delivery, working with Committee B to identify and address barriers to successful care delivery, engaging in continuous process improvement, and attending to financial and quality goals. Committee B was tasked with

identifying and addressing barriers to successful care delivery, using data to develop and assess care delivery innovations, implementing changes in care delivery recommended by other committees, and working with the community health centers' practice transformation coaches to implement changes based on principles of care delivery (Appendix E).

Although committee membership fluctuated somewhat over the course of the study, Committee A included 10 standing members: ACO leaders and administrative personnel, department chairs or their designees from departments with faculty in the community health centers, chief medical officers, other high-level clinical administrators from the departments of medicine and pediatrics in the large integrated healthcare system, and biostatistics/research representatives. Committee B was comprised of 15 standing members at its inception and as many as 25 regular attendees at the end of the observation period: ACO leaders and administrative personnel, medical directors of the community health centers, and practice transformation coaches from each of the community health centers. In addition to observations of committee meetings, serendipitous observations and conversations in both work and social settings were included in the analysis.

Extensive handwritten notes were taken during ACO committee meetings as well as during or shortly after observations made outside of the committee meetings. These notes were used to generate field notes, which were organized into three columns: observations, reflexivity, and analysis (Emerson, Fretz & Shaw, 1995). The observations section of the field notes included primarily what was seen and heard during an observation period or during an interaction; some initial interpretations were also included in this part of the

field notes. The reflexive column included both reflexivity occurring at the time of the observation or interview as well as reflexive considerations that emerged during later reflection and reading of field notes. The analysis column included both immediate links to the theoretical frameworks and connections from the observations to more general phenomena. Iterative thematic analysis was used to analyze both the field notes and the interviews; the Consolidated Framework for implementation Research was used as a guide to focus observations and interpretations. Because observations took place largely before the ACO's start date, and interviews took place in the first several months following the ACO's start, the following Consolidated Framework constructs and domains were focused upon in the analysis: process (planning, engaging, reflecting and evaluation), inner setting (networks and communication, implementation climate, readiness for implementation), and outer setting (patient needs and resources and external policy and incentives). Communication between ACO committees and the providers and staff in the pediatric community health center was the primary focus within these constructs.

In-depth interviews were conducted with six key informants, who were selected because their role in the ACO included planning for integration of community health workers in the pediatric practice in some way. Key informants included ACO leaders, community health workers, clinical staff in the pediatric community health center, the community health worker implementation team, and others involved in the community health worker integration activities. Although additional individuals could have been interviewed, the focus of the study was the observations, and interviews were directed at attempting to both better understand what was observed in meetings and to understand

the experiences of those closely related to planning for and actual integrations outside of the meetings. The pediatric community health center was chosen as the focal clinical site for this study both because it had the least experience with community health workers and because of questions that have arisen about different needs of pediatric and adult populations in the context of an ACO. Interviews were conducted in person in private spaces, recorded when permission was provided by the interviewee, and professionally transcribed when a recording was available (n=4). Interview data were incorporated into the overall thematic analysis.

Agendas and minutes of both committees were reviewed to confirm when planning for community health worker integration had been discussed, whether action items related to community health worker integration were generated and if they were, whether there was follow-up on the action items. I also reviewed the notes to show whether there were efforts to develop communication processes or channels for outputs from ACO committee meeting discussions and decisions to reach the pediatric community health center providers and staff. Agendas and minutes also filled in informational gaps for the committee meetings not observed. I integrated findings from the document review my overall understanding of how communication between the ACO committees and the pediatric community health center may have impacted planning and early integration of the community health workers into the pediatric community health center's care team.

Intersubjectivity was taken into account in the analysis. The definition of intersubjectivity depends, in part, upon the context in which the term is used. For this study, intersubjectivity refers to the ontological perspective that interpretation of the phenomena observed depends on historical, social, and cultural context and that the

researcher's positionality informs how they make sense of the data (Burawoy, 1998). Reflexivity is an important aspect of intersubjectivity because it offers insight into some of the lenses through which a researcher's understanding of what she observes is developed. For example, as a clinician-investigator in the ACO's large integrated healthcare system for 10 years, a former internal medicine-pediatrics resident at the system's flagship hospital nearly 20 years ago, and a clinician in one of the ACO's community health centers, I was able to access the people and spaces that I felt might be important for addressing this study's research questions. Although I only asked permission to observe the committee meetings, I was invited to become a member of both, perhaps because of my role as a physician in one of the ACO's health centers and my prior research on healthcare delivery. My embeddedness in the healthcare system also meant both that I had existing relationships, including friendships, with some of the people on the ACO committees and in the pediatric community health center and that my closeness to the subject matter likely prevented me from noticing potentially important interactions and silences. Nearly my entire clinical career has been spent practicing primary care in community health centers, which I believe has made me skeptical that the current system of healthcare can fully meet the needs of marginalized populations. In addition to my organizational embeddedness, I also grew up approximately five miles from the large integrated healthcare system's flagship hospital and several of my family members continue to live nearby. This meant that my roots in the area are not only those of a physician-investigator, but also the roots of a community member; this extended embeddedness meant that that I may have had preconceived notions, conscious or subconscious, about the community served by the ACO. Furthermore, although I grew up

in a family with limited financial resources, as a white female with more than a dozen years of post-secondary school education and current financial stability, I do not believe that I can fully understand the lived experience and needs, material and otherwise, of the pediatric community health center's patients and their families.

6.4 Observations

The observations described in the sections that follow arose from the analysis described in the methods section. The first section (6.4.1), ACO Committees' Organizational Structures and Group Dynamics, presents findings on committee members' roles in their respective organization and elements of group dynamics as they related to communication within the committees. The second section (6.4.2), Integration of the Pediatric Community Health Workers, presents findings on the vision of the community health workers role across ACO organizational levels and my understanding of the integration process based on my observations and interviews. The third section (6.4.3), The Impact of Healthcare Finance on Community Health Worker Integration, presents findings from my observations and insights related to how the need of ACO leaders to be responsive to financial concerns may have influenced community health worker integration. The last section (6.4), Pediatric Community Health Workers' Experiences with Planning and Integration, brings the voices of the community health workers into my understanding of the process and the impact it had on the early phase of pediatric community health worker integration.

Transformation of care delivery is an ongoing, iterative process, and what I observed in the seven months in which this study was conducted will undoubtedly look different

three, six, twelve, and sixty months from when the study was completed. However, the decisions, actions, and inactions of these early stages of such a process can arguably have a long-lasting impact on the ultimate success of the change in care delivery as described by imprinting theory (Stinchcombe, 1965).

6.4.1 ACO Committees' Organizational Structures and Group Dynamics

The ACO's leaders selected committee members and made periodic revisions to committee membership in response to identified needs for additional representation. The ACO's leaders set the agendas and led the meetings for both committees. Committee A's 10 members included five women (including this investigator, one of the ACO's leaders, and an ACO administrative support person); two of Committee A's members were people of color. Committee A members' professional roles were at similarly high levels in their organizations' hierarchies, with the exception of this investigator and the ACO's administrative support person. This professional hierarchy may have contributed to an environment in which committee members felt comfortable speaking and sharing thoughts and critiques during meetings, as appeared to be the case in meetings observed. Although Committee A had started with 10 committee members at its first meeting, the number of members had grown to 25 by the end of this study. The committee members listed on the agenda for the last meeting observed for this study included ACO leaders, an ACO administrative support person, the community health centers' medical directors, the community health centers' practice transformation coaches (individuals selected by medical directors to help guide providers and staff in deciding upon and implementing changes in care delivery as part of the ACO's "Care transformation" agenda), high level practice administrators for the community health centers, and other community health

center care team members. Nineteen of the committee members were female and eight were people of color. Although many factors can affect group dynamics and communication, gender and racial composition of the committees was noted because of known potential impact of these characteristics on group function, such as heterogeneous groups rating their group as less effective than homogeneous teams (Baugh & Graen, 1997).

Agendas and minutes were available for eight of Committee A's meetings; nine agendas and seven minutes were available for Committee B's meetings. Committee A's agendas included topics related to community health workers in the five months preceding the ACO's "go live" date. Community health workers did not appear on agendas for second committee's meetings. "ACO communication" was an agenda item for one of Committee A's meetings held soon after the "go-live" date. Pediatric-specific topics did not appear on either committee's agendas. The timing of key agenda items is shown in a study timeline Figure 6.2. Committee B focused primarily on the process of implementing changes in care delivery in the community health centers while Committee A's agendas had financial topics on six out of the eight agendas available, a finding consistent with the objectives listed in the committees' charters (Appendix E).

6.4.1.1 Communication During Committee Meetings: Gender, Race and Power

A group's gender and racial composition, as well as formal and informal forms of power can also influence group dynamics and communication (Raven, 1992). Members of the Committee B were both more racially and ethnically diverse than Committee A and had more diverse formal roles in their respective organizations and health centers. Healthcare organizations tend to have rigid hierarchies (Edmondson, 2004) with levels of

power established during education and training (Lempp, 2004). The following paragraph shows evidence for barriers to open communication during Committee B's meetings that appeared to be related to both to role and race/ethnicity. These potential barriers were noted despite observed efforts on the part of those with greater power by virtue of their role in the ACO's hierarchical structure to mitigate the silencing potential of power dynamics.

“Legitimate” power is a form of power based on role alone and “expert” power is related to experience and perceptions of knowledge differentials (Raven, 1992). Evidence that these, and possibly other forms of power may have been inhibiting open communication during Committee B's meetings stemmed from both meeting observations and side conversations with ACO providers who were also committee members. Several months into the planning phase of the ACO, health center leaders were invited to present examples of small innovations in care delivery they were trying out in their health center. One health center team chose to present work they were doing on care management for children with complex health needs. A white female physician, highly regarded for her compassion, thoughtfulness, and dedication by parents, staff, and colleagues alike, introduced the black female experienced and similarly respected nurse she worked with on this change, praising the nurse's work and presenting her as the most knowledgeable person about their innovation. The nurse appeared nervous and made a number of apologetic statements during her brief presentation, such as for not having made as much progress on the innovation as she would have hoped. She stated multiple times during her presentation, “Dr. X can jump in at any time,” to which Dr. X would respond encouragingly, “You are doing great, Y (first name).” This interaction suggests

the longstanding power differentials between doctors and nurses, regardless of gender, persist, despite increasing efforts on the part of many primary care physicians in the in past several decades to emphasize the concept of team-based care which every team member has a voice and is recognized for their expertise. Because there are so few racial and ethnic minorities in the role of doctor, largely due to historical and ongoing racial injustices (see Chapter 1), it is difficult in this and many cases to separate race and role in a hierarchy when considering the potential impact of these positions on power and communication in a group. Although Committee B was racially and ethnically diverse in composition, the majority of the people of color serving on the committee were in roles in their health centers that were lower paid and would be considered lower status in an organizational hierarchy. These committee members did contribute to discussions, but generally less frequently than committee members who were higher in the hierarchy. It was interesting to note that one of the health center medical directors was male and an ethnic minority, but did not attend the committee meetings, sending a white female physician representative instead. Partway through the study a black male high-level administrator of one of the organizations was given a leadership role in the ACO, but also did not attend either of the committee meetings I observed. Although it is difficult to know what these absences might mean, I could not help but wonder if their presence might have increased participation by those with less “legitimate” or perceived “expert” power.

During one of Committee B’s meetings that took place after the ACO’s “go-live date” the committee was brainstorming how to get a time-sensitive, state mandated screening task completed, one of the ACO leaders reported that he had decided to hire college

students, preferably from the community, for the summer to conduct the sensitive screenings. I raised my hand and asked how students would be recruited, trained, and supported, expressed some concern about the appropriateness of having students collect sensitive personal and social data, and asked how we could be assured that patients would feel comfortable disclosing these data to students. An ACO leader responded that, at that time, there were no specific plans for recruitment from the community and plans for training were in process. Demographic information on the students ultimately recruited was not available to me. After the ACO leader's response to my questions, a physician's assistant, who rarely spoke at these meetings, raised their hand and said, "I wasn't going to say anything, but..." and went on to express concerns as well. I wondered, most likely due to my time spent working with disadvantaged populations in community health centers, whether using college students with limited training to conduct sensitive social needs screens for a summer would have been as acceptable in an affluent upper-middle class, predominantly white community. While not possible to know the answer to this question, reflecting on the potential role race and class play in a debated choice such as this can lead to deeper exploration of the debate and the decision.

Committee members shared frustrations with what they felt was a lack of communication about what exactly they were supposed to be doing to transform care outside of the committee meetings in side conversations with me; these frustrations were not expressed during meetings. It is important to note that this evidence of inhibited communication during committee meetings took place despite an ACO leader making statements that during multiple meetings that should, theoretically, have diminished the silencing effect power might have on communication. For example, an ACO leader stated

that they felt that the only way the ACO experiment could work was for the expertise of all providers, staff, and administrators be valued and brought to bear on figuring out how to transform care delivery. This leader also expressed their fallibility and reiterated a need for collective effort not only to execute plans the ACO leaders developed for reducing costs and improving quality, but also to suggest innovative changes in care that could be tested in the health centers. While these statements could have encouraged participation, their effectiveness may also have been diminished by other factors. In the course of meetings, even though openness to ideas was stated, it might have been difficult for committee members who perceived themselves to be in a lesser position of power to contribute without explicit processes put in place, such as turn-taking, which were not observed. Historical mistrust of the administration by some physicians and staff in the community health centers also may have played a role. Awareness of this mistrust stems from my positionality as a clinician in the community health centers, where some providers believe that the health centers are not as high of a priority as elements of the healthcare system that generate more revenue. One ACO leader shared her awareness of this history and also shared that they were unsure how to get past it in the context of the ACO.

6.4.1.2 Communication Between Committees and Between Committees and the Pediatric Community Health Center

The ACO's leaders and administrative personnel attempted to create effective and efficient channels for communication between the ACO committees, a critical need if the health centers' leaders were to be aware of all of the work that was going on to prepare for the "go-live" date and for ACO development beyond that date. To address this need, a

shared drive was created soon after the ACO's committees started to meet. Committee leaders were expected to post their charters, agendas, minutes, work plans, and other documents considered important to share across committees. However, the folders in the drive remained sparsely populated several months after the "go-live" date and there was often a delay between a meeting and when the agendas and minutes that were uploaded. When an ACO administrator checked in with Committee B about use of the shared drive, they learned that no one on Committee B was using it. Some members reported that they were not accustomed to using shared drives, some felt that they didn't use the drive because logging onto it was outside of their usual communication flows, and some felt that they didn't have time to check on what the other committees were working on. The shared drive was not available to community health center providers and staff, so it was not available as a channel for sharing information other than with committee members. Both the first and second committees discussed the need for a mechanism to communicate not only between committees, but also across the ACO's community health centers and with other partners in the ACO. A listserv or an ACO newsletter were suggested, but administrative support personnel's time was filled with higher priority needs; no new communication channels had been developed by the time this study ended.

