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Trying to Cover the Sun with Your Thumb: A Critical Ethnography of Maternity Care Provision in Rural Northern New Mexico

Abigail Reese
University of New Mexico

Abigail L. Reese
Candidate

College of Nursing
Department

This dissertation is approved, and it is acceptable in quality and form for publication:

Kim J. Cox, Ph.D., RN, CNM, FACNM, chairperson

Jennifer Averill, Ph.D., RN

Lawrence M. Leeman, MD, MPH

Van Roper, Ph.D., FNP-C

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by

ABIGAIL L. REESE

A.B., Princeton University, 1992
M.S.N., Yale School of Nursing, 1998

DISSERTATION

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DEDICATION

This dissertation is dedicated to Luna and Jude, who gave me my own firsthand experiences with rural maternity care, and who inspire me in more ways than they could ever know.

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Abigail L. Reese

A.B., PRINCETON UNIVERSITY, 1992
M.S.N., YALE SCHOOL OF NURSING, 1998
Ph.D., UNIVERSITY OF NEW MEXICO, 2018

ABSTRACT

Access to maternity care is disappearing for women across rural America. In the state of New Mexico, women often travel long distances to access hospitals and providers that offer childbirth services, as these resources are concentrated primarily in metropolitan areas. Although data on provider distribution is available, very few studies have explored the maternity care access crisis from the perspectives of the midwives and physicians who work in rural areas. The purpose of this critical ethnographic study was to explore barriers and facilitators to the provision of childbirth services from providers' perspectives with the intent of informing policy debates around the preservation and maintenance of safe, local birthing options. A further aim was to explore the significance childbearing women and other community stakeholders placed on the availability of local birthing and support services. Over a one-year period, in-depth interviews and fieldwork were conducted in three rural northern New Mexico counties: Rio Arriba, Taos, and San Miguel. Thematic content analysis was used to analyze interview data, field notes, and supporting documents. This study had three overarching findings: (a) Structural barriers to rural practice are persistent across disciplines and contribute to the maldistribution of

maternity care providers; (b) Midwifery care is culturally appropriate and appealing to women, but accessibility is limited due to the marginalization of midwives within rural health systems; (c) Perinatal support services such as home-visiting, doula services, and breastfeeding support are a critical complement to clinical care and help to counteract the fragmentation of rural services.

The dissertation concludes with a discussion of implications for policy reform, clinical training, and suggestions for further research. In order to assure the sustainability of rural maternity care resources, it is imperative that the insights and expertise of providers, community members, and other stakeholders be included in present and future policy directives.

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“To me, it’s how do we create a different solution? Because thus far, the solutions that I’ve heard or read about or researched about are all about how do we increase the number of providers? And I feel that is like trying to cover the sun with your thumb as we say in Spanish, you know?”

- Midwife in northern New Mexico

CHAPTER 1

INTRODUCTION

Many women in rural America lack access to a trained midwife or physician to care for them during childbirth. For women who live in small and sparsely populated communities, geographic isolation has always had the potential to limit access to these services. Yet, as clinical advances in maternity care have occurred along with changes in healthcare delivery models in the United States, rural childbearing women have become increasingly subject to disparities based on where they live (American College of Obstetricians & Gynecologists, 2014). Childbirth services are becoming increasingly centralized in larger metropolitan areas, requiring some women to travel considerable distances for care (Rayburn, Richards, & Elwell, 2012). The implications of centralization for the maternity care providers who remain in rural communities, and for the women they serve, remain largely unexamined and marginal to mainstream health policy debates.

The National Landscape

A number of phenomena contribute to the centralization of services. Some are the result of deliberate policy decisions, such as perinatal regionalization, and others occur in the absence of defined policy, such as the increasing privatization of rural hospitals. The national political upheaval that resulted from the 2016 presidential and congressional elections has also had implications for rural women's health due to threats to the Patient Protection and Affordable Care Act (ACA), the Title X Family Planning Program, and to providers of reproductive healthcare, including abortion services.

Perinatal Regionalization

Federal, regional, state, local, and institutional policies contribute to the growing challenge of meeting the need for rural maternity care. In many states, perinatal regionalization represents an approach to assuring that resources and patients are directed to an appropriate level of perinatal care, as in the case of arranging for delivery at an institution with a Level III neonatal intensive care unit (NICU) when significant prematurity or anomaly is anticipated (Association of State & Territorial Health Officials, 2014). Substantial evidence has shown that this strategy contributed to decreases in infant mortality (Lasswell, Barfield, Rochat, & Blackmon, 2010). However, there are also unintended consequences of concentrating resources, training, expertise, and experience in tertiary care centers that are remote from rural communities, including decreased capacity to address the basic and emergency needs arising in childbirth for the women who will inevitably deliver locally (Klein, Johnston, Christilaw, & Carty, 2002).

Privatization of Hospitals in Rural Communities

A significant and insufficiently examined issue is the increasing privatization of hospitals in rural communities. The majority of rural hospitals nationwide remain publicly owned or nonprofit. However, a growing number are being purchased by large corporations that own hospitals in states with diverse populations and unique local contexts (Horwitz & Nichols, 2011). Horwitz and Nichols conducted an analysis of this trend for the National Bureau of Economic Research and found that for-profit hospitals in rural communities offer fewer services than nonprofit hospitals, even when the analysis controlled for a number of factors, including hospital size. The discrepancy was most pronounced in regard to unprofitable services, such as maternity care. For-profit hospitals

were also more likely than nonprofit institutions to eliminate services based on a decrease in profitability. Hung, Kozhimannil, Casey, and Moscovice (2016) reinforced this finding, characterizing rural obstetric units that closed as smaller in size, privately owned, and located in communities with lower family income and fewer obstetrical providers.

Federal Leadership Priorities

The 2016 presidential and congressional elections resulted in a shift in the balance of power at the federal level that may have significant health policy implications for rural communities. These include efforts to dismantle key provisions of the ACA (Snell-Rood & Willging, 2017) and proposed changes to the Title X program (Planned Parenthood, 2016, Cha, 2018). In the event that these key programs are cut or eliminated, rural women will even less access to maternity and preventative services, given that 54% of Planned Parenthood clinics are located in rural, medically underserved, or health professional shortage areas (Planned Parenthood, 2016, Cha, 2018).

Additional Challenges to the Safe Provision of Rural Maternity Care

In the context of centralization, privatization, and federal policy upheaval, additional challenges exist for the safe provision of maternity care to women in rural communities. Staffing concerns range from the difficulty in recruiting and retaining nurses and clinicians to small rural hospitals to the underutilization of midwives (American College of Obstetricians & Gynecologists, 2014). Furthermore, rural women have higher rates of obesity and opioid dependence than their urban and suburban counterparts, resulting in higher complication rates in pregnancy and childbirth (Bennett, Lopes, Spencer, & van Hecke, 2013). Obesity, affecting nearly a quarter of rural American women, is associated with the development of a range of complications,

including gestational diabetes, hypertensive and perinatal mood disorders, preterm birth, and stillbirth (Marchi, Berg, Dencker, Olander, & Begley, 2015). Obesity also significantly increases the risk for a caesarean delivery (Rogers, Harper, & Mari, 2018). Births affected by neonatal opioid withdraw have nearly doubled in rural communities over the past decade, indicating a significant unmet need for treatment for substance use disorders for rural women (Villapiano, Winkelman, Kozhimannil, Davis, & Patrick, 2017).

Access to Care in Rural America

The United States occupies a vast geographic territory of which 75% is considered rural (American College of Obstetricians & Gynecologists, 2014). Yet, the majority of resources, including employment, goods, and services, are concentrated in the more populated metropolitan areas of the country.[1] More than 28 million women over the age of 18 (Bennett et al., 2013), reside in rural counties, approximately 40% of which have no identified obstetrician, midwife, or family medicine physician offering childbirth services (Kozhimannil, Henning-Smith, Hung, Casey, & Prasad, 2016).

Access to care for childbirth is becoming increasingly limited. Between 2004 and 2014, the percentage of rural counties with hospital-based maternity care declined 9% (Kozhimannil, Hung, Henning-Smith, Casey, & Prasad, 2018). Declines have been most rapid in the least populated counties. According to data from an American Hospital Association annual survey, between 2008 and 2010, 14% of hospitals with fewer than 100 births per year discontinued obstetric services (Simpson, 2011). This trend coincides

[1] It is important to note, however, that urban inner-city communities, immersed in poverty and often containing concentrated populations of people of color, also experience significant maldistribution of resources linked to geography.

with worsening rates of maternal mortality and severe maternal morbidity nationwide (Creanga et al., 2014). However, both maternal and infant mortality rates are rising most rapidly in rural communities (Maron, 2017). In the most remote rural counties that lost hospital-based maternity services between 2004 and 2014, there were significant increases over the year following closure in the rates of preterm birth, birth in hospitals without obstetric services, and in the rates of women receiving inadequate prenatal care (Kozhimannil et al., 2018). Researchers in British Columbia have also found that Canadian women who had to travel for maternity care had an increased risk of adverse outcomes, such as prolonged NICU stays and increased rates of perinatal infant mortality (Grzybowski, Stoll, & Kornelsen, 2011).

Maternity Care in New Mexico

New Mexico provided an ideal context for an examination of access to rural maternity care. It is the fifth largest state by territory, but with an estimated population of just over 2 million inhabitants, it is one of the most sparsely populated (U.S. Census Bureau, 2017). Furthermore, dispersed throughout the state are 19 Puebloan tribes, 3 Apache tribes, and the Navajo Nation, all representing sovereign tribal lands that are served to varying degrees by federal Indian Health Services (IHS) maternity care providers (New Mexico Indian Affairs Department, n.d.). The majority of New Mexico's population is concentrated in four metropolitan areas, especially in and around its largest city, Albuquerque, which is home to nearly a third of the state's population (U.S. Census Bureau, 2017).

New Mexico's population is one of the most racially and ethnically diverse in the country. Both a product of history and geographic isolation, and a harbinger of

demographic changes that are spreading across the urban and rural United States, New Mexico is one of four states now considered "majority minority" (DeSilver, 2015). The most recent U.S. Census population estimates identified 48.5% of the population as Hispanic/Latino and 10.6% as American Indian, second only to Alaska as the state with the highest concentration of American Indians (U.S. Census Bureau, 2017). Unlike some other parts of the United States, this diversity is as likely to be found in the rural areas of the state as it is in the cities.

For New Mexican communities of color, rurality contributes to the already complex web of factors that produce inequity in access to healthcare and maternal/infant outcomes. According to the Centers for Disease Control and Prevention (CDC), the maternal mortality rate is rising faster in New Mexico than nationwide (United Health Foundation, 2018). Despite small overall numbers and the resulting difficulty in examining deaths directly related to pregnancy, it is clear that Hispanic and American Indian women are over-represented in this worsening phenomenon (Phelan, 2016). From 2008-2014, 18% of all-cause maternal deaths were to American Indian women, even though they represented only 10.6% of the overall population. The percentage of Hispanic maternal deaths (55%) was also disproportionate to the Hispanic population (48.5%) (Phelan, 2016).[2] In addition, the most recent New Mexico Vital Statistics Report (New Mexico Department of Health, 2016) indicated that the neonatal death rate for Hispanic newborns was more than double that of non-Hispanic Whites, and for African-Americans, the rate was nearly four times that of non-Hispanic Whites. Although statistical analyses are also unstable for this indicator due to low overall numbers, the

[2] In comparison, non-Hispanic Whites represent 36% of the New Mexico population but only 24% of maternal deaths (Phelan, 2016).

highest rates of neonatal mortality appear to be concentrated in rural counties (New Mexico Department of Health, 2018). These trends indicate a need for closer scrutiny of maternal and neonatal outcomes among rural dwelling women by public health officials and policy makers in the state.

Maternity Care Providers

Four types of healthcare professionals are licensed to attend births in New Mexico. All have a critical role in the delivery of services to women in rural communities.

Family medicine physicians. Family medicine physicians can be licensed as either doctors of medicine (MD) or doctors of osteopathy (DO). Following a three-year postgraduate residency, family medicine physicians provide primary care across the spectrum of age and sex. Those who complete a fellowship in maternal-child health or obstetrics are additionally prepared to manage high-risk conditions in pregnancy and to perform cesarean deliveries (Magee, Radlinski, & Nothnagle, 2015). Family medicine physicians are critical to rural healthcare delivery in New Mexico, although the majority do not attend births. The advent of maternity care fellowship training in the 1990s coincided with a nationwide increase in the number of physicians trained in family medicine but also with a steady decline in the number of family medicine physicians providing full-scope maternity care. By 2010, those attending births represented just 10% of family medicine physicians in active practice (Tong et al., 2013). As of 2018, the state of New Mexico had not begun tracking the contribution of family medicine physicians to childbirth services.

Obstetricians. Obstetrician-gynecologists, also licensed as DO or MD, are surgeons who specialize in the care of women. There are numerous subspecialties within this field, but the small percentage who practice within rural communities are likely to be generalist obstetrician-gynecologists who have completed a four-year postgraduate residency. More than half of the obstetricians in New Mexico practice within the Albuquerque metropolitan area (Farnbach Pearson, Reno, & New Mexico Health Care Workforce Committee, 2017).

Certified nurse-midwives (CNM). CNMs are dually educated in the disciplines of nursing and midwifery. They must complete a master's degree or a doctorate through a program accredited by the Accreditation Commission for Midwifery Education and must pass a national certification examination administered by the American Midwifery Certification Board. They are specialists in the care of healthy women throughout the lifespan and are experts in medically uncomplicated childbirth. New Mexico law grants CNMs independent practice and full prescriptive authority. CNMs can attend births in hospital, birth center, and home settings. They are concentrated in urban communities, with the majority practicing in Albuquerque (Farnbach Pearson et al., 2017); however, CNMs are also a prominent part of the maternity care workforce within IHS settings (Farnbach Pearson et al., 2017; New Mexico Department of Health, Maternal Health Program, 2018a).

Licensed midwives (LM). Direct-entry midwives are licensed as LMs. There are multiple pathways to LM practice, which include completion of either the New Mexico-state-approved apprenticeship model or a master's or doctoral degree through an accredited program. The majority of midwives licensed as LMs also obtain the certified

professional midwife (CPM) credential through an examination administered by the North American Registry of Midwives (NARM; NARM, n.d.). LMs are not currently credentialed in New Mexico hospitals and are specialists in out-of-hospital birth and home birth. They practice under formal practice guidelines endorsed by the New Mexico Department of Health; these guidelines comprise prenatal, interconception, birth, postpartum, and well-woman care, and care of the well newborn (New Mexico Midwives Association & New Mexico Licensed Midwifery Advisory Board, 2008). LMs are disproportionately represented in rural New Mexico communities as compared to CNMs and obstetricians (Farnbach Pearson et al., 2017; New Mexico Department of Health, Maternal Health Program, 2018b).

Tracking the New Mexico Healthcare Workforce

In New Mexico, as in all rural states, access to healthcare services is affected by a limited workforce. At the national level, a 2015 systematic review published by the Veterans' Administration found substantial evidence that unmet needs for healthcare were increasingly pronounced based on degrees of rurality (Hempel et al., 2015). In 2011, the New Mexico Legislature passed the New Mexico Healthcare Workforce Data Collection, Analysis and Policy Act. The goals of the legislation were to establish a multidisciplinary committee of stakeholders and to collect practitioner data through the license renewal process in order to allow the committee to examine trends in the distribution, recruitment, and retention of healthcare providers and to plan for future capacity needs (Farnbach Pearson et al., 2017).

Although it has been a useful tool for monitoring workforce trends, the annual report has had limitations. One limitation was that midwives—CNM and LM—were not

included in the analysis until 2017. Furthermore, the report does not identify the number of physicians who attend births as part of their practice, which limits interpretation of provider location and access to maternity care. The data reported for 2016 indicated that, despite having provider-to-female population ratios that are more favorable than the national average, the distribution of the New Mexico maternity care workforce was markedly skewed, with the vast majority of obstetricians and CNMs practicing in metropolitan counties. In contrast, the LM workforce was the most evenly distributed.

Birthing Site

Hospitals. Birthing women in particular face disparities in access to care that are not completely evident in New Mexico workforce data. As of 2018, 17 hospitals outside of New Mexico's metropolitan areas offer childbirth services, not including two IHS facilities serving the eastern Navajo Nation and one serving Zuni Pueblo. Since 2010, four rural hospitals, not including IHS, have discontinued birthing services (New Mexico Hospital Association, 2016). One of these hospitals has since reinstated services following a 19-month hiatus. New Mexico's neighbor to the west, Arizona, also has 17 rural hospitals with birthing services. These include four IHS facilities, although five of the 17 are considered semirural, with 800 to 1,000 deliveries per year. Since 2010, Arizona has lost only one IHS birthing unit "due to lack of staff" (D. Christian, personal communication, February 27, 2017). This number of facilities serves a population more than three times that of New Mexico, but geographically speaking, New Mexico's network of birthing hospitals must serve a territory more than 7,700 square miles larger (U.S. Census Bureau, 2017).

Out-of-hospital birth sites. Out-of-hospital birth sites in rural New Mexico include freestanding birth centers, "birthing suites" located in midwifery clinics or practice sites, and planned home births. The American Association of Birth Centers defines a birth center as "a health care facility for childbirth where care is provided in the midwifery and wellness model" and clarifies that, "The birth center is freestanding and not a hospital" (Bauer, 2017). In 2016, New Mexico began offering licensure to freestanding birth centers able to meet certain standards enforced by the state Department of Health (Requirements for Freestanding Birth Centers, 2016). Legislation to authorize licensure was sought by providers of out-of-hospital birthing services to create a mechanism for charging a facility fee considered essential to the economic viability of the birth center model. In contrast, a birthing suite is a dedicated room within a clinic or practice setting that contains the necessary supplies and equipment for an out-of-hospital birth but may not meet the formal requirements for licensure. Planned home births occur in the woman's home or in another residential setting with trained maternity care providers in attendance. Recent New Mexico-based trends in home and birth center birth have not been well-described in the literature or in state reports. However, it is known that at least one freestanding birth center (in Taos County) was forced to close in 2014 due to pre-licensure financial challenges, thus eliminating one option that had been in place since 1983.

Research Purpose and Objectives

The purpose of this study was to conduct an examination of access to and challenges in the provision of childbirth services from the perspectives of maternity care providers in three rural, northern New Mexico counties: Rio Arriba, Taos, and San

Miguel. This research also included an exploration of the significance that childbearing women and other community stakeholders place on the availability of local birthing and support services.

Research Questions

- What are the barriers to and facilitators of rural maternity care practice in New Mexico, including structural, institutional, and personal/relational considerations?
- What are the impacts of current training approaches, policies, and rural practice incentives on providers who attend births in rural New Mexico?
- What significance do rural New Mexico communities place on having access to local childbirth services and the full range of licensed maternity care provider types?

Specific Aims

- To describe the perspectives and experiences of midwives and physicians who attend births in rural New Mexico, in order to inform an understanding of what motivates a commitment to rural maternity care practice and what facilitates an ability to navigate the challenges of this setting and role.
- To explore from a community perspective, with attention to the history and culture of birth in rural New Mexico, the significance of access to local maternity care resources.

Significance

Hospitals with low birth volume are steadily discontinuing obstetric services, increasing the distance that rural women must travel for care. Hospitals and providers that continue to offer maternity services face significant challenges related to the retention of

a well-trained workforce. The role of midwives−CNM and LM−meeting rural community needs for care is relatively unexamined. Without attention to these issues, centralization of services occurs by default, with unexamined and potentially far-reaching consequences. This study sought to address these issues and to propose policy and workforce strategies that would meet identified community needs.

Research Approach

Critical ethnography

I approached this research with a specific and open agenda: an analysis based on the perspectives of maternity care providers in rural practice and community dwelling women. Importantly, the perspectives of these stakeholders has not been previously incorporated into the dialogue about why access to maternity care is decreasing. A primary goal of this study was to identify the structural factors that contribute to health inequity in order to improve equity and healthcare access for childbearing women in rural New Mexico. As described by Madison (2012), "Critical ethnography begins with an ethical responsibility to address processes of unfairness or injustice within a particular lived domain" (p. 5). As such, critical ethnography relies on engagement with participants who have intimate knowledge of this lived domain, but it also incorporates other forms of data, such as historical documents, policies, curricula, and media, in order to provide a rich context for exploratory inquiry. Critical ethnography might help to determine factors that contribute to decreasing access and worsening outcomes among rural women and the community-informed and culturally resonant approaches needed to create meaningful change. Because so little has been written about the experiences of rural maternity care providers, this study fills an important gap in the literature to date.

Assumptions

Ample evidence suggests that ethnographic research can be leveraged to make essential contributions in the service of improved healthcare access (Higginbottom, Pillay, & Boadu, 2013; Averill, 2002). Research conducted outside of the United States demonstrates the value of qualitative inquiry conducted with rural maternity care providers and community members to inform policy recommendations (Kornelsen & Grzybowski, 2006; Grzybowski, Kornelsen, & Cooper, 2007; Grzybowski, Stoll, & Kornelsen, 2011; Stoll & Kornelsen, 2014). This study was premised on the assumption that rural maternity care providers and community members in New Mexico represented interpretive communities that have undervalued and untapped expertise regarding maternity care services and policy.

Scope of Inquiry

The primary mode of inquiry consisted of in-depth ethnographic interviews with midwives (CNM/LM) and physicians who attend births in Rio Arriba, Taos, and San Miguel counties. Interviews were also conducted with representatives of two other types of key informants: (a) women who sought maternity care in the focus communities within the past five years and (b) other community stakeholders, such as policymakers, advocates, or administrators who manage or provide support to rural maternity care services in these communities.

Other modes of ethnographic inquiry, such as participant observation, provided a rich and contextualized understanding of rural maternity care provision in New Mexico. This included analysis of existing training and recruitment programs, relevant state and federal law, and recent legislative proposals and testimony.

Conceptual Definitions

Rurality

No consistent definition of rurality is used for health services research and policy. According to Hart, Larson, and Lishner (2005), researchers and analysts must select a definition based on the aspects of rurality that they intend to place at the focal point of their work, and yet there are significant implications of this decision based on what aspects of rurality are made central and which are allowed to remain peripheral. The lack of standardization creates challenges and requires care when proposals or analyses that use different definitions are considered side by side.

One of the most commonly used policy-oriented definitions of rural is the federal Office of Management and Budget (OMB) metropolitan and nonmetropolitan taxonomy. The OMB classification operates at the county level and is based on the identification of "metropolitan" counties as those that contain an urbanized core and receive a regular influx of commuters from outlying areas (Office of Management and Budget, 2010). The nonmetropolitan category contains all other counties that can be considered "non-core" in comparison. A county-oriented definition has the advantage of being based on stable boundaries that provide some basis of political representation and resource distribution. New Mexico healthcare workforce data and vital statistics are organized in this way, and for consistency, I chose to replicate this approach. In addition, I used an ethnographic framework to explore the ways in which functional, political, economic, and cultural aspects of rurality (Cloke, 2006) complicate and enhance the county-level definition of rurality provided by the OMB classification. While this research was focused on maternity care resources within counties, it also determined the degree to which these

resources served women and families, both within the same county and from surrounding areas.

Maternity Care

For the purposes of this study, I used "maternity care*"* rather than "obstetric care" because maternity is woman-centered and avoids reference to a specific clinical discipline or model of care. The term maternity generally refers to clinical care provided to the mother-baby dyad throughout pregnancy, birth, and postpartum recovery experiences. Although this spectrum of care was included in the analyses, I focused primarily on care during childbirth. This was because, regardless of site or model of care, birth is the most costly and challenging aspect of the maternity care process to staff, provide, and sustain.

Limitations

This study had some inherent methodological limitations related to ethnography. First, the findings were limited by the individuals who chose to speak with me and the rapport I able was to establish with them. Individuals with important insights to share could be among those who declined to participate in the study. Second, the research plan did not include prolonged periods of living within each of the focus communities. This represented a departure from the traditional ethnographic method, and might have compromised the depth of insight that I was able to develop related to rural community life and clinical practice.

Interpretation of the data could have been limited by the lens and biases of the researcher. By using a critical framework, the study might have highlighted some issues to the exclusion of others that might have been equally important.

Finally, this research focused on distinct rural communities in northern New Mexico. It is possible that the issues identified could be unique to these communities and therefore not generalizable to other rural communities in New Mexico or in other states.

Organization of the Dissertation

Chapter 2 includes a discussion of critical theory and critical medical anthropology which was the framework used for this study. This is followed by the presentation and explanation of the analytic model developed for this research. Chapter 2 also includes a review of the available literature that addresses rural maternity care access and quality, the New Mexico historical context, previous ethnographic work, and relevant current and proposed state and federal policy.

Chapter 3 outlines the design, procedures, and analytic methods used to conduct this research. The chapter also includes a discussion of the features that distinguish critical ethnography from a more traditional descriptive approach, as well as the rationale for using this method.

Chapter 4 provides a rich description of the three counties where I conducted fieldwork: Rio Arriba, Taos, and San Miguel. It begins with a description of each county's unique historical context, challenges, and resources; demographic and geographic data; and a description of the terrain and local institutions.

Chapter 5 presents the major thematic findings that emerged across provider types and communities, along with supporting data drawn directly from interviews with study participants. These themes include providers' perspectives on the barriers to and facilitators of rural maternity care practice in northern New Mexico, as well as the

perspectives of community women, leaders, and advocates regarding access to care and their expectations of services that should be available in local communities.

Chapter 6 presents a discussion and analysis of the findings, including implications for health policy, clinical training, and future research. Specific recommendations for leveraging local community expertise and for advancing the integration of maternity care resources already present in rural communities are included.

CHAPTER 2

THEORY & LITERATURE REVIEW

This chapter begins with a discussion of critical medical anthropology, the framework that informed the design of this research and the development of an analytic model used to interpret study findings. Following the introduction to the theoretical framework is a review of the literature, policy, and legislative initiatives that address or influence rural maternity care.

Theoretical Framework

Access to maternity care is an issue of health equity for rural women. Therefore, this research project was guided by a critical theoretical framework that attended to power dynamics and the political economy of the organization of maternity care. Within a project that seeks to inform healthcare policy, critical medical anthropology is a useful framework to interpret the impact of current policy approaches and to consider alternatives in the context of the current political and economic climate of New Mexico. In this study, critical theory was used to explain the byproducts of the operations of power, including the persistence of hegemonies such as the corporate incursion into rural healthcare delivery and the biomedical professional hierarchy that assigns differential prestige to rural and urban clinical practitioners (Singer, 1986; Lockhart, 1999). Additionally, applicable critical theory analyzes the various forms of marginalization that influence perceptions of legitimacy and experience for different types of healthcare providers, particularly midwives (Cheyney, Everson, & Burcher, 2014; Davis-Floyd, 2004). Alternatively, critical theory can be used to explain how resistance against these

forms of power is possible and how to recognize it when and where it occurs (MacLeod & Durrheim, 2002).