Medical directors and practice transformation coaches were expected to communicate the items discussed during Committee B's meetings to the providers and staff in their health centers and to bring information and issues from the community health centers back to Committee B. The practice transformation coaches were given a small amount of release time from clinical responsibilities, but no additional training or guidance was provided. Coaches, who were chosen by the medical directors, included physicians,

physician's assistants, nurses, and practice supervisors. While meeting with one of the ACO's leaders, I asked whether they felt the providers and staff in the community health centers had a good understanding of the goals of the ACO and how to achieve these goals. They responded with a sigh, "I feel like what's up here [what is discussed at committee meetings] (waving right hand by the side of their head) is not trickling down to here [the community health center staff and providers] (waving left hand near their hip)." Although the ACO's leaders tried to empower the community health centers to take the lead on transforming care delivery, it appeared that the community health center's providers and staff felt that they needed more time, guidance, and perhaps training to take advantage of the opportunity offered. This scenario could be viewed as analogous to the problem of capabilities and health in the U.S. (See Chapter 3). Without enabling structures to fully take advantage of the opportunity to innovate and help create change in care delivery, the community health centers were not able to fully realize this potential.

6.4.2 Integration of the Pediatric Community Health Workers

6.4.2.1 A Shared Vision

Chapter 3 described the importance of building a shared vision in a learning organization (Senge, 1990). Although Senge's theory is limited by lack of specificity and lack of guidance on how to practice the five disciplines of a learning organization (See Chapter 3), developing a shared vision can help to achieve an organizational goal (Senge, 1990). Comments made during ACO committee meetings about integrating community health workers into the community health centers' care teams were almost universally positive. The few concerns expressed were related to ensuring adequate training and supervision for the community health workers and the importance of role

definition. Concern about community health workers being asked to do “whatever work needed doing” because “people don’t necessarily know what they do” was expressed by one committee member. Although I was not aware of any meetings at which vision was purposefully discussed, when the topic of community health workers was discussed during Committee B’s meetings, semi-structured interviews, and side conversations, the vision for the community health workers’ role was similar to the American Public Health Association’s definition of a community health worker (see Introduction).

ACO leaders supported planning for and integration of community health workers in several ways. They hired a team from one of the health centers who had experience integrating community health workers in their health center as part of an adult chronic disease management program to support the other health centers in their hiring and integration processes. The team included people with different hierarchical roles in their health center and who were from an ethnic minority group. The majority of one of the earliest meetings of the ACO’s second committee was devoted to the consultants sharing their experience with developing their program and eliciting other community health centers’ experiences working with community health workers or with team members in a similar role. The consultants began to develop a shared understand of the role during this meeting, explaining that the community health workers would be non-clinical team members who could serve as linguistic and cultural bridges between the community health center, the patient living in the community, and community-based services and resources. In addition to the vision expressed during this meeting, the consultants also described their visions of the community health worker role during interviews. For example, one of the consultants contrasted the role of a community health worker with

that of a case manager, noting that the roles are sometimes thought to be the same. They stated that part of their job as a consultant was to educate the community health centers about the differences between these team members' roles, specifically that case managers take care of coordinating clinical care, such as communication with health care providers and social services outside of the health center, while the community health workers spent more time doing direct contact with patients, such as accompanying them to specialist appointment if they needed help with interpretation or other support. Another consultant described the community health workers' role as follows: "The CHW [community health worker] is mobile and likely going to be spending much more time in the field in peoples' homes and community environments to help facilitate linkages... accompany a person on a bus to get to a new appointment, walk them up to the third floor so that they know where they're going the first time if that's a challenge ... they are looking to make the clinical community linkages."

The pediatric community health workers similarly envisioned their role as providing a link not only between the pediatric community health center and the community, but also as a link between the doctor and the patient. In response to a question about how they envisioned their role, one community health worker responded during an interview, "I envision it [the community health worker] to be the link between the community and the office ... You know, because there's a lot of things ... the doctors say ... I always hear in meetings ... they [the doctors] can't do the Ps and Qs ... I hope we can ... go in and help families become better families." This quote illustrates this community health worker's awareness both of the lack of time a doctor has during a visit, perhaps because of reasons described in the prior section, to attend to the small, to attend to the seemingly small but

important details of the visit, “the Ps and Qs.” This also demonstrates the greater awareness the community health worker may have of what is likely to either be miscommunicated or not addressed. The comments suggest not a criticism of the doctor necessarily, but more of a recognition of the way that healthcare is currently practiced requires a team and that the community health workers bring important knowledge and skills to that team. Another community health worker who was present at this joint interview, and who had earlier in the discussion had explained that they wanted to be able to connect families to social support resources that were in the community but that community members didn’t always know about, echoed the other community health worker’s sentiment with the comment, “That’s something ... I look forward to as well ... to go out there and see the community and help those families that are in need and see ... the resources that we ... give to those families, that they actually work, and they keep up with it and take advantage of it.” The pediatric community health workers also envisioned their role as helping families interpret, understand, and follow through on medical recommendations: “Physicians are always pushing ... the child needs to go to therapy, the parent needs to be in therapy, but some of the families are so far from stable enough to go to therapy and making use of the tools. Like it’s like trying to tell somebody how to budget and they have no money. Working with families like that would be a real gift.” This quote suggests that this community health worker feels that, although the “evidence-based” guidelines for how to treat an illness are important, it doesn’t make sense for them to tell a family they need to take an action that often requires multiple steps, perseverance, and often assertiveness to follow-through without understanding how the context of their life impacts their capacity to do so.

The regular failure to consider a family's capacity offers further evidence of the pervasive influence of neoliberalism on healthcare (See Chapter 1). This also demonstrates the difference between having opportunity (e.g., the physician referred them for help from a therapist) and capability, a critical difference in Sen's Capability's Approach (See Chapter 3). The provider is likely recommending therapy as part of "evidence-based" care for a diagnosis, which there may be a quality metric attached to. The provider is not likely to have time to find out if the family can actually take the many steps needed to get to therapy because of the need to see a large number of patients for the institution to meet its bottom line. There is also no time to explore how therapy fits within their cultural frame of reference or the meaning ascribed to mental health issues. This community health worker not only recognizes the need for these things to happen for a child to have the capability for a healthy life (See Chapter 3) but is excited to provide that important element of care that a beleaguered and perhaps even unaware doctor may not.

6.4.2.2 Planning for Community Health Worker Integration: Committee Work

Developing a shared a vision for the role of the community health workers is important to bring about change, but developing a shared vision alone is insufficient for making reality consistent with the vision. Creating a coherent plan for onboarding and integrating the community health workers in way that is consistent with that vision is critical for ultimately making the shared vision a reality.

This section focuses on the three committee meetings I observed at which community health workers were discussed. There was a community health worker update on the agenda for one additional meeting, but no minutes were available. As described briefly

earlier in this section, the community health worker implementation consultant team asked committee members to describe staff already at their health centers who had a role similar to that of a community health worker. The adult-only and mixed age community health centers all had either direct experience working with community health workers or had care team members who performed a function similar to that of a community health worker. Although the pediatric community health center had had a community health worker in the practice in the past as part of a grant-funded program to assist families with children with special healthcare the grant had ended. During this meeting, one of the consultants sought to establish a direct communication channel with the community health centers, asking who they should reach out to when trying to develop an integrated system-wide approach [to /integrating community health workers]; one of the medical directors responded that that they would be most appropriate. Although much of this committee meeting was dedicated to the consultants' presentation and the ensuing discussion about existing personnel, one of the medical directors stated near the end of the meeting, "I am still unclear as to what my next steps [regarding community health worker integration] are supposed to be ... my practice manager has questions [about hiring] ... it sounds like we [the community health center] are not responsible for getting a new position [for the community health worker] approved ... When will there be funding to hire them?" One of the consultants responded that they were aiming for a centralized hiring system and that they would reach out later with details. When I checked in with the medical director who had asked the question several months later, they felt that they still had little clarity on how they should proceed with hiring and onboarding the community health workers into their community health center. Although

it was not entirely clear from my observations and interviews where responsibility for enabling the operational aspects of community health worker integration, this example illuminates the both the challenges to establishing effective feedback loops in a decentralized, multi-system, complex organization like the new ACO and possibly confusion on the part of other committee members about who was responsible for answering such questions.

Community health workers were briefly discussed at the next meeting of Committee B in the context of a discussion about the composition of the ACO's care teams. After the discussion about care teams, one of the ACO's leaders expressed their feeling that changing the way care delivered was going to require input and work on the part of everyone involved in the ACO, "Getting to this better world [of better healthcare delivery for Medicaid patients] we want to create ... I can't do that [alone] ... I can't make it happen... Even medical directors can't make it happen. It takes people [in the health centers] willing to think outside of the box ... willing to fail ... celebrate successes ... we will figure it out together." As described earlier in this chapter, the ACO leaders' philosophy that each community health center knew its patients best and was therefore best positioned to decide on how to integrate community health workers was a recurring theme that had ramifications for effective planning for and integration of the community health workers. The philosophy that the health centers' experience with and knowledge of their health center and their patients was needed for effective process of integration, and that the health centers should "own" the process was shared by the consultant team, as described by one consultant, "We were charged with the opportunity to work with the ... health centers to say what's the overall role definition [for community health

workers], [to share] our hiring and training process, [to support] integration into the care teams, workflow development, et cetera. and have it [the support] [not only] be responsive to the requirements of the ACO, but also be sensitive to the fact that every health center was going to have their own internal culture about how this works and existing people who had done some piece of it.” The consultant also noted that, “... a lot of the decisions that are made about supervision and structure of the team are made internally [by the health centers].” This speaks to a recognition that the process of integrating community health workers will likely need to be different at each health center because the organizational cultures, workflows, and patient needs are likely different at each of them. This non-uniformity makes the work challenging for a small consultant team whose team members have full jobs in addition to their work in support of community health worker integration.

A community health worker trainer spoke at the end of a meeting of Committee B, held shortly before the ACO’s “go live” date. The trainer showed slides of the 10 core competencies the training sessions focused on, explained how the training addressed these competencies, and asked that if the community health center leaders had specific skills they felt the community health workers needed additional training in, to let them know. I noticed that a number of people began checking their phones and computers midway through the talk, a behavior I had not previously noted in ACO committee meetings. The presentation consisted largely of factual materials that could arguably have been shared in a memo, but I also wondered if the device-checking suggested that the community health worker training was a lower priority than other topics discussed in Committee B meetings. It was notable that no specific communication channels were

established for community health center leaders to provide feedback to those leading the training program or to make additional training requests, illuminating an ongoing deficit in effective communication channels between the community health centers and the ACO committees.

One of the consultants offered important insights as to how communication about community health worker integration was taking place and how to address issues with communication. They reported that the consultant team's approach to communications about the community health workers had included conducting focus groups with community health center staff and leaders, attending "town hall meetings" at the community health centers, and communicating with the community health centers via Committee B. One consultant noted, "Like any large system change, there's plenty of ... moments where people feel like communication and information has been lost in translation or fallen through the cracks. Whether it's in your own health center and the way that that happens on a daily basis ... or whether it's the rollout of the ACO, I think there's definitely been moments where people are like, 'I didn't know that. Where did you hear that and how did that come about?' Then... really the minute you hear that ... I'll reach out to the people that I think might be related to that information and try and pull those folks into the know that this group doesn't appear to have the information that they need. Can we get them included, involved, or create some sort of a platform for sharing it?" This response further demonstrates awareness on the part of ACO leadership of the importance of communication across the multiple organizations and committees that comprised the ACO, illuminates the challenges to communicating in complex organizations, and also reveals an intentionality about attempting to address flaws in the

ACO's communication systems. The approach to addressing communication issues described by the consultant can be highly effective when the person holding information is made aware of communication gaps, but this approach depends on them or someone connected to them being alerted to the gaps as they emerge. The higher someone is in the organization's formal hierarchy, the more likely they are to insist on having access to information. This may result in a form of information inequity, in which those with less power have less access to information pertinent to their performing their job in the ACO. Communication systems that are intentionally designed to identify and address information inequity could reduce these gaps and would also be consistent with the ACO leaders and consultants' desire to empower the health centers to use their special knowledge and experience to effectively transform how care is delivered to their patients. This is no easy task in an era of information overload, but seemingly a critical problem to solve.

6.4.2.3 Planning for Community Health Worker Integration: The Pediatric Community Health Center

This study sought to understand how communication between a new Medicaid ACO's committees might have impacted planning for integration of community health workers into a pediatric community health center's care team. The prior sections focused on observations related to the ACO committees while the following section focuses on the pediatric community health center, the "inner setting" (Consolidated Framework domain) of the pediatric community health worker integration process.

One of the community health worker implementation consultants shared their excitement about how the new ACO was bringing members of community health centers

together to share ideas and to learn from each other, formally and informally: “One of the things that ... I’ve seen through the ACO rollout has been [that this is] the first time that all of us from across so many different spaces who have worked side by side for decades are regularly in communication and sitting at the same table and bringing our different perspectives and lenses to the decision-making and planning and workflow development. I think that’s been a real gain in the process ...”. This comment is pertinent to the “inner setting” construct, “networking and communication,” which refers to the nature and quality of webs of social networks and informal and formal communications within an organization (Damschroder & Hagedorn, 2011). The pediatric community health center appeared to have fewer opportunities for informal communication through the type of intra-organization social network described by the consultant when compared to the other community health centers in the ACO. For example, ACO committee meetings tended to focus on adult chronic disease concerns when discussing care management, while pediatric clinical topics were discussed less often. Crosstalk before and after meetings was also rarely pediatric-focused, perhaps due, in part, to there being only one only purely pediatric community health center. A feeling of disconnection was expressed by one of the community health workers, who commented on a meeting of all of the ACO’s community health workers, “... we felt like an idiot because nobody else was experiencing what we are. But then we thought about it, and like we’re pediatrics...”

Setting goals and establishing systems for feedback is another one of the Consolidated Framework’s constructs considered in this study. The ACO leaders’ desire for innovating, planning, goal setting, and feedback (the “work” of care transformation) to take place within the community health centers was described earlier in this chapter. In

the case of the pediatric community health center, it appeared that the planning for integration could only take place once all the ACO care team members had been hired. Since the other members of the ACO care team had still not been hired (a nurse supervisor who would also supervise the community health workers and a care manager), there was little capacity for the pediatric community health center to plan how the ACO team would integrate into the practice. This meant that although there was discussion at a conceptual level of what the community health workers would be doing, action on planning and integrating foundered.

Time for reflecting and feedback, important both for the planning process as well as for ongoing supervision of the community health workers, was not available in the pediatric community health center. However, one of the consultants, who had experience supervising community health workers, shared a model that could be helpful for the pediatric community health workers, “So we have weekly one-hour sessions, just me and my CHW... to go over things that are working, aren’t working, case-related, not case-related or personal... the coaching, it’s...to help them...how to navigate .. and help the patients to navigate the barriers... at the same time we’re human and the CHWs feel and get stressed and it’s like...’I feel the need but then I don’t know how to find where to go to get this.’ So, I actually go into some self-care... We have to... realize... their limits, and sometimes us, we have to say I’m sorry, I tried... we want to help them [the patients], but there’s going to be a limit where we can do so much.“ The consultant reported that they were starting to bring the all of the ACO’s community health workers together to discuss challenges they were experiencing and to share ideas, both about integrating into the community health centers and about working within their role.

However, the pediatric community health workers had not found this session as helpful as they had hoped it would be because the challenges they had been experiencing felt too dissimilar from the experiences of the community health workers who were in community health centers with more knowledge of and experience with the community health worker role and who were primarily focused on management of adult chronic disease.

In summary, planning for integration in the pediatric community health center depends on the health center's "climate for integration" (Consolidated Framework construct), including its readiness to develop a plan, test it, and revise it based on reflection and feedback. Due to the difficulty in hiring the other members of the ACO's care team, particularly the person who would supervise the community health workers, the limited transfer of information from the ACO's committees to the health centers, and generally less experience with pediatric community health workers across the ACO, planning for integration proved challenging.

6.4.3 The Impact of Healthcare Finance on Community Health Worker Integration

This study focused primarily on how communication between the ACO committees and the pediatric community health center may have affected planning for and integration of community health workers into the pediatric community health center. However, integration processes are complex, and when beginning to consider potential remedies to the challenges identified, it can be helpful to reflect upon some of the factors external to the ACO that could be impacting planning for integration of the community health workers. As described earlier in this chapter, the extended case study approach seeks to learn about the "general" from the "unique." The Consolidated Framework for

Implementation Research's "outer setting" domain offers constructs for considering how phenomena that are external to the sites at which a change is taking place, in this case the pediatric community health center and the ACO's partner healthcare organizations, might impact integration. These phenomena are important because they may similarly affect other healthcare organizations seeking to make related changes in healthcare delivery. Chapter 1 described how the U.S. arrived at its current system of healthcare delivery and finance. The Medicaid program consistently provides lower reimbursement than either Medicare or private insurances for the same services; this puts "safety net" healthcare organizations that care for a large number of patients insured by Medicaid at greater financial risk than healthcare organizations with smaller Medicaid populations. This section explores how the financial pressures the ACO's leaders experienced, pressures that stem largely from federal healthcare policy and longstanding healthcare finance structures, may impact planning activities directed at integration of pediatric community health workers in a safety net pediatric community health center.

An article posted in 2015 on MassLive, a regional online news and information site, reported that the Massachusetts had hired new administrators to lead the restructuring of its' Medicaid program. The article's opening paragraph described the impetus behind the state's pursuit of the Section 1115 Medicaid waiver: "State officials are restructuring Massachusetts' Medicaid program, part of an attempt to lower costs and move away from a fee-for-service model of health care" (Schoenberg, 2015). The article went on to describe a perceived need to slow the ballooning costs of the state's Medicaid program: "Gov. Charlie Baker and [Marylou] Sudders [Massachusetts Secretary of Health and Human Services] have said previously that they need to slow the growth of spending at

MassHealth.” The article revealed an important tension between assuring that the state’s public insurance program is both fiscally viable and that it adequately meets the needs of the population it serves. The financial model introduced by the Medicaid Section 1115 waiver seeks to shift payment for medical services away from a traditional fee-for-service model to a performance-based accountability model. The ensuing shared financial risk models require that the ACOs meet performance expectations on 22 of the state’s quality measures to be eligible for Delivery System Reform Incentive Program funding. Concerns about the viability of the new financial model was manifest in both the Committee A’s focus on financial concerns and comments made both by the ACO’s leaders and committee members during Committee B meetings. For example, one of the ACO’s leaders commented during one of Committee B’s earlier meetings, “The finances of the Medicaid ACO mean the state actually gives less total dollars but more flexibility in how they are spent. That is high-risk for this institution.” Another ACO executive leader noted, “Finance people [in the partner institutions] are very worried about this [ACO venture].” Financial concerns were apparent during a committee discussion about how the ACO’s resources should be used. For example, a second committee member expressed concerns that the ACO might not meet its performance goals because it addressed patients’ social needs too well before the ACO’s “go live” date, “Suppose we fix these [social] problems before March 1? Will that penalize us? Remember, we will be judged by meeting these measures.” In this same discussion, the committee member recommended that decisions about where to focus expenditures be aligned with the quality measures the ACO would be held accountable for, so it was more likely to get additional money, noting as the end of the comment, “ I hate to sound mercenary.” These

comments demonstrate the concerns and anxieties those most responsible for the financial health of the ACO were feeling. It also provides insight into the likelihood that nearly every choice and decision being made has a financial implication attached to it that will be considered. This financial decision-making, in turn, means that the incentive structure created by the state is a critical driver of the shape the ACO ultimately takes as a healthcare organization.

The extent to which the needs and resources of the patient population served are accurately known and prioritized during a planning and integration process is one of the “outer setting” constructs of the Consolidated Framework (Feldstein & Glasgow, 2008). In my role as a pediatrician, colleagues have felt that the needs of primary care pediatric practices and their patients are less of a priority to healthcare institutions when compared to pediatric specialty or adult care practices; some believe that this is because reimbursements for pediatric primary care services are low compared to other healthcare services. Some providers in the ACO’s pediatric community health center felt that when the ACO’s large integrated health center built a state-of-the-art new building for pediatric specialty practices a number of years ago while leaving their safety net pediatric community health center in its old, crumbling building, that this reflected not only the higher value placed on care that generates more revenue, but also a commentary on the value of safety net practices.

The climate for making change in healthcare delivery is important to consider when evaluating an organizational change process such as planning for integration of the ACO’s pediatric community health workers. In trying to understand that climate, it is important to reflect on the structural issues that could contribute to a suboptimal climate for making

change in healthcare delivery. Having time available to plan for and evaluate the effectiveness of changes made is an important aspect of climate assessment. As described earlier in the chapter, ACO's leaders and consultants believed that local knowledge and experience would be important to the planning and integration process. However, provider and staff workloads established prior to the inception of the ACO left little "free" time for planning and evaluation. Provider and staff workloads, in turn, are related to healthcare finance. Both the number of patients a team is expected to provide services for in a clinical session and additional tasks not associated with direct patient care have increased over the past 15 years, yet resources to help manage the increased workload have been limited in the community health center setting. One of the ACO's organizations administers a periodic employee engagement survey. The survey asks employees to rate their level of agreement with the statement, "I have the resources I need to do my job well." In the past several years, a high percentage of employees have expressed disagreement with the statement [internal communication from reports provided to the organization's employees], suggesting that improvements could be made on the change climate. The message that more work is needed but that there would not be a commensurate increase in available resources is not new and is consistent with a neoliberal ideology focused on the bottom line. The community health workers appeared to have been experiencing a similar feeling of being asked to do more than was possible in the workday and being asked to take on a task that did not feel like it was part of their expected role, leaving them dissatisfied in their early days on the job.

Part of the state's plan for transforming care for Medicaid patients included assessing and addressing patients' social needs, a policy that demonstrated a recognition of the

impact of social determinants of health in this population. The state mandated that ACOs screen all patients for social needs within the first three months of the ACOs' start date, which ACO leaders were aware of at least six months before the ACO "go-live" date, information that was shared with Committees A and B in their early meetings. Data from the screen would, in turn, contribute to determinations about future ACO funding.

Although the concept of screening all members for social needs and seeking to meet those needs was one of the potentially transformative aspects of the ACO "experiment", the unrealistic deadline for completing screens served as an important example of how an external mandate could have unintended consequence.

The ACOs were allowed to start the state-mandated social needs screening prior to the "go live" date, but the ACO's leaders decided that the staff embedded in the health centers should conduct the screening. One of the ACO leaders explained during a second committee meeting that some of the other ACOs in the state had tasked their health insurance partners with mailing the social needs screening forms to patients or calling the patients to screen them over the phone prior to the "go live" date. They felt that it was important for the screenings to be done in the health centers so that the screening was done in a familiar site for the patient, so the data would remain connected to the patient's medical home, and so the health centers would ostensibly have better access to the data. When second committee members expressed concern about the screening in the short time expected, one of the ACO leaders responded, "We know we don't have enough resources ... I know there are 100 reasons why we [think] we can't do this, but we have to do this ... we can't be stopped by that ... we just have to do it." The pediatric community health center did not have additional staff until approximately two weeks

before the ACO's "go live" date, meaning that completion by the deadline would be impossible. There was no systematic approach put in place to collect the data, to assess the quality of the data, or to address any social needs identified through screening. Concerns both about the quality of the data and potential unintended consequences for patients and families were discussed at several Committee B meetings, and some changes in data collection ensued, such as trying to have a community health worker or other staff member available to answer questions while a patient was completing the form and clarification that not all questions on the screen were pertinent to pediatric patients and could be skipped. Despite these concerns, ACO leaders continued to emphasize the need to complete as many screens as possible.

Although the seeming lack of direction was intended by the ACO leaders to empower the health centers to make care delivery changes, this lack of direction combined with the mandate for screening created ubiquitous feelings of frustration and disempowerment among health center leaders', providers', and staff. This situation also illuminates how financial drivers may have impacted community health worker integration. The ACO's value-based care model is intended to shift healthcare delivery from the fee-for-service model that developed early in the 20th century (see Chapter 1) to one in which healthcare quality and patient outcomes are incentivized rather than the number of patients seen. However, the former model is deeply entrenched and all of the current workflows in primary care are built around the fee-for-service model. At some unspecified time in the future, the ACO will move to a "capitated" model, in which the state provides an annual risk-adjusted payment per patient and the ACO has to figure how to keep their patients

healthy enough to at least break even financially. However, the fee-for-service system is still in place in the ACO's health centers.

The shift from one financial models to another is difficult to do, especially when the system is stretched already. At more than one meeting, a physician committee member would ask where they were supposed to find the time to develop and test changes in care delivery when they are still supposed to be seeing a patient every 15 minutes, noting that their whole team was over-busy already. The response from the ACO leaders was generally to suggest having the new staff that were to be hired as part of the ACO take the lead on making changes, but this did not seem to fit with the pediatric health centers' staffing realities. As patients' medical complexity and social needs have increased, as the burden of administrative tasks has increased, as reimbursements for the care provided to patients insured by Medicaid (federal and state-sponsored insurance programs for low-income patients) have either stagnated or decreased, administrators have expected primary care providers to see more patients in a day. This can be particularly challenging in a community health center setting, where patients have complex medical and social needs (Grant, 2004).

The time constraints observed in the ACO speak to the challenges of trying to make substantial change in a system that has largely considered health and healthcare to be an individual responsibility, consistent with neoliberal ideology, for more than a century (see Chapter 1). Even though the ACO is attempting to meet both the social and the medical needs of Medicaid patients, who consist of populations have been marginalized for centuries (see Chapter 1), this is happening in the context of a society that does not appear to have embraced Sen's capabilities philosophy (See Chapter 3), as reflected in its

health and social policies at the federal level. Although it seems that although the model of care the ACO is trying to implement has the potential to improve healthcare delivery for marginalized populations by attempting to address both social and medical needs, this effort seems unlikely to be successful unless broader social policy supports this effort as well.

6.4.4 Pediatric Community Health Workers' Experiences with Planning and Integration

Pediatric community health workers shared their experiences with their early days in their new job, a job they had no prior experience with. When describing why they wanted to become community health workers, one explained that their “hands were tied“ in their prior job in a healthcare call center because “[their] authority was to a certain limit”; they felt that as a community health worker, they would be authorized to provide this support. This community health worker applied for the position because they “... wanted to do something to help... This [job] was an opportunity for me ... to be more of a resource to those families ... that’s something that I like to do, I like to help people.” The other community health worker had volunteered for various outreach programs in their prior role in the pediatric community health center, which they enjoyed, but wanted to do the work as a paid job rather than in a volunteer capacity so they could devote more time to it.

When asked about how they had been integrated into the pediatric community health center’s care team, the community health workers looked at each other and responded in unison, “We’re not.” They went on to praise the core competency training they were receiving, noting that they felt that the training was preparing them for the role they had

envisioned and that the person leading the training was responsive to suggestions for changes in the training. They offered the example that almost none of the training was specific to pediatrics, "... nobody [in the ACO] cares about their pediatrics. It's as if it doesn't even exist." However, when they gave feedback to the training program, they were responsive, adding more pediatric-specific cases. Even though they felt the external training was excellent, they were concerned because they did not feel that they were getting an opportunity to apply and practice the skills they were learning because of the ACO leaders' push to complete the social needs screenings. "It's a great program [the external training], but then we don't have any way to use the tools. Well, once the care [social] needs screenings are done, then we'll be able to work [with families] ... but at this point all we do are [social needs] care screenings." They felt that the pediatric community health center's leaders had a different understanding than they did of what community health workers do, "I just – I think that the management is unsure of this position and how it's going to work, and I think they're wanting it to look the way they want it to look, not the way we're being trained for it to look." This comment is in contrast to the stated vision of the ACO leaders, which may have been miscommunication, or possibly a more instrumental need to get social needs screenings done and having no existing staff who could carve out time to do the screens.

The community health workers expressed frustration with the social needs screening process. This frustration that may have stemmed from mis-communication or lack of communication between the ACO committees and the pediatric community health center because the community health workers demonstrated little understanding of the purpose of the screens or why there was such an urgency to completing them. The community

health workers felt that the questions were hard for families to understand, that many of the forms were not being completed because patients either didn't understand the questions or were offended by them and they would not have the time to sit with every person who was completing the screen and be able meet screening number goals. They were concerned that families were not answering honestly, and they expressed frustration that they had not been involved in developing the screening tool. "[The screening question asked] Did they complete... some primary school – 'primary schools' isn't a word we use here. I don't know who came up with that, but they obviously weren't raised here... It wasn't our choice, having these questions on there." When asked if they had given any feedback about either the social needs screen or their experiences in general, one responded, "No, no one asks for any [feedback] ... we don't go to the [committee] meetings. We're not invited. Apparently there's a ton of meetings that we're not involved in. I think that as community health workers, if we're supposed to do the work, we should be part of the process. The information [isn't] really coming back to us." When I asked about a meeting that had been held a few weeks earlier for all of the ACO's community health workers and other members of the ACO care teams one replied, "We felt like an idiot because nobody else was experiencing what we are. But then we thought about it, and like, we're pediatrics; the adults [ACO members] are filling out the forms ... and there's no kid running around with that, and they're not worried about DCF [Department of Children and Families] taking away their child. I was in a room with a very bright ten-year-old and her mother, if that was me I would never say, yes, I don't have food. I don't want to scare my child ... they're [ACO leadership] creating all these ... incentives about getting them [CNSs] filled out. I think we're missing the mark. If it's [the goal] to truly

change the layout of our community, we're not getting good answers because nobody's filling these out right, they're just terribly filled out, then they're pushed through the front desk." This quote illustrates the potential unintended consequences of accountability based financial risk and incentive.