Given the multiple ways in which power and resistance manifest in the course of rural maternity care delivery, a critical framework can demonstrate how these factors impact the distribution of and access to resources that influence women's health and birth outcomes. Power dynamics play out between maternity care providers and their clients, between maternity care providers and the leadership structures of the institutions within which they work, and between midwives and physicians within rural communities (Goodman, 2007). Beyond the local context, power and resistance operate between rurally based providers and the comparatively resource-rich urban referral centers where patients are transferred for higher-acuity care. They also operate between rural communities and the larger state and federal government forces that determine how resources are distributed.

Critical Medical Anthropology

Baer, Singer, and Johnson (1986) proposed critical medical anthropology as the integration of critical theory and anthropology, ethnography's disciplinary home. According to Singer (1986), critical theory adds an essential examination of macro-level structures and processes to anthropological analysis, which has traditionally been focused on micro-level phenomena. Therefore, critical medical anthropology can be used to identify and analyze the relationship between micro and macro levels in a way not possible through quantitative data sources alone.

In this study, critical ethnography was used to contextualize the experiences of rural maternity care providers and rural childbearing women within a healthcare system

that concentrates resources and prestige in urban centers, deliberately and by default (Lockhart, 1999). This concentration results from a variety of factors, including the "hidden curriculum" in medical education that socializes medical students to aspire to specialty practice (Rohan-Minjares, Alfero, & Kaufman, 2015), funding formulas that prioritize population density as a measure of potential impact, and the increased availability of expertise and infrastructure to support competitive funding applications in urban institutions (National Advisory Committee on Rural Health and Human Services, 2017). Critical medical anthropology provides a framework to examine the extent to which this occurs in New Mexico and to explore how it is perceived by rural maternity care providers.

Critical Analytic Model

Baer et al. (1986) proposed an analytic model, the "Levels of Health Care Systems," to visually represent this hierarchy and interaction. Newnham, Pincombe, and McKellar (2016) demonstrated the adaptability of the original analytic model for ethnographic analysis of childbirth practices in midwifery research. Following the example of Newnham et al. (2016), I adapted the original "Levels of Health Care Systems" analytic model (Baer et al., 1986) to represent the critical medical anthropology framework developed for this study. The adapted model is depicted in Figure 1.

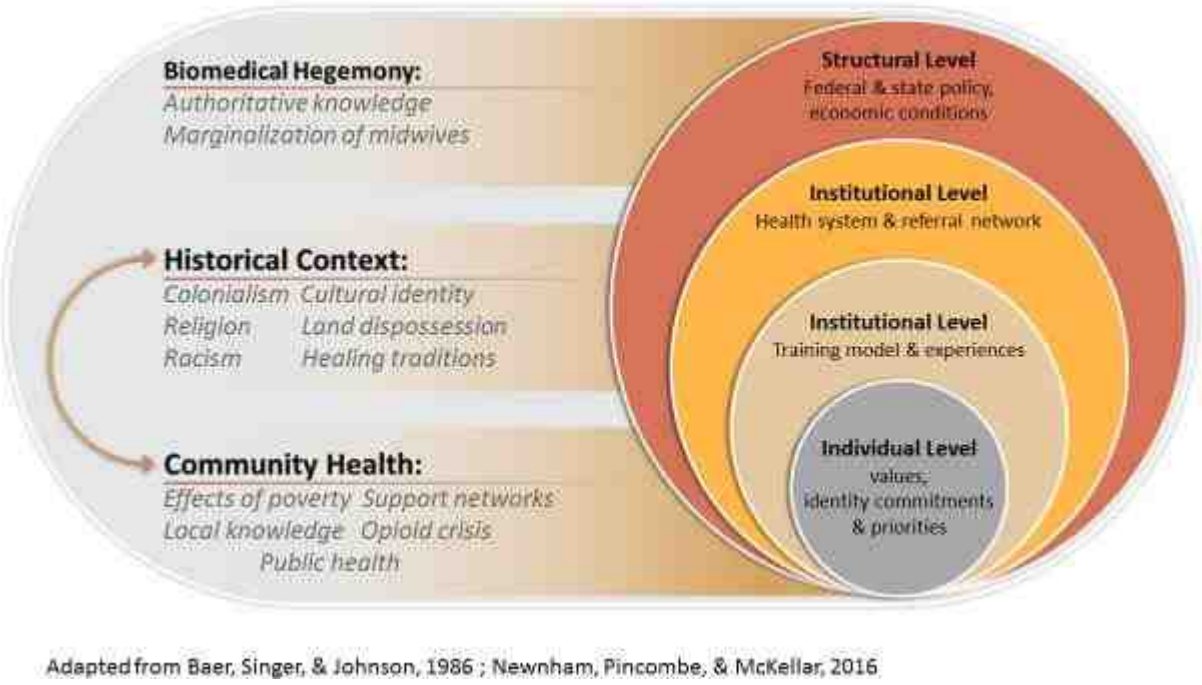

Figure 1. Critical Analytic Model of Influences on the Provision of Rural Maternity Care.

This model depicts four levels of influence in terms of their proximity to the individual maternity care provider and also in terms of the levels' scope and positioning within a hierarchy of influence. The first level represents individual maternity care providers, including their personal values, identity, commitments, and priorities. The next level is institutional and represents the educational programs that deliver training and socialization to providers contemplating rural practice. The third level, also institutional, is the work context represented by practice setting, health systems, and referral networks. Finally, the structural level represents the site of state and federal policy action or inaction in the service of rural maternity care delivery. It also represents the overall political organization of the capitalist economic system that determines economic conditions and the range of policy approaches possible within that system. Identification

of these levels is significant for policy because each represents a site of potential intervention in the service of a strong, stable, and integrated provider network. The model also identifies three overarching contextual influences−biomedical hierarchy, historical context, and community health status−that inform action and interaction at all levels of the model.

The model applies to all maternity care disciplines. Although midwives and physicians are differentially situated in relationship to each other, I argue that practitioners from each discipline are positioned within a similar structure, leading to commonalities that suggest opportunities for collaboration and collective resistance to shared barriers. This model is explored in further depth in Chapter 6, where it is presented in the context of study findings and analysis.

Literature Review

To situate this research within the context of New Mexico history and the current state of knowledge related to rural maternity health outcomes and policy, I conducted a review of health science and social science literatures. The following review incorporates the current evidence supporting rural maternity care, state and federal policy initiatives in the context of rural New Mexico, and qualitative studies that influenced the approach to research design. It also includes a discussion of rural maternity care access and quality, integration of midwives across care settings, and the unique historical context of maternity care provision in New Mexico. Finally, it includes a review of current and proposed state and federal policy that affects rural maternity care providers, clinical training programs, and the women these are meant to serve.

Rural Maternity Care: Research on Access, Quality, and Outcomes

For decades, insufficient attention has been paid to rural maternity care access and outcomes in the U.S.-based social science, policy, and clinical literature. Researchers investigating access to care and outcomes in diverse contexts continue to cite three studies published in the early 1990s that raised concerns about the decreasing availability of rural maternity care in the United States. Nesbitt, Connell, Hart, and Rosenblatt (1990) analyzed hospital discharge data from the state of Washington and found that women who had to travel from rural areas to access obstetric services experienced a higher proportion of complications, higher rates of preterm birth, and had babies who incurred costlier neonatal care than women who delivered in their home communities. In rural Indiana, Allen and Kamradt (1991) identified the number of physicians providing maternity care by county and compared that figure with infant mortality rates. They found a negative correlation between the presence of practicing physicians and the infant mortality rate within nonmetropolitan counties. Finally, Larimore and Davis (1995) performed multivariate analyses on data that compared the availability of physicians to attend births in rural Florida counties that had high infant mortality rates. Their risk model correlated loss of access to physicians with increased infant mortality, asserting that the loss of one obstetrician increased infant mortality by as much as 9.6%.

Distance, Outcomes, and Quality in the Rural U.S.

Over the following two decades, the trend toward decreased access to maternity care in rural America has continued, including the closure of rural obstetric units (Hung, Kozhimannil, Casey, & Moscovice, 2016) and declining numbers of family medicine physicians who attend births (Tong et al., 2013). Analyses conducted more recently have

reconfirmed the concerns raised in previous work regarding the effect of increasing distance to care on maternal and infant outcomes.

Kozhimannil, Hung, Henning-Smith, Casey, and Prasad (2018) performed a retrospective cohort analysis for all rural U.S. counties that had hospital-based maternity care available in 2004 to evaluate the impact of maternity unit closure during the subsequent decade. For rural counties that did not border urban counties, the loss of a local maternity care unit between 2004 and 2014 led to significant increases in the rates of preterm birth and birth in hospitals that did not have obstetric services during the year following closure. Women residing in these counties also received fewer than the recommended number of prenatal visits (Kozhimannil et al., 2018). A study focused on the impact of rural maternity unit closures in northern New Hampshire similarly found that women who had to travel more than 30 miles for hospital-based care also had fewer prenatal visits and gave birth to infants with lower birth weights and lower gestational ages (Hamlin, 2018).

A recent mixed-methods study led by Kozhimannil yielded a number of publications addressing hospital-based, rural maternity care quality and outcomes in nine U.S. states with significant rural territory—Vermont, Colorado, Iowa, Kentucky, New York, North Carolina, Oregon, Washington, and Wisconsin (Hung et al., 2016; Kozhimannil, Henning-Smith, & Hung, 2016; Kozhimannil et al., 2016; Kozhimannil et al., 2015; Kozhimannil et al., 2014; Kozhimannil, Hung, Prasad, Casey, & Moscovice, 2014). The nine states were chosen based on the availability of hospital discharge data from the Statewide Inpatient Databases (SID), Healthcare Cost and Utilization Project, and represented states that were sponsored by the Agency for Healthcare Research and

Quality (AHRQ) that could be linked with the annual survey data of the American Hospital Association (AHA) in addition to patients' ZIP codes to confirm rural residence. Quantitative data were supplemented by a telephone survey of rural hospital administrators that included open-ended questions related to staffing; clinical policies; the availability of prenatal care in the community; and when relevant, the decision to discontinue obstetric services. New Mexico was not included, despite meeting many of the study inclusion criteria, because the state does not link the SID and AHA survey data, nor does the New Mexico SID include patient ZIP codes (K. Kozhimannil, personal communication, January 2, 2017). Despite the limited number of states involved, the analyses performed for this project present a relatively comprehensive assessment of birth in rural hospitals by staffing (including attention to CNMs as a critical component of the rural maternity care workforce), quality, and outcomes. Specific outcomes examined were obstetric unit closure, rates of low-risk[3] cesarean section, nonindicated cesarean, nonindicated induction of labor, episiotomy, and major laceration.

A key finding of this research was that, between 2010 and 2014, 7.2% of rural hospitals included in the analysis closed their maternity units. Identified risk factors for closure included small birth volume (fewer than 240 births per year), private ownership, location in communities with lower family income, and the presence of fewer obstetricians and family physicians (Hung et al., 2016). At the time of this research, at least one of these risk factors, and in some cases multiple factors, applied to every rural hospital in New Mexico with an active maternity care unit.

[3] "Low-risk cesarean" refers to a surgical delivery performed in the case of a woman giving birth for the first time with a term fetus presenting headfirst.

Findings from Kozhimannil et al. (2014) also documented the complexity of rural maternity care provision and the need for focused policy attention to issues of access and quality. For example, the researchers found significant variation in safety and quality outcomes based on birth volume at rural hospitals. However, better performance related to these outcomes was not consistently linked to either lower or higher volume. Rather, the analysis raised questions about what additional factors influence safety and quality other than volume-generated experience alone.

Interventions that do seem to improve safety and quality in rural hospitals are the implementation of clinical management and staffing policies. Kozhimannil et al. (2016) found that at hospitals with clinical policies for cesarean delivery, there were up to 24% lower odds of low-risk or nonindicated cesarean deliveries being performed. However, although cesarean deliveries were more common with increasing volume, the existence of clinical and staffing policies varied across rural hospitals. This might be related to the fact that more than half of rural hospitals providing maternity care were critical access hospitals (CAH) or represented other very low-volume settings, i.e., fewer than 300 births annually. These hospitals are less likely to maintain accreditation through the Joint Commission and have different reporting requirements from larger-volume institutions (Kozhimannil et al., 2016). In larger hospitals, clinical management and staffing policies are mechanisms for enforcing practices and standards in the service of quality improvement.

The qualitative component of Kozhimannil and colleagues' (2016) mixed-methods project consisted of data obtained from brief telephone surveys with administrators who responded to open-ended questions. Although these data provided

some context, they did not generate the depth and richness of qualitative analysis available through a more-engaged ethnographic approach. Kozhimannil et al. (2016) highlighted the need for context-specific work in rural communities that can explore factors influencing access and quality that elude measurement. These authors also asserted that traditional quality improvement strategies, such as the implementation of clinical and staffing policies and the use of standardized outcome metrics, must be developed thoughtfully in rural settings so that the particular assets and resource constraints of rural community hospitals can be acknowledged. The fact remains that the experiences of rural women in childbirth, and especially those of the midwives and physicians who care for rural women in the United States, have rarely been characterized. Ethnographic research among rural maternity care providers can help serve this critical rural health policy agenda, as demonstrated by the following section on research in rural Canada.

Rural Maternity Care in Canada

Canada is a vast country with approximately 6.3 million citizens who, by the Canadian definition of rurality, live in communities with fewer than 1,000 residents or with a density of fewer than 400 people per square kilometer (Martel & Chagnon, 2011). The United States and Canada share one of the largest borders in the world, but the healthcare available on either side of that border is organized very differently. Under the Canada Health Act, Canadians have universal access to publicly administered health insurance benefits. The provincial governments that manage these benefits also organize the delivery of services (Government of Canada, 2016). However, having an integrated system of healthcare delivery and financing that covers all citizens and permanent

residents does not protect rural maternity care in Canada from a shared vulnerability with its U.S. counterpart. Canadian researchers have contributed a significant proportion of the existing literature on rural maternity care. This research, addressing a context that also includes provider shortages and the closure of maternity units, resonates strongly with the U.S. rural experience, despite the different organization of healthcare financing and delivery.

Maternity care and sustainable communities. In reference to the changes taking place in rural Canadian maternity care settings, Klein, Johnston, Christlaw, and Carty (2002) drew a distinction between regionalization; the evidence-based strategy of organizing services according to levels of acuity while recognizing the importance of the role played by each; and centralization, the consolidation of services based on institutional efficiency; or by default. The authors argued that in the absence of thoughtful and forward-thinking maternity care policy, a negative cascade beginning with restricted access to services can end with a significant degree of community dysfunction, loss of economic stimulus, and the outmigration of young people. The authors described rural maternity care access as "a linchpin for sustainable communities, medically, socially, and economically" (Klein, Johnston, Christlaw, & Carty, 2002, p. 1179).

Birthing women and resistance. A number of studies on access to rural maternity care come from a British Columbia-based multidisciplinary team (Kornelsen & Grzybowski, 2006; Grzybowski, Kornelsen, & Cooper, 2007; Grzybowski, Stoll, & Kornelsen, 2011; Stoll & Kornelsen, 2014). These publications include qualitative analyses addressing the experiences of birthing women and maternity care providers. Kornelsen and Grzybowski (2006) focused on the perspectives of recently delivered

women who lived in four rural British Columbia communities that either had lost access to maternity care services or were at risk of losing services. The women participated in focus groups and unstructured interviews addressing their birth experiences, their assessment of the care they were able to access, and their views on what constituted a good and/or safe birth (Kornelsen & Grzybowski, 2006). Findings identified a set of realities that women needed to confront regarding the ways in which distance, geography, and limited local access to care influenced the options for a birthing site and the overall experience of childbirth. The researchers described a range of resistance strategies that women developed to try to exert some control over these realities. They included elective induction of labor, seasonal timing of pregnancies to avoid winter travel conditions, arriving at local hospitals fully dilated so that transport to a referral center was impossible, or committing to an unattended home birth.

Kornelsen and Grzybowski (2006) argued that the development of resistance strategies among birthing women creates a strong justification for the continuation of local birthing options in order to provide a basis for shared decision-making and collaboration between birthing women and maternity care providers. They observed that, as the options constricted, resistance strategies expanded. This affected safety in at least two ways: (a) clinicians who remain in communities that do not "officially" provide birthing services lose critical skill sets for addressing obstetric emergencies and (b) women who feel compelled to enact strategies of resistance might find themselves without assistance in the event of a complication.

Maternity care providers under stress. In a subsequent study, these authors qualitatively explored the perspectives of hospital-based physicians, nurses, and

administrators in the same four communities about their experiences of providing rural maternity care in a resource-fragile environment (Grzybowski et al., 2007). They found that maternity care providers were experiencing significant stress "due in part to the absence of evidence-based policy and planning for rural maternity care services" (p. 89). This reaction occurred in response to institutional decision-making strategies that were crisis-management oriented, rather than representing a proactive, anticipatory approach. Significant challenges in these settings included the maintenance of infrequently used skills, lack of cesarean section capability, and the clinical and social implications of requiring women to leave their home communities for birth. Grzybowski et al. (2007) asserted that the lack of a "comprehensive policy framework" addressing the need for rural maternity care is directly responsible for the erosion of access to this care. To emphasize their point, they quoted David Fletcher, a former president of the Society of Rural Physicians of Canada: "It is not that there is a plan to destroy rural health care, but that there is no plan to save it" (Grzybowski et al., 2007, p. 94). In the U.S. context, this sentiment resonates strongly.

Rural outcomes. Canadian researchers have also used data collected universally by the provincial healthcare system to evaluate outcomes in rural and remote settings. Grzybowski, Stoll, and Kornelsen (2011) examined data from more than 49,000 births to women from rural British Columbia, in order to document a relationship between distance to maternity care and outcomes. They found that for the newborns of women who lived more than four hours away from a birthing facility, there was a statistically significant increased risk of perinatal mortality and that the need for and length of NICU

stays increased with distance greater than one hour from care (Grzybowski, Stoll, & Kornelsen, 2011).

Midwifery care outcomes. Canadian researchers have also addressed the significant gap in the research on midwifery care outcomes for rural women. Since regulated midwifery was introduced at the provincial level in the early 1990s, midwives have had a growing presence in remote and rural areas. They sometimes practice independently in community settings and are eligible for hospital privileges. However, midwives are also "mandated to offer home birth to eligible women" (Stoll & Kornelsen, 2014, p. 61).

Stoll and Kornelsen (2014) analyzed data between 2003 and 2008 for all women cared for by midwives whose rural postal codes identified their place of residence and who delivered single babies without diagnosed anomalies. The analysis was stratified by service level based on distance in hours from a hospital, or for those who lived within an hour's drive, it was based on the levels of service available at that hospital (e.g., access to general practice or specialty physician care and/or cesarean birth). The researchers found that 8% of women received care from a midwife and that these women experienced very low rates of intervention and adverse neonatal outcomes. Women who lived in areas most remote from a hospital were the least likely to receive care from a midwife. The women most likely to deliver with a midwife lived in communities that had practicing physicians. Home birth rates were higher than the overall provincial average in all areas except those closest to specialist care. Seventy-five percent of women planning a home birth delivered successfully at home, and women who lived at a greater distance from a hospital were

more likely to experience transfer. This was a reassuring finding given the amount of planning and lead time needed for a successful transfer from a remote community.

Stoll and Kornelsen (2014) suggested that midwives who offer home birth services play a critical role in the rural maternity care workforce. Their presence can help to mediate some of the tensions described above in terms of providing women with options for shared decision-making and collaboration with an integrated, multidisciplinary team. Stoll and Kornelsen asserted that their work has relevance for the U.S. context:

> Findings from the current study are relevant to maternity professionals in the United States, where planners are confronted with similar challenges in developing successful models of rural maternity care, and rural midwives have reported similar barriers to practice as Canadian registered midwives. The latest American College of Nurse-Midwives (ACNM) benchmarking survey identified that 22% of certified nurse-midwives practice rurally, yet little has been published about rural midwifery practice and practice outcomes in the United States (Stoll & Kornelsen, 2014, p. 66).

Stoll and Kornelsen acknowledged that common challenges are shared by healthcare administrators and policymakers on both sides of the U.S.-Canadian border, and their work raises questions worth answering in the U.S. context. The exploration of structural limitations placed on the role of midwives is one such area that became central to this research project.

Midwifery Integration and Outcomes

The Lancet Series on Midwifery

In 2014, the Lancet published a landmark series of articles outlining the potential of midwifery to meet the substantial need for respectful, high-quality maternity care across the global spectrum of high-resource to low-resource settings (Renfrew et al., 2014). The articles, representing the collaborative efforts of an international, multidisciplinary team, describe a comprehensive process undertaken to establish a universal definition of the role of midwives across practice settings, including an exhaustive review of the evidence related to midwifery values, practices, and outcomes. The team used these analyses to develop a framework that outlined the components of "high quality, cost-effective maternal and newborn care" aligned with the vast majority of competencies that are standard to midwifery practice (Renfrew et al., 2014, p. 1141). The study's authors asserted that midwives have an essential role to play in meeting needs for care across settings and for improving outcomes.

> With the use of this framework, we have shown that midwifery has specific contributions to make with regard to skilled supportive and preventive care for all, promotion of normal reproductive processes, first-line management of complications, and skilled emergency care; all in the context of respectful care that is tailored to need and works to strengthen women's capabilities and is integrated across facility and community settings (Renfrew et al., 2014, p. 1141).

The potential of this framework to address worsening maternal-infant outcomes has yet to be realized in the United States, where the Lancet series was welcomed with enthusiasm by the ACNM (Likis, 2014), but the integration of midwives continues to vary dramatically across states.

The Access and Integration Maternity Care Mapping Study

The Access and Integration Maternity Care Mapping (AIMM) Study has provided much-needed state-level evidence regarding the degree and impact of the integration of midwives across the United States. Vedam et al. (2018) developed the Midwifery Integration Scoring System (MISS) by first constructing a database containing regulatory data pertaining to all 50 states. Items include scope of practice; degrees of practice autonomy allowed by state law; prescriptive authority; and practice restrictions that might have an impact on safety, quality, and access to midwives in a variety of birth settings. The researchers validated the significance of these data elements through a nationwide survey of regulatory experts and used a modified Delphi process to select the 50 most significant items for inclusion in the MISS. States were scored and assigned rankings according to degrees of midwifery integration. Researchers then measured the strength of the association between MISS scores and several factors related to access to midwifery care, rates of interventions, and outcomes for mothers and babies. They demonstrated that access to midwives (including CNMs and LMs) across settings was associated with improved outcomes, including "significantly higher rates of spontaneous vaginal delivery, vaginal birth after cesarean (VBAC), and breastfeeding at birth and at six months; and significantly lower rates of cesarean section (CS), preterm (PTB), and low birth weight (LBW) infants" (Vedam et al., 2018, p. 8). Particularly noteworthy, given the current context of rising infant mortality and the persistent inequities leading African American infants to die at more than twice the rate of White infants (Villarosa, 2018), was the finding that higher MISS scores had a strong correlation with decreased rates of general and "race-specific" neonatal mortality (Vedam et al., 2018, p. 8).

Among the findings of the AIMM study was the assignment of the second highest MISS score, indicating a very high degree of midwifery integration, to New Mexico. This is a reflection of legal practice authority and a lack of physician-supervision requirements for CNMs and LMs, and the fact, as noted previously, that New Mexico midwives attend births at a rate that has remained persistently and significantly higher than national averages (Declerq, 2015). However, the use of a state-level measure such as the MISS score obscures the fact that midwifery integration is primarily confined to New Mexico's metropolitan areas.

The findings of this dissertation project complicate the picture created by the MISS score and describe what currently limits midwifery integration in rural New Mexico communities. The integration of New Mexico midwives has always been context specific; varied across communities; and contingent on the goodwill of the state, physicians, and the healthcare institutions offering childbirth services. New Mexico's distinct history of midwifery integration is presented in detail in the following section.

New Mexico Historical Context

Early 20th Century: the Curandera-Parteras

In rural New Mexico through the early part of the 20th century, maternity care was provided almost exclusively by curandera-parteras who attended births at home (Ortiz, 2005). These healer-midwives were traditional childbirth attendants whose practices developed out of cultural and Catholic religious traditions inherited from their Spanish ancestors who had settled in the territory that became New Mexico and from the indigenous ancestors whose land it was originally. The curandera-parteras usually apprenticed informally with elder women in their families who had also served the

community as midwives (Buss, 1980). Given their limited resources and lack of formal education or training in obstetrics, they performed a remarkable service. According to Ortiz (2005), by the dawn of the 1930s, the curandera-parteras attended nearly one third of the births across the state, and in some communities, they provided the vast majority of maternity care. However, at that same time, New Mexico's infant mortality rate was higher than that of any other state in the nation, and the state's maternal mortality rate was 20% higher than the national average (Whorton, 2002). Beyond the limitations faced by midwives, who were a focus of blame and a target of intervention, these poor maternal-child health outcomes were certainly attributable to the conditions of rural life at the time, which involved isolation, poverty, malnutrition, nonexistent sanitation, and limited access to healthcare (Spidle, 1986).

Rural Physicians

To the extent that physicians were present in rural New Mexico in the early 20th century, medical missions represented a significant source of resources and personnel (Spidle, 1986). The Presbyterian Church, in particular, was active in northern New Mexico and established a cottage hospital and outreach services into remote mountain communities where healthcare had been unavailable. The early rural physicians were pioneering examples of the varied skill set that is still much needed in rural medical practice. These physicians addressed infectious disease outbreaks and performed anesthesia and emergency surgeries. However, obstetrics and pediatrics were at the foundation of rural healthcare needs and practice. According to Spidle (1986), the tiny Brooklyn Cottage Hospital established in 1914 in the northern New Mexico community of Dixon and staffed by a variety of mostly female physicians over the early years of

New Mexico statehood was “affectionately known to the people of the region as Baby Catcher Hospital” (p. 187).

Public Health Innovation

In addition to church-sponsored medical missions, government-sponsored public health was another way in which resources and personnel (nurses and physicians) slowly became available in remote parts of the state. Rural communities initially benefited from the Sheppard-Towner Act of 1921, which allowed New Mexico and other states to leverage federal funds for maternal child health programming to address high rates of maternal and infant mortality, and the1935 Social Security Act, which provided funds that facilitated the expansion of programming and the development of public health infrastructure in remote areas (Ladd-Taylor, 1988; Ortiz, 2005). By 1938, an innovative, multidisciplinary model of training and service delivery was in place in rural New Mexico in the form of the Midwifery Consultant Program (Ortiz, 2005). The program employed an obstetrician and two of the earliest nurse-midwives in New Mexico, who worked collaboratively with the curandera-parteras, providing ongoing training, birth supplies, and assistance at births or with necessary transfers of care. The state benefitted from the collaboration through the enhanced skills and broad reach of the midwives, who served as a culturally appropriate, local workforce. The midwives benefitted from the formal acknowledgement of their critical role in communities. According to Ortiz (2005), “Most of New Mexico’s health authorities made the decision to work with, and not against, the curandera-parteras, accepting them as crucial partners in the region’s healthcare system” (p. 413).

This stands in contrast to the experience of other largely rural states, such as Virginia and Alabama, in which midwives were actively opposed by a medical establishment aligned with the dominant culture. Into the second half of the 20th century, efforts in the rural South to regulate midwifery were tainted by the same racism and xenophobia that greatly limited access to hospital birth for communities of color and for immigrants (Holmes, 1985; Ladd-Taylor, 1988). The persistent geographic isolation of New Mexico, the deep cultural knowledge and credibility of the curandera-parteras, and the arrival of additional nurse-midwives bearing the religious authority inherent in their role as Catholic nuns served to maintain a role for curandera-parteras, for multidisciplinary collaboration with physicians, and for a place for midwifery for decades after traditional midwifery began to disappear in other states.

The Catholic Maternity Institute

With the advent in 1943 of the Catholic Maternity Institute (CMI), midwifery established an even firmer foothold in New Mexico. That year, two Catholic sisters who were trained as CNMs arrived and with the support of the medical community, established a clinic and began attending home births (Kroska, 2010). At that time, only two board-certified obstetricians practiced in the entire state (Fell, 1945). Midwives remained critical to an evolving model in which care was provided in communities, at home, with extremely limited availability of specialty care for high-risk referral. The CMI midwives, with their dual training in nursing and midwifery and with their meticulous record-keeping, further expanded the reach, credibility, and visibility of the midwifery practice. This model of rural maternity care, along with other public health interventions, was extremely successful in improving maternal child health outcomes and

became deeply embedded in the rural healthcare network of New Mexico. It has never been fully replaced by physician control of obstetric practice.

New Mexico Midwives Today

The history of midwifery practice in its various forms and historical moments represents a legacy that supported a strong role for midwives in New Mexico through the present day. CNMs in New Mexico have the legal authority to practice fully independently, without physician supervision. In 1999, recognizing the role of nurse-midwives in meeting the healthcare needs of women, New Mexico became one of the first states to grant prescriptive authority to CNMs (L. Siegle, personal communication, April 15, 2017). In 2017, nurse-midwives attended nearly one-third of the state's vaginal births (27.3%) (Bureau of Vital Records and Health Statistics, 2018). New Mexico also has had the distinction of maintaining the highest percentage of CNM-attended births in the United States since 1989, the year that birth attendant data collection began (Declerq, 2015).

New Mexico's rich midwifery history also helps to account for the strong ongoing presence of LMs in parts of the state. The arrival of hippies and the establishment of communes in northern New Mexico, starting in the late 1960s, led to a resurgence in home birth midwifery within a subculture that was distinctly different from the traditional, rural communities that had supported and relied upon the curandera-parteras. In 1979, these midwives began utilizing the licensure process established to regulate the practice of curandera-parteras, putting New Mexico at the forefront of direct-entry midwifery practice nationwide (Huston, n.d.; Ortiz, 2005). In 1983, two leaders within this community, Elizabeth Gilmore and Tish Demmin, opened a free-standing birth

center in Taos: The Northern New Mexico Women's Health and Birth Center. Their efforts prioritized the integration of direct-entry midwives through achievement of accreditation for their birth center, employment of physicians to attend to higher risk women, and support of midwifery education. In 1989, Gilmore founded the nationally accredited National College of Midwifery, a distance-education program based in Taos. New Mexico continues to grant practice authority to this group as LMs through the state Department of Health, and the state allows this group to participate as billing providers in the Medicaid program through the Birthing Options Program (BOP). However, the number of LM-attended births has fallen in recent years. In 2013, LMs attended 401 (1.5%) of births, and by 2017, the number had dropped to 252 (1.1%) (Bureau of Vital Records and Health Statistics, Epidemiology and Response Division, NM Department of Health, 2018). The 2014 closure of the Northern New Mexico Women's Health and Birth Center in Taos was certainly a factor in this decline, but other potential factors have yet to be documented.

U.S. Federal Policy

The Patient Protection and Affordable Care Act

The election of a new Congress and presidential administration raises a number of questions related to the future direction of rural health policy in the United States. One of the first efforts pursued by the new Republican leadership, which has had major implications for rural health and access to care, was an attempt to repeal the 2010 Patient Protection and Affordable Care Act (ACA). Although this initial effort was ultimately unsuccessful, the president predicted that rising premiums on health insurance exchanges nationwide would eventually cause the law to "explode," leading to the acts eventual

defeat (Pear, Kaplan, & Haberman, 2017). The aggressive effort at repeal in the initial days of the new administration, along with the uncertainty generated by the fact that apparent Republican disunity, rather than majority support for the ACA, kept the effort from being successful, have implications for rural healthcare providers, institutions, and community members. In New Mexico specifically, Medicaid expansion under the ACA has led to a 41% decrease in the number of uninsured individuals (Families USA, 2016). Currently, some 900,000 New Mexicans are insured through Medicaid, representing more than 40% of the state's population (Galewitz, 2016). Approximately 50,000 more individuals are covered through the subsidized state health insurance marketplace established through the ACA (Snell-Rood & Willging, 2017). These gains have been especially significant in rural communities where large numbers of uninsured individuals have strained small health systems that are ill equipped to provide a significant amount of uncompensated care. Rural communities in New Mexico and throughout the United States have also benefited from ACA provisions that include rural healthcare infrastructure grants, funding for community wellness initiatives, and federal loan-repayment subsidies for healthcare providers to incentivize rural practice.

Snell-Rood and Willging (2017) pointed out that New Mexico has experienced significant growth in the healthcare sector of the state's economy under the ACA, one of the few positive developments for an economy that, due to its overwhelming dependence on oil and gas revenues, has been subject to dramatic ups and downs over the past few years. Particularly in rural communities, healthcare facilities are major sources of employment and can serve as the economic anchor of an entire region. Snell-Rood and Willging (2017) asserted that "anything that weakens or undercuts recent gains in access

to insurance coverage and good care for a full range of health problems would be a profound betrayal for millions of rural Americans" (Snell-Rood & Willging, 2017).

2016 Expanding Capacity for Health Outcomes Act

The final days of the 114th U.S. Congress did provide one potentially positive development for rural healthcare access. On November 29, 2016, the Senate unanimously passed the Expanding Capacity for Health Outcomes (ECHO) Act, based on the innovative model of telehealth clinical education, mentoring, and case-based guidance developed at the University of New Mexico (UNM Health Science Center Newsbeat, 2016). The law requires federal agencies, including the Department of Health and Human Services and the General Accounting Office, to study the impact, replicability, and cost-effectiveness of the ECHO model and to report to Congress on how to integrate the ECHO strategy into a range of federally funded healthcare programs.

Project ECHO was developed to increase access to hepatitis C treatment in rural New Mexico, which had previously been available only through a limited number of specialists in Albuquerque (Arora et al., 2011). It has since expanded to cover an array of clinical specialty areas that includes high-risk pregnancy and reproductive healthcare. The ECHO model uses video-conferencing technology along with secure data sharing and clinical management tools to support community-based healthcare providers so that they can implement evidence-based treatment plans within their practices. According to an analysis of Project ECHO activity for 2009, 1,582 cases were presented for consult during ECHO clinic sessions, saving New Mexicans a combined 539,000 miles of travel into the urban center for individual specialist visits (Arora et al., 2011).

Arora et al. (2011) emphasized Project ECHO's focus on expanding the capacity of rural clinicians. The authors identified it as "an atypical example of a health care innovation in which the rural sector leads the way" (p. 1177). In this model, the realities of rural clinical practice and the health issues that rural community members face drive the approach to education, peer and expert support, and clinical decision making promoted through Project ECHO. According to Project ECHO's founder and director, Dr. Sanjeev Arora:

> In addition to improving access to specialty care in rural and remote locations, Project ECHO connects isolated providers with colleagues, including specialists at academic medical centers. It delivers continuing education and improves primary care providers' satisfaction and retention in areas where it is often hardest to keep them (p. 1178).

Evidence is needed to support the claim that the Project ECHO model facilitates the satisfaction and retention of healthcare providers in underserved rural communities and to explore how it might best be leveraged in support of the rural maternity care workforce.

Improving Access to Maternity Care Act

A bill focused on expanding the reach of the maternity care workforce passed the U.S. House of Representatives in the early days of the 115th Congress. It was introduced by Sen. Tammy Baldwin (D-Wis.) and on March 30, 2017, was referred to the Senate Committee on Health, Education, Labor, and Pensions, where, as of this writing, it remained. Senate Bill 783, the Improving Access to Maternity Care Act (2017), would establish a health professional shortage area (HPSA) designation for areas in the United States that lack sufficient access to maternity care providers, and it would direct the

secretary of HHS to determine the criteria to be used to identify a community as a maternity care HPSA. This designation could then be used by the National Health Service Corps (NHSC) to place scholarship and loan repayment recipients.

Currently, the areas of clinical practice identified for HPSA designation are primary care, mental health, and dental health (Health Resources and Services Administration, 2016). Traditionally, maternity care providers, including CNMs and physicians, have been considered primary care providers for NHSC program purposes. However, the formula for designating a primary care HPSA does not take into account the fact that the majority of primary care providers do not attend births, and so their presence in a community does not constitute access to maternity care. Also, the work requirements that must be met to fulfill an NHSC commitment are designed around a set primary care schedule, not the 24-hour availability required of a provider who attends births.

New Mexico State Policy

Recent efforts at the state level to characterize, incentivize, and retain individuals in rural clinical practice have focused on four main areas: scholarship and loan repayment, subsidy for malpractice insurance, funding of training programs, and workforce characterization.

Scholarship and Loan Repayment

Physicians and CNMs who provide maternity care in rural New Mexico might be eligible for both federal (sponsored by NHSC and IHS) and state programs that cover or reimburse costs for educational debt (New Mexico Higher Education Department, n.d.). Rural practice is incentivized through the use of HPSA scores in order to prioritize the

awarding of funds, with rural clinical sites ranked highest on the scale. As noted above, maternity care is not currently distinguished from primary care in the HPSA scoring or funding award mechanisms. Passage of the Improving Access to Maternity Care Act at the federal level could make it easier to direct funds to those clinicians who attend childbirth in rural New Mexico.

The question of whether scholarship and loan repayment programs help to attract and retain rural clinicians has not been well studied, particularly in the U.S.-based maternity care context. Buykx, Humphreys, Wakerman, and Pashen (2010) published a systematic review of research on "effective retention incentives." They found little evidence supporting the effectiveness of any one strategy. Specifically regarding the payment of educational debt, the authors found weak support for the idea that the strategy leads to retention. "The balance of evidence suggests that financial incentives might assist with recruitment and short-term retention (i.e. for the duration of any obligation attached to the payment), but not necessarily longer-term retention in the same area" (Buykx et al., 2010, p. 103).

Buykx et al. (2010) observed that evidence points to the influence of multiple factors to support retention in a rural community. The authors make a case for bundling incentives so that communities have the flexibility to structure incentive packages in ways that address the particular challenges of each community. This approach remains unproven in New Mexico and would require a better understanding of the perspectives of rural maternity care providers in order to inform any such tailored process.

Rural Healthcare Practitioner Tax Credit

In 2007, the New Mexico Legislature created a tax credit program aimed at specific provider types who practice in an approved rural HPSA. The law allows practitioners who have worked at least 2,080 hours during a taxable year to claim the credit. Currently, the program is tiered and allows a tax credit of $5,000 for physicians, dentists, clinical psychologists, podiatrists, and optometrists. A credit of $3,000 is available to dental hygienists, physician assistants, CNMs, certified registered nurse anesthetists, certified nurse practitioners, and clinical nurse specialists (New Mexico Department of Health, 2015). LMs are not eligible to participate.

Birthing Workforce Retention Fund

In 2008, the Legislature passed a law establishing a fund to subsidize the skyrocketing cost of obstetric liability insurance, which was threatening the viability of maternity care practices throughout the state. In a report published in August 2008, the New Mexico Health Policy Commission asserted, “There may be factors creating pressure on health care in New Mexico, but the state’s system of providing obstetric care is beginning to erode in response to the expense and dysfunction of the traditional methods of handling, insuring against, and compensating patient injury” (p. 1). The commission surveyed obstetricians licensed in New Mexico and found that 22.2% of respondents were not providing maternity care services and that 57.1% of these physicians identified “liability or litigation issues, including premiums costs,” as their reason for discontinuing full-scope practice (New Mexico Health Policy Commission, 2008, p. 13).

In 2016, the fund was reauthorized to provide grants of between $5,000 and $10,000 to cover some of the cost of malpractice insurance for CNMs and OBs who attend childbirth. A committee appointed by the secretary of health reviews applications and applies priority criteria including:

> (1) the relative availability of birthing services for Medicaid and indigent patients in the applicant's community, based on the department's annual study of geographic access to birthing care providers; (2) the number of Medicaid and indigent patients seen in the practice for birthing services; (3) the ratio of the revenue received from deliveries to the liability insurance premium; and (4) the provision of comprehensive prenatal and delivery services to clients who present for them (Birthing Workforce Retention Fund, 7.30.9 NMAC, 2008).

Interestingly, CNMs are given highest priority for funding, but LMs are not eligible, despite their inclusion in the New Mexico Health Policy Commission investigation that led to the creation of the fund.

Funding for Training Programs

UNM educates and trains physicians and CNMs with a specific, stated emphasis on preparing a rural healthcare workforce for New Mexico communities. In fact, UNM is among the top universities in the United States for training in nurse-midwifery and rural medicine (U.S. News & World Report, 2017). Legislative funding for training slots has been a mainstay of policy efforts in support of workforce development.

Nurse-midwifery education. The midwifery education program at UNM's College of Nursing was created with legislative funding in 1991 to address New Mexico's status as the state with the lowest rates of women accessing prenatal care in the

first trimester of pregnancy (Nurse Midwifery Graduate Training, H.M. 8, 1991). The program succeeded in garnering additional support from the governor and Legislature in 2014, when a recurring appropriation was added to the state budget to fund additional training slots for CNMs and for family and pediatric nurse practitioners (Haederle, 2014). However, the state budget represents a fragile mechanism for program sustainability. In 2017, Gov. Susana Martinez vetoed large sections of the budget for the next fiscal year, including the entire appropriation for higher education (Reichbach, 2017). Ultimately, funding was restored during a special legislative session but at reduced levels (Nott, 2017).

1115 waiver funding for primary care training. An 1115 waiver allows states to use federal Medicaid dollars in innovative ways to expand access to care for a state's Medicaid-eligible population. New Mexico was the first state to take advantage of the 1115 waiver process to fund an expansion of community-based primary care physician residency slots (Laff, 2015). The New Mexico Primary Care Training Consortium was created to unify the four family medicine residency programs operating in the state, including three community-based programs sponsored by federally qualified health center networks (FQHC). New Mexico claims a high rate of success with a reported 70% of family medicine residency graduates entering rural practice (Laff, 2015). However, it is unclear what percentage of these graduates practice full-scope family medicine, including care for birth.

Tong et al. (2013) cited a 30-year decline in the number of U.S. family medicine physicians who provide maternity care. They sought to clarify this trend through an examination of survey data obtained from all family medicine physicians who complete

the American Board of Family Medicine board-certification process. The researchers were able to identify characteristics that were more strongly associated with rural practice, such as female gender, younger age, and having completed training in the United States. Additional factors associated with maternity care practice included location in the Midwest or West, working in academic medicine, and practicing in an HPSA. Tong et al. also observed that rural family physicians remained more likely to offer maternity care than those practicing in urban environments. However, the authors cited a 10% decrease in the provision of rural maternity care over the previous five years (Tong et al., 2013). Despite the differences by region and demographic characteristics, the researchers' analysis confirmed that a steady downward trend continued across the board between 2006 and 2010.

New Mexico Health Care Workforce Committee. The New Mexico Health Care Workforce Data Collection, Analysis and Policy Act of 2011 (NM Stat § 24-14C-5E) established mandatory collection of core data measures across healthcare licensing boards and empowered a committee to analyze the data, including attention to rural-urban migration trends across the primary care specialties. The committee was also charged with making recommendations in support of a stable and well-distributed workforce (Farnbach Pearson et al., 2017). Unfortunately, the first four annual reports excluded any mention of CNMs and LMs as members of the workforce. Data collection did not begin for midwives until 2016 license renewals, although the 2016 data was not used by the committee (C. Avery, personal communication, April 11, 2017). Data on the CNM and LM workforce was presented for the first time in the 2017 report.

The value of the annual workforce report is limited by the absence of a core measure pertaining to the provision of care in childbirth. Value is also challenged by the use of counties as the geographic unit of measure and provider per population benchmarks. Although these measures are standard, they do not facilitate an understanding of distance-to-hospital birth site or the impact of insurance status and network restrictions on access to care. Research is needed to facilitate a refinement of these measures in the service of true representation of the New Mexico maternity care workforce and its ability to meet the needs of childbearing women in rural parts of the state.

Rural Critical Ethnography

The 'Metaphorical Landscape'

Lockhart (1999) provided a rare but resonant example of a critical ethnography that explored the experience of rural primary care providers in northern California. In this study, inquiry focused on the reasons clinicians chose to engage in rural practice, on the major issues confronted in the clinic setting, and on the clinicians' characterization of their rural patient population.

In this work, rural clinicians and community members identified a dichotomy between rural and urban spaces but allowed fluidity to the value assigned to each side of the dichotomy. Lockhart argued that "rural and urban spatial metaphors are important means of expressing and (re)producing problems associated with the search for legitimacy and moral authority within a field of relations defined by biomedicine" (p. 3). Physicians and nurse practitioners located themselves at the lower end of a hierarchy that concentrated resources and prestige in urban centers. They were vulnerable to externally

and internally imposed notions of the inferior experience and skill set attributed to a rural practitioner. This was reinforced through patient encounters that addressed any complicated or potentially dangerous medical issue because the prevailing organization of healthcare resources placed "expert" specialty care in larger population centers at a distance from the rural clinic. Such interactions validated a pervasive experience for rural community members, not solely confined to healthcare, that important or "better" resources and services are located far away, thus diminishing the value of what is readily accessible in the community (an insight that the Project ECHO model is designed to address).

However, Lockhart also determined that the dynamic undervaluing rurality could also be overturned. Rural clinicians also expressed having made affirmative decisions to reject urban "chaos" for the more satisfying engagement of becoming a rural community member with a prominent role to play. This positive framing of rurality focused on "core rural values: freedom, independence, and self-determination" (Lockhart, 1999, p. 169).

The fluid valuation of rurality in context was also applied to patients' bodies and behavior. The romantic connotations of freedom, independence, and self-determination that made rural life and rural community membership attractive to healthcare providers also manifested in healthcare interactions in the form of a "frontier mentality." Interview participants spoke in frustration of the many patients who put off the more basic and preventive care readily available at the clinic and presented with problems that would require referral to a higher level of care. This framing also highlighted the role of rural clinicians as the gatekeepers controlling access to the biomedical hierarchy. According to Lockhart (1999), "The embodiment of spatial meanings allowed [clinicians] to resist

claims that they lacked biomedical legitimacy and at the same time enact this legitimacy by combating the frontier mentality of their patients" (p. 181).

Although Lockhart's work addressed the identity and experiences of primary care providers representing different clinical disciplines, maternity care providers were not included. However, his analysis raises intriguing questions for this essential group of providers. A better understanding of this and the narratives that clinicians deploy to navigate the contradictions inherent in their roles have the potential to inform clinical training and health policy.

Summary

Our state and nation face the continuing erosion of access to rural maternity care and its subsequent significant health implications for women and newborns. As demonstrated by this review, the perspectives of those who persist in the work of rural maternity care delivery are missing, despite being critical to decision-making regarding what level of services should be supported and how best that might be accomplished. The insights of rural childbearing women and community leaders are also absent from research and policy debates. The following chapter will describe the methods and procedures employed to conduct a critical ethnography of rural maternity care in New Mexico. This project was intended to fill some of the identified knowledge gaps in the service of informed policy and improved clinical service delivery in New Mexico and other states that have significant rural populations.

CHAPTER 3

DESIGN & METHODS

The purpose of this study was to conduct an examination of access to and challenges in the provision of childbirth services from the perspectives of maternity care providers in three rural, northern New Mexico counties: Rio Arriba, Taos, and San Miguel. The study design also included an exploration of the significance that childbearing women and other community stakeholders place on the availability of local birthing and support services. This chapter provides detailed descriptions of the research methods, procedures, participants, and settings. It also outlines the approach to data analysis that was used and concludes with a description of the strategies undertaken to assure rigor throughout the research process.

Critical Ethnography

Wolcott (2008) identified ethnography as both a process and a product, a way of looking and seeing something or some group of people within their contexts. His purpose for doing an ethnography was to "map cultural territory" (p. 139) in a meaningful way. Fetterman (2010) posited that ethnography tells a "credible, rigorous, and authentic story . . . relying on an accurate and thick description . . . through the eyes of local people" (p. 1). Creswell (2013) characterized ethnography as an approach to inquiry focused on the description and interpretation of the "values, behaviors, beliefs and language of a culture-sharing group" (p. 90). For the purposes and context of this research, the array of maternity care providers who attend births in the northern New Mexico communities on which this project focused are considered a "culture-sharing group." These providers are individuals linked by a role that puts them in a particular and meaningful relationship

with women and families although they might perceive and navigate these relationships quite differently. Maternity care providers also share a lifestyle, which includes being "on call" for a significant portion of their time due to standard practice norms and the unpredictability of birth.

While developing a rich understanding of "values, behaviors, beliefs and language" (Creswell, 2013, p. 90) was important, an underlying goal of this project was also to identify issues that could be addressed through policy reform. Thomas (1993) defined critical ethnography as "conventional ethnography with a political purpose . . . invoking a call to action . . . to use knowledge for social change" (p. 4). Critical ethnography goes beyond interpretive accounts to "integrate descriptions of cultural parts into an analysis of the whole" that attends to political and policy implications and a likely need for social change (Thomas, 1993, p. 5). Madison (2012) depicted critical ethnography as critical social theory in action. The perspectives of Thomas and Madison resonate with the overarching goal of the study to further understand how "values, behaviors, beliefs, and language" emerge and find expression within the broader social and structural contexts in which rural community health disparities exist and maternity care is practiced. According to Wolcott (1999), the critical ethnographer "seeks not merely to understand, but to understand what is wrong, and to link the problem to some greater wrong operating at some grander level" (p. 181).

Carspecken (1996) defined "a criticalist as a researcher who uses her or his work as a form of social or cultural criticism and who accepts that all thought is mediated by power relations which are socially and historically constituted" (p. 4), aiming to unsettle the status quo of political and sociocultural contexts and disturbing patterns of oppression

and inequity. Denzin and Lincoln (2008) proposed that critical inquiry should be "ethical, performative, healing, transformative, decolonizing and participatory . . . committed to dialogue, community, self-determination, and cultural autonomy" (p. 2). This study sought to embody these values, yet kept open possibilities for unanticipated and varied responses from participants.

Given its value-based orientation, rigorous critical ethnography also requires reflexivity (Thomas, 1993; Madison, 2012). Patton (2015) defined reflexivity as "mindfulness turned inward . . . attentive to and conscious of the cultural, political, social, linguistic, and economic origins of one's own perspective and voices of those one interviews and to whom one reports" (p. 70). Reflexivity is a particular concern because the context of this research is also one within which my own professional identity as a certified nurse-midwife (CNM) resides and within which I work professionally on a statewide basis. I have observed and experienced rural maternity care practice in New Mexico as occurring within a complex terrain influenced by broader social and structural contexts. These are integrally linked and inseparable from the organization of clinical service delivery. The imperative to honor all of these considerations justified the framing of this project as a work of critical ethnography and called for an analysis that includes a critical theory framework able to accommodate the features of this complex, multilayered terrain.

Setting

This research took place in Rio Arriba, Taos, and San Miguel counties. These counties were chosen because each is served by an interdisciplinary array of maternity care providers, and each has a local hospital with an active maternity unit. While Rio

Arriba and Taos counties share a border, Taos and San Miguel are separated by Mora County, a sparsely populated territory that does not have its own hospital or any county-based, full-scope maternity care providers within its boundaries. This geographic area forms the shape of a wedge that funnels into a common pathway leading to the higher levels of care available in Santa Fe and Albuquerque.

It is important to note that despite a common historical thread and cultural identity, each of these counties has distinct geographic, demographic, cultural, and historic characteristics (to be explored in Chapter 4) that manifest in unique community challenges and opportunities. This contextual uniqueness represents a challenge to the conduct and external analytic validity of rural research. Engaging in several communities, however, served the dual purpose of identifying common themes while obscuring individual sources and maintaining confidentiality.

Interview Participants

Interviews were solicited in all three counties from midwives, physicians, administrators, and women who had recently given birth. All interview participants were English-speaking and at least 18 years of age. Informed consent was obtained prior to the interviews (Appendices B and C). The numbers of interviewees from the various groups are presented in Table 1.

Table 1

Interview Participants

Participant Type	Number
CNMs	8
LMs	5
Obstetricians	3
Family medicine physicians	2
Women	6
Administrative leaders	3
Total	27

Maternity Care Providers

I solicited the participation of all midwives and physicians who were actively attending births in the three focus counties. To learn about the factors that contributed to loss of maternity care providers, I also included in my recruitment efforts providers who had stopped attending births or who had left practice in a focus county during the previous 12 to 24 months.

Administrative Leaders

I used formal and informal networks to solicit interviews from the administrative leadership of the hospitals in each county. Despite repeated attempts, not all of these

contacts resulted in a formal interview. I also engaged in dialogues with community advocates and social service providers. Exploratory conversations were treated as fieldwork encounters and were not audio-recorded.

Community-Dwelling Women

I interviewed several women in each community who had given birth within the previous five years. These interviews helped to provide further perspective and context regarding the availability of services and the importance of being able to give birth locally. Some of these women had multiple birth experiences that occurred within different models of care and at times in which different resources were available locally.

Financial Honoraria

Each interview participant was offered a $40 Visa gift card as a gesture of appreciation for their time. Gift cards were distributed upon completion of each interview.

Data Sources and Collection Procedures

Interviews

I conducted in-depth, semi-structured, and digitally recorded interviews of approximately 45 to 90 minutes in length, using one of three interview guides. Each guide had a series of broad questions meant to stimulate discussion, with prompts to elicit clarification as needed. The maternity care provider interview guide (Appendix D) was designed to address personal and professional values, training, and experiences that influenced the commitment to providing care in a rural community, facilitators of and barriers to continuing in this role, and the overall interpretations and recommendations of participants. The guide for women (Appendix E) who sought childbirth services in the

focus communities included questions about their experiences, perspectives on birth site and provider type, and the value they placed on being able to access care close to home. Administrators and community leaders (Appendix F) were asked to reflect on the importance of the availability of childbirth services in local communities and what was needed to support this availability. I conducted interviews with each of the participants at their preferred location, with attention to assuring that privacy was maintained.

Sampling plan. Stratified purposeful and snowball sampling techniques were used to recruit participants across all provider types and communities. Through personal, professional, and advocacy networks, I recruited CNM, LM, and physician participants. Other providers outside of my personal networks were identified through professional association websites and were recruited via the contact information provided.

Snowball sampling proved to be an effective strategy to reach the practice partners of interview participants and to engage community women through their local social networks. Others learned of the project through flyers strategically posted in businesses or agencies that serve pregnant and parenting families (Appendix G). Finally, I made serendipitous contacts during the course of fieldwork, including attendance at local health council and other maternity-care focused meetings.