When asked about their supervision and support, the community health workers reported that there was an interim supervisor because no other members of the ACO care team had been hired yet. As of the end of May, still no other care team members had been hired. Although the community health workers were not certain why the positions had not been filled, they said "They probably aren't paying enough." When the issues around hiring arose during a first committee meeting, one member remarked, "It is hard to find ambulatory nurses," but only shrugged when I had asked why they thought that was the case. The pediatric community health workers expressed great frustration at having their work limited to social needs screening. When one asked her supervisor why they could not start working with families they said they were told, "... if we went to a home and something was wrong, we wouldn't have the nurse coordinator to back us, because there's not one hired. But some of the things ... like, if we're going into a home to ... like train somebody for potty training, I don't need a nurse, you know? I keep being told that I'm ... I'm doing good, I just need to ... relax and wait, it'll be time soon, enjoy the break. But I'm not a good break waiter, like I'm not good at that." A pediatric community health center supervisor expressed a desire to protect the community health workers since they were still in training and did not yet have adequate supervision, but there also may have been an element of concern about financial liability as well given the general concerns about litigation found in healthcare.

Although a shared vision for the community health workers role had been expressed across the ACO, discussions about the differences between the shared vision and reality were not taking place. If they had, these discussions might have prompted greater efforts to plan and execute a process for integration consistent with this vision. This communication disconnect may have resulted, in part, from the lack of effective communication loops between Committee B, the community health centers, and the community health workers. This disconnect also may have been a function of timing: the most substantial discussion of community health workers that took place during the earliest first committee meetings, but the community health workers did not start working until more than four months later.

6.5 Discussion

Accountable care organizations have the potential to improve quality of care, reduce costs, and decrease inequities in children's healthcare (Slonim, 2015; Berman, 2015; Homer & Patel, 2013; Kelleher et al., 2015; Pediatrics, 2011; Perrin et al., 2017). Medicaid ACOs may have the highest potential to decrease inequities in care because they serve only low-income patients and families and a disproportionate number of racial and ethnic minority families. The few studies of healthcare quality that compared pediatric practices participating in a pediatric ACO to non-ACO practices suggest the ACO practices perform better on measures of quality and utilization (Chien et al., 2016; Gleeson, Kelleher & Gardner, 2016b; Kelleher et al., 2015). However, it is too early to determine the impact of participation in a pediatric-only versus a mixed age Medicaid ACOs on these outcomes.

Observations of ACO committee meetings, interviews, and document reviews illuminated some of the communication challenges faced in relation to planning for and integrating changes in care delivery that are intended to improve healthcare quality and lower costs for patients incurred by Medicaid. While some of the barriers to effective planning for integration of a care transformation such as integration of community health workers into primary care teams could arguably be addressed at the local level, the study also identified potential broader challenges to implementing change in the context of a new Medicaid ACOs that warrant further discussion: 1) Communication in a complex system; 2) Potential unintended consequences of performance-based accountability; and 3) Special issues for pediatric practices in mixed age Medicaid ACOs.

6.5.1 Communicating in a Complex System

Communicating effectively across multiple different healthcare organizations that use different communication systems is critical to an ACO's success. This study suggested that the communication channels between the ACO's leadership committees and the pediatric community health center were suboptimal and that this presented challenges to planning how best to integrate community health workers into the pediatric community health center. The ACO's executive leaders were aware of the need for seamless communication within the ACO, as demonstrated by efforts to establish effective communication at least between the ACO's committees, but this ethnographic case study suggested that this was not yet the case for the ACO. For example, a shared platform for committees to post their meeting agendas, minutes, and other materials was developed but not used for the reasons described earlier in this chapter. The ACO leaders expected the community health centers' medical directors to take information back to their health

centers, but, as one of the consultants pointed out, the community health centers likely had imperfect communication systems before joining the ACO, making communication even more complicated. Much of what has been written regarding communication in ACOs has been based on the experience of Medicare ACOs, which were implemented prior to the Medicaid ACOs. Prior studies have tended to focus on health information exchange rather than operational communication between ACO partner organizations and their clinical practice sites (Buell, 2013; Kuperman & McGowan, 2013; Leventhal, 2014; Mookencherry, 2012; Wu, Rundall, Shortell & Bloom, 2016). One of the challenges to effective communication observed in the current study was the limited capacity for staff to add tasks, both at the ACO coordinator level and in the pediatric community health center. One coordinator took care of organizing all of the ACO's committee meetings and was responsible for all other ACO-related administrative duties as well. A committee member suggested using a newsletter or a listserv to help keep people in the community health centers and the partner organizations updated on important ACO-related information, but there was no time available to create such a newsletter. Both learning organization and implementation science principles describe the importance of having time for reflection and feedback when implementing a change in healthcare delivery or other organizational changes. One of the ACO's community health centers had an experienced community health worker supervisor who set time aside for this reflective practice with her community health workers. As the ACO care team in the pediatric community health center is formed, setting aside time for this practice is likely to increase the effectiveness of the community health workers and increase their job satisfaction.

6.5.2 Potential Unintended Consequences of Performance-Based Accountability

The potential for unintended consequences of performance management is a well-described organizational phenomenon (Glickman & Schulman, 2013; Mannion & Braithwaite, 2012; McDonald & Roland, 2009; Naylor et al., 2012; Powell et al., 2012; Rambur, Vallett, Cohen & Tarule, 2013; Ryan et al., 2014; Weyer, Bobiak & Stange, 2008). The pediatric community health workers were motivated to start their new job because of a strong desire to help lower-income and racial and ethnic minority families achieve better health and experience better lives. The pediatric community health workers were eager to act and were frustrated by being asked to collect data using a tool that they found inappropriate for the pediatric community health center's patients. The pediatric community health workers felt the social needs screening process might even be more harmful than helpful because focusing on getting as many screens as possible done by the deadline meant there was no time to follow up on the information parents and patients had shared on the screen. The ACO leaders appeared caught in a bind of needing to respond to the state's deadline for completing the social needs screening and the need to gather data through the screens for population health management in order to be eligible for needed future funding. This experience demonstrated how performance management runs the risk of generating data that may be of lower quality than what could potentially have been collected, and how responses to performance-based incentives can distract from other priorities, such as achieving the shared vision of the community health worker role in the ACO's care teams. Differences in perceptions of the objective of the social needs screening also revealed potential issues with communication within the ACO.

Clinicians' comments during ACO committee meetings suggested that they saw the care needs screening as an opportunity to improve total care for the individual patient and to identify social needs at the level of the community they served, while the ACO executive leaders viewed the social needs screening as an important tool for generating data that would both increase funds available to the ACO and help to reduce the costs of care for the ACO by enabling them to tailor population health management strategies to needs.

Massachusetts holds its new Medicaid ACOs accountable for performance on a set of quality metrics. Prior studies have revealed that financially incentivizing performance on quality measures results in organizational resources being focused on improvement in the areas measured (Bergman & Homer, 1998; Chien et al., 2014b, 2016; Gleeson et al., 2016a). This meant that the ACO leaders' attention was drawn to these measures, in no small part out of financial necessity, and that the importance of performance on these measures was communicated across all levels of the ACO. Given the responsiveness of leadership to financially incentivized metrics and given the fact that children in the Medicaid ACOs hail from populations that experience the greatest inequities in healthcare, it raises the question as to whether a set of quality measures intended to address socioeconomic and racial and ethnic inequities in healthcare might result in additional resources being devoted to decreasing inequities in care.

6.5.3 Special Issues for Pediatric Practices in Mixed Age Medicaid Accountable Care Organizations

This study shed light on some of the potential challenges of addressing the needs of low-income pediatric populations as compared to low-income adult populations. Potential obstacles to providing high-value care for vulnerable patients in an ACO have been

described (Lewis, Larson, McClurg, Boswell & Fisher, 2012). Although the study referenced was not focused on pediatrics or Medicaid ACOs specifically, it made an important distinction in the definition of “vulnerable” that is pertinent to the problem of addressing pediatric needs in a mixed age Medicaid ACO. The authors pointed out that “vulnerable” can refer to clinically vulnerable patients who have a high burden of chronic disease, a vulnerability that cuts across socioeconomic strata, or it can refer to socially vulnerable patients who have low socioeconomic status, belong to racial and ethnic minority groups, or may be homeless or non-English-speaking (Lewis, Larson, McClurg, Boswell & Fisher, 2012). When an ACO seeks to reduce its costs by reducing utilization, its strategies will often focus on the patients who lie at the intersection of clinically vulnerable and socially vulnerable. With the exception of children with special healthcare needs, this generally means the focus is on the adult population. The algorithms used by the state to identify where cost-saving efforts should focus also generally point to adult patients.

One of the new Massachusetts Medicaid ACOs includes only pediatric practices. Leaders in that ACO and others have expressed concerns about the applicability of a “return on investment” model for the pediatric members of the Medicaid ACO (C. Wittcopp, personal communication, May 5, 2018). The current study demonstrated that pediatric practices in mixed age ACOs might be disadvantaged compared to an ACO’s adult practices because access to information pertinent to their population and the ACO’s relative prioritization of the patients with the highest reducible healthcare expenditures (adults with chronic diseases). Comparing the impact of mixed age and pediatric-only Medicaid ACOs on pediatric quality of care and inequities will be important as Medicaid

ACO penetrance increases. The ACO model of care has great potential for addressing inequities by systematically identifying and addressing social determinants of health as part of routine care, but there is a risk that pediatric populations' needs will be overshadowed by the needs of adults with both social and medical needs.

6.5.4 Strengths and Limitations

This study offered insights into how communication channels may impact the process of planning for integration of community health workers into a Medicaid ACO's pediatric community health center, a process similar to the many transformations in care delivery taking place in Medicaid ACOs. The study's strengths included consideration of the perspectives of multiple stakeholders from different hierarchical levels of the ACO and excellent access to observation sites. Limitations included the relatively brief timeframe in which observations were conducted following the ACO's "go live" date and interviewing patients directly about their experiences with the social needs screening might have helped to better understand whether the concerns expressed by the pediatric community health workers and others were founded.

6.6 Conclusions

The new Medicaid ACOs created as part of Massachusetts's Section 1115 waiver demonstration project have a unique opportunity to improve quality, decrease costs, and address inequities for low-income and racial and ethnic minority children. Community health workers are likely to play an important role in connecting pediatric Medicaid ACO members and their families to resources that address social determinants of health, which play a critical role in health status over one's lifetime. As I analyzed my data, I reflected

on my early experiences as a primary care clinician practicing in community health centers that served low-income families. I thought about how this experience motivated me to become a health services researcher so that I could try to address the many issues I saw in healthcare for disadvantaged populations. I thought about the families I have taken care of who could not afford to meet their children's basic physical needs and how poverty and racism interfered with meeting their children's physical and emotional needs as well. Chapter 1 described historical factors contributing to development of today's healthcare system; although I feel guarded optimism about the potential for the Medicaid ACOs to make substantial improvement in healthcare and health for disadvantaged families, this optimism is tempered by the current political climate and history.

Health services research traditionally relies on positivistic methodology and predominantly quantitative methods to address its questions, often using administrative data. While conducting this study, I reflected on my experimentation with different methods and methodologies over the course of my research career. Finding studies that relied only on large administrative data bases less than fully satisfying early in my career, I have been using mixed-methods approaches for some time, but still within a positivistic frame. The methodology and methods used for the last 30 or so years in health services research have identified important issues in healthcare, as described in Chapter 2. However, little headway has been made in many areas of quality, safety, and particularly equity in healthcare. This study used an interpretive approach to understand how an organizational environment can impact the effectiveness of a change in care delivery intended to improve care for a vulnerable population. As described in Chapter 3, the relatively new field of implementation science incorporates organizational theory and

interdisciplinary expertise in trying to solve the complex problems of changing healthcare delivery. Drawing on the theories embedded in implementation science frameworks and using multiple approaches from varied academic traditions to develop a deeper understanding what facilitates and what get in the way of achieving desired improvements in healthcare delivery and outcomes may bring about these desired improvements.

The objective of this study was to better understand how communication between the ACO's leadership committees and the ACO's pediatric community health center impacted planning for and integration of community health workers in the pediatric community health center, several recommendations may be made. First, the ACO leaders' and the internal consultants' desire and intention to empower the community health centers to develop and execute plans for implementing changes in care delivery may have overestimated the community health centers' capacity to do so. Offering additional guidance, technical assistance, and perhaps a template for this process may help to not only to facilitate completing care transformation tasks but also to engage the providers and staff more deeply in this work. This could achieve the desired goal of creating a sense of ownership of change-making in the ACO's community health centers, but also greater engagement in the ACO "experiment". This was achieved, in part, by creating space for community health center representatives to share changes in care delivery that they had been working on during Committee B's meetings. However, these presentations and the discussions they generated did not necessarily make it back to non-committee members in the community health centers, which leads to the second recommendation. Communication across time and space in a complex multi-organization

system is not an easy problem to solve. However, it is an important one, as evidenced by the findings in this study. Understanding that there are many competing priorities for scarce resources in the ACO, prioritizing communication might ultimately end up generating a good return on investment. This process could include first generating a broad understanding of communication needs by talking to the ACO's administrative and clinical partners. Once needs are clarified, designing a communications system to meet those needs could include drawing on existing resources in the technology realm. One of the ACO's committees and its subcommittees has extensive expertise in information technology and one of the ACO's healthcare organization partners has a large information technology department. Using these resources to develop efficient, effective, user-friendly communication channels, perhaps using social-media types of platforms, could begin to address communication challenges. Alternatively, a substantial proportion of the first year Delivery System Reform Incentive Payment funding had not been spent and one of the committee meetings was devoted to thinking about ways to spend the dollars down. Perhaps a time-limited expenditure on a communication expert consultant could help design and test a system to meet identified needs. An important consideration in designing such a system is determining who needs to know what and when. Who is at the table when decisions are made can have important consequences for downstream products, as evidenced by the community health workers' comments regarding their absence from planning for the social needs screening. I have found it challenging to be in a position to critique processes that people I know well and respect immensely have invested a great deal of time and thought into developing. One area that can be particularly sensitive is management of group dynamics. I felt that the observations made

in this study suggest that the ACO as an organization might benefit from reflection and feedback on the committees' group dynamics, , perhaps most important for role-diverse committees such as Committee B. As described earlier in the chapter, there was evidence that some voices may have been obscured because of perceived power differences despite efforts by one of the ACO leaders to try to encourage everyone to share their thoughts. Investing time in developing shared understandings, shared values, and shared expectations for meeting processes could potentially increase the value of the meetings both for those attending and those leading.