Participant observation. Participant observation is an essential strategy of ethnography and involves entering a community in order to be present and attentive to details that might be so engrained in the fabric of a culture that they do not merit description in a formal interview (Wolcott, 1999; Fetterman, 2010). My observations took place informally in a variety of publicly accessible maternity care locations, such as hospitals, clinics, and birth center waiting rooms. I observed public legislative hearings,

meetings of professional organizations, and a community summit focused on local poverty issues. Additionally, I participated in meetings with health councils and social service providers. In all of these settings, the goal was to develop an understanding of the public discourse, who participated, and how rural maternity care was discussed in different settings.

Field notes. Schensul and LeCompte (2013) described field notes as "the foundation of the ethnographic enterprise" (p. 47). During the course of the research, I generated field notes to describe rural communities, practice sites, birth settings, and public meetings. The notes included my observations, as well as rich descriptions of interpersonal research interactions and public dynamics at meetings or hearings that addressed access to rural maternity care. I documented my observations during or immediately following the experience. When in a position to take notes during fieldwork, I did so by hand to be less conspicuous than by typing on a computer. As soon as possible, these notes were transcribed into a Word document and uploaded and stored on a protected drive on UNM's College of Nursing server.

Policy documents. Multiple documents and archival data were used in the analysis, such as state legislative reports, proposed state and federal legislation, and reports and policies sponsored by professional associations such as the American College of Obstetricians and Gynecologists (ACOG).

Healthcare workforce and other data reports. The annual report of the New Mexico Health Care Workforce Committee (Farnbach Pearson et al., 2017) was used to characterize the maternity care workforce. I also used this report to identify gaps in information that could best be addressed through an ethnographic approach. The

workforce data and their limitations are explored in detail in Chapter 4. To identify the percentage of births attended by each provider type in recent years, I used vital statistics data provided by the Bureau of Vital Records and Health Statistics of the New Mexico Department of Health. Finally, I consulted the County Rankings & Roadmaps program reports for each focus county. These reports are made publicly available through a collaboration of the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, which seeks to provide actionable data to local governments and community members working to improve the health status of communities. I have included this information to provide epidemiological context for county-level maternity care needs and local strategies to address these concerns.

Media. Social media provides important and easily accessible vehicles for communication, and a number of maternity care providers and practices in the focus communities maintain a social media presence. I specifically included publicly available Facebook posts and YouTube videos in my analysis. I also collected state and local-level print and online media coverage of maternity care access issues, including op-ed articles.

Data Analysis

Organization, Storage, and Management of Data

Initially, a password-protected folder was created for the study on UNM's College of Nursing secure server. This folder was accessible only to me and to my dissertation chair, Dr. Kim Cox, and it was used to store the digital recordings of the interviews, the interview transcripts, field notes, and a participant log. For analysis of text-based data, I used NVivo 11 Pro software, which was installed on a password-protected computer.

Following each analytic session, a copy of the NVivo project was uploaded to my secure folder on the College of Nursing server.

Interviews. All interviews were transcribed verbatim by a professional transcriptionist, de-identified, and given an assigned number prior to uploading into NVivo. Transcripts were checked for accuracy, corrected, and reviewed as soon as possible in order to stimulate recall, allow for an overall impression of the interview, and to begin to suggest a coding method and preliminary codes (Saldaña, 2015).

Memos. Memos were used to capture two distinct types of analysis. One type of memo served to capture my emotional and subjective reactions to data and research interactions. These represent critical tools in the service of reflexivity. Memos were also generated in the course of close reading of transcripts in order to capture initial reactions, questions, and insights for further development as the formal analysis phase progressed (Fetterman, 2010).

Coding Process

Interviews were formally coded to facilitate analysis. I began with an initial set of codes drawn directly from my research questions; these were general and consistent with what is referred to by Saldaña (2015) as "holistic coding." The initial list of codes was comprised of barriers, facilitators, training, policy, and incentives. Applying these codes laid "preparatory groundwork for more detailed coding of the data" (Saldaña, 2015, p. 119) by allowing for an overall assessment of emerging themes. I then progressed to more focused categorization, adding subcodes to the initial frame, and attending to issues of power and voice, ("in vivo coding") in order to capture community voices. "Versus coding" was also employed to capture themes of power and conflict (Saldaña, 2015).

Decision-making related to coding strategy, method, and identification of codes was documented on a Word document that captured the emerging coding frame with dates accompanying each strategic decision and additional code. I also developed a coding matrix that identified each code and related subcodes, definitions, and range of interpretations that were applied to each code.

Analysis Procedures

Data analysis began with the start of data collection and continued for the duration. While coding interviews, I also documented my impressions, preliminary explanations, and emerging questions in memos. Conceptual categories were developed based on my initial research questions and related codes. I took an inductive approach and refined these conceptual categories (barriers and facilitators of practice) from the perspective of what I was learning in each community and from each provider type to determine if other patterns or themes emerged (LeCompte & Schensul, 2013). I incorporated the data obtained through participant observation and document analysis to contextualize and validate impressions that emerged through the coding process, such as field notes, media posts and reports, the workforce data, and other vital statistics and epidemiologic data. Using the critical medical anthropology framework discussed in Chapter 2, I developed the analytic model that facilitated the interpretation of the findings.

Assurance of Rigor

Whittemore, Chase, and Mandle (2001) identified a perceived tension between the need to demonstrate rigor in qualitative research studies and the need to demonstrate how subjectivity and creativity also contribute to a scientifically sound piece of research.

Using the language of "validity" usually associated with quantitative studies, the researchers argued, "Assuring validity becomes the process whereby ideals are sought through attention to specified criteria, claims to knowledge are made explicit, and techniques are employed to address the most pressing threats to validity for each type of inquiry" (Whittemore, Chase, & Mandle, 2001, p. 527-528). In this way, "validity" in a qualitative context can best be understood as the outcome of rigor. Rigor must characterize both the implementation of methods and the quality of interpretation applied to research findings (Lincoln, Lynham, & Guba, 2011). This is required by ethical research practice, and strategies to support rigor must be articulated in any research proposal.

Methodological rigor. Methodological rigor was maintained throughout this study through a variety of approaches, which comprised clear articulation of design, data collection, and analysis decisions (as outlined above), and documentation of their implementation. Interview integrity, in particular, was assured through the use of a high-quality digital recording device and an experienced professional transcription service. I reviewed every transcript for accuracy and checked transcripts against digital recordings as needed to resolve concerns. Memos and field notes documented the breadth and depth of my engagement with focus communities. I developed a coding process with an audit trail that documented the emergence of codes and identification of themes. All analytic assertions were supported with extensive quotations and thick description (Saldaña, 2015; Whittemore, Chase, & Mandle, 2001). My dissertation chair listened to audio recordings of interviews, consulted on my coding strategy, and reviewed segments of coded transcripts to establish agreement on the meaning and interpretation of codes.

Accountability and member checking. As critical ethnographic research, it was essential that this work demonstrate accountability, above all, to the communities and maternity care providers that it represented. I pursued opportunities to check my analysis, assertions, and conclusions in a variety of ways. One strategy was to offer individual participants the opportunity to review their own interview transcripts and to provide correction or elaboration informally or through follow-up interviews. Three participants desired this opportunity and expressed no concerns about the accuracy or content of the transcripts they received. I performed member checking by asking clarifying questions regarding issues that arose in interviews with other participants who had knowledge or shared experience. In a few cases, I asked follow-up questions by phone or during a subsequent encounter, and I consulted state-level experts who did not participate formally in interviews. Finally, I gave presentations regarding my research project and the local maternity care workforce at two health council meetings and received feedback from members through group discussion.

Human Subject Protections

Full informed consent is an ethical prerequisite for any research project involving human participants. I reviewed the risks, benefits, and confidentiality provisions of this study verbally with all participants and answered any questions that were not explicitly addressed on the HRPO-approved consent form. All participants had the opportunity to review and sign the consent document and were offered a copy for their records.

Maintenance of confidentiality is another fundamental ethical obligation, and it represents a challenge in research that is focused on small yet distinctive rural and professional communities. Very few documents definitively linked participants to this

study. Interview recordings and transcripts were identified solely by number. They were loaded onto a secure Google drive accessible only to me and the transcriptionist. I maintained a spreadsheet that linked participant names to the number assigned to their interview, but this existed only in electronic form and was kept exclusively on the password-protected drive on UNM's College of Nursing secure server. The only other identifying documents were the consent and the Visa gift card tracking forms that contained participant names, signatures, and contact information. All of these forms were accounted for immediately after the interview occurred in the community and were locked in a drawer at the College of Nursing.

It is both impossible and undesirable to make each rural New Mexico community completely anonymous. However, the multi-community focus of this project was leveraged to dilute identifying details and to focus on the broad areas of commonality related to the availability of maternity care.

Summary

This chapter summarized the methods used to study the three focus counties in northern New Mexico. I have provided a rationale for the use of critical ethnography and described how participants were recruited and how data were collected, analyzed, and stored. Strategies to maintain rigor throughout the study were addressed. I also discussed the methods employed to protect confidentiality of human subjects. The following chapters detail the findings of this research.

CHAPTER 4

FINDINGS PART I: FOCUS-COUNTY DESCRIPTIONS

This chapter introduces the northern New Mexico communities where I conducted interviews and ethnographic fieldwork. It is organized by county for consistency with the workforce and public health data reports that this research has sought to contextualize. It is also presented with the understanding that county boundaries do not necessarily dictate where people seek healthcare services or how they otherwise organize their lives and define their communities.

I included descriptions of the maternity care provider resources in each of these counties with the recognition that employment of providers is a frequently changing landscape. This is a reflection of the instability of rural healthcare in general and maternity care resources in particular. The degree to which provider turnover occurs, and the speed with which it renders these descriptions inaccurate, could be considered findings in and of themselves.

Rio Arriba County

Rio Arriba County, with a population of approximately 40,000, borders two of New Mexico's most populous counties to the south (Sandoval and Santa Fe) and the state of Colorado to the north (U.S. Census Bureau, 2017). Large areas contained within its borders represent federal lands designated as the Santa Fe and Carson national forests. The Jicarilla Apache Reservation occupies a significant part of the county's western half, and the pueblos of Ohkay Owingeh and Santa Clara are located in the southern part of the county, along the Rio Grande in a valley shared with Española, which is the original colonial capital settled by the Spanish at the end of the 16th century. The population of

Rio Arriba County largely identifies as Hispanic (72%), many of whom trace their ancestry to the populaces of the original Spanish land grants. American Indians[4] comprise 19% of the county's population, with non-Hispanic Whites making up less than 13% of the population (U.S. Census Bureau, 2017). Hispanic and pueblo communities in the Española Valley have a complicated and contentious history that ultimately includes a common thread of dispossession of land and historical trauma (Garcia, 2010; Brave Heart, Chase, Elkins, & Altschul, 2011). Successive waves of land grabs and displacement of peoples affected first the indigenous communities, and then the Hispanic settlers and their descendants with the annexation of Mexican territories by the United States (Gonzales, 2003).

In contrast to the bordering counties of Los Alamos and Santa Fe, which contain some of the wealthiest communities in the United States, the villages and towns of Rio Arriba County are some of the most economically marginalized in the nation. One in five Rio Arriba County residents lives in poverty, as do nearly one third of the county's children (University of Wisconsin Population Health Institute, 2018). At the epicenter of the opioid crisis in rural America, Rio Arriba County has acquired the dubious national distinction of having among the highest rates of overdose death of any county in the United States (Garcia, 2010; Todd, 2016).

The ubiquity of heroin and other opioids is a specific risk faced by many community women who navigate substance use and pregnancy. Although innovative, community-based treatment options exist, resources are few and are overburdened with

[4] For consistency, the term "American Indian" is used throughout this chapter when referring to data from the U.S. Census Bureau. Elsewhere, I refer to indigenous identity using the terminology of the organizations being described. Specific tribes or pueblos are referred to by name.

high demands for services (Todd, 2016). The problem is difficult to quantify, but one strategy has been to document cases of neonatal abstinence syndrome[5] (NAS). NAS is a diagnosis of newborns who show symptoms of opioid withdrawal in the days following birth. A recent study using hospital inpatient discharge data assessed trends in the rate of NAS cases in Arizona and New Mexico (Hussaini & Garcia Saavedra, 2018). During the study period of 2008-2013, the NAS rate in New Mexico increased an astounding 174% over five years, to an overall state rate of 5.3 per 1,000 births. In comparison, the rate for births occurring in Rio Arriba County during this time period was 20.52 per 1,000 or nearly four times the overall state rate (Hussaini & Garcia Saavedra, 2018).

The data and rankings provided by the County Rankings & Roadmaps program add further context to the health challenges faced by Rio Arriba County residents. The county ranks at the bottom of 32 New Mexico counties for health outcomes. Factors that contribute to this include nearly double the overall state rate of premature death (largely related to opioid overdose) and worse scores on measures of quality of life (i.e., poor or fair health, poor physical and mental health days). Rates of low birthweight (11%) are also higher than the state average (9%) (University of Wisconsin Population Health Institute, 2018).

Maternity Care Resources

With a population of just over 10,000, Española is the largest town in Rio Arriba County (U.S. Census Bureau, 2017) and is its medical hub. It is served by a hospital with an active maternity care unit that is part of a statewide nonprofit health services network.

[5] Terminology is evolving to better describe this condition, and neonatal opioid withdrawal syndrome (NOWS) is becoming the preferred term; however, NAS is used here for consistency with the referenced study.

As of this writing, the hospital employed three staff obstetricians. Hospital births are also attended by two family medicine physicians employed by a federally qualified health center network that has sites throughout the upper Rio Grande Valley. These two physicians are the only family medicine practitioners who attend births across all birth settings in the three counties studied. At the time of this study, there were no Indian Health Services (IHS) or tribally sponsored hospital birthing facilities in Rio Arriba County.

Española is home to a nonprofit midwifery practice and birthing center staffed by licensed midwives (LM) who also provide home birth services to women living within an hour's driving radius of Española. In addition, a number of independent LMs offer homebirth services in the area. At the time of this research, there were no CNMs attending births in Rio Arriba County.

Workforce Benchmarks

The current composition and mix of maternity care providers appears to situate Rio Arriba County close to national workforce benchmarks referenced by the New Mexico Health Care Workforce Committee (Farnbach Pearson, Reno, & New Mexico Health Care Workforce Committee, 2017). The county was identified as being one obstetrician over the national benchmark of 2.1 per 10,000 female population with five counted in practice as of 2016 (See Figure 2). However, the fact that the workforce report did not distinguish which providers attend births obscures the reality that, for the majority of 2016, the responsibility for being on-call for births was split between just two obstetricians and occasional temporary fill-in coverage.

Family medicine physicians are not counted in the maternity care workforce due to "the difficulty of quantifying their relative contributions" in this aspect of practice, as opposed to primary care (Farnbach Pearson et al., 2017, p. 31). However, the two family medicine physicians attending births in Rio Arriba County represent an unusual resource compared to the role of family medicine in other counties. One of these physicians is the only maternity care provider in the county who provides medication assisted therapy (MAT) with buprenorphine for the treatment of opioid use disorder during pregnancy. Because there is a provider who is actually able to offer care for opioid affected pregnancies and newborns, it is likely that this has the effect of keeping the care in the community rather than women being referred to Santa Fe or Albuquerque-based providers. The documented NAS rate also might indicate that the condition is less likely to be missed than it is in other communities where this expertise is not available.

The lack of any practicing CNM in Rio Arriba County placed the county below the national benchmark of 7.05 per 100,000 female population for this specialty (See Figure 3). In contrast, Rio Arriba County appeared to have one of the highest concentrations of LMs practicing in the state, counted as four over the benchmark of 1.70 per 100,000 female population (See Figure 4) (Farnbach Pearson et al., 2017). Given that LMs represent an out-of-hospital resource and that hospital birth is attended exclusively by physicians, community women are presented with distinct choices regarding philosophy of birth and site of care.

Perinatal Support Services

It is important to note that despite the presence of significant community challenges, Rio Arriba County boasts a robust array of perinatal support services that

address essential aspects of pregnancy, birth, and parenting beyond the clinical care provided by midwives and physicians.

In 2003, Tewa Women United (TWU)[6] led the Tewa Birthing Project, a community health assessment focused on the birth experiences and preferences of women in the six northern pueblos, including Ohkay Owingeh[7] and Santa Clara (Tewa Women United, 2010). The survey findings from this community health assessment revealed a strong shared belief in birth as a natural process and community interest in developing a birth center as an alternative to hospital birth. Women also expressed interest in doula services and increased opportunities to combine cultural practices with maternity care (Tewa Women United, 2010).

The findings contributed to the development of Breath of My Heart Birthplace and of the Yiya Vi Kagingdi[8] Doula Project, a comprehensive doula service that TWU offers to all women in Rio Arriba County and the northern pueblos. Breastfeeding support efforts are led by the Rio Arriba County chapter of the New Mexico Breastfeeding Task Force, which hosts events and employs breastfeeding peer counselors to provide individualized support. In addition, two home-visiting programs are available to Rio Arriba County families. There is growing evidence to suggest that this type of programing can positively impact clinical outcomes, including reductions in low birthweight and preterm birth (Thomas, Ammann, Brazier, Noyes, & Maybank, 2017;

[6] "Located in the ancestral Tewa homelands of Northern New Mexico, Tewa Women United is a multicultural and multiracial organization founded and led by Native women" (TWU, n.d.a).
[7] At the time of the project, Ohkay Owingeh had not resumed use of the community's traditional name, and it was referred to as San Juan Pueblo.
[8] Yiya Vi Kagingdi translates to "mother's helpers" from the Tewa language (TWU, n.d.b).

Shah & Austin, 2014), making these services an essential complement to direct clinical care.

Taos County

Like Rio Arriba County, Taos County borders Colorado to the north, where the Rio Grande enters New Mexico and bisects the county along the western edge of the Sangre de Cristo Mountains. The Rio Grande del Norte National Monument, Carson National Forest, and other federal lands account for more than half of the county's territory. Despite the encroachment of Hispanic settlers and the seizing of sacred lands by the U.S. government in the early 20th century, Taos Pueblo has continuously occupied its place in the valley north of the town of Taos for at least 1,000 years (Bodine, 1973). Picuris Pueblo, located approximately 18 miles further south along a spectacular winding mountain road known as the High Road to Taos Scenic Byway, is a small community nestled along the Rio Pueblo, also surrounded by federal lands. The Taos County population numbers just less than 33,000, with about 5,700 people residing in the town of Taos (U.S. Census Bureau, 2017) and nearly 2,000 living on Taos Pueblo lands (The Trust for Public Land, 2017). More than half of the county's population identifies as Hispanic (56.9%), while 7.5% are American Indian, and non-Hispanic Whites represent 35% of the population (U.S. Census Bureau, 2017).

With natural beauty and outdoor recreation afforded by the mountain range and a vibrant arts scene, the Taos County economy is heavily dependent on tourism, accounting for nearly 40% of local jobs (Headwaters Economics, 2018). These features have also attracted successive waves of outsiders over a number of decades, including artists, hippies, and more recently, a significant influx of wealthy vacation-homeowners whose

presence and economic influence have generated tension with the Pueblo and Hispanic communities so deeply connected to the land. Income disparities are dramatic and reflective of this tension. In the context of the rising cost of living associated with a resort area, nearly a quarter of Taos County residents, including fully one third of the county's children, live below the federal poverty level (University of Wisconsin Population Health Institute, 2018). Furthermore, the median income of American Indians is 21% below that of non-Hispanic Whites and 6% below that of Hispanic families. For Hispanic households, the median income is 15% lower than that of non-Hispanic Whites (The Trust for Public Land, 2017).

According to the County Rankings & Roadmaps program (2018), Taos County ranks 20th of New Mexico's 32 measured counties for health outcomes. Taos County residents also experience higher rates of premature death and worse scores on measures of quality of life, but these measures are more closely aligned with overall state rates than is the case in Rio Arriba County (University of Wisconsin Population Health Institute, 2018). This alignment also includes rates of low birth weight (10%) (University of Wisconsin Population Health Institute, 2018). However, the rate of NAS diagnoses (9.09 per 1,000 hospital births) was nearly double the state rate between 2008 and 2013 (Hussaini & Garcia Saavedra, 2018).

Maternity Care Resources

Related to the presence of counter-culture communities established in the 1960s and 1970s, Taos County has been a stronghold of LM education, practice, and advocacy. As discussed in Chapter 2, Taos County is home to the National College of Midwifery, an accredited, degree-granting, direct-entry midwifery training program founded by

Elizabeth Gilmore, LM. Gilmore, a nationally renowned midwife, was also instrumental in obtaining licensure for LMs in 1980 (Chester & McKusick, 1997). Consistent with this tradition, a number of LMs continue to serve birthing women in Taos County. Hospital-based maternity care is available in Taos at a hospital that is owned by the county and operated by a for-profit hospital management firm. It is staffed by three hospital-employed obstetricians and three CNMs. Taos County is also without any IHS or tribally sponsored birthing facility.

For 33 years, the county was served by the freestanding birth center founded by Elizabeth Gilmore, along with another visionary midwifery leader, Tish Demmin (see Chapter 2). The birth center was forced to close in 2014 due to the fact that, despite a steady number of births, the fixed costs of providing service dramatically outstripped reimbursement (Oxford, 2014). According to study participants, long-planned and much-anticipated efforts to reopen the birth center under the auspices of the hospital were thwarted in 2018 by unstable hospital finances.

Workforce Benchmarks

According to the most recent workforce committee report (Farnbach Pearson et al., 2017), Taos is very well-resourced. It is considered to rank above national benchmarks for every provider type, but there are no family medicine physicians currently attending births in Taos County. Once again, it should be recognized that readers of the report are unable to distinguish whether providers actually attend births, therefore making it difficult to interpret the significance of these measures. The report identified five obstetricians in Taos for 2016, placing the county at one obstetrician above the national benchmark (Farnbach Pearson et al., 2017). However, at the time of this

research, only three obstetricians shared the responsibility for being on-call for complicated births. The CNM workforce was three above benchmark, which represented the actual number of CNMs attending births in the county. LMs were considered to be six above the national benchmark, second in New Mexico only to Santa Fe County, where LMs were seven above the national benchmark. However, this measure did not take into account LM practice activity in terms of the caseload size or degree to which LMs are taking on new clients. It also did not reflect whether individual LMs were accepting Medicaid-insured clients.

San Miguel County

San Miguel County is a rectangular-shaped territory in the northern part of the state, stretching from the southeastern corner of the Santa Fe National Forest to the sparsely populated plains approaching the eastern border with Texas. It has a population of just less than 28,000 inhabitants, 77% of whom identify as Hispanic and nearly half of whom live in the county seat, Las Vegas (U.S. Census Bureau, 2017). The non-Hispanic White population is 13%, and because there are no formal reservation lands or pueblos within county borders, American Indians represent 3% of residents.

The plains that dominate San Miguel County's topography make it ideal for ranching, and prior to the territory's annexation by the U.S. government in 1848, the county consisted of several "subsistence communities" organized through Spanish and Mexican land grants that held much of the land in common for communal grazing and hunting (Correia, 2010, p. 50). By the 1880s, Las Vegas was a boomtown due to the expansion of the railroad heading west, and the land grants, supposedly protected in the treaty that ended the U.S.-Mexican War, were no longer being respected. Commercial

ranchers, wealthy industrialists, and timber company interests profited greatly from seizing and fencing communal lands, restricting access to critical resources previously guaranteed to land grant members. Well-known acts of resistance to this practice are enshrined in local history and culture, but they ultimately failed to maintain the authority of the land grants and the viability of their subsistence economic model (Correia, 2010).

The effects of this history persist in the ongoing income inequality and high rates of poverty experienced by San Miguel County residents. A quarter of the population lives in poverty, including 35% of the county's children (U.S. Census Bureau, 2017; University of Wisconsin Population Health Institute, 2018). San Miguel County ranks 24th of New Mexico's 32 counties with measured health outcomes. Like Rio Arriba and Taos counties, San Miguel County residents experience higher rates of premature death, poorer scores on measures of quality of life, and higher rates of low birth weight (11%) than the state overall (University of Wisconsin Population Health Institute, 2018).

Maternity Care Resources

San Miguel County has a central place in the history of New Mexico's early efforts to develop integrated rural maternity care services. In 1936, it was the site of a federally funded public health nursing demonstration project that developed a mobile maternal child health clinic to attend to families in remote settlements and ranches (Ortiz, 2005). In 1938, the project expanded its focus through the Midwifery Consultant Program to engage the curandera-parteras who continued to provide the majority of maternity care services into the second half of the 20th century (Ortiz, 2005). Las Vegas is a landmark of American midwifery culture due to local legend Doña Jesusita Aragón, the longest

serving curandera-partera in state history and an inspiration to subsequent generations of New Mexico midwives (Buss, 1980; Ortiz, 2005).

The local hospital has been owned by an out-of-state corporation since 2000, and in March 2016, it abruptly closed the maternity unit with six days' notice to the staff and community. The reason given for the closure was that "based on market conditions," the hospital had been "unable to maintain obstetric and pediatric coverage for maternity services in the past year" (Wolfe, 2016). At the time of the unit closure, there were two hospital-employed obstetricians attending births. Women in the community had also been served for a number of years by a private practice, which was staffed by three CNMs at the time the hospital closed to births. This practice was the only nurse-midwife-owned practice in the state that offered hospital delivery services, and without the revenue derived from providing full-scope maternity care, it was unable to survive. The practice closed in June 2017, and shortly thereafter, the hospital announced plans to reopen the unit with two new obstetricians. For 19 months, pregnant women had to travel approximately 65 miles through a beautiful but winding stretch of highway through the Sangre de Cristo Mountains to Santa Fe for the nearest hospital birth site (Matlock, 2016).

As of September 2018, there were no CNMs or family medicine physicians attending births in San Miguel County. The hospital reopened the maternity unit in November 2017 and once again has two employed obstetricians attending births. At the time of this research, at least two San Miguel County-based LMs were working to establish services.

Workforce benchmarks. While workforce benchmarks are useful for long-term planning purposes, they may become quickly outdated in the fluid context of rural maternity care. For example, on October 1, 2017, when the 2017 annual report was released, the hospital in San Miguel County had one obstetrician in place and was just weeks away from reopening the labor and delivery unit. However, the 2017 report stated that San Miguel County met the national benchmark with three obstetricians at a time when none remained in practice in the county. Similarly, CNMs were identified as two above the benchmark, but none attended births. LMs were considered one above benchmark but had no in-county referral or transfer resources available to them (Figures 2, 3, and -4). With the closure of the maternity unit, San Miguel County became one of nine contiguous counties and more than 20,000 square miles in the northeast quadrant of New Mexico without inpatient maternity services. This example demonstrated the difficulty associated with using time-limited reports to determine the actual availability of services in a frequently changing environment.

Summary

In this chapter, I have provided some description of the three counties where research was conducted. Despite unique geographic, historical, and demographic features, and an array of maternity care resource configurations, there are numerous common threads. Each of these counties has been deeply and persistently impacted by a history of land dispossession and economic isolation that disproportionately targeted indigenous and Hispanic communities with deep ties to and dependence upon the land. Poverty and associated poor health outcomes are legacies of this experience. Within this context, maternity care providers and perinatal support programs operate to deliver

services to many geographically dispersed and economically challenged women and families. Maternity care resources are difficult to track, given their degree of fluidity within any given year and without the ability to identify which providers actually attend births. The following chapter goes beyond these county profiles and provider counts to provide an in-depth exploration of the themes that emerged from interviews and fieldwork.

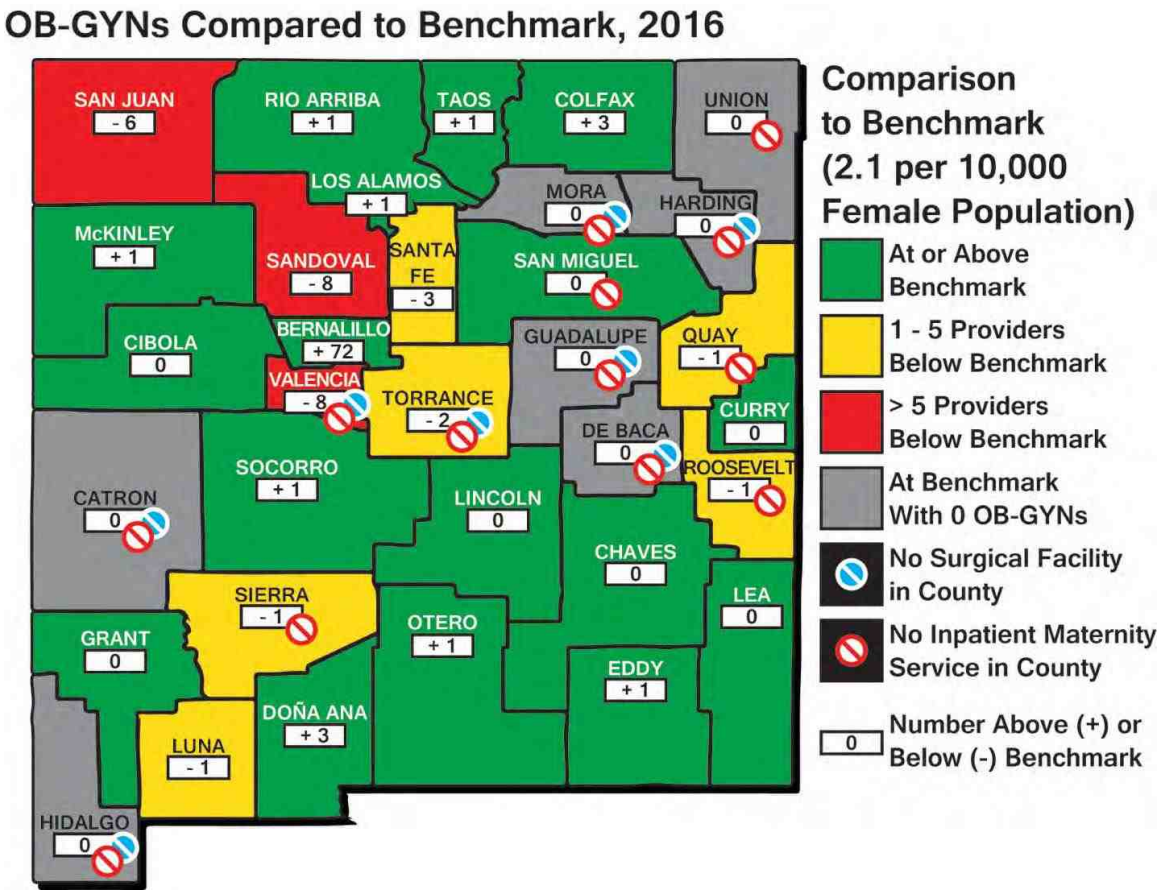

Figure 2. OB-GYN service providers compared to national benchmarks (Farnbach Pearson et al., 2017).

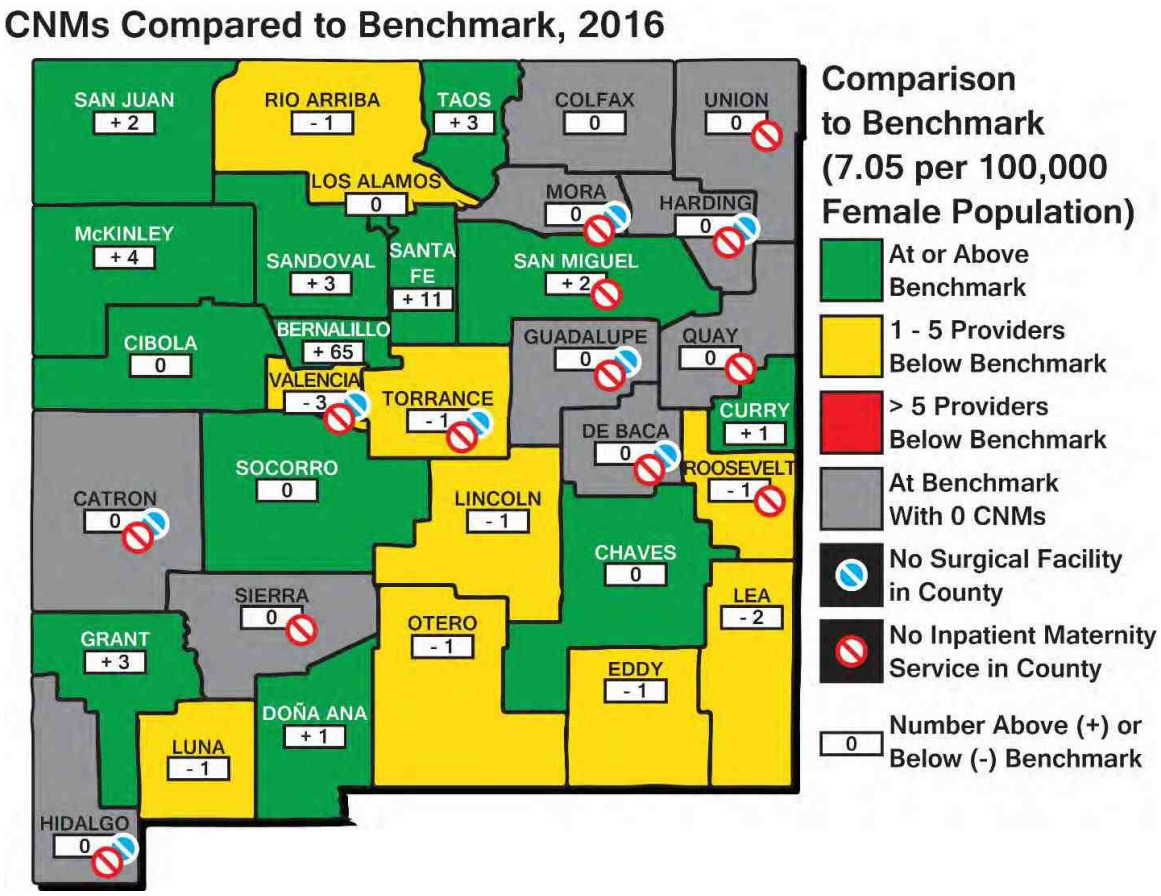

Figure 3. CNM service providers compared to national benchmarks (Farnbach Pearson et al., 2017).

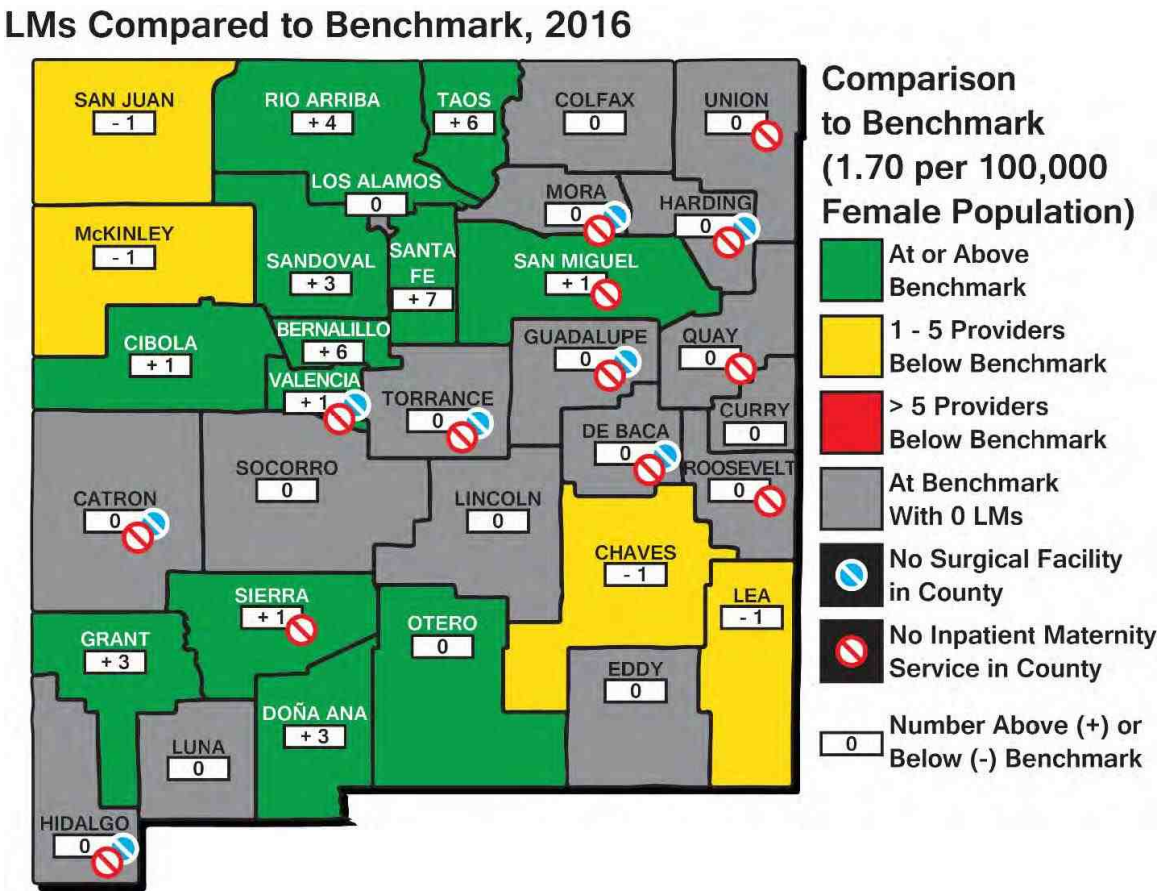

Figure 4. LM service providers compared to national benchmarks (Farnbach Pearson et al., 2017).

CHAPTER 5

FINDINGS PART II: PARTICIPANT INTERVIEWS

This chapter presents the major themes that emerged from interviews and fieldwork based on the research questions. First, barriers and facilitators, both structural and personal, are addressed. This is followed by perspectives on community needs and desires for a range of services. Finally, I share provider perspectives on the opioid crisis confronting rural New Mexico communities and its impact on the delivery of maternity care.

Barriers to Rural Maternity Care Practice

Barriers to rural maternity care practice are evidenced by the significant maldistribution of providers across the state of New Mexico and by the county-specific challenges explored in Chapter 4 (Farnbach Pearson, Reno, & New Mexico Health Care Workforce Committee, 2017). Interviews with study participants generated a number of common themes that provide insight into the ways in which barriers emerge and impact the depth and stability of the rural maternity care workforce. Participants experienced barriers at different stages in their experience of rural maternity care practice which either prevented them from considering rural practice initially, or disrupted their ability to continue to offer services in the community. There are two major ways in which providers discussed barriers to practice: (a) as structural barriers affecting the systems within which practice occurs, or (b) as personal barriers having to do with their own individual concerns or those of partners or family.

Structural Barriers

Structural barriers include forces beyond the control of individual providers, such as economic or organizational factors within the healthcare system and U.S. or state political contexts. Marginalization of midwives, particularly for LMs, was a persistent structural barrier despite positive scope of practice laws in the state.

Financial instability of health care institutions. Both physicians and midwives found that financial instability of hospitals and clinics were major barriers to practice. Hospitals in two of the three focus counties experienced significant, high-profile fiscal challenges during the study period. Hung, Kozhimannil, Casey, and Moscovice (2016) found that when rural hospitals struggle financially, maternity care services are at risk. This study identified a number of factors that contribute to this phenomenon, such as the fixed costs associated with providing care and federal and state reimbursement levels. This fiscally challenging environment served to limit or eliminate competition, in addition to creating an unstable employment situation for both physicians and midwives.

Fixed costs. According to Hung et al. (2016), the fixed costs of providing care contribute directly to escalating rates of closure affecting hospital maternity units. One hospital administrator who participated in the study described it this way: “Whether we have zero patients in-house or two, we’ve got two nurses down there. We’ve got lights on. We’ve got all the resources. We have anesthesia. We have OB. So, we’ve got fixed costs in that.” For hospitals with a low average volume of deliveries, the revenue generated by the unit is often not sufficient to cover these fixed costs, in addition to others, such as the cost of liability insurance. In this case, the economic argument in support of offering maternity care involves acceptance of a role for this service line as a

"loss leader." According to Merriam-Webster, a loss leader is "something . . . sold at a loss in order to draw customers." The administrator elaborated:

> In rural markets, there are services that are going to be loss leaders, but they are going to be ones that it's your responsibility as a healthcare provider to maintain. Try to get the volume up as much as you can. Try to generate as much GYN business, which offsets the OB loss that you can. And so, our goal is to grow it. Let it be the best that it can. Hopefully, develop a vibrant GYN product line. It's always going to be a loss.

This justification for investing in maternity care as a loss leader represents a strategy rural hospitals have used to cope with, and to rationalize, the reality of fixed costs. Given that the hospital described above experienced a 19-month period of closure of maternity services due to "market conditions" (Wolf, 2016), it is clear that financial stability is a key factor in the maintenance of maternity services.

Hospital ownership models. As noted in Chapter 4, hospital ownership structures vary across the focus communities, positioning each institution differently in terms of how accountability to the community aligns with accountability to corporate boards and shareholders. Providers working within different ownership models had correspondingly divergent impressions of their hospitals' commitment to offering maternity care. For example, one provider shared that in the county-owned hospital where she practiced, despite an ongoing fiscal crisis, there had been no serious public discussion of shutting down the maternity unit. She attributed the continuation of care to a commitment by county leadership to maintain maternity and emergency department services as the highest priorities.

An administrator at a different institution presented conflicting messages regarding the impact of the business model of the hospital, revealing uncertainty about the source of its financial viability and community benefit.

> What I try to relay to the people [is] how much charity care we provide. How much taxes we pay. How many people we employ. And very importantly, how much capital we redeploy here at the hospital. For example, at the end of last year, we knew we needed a new MRI. We purchased a $2 million MRI that we got funded from [corporate headquarters] for capital to go back into the hospital.

Interestingly, although this administrator highlighted the corporate business model as the source of critical capital, the same individual proceeded to add the following:

> I do think the state has a role in helping prop up the hospitals in that sense, at least in New Mexico, and we rely on it. We would not be financially viable if we didn't get . . . uncompensated care dollars. Medicaid also has what they call 'dispro dollars.' So, if you get a disproportionate share of your Medicaid volume, then at the end of the year, they'll come back and be able to prop you up a little bit. Now, it's not huge dollars, but it's the difference between us being able to put a MRI here last year and not being able to put a MRI here. So, it's at least that significant.

Under the marginal economic conditions that threaten hospital viability, these conflicting assertions indicate how difficult it is to separate the influence of state and federal policy, including reimbursement levels and direct economic subsidies, from that of the profit-oriented management approach pursued by corporate hospital systems.

***Threat of vulture capitalism*.** A distinct barrier to private practice by certified nurse-midwives (CNMs) setting up shop in rural communities was the threat of vulture capitalism from for-profit hospital systems. In two of the three counties studied, all hospital-based maternity services were delivered by hospital system employees. In one of the focus communities, however, there was a private midwifery practice that cared for the majority of women who delivered in the local hospital for a number of years prior to the closure of the maternity unit. One CNM discussed the economic dilemma that the successful midwifery practice presented for the hospital:

> So, here we are, and we've got more than 50% of the patients. . . . We attended 60% of the vaginal births over there. So, from a business perspective, you have the hospital, they have to pay these physicians [for back-up and pediatric care]. They need to pay these docs, and . . . less than half of those patients are going to them. Well, how do we take care of this problem?

One commonly employed option would have been for the hospital to buy out the midwifery practice, and participants acknowledged that the hospital eventually offered to do so. However, the offer was rejected over distrust of the corporate ownership and fears of loss of autonomy and local control. One of the CNM partners put it this way:

> What are they really going to do? Are they going to just take us over and we just continue to function the way we do? Or are they just going to consume us and then spit us out? I'm very paranoid, and just in everything I've experienced I can't trust them. I can't trust that they're going to be good. So, I said no, I can't do that.

Ultimately, a number of participants saw the closure of the maternity unit as a financially motivated way for the hospital to eliminate the competition represented by the midwifery practice.

Medicaid reimbursement. In the face of the significant fixed costs associated with providing maternity care, adequate Medicaid reimbursement is essential to the financial survival of rural hospitals. As of 2015, New Mexico Medicaid covered 72% of births in the state, the highest rate in the nation (Kaiser Family Foundation, 2016). One hospital CEO published an op-ed detailing the fiscal challenges faced by his institution:

> The community must understand that we are being paid less for doing more. For example, our percentage of government payers, such as Medicare and Medicaid, has grown from 58% to 75% in the last few years. These payers reimburse us less than our costs to provide services . . . In July 2016, we experienced a reduction of 5% in our inpatient Medicaid rates and 3% in our outpatient Medicaid rates. Medicaid, which pays the least, currently makes up 30% of our business, so these reductions are significant (Patten, 2018, para. 7-8).

According to this explanation, one of the greatest sources of financial insecurity for rural hospitals has been the growth of the Medicaid-covered population combined with falling reimbursement rates.

Payment models. Maternity care is usually reimbursed with a global payment that is intended to cover all of the costs for prenatal, intrapartum, and postpartum care. State Medicaid programs vary in terms of covered services (Gifford, Walls, Ranji, Salganicoff, & Gomez, 2017). Regardless of what New Mexico Medicaid includes in the package of covered perinatal services, in actual practice, the range of services, the number of

encounters, and the amount of time spent by providers across the perinatal care continuum varies dramatically, but the current payment model does not account for this. Given their time intensive practice model, licensed midwives (LM) are at the greatest disadvantage. One LM explained how perverse incentives remain in place to reward high-risk care provision at the expense of the high intensity supportive care that is a hallmark of midwifery practice:

> Medicaid as it is right now pays very, very poorly for prenatal care and vaginal birth. I know that there's always this idea that they want to pay for preventative care, but the incentives are just not there. If somebody goes to [a perinatologist] and gets $15,000 worth of testing, not a problem, right? And we see somebody for 15 prenatal visits that are in excess of an hour. We're with them for three days for their birth. Maybe they transferred to the hospital. [Then] we resume their care. We see them for five to six postpartum visits, depending on what their needs are. I've seen people for 10 postpartum visits sometimes. They do not pay you for that. I think there are some very basic Medicaid program things that could be changed that would actually support preventative care provision.

Although this LM referred specifically to the mismatch between the Medicaid reimbursement and a home birth midwifery model of care, the point about lack of payment for preventative care applies more broadly to the range of maternity care providers. It highlights a tension between the value attributed to high-cost services and the value attributed to providers' time.

Disincentives to providing maternity care. Federally qualified health centers (FQHCs) provide a particular example of how payment models can disincentivize the

provision of maternity care. Under a prospective payment system outlined in federal regulations, FQHC ambulatory visits are reimbursed at an encounter rate, regardless of the amount of time spent on the visit. Similarly, the FQHCs can bill specific procedure fees, but not for time, on behalf of a provider for attending a birth. For example, time spent on-call that does not result in a delivery cannot be billed. This creates a challenging economic equation. One physician put it like this:

> We get the same payment regardless of whether I walk in and give a tetanus shot or I spend 22 hours sitting with somebody in labor at the hospital. . . . It's a really strong disincentive for the FQHC's to do maternity care.

Another provider characterized an FQHC's ambivalence about filling a long-open position for a full-scope family medicine physician as, "We would be fine if you stopped doing OB because we don't make money off of that." She wondered aloud about how to make the case for providing maternity care in the absence of a financial incentive: "How do we say this is [something] that our community needs? You know, we need to fill this, and at what sacrifice to the clinic system in general if the clinic system has some . . . financial pressures?"

Marginalization of midwives. As discussed in Chapter 2, Vedam et al. (2018) developed the MISS scoring system to define and quantify degrees of midwifery integration into regional health systems based on evidence that greater integration of midwives is linked to improved perinatal outcomes. New Mexico was ranked second highest for midwifery integration in the nation based on the MISS methodology. However, this study identified significant structural barriers to the integration of midwives−CNM and LM−in the focus communities. These barriers included a lack of

employment opportunities for CNMs in established healthcare systems and a profound lack of infrastructure to support the training and practice of LMs.

Lack of employment opportunities. At the time of this research, only one out of the three focus counties had CNMs working within the local hospital system and attending the majority of uncomplicated births. Although CNMs were employed by a regional FQHC network, none attended births. This resulted in a number of CNMs, some with a strong preference for serving their home communities, having to leave the focus counties to seek employment in metropolitan areas where there were practice opportunities.

LM-specific structural barriers. Structural barriers confronted by LMs, who currently work exclusively outside of formal health systems, require specific consideration. New Mexico LMs enjoy a level of recognition and a scope of practice that is significantly better than direct-entry midwives in a number of other states, and yet LM participants described specific structural barriers to their practice beyond the financial viability concerns shared to some degree with other disciplines.

Lack of access to educational financing. Debt accrued in the course of clinical training represents a significant burden for many providers who consider rural practice. However, for LMs, the barrier begins with a substantial lack of options to finance training. In the words of one LM, “There’s a financing problem in the direct-entry midwifery world where I assumed I could get loans and financial aid, and that stuff isn’t actually available.” Of course, the lack of financing does not correspond to a lack of cost. Schools of midwifery charge tuition and fees that vary by program, but a number of Midwifery Education and Accreditation Council (MEAC)-accredited schools, including

the National College of Midwifery (NCM) in Taos, are not eligible to participate in federal education financing programs under Title IV[9] of the Higher Education Act (HEA) because the college does not have a campus (NCM, 2017). This eliminates the possibility of federal grants and loans, and state-based alternatives do not exist.

Many individuals must find a way to balance clinical training with the need to care for children or to earn a living. However, LMs-in-training (known as apprentice midwives) face particular difficulty in maintaining this balance because they must be prepared to devote a significant amount of time to being on-call for births, and they must have the flexibility to leave whatever responsibilities they are managing in order to be with a laboring woman. With a lower number of potential training experiences available to them due to the lower prevalence of out-of-hospital births, apprentices must expect to commit to extended periods of around-the-clock call in order to meet graduation, certification, and licensure requirements.

Exclusion from financial incentives for rural practice. Beyond education financing and loan repayment programs, LMs are excluded from two other financial incentives offered by the state of New Mexico to attract and retain rural providers: the Rural Health Care Practitioner Tax Credit and the Birthing Workforce Retention Fund. A state income tax credit of up to $5,000 is available to a multidisciplinary list of providers who offer valuable clinical services in rural communities. The Birthing Workforce Retention Fund provides grants to subsidize the cost of professional liability insurance for all maternity care disciplines except for direct-entry midwifery. Exclusion from these incentives represents a significant barrier to rural LMs who otherwise might meet

[9] Title IV of the HEA authorizes a range of programs that provide financing for post-secondary education (Hegji, 2014).

program criteria. One LM observed, “So, we’re not listed under these rules that exist that incentivize rural healthcare providers and incentivize people to do essentially what we’re doing.”

LM study participants indicated that the majority of their peers did not carry liability insurance, but assumptions about the reasons for this are likely to be misleading. For some, this choice was a matter of philosophy. However, all agreed that such insurance was simply out of reach for LMs who are generally self-employed and do not earn enough to cover the cost. One LM shared her reaction to a state agency representative who expressed surprise at the LM’s interest in having access to coverage.

> Why would you assume that we didn’t? . . . Well, no, we don’t want malpractice insurance if it’s twice the amount that we make in a year, you know? But like, yeah, I think everybody would be happy to engage in the healthcare system.

Ultimately, the exclusion of LMs from programs meant to facilitate practice sends this group of providers a message about their value. The same LM continued, “I think that just implies that you don’t see us as part of the healthcare system, right? Because you would assume that everybody else wants this.”

Medicaid Birthing Options Program. In 2006, New Mexico Medicaid established the Birthing Options Program (BOP). The BOP requires Medicaid managed care organizations (MCO) to cover homebirth services provided by LMs, and specifically requires the MCOs to waive the standard credentialing requirement that LMs carry professional liability insurance. Access to Medicaid reimbursement is one of the indicators of midwifery integration included in the midwifery integration scoring system (MISS), contributing to New Mexico’s second-in-the-nation integration status (Vedam et

al., 2018). Unfortunately, the program was universally described by LMs as a barrier in terms of enrollment difficulties, low reimbursement rates, and the failure to pay billed claims. One LM described her experience with the BOP in this way:

> For nine months of care and her birth, with the global midwifery fee, I get paid $1,800. And I might not get that because they fight it. And then, they give it to me, and a year later, they try to take it back. So, Medicaid sucks in this state for licensed midwives, and I'd like to see that cleaned up because it serves no one to behave like that. I feel like they should pay us more. I feel like if they did that, then licensed midwives could branch out even further rurally into the community and actually be able to have a family and practice and support the women in their community. So, a great incentive would be Medicaid to wake up and realize they are saving money with LMs. Pay us what we're worth.

There are numerous reasons that LMs struggle with Medicaid reimbursement, but low birth volume and a lack of infrastructure are certainly implicated in their overwhelming difficulties in accessing this essential source of income. As solo or small-group practitioners, LMs are at a significant disadvantage in their interactions with the large MCOs that currently administer Medicaid benefits through the Centennial Care program.[10] The scenario described above likely unfolds on a regular basis for maternity care practices that are embedded within larger health systems, but those systems are cushioned to some degree from low reimbursement rates and clawbacks of previous payments by the volume of services they provide. Larger systems also employ

[10] Centennial Care is the current name of the New Mexico Medicaid program, which is administered under a federal waiver allowing for alternative Medicaid program design.

individuals with the expertise needed to submit the correct billing and coding needed to receive timely reimbursement.

Given that Medicaid covers such a high percentage of the maternity care delivered in New Mexico, difficulties with the BOP represent a significant hardship for LMs who, after experiencing an initial resurgence in the percentage of births attended with the initiation of the BOP (4.5% in 2011), now see their numbers declining once again (1.1% in 2017; Reynis, 2011; Bureau of Vital Records and Health Statistics, 2018). One LM observed:

> I think that one thing for sure that I'm realizing is that there is a risk, like a real risk, of losing LMs over time. . . . I really genuinely see that there are very few. I see the burnout. I see the frustration with billing. I think if you were to see how many actual CPMs[11] exist, but how many are not practicing or never got licensed, it would be really interesting. Because I think a lot of people are just like, 'This isn't sustainable.' So, that's a concern for me. It's not a growing field.