CHAPTER 7

NEXT STEPS

The research conducted for this dissertation built on the health services research I have conducted for the past decade. Starting with interests in communication, shared decision-making, and public reporting of performance on quality measures, my research evolved to focus on quality of care for women and child with a particular interest in healthcare inequities. I sought additional training in the Community Health Education program in the School of Public Health and Health Sciences with three primary goals: 1) To develop expertise in theory, methodology, and methods pertaining to implementation science; 2) To develop advanced understanding of the role organizations play in healthcare quality, particularly in relation to organizational change; and 3) To explore theory, methodologies, and methods used in sociology and other disciplines that could expand approaches to studying and understanding inequities in healthcare and how to address these inequities. In the process, I identified philosophical and theoretical principles that support the position that it is a society's responsibility to enable the capability for good health, which includes providing equitable healthcare.

In the first study (Chapter 4), I used a positive deviance approach to qualitatively describe organizational characteristics of pediatric primary care practices in Massachusetts that had received high scores on clinical quality and patient experience measures. Among other characteristics, participants described the importance of good interpersonal relationships within the practice when they were theorizing why their practice scored well on quality measures. In the second study (Chapter 5), I measured the

association between the organizational characteristics identified in the first study and performance on clinical quality and patient experience measures. This study identified modifiable organizational characteristics, such as designating a quality champion, offering co-located ancillary clinical services, feeling that patients and families feel respected by our staff and clinicians, and having staff that feel that they have control over their schedule, were associated with higher scores on quality measures. In the third study (Chapter 6), I used ethnographic methods to study how the leaders in a new Medicaid ACO envisioned the role of community health workers in the ACO's health centers compared to other key stakeholders in the ACO, including the community health workers in the ACO's pediatric health center. I also explored the ways in which communication about planning for integration of the community health workers into the care team may have impacted the functioning of the community health workers, with community health worker voices demonstrating the need for improvement in the process. This study is particularly important to study of healthcare inequities because children who are insured by Medicaid generally suffer the greatest healthcare inequities and the most negative effects of social determinants of health. This study demonstrated a number of challenges to effectively implementing the community health worker intervention in the ACO, both internal and external to the organization.

This research builds a platform upon which to construct a research portfolio continuing to explore issues related to healthcare quality for women and children, particularly those who suffer the greatest inequities in health and healthcare. Using implementation science theory and methods as guiding principles, I plan to explore not only the effect organizational changes brought about by the inception of Medicaid ACOs

have on healthcare quality, cost, and equity for women and children in vulnerable populations, but also the processes by which change is brought about.

Immediate next steps to achieving this goal include using the results of this dissertation research as a springboard to exploring the impact of Medicaid ACOs on quality of care for women and children in vulnerable populations. For example, I plan to study the impact of Medicaid ACOs on healthcare quality and utilization for children with asthma. This is a particularly important area given the impact of social determinants of health on both the risk of developing asthma and asthma outcomes for children. Because of their move to a capitated form of payment and connections to community partners, Medicaid ACOs are uniquely positioned to develop innovations in care delivery, which in turn has the potential to improve care and outcomes for a population that experiences multiple barriers to optimal asthma management.

A research question that arose directly from the third dissertation paper is how Medicaid ACOs differentiate risk models and incentives for pediatric and adult members in mixed age ACOs. With some exceptions the primary risks to health for pediatric patients in a Medicaid ACO are social. Family poverty, lack of transportation, food insecurity, unsafe neighborhoods, and other deleterious social determinants of health place children at risk for poor health across the lifespan. Incentives that focus on short-term “returns on investments” are more likely to draw ACO resources toward improving care management for adults with chronic disease and/or mental health diagnoses. Understanding how participation in mixed age compared to pediatric-only ACOs influences care delivery and outcomes for children will provide critical information for Medicaid ACO structures going forward.

In addition to assessing the ways in which the Medicaid ACO movement affects healthcare quality and equity for children with and without chronic disease, I also plan to study the best mechanisms for implementing evidence-based interventions in the pediatric healthcare setting. Postpartum depression (PPD) affects nearly one in seven women and an even higher percentage of low income women and women of color. Untreated PPD has negative effects not only on a woman, but also on her infant and the negative effects on children can last well beyond infancy. Despite the existence of evidence-based screening and treatment interventions for PPD, many women do not receive treatment for PPD. I am currently conducting a pilot study of implementation of PPD screening and referral in the pediatric health center that is part of a local Medicaid ACO and plan to use these data for a large-scale implementation study. In addition to generating important information of its own, this study will serve as template for carrying out future studies to test the best processes for implementing evidence-based practices or de-implementing non-evidence-based practices in pediatric primary care.

In summary, my plan for my research going forward is to attempt to identify the most effective approaches for implementing evidence-based interventions and de-implementing ineffective practices in pediatric healthcare settings. Within this larger body of research, I plan to explore how interventions intended to improve quality and decrease costs in Medicaid ACOs are implemented and how this in turn impacts quality and equity in low-income, vulnerable pediatric populations.

Tables and Figures

Table 3.1 Characteristics of a Continuously Learning Healthcare System
(M. Smith et al., 2013)

Science and Informatics <ul style="list-style-type: none">• Real-time access to Knowledge• Digital Capture of Care Experience
Patient-Clinician Relationships <ul style="list-style-type: none">• Engaged, empowered patients
Incentives <ul style="list-style-type: none">• Incentives aligned for value• Full transparency
Culture <ul style="list-style-type: none">• Leadership-instilled culture of learning• Supportive system competencies

Table 4.1 Practice and Provider Characteristics (table continues on the next page)

Characteristic	n (10)
Region	
Western	4
Central	3
Metro/North Shore	2
Cape and Islands	1
Size (# of providers)	
<5	2
5-10	6
>10	2
Practice Type	
Private	7
Hospital-owned	1
Multi-site organization	2
Participants (n=35)	(n=35)
Age	
30-39	5
40-49	11
50-59	12
60+	6
Gender	
Female	28
Male	7
Role in Practice	
Practice Manager/ Administrator	12
Other Manager	7
Physician	13
PCMH Coordinator	1
# Years in Profession	
<1-4	1

5-9	8
10-19	9
20+	17

Table 4.2 Themes, Subthemes, and Representative Quotes (table continues on the next several pages)

Themes <ul style="list-style-type: none"> • Subthemes 	Representative Quotes
<p>Practice Culture</p> <ul style="list-style-type: none"> • Interpersonal Relationships • Patient-centered Care • Leadership 	<p>I think it’s basically the team [that makes our scores high]. I think we support each other really well within the clinical staff and the front staff... (4-1) *</p> <p>With this team-based approach, I look at the physician as the leader of the team and the MA [medical assistant] as the coordinator of the team... because the nurses are talking on the phone and giving immunizations, the doctors are in the room with the patient, and it's really the MA, that's how I view our team. (9-1)</p> <p>Their [patient’s] car might have broken down... So... we had a little training thing to teach the office staff [to] put yourself in their shoes, turn it around, how would you like to be treated? What would you like to have done when you get to the doctor’s office ... don't make that first judgment? Wait... listen to what's going on with them and help them solve the problem... (5-1)</p> <p>I called another office this morning, good docs, you know, well respected colleague ... and I was stunned by how awful the experience was on the phone.... It was structured for the staff and the providers... clearly not structured for the parents... the message is, “you're bothering us” ... All those businesses that do this [good customer service] ... hotels... restaurant ... these places have developed a skill set about serving people [that pediatric practices need to adopt]. (8-1)</p> <p>... I think we... consciously work on attitude... from the department level all the way throughout the group. But, I will say the consistent drive [to maintain positive attitudes] ... and when new people come in [to work with us], that's the</p>

	<p>culture... what you're expected to do and that's what everybody else does so that it's easier to do it. (7-1)</p> <p>I always felt that... my role in IT [helped our practice provide high quality care] ...being a practicing physician is critical because I use the tools to build [the IT system] but... my staff gives feedback on it. There are tools that I... as a physician would never use, but ... my nurses will tell me this note for a triage template doesn't make sense... (9-1)</p> <p>... you can also make a mistake and not be crucified for it... you do your best, sometimes you make a mistake... and, the doctors are supportive... so, you don't have to feel bad... (3-1)</p>
<p>Practice Structures and QI Tools and Strategies</p> <ul style="list-style-type: none"> • Practice Structures 	<p>... [as] an employed physician [vs. owner] you're not as invested in how things are going. When you are an owner-physician, you have much more investment to both sides of the equation... I'm not only concerned about what I'm doing with my patients, but how is everybody else doing? A stressed-out physician or a stressed-out staff person isn't able to provide care that I want delivered ... When I leave, I want to make sure my patients are as tenderly cared for [as if I were caring for them myself] because I care about them. (6-1)</p> <p>... the physical space is a huge plus as far as patient satisfaction... one of the things we did was to make enough space so that there's a place to move the patient out of the waiting room. So... they don't have to wait in the waiting room very long. (7-1)</p> <p>[Co-located behavioral health] ... it's such an incredibly long overdue necessary service... I think it [is]... the kind of care that people need, from a young mother who may even just have a little bit of postpartum depression to potty training, ADD, my kid's shy, or they're cutting. It's immediate advice,</p>

<ul style="list-style-type: none"> • QI Tools and Strategies 	<p>immediate help. The doctors can just walk somebody down the hall and say – I’d like to introduce you to this person... It’s just an absolutely fabulous service. (4-1)</p> <p>I think the key in our own practice is... just making sure... you hire enough people. I feel like we are so well supported with the nurses, with our managerial staff. I'm never like, oh my god I don't have a nurse to help me... We have so much support from our nurse team, the doctor-nurse team... making sure that there is enough support staff to really help make the physician feel not stressed out. (6-1)</p> <p>And then we have other in-services... that are either... customer service, which is about... expressing empathy to patients, dealing with difficult patients, or their tech [technology skills]. I was finding some people are not very tech savvy. And so, we are doing some basic technology classes, computer use, EMR use... (6-1)</p> <p>Our biggest challenge is... how we communicate change, because change is so constant, and people get bombarded with emails. We have gone through different email formats to try to communicate better “Why I’m receiving this, who does it affect? ...What time does it need to get done?” We’re being very specific with the way we communicate internally to make sure everyone gets on the same page. (10-1)</p> <p>[Independent Physician Association meetings are] The last Thursday of every month, and in the meetings the offices share information, we learn policy and procedures that they [IPA] are going to try out, test out for quality measures. And they have a big support group that if you have any questions or need any help they will come out to the office. (5-1)</p> <p>...we have a suggestion board and we have to go through it at each of our large meetings and if there were anything suggested or started, they're still up there at the next meetings so we have to say, X this was your responsibility and then she will give an</p>
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	<p>update, or she will say, I didn't do it. And then that will give us the prompt to keep going with it. (9-1)</p> <p>It's a little scary [to have a patient advisory council]. It was very good. Obviously, it was nice to hear that they... had very positive things to say but they also had some suggestions, like we really should spend more time [with patients] or have dedicated areas for adolescents... I think bringing the parents in to get their feedback is important. (8-1)</p> <p>We use this software... called "turbo scan" and we snap it [physical exam form] and send it to the EMR. So, we are now scanning it in the room, people can walk out the door and not have to stop at the front desk. It's a small thing, but it's an example of why not try it? (8-1)</p>
<p>Attitudes and Beliefs, Related to Care Quality</p> <ul style="list-style-type: none"> • Approaches to Measuring Care Quality • The Meaning of Care Quality 	<p>I think it's [quality measurement] engaged the physicians in a way that we weren't engaged before. We really do spend a lot of time talking about the measures ... (4-1)</p> <p>We happen to feel it's time to design some independent quality measures. There is obesity initiative, as far as follow up and tracking... which I think is more true quality than just making sure they got their physical for the year. (7-1)</p> <p>...quality... is just recognizing that what's great for one patient isn't necessarily what's right for the other. We try to individualize that... I try to look at each patient and their individual needs and not whether or not they fit in a box, or whether or not they need a test because somebody said they should because of their age. (9-1)</p> <p>The other thing I think about quality is... how do they do in the big picture? Not the little individual things, but are they eating properly? Do they have an overall healthy lifestyle?... Are they safe? Are they wearing their seatbelt? Are they learning how</p>

	to swim so they don't drown ... to me that's much bigger than getting an antibiotic... (9-1)
Perceived Barriers to High Performance	<p>I think a lot of it [achieving high quality scores] is the ability for practice staff and leadership to actually think about it. So, whether it's the time, interest, financial resources, staffing, it's the ability to think about it and pay attention to it. (4-1)</p> <p>I... have one patient that was a frequent in-patient... we hadn't seen her in three years because we didn't have a phone number, we couldn't actually find this patient... (9-1)</p> <p>The computer is only as good as the person who input the original data. (9-1)</p> <p>Part of access (measure) is providers not being here all of the time but sort of spreading themselves thin through shifts. (10-1)</p>
* Practice/ Participant Identification Number	

Table 5.1 Practice and Participant Characteristics (table continues on the next several pages)

Survey Question	N	%
What is your age?		
No response	4	5
26-35 years	8	10
36-45 years	17	21.3
46-55 years	17	21.3
56-65 years	31	38.8
More than 65 years	3	3.75
How satisfied are you with your job?		
No response	4	5
Very satisfied	40	50
Satisfied	31	38.8
Unsatisfied	4	5
Very unsatisfied	1	1.25
How much control do you feel you have over your work schedule?		
No response	4	5
A lot	41	51.3
Some	27	33.8
Little	7	8.75
None	1	1.25
How often do you feel emotionally and/or physically drained at the end of the work day?		
No response	3	3.75
Never	1	1.25
Rarely	30	37.5
Often	43	53.8
Almost always	3	3.75
How would you classify your gender?		
No response	3	3.75
Female	66	82.5
Male	10	12.5
Non-binary	1	1.25
How many pediatric-only sites are there in your organization?		
No response	2	2.5
1	39	48.8
2	12	15

3	5	6.25
4 or more	15	18.8
I Don't Know	7	8.75
How many pediatric clinicians (MD, NP, PA) does your practice have, including full- and part-time?		
No response	2	2.5
1-2	2	2.5
3-5	24	30
6-10	27	33.8
More than 10	25	31.3
Approximately what percentage of the patients in your practice carry public insurance (Medicaid) or are uninsured?		
No response	5	6.25
Less than 10%	12	15
10-24%	18	22.5
25-49%	24	30
50-74%	17	21.3
More than 75%	4	5
What is your current role in your practice?		
No response	2	2.5
Practice manager	58	72.5
Nurse manager	6	7.5
Physician owner	1	1.25
Physician leader	4	5
Other	9	11.3
How many years in total have you worked in your current role, including at other practices?		
No response	2	2.5
Less than 2 years	5	6.25
2-5 years	7	8.75
6-10 years	12	15
11-15 years	8	10
16-20 years	18	22.5
More than 20 years	28	35
How many years in total have you been with this practice?		
No response	2	2.5
Less than 2 years	11	13.8
2-5 years	9	11.3