This LM suggested that, due at least in part to the payment barriers cited here, direct-entry midwifery might once again be facing the sort of existential crisis that ultimately led to the disappearance of New Mexico's curandera-parteras. The identification of additional structural barriers pointed to a broader theme of marginalization for midwives−both LM and CNM−in rural healthcare settings.

[11] Certified Professional Midwife (CPM) is the national credential obtained through successful completion of the National Registry of Midwives (NARM) portfolio evaluation and exam. It is not required for practice in New Mexico, but the majority of LMs in the state are CPMs.

Climate of uncertainty. Overall, themes emerging from interviews and fieldwork regarding the structural barriers to maternity care practice within formal systems of care originate from a fundamentally fragile economic context. This results from a chaotic federal policy environment, falling reimbursement in the face of fixed costs, and payment models that inhibit collaboration within systems. One hospital administrator also reflected on the way the complexity of the healthcare system fuels uncertainty with its many, and sometimes conflicting, layers and generations of policy.

> It is such a complicated system that, this is horrible to say, I almost think at times, the whole system needs to be deconstructed and reconstructed. Because there's so many legacy components of it that exist in some form or fashion that it's . . . kind of the joke about fixing an airplane while it's flying. It's really hard to do.

This sentiment was shared widely by maternity care providers in a variety of settings who experienced the complexity of the system as a threat to their ability to offer essential services. This was expressed well by one CNM:

> I think there's a lot of uncertainty. It's the same uncertainty that drives the problems with healthcare, with insurance, and therefore, with billing. . . . How do we stay alive? . . . We used to have an indigent fund at the hospital, but we haven't had that in several years because the hospital was in the red every month . . . for years. . . . And if you're getting federal dollars for anything, are those federal dollars going to be there next week? Next year?

The uncertainty affects models of care and the potential for interdisciplinary collaboration to meet the needs of community women, even when basic services remain

available and provider jobs are not directly threatened. This same CNM observed: "You can't innovate when you don't know if you're going to get any support. . . . What should we try to do? It's mostly just trying to maintain." This is a logical yet concerning assertion. In the nationwide context of worsening maternal and infant outcomes, a renewed commitment to innovation in rural practice is precisely what must be supported.

Personal or Relational Barriers

Personal and relational barriers also impact a provider's ability to honor a commitment to rural practice. These occur when a provider is not able to reconcile their personal values or needs, or those of a partner or other family members, with the realities of rural community life or practice. The most commonly cited relational barriers across provider types pertained to a perceived lack of work and educational opportunities for family members. Personal barriers included scope of practice considerations, such as concerns about the intensity of the on-call commitment in rural practice and the range of clinical experiences available.

Schools/children. Study participants universally identified the perceived low quality of local schools as a significant barrier to recruitment. According to one physician:

> I think what I've noticed, especially now that my partner and I have been looking for a third physician, is any physician out there who has children, young children and school-aged, does not want to send kids to school [here].

Another physician discussed the way that her colleagues prioritized access to quality schools for their children and leveraged their resources in order to avoid local schools.

> The schools are not good here. . . . If you have kids, you either live out of the community or you have somebody available who can drive your kids out of the community for school. Through the entire time I've been here, I've never known anybody who put their kids through [the local] public schools among the doctors.

However, this concern was not confined to physicians. Some midwives also went to lengths to avoid sending their children to local schools. Strategies included living in a larger or wealthier community with well-regarded schools, or using public transportation to send a child to a neighboring school district that has a strong reputation.

Despite the overwhelming degree of concern expressed about the quality of the education available in local communities, some participants took issue with this view. One midwife shared a disagreement she had with another provider who complained about the quality of guidance counseling at a local high school. She disputed the assertion that the school system was the most important factor in a child's educational trajectory.

> A physician with a wife, they're not those kinds of parents that they're going to be totally dependent on the school system to build their kid. No way. That's not going to happen. You know? They're going to be pushing their kid, and they're going to be there trying to get the best opportunities for their kids.

This provider expressed the concern that criticism of the schools was leveraged to deflect attention from recruitment and retention challenges that reflected more directly on the quality of the clinical practice environment maintained by the local hospital system.

Partner/spouse employment and acceptance. The lack of community-based employment opportunities for spouses or partners was also cited as a recruitment barrier. One physician noted:

> Another issue on the recruiting is it's very hard for spouses to find a job. . . . I think at least half of the people, their spouses couldn't find a job was the reason they didn't end up coming.

This barrier is particularly relevant to providers who do not have existing ties to the focus communities. However, it is also a reflection of the changing demographics and culture of rural medical practice, which include the rising number of female physicians and the predominance of dual-income households. For previous generations of providers, recruitment efforts did not have to account for an expectation of partner employment opportunities. Now, the limited economic development of rural communities puts rural healthcare systems at an even greater disadvantage when competing against metropolitan systems to recruit a sustainable workforce.

Scope of practice limitations. Scope of practice limitations represent particular features of rural practice that can be personally challenging for maternity care providers across disciplines. Issues raised by study participants included the significantly greater on-call burden and the challenge of maintaining a comprehensive skillset in the small, low-volume practice arrangements that predominate in rural settings.

On-call burden. One of the most challenging aspects of rural maternity care practice cited by participants was the amount of time one can expect to be on-call for births. This affected participants across disciplines. LMs practice within a model in which their clients nearly always expect them to be available, so call sharing is minimal. Hospital-based providers participate in a call schedule that varies in terms of burden based on the number of participants in the rotation, not on provider-per-population benchmarks.

One midwife identified concerns about call burden as another reflection of the way rural practice culture has changed in recent years.

> The thing is that medicine has changed a lot over the years. Like when [a retired local physician] was doing it, it was a whole different system. He didn't mind always being on call. That was the devotion to medicine that people used to have. It's just sort of like when I became a midwife; I was on call every minute. I didn't care, that's just how it was. And now, people have completely different expectations. They want their time off. They only want to work a few shifts. They want their 401(k) and all their whatever, so, it's not entirely maybe the fault of the for-profit hospital. It's also the expectations of the medical practitioners that are coming through now.

The fact is that the current practice expectations described by this midwife are simply not available in low-volume, rural practice settings.

Lack of payment for on-call time. Another issue that affects providers across disciplines is the fact that current provider salaries do not adequately account for time spent on call. On-call time is not billable in and of itself, and the role it plays in a provider's compensation package varies by specialty and setting. For family medicine physicians who are employed as primary care providers, only clinic encounters generate revenue. One salaried physician observed:

> I am paid so little for the time I'm on call. I have weekends where I do not earn minimum wage. Because when I stop to calculate how much am I paid for being on-call, and I've realized, you know what? I don't think I quite made minimum

> wage for the amount of hours I put in this weekend. And then, I have nights where I don't get called in at all, of course. But there are definitely weekends where my salary is so low that I'm just like, 'What am I doing here?'

Given its major impact on lifestyle, the lack payment for call time has the potential to affect job satisfaction and provider retention over the course of time.

The challenge of maintaining a comprehensive skill set. The lower volume of experience that one could expect to obtain in a rural setting was identified as a concern, particularly related to physician recruitment. One midwife observed, "I think when you train in an academic environment like that, for a lot of those folks that are just finishing, it's really hard for them to think about coming up here." One aspect of this concern was that hospital and health system credentialing is dependent on demonstrated competence. Physicians who are not able to document their ongoing expertise by performing a range of surgical procedures might not be able to maintain these as part of their practice. Also, despite being infrequent, true obstetric emergencies do occur, and a rural provider must always be prepared to intervene effectively, despite having fewer resources available than they might have been accustomed to during training.

Maintaining surgical skills. One obstetrician described an innovative practice he developed in order to continue to maintain and refine his surgical skills and make good assessments as to which cases were appropriate to conduct within his community hospital setting. As a physician credentialed within a health system that has a statewide network of hospitals, this obstetrician was able to extend his credentialing into the urban referral centers within that network. Occasionally, he will participate in a surgical case he

referred out based on the complexity of the case, or on the need for subspecialty assistance. He identified his ultimate goal as follows:

> Part of this is to get to the point where . . . there's different levels of cases: a case I can definitely do here, a case that I probably could do here but could send out, and then, a case that definitely needs to be sent out. So, the more I do these cases in Albuquerque, the more I can do the middle one [with confidence, here in the community].

This approach is viable only within a network that allows credentialing across hospitals, but it offers an incentive to providers who might otherwise be hesitant to practice outside of high volume settings. It has broad applicability to maternity care providers beyond surgical specialists.

Facilitators of Rural Maternity Care Practice

Identifying the facilitators of rural maternity care practice was another explicit goal of this research. Like barriers, the facilitators of rural maternity care practice may present at any point in a provider's experience. A facilitator might represent the initial opportunity that attracted a provider to rural practice or an ongoing benefit that supports one's ability to continue to serve a rural community. Among study participants, the facilitators of rural maternity care practice were most commonly discussed in personal terms. Personal values, ties, and commitments, more often than any particular policy initiative or incentive, drew providers to serve their communities. Views on and experiences with loan repayment programs, which represent the mainstay of rural recruitment tools, were mixed.

Personal Commitment to Rural Practice

The most commonly cited facilitator was having a personal commitment to serve in a rural or underserved community. One physician expressed a common sentiment: "The people I know who do this, this has always been what we wanted to do." This was echoed by a midwife serving another community:

> The reason I came out to a rural location is because my heart was in it. I felt like I was being pulled to do work like that. I had been doing work very similar to it in the past. The need to work in underserved communities is such a strong drive for me that if I were to work in communities that don't need it, I wouldn't want to do the work. . . . So, I was doing it for the love of helping people. Not for . . . there were no incentives.

Proximity to Home and Family

Sixty percent of providers who participated in interviews had deep ties to the community where they currently practiced, or where they desired to practice. One physician observed:

> I'm happier than in my previous practice . . . and I wasn't not passionate about what I was doing there. But to have the added component of this being home, and then, you know, it's a good feeling to provide care for the people that you grew up around and families and friends of families.

Unfortunately, in two of the three focus communities, CNMs with a deep commitment to working close to home were not able to find or maintain practice opportunities there. One CNM who practiced for many years and raised her children in a

rural community lamented the fact that circumstances, including a hostile relationship with the local hospital system, prevented her from practicing locally.

> But you know, I've been here [Albuquerque] for three years now, and it's like . . . I mean, I was just up at my house this weekend, and I just wish I could be home. You know? There's nothing I can do up there.

A CNM who grew up in another focus community has not found an opportunity to work there despite strong family ties and commitments to the local area. She also was forced to leave home to practice in a metropolitan area:

> Mostly, I wanted to come back to my community and really serve this community. I have family here. I have friends here. I grew up here. . . . That was the main goal to always come back and work here. . . . I don't know what's going to happen. But I hope that one day, I could practice right here in my hometown. You know, instead of having to travel.

The experiences of these CNMs suggest that policy initiatives are needed to support providers that desire to return to their rural home communities after completing training. This might be especially true for CNMs, given that there were no CNMs providing full-scope maternity services in two of the three focus counties as of this writing.

Financial Incentives

Financial incentives are often limited in the fragile economic context of rural health systems. However, a healthcare system with a presence in the largest metropolitan areas is able to offer an enhanced salary package to recruit providers to rural practice sites. In addition, there are the state and federal loan repayment programs, which have

been a mainstay of healthcare provider recruitment to underserved communities since 1970, the year Congress created the National Health Service Corps (NHSC; "National Health Service Corps," 2017).

Loan repayment programs. Study participants considered loan repayment to be an important and welcome resource for heavily debt-burdened providers who qualify for state and federal programs. However, none of the participants stated that the promise of loan repayment provided the impetus to investigate rural practice opportunities, and a number of local providers declined to pursue loan repayment programs because of a perceived lack of flexibility and stiff penalties associated with a failure to fulfill the terms of an agreement. One midwife explained:

> I just figured it wouldn't happen. I mean, I heard that there were those National Health Service loans, but I also heard if you don't pay them back, you pay like 10 times more. And you know, it just sounded really scary and very unreliable. So, I just paid for it out of my pocket.

This concern resonates in rural communities that have unstable practice environments. One of the CNMs affected by the maternity unit closure in San Miguel County observed that, had she entered into a loan repayment commitment, she would have faced penalties in excess of the amount of her educational debt for not being able to fulfill the terms of the agreement.

Loan repayment and provider retention. Some participants also recognized that loan repayment did not necessarily lead to the retention of providers who were highly

motivated by this incentive. One physician who had served in a focus community for more than 20 years stated:

> I got loan repayment coming here, and that was sort of a nice bonus. I don't remember it being a strong incentive of why I chose here. And interestingly, most of the people who choose it for that don't seem to last.

Another physician who returned to his home community to practice obstetrics after starting his career in a metropolitan area had this explanation for avoiding loan repayment programs:

> Loan repayment is a huge incentive, so I knew there were programs available from that perspective. I didn't ever commit to that in medical school or beforehand, even though I had an idea I was going to come back. Because number one, I didn't know what specialty I was doing, and initially, I thought it would only be for family practice providers. That was the principal reason I didn't want to do it. And number two, I kind of figured that I wouldn't come back right away initially. And so, I kind of thought this through even before I started residency.

Loan repayment is often a very attractive prospect to brand new providers as they emerge from training and are finally in a position to address their educational debt. However, this physician's experience suggests that there might be more of a role for loan repayment in the retention of more-seasoned providers who come to rural practice after starting out in a larger setting. This physician explained that he initially chose to work in a larger community in order to further solidify his skills and range of clinical experiences before practicing in a community setting. His insight might even be more relevant to

clinical scholarships, such as the NHSC Scholarship Program ("National Health Service Corps," 2017). NHSC scholars are expected to begin service in a qualifying site immediately upon completion of training. This requirement prevents scholars from taking into account a range of factors that might contribute to their retention in a rural practice environment. It sets up the opposite career trajectory from the one followed by this local physician who was able to prioritize the path that would prepare him to thrive in the community where he grew up.

A revolving door. When loan repayment is presented as an incentive in isolation from other potential facilitators of rural practice, clinical sites are at risk of establishing a "revolving door" practice environment that jeopardizes community trust. A number of providers shared a telling experience that is common for new healthcare providers in rural communities; patients ask, 'How long do you plan to stay?' (Kovich, 2017). One CNM said:

> For those people who maybe go and work specifically for loan repayment, then leave once they're done . . . the community pays in a way because you know, they've maybe built a rapport with that provider and then, that provider leaves. And then, maybe they have to wait awhile for another provider. So, I think in small communities . . . for them, it's not a good thing.

Care must be taken to assure that time-limited financial incentives, such as loan repayment, do not impose unintended negative consequences on rural communities by drawing a workforce that has little basis upon which to form a commitment beyond debt forgiveness.

Community Need and Desire for a Range of Services

Themes arising from the perspectives of community women, advocates, and other community members provide necessary context for the findings drawn directly from maternity care providers. Women who participated in interviews had experienced birth in the full range of settings from home, to freestanding birth center to hospital, and all experienced care from multiple provider types. Their homes were evenly distributed across the focus counties, where they represented both lifelong community residents and newcomers. Some of their births were uncomplicated and unfolded according to their wishes; others involved transfers to a higher level of care. All experienced birth in the focus counties, although two women also delivered babies in metropolitan areas. Themes emerged from these interviews related to access barriers and the value placed on the availability of local maternity services; cultural considerations, including the factors that influence decision-making around site of care, and the important role of perinatal support services.

Women were aware of and maintained expectations related to a range of maternity care options and birth sites. One woman spoke of the importance of the local birth center, even though she did not choose to deliver there, “Because it gives women other options. Because I know, my co-worker and other mothers that I meet, they don’t want the pain management. They just don’t want the hospital experience.” Consistent with the findings of the Tewa Birthing Project community survey discussed in Chapter 4 (TWU, 2003), women expressed a high degree of confidence in birth as a normal process. Nearly all of the women interviewed for this research had at least considered a home or birth center birth.

Barriers to Access

Women who lived in communities where a variety of options have been available without interruption had difficulty imagining the impact of these options suddenly being restricted. A woman who gave birth in the maternity unit at her local hospital said:

> I'm a stress case when I feel pain. So, I mean to be able to have the support, the people . . . like nurses, doctors; it's very important. Because . . . I mean, I couldn't think about if I didn't have nothing. I couldn't think about, 'Oh, I've got to deliver the baby. I'm in pain too. That would be crazy. But yeah, it's very important to be able to deliver here [in this community].

Another community woman who gave birth quickly in a nearby freestanding birth center observed:

> That would have been really challenging because we would have had to drive. I was already in a lot of pain. I delivered within an hour and a half once I got there. So, that would have been really challenging to have to go to Los Alamos or to go to Santa Fe. I would have almost had him in the car.

Distance. A study participant who was directly impacted by the closure of the maternity unit in San Miguel County wrote a letter to the local newspaper to express the impact of that decision on the final days of her pregnancy:

> That was when I thought, this is really sad. . . . I'm like up at 3 in the morning listening to the wind and panicking. I've been driving around with this stupid bag in my car for a week [containing emergency supplies for a roadside birth], and

> nobody should have to do that. On top of the financial burden, the mental burden that it placed on me.

This woman initially intended to deliver at the local hospital but had to change plans when the unit suddenly closed during her pregnancy. Her second choice was to travel approximately 90 miles to a freestanding birth center, but her insurance refused to cover that option. Ultimately, she made a plan to deliver approximately 120 miles from her home, at a hospital within her insurance network. She succeeded, but that required spending several days away from her home and two young children, as she awaited labor in a rented room closer to the hospital.

Transportation and childcare. Study participants universally cited access to transportation and childcare as major concerns for community women. Many did not have access to reliable transportation, and rural public transit was of limited value. A midwife described the situation faced by one of her clients: "Public transportation is free. But where they live is up by Questa. . . . Her partner told me today that it's four or five miles from their house to the nearest blue-bus stop. That's not going to happen. And then, I don't know where it drops them off in town. Then, it's more walking."

Medical transportation programs exist, but they are underutilized and have rules that make them impractical. Another midwife familiar with the options said:

> There are attempts to address the transportation piece. Like Medicaid pays for a taxi service [that] will take you to appointments. But technically under Medicaid's rules, you can't bring your children. So, if you are a single mom home with the three kids and you're pregnant . . . that's great that Medicaid will pay for a taxi to bring you over here, but you still can't come.

All participants expressed the desire for more thoughtful solutions to this very basic rural infrastructure problem.

Cultural Considerations

As discussed in Chapter 3, cultural considerations are factors that relate to a shared sense of identity, as expressed through values, behaviors, beliefs, and language (Creswell, 2013). Such considerations were often imbedded in participants' reflections on the importance of local options.

Cultural congruence of providers. Some participants asserted the importance of a shared cultural background between maternity care providers and their clients. One community woman observed:

> I think it's very beneficial…especially in such a traditional community . . . at least having advocates who understand where they're coming from, who understand maybe just the differences that are in [this community] or any rural community. They're just so different from the cities, and so many of the doctors are coming from the cities. And without that cultural understanding, it makes it a challenge to build relationships… it's an important part of life.

Appreciation for local providers. Community members do appreciate local sons and daughters who return to provide healthcare in their home communities. However, those providers were popular not only because they understood and could relate to the local culture. Their presence also had a symbolic value to the community. One woman brought up a local physician:

> I think we have a sense of pride in our local doctors. There's a new doctor here. He's from here . . . and it's awesome. Because a lot of people say, doctors don't want to move to [this community] because they don't want their kids to go to school here, because our schools suck. . . . So, to have one of our own doctors go to school and want to come back and not mind . . . [communicating the message] "I got educated here, and I was still able to further my education, get a higher education degree and come back."

Despite the appreciation for community natives, women remained open to providers who lacked local roots yet were able to demonstrate a commitment to serving the community. One said:

> I think it would be a sense of pride for the community, but I don't think it's a make or break kind of thing. There's doctors who are from out of town that people will love and love forever and can make themselves be a part of the town.

Above all, women wanted access to respectful, professional care, although some participants shared the view that it would be especially beneficial and easier to achieve these objectives with more maternity care providers who spoke Spanish and more providers who came from local communities of color.

Desire for midwifery care. Midwifery care, in particular, was described by some as a vehicle to honor cultural values. One advocate described the role of midwives in helping to return birth to pueblos that lost community-based birthing services to the Indian Health Service (IHS) hospital system.

> [A community member] had a baby, and she was one of the first home births in her pueblo in 45 years. And so, we know that . . . births were taken out of the pueblos and moved into the hospitals. . . . So, in the course of 16 years to see midwives becoming more common in this area. To see people asking about them, wanting home births. And then, to see now potentially, one for sure birth center. Maybe another coming up. I think that's a big deal.

Specifically, this speaker was referring to culturally respectful midwifery care in home and birth center settings. In fact, all reflections that connected midwifery care with respect for cultural values were shared in reference to LM care or home or birth center birth. To some extent, this was because participants conflated cultural values with individual autonomy, and care delivered in the hospital setting is dictated to a far greater degree by routines and practices that take priority over a woman's autonomy in birth. For example, one woman noted that CNMs embrace "the culture of midwifery, and our culture, and our relationship to midwifery and how important it was to us" by claiming a connection to the legacy of the well-known local curandera-partera, Jesusita Aragón. However, she expressed discomfort with the comparison:

> I'm picturing Jesusita, like 'Bless Me Ultima,' a curandera-midwife, you know? This isn't what they were. So, I think just present yourself honestly. If you're a nurse-midwife, present like it's more of a medical birth, you know? Honestly, a lot of girls here probably would prefer a medical birth. So, if they just went in and were like 'We are just as good as an OB,' instead of 'Let's get back to your culture.' When they're not giving you your culture, you know?

This reflection alluded to a dilemma faced by CNMs who are currently without practice opportunities in two of three focus counties. CNM practice authority is not limited to hospital birth, but to the extent that the model is accessible only in hospital settings, participants did not distinguish it significantly from the care provided by physicians.

Importance of Perinatal Support Services

Perinatal support services comprise activities such as home-visiting, doula[12] care, and breastfeeding support. These services were available to varying degrees in each focus community, and all played a role in acknowledging and supporting women's cultural values and autonomy. Community women had experience with these services and did not see access to them as distinct from or subordinate to the choices available for direct clinical care.

Home-visiting programs. With robust programs available in each focus county, home-visiting programs were the most widely accessed type of perinatal support. The ability of home visitors to extend the reach of social services and support into remote communities was significant. One advocate explained:

> We had a home visitor in Rio Arriba County who was traveling sometimes four hours a day to see one family. And she was often their only point of contact outside of maybe every-six-month doctor visits. And so, thinking about these families again who maybe go to the post office and maybe are buying their food at the gas station. And they have this home visitor who shows up once a week,

[12] A doula is an individual trained to provide support to a woman and family before, during, and after a birth.

> those things are really big deals. So, for that reason, wrap-around care becomes even more important.

A number of community women who participated in interviews were actively engaged with a home visitor, and all spoke highly of the care and support provided by the program. One woman said:

> I always advertise, and if I meet new moms, I'm like, 'Do you have a home visitor?' I think some of them think that it's invasive, but I don't think it's invasive at all. Because . . . my home visitor, she's like, 'Well, I can be here however much you need me.' . . . I like when she comes over because she gets to interact with the baby, and she's awesome. I couldn't have done it without her. You know, she's definitely helped bring the sanity back in my life.

This woman had relocated from another state during her pregnancy. The home visitor was instrumental in getting her established into a new apartment with her older children before the baby was born and helping her become familiar with the resources in a new community.

Doula services. Women living in Rio Arriba County have access to doula services through the TWU-affiliated Yiya Vi Kagingdi (YVK) Doula Project, "the only community based doula program in the state" (TWU, n.d.b.). YVK services are provided on a sliding scale and are supplemented with grant funds. No one is denied support for financial reasons. Doula services comprise a range of activities, such as prenatal visits and labor and postpartum support. They are not linked to any particular birth site. Although private doulas are available in other communities, the YVK project is unique

due to its degree of coordination with other types of services, the comprehensiveness of its activities, and its focus on culturally appropriate engagement with extended families and communities.

Breastfeeding support. Breastfeeding support is available from a variety of sources, including home visitors, doulas, and the Special Supplemental Food Program for Women, Infants and Children (WIC). The New Mexico Breastfeeding Task Force also has a presence in focus counties through local chapters. Two of the study participants participated regularly in task force-sponsored activities and became peer counselors. One woman described how she took on this role:

> You know, the support groups are about if you are having issues, any type of issues breastfeeding. You network with the ladies. It was a very small group at first. . . . And then in October, that's when I was going to start looking for a part-time job, and that's when the ladies were like, 'Oh, well, we need another breastfeeding peer counselor.' I was like, 'Well, I'm not an expert at breastfeeding.' They're like, 'No, no, no. You know, you are doing it!'

Opportunities such as this allowed some community women to gain additional skills along with recognition of the value of their own expertise navigating pregnancy, birth, and postpartum periods. The peer counselor role also provided a much-needed vehicle for part-time employment and social networking.

The Opioid Crisis and Maternity Care

Chapter 4 discussed the prevalence of opioid use disorder, especially in Rio Arriba County, which for years has had among the highest rates of opioid overdose in the

nation (Garcia, 2010; Todd, 2016). Interviews also addressed the impact of the opioid crisis throughout the focus counties, where it affects many families, communities, maternity care providers, and the systems within which they work. All providers identified the prevalence of opioid use as a significant clinical issue. One provider declared: "Opioid addiction is probably our biggest challenge right now."

A Lack of Local Treatment Resources

None of the focus communities had sufficient local resources to meet treatment needs, and in most cases, addictions treatment, including medication assisted therapy (MAT),[13] is provided outside of maternity care services. The urgency of the need to access care for pregnant women in the context of available resources was noted by one CNM:

> Actually, the two that are in town will [provide MAT to pregnant women]. But it's just a matter of how soon can we get them in. You'll call in March, and they'll be like, 'Oh, we don't have any openings until August.' . . . It's like, well by then, she'll have had the baby. You know? That to me seems to be the biggest challenge.

When pregnant women are able to obtain addictions treatment locally or are able to continue with a local MAT provider after becoming pregnant, remaining engaged with that provider is essential. Another CNM described a common scenario involving a pregnant patient:

[13] MAT involves the use of medications such as methadone or buprenorphine to block the effect of opioids, allowing much less of a high and reducing cravings.

> She's been seeing a provider in our community for [MAT], but she hasn't been able to do both apparently. . . . So here she was today for an ultrasound. Finally, her initial ultrasound, she's getting at 25 weeks. It's like, 'Well, I guess if you have to pick, it's more important for you to get your [MAT] than for you to … [get prenatal care] you know?' And yeah, she said, 'We didn't have a car, so I couldn't come.'

Although this woman was able to access MAT in the local community, this fact did not alleviate her transportation challenges. She had to prioritize, and she chose to leverage any access that she had to transportation for the service that she determined to be most critical to her health and to that of her pregnancy.

Access to Comprehensive Care Models Requires Travel

Many women, however, are not able to access this necessary care in their home communities. Nearly all providers had referred women to the Milagro Program in Albuquerque. Milagro is sponsored by the University of New Mexico's School of Medicine, Department of Family and Community Medicine, and provides treatment to women navigating substance use during pregnancy. Sutter, Gopman, and Leeman (2017) described the tenets of Milagro's multidisciplinary care model, which comprises comprehensive perinatal services in addition to addictions treatment, pediatric care, and case management. Milagro offers evidence-based care in the form of a model program, but services are intensive, and it takes a substantial commitment and resources to fully engage with treatment while living at a distance from Albuquerque. A chaotic social context, consistent with illicit substance use, presents additional barriers to engagement (Sutter, Gopman, & Leeman, 2017). Another treatment provider is located in Santa Fe,

which was significantly closer but not close enough to override all of the challenges involved in obtaining care. One CNM observed:

> You know, some of them . . . had the resources and were able to get the support from their family to go to Albuquerque and do the Milagro thing. But most of them don't. And then, you kind of like are, 'Well, you need to go and do this. We need to find you this provider or whatever.' You have to go to Santa Fe and see them at La Familia so you can get your medicine. And then, if they're not able to make their appointments over there, then they just drop out . . . They just don't come.

However, when clinical handoffs fail in this way, it often leads to a scenario in which women end up delivering in the local community anyway, just without the benefit of regular prenatal care or of needed opioid replacement therapy.

> And the interesting thing is, we'd have a patient who was a heroin addict …We were like so, this is what we're going to do. We make a perfect little plan, and nope, they'd show up over here. We'd deliver their baby, and then the docs would get all upset with us. 'Well, why did she come here? Why didn't you?' It's like, 'I'm telling you man, we made the perfect plan for her.'

When services are fragmented, there is no "perfect plan," and there is no way to fully transfer clinical responsibility outside of a woman's home community, whether the providers and hospital there are prepared to manage her care, or not.

A Role for Certified Nurse Midwives

As of this writing, physicians, physicians' assistants (PA), and nurse practitioners (NP) have the authority to prescribe MAT, but few maternity care providers in the focus counties choose to do so. CNMs were left out of recent federal legislation that expanded the practice of PAs and NPs to include MAT. On June 22, 2018, H.B. 6, the SUPPORT for Patients and Communities Act (2018), a bill containing provisions that would rectify this oversight, passed the U.S. House of Representatives and was referred to the Senate. One CNM described what the ability to prescribe MAT would mean to her practice:

> I feel like if midwives, if we could do that treatment and do that management, it would give us a huge niche. . . . It would really help the communities we serve and also help us in terms of having some sort of . . . niche, I guess.

Given the current dearth of practice opportunities for CNMs, it is interesting to consider a role for MAT-prescriptive authority in opening new possibilities. Passage of House Bill 6 would theoretically increase the density of MAT providers in local communities, assuming CNMs are willing to embrace addictions treatment as part of holistic maternity care. However, CNMs' willingness to do so, and the potential for success, much like that of the providers already licensed, depend on the availability of support services that help women address a number of other aspects of a complex condition.

The Role of Support Services

In the absence of a locally available, comprehensive treatment program such as Milagro, collaboration among a variety of service providers is essential. In one county

significantly impacted by the opioid crisis, an advocate described the efforts to coordinate available services and maximize support for local women:

> In this community, one of the things that we've been working on is wrap-around care. And so, that, I think, can help to bridge some of those access points. We work with our home visitors and our midwives and our doctors and our WIC folks and are trying to really make sure that all of those different angles are being seen. We have a local coalition where we're working together around language and culture shift for substance-using pregnant families . . . because it's really challenging, I think, for drug-service providers to tackle all of it, right? . . . How do we as a community come together to make sure that we're all kind of holding this as a primary concern? . . . I think that those pieces around the wrap-around care, around the coalition work, can make a big difference. Because then it's like, let's say you have this family, right? So, she's working with a midwife. She's working with a doula. She's working with a WIC peer counselor. She's got home visiting. And altogether, we're kind of staffing her to make sure that she's got what she needs.

Evidence is needed to demonstrate the potential of this approach to serve as a model for other rural communities where barriers to access have the potential to affect outcomes. Within one northern New Mexico County, this model for collaboration represents a home-grown strategy to leverage local strengths to address a uniquely local challenge.

Summary

This chapter presented the major themes that emerged from interviews and fieldwork addressing the primary specific aim of this study: the exploration of barriers to

and facilitators of rural maternity care practice. Additional context was provided through community perspectives on the value of local services. Interview participants included the majority of active maternity care providers in the three counties, in addition to a number of others who had recently left clinical practice in the region. Community participants included advocates, administrators, and women who had experienced pregnancy and childbirth as local community residents.

Structural barriers affected providers across disciplines and were predominantly related to the precarious finances of rural hospitals and healthcare systems. However, LMs were additionally burdened by the lack of infrastructure that characterizes their practice model and by features of their marginalization from policies and programs designed to incentivize and support the rural practice of other disciplines.

The most significant facilitators of rural maternity care practice were personal and were not the result of any current policy. The providers who participated in this research had strong personal motivation for working in rural communities, and the majority also had family ties to their local areas.

Despite recent evidence suggesting that New Mexico is the state with the second highest degree of midwifery integration in the nation (Vedam et al., 2018), the experiences described by CNMs and LMs in focus counties contradict that assertion. Despite the presence of CNMs with local roots and strong motivation, there are no viable practice opportunities for them in two of the three counties. LMs said they have no formal roles within any of the healthcare institutions and struggle to receive Medicaid reimbursement for their services.

Consistent with this study's specific aim to engage community perspectives regarding the significance of local services, community women shared experiences with the range of maternity care provider types and birth settings. They accepted birth as a normal process and made decisions regarding provider and site of care based on practical considerations. However, these women were willing to travel within their means to access the models that resonated most for them. Local advocates and perinatal support service providers have a critical role in bridging cultural and geographic divides in order to assure that women and their families are adequately supported throughout pregnancy, birth, and the postpartum period.

The opioid crisis is deeply entrenched in the focus counties, and services are currently inadequate to meet the needs of pregnant women and other community members. Maternity care providers struggle to connect women to comprehensive care, which is most reliably found in Albuquerque, but local models are emerging.

Chapter 6 explores the implications of these findings and highlights some of the innovative practices currently in place that might have broader applicability to strengthen rural systems. Recommendations are presented for policy and training approaches to develop integrated, multidisciplinary maternity care networks in the service of improved access to the range of care options for rural New Mexico women and families.

CHAPTER 6

DISCUSSION: IMPLICATIONS & RECOMMENDATIONS

The purpose of this critical ethnographic study was to explore access to and challenges in the provision of childbirth services from the perspective of New Mexico's rural maternity care workforce in order to inform policy debates surrounding the imperative of safe birth and the survival of rural healthcare. In this chapter, I use the critical medical anthropology framework developed for this study to present interpretations of the study findings outlined in Chapter 5, along with ideas to strengthen access to a strong, stable, and integrated network of maternity care services in rural areas. I include specific recommendations for policy, training, and future research with a focus on the value of local community expertise and efforts to advance the integration of maternity care resources already present in rural communities.

Application of a Critical Medical Anthropology Framework

To advance an understanding of the facilitators of and barriers to rural maternity care practice, this research was informed by a critical theoretical framework. Through the use of this framework, the roles, values, and choices of individuals were considered while explicitly attending to power dynamics at multiple levels and the overall political economy of the organization of maternity care. Critical medical anthropology offers a way to identify levels of influence and "to comprehend the nature of the articulation between such levels, including the avenues of determinacy" (Singer, 1986). These features of critical medical anthropology make it particularly useful for research that seeks to be inclusive of the full range of maternity care disciplines represented in

northern New Mexico, which are themselves differentially positioned within relationships of power and influence (Newnham, Pincombe, & McKellar, 2016).

Critical Analytic Model

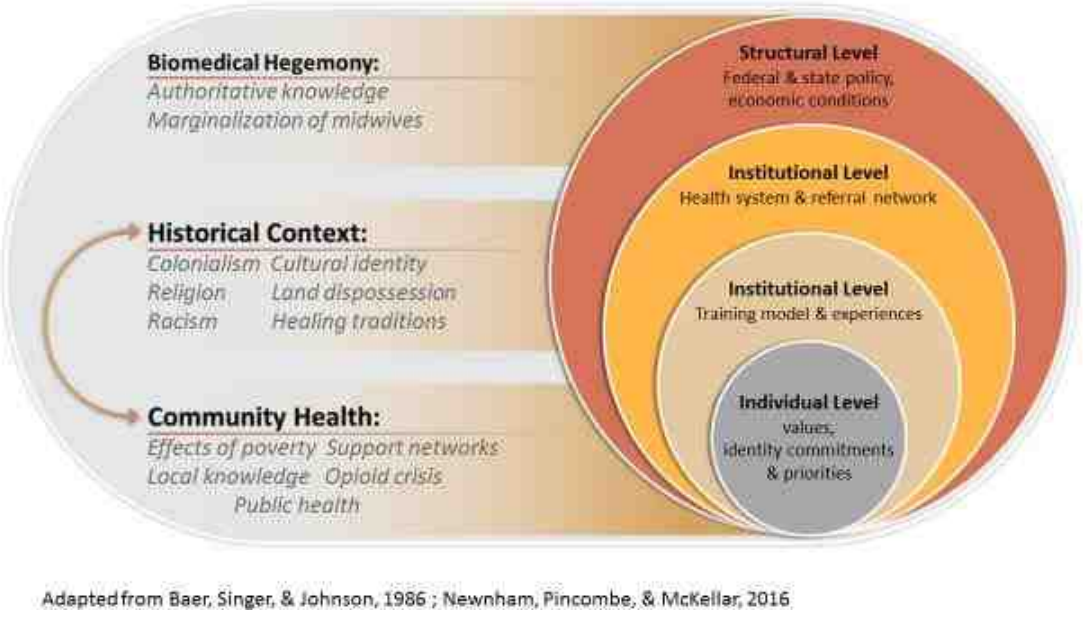

Figure 1. Critical Analytic Model of Influences on the Provision of Rural Maternity Care.

Individual level. The individual level of influence incorporates the values, commitments, and priorities of individual providers, including cultural identity and identification with a local community. These factors extend to providers' relationships with family members, partners, and neighbors. The majority of study participants practicing in the focus communities had local ties to the community, including the presence of close family members. Most of the participants cited a strong motivation to practice in an underserved community. Themes of service and local roots were also prominent among providers who were unable to secure practice opportunities at home and therefore were forced to seek employment in metropolitan areas of the state.

Individual-level factors were the most commonly cited facilitators of rural maternity care practice, above any policy, economic incentive, or training experience. For study participants, this core provided strong motivation to overcome barriers presented at the other levels of the model.

Institutional level: training. The first level beyond the individual is the institutional level representing clinical training. It comprises the school, program, or model within which the provider received instruction and socialization into a particular maternity care discipline and the experiences obtained through training to prepare one for rural practice. Training models and experiences obviously vary widely between the maternity care disciplines; each is grounded in different epistemological premises and philosophies of birth. Therefore, participants varied by discipline in terms of exposure to curriculum or experiences that specifically enhanced preparation for rural practice.

The majority of physicians and CNMs attended programs in New Mexico that identified the preparation of healthcare providers to meet the needs of rural communities as a top priority. Each program requires clinical rotations in community-based settings. At the level of postgraduate medical education in New Mexico, few rural residency slots are available, and none are available in surgical specialties, such as obstetrics. Direct-entry midwifery training, which occurs exclusively outside of hospital settings, is inherently more aligned with the realities of rural practice. Despite these diverse pathways, training remains the next shaping influence for all provider types, beyond personal factors, that has the potential to either propel one forward or to inhibit one from pursuing a rural practice commitment.

Institutional level: health system and referral network. The second institutional level represents the settings within which providers work or the institutions where providers need to have established relationships to access ancillary or specialty services on behalf of women and families. This could be a hospital system, a federally qualified health center (FQHC) network, or a private practice. It also could represent local advocacy or social service organizations. Providers might be employees, credentialed providers employed through another institution, or independent practitioners who access services through these referral sources as needed. However, study participants indicated that formalized relationships facilitated practice by offering secure access to a range of benefits, including employment, a birthing site, specialty consult, and perinatal support services. When there was insufficient trust, or simply a lack of opportunity to establish formal relationships, the practice climate and conditions became more fragile and in some cases became untenable.

Structural level: policy and economic conditions. The broadest level of the model, encircling all others, is the structural level. This is where state and federal policy and politics operate to support or jeopardize the viability of rural healthcare institutions and practice opportunities for providers. Some structural-level actions bear directly on healthcare, such as Medicaid funding cuts or Medicaid expansion under the provisions of the Patient Protection and Affordable Care Act (ACA). Public health programs and initiatives represent another area where policy action or inaction either support or hinder practice. Ultimately, the premises and workings of the capitalist economic system are also found at this level, where they determine the range of options and the extent of resources available to address rural health needs. Within a capitalist framework that relies

on scale, efficiency, and accountability to investors, it makes sense to subcontract the management of the state Medicaid program to private insurance companies through a competitive process, as is the case in New Mexico. This framework also supports the logic of the corporate buyout of a struggling county-owned hospital as the best strategy to preserve a critical local resource. Access to healthcare is presumed to be preserved and improved through such actions. However, findings from interviews and fieldwork call such presumptions into question. The largest number of barriers to rural maternity care practice found in this study occurred at the structural level as organized under the capitalist framework. Study participants across disciplines identified pervasive structural barriers that inhibited practice opportunities, recruitment, and retention. In the context of the current organization of rural healthcare, they struggled with the limits of their ability to address significant needs for care in three counties that currently rank at or near the bottom for health outcomes in New Mexico (University of Wisconsin Population Health Institute, 2018).

Biomedical hegemony. A major overarching influence across the model is the hegemony of biomedicine. Goodman (2007) identified biomedical hegemony as what resulted when "medicine successfully resisted forces from competitors that threatened their social and economic position" (p. 612). Goodman asserted that one of the essential features of the biomedical hegemony is that it relies in part on possession of "authoritative knowledge," and stated, "Professionals become more powerful when social and cultural factors induce individuals to surrender to them their private judgment" (p. 612). This observation applies not just to individuals but also to health systems and policymakers. Biomedical hegemony has substantial influence over the range of

maternity care options and models available to women in rural communities. It is responsible for the marginalization of midwives that is apparent in the limited or absent practice opportunities within healthcare systems and the exclusion of LMs from rural practice incentives.

Historical context. Historical context represents an overarching influence at all levels of the model. In the case of rural, northern New Mexico, this context includes the legacies of colonialism and land dispossession for the original indigenous communities and subsequently for the descendants of Hispanic settlers who were in turn displaced following the annexation of New Mexico by the United States. These historical events played out in a mutually reinforcing relationship with racism, a force that continues to show its influence in persistent economic, educational, and health disparities for communities of color (University of Wisconsin Population Health Institute, 2018). Scholars and journalists have implicated this historical context directly in the opioid crisis that for decades has engulfed northern New Mexico (Eckholm, 2008; Garcia, 2010; Todd, 2016).

Study participants referenced the historical context related to the delivery of maternity care in two predominant ways. One way participants invoked this history was in reference to a collective distrust of outsiders−especially those with economic power− that particularly influenced community relations with the hospital owned by an out-of-state, for-profit corporation. This dynamic was inflamed by the decision to shut down the maternity unit with six days' notice to the community and staff. The other way that historical context was directly evoked by participants was in reference to ongoing and

renewed engagement with birthing traditions, particularly as mediated through the community-based work of LMs and culturally informed perinatal support services.

Community health status. The overall health status of rural communities, deeply entwined as it is with the historical context, represents another input that affects the model at all levels. Commitment, training, and resources are needed to address the significant health challenges confronted by rural communities. Individual providers, the training programs that produce them, the health systems where care is delivered, and government policymakers are accountable, yet often the capacity at each of these levels is strained by the intensity of the need. In northern New Mexico, the most significant threats to the overall health of communities are the pervasive, multifaceted effects of poverty and racism and the particular impact of the opioid crisis.

At the same time, it is important to acknowledge that community health is also supported through local support networks, and the knowledge, commitment, and expertise of community members that is already in place. Policy and health system efforts to address health challenges will be more likely to succeed if existing local resources can be appropriately leveraged. A concerning finding of this study is that some rural communities are losing their homegrown maternity care providers to metropolitan areas due to lack of viable practice opportunities.

Synthesis of Findings

Three overarching findings inform recommendations for training and policy:

- Structural barriers to rural practice are pervasive across disciplines and contribute to the current maldistribution of maternity care providers.

- Midwifery care appeals to women and resonates with local cultural traditions, but midwives are marginalized and underrepresented in rural health systems.
- Perinatal support services: home-visiting, doula services, and breastfeeding support are a critical complement to clinical care and help to counteract the fragmentation of rural services.

Structural Barriers Are Pervasive Across Disciplines

The 2017 annual report of the New Mexico Health Care Workforce Committee highlighted the maldistribution of the healthcare workforce as one of the most significant issues facing the state (Farnbach Pearson, Reno, & New Mexico Health Care Workforce Committee, 2017). The findings of this study extend and help to contextualize the maldistribution of the maternity care workforce in Rio Arriba, Taos, and San Miguel counties. At the time of this research, due primarily to identified structural barriers, none of these counties were being served by the full range of maternity care providers licensed in the state.

Certified nurse-midwives. As of this writing, the only county where CNMs provided full-scope maternity care was Taos County. There were no practice opportunities in Rio Arriba County, where all hospital births are attended by obstetricians and family medicine physicians. Conflict with the hospital administration and the eventual closure of the maternity unit in San Miguel County displaced four CNMs, one of whom left New Mexico and three of whom joined practices in urban settings.

Family medicine physicians. Rio Arriba County was the only county in the region where family medicine physicians attended births. The two physicians providing this care work within an FQHC model that has maintained an open position for a number

of years without success in recruiting a third full-scope-practice partner. At the time of this study, there was no publicly acknowledged plan for the FQHC clinic to continue to provide full-scope maternity care beyond the tenure of these two physicians. A particular cause for concern is that one of these physicians attends almost exclusively to the maternity care of women with substance use disorder. This physician is the only maternity care provider who also prescribes MAT in a community with the highest rate of overdose deaths and NAS-affected births in the state (Hussaini & Garcia Saavedra, 2018; University of Wisconsin Population Health Institute, 2018). Furthermore, this team of two physicians is uniquely positioned as family medicine providers to care for the mother-baby dyad affected by opioid use, including the management of opioid withdrawal in newborns. This care is rarely available in rural settings, requiring community women to plan to deliver in metropolitan hospitals at a distance from home. One of these physicians summed up the potential impact of the loss of these services, saying, “It all feels so tenuous, that if something happens to one of us, it feels like a house of cards burning.”

Obstetricians. In Rio Arriba and San Miguel counties, the vast majority of births are attended by obstetricians. However, it is worth noting the significant turnover of obstetricians that predominates across the focus counties. Of the eight obstetricians in place as of this writing, four had been present for less than one year, and two had been in place for less than five years. No county was served exclusively by an obstetrician with at least five years of local experience. Study participants shared some of the challenges affecting retention in rural obstetric practice, especially the limited opportunities to develop and maintain a diverse surgical skill set, oppressive call schedules, and the effect

of unrealistic productivity targets on financial compensation. In particular, significant obstetrician turnover has prevailed for a number of years at the hospital in San Miguel County, most recently related to the March 2016 closure of the maternity unit and the temporary discontinuation of all women's health services there.

Licensed midwives. LMs have an active presence in each county. However, without infrastructure or reliable access to reimbursement, they are significantly marginalized and limited in the number of women they can serve. Importantly, physician turnover also limits their ability to develop and maintain the relationships that determine their integration within systems of care needed for consultation and referral.

The Marginalization of Rural Midwifery Practice

Given the growing body of research documenting the benefits of midwifery care, including improved perinatal outcomes (Sandall, Soltani, Gates, Shennan, & Devane, 2013; Renfrew et al., 2014; Yang, Attanasio, & Kozhimannil, 2016), Vedam et al. (2018) developed the Midwifery Integration Scoring System (MISS) to characterize the forms and degrees of midwifery integration within U.S. health systems. As described in Chapter 2, New Mexico was assigned the second-highest score (59/100), indicating among the highest degrees of midwifery integration in the nation. Importantly, high scores were associated with better newborn outcomes. However, the findings of this dissertation research indicate that the MISS model does not account for the differing climate and conditions for midwifery practice in rural versus metropolitan areas of New Mexico.

Despite a regulatory environment that supports full-practice authority for CNMs and LMs, I found that in the climate of financial strain that pervades rural healthcare, midwives and midwifery models of care are vulnerable. Within the hospital systems that

represent the core of service provision in the focus counties, midwife-led models of care were perceived as nonessential or as a source of competition. This resulted in reduced opportunities for midwives to practice, active opposition to hiring midwives, or to the discontinuation of midwifery-led models of care.

The marginalization of midwives manifested distinctly in each county. For example, as noted above, there were no roles for CNMs within the hospital system or FQHC practice in Rio Arriba County. Furthermore, the closure of the hospital maternity unit in San Miguel County led to the closure of the only CNM-owned private practice in the state, leaving that county with no CNMs in full-scope practice. Taos County represents somewhat of an exception, with a fully staffed, three-CNM group that provides the vast majority of routine maternity care and attends to all of the uncomplicated births at the county's hospital. However, the hospital's fiscal crisis derailed long-anticipated plans for the Northern New Mexico Birth Center to reopen under hospital ownership. The birth center would have represented the re-emergence of a popular option for local women, and importantly, it included salaried roles for LMs employed as hospital staff to work collaboratively with CNMs at births. When the plan to reopen the birth center was shelved, the LMs were laid off.

A Critical Role for Perinatal Support Services

Home-visitors, doulas, and the range of breastfeeding support providers, from International Board-Certified Lactation Consultants (IBCLC) to peer counselors, provide evidence-based services that address a range of the clinical and social issues prevalent in rural communities. Individuals in these roles are uniquely positioned to attend to cultural aspects of pregnancy, birth, and parenting while extending the reach of the healthcare

system beyond the clinic or hospital walls (Hardeman & Kozhimannil, 2016). In addition, they represent creative opportunities for employment and service to local women. Nearly all of the community women who participated in interviews had engaged with perinatal support services and spoke of their importance without prompting.

As noted in Chapter 5, a local coalition formed in one community to coordinate these resources and to work on "culture shift for substance-using pregnant families." A strength of this coalition's work is its acknowledgement of the fact that no one healthcare or service provider can adequately address all of the complex needs of these families. In the case of women and families at risk due to opioid use, the development of clinical complications, or who simply are unable to fully engage in preventative care due to the effects and burdens of poverty, there is evidence that perinatal support services contribute to improved outcomes (Shah & Austin, 2014; Patel & Patel, 2016; Thomas et al., 2017). However, given that the majority of perinatal support services are not billable to New Mexico Medicaid plans, the role of these services is not fully acknowledged or valued (Gifford et al., 2017). Services are funded to a large degree by grants, donations, and sliding-scale fees. None of these perinatal support services have been fully institutionalized within maternity care benefits packages, and they are therefore inherently vulnerable to discontinuation.

Implications for Policy

The continued existence of viable rural practice opportunities and access to care are dependent on the implementation of supportive policies at the state and federal levels that will address the structural barriers described in this dissertation. Access to a full range of maternity care providers and services is an issue of health equity for rural

women, and it may also be an issue of survival for rural communities. As noted in Chapter 2, Klein, Johnston, Christlaw, and Carty (2002) found access to maternity care in rural Canada to be "a linchpin for sustainable communities, medically, socially, and economically" (p. 1179). This was echoed by a community woman who works as a real estate broker in one of the focus counties:

> I feel like women are not going to come to a community if they can't have children there. You're going to shift towards an older population. And I'm seeing that in real estate also. It tends to be older people who are buying now, and it's shifting towards an older population. I don't know, but I would think that that has something to do with the OB part or section of the hospital closing down.

In the context of rural Canada, Grzybowski et al. (2007) found that the lack of a "comprehensive policy framework" addressing the need for rural maternity care is directly responsible for the erosion of access to this care. This statement resonates strongly with the experience in northern New Mexico. Based on the findings of this research and some specific recommendations of study participants, the following sections identify priority areas for consideration within a New Mexico-specific rural health policy framework.

Workforce Tracking

According to Dr. Richard Larson, chair of the New Mexico Health Care Workforce Committee, "New Mexico is a national leader in its ability to identify and offer in-depth analysis of provider shortages" due to the legislatively mandated work of the workforce committee (Farnbach Pearson et al., 2017). In particular, the ability to track workforce distribution and levels over time provides a great resource for

policymakers, community leaders, healthcare administrators, educational programs, and researchers. It is also noteworthy that beginning in 2017 with the addition of CNMs and LMs, all maternity care disciplines finally were accounted for in the annual report. However, to be a meaningful resource for policy and planning related to access to maternity care, one specific question needs to be added to the physician survey: Are you attending births? This addition would offer a very straightforward solution to "the difficulty of quantifying [the] relative contributions" of family medicine physicians to maternity care service provision (Farnbach Pearson et al., 2017, p.31). It would also give us a more accurate understanding of the scope of practice of obstetrician-gynecologists, not all of whom attend births. A more accurate picture of the maternity care workforce could also facilitate access to federal and other sources of funding if a federal maternity-care healthcare provider shortage area (HPSA) designation is eventually implemented.

Hospital Licensure and Closure of Maternity Care Units

The state legislature is empowered to determine the conditions of licensure for all healthcare facilities. According to the New Mexico Administrative Code, "'Acute-care hospital' means a hospital providing emergency services, in-patient medical and nursing care for acute illness, injury, surgery or obstetrics" ('Acute care hospital,' NMAC, 7.7.2.7, 2004). Despite the presence of obstetrics in the hospital definition, state law does not include a mandatory public process for considering the elimination of maternity services or require a time frame for notifying affected communities, healthcare providers, first-responders, or the New Mexico Department of Health. One CNM asked, "What leverage does the state have to say you have to provide services?" She observed that individual practices and providers were required to provide patients with 30 days' notice

of the intent to discontinue services, and she recommended that hospitals be held to the same standard. Imagining what could have been accomplished if there had been more than six days' notice of the hospital's intent to close the unit, she said, "You know, maybe if they had been required to give 30 days' notice, the community might have figured out a way to make it happen [i.e., prevent the closure], right?"

Policy Remedies for Licensed Midwives

The significant structural barriers to LM practice are described in Chapter 5. These midwives lack access to the student loan programs and rural practice incentives that are available to all other disciplines. Without the infrastructure of a health system to support them, their individual efforts to obtain reimbursement from Medicaid lead to unreliable income generation, especially in the context of a Medicaid program that is now administered almost exclusively through contracts with private insurers. These longstanding structural barriers, along with the deterioration of the Birthing Options Program (BOP) under Centennial Care, coincide with a steady decline in the number of LM-attended births statewide. This scenario recalls the point in state history when the traditional curandera-parteras were overcome by structural barriers implemented by the state; hence, they began to disappear from communities where they had once made vital contributions to the health of community women. It is worth noting that, according to the 2017 annual workforce report, LMs had the greatest geographic distribution of any maternity care discipline in New Mexico (Farnbach Pearson et al., 2017).