6-10 years	12	15
11-15 years	13	16.3
16-20 years	15	18.8
More than 20 years	18	22.5
How many years have you been in your current role at this practice?		
No response	2	2.5
Less than 2 years	15	18.8
2-5 years	9	11.3
6-10 years	15	18.8
11-15 years	16	20
16-20 years	13	16.3
More than 20 years	10	12.5
Race/Ethnicity		
Non-white/no response*	14	17.5
White	66	82.5
Education		
No degree	17	21.3
Associate degree	15	18.8
Bachelors' degree	18	22.5
MBA/MPH/MSc	6	7.5
LPN/RN	10	12.5
MD	5	6.25
Other/no response	9	11.3
*Includes Black, Hispanic, Other		

Table 5.2 Univariate Associations Between Organizational Strategies and Contextual Factors and Performance on Quality Measures (table continues on the next several pages)

Organizational Strategies and Contextual Factors	CQ		PE	
	Estimate (SE)	p-value	Estimate (SE)	p-value
Organizational structures/strategies - general				
We have scribes (support staff) present in our exam rooms to document patient encounters. ^	-0.02(0.2)	0.93	-0.21(0.18)	0.27
We offer co-located (on-site) specialty services (e.g., behavioral health, social work). ^	0.20(0.09)	0.04	0.01(0.09)	0.87
The practice is privately owned (e.g., rather than owned by a hospital or other organization). ^	0.18(0.09)	0.04	0.27(0.08)	0.0006
We are part of a network that provides resources for quality improvement (e.g., Physician-Hospital Organization, Quality Improvement Collaborative). ^	0.02(0.11)	0.88	-0.1(0.11)	0.35
Our practice leaders offer professional development opportunities for staff (e.g., front desk, medical assistants, nurses). *	-0.03(0.09)	0.73	-0.11(0.08)	0.19
Organizational structures/strategies-quality				
We have a designated quality improvement champion. ^	0.20(0.09)	0.03	0.09(0.09)	0.29
We have a process for identifying quality issues (e.g., suggestion board). ^	0.04(0.1)	0.67	-0.04(0.1)	0.71
We have an active parent advisory board. ^	-0.04(0.1)	0.68	-0.07(0.09)	0.47
When we make a change to improve quality of care, we study how well the change worked, and modify as needed (e.g. plan-do-study-act cycles). ^	0.06(0.10)	0.54	0.00(0.1)	0.97
Our clinicians and staff are included in decision-making about quality improvement. *	0.05(0.09)	0.59	0.11(0.08)	0.17
We frequently use technology (e.g., electronic medical record, scheduling software) for quality improvement purposes. *	0.15(0.09)	0.09	0.12(0.08)	0.13

Relationship-Communication				
Our practice leaders are approachable (e.g., managers, clinicians). *	0.14(0.09)	0.14	0.06(0.09)	0.51
Our practice feels like a family. *	0.03(0.09)	0.69	0.12(0.08)	0.13
Our front desk staff feel valued by others in the practice. *	0.1(0.09)	0.28	0.07(0.09)	0.47
Our medical assistants feel valued by others in the practice. *	0.06(0.09)	0.53	0.01(0.09)	0.88
Our nurses feel valued by others in the practice. *	0.02(0.1)	0.87	-0.01(0.09)	0.88
Our clinicians feel valued by others in the practice. *	0.11(0.09)	0.21	0.09(0.08)	0.26
Our clinicians and staff communicate well with each other. *	0.05(0.09)	0.58	0.15(0.08)	0.08
Our patients and families feel respected by our staff and clinicians. *	0.18(0.08)	0.03	0.15(0.08)	0.06
Our patients and families trust us. *	0.13(0.08)	0.12	0.14(0.08)	0.07
Resources-Staffing				
We have adequate medical assistant staffing. *	0.13(0.1)	0.18	0.03(0.09)	0.78
We have adequate front desk staffing. *	0.13(0.09)	0.15	0.15(0.08)	0.09
We have adequate nurse staffing. *	0.01(0.1)	0.94	0.09(0.09)	0.33
We have adequate clinician staffing. *	0.11(0.09)	0.19	0.13(0.08)	0.12
Resources-QI				
We have the resources needed to carry out quality improvement initiatives. *	0.02(0.09)	0.83	-0.01(0.09)	0.88
We have the skills needed to carry out quality improvement initiatives. *	0.12(0.09)	0.16	0.08(0.08)	0.35
Attitudes about Quality Measures				
Patient experience measures (e.g., willingness to recommend the practice) adequately reflect the quality of interpersonal care we provide. *	0.02(0.09)	0.85	0.12(0.08)	0.13
Clinical quality measures (e.g., number of well-care visits, testing for pharyngitis) adequately reflect	0.12(0.09)	0.17	0.12(0.08)	0.15

the quality of clinical care we provide. *				
Our quality scores are influenced by factors over which we have no control.				
Strongly Agree	-0.02(0.12)	0.88	-0.07(0.12)	0.56
Disagree	-0.1(0.1)	0.31	0.04(0.1)	0.66
Agree	referent		referent	
Disparities				
We actively seek to address healthcare disparities (e.g., based on race/ethnicity, disability, socio-economics). *	-0.01(0.1)	0.92	0.03(0.09)	0.77
Burnout				
How satisfied are you with your job? (Very satisfied)	0.14(0.08)	0.10	0.1(0.08)	0.22
How much control do you feel you have over your work schedule? (A lot)	0.13(0.08)	0.13	0.17(0.08)	0.03
How often do you feel emotionally and/or physically drained at the end of the work day? (Often)	-0.11(0.08)	0.18	-0.1(0.08)	0.21
Practice Characteristics				
How many pediatric-only sites are there in your organization? Please count both completely separate sites and sites that share clinicians but not staff as unique sites.				
3, 4 or more	-0.1(0.11)	0.37	-0.07(0.1)	0.53
2	-0.09(0.13)	0.46	0.11(0.12)	0.36
1	referent		referent	
How many pediatric clinicians (MD, NP, PA) does your practice have, including full- and part-time? (For organizations with multiple pediatric sites, please respond for the practice you were thinking about for responses in Sections 1 & 2.)				
More than 10	0.04(0.11)	0.73	-0.15(0.1)	0.16
6-10	0.07(0.11)	0.49	0.05(0.09)	0.63

1-2, 3-5	referent		referent	
Approximately what percentage of the patients in your practice carry public insurance (Medicaid) or are uninsured?		0.16		0.32
>=50%	referent		referent	
25-49%	0.22 (0.12)	0.06	-0.02 (0.11)	0.84
10-24%	0.25 (0.12)	0.04	0.10 (0.12)	0.40
Less than 10%	0.24 (0.15)	0.10	0.19 (0.14)	0.17
^ For all yes/no questions, referent group: No * For all Likert type questions, referent group includes Agree/Strongly disagree/Disagree/no response Grey shading for strategies and factors with p-value of 0.10 or less				

Table 5.3 Themes, Sub-themes and Representative Excerpts from Open-ended Questions (table continues on the next page)

Themes <ul style="list-style-type: none"> • Sub-themes 	Representative Excerpts
Access <ul style="list-style-type: none"> • Staffing • Time • Co-location • Timely appointment • Continuity 	<p>Adequate staff and time are the two things that I feel influence the quality of care a pediatric practice provides.</p> <p>Offering co-location</p> <p>Access to appointments when you need one</p> <p>Multiple locations (i.e., the PCP might not be in the same place you (parent) usually book appointments because they are at the other site</p>
Communication <ul style="list-style-type: none"> • Between providers and staff • Working well together/respect • Growth mindset 	<p>Having good communication between clinicians and staff is very important so that we are all on the same page</p> <p>Working well with each other</p> <p>...clinicians and staff and having a 'lesson learned' attitude to any mistakes that are made. Utilizing 'teaching moments' to improve the knowledge base of the staff and clinicians.</p>
Patient-Centered Care <ul style="list-style-type: none"> • Interactions with patients/families • Skilled/knowledgeable staff 	<p>Treating patient as if they were your own</p> <p>Listening to patients</p> <p>Engaging families</p> <p>I think that having skilled, knowledgeable staff interacting with Pedi patients and parents is key to satisfying this demographic. Regardless of race, gender, ethnicity...</p>
Leadership <ul style="list-style-type: none"> • Knowledge/attitudes 	<p>Unlike the business world, medical practices are often run by all physicians. They can have limited business process improvement know how, not want to change how they do things and may even resist change as a way to retaliate against insurance companies.</p>

<p>Electronic Health Record</p> <ul style="list-style-type: none"> • Impediments to quality 	<p>EHR Limitations to capture and report performance</p> <p>Electronic health records slow... down productivity and make clinical care more difficult</p>
<p>Patient Behaviors</p> <ul style="list-style-type: none"> • Insurance issues • Accountable for patients who are not “ours” 	<p>Patients came in without health insurance properly updated</p> <p>Kids who are over 18 years old and do not come in for regular physicals yearly; should not affect the PCP quality control scores. Some of these kids haven't been in for 3 years, but still have us listed as PCP</p>
<p>Structural Issues</p> <ul style="list-style-type: none"> • Misalignment of quality measures and practice goals • Insurance • Pediatric primary care under-resourced 	<p>Measure definitions (for UDS/MU/PCMH) do not always match our quality improvement goals.</p> <p>Some of the insurance companies do not let us remove patients off our panels that do not belong to our practice.</p> <p>While we are PCMH Level 3, PCMH Prime... since 2011, PQRS since 2007 and have over-achieved for MIPS.MACRA we still struggle financially. I wish our work were more valued by insurance companies.</p> <p>We are pedi primary care, so we lack funding for additional programs that would really help families</p>

Figure 5.1 Positive Deviance Study Procedures

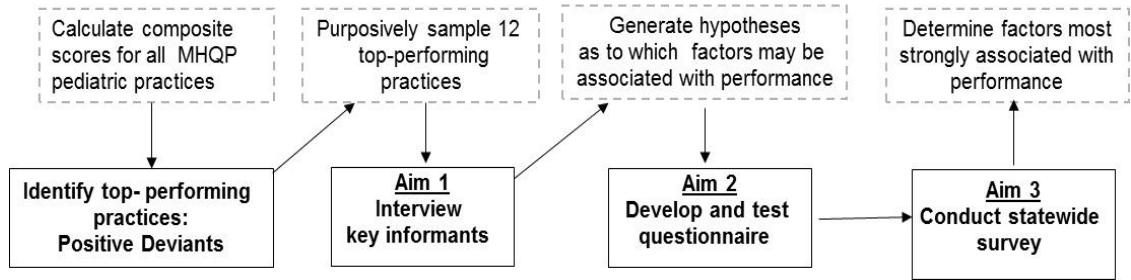


Figure 5.2 Respondents’ Perceptions of Organizational Strategies and Contextual Factors Associated with High Quality of Care

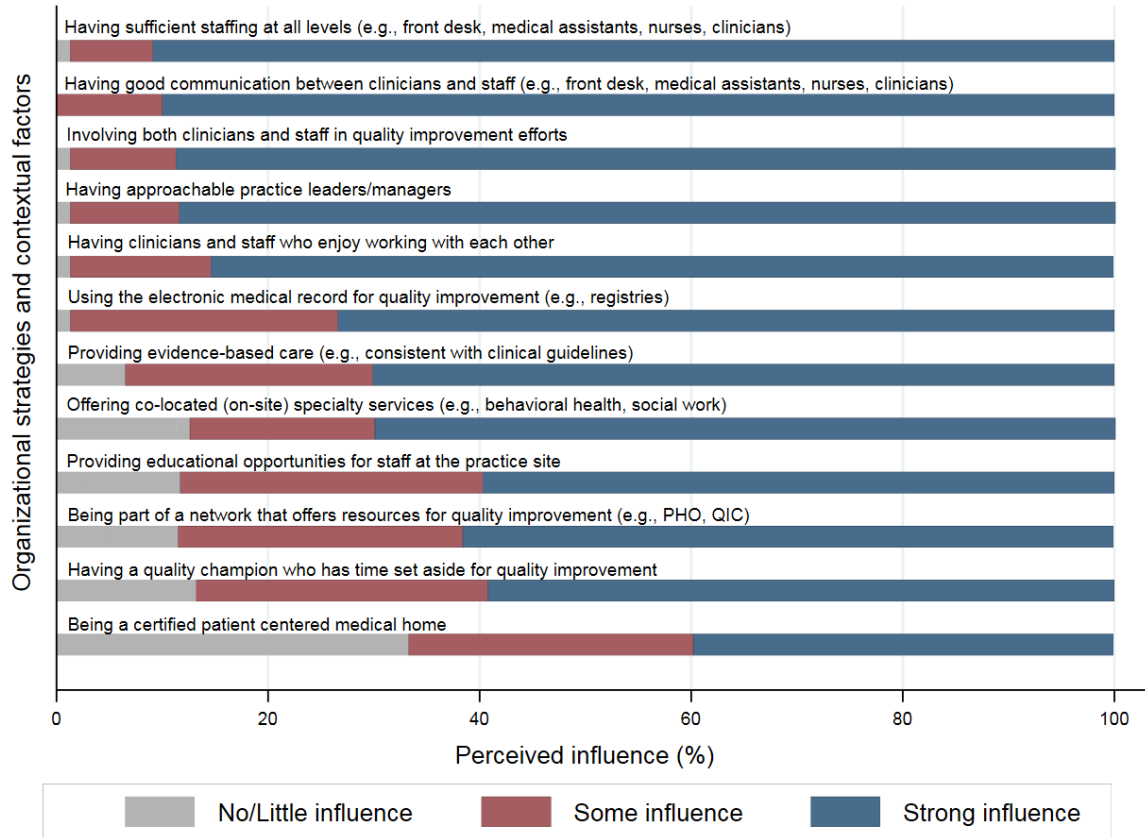
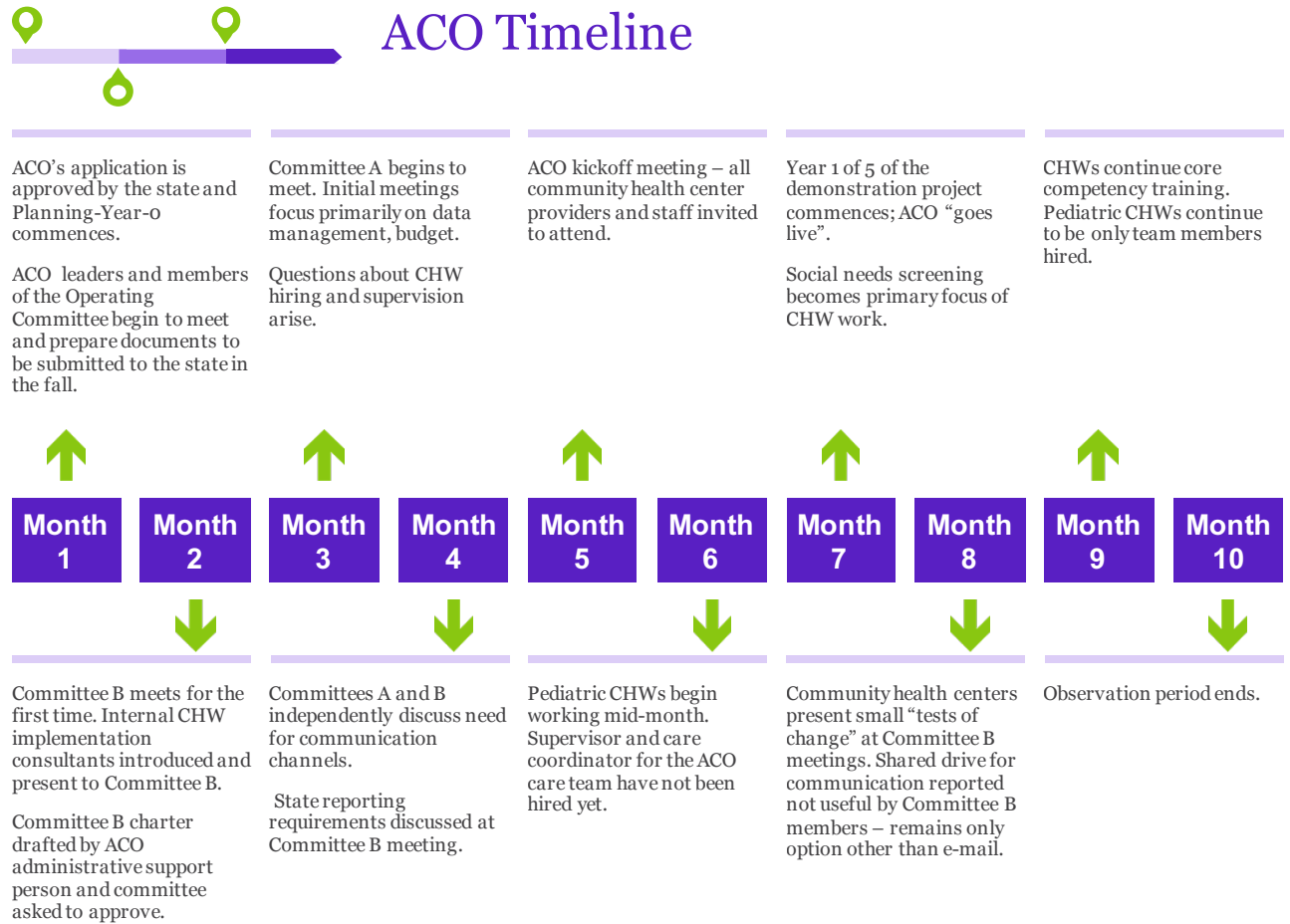


Figure 6.1 Timeline for ACO Activities



APPENDIX A

THEORETICAL FRAMEWORKS AND MODELS

Consolidated Framework for Implementation Research (CFIR) (table continues on the next several pages) (Damschroder & Hagedorn, 2011)

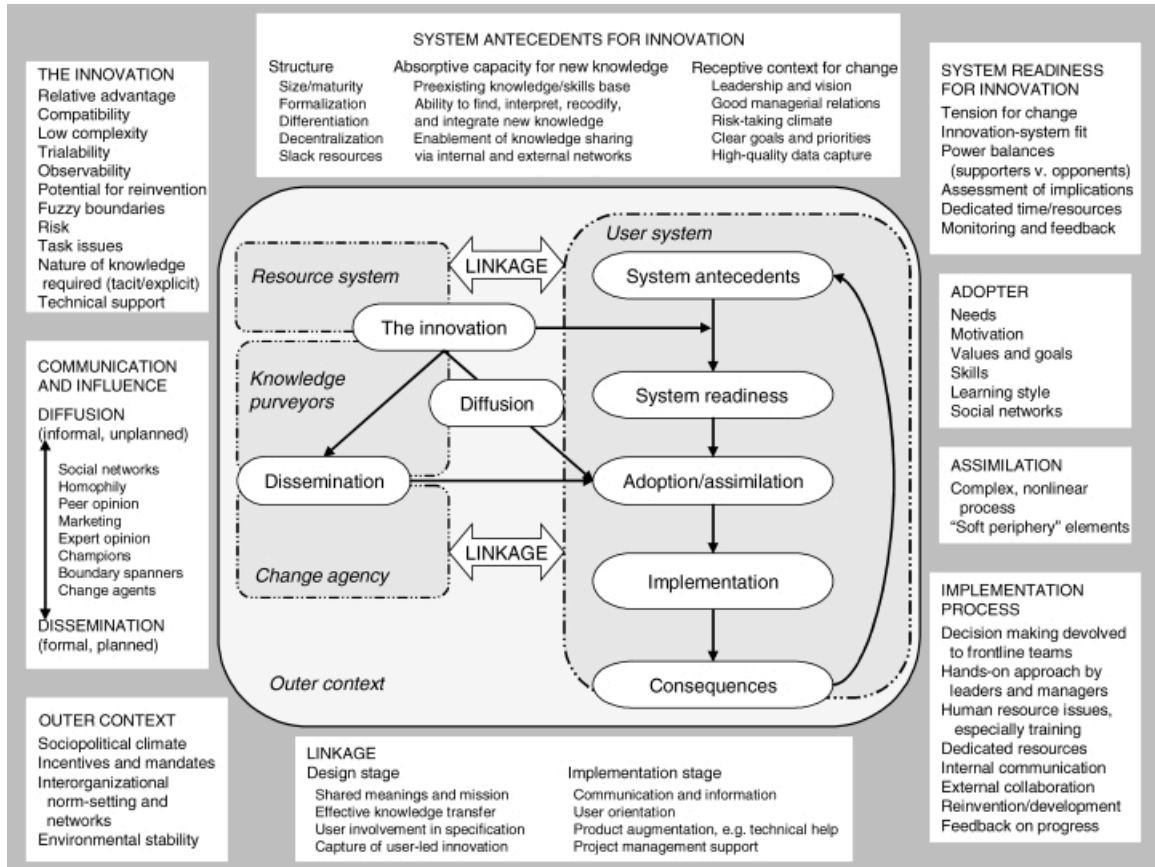
Construct		Short Description
I. INTERVENTION CHARACTERISTICS		
A	Intervention Source	Perception of key stakeholders about whether the intervention is externally or internally developed.
B	Evidence Strength & Quality	Stakeholders' perceptions of the quality and validity of evidence supporting the belief that the intervention will have desired outcomes.
C	Relative Advantage	Stakeholders' perception of the advantage of implementing the intervention versus an alternative solution.
D	Adaptability	The degree to which an intervention can be adapted, tailored, refined, or reinvented to meet local needs.
E	Trialability	The ability to test the intervention on a small scale in the organization, and to be able to reverse course (undo implementation) if warranted.
F	Complexity	Perceived difficulty of implementation, reflected by duration, scope, radicalness, disruptiveness, centrality, and intricacy and number of steps required to implement.
G	Design Quality & Packaging	Perceived excellence in how the intervention is bundled, presented, and assembled.
H	Cost	Costs of the intervention and costs associated with implementing the intervention including investment, supply, and opportunity costs.
II. OUTER SETTING		
A	Patient Needs & Resources	The extent to which patient needs, as well as barriers and facilitators to meet those needs, are accurately known and prioritized by the organization.
B	Cosmopolitanism	The degree to which an organization is networked with other external organizations.
C	Peer Pressure	Mimetic or competitive pressure to implement an intervention; typically because most or other key peer or competing organizations have already implemented or are in a bid for a competitive edge.

D	External Policy & Incentives	A broad construct that includes external strategies to spread interventions, including policy and regulations (governmental or other central entity), external mandates, recommendations and guidelines, pay-for-performance, collaboratives, and public or benchmark reporting.
III. INNER SETTING		
A	Structural Characteristics	The social architecture, age, maturity, and size of an organization.
B	Networks & Communications	The nature and quality of webs of social networks and the nature and quality of formal and informal communications within an organization.
C	Culture	Norms, values, and basic assumptions of a given organization.
D	Implementation Climate	The absorptive capacity for change, shared receptivity of involved individuals to an intervention, and the extent to which use of that intervention will be rewarded, supported, and expected within their organization.
1	Tension for Change	The degree to which stakeholders perceive the current situation as intolerable or needing change.
2	Compatibility	The degree of tangible fit between meaning and values attached to the intervention by involved individuals, how those align with individuals' own norms, values, and perceived risks and needs, and how the intervention fits with existing workflows and systems.
3	Relative Priority	Individuals' shared perception of the importance of the implementation within the organization.
4	Organizational Incentives & Rewards	Extrinsic incentives such as goal-sharing awards, performance reviews, promotions, and raises in salary, and less tangible incentives such as increased stature or respect.
5	Goals and Feedback	The degree to which goals are clearly communicated, acted upon, and fed back to staff, and alignment of that feedback with goals.
6	Learning Climate	A climate in which: a) leaders express their own fallibility and need for team members' assistance and input; b) team members feel that they are essential, valued, and knowledgeable partners in the change process; c) individuals feel psychologically safe to try new methods; and d) there is sufficient time and space for reflective thinking and evaluation.
E	Readiness for Implementation	Tangible and immediate indicators of organizational commitment to its decision to implement an intervention.

1	Leadership Engagement	Commitment, involvement, and accountability of leaders and managers with the implementation.
2	Available Resources	The level of resources dedicated for implementation and on-going operations, including money, training, education, physical space, and time.
3	Access to Knowledge & Information	Ease of access to digestible information and knowledge about the intervention and how to incorporate it into work tasks.
IV. CHARACTERISTICS OF INDIVIDUALS		
A	Knowledge & Beliefs about the Intervention	Individuals' attitudes toward and value placed on the intervention as well as familiarity with facts, truths, and principles related to the intervention.
B	Self-efficacy	Individual belief in their own capabilities to execute courses of action to achieve implementation goals.
C	Individual Stage of Change	Characterization of the phase an individual is in, as he or she progresses toward skilled, enthusiastic, and sustained use of the intervention.
D	Individual Identification with Organization	A broad construct related to how individuals perceive the organization, and their relationship and degree of commitment with that organization.
E	Other Personal Attributes	A broad construct to include other personal traits such as tolerance of ambiguity, intellectual ability, motivation, values, competence, capacity, and learning style.
V. PROCESS		
A	Planning	The degree to which a scheme or method of behavior and tasks for implementing an intervention are developed in advance, and the quality of those schemes or methods.
B	Engaging	Attracting and involving appropriate individuals in the implementation and use of the intervention through a combined strategy of social marketing, education, role modeling, training, and other similar activities.
1	Opinion Leaders	Individuals in an organization who have formal or informal influence on the attitudes and beliefs of their colleagues with respect to implementing the intervention.
2	Formally Appointed Internal Implementation Leaders	Individuals from within the organization who have been formally appointed with responsibility for implementing an intervention as coordinator, project manager, team leader, or other similar role.
3	Champions	"Individuals who dedicate themselves to supporting, marketing, and 'driving through' an

		[implementation]" [101] (p. 182), overcoming indifference or resistance that the intervention may provoke in an organization.
4	External Change Agents	Individuals who are affiliated with an outside entity who formally influence or facilitate intervention decisions in a desirable direction.
C	Executing	Carrying out or accomplishing the implementation according to plan.
D	Reflecting & Evaluating	Quantitative and qualitative feedback about the progress and quality of implementation accompanied with regular personal and team debriefing about progress and experience.

Conceptual Model for Considering the Determinants of Diffusion, Dissemination, and Implementation of Innovations in Health Service Delivery and Organization (Greenhalgh et al., 2004)



APPENDIX B

TECHNICAL DETAILS:

MASSACHUSETTS HEALTH QUALITY PARTNERS DATA

2012 Data

Massachusetts Health Quality Partners Background

Massachusetts Health Quality Partners (MHQP), founded in 1995, is an independent organization whose mission is “to drive measurable improvements in health care quality, patients’ experiences of care, and use of resources in Massachusetts through patient and public engagement and broad-based collaboration among health care stakeholders.” The organization is informed by an expansive coalition of stakeholders, including physicians, hospitals, insurance companies, health plans, purchasers, patient and public representatives, academics, and government agencies. The MHQP website (www.mhqp.org) is a public resource that provides rating information about medical offices and groups in the domains of clinical quality and patient experience.

Measuring Clinical Quality

MHQP uses clinical quality measures taken from the Healthcare Effectiveness Data and Information Set (HEDIS® Measure Set). The most recent clinical quality data set available at the onset of the Positive Pediatrics study was based on HEDIS® 2012 measures, which generally reflect the performance of medical groups in the 2011 calendar year.

The quality data provided for clinical quality measures is reported at the medical group level. Consumers can search the clinical quality report for a specific primary care physician (PCP) or medical office, but the data reported will still be at the level of the

medical group with which the PCP or medical office is associated. To meet the criteria for inclusion in the report, medical groups must have at least 3 clinicians and 2 HEDIS measures with 30 or more patients contributing to the results. Practices with one or two doctors are included if they are part of a larger medical group that meets these criteria. Performance on selected clinical quality measures are is derived from the HEDIS measure set, for managed care members of the five participating commercial insurance carriers collaborating with MHQP: Blue Cross Blue Shield of Massachusetts, Fallon Community Health Plan, Harvard Pilgrim Health Care, Health New England, and Tufts Health Plan.

MHQP performance scores are calculated by dividing the number of people who received a recommended health care service by the number of people who should have received the service.

Measuring Patient Experience

Patient experience is measured through a survey that asks adults and parents of pediatric patients about their experiences with primary care during the preceding year. The most recent patient experience data set available at the onset of the Positive Pediatrics study was collected in a 2012 statewide survey conducted by MHQP and their five member health plans. The population sampled included parents of patients at pediatric sites with at least three physicians in MHQP's provider database who have a panel size of at least 50 eligible patients across the five participating insurance plans. The survey instrument was developed using items from The Ambulatory Care Experiences Survey (ACES) and from The Clinition/Group CAHPS® Survey. The instrument focused

on two aspects of the patient experience: quality of the patient-doctor interaction and organizational features of care.

Pediatric Clinical Quality Measures included in the MHQP Data Set

Well-Child Visits
Well Visits for Children 0 to 15 Months of Age
Well Visits for Children Ages 3 to 6
Well Visits for Adolescents Ages 12 to 21
Pediatric Medications and Testing
Follow-up with Children Starting Medication for ADHD
Correct Testing for Strep Throat (Pharyngitis)
Correct Antibiotic Use for Upper Respiratory Infections
Asthma Care
Medicine Use for People with Asthma (Ages 5-21)
Women's Health
Chlamydia Screening (Ages 16-20)

2014 Data

Benchmarks and Performance Categories for Public Reporting at the Commercial Practice Site Level

MHQP will publicly report clinical quality practice site results on MHQP's website for healthcare consumers call Healthcare Compass (www.healthcarecompassma.org). MHQP convened a multi-stakeholder Quality Performance Benchmark Workgroup which included physicians, patients, representatives from health plans, and statistical experts to review options and advise MHQP about setting performance levels and communicating about performance in our public reporting. Based on a review of performance data and considering recommendations from our statistical consultant and advice from the workgroup recommended for each clinical quality measure, MHQP used one of two methods to ensure a minimum level of statistical reliability is reached for publicly reporting site results and for establishing benchmarks for comparative purposes. The choice of which method to apply is based on the distribution and the volume of patients and providers represented in the data.

Beta-Binomial Method

To create three performance categories based on relative performance two benchmarks, based on the 20th and 80th beta-binomial percentiles of performance, were established for measures demonstrating relatively wide variation and with sufficient data to detect true differences in performance. The beta-binomial fits performance data to a theoretical model that has been shown to describe the true distribution of performance scores, reducing error. Therefore, the beta-binomial distribution of scores can be used to identify performance benchmarks that are expected to remain stable over time. These relative performance levels differentiate those practices that are truly higher or lower in

performance than those practices in the middle range of performance. This method is most applicable when there is ample measurement data available and when there is variation in performance. The method does not work as well when there is limited variation in performance.

The measures employing the beta-binomial benchmarks are:

Measure
Annual Monitoring for Patients on Persistent Medications (ACE inhibitors or ARBs; Diuretics; Total)
Breast Cancer Screening
Cervical Cancer Screening
Chlamydia Screening (Ages 16-20)
Colorectal Cancer Screening
Well Care Adolescent Visits (Ages 12-21)

Modified Hochberg Method

When performance is high or low across almost all practices for a given measure, it is difficult to distinguish levels of performance among practices. Therefore, an alternative method of performance classification is needed. In these cases, MHQP has applied a modified version of the Hochberg method. The Hochberg method, named after the statistician who developed it, essentially defines performance level by comparing practice performance to the median. Practice scores are evaluated to determine whether they are statistically similar to or different from the median practice score. Benchmarks are

defined by determining the exact point at which a practice with sufficient sample size would be significantly lower than or higher than the median.

To calculate performance benchmarks for this Clinical Quality report, when performance was high or low across almost all practices for a given measure, MHQP used a modification of the Hochberg method which uses only one benchmark instead of two. When performance is consistently high across practices, practices in the middle and high-performance categories are moved into the high-performance category. Similarly, when performance is consistently low across practices, practices in the middle and high-performance categories are moved into the middle performance category.

Methodologically, those practices falling into the recalibrated lowest performance level reported are still truly different from the majority of practices being reported. MHQP adjusted the modified Hochberg method for a few measures, when practice rates did not differ from the median in a statistically significant way, even though care provided was clearly superior (i.e. the performance rate was at or above the beta binomial 99th percentile). In these cases, MHQP put the practice result in the high-performance category and included a high-performance designation (see section below). This decision is based upon the clinical relevance of these practices providing the desired service most of the time and MHQP's intent to produce maximally useful and meaningful quality information for consumers.

The measures employing the modified Hochberg method are:

Measure
Antidepressant Medication Management (Effective Continuation Phase Rx)
Appropriate Asthma Medication Use (Ages 5-11 & Ages 12-50)
Appropriate Testing for Children with Pharyngitis
Appropriate Treatment for Children with URI
Chlamydia Screening (Ages 21-24)
Cholesterol Management for Patients with Cardiovascular Conditions: LDL-C Screening
Diabetes HbA1c Testing
Diabetes LDL Screening
Follow-Up of Care of Children Prescribed ADHD Medications (Initiation Phase)
Medical Attention for Nephropathy
Use of Imaging Studies for Lower Back Pain
Well Infant (First 15 months of life), Well Child (Ages 3-6)

Misclassification Risk and Buffer Zones

MHQP's public reporting establishes performance categories so that meaningful differences in performance among practices are represented. The number of performance categories is limited in order to highlight differences and reduce the chance that a practice could be misclassified in a category that is lower than it should be. For measures using

beta-binomial performance benchmarks, MHQP also defines a one-point buffer zone around each performance cut-point to further reduce the possibility of incorrectly categorizing a practice in a lower category. The Hochberg method protects against misclassification through a statistical process reducing the chance of error, therefore, measures using this method to set benchmarks do not require buffers.

Top Performance Designation

MHQP has identified practices achieving the highest or “top” level of performance in private and public reporting. Practices reaching this level of performance were identified using the beta-binomial method described above. Practices achieving “Top Performance” are at or above the 99th percentile of the beta-binomial distribution for a given measure. The beta-binomial 99th percentile can be used to set achievable goals for quality improvement for existing measures which have had stable results over time.

APPENDIX C

SEMI-STRUCTURED INTERVIEW GUIDE CHAPTER 4

Introduction:

- Remind participant of study rationale
- Express appreciation for time
- Reiterate voluntary nature of participation
- Discuss ground rules if group interview (e.g., respect for each speaker's perspective, waiting for others to finish)

A. Opening questions

1. Could you (each) tell me a little bit about yourself and your role in this practice?
2. Now I'd like to hear your thoughts on what it means to you to provide high quality primary care for children and families.

B. Organizational factors

1. Can you tell me a little bit about the things you like best about working in this practice? If you could envision the best practice to work in what would that look like?
How do you think the work environment impact patients?
2. How are decisions made in the practice? Can you walk me through an example?
3. Networks: How do practice members learn about newer guidelines, best practices?
4. (If not brought up in Q1) Part of this study looks at practices' performance on pediatric care quality measures and I would like to hear your thoughts on these measures. (probe HEDIS, CHIPRA, patient experience, other quality measures, utility of measuring quality, recommended changes to measurement)

5. And how do you feel about the ways in which performance is publicly reported, such as through the Massachusetts Health Quality Partners website?

C. Next, I would like to ask you some questions related to clinical quality measures, such as appropriate use of antibiotics for upper respiratory tract infections and the percent of children who are up to date on well child care.

1. Please tell me about efforts your practice has made, if any, to improve clinical care.

(probe EMR, designated staff to address quality, patient engagement, participation in a quality collaborative, medical home certification, strategies specific to vulnerable populations)

2. Are there additional strategies currently being considered or developed?

3. We know that some practices do better than others on some of these measures. Why do you think this may be?

4. What other factors do you think may contribute to your practice's (high) clinical quality scores? (probe champion, leadership priority). Show conceptual model.

D. Now I am going to ask you some questions about parent or parent/patient satisfaction measures, such as whether a parent or patient would recommend their practice to other parents.

1. Please tell me about efforts your practice has made, if any, to improve patient satisfaction. (probe active solicitation of feedback, specific efforts for vulnerable populations)

2. Like the clinical quality measures, some practices seem to do better than others on these measures and I wonder why you think that may be?

3. What other factors do you think may contribute to your practice's high parent/patient satisfaction scores? (probe champion, leadership priority)

E. Health Equity

1. One puzzling aspect of care quality is that, in general, minority populations receive lower care quality. What are people's thoughts on the causes of health disparities in the U.S.? Possible systematic solutions? How might quality measures address health disparities?

2. Please tell me about your practice's strategies for addressing underserved populations needs?

F. Now I would like to ask for your thoughts on how to best help pediatric practices improve their clinical care and parent experiences.

1. What do you think is the best approach to helping practices that wish to improve the quality of clinical care they deliver? (probe dissemination and implementation strategies)

2. How about their parent/patient satisfaction? (probe dissemination and implementation strategies)

3. We plan to survey a large number of practices across the state about what they do ensure high quality of care. What do you think are the best ways to encourage people to respond to this survey?

4. Is there anything else you would like to add to our discussion about care quality in pediatric primary care.

APPENDIX D

QUESTIONNAIRE: POSITIVE DEVIANCE STUDY

Confidential

Page 2 of 8

Section 1 (Continued)

Please indicate how much you disagree or agree with the following statements about YOUR practice.

If you work with more than one pediatric practice, please think about only one practice when responding.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
1 Our practice leaders are approachable (e.g., managers, clinicians).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 Our practice leaders offer professional development opportunities for staff (e.g., front desk, medical assistants, nurses).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 Our clinicians and staff are included in decision-making about quality improvement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 We have adequate medical assistant staffing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 We have adequate front desk staffing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 We have adequate nurse staffing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7 We have adequate clinician staffing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 1 (Continued)

Please indicate how much you disagree or agree with the following statements about YOUR practice.

If you work with more than one pediatric practice, please think about only one practice when responding.

		Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
8	Our practice feels like a family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Our front desk staff feel valued by others in the practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	Our medical assistants feel valued by others in the practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	Our nurses feel valued by others in the practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Our clinicians feel valued by others in the practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	Our clinicians and staff communicate well with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	We actively seek to address healthcare disparities (e.g., based on race/ethnicity, disability, socioeconomics).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	Our patients and families feel respected by our staff and clinicians.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	Our patients and families trust us.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 1 (Continued)

Please indicate how much you disagree or agree with the following statements about YOUR practice.

If you work with more than one pediatric practice, please think about only one practice when responding.

- | | | Strongly
Disagree | Disagree | Agree | Strongly Agree | Don't Know |
|----|---|----------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 17 | We have the resources needed to carry out quality improvement initiatives. | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18 | We have the skills needed to carry out quality improvement initiatives. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19 | Patient experience measures (e.g., willingness to recommend the practice) adequately reflect the quality of interpersonal care we provide. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20 | Clinical quality measures (e.g., number of well-care visits, testing for pharyngitis) adequately reflect the quality of clinical care we provide. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21 | We frequently use technology (e.g., electronic medical record, scheduling software) for quality improvement purposes. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22 | Our quality scores are influenced by factors over which we have no control. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23 | What, if any, barriers does your practice currently face with respect to providing high quality care? | | | | | |

Section 2

Now, please give your OPINION on how much the following factors influence pediatric quality of care.

	No influence	Little influence	Some influence	Strong influence
1 Having good communication between clinicians and staff (e.g., front desk staff, medical assistants, nurses, clinicians).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 Involving both clinicians and staff in quality improvement efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 Using the electronic medical record for quality improvement (e.g., registries).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 Being a certified patient centered medical home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 Being part of a network that offers resources for quality improvement (e.g., Physician-Hospital Organization, Quality Improvement Collaborative).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 Offering co-located (on-site) specialty services (e.g., behavioral health, social work).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7 Having a quality "champion" who has time set aside for quality improvement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section 2 (Continued)

Please give your OPINION on how much the following factors influence pediatric quality of care.

	No influence	Little influence	Some influence	Strong influence
8 Providing educational opportunities for staff at the practice site.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9 Providing "evidence-based" care (e.g., consistent with clinical guidelines).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10 Having approachable practice leaders/managers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11 Having sufficient staffing at all levels (e.g., front desk, medical assistants, nurses, clinicians).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12 Having clinicians and staff who enjoy working with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13 Of the 12 factors listed above, which 3 do you feel have the greatest influence on pediatric quality of care? Please write the question numbers from above for your top 3 factors here.

14 What else, if anything, do you feel influences the quality of care a pediatric practice provides?

Section 3
Almost Done! Please tell us a little bit about yourself and your practice.

- 1 What is your current role in your practice?
- Practice manager
 - Nurse - manager
 - Nurse - other
 - Physician - owner
 - Physician - leader
 - Physician - other
 - Other
- If you checked "other" above, or have additional roles, please enter the role(s) here. _____
- 2 How many years have you been in your current role at this practice?
- Less than 2 years
 - 2-5 years
 - 6-10 years
 - 11-15 years
 - 16-20 years
 - more than 20 years
- 3 How many years in total have you been with this practice?
- Less than 2 years
 - 2-5 years
 - 6-10 years
 - 11-15 years
 - 16-20 years
 - more than 20 years
- 4 How many years in total have you worked in your current role, including at other practices?
- Less than 2 years
 - 2-5 years
 - 6-10 years
 - 11-15 years
 - 16-20 years
 - more than 20 years
- 5 What are your academic degrees? (Check all that apply.)
- No degree
 - Associate
 - Bachelor
 - MSW or other social work degree
 - MPH or MSc
 - MBA
 - LPN
 - RN
 - PA
 - NP or DNP
 - MD
 - Other
- If you checked "other" above, please list additional degrees here. _____
- 6 How would you classify your gender?
- Female
 - Male
 - Non-binary

- 7 What is your age?
- 18-25 years
 - 26-35 years
 - 36-45 years
 - 46-55 years
 - 56-65 years
 - more than 65 years
- 8 How would you describe your race/ethnicity? (Please check all that apply.)
- Black
 - White
 - Hispanic
 - Asian
 - Native Hawaiian or other Pacific islander
 - Other
- If you checked "other" above, please add your race and ethnicity information here.
-
- 9 How satisfied are you with your job?
- Very satisfied
 - Satisfied
 - Unsatisfied
 - Very unsatisfied
- 10 How much control do you feel you have over your work schedule?
- A lot
 - Some
 - Little
 - None
- 11 How often do you feel emotionally and/or physically drained at the end of the work day?
- Never
 - Rarely
 - Often
 - Almost always
- 12 How many pediatric-only sites are there in your organization? Please count both completely separate sites and sites that share clinicians but not staff as unique sites.
- 1
 - 2
 - 3
 - 4 or more
 - I Don't Know
- 13 How many pediatric clinicians (MD, NP, PA) does your practice have, including full- and part-time? (For organizations with multiple pediatric sites, please respond for the practice you were thinking about for responses in Sections 1 & 2.)
- 1-2
 - 3-5
 - 6-10
 - More than 10
- 14 Approximately what percentage of the patients in your practice carry public insurance (Medicaid) or are uninsured?
- Less than 10%
 - 10-24%
 - 25-49%
 - 50-74%
 - More than 75%
- 15 Do you have any additional thoughts you would like to share?
-

APPENDIX E
CLINICAL LEADERSHIP AND DIRECT CARE COMMITTEE
GOALS AND OBJECTIVES

Specific objectives of the Clinical Leadership Team include the following:

1. Establish principles for care delivery
2. Work with the Direct Care Committee to:
 - a. Identify and address barriers to successful care delivery
 - b. Identify data and metrics needed to inform care delivery models and assess sustainability of care delivery
3. Review quality metrics and recommendations from the quality committee, adjust care delivery as needed
4. Review utilization and cost of care and adjust care delivery as needed
5. Engage in continuous process improvement

Specific objectives of the Direct Care Committee include the following:

1. Identify and address barriers to successful care delivery
2. Identify data needed to inform care delivery models
3. Identify data to measure success of initiatives and respond to data
4. Develop and implement program changes based on data measures above
5. Report the status of ACO initiatives in respective Health Centers to the Clinical Leadership Team
6. Adjust care delivery based on recommendations from the Clinical Leadership and Quality committees

7. Work with Practice Transformation Coaches to implement change based on principles of ideal model of care

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