The findings of this research indicate a critical need for perinatal support services in the focus counties. LMs in these communities are well integrated with perinatal support services and in some cases blend entirely by participating directly in the

provision of these services. In two of the focus counties, LM-led models of care are developing in response to the imperative to do far more than provide out-of-hospital birth options for women who would reject medicalized models of care. One LM described their walk-in clinic model:

> We weren't focused on the birth. . . . it doesn't matter to us if people birth with us. Of course, we want people to know that that's an option and that their interaction with us can evolve into that. But that's not our explicit intent here, to get people to have home births. Our explicit intent is to introduce people to what midwifery care looks like, and we can do that in 15 minutes. . . . So, that was the development of the model, and it was also for us to say we know some things about this community . . . from first-hand experience and from family and, of course, from data and all of those things. But what does the community want to say about itself? And so, we really just felt like the only way that we could learn that was to interact with clients and to ask people, 'What are the needs that you're getting met, and what are the needs that you're not getting met?' And also, to take away the hierarchy of medicine. So, if people want to come over here because they want an ultrasound requisition, I will give them an ultrasound requisition. If all they want is blood work, I will give them blood work.

Within the context of this model, the LM quoted here has worked hard to establish strong relationships with the local hospital and obstetricians. The goal is to define a place for LM practice within an integrated network of care−as opposed to at the margins−placing LMs in a potentially vital connector role to a range of services that community women might want or need. The history of curandera-parteras demonstrates

the value of integrating midwifery in rural communities. To realize the full potential of this model, however, action is needed to address the structural barriers that inhibit the viability of any sustainable role for LMs within rural maternity care provision.

Payment Reform

Any comprehensive policy strategy for addressing practice sustainability and access to maternity care in rural communities will have to include a multifaceted approach to payment reform. Within the capitalist political economy of healthcare delivery, payment drives the identification of priorities and investment in models of care. Payment has a mutually reinforcing relationship with value: services that are valued are reimbursed; services that are reimbursed are valued. Because the capitalist ideology allows this system to remain relatively closed, it is difficult to introduce innovative ideas or services or to alter the premises upon which the model is based. One LM stated the challenge well:

> I believe there could be a solution that's integrated. But without real healthcare reform, it cannot be integrated. Because at the end of the day, this is about insurance. It's about how people get paid. It's about how you bill. You don't get paid for doing work that doesn't have a code on it.

Reimbursement rates within established payment models represent one area of concern. Across provider types and sites of care, study participants universally recognized that payment was insufficient in the face of fixed costs. This was true even in the case of the FQHC model, which was designed to account for the additional cost of providing ancillary services in a community setting. However, the FQHC model

disincentivizes maternity care through its focus on the number of encounters generated, as opposed to complexity and the amount of time involved in providing a service.

LM care remains poorly reimbursed and a variety of perinatal support services remain unbillable despite community-based interest this care and published evidence supporting their facilitation of good outcomes. In the context of diminishing access to care in rural communities and worsening perinatal outcomes disproportionately affecting rural women and infants, it is imperative that we re-examine the premises of the current payment-valuation model, because it does not appear to correspond appropriately with the needs of New Mexico communities.

Implications for Training

Across all disciplines, a personal commitment to working in an underserved community and having established local ties to the area were the most frequently cited facilitators of rural maternity care practice. This finding is consistent with a recently published study regarding predictors of family medicine practice in rural Canada (Mitra, Gowans, Wright, Brenneis, & Scott, 2018). Therefore, one of the most important lessons for training programs across all disciplines is that efforts should be increased to cultivate and recruit mission-driven local people into all of the maternity care disciplines. Also, for each provider type, interdisciplinary training experiences are vital for socialization toward collaborative care and the realities of rural practice: To this goal, a CNM participant said, “Neither one of us can survive without the other.” Beyond these observations, there are specific reflections and recommendations that apply to each discipline. Insights regarding training needs derived from this study are shared below

with the caveat that training innovations will be of limited value if the structural conditions of the practice of rural maternity care are not addressed.

Medical Training

Medical school. All of the physicians interviewed for this study attended a medical school that identifies training physicians to serve rural communities as a major goal. One physician remembered:

> The mantra was, when you did your interview, tell them you want to practice family practice in rural New Mexico. . . . But you know, a lot of people said that. They didn't end up doing that. . . . The perception is out there that the school really wants to provide for rural areas in the state.

This physician suggested that the medical school admissions process encouraged applicants to pay lip service to a commitment to rural practice without attaching expressed intent to accountability in a meaningful way. Multiple physicians spoke of the practical immersion experience (PIE) as the explicit curriculum strategy that the medical school used to promote interest in rural primary care practice. One credited this experience with solidifying her interest in rural primary care. However, the PIE represents a single rotation between the first and second years of medical school. Some participants had the impression that it had also been shortened from 8-12 weeks to six weeks.

Innovative medical school programs are developing more comprehensive approaches to nurture the development of future rural physicians. In 2005, the University of Colorado's School of Medicine established a "rural track" to promote the recruitment and retention of physicians to rural Colorado. The university defined the track as "a set of

extracurricular activities that extends through multiple semesters and three or more years of medical school on a longitudinal basis" (Regents of the University of Colorado, 2018). Participants are required to engage fully in a curriculum that includes weekly sessions; summer clinical immersion experiences, including a 12 week "integrated longitudinal medicine clerkship"; and to participate in evaluation activities to monitor the impact of the program. The eventual findings of a rural-track evaluation might prove useful to program development in New Mexico and other rural states.

Post-graduate medical training. Residency represents the second phase of medical training. Physicians are required to complete a postgraduate residency in a clinical specialty prior to practicing independently. There are four family medicine residency programs in New Mexico, including one FQHC-based option in the rural southwest corner of the state. Each of these programs provides training in full-scope family medicine, including normal obstetrics. However, the most explicitly rural program is designed as a 1+2 model in which residents spend their first year in a metropolitan hospital, where all of their experience attending births is obtained. The second two years are conducted exclusively in rural outpatient clinics and do not include training in the management of birth in a rural setting.

Family medicine physicians with a specific interest in full-scope rural practice benefit from obtaining the additional training available through a Maternal-Child Health (MCH) Fellowship. MCH fellowships, such as the one in place since 2003 at the University of New Mexico, add operative and high-risk obstetrics to the broad skill set of a family physician. Although fellowship-trained physicians often end up in faculty roles,

there is evidence that MCH fellowship-trained physicians do enter community-based practice at nearly equal rates (Magee, Radlinski, & Nothnagle, 2015).

Surgical residencies, such as obstetrics and gynecology, are based primarily at academic medical centers. Although there may be rotations at other local hospitals, given the significant pressure to gain prescribed numbers of clinical experiences, surgical residencies do not typically involve rural rotations. This could be a lost opportunity for obstetricians who are interested in rural practice. One obstetrician described the challenging transition from academic training to rural practice:

> I came from [an academic medical center] where I had 24-hour anesthesia, and I could do a C-section in three minutes, if I needed to. That is not the case here. . . . You try to foresee those things and set yourself up for a healthy mom and a healthy baby every time. But certainly, you get emergent situations where you're 30 minutes out before you have a full OR crew and the ability to take a baby out. So, it makes for a little bit more stress. I think that also hinders providers from wanting to come to a rural area.

For those with a strong interest in rural practice, rural surgical rotations that provide relevant exposure and are otherwise consistent with training requirements would be extremely valuable. In the initial years of independent practice, a creative strategy, such as the one described in Chapter 5 to allow generalist surgeons to scrub in on procedures in tertiary centers with subspecialists, is one that should be further developed and encouraged within existing healthcare networks.

Nurse-Midwifery Training

CNMs need a comprehensive skill set in order to demonstrate their value to rural healthcare systems. Dual certification as a CNM-family nurse practitioner (FNP) has the potential to improve employment prospects by providing CNMs with the range of skills typically represented in rural clinical settings. FNPs are trained and credentialed to provide the full range of primary care services across the lifespan from newborn care to geriatrics. CNM and FNP training programs could be more thoughtfully integrated into a rural track for interested students with a single admissions process and the additional mentoring and curriculum activities presented in a model such as the one in place at the University of Colorado. This could also be completely integrated as an inter-professional education program where medical and advanced-practice nursing students participate in the same curriculum, with disciplinary-specific activities only as appropriate.

Strengths and Limitations of the Research

A major strength of this research is that interviews and fieldwork generated rich data reflecting the experiences and perspectives of rural maternity care providers across all provider types. I was able to interview the majority of licensed providers serving the three-county focus area. Participants included providers who worked in every system and model of maternity care present, which allowed for the generation of themes that resonated across disciplines. The use of a critical medical anthropology framework, as represented in the critical analytic model of influences on the provision of rural maternity care (Figure 1), facilitated the articulation of the ways in which barriers and facilitators are shared across provider types that are situated differently within relations of power in healthcare settings. The identified common ground suggests opportunities for

collaborative engagement to confront barriers and promote strategies that could further reinforce the facilitators of rural practice already in place.

The community women who shared their perspectives with me had a diverse range of experiences with different models and sites of maternity care. The inclusion of these women, administrators, and local advocates helped to contextualize what I learned from care providers and grounded the policy and training recommendations in the articulated needs of rural community members.

Some of the limitations of this work are inherent to the ethnographic method, as described in Chapter 3. Although this study benefitted from broad participation across provider types, the fact that I was not able to interview every provider in practice might mean that important insights are missing.

The findings are also limited by the fact that I did not spend time living in the focus communities. This research was conducted during a period of upheaval in maternity services in one of the focus communities due to the closure and subsequent reopening of the hospital maternity unit. I would have been able to follow these developments more closely had I been present on a consistent basis. I also might have succeeded in integrating myself into social networks that would have put me in contact with potential interview participants whose insights would have been valuable to this work.

My identity as a CNM who has practiced in New Mexico and interacted professionally with many of the providers interviewed for this study is both a strength and a potential limitation of this research. My reputation and personal relationships might have granted me access to providers who would have otherwise not responded to a

request from a completely unknown researcher. This is significant for research that deals with clinical practice. Although this study does not address clinical decision-making or specific patient cases, institutional cultures of privacy and liability prevail in healthcare settings and might have presented an even more significant barrier to individuals without a credible relationship to clinical practice in New Mexico.

On the other hand, the fact that I am a CNM might have influenced some participants against engaging in this project out of concern for my own clinical lens and biases. My CNM identity might also have influenced the way that providers across disciplines interacted with me during interviews. Some participants may have chosen to share insights that they believed would resonate more readily for a CNM and refrained from sharing views that they would have expected to contradict my own philosophy of practice.

Analytic limitations are inherent in any qualitative research because the researcher brings her own lens and prejudices (CNM and otherwise) to the acts of data collection, analysis, and interpretation. The framing of this study as a critical ethnography indicated an established agenda to investigate access to maternity care in rural New Mexico with attention to "processes of unfairness or injustice within a particular lived domain" (Madison, 2012, p.5). This study should be evaluated in terms of how well that agenda was maintained without being confined to predetermined conclusions.

Finally, this research focused on distinct rural communities in northern New Mexico. It is possible that by focusing this work in certain communities, I missed important insights that might have been discovered in other places. There are also ways

in which this state and the rural communities within the study are like none other; therefore, the findings might not be applicable to rural communities in other states.

Directions for Future Research

As an ethnographic project, this dissertation research was inherently exploratory and has broad implications for future research. This project did not include observations of the delivery of clinical service or of attendance at births. There would be much to learn from broadening the research questions and fieldwork experiences to include maternity care providers at work. The opportunity to observe interactions between providers and community women would reveal much about the rhythm of rural maternity care practice, the characteristics needed to be a successful provider, and the ways women experience the care they receive in local settings. Institutional ethnography within individual healthcare systems would also contribute to an understanding of the ways in which a particular structure supports or constrains rural maternity care practice and access to models of care that serve the needs of community women.

Within the counties highlighted in this work, there are opportunities to deepen the exploration of midwife-led, emerging models of care that center cultural practices as an active strategy to improve birth and health outcomes. These include the birth center where midwives offer consultation on a walk-in basis as a way to serve the immediate needs of community women and another emerging model that will center indigenous birthing practices. The development, contributions, and replicable aspects of these models deserve study. Finally, this research is inspired by participatory research traditions that prioritize “sharing the power of knowledge production” in order to subvert “the normal practice of knowledge and policy development as being the primary domain

of researchers and policymakers" (Thomas, 1993, p. 29). An explicit objective of this study was to lay the groundwork for a program of research that addresses community-identified questions with community-based partners as co-investigators in the service of solving community problems. This decentering of the research enterprise, when approached in a truly collaborative way, has the potential to lead to richer, more actionable findings and to redefine accountability and success in the service of community health improvement. I propose to subject the findings of this project to community evaluation and critique in order to suggest collaborative opportunities for moving forward.

Summary

This chapter presented the analysis of study findings as interpreted through a critical medical anthropology framework and the analytic model of influences on the provision of rural maternity care practice. I presented overarching findings that demonstrate the challenges confronted by rural maternity care providers and the community-based resources available to strengthen access to a strong, stable, and integrated network of maternity care services. Specific recommendations for policy, training, and future research were introduced with a focus on the value of local community expertise and the imperative to advance the integration of maternity care resources already present in rural communities.

Conclusion

New Mexico represents a setting where geographic, budgetary, and political challenges are significant. However, the state also contains significant resources, including a diverse population, a rich history of using innovation to meet rural health

challenges, licensure for the full range of maternity care providers, and highly ranked educational programs for both nurse-midwives and physicians. These resources represent foundational pieces of an integrated maternity care network. With the health of our communities at stake, New Mexico policymakers, maternity care providers, community leaders, advocates, and community members have the opportunity to collaboratively develop and demonstrate the value of such a culturally resonant, multidisciplinary network in terms of cost effectiveness and health equity. The findings of this research affirm that the expertise and insights of individuals on the front lines of rural maternity care delivery can and must inform policy to maximize existing resources and address what New Mexico needs to assure the health of strong, sustainable, rural communities.

APPENDICES

APPENDIX A

Map of New Mexico highlighting the counties where research was conducted.

APPENDIX B

The University of New Mexico Health Sciences Center Consent to Participate in Research

Rural maternity care access in northern New Mexico: A critical ethnography

June 5, 2017

Purpose and General Information
You are being asked to participate in a research study that is being done by Kim J. Cox, PhD, CNM, who is the Principal Investigator, and Abigail Reese, CNM, doctoral candidate at the UNM College of Nursing. This research is being done to explore the experience of providing childbirth services in rural northern New Mexico, and also to explore the significance of local birthing options to communities. You are being asked to participate because of your expertise as a local maternity care provider and/or community leader. Approximately 40 people will take part in this study.

This form will explain the study to you, including the possible risks as well as the possible benefits of participating. This is so you can make an informed choice about whether or not to participate in this study. Please read this Consent Form carefully. Ask the investigator to explain any words or information that you do not clearly understand.

What will happen if I participate?
If you agree to be in this study, you will be asked to read and sign this Consent Form. Abigail Reese will answer any questions you may have. After you sign the Consent Form, you will engage in an individual interview addressing aspects of your experience. The interview will be voice recorded. The interviewer will make every attempt to protect your privacy.

Participation in this study will take a total of approximately one to two hours over a period of one to two days. In addition, we would like permission to contact you electronically or by phone if necessary for a brief follow-up conversation. If you have any thoughts or insights that you would like to share after the interview, you may contact Abigail Reese at any time at (505)850-3973.

What are the possible risks or discomforts of being in this study?
Every effort will be made to protect the information you give us. However, there is a small risk of loss of privacy and/or confidentiality. Discomfort could potentially arise from the discussion of issues related to rural maternity care practice, or personal issues that intersect with this topic. You are not required to answer any questions. We can also stop the interview at any time if you are uncomfortable.

How will my information be kept confidential?
Your name and other identifying information will be maintained in locked files, available only to authorized members of the research team, for the duration of the study. The audio

recording and transcript of your interview will be identified by an assigned study ID number. Any personal identifying information and any record linking that information to study ID numbers will be destroyed when the study is completed. Information resulting from this study will be used for research purposes and may be published; however, you will not be identified by name in any publications.

Information from your participation in this study may be reviewed by federal and state regulatory agencies, and by the UNM Human Research Review Committee (HRRC) which provides regulatory and ethical oversight of human research. There may be times when we are required by law to share your information. However, your name will not be used in any published reports about this study.

What are the benefits to being in this study?
There may or may not be direct benefit to you from being in this study. However, your participation may help guide the development of policies that support rural maternity care providers and access to maternity care services in your community.

What other choices do I have if I don't participate?
Taking part in this study is voluntary, so you can choose not to participate.

Will I be paid for taking part in this study?
You will receive a $40 VISA gift card upon completion of our interview as compensation for your time.

Can I stop being in the study once I begin?
Yes. You may withdraw from this study at any time.

Protected Health Information (PHI)
We will not be collecting any PHI during the course of this study.

Refusal to Sign
If you choose not to sign this consent form you will not be allowed to take part in the research study.

What if I have questions or complaints about this study?
If you have any questions, concerns or complaints at any time about the research study, Kim J. Cox, PhD, CNM, or Abigail Reese, CNM will be glad to answer them at 505-850-3973. If you would like to speak with someone other than the research team, you may call the Human Research Review Committee (HRRC) at (505) 272-1129. The HRRC is a group of people from UNMHSC and the community who provide independent oversight of safety and ethical issues related to research involving human participants.

What are my rights as a research participant?
If you have questions regarding your rights as a research participant, you may call the Human Research Protections Office (HRPO) at (505) 272-1129 or visit the HRPO website at http://hsc.unm.edu/som/research/hrrc/.

Consent and Authorization

You are making a decision whether to participate in this study. Your signature below indicates that you read the information provided (or the information was read to you). By signing this Consent Form, you are not waiving any of your legal rights as a research participant.

I have had an opportunity to ask questions and all questions have been answered to my satisfaction. By signing this Consent Form, I agree to participate in this study. A copy of this Consent Form will be provided to me.

Name of Adult Participant (print)	Signature of Adult Participant	Date /

I have explained the research to the participant and answered all of his/her questions. I believe that he/she understands the information in this consent form and freely consents to participate.

Name of Research Team Member (print)	Signature of Research Team Member	Date /

APPENDIX C

The University of New Mexico Health Sciences Center Consent to Participate in Research

Rural maternity care access in northern New Mexico: A critical ethnography

June 5, 2017

Purpose and General Information

We are asking you to participate in a research study that is being done by Kim J. Cox, PhD, CNM, who is the Principal Investigator, and Abigail Reese, CNM, doctoral candidate at the UNM College of Nursing. We are doing this study to explore the experience of providing childbirth services in rural northern New Mexico, and also to explore the importance of local birthing options to communities. You are being asked to participate because of your personal experience with pregnancy and birth in a rural community. Approximately 40 people will take part in this study.

This form will explain the study to you, including the possible risks as well as the possible benefits to you. This is so you can make an informed choice about whether or not to participate. Please read this Consent Form carefully. Ask us to explain any words or information that you do not clearly understand.

What will happen if I participate?

If you agree to be in this study, you will be asked to read and sign this Consent Form. Before you sign, Abigail Reese will answer any questions you may have. After you sign the Consent Form, you will be interviewed about your pregnancy and birth experiences as a member of a rural community. There are no right or wrong answers. We want you to share any information you are comfortable with sharing if you think it is important. The interview will be voice recorded. The interviewer will make every attempt to protect your privacy.

Your part in this study will take a total of approximately one to two hours over a period of one to two days. Also, we would like permission to contact you by phone or email if necessary for a brief follow-up conversation. If you have any thoughts that you would like to share after the interview, you may contact Abigail Reese at any time at (505)850-3973.

What are the possible risks or discomforts of being in this study?

We will make every effort to protect the information you give us. However, there is a small risk of loss of privacy and/or confidentiality. It is also possible that you could feel some discomfort caused by talking about your personal pregnancy and birth experiences. If this happens, you do not have to answer the question. We can also stop the interview at any time if you are uncomfortable.

How will my information be kept confidential?
Your name and other identifying information will be kept in locked files, available only to the researchers listed above, for the duration of the study. The voice recording and transcript of your interview will be identified by an assigned study ID number. Any personal identifying information and any record linking that information to study ID numbers will be destroyed when the study is done. Information from this study will be used for research and may be published; however, you will not be identified by name in any publications.

Information from your participation in this study may be reviewed by federal and state regulatory agencies, and by the UNM Human Research Review Committee (HRRC) which provides regulatory and ethical oversight of human research. There may be times when we are required by law to share your information. However, your name will not be used in any published reports about this study.

What are the benefits to being in this study?
There may or may not be direct benefit to you from being in this study. However, your participation may help guide the development of policies that support rural maternity care providers and access to maternity care services in your community.

What other choices do I have if I don't participate?
Taking part in this study is voluntary, so you can choose not to participate.

Will I be paid for taking part in this study?
For your time, you will receive a $40 VISA gift card after our interview.

Can I stop being in the study once I begin?
Yes. You may withdraw from this study at any time.

Protected Health Information (PHI)
We will not be collecting any PHI during the course of this study.

Refusal to Sign
If you choose not to sign this consent form you will not be allowed to take part in the research study.

What if I have questions or complaints about this study?
If you have any questions, concerns or complaints at any time about the study, Kim J. Cox, PhD, CNM, or Abigail Reese, CNM will be glad to answer them at 505-850-3973. If you would like to speak with someone other than the research team, you may call the Human Research Review Committee (HRRC) at (505) 272-1129. The HRRC is a group of people from UNMHSC and the community who provide independent oversight of safety and ethical issues related to research involving humans.

What are my rights as a research participant?

If you have questions regarding your rights as a research participant, you may call the Human Research Protections Office (HRPO) at (505) 272-1129 or visit the HRPO website at http://hsc.unm.edu/som/research/hrrc/.

Consent and Authorization

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I have had an opportunity to ask questions, and all my questions have been answered. By signing this Consent Form, I agree to participate in this study. A copy of this Consent Form will be provided to me.

Name of Adult Participant (print)	Signature of Adult Participant	Date /

I have explained the research to the participant and answered all of his/her questions. I believe that he/she understands the information in this consent form and freely consents to participate.

Name of Research Team Member (print)	Signature of Research Team Member	Date /

APPENDIX D

Interview Guide for Midwives / Physicians

1. Tell me how you decided to become a midwife (*family practice doctor / obstetrician*).

2. How did you decide to practice in rural New Mexico?
    - Probes:
        - Growing up in rural New Mexico or any rural community?
        - Based on a political, spiritual, or ideological commitment to work in an underserved community?
        - Training in a rural community, or in a program that exposed you to rural practice?
        - Previously practiced in another rural community?

3. Were you offered any incentives to practice in rural New Mexico, such as:
    - State or federal loan repayment? / U.S. Public Health Service? / National Health Service Corps Scholarship?
    - Local or employer-level incentives?

4. What do you see as the barriers to rural maternity care practice in New Mexico?
    - Probes:
        - Structural considerations: salary differential, referral resources, community infrastructure
        - Institutional considerations: Employers, partners, practice resources, restrictions on practice?
        - Personal/relational considerations: family, partner opportunities

5. Describe what a typical day is like in your practice.
    - Probes:
        - How many hours? What sort of call schedule?

6. What do you see as the biggest clinical issues in your practice?
    - Probes:
        - Effects of poverty, obesity, drugs

7. What should the state or federal government be doing to support rural maternity care practice?
    - Probes:
        - Policies, financial incentives, legislation

8. What should training programs be doing to support rural practice?
    - Probes:

        - Curriculum, rural rotations, rural residency placement

9. What significance do you think women and families place on having access to local birthing services?

10. What would happen if those services were threatened or discontinued here?
    - OR: What was the impact when services were discontinued?

11. Do you plan to continue to attend births in this community indefinitely?
    - Probes:
        - Considering retirement, change in scope of practice, or relocation?

12. Do you have any other thoughts or concerns that you would like to share?

APPENDIX E

Interview Guide for Client / Consumer of Maternity Care

1. Tell me about living in this community.
    - Probes:
        - Were you born here? / Did you grow up here?
        - Did you move here for work or family?
            - If so, how long have you been here?

2. Tell me about your experience of having a baby while living here.
    - Probes:
        - Were you able to get prenatal care here? / Deliver here?
        - Physician care or midwifery care?
        - Home, birth center, or hospital birth?
        - Transferred out of community?

3. How important is it to be able to give birth here in the community? Why?

4. What birth-related services do you think are necessary to have in the community?
    - Probes:
        - Prenatal care, 24/7 hospital birth availability, full range of contraceptive methods, access to particular types of providers (doctors or midwives)

5. What would happen here if those services went away?

6. Is it important to you to have access to a midwife or doctor who has a similar background, shares your culture, and/or is from here? Why or why not?
    - Probes:
        - Are these considerations more or less important than the type of provider? (CNM, LM, OB, FP)

7. What should be done to support midwives and doctors in this community? Who should be responsible for this?
    - Probes:
        - Policies, employment, financial incentives, legislation

8. Do you have any other thoughts or concerns that you would like to share?

APPENDIX F

Interview Guide for Community Leader / Administrator

1. Describe your relationship to this community.
    - Probes:
        - Were you born here? / Did you grow up here?
        - Did you relocate here for your current professional position?
            - If so, how long have you been here?

2. What is your relationship to maternity care services in your community?
    - Probes:
        - Administrative leadership over a maternity care service, hospital administrator, public health official, elected official

3. What is your relationship to the individuals who attend births in this community?
    - Probes:
        - Supervisory relationship, representative-constituent, neighbor

4. What concerns do you have about access to maternity care providers in this community?
    - Probes:
        - (Clarify that "maternity care providers" includes OB, FP, CNM, LM who attend births)
        - Overall number of providers, number approaching retirement or end of commitment
        - role of/access to midwives / role of/access to physicians

5. (FOR HEALTHCARE ADMINISTRATORS): Are you aware of, or do you offer, any incentives to recruit or retain maternity care providers at your institution?
    - Probes:
        - State or federal loan repayment? / U.S. Public Health Service? / National Health Service Corps Scholarship?
        - Local or employer-level incentives?

6. (FOR COMMUNITY LEADER/ELECTED OFFICIAL): Are you aware of any incentives to recruit or retain maternity care providers that are available in your community?
    - Probes:
        - State or federal loan repayment? / U.S. Public Health Service? / National Health Service Corps Scholarship?
        - Local or employer-level incentives?

7. What do you see as the barriers to rural maternity care practice in New Mexico?
    - Probes:
        - Structural considerations: salary differential, referral resources, community infrastructure
        - Institutional considerations: Employers, partners, practice resources, restrictions on practice?
        - Personal/relational considerations: family, partner opportunities

8. What significance do you think women and families place on having access to local birthing services?

9. What would happen if those services were threatened or discontinued here? Or: What was the impact when services were discontinued?

10. What should the state or federal government be doing to support rural maternity care practice?
    - Probes:
        - Policies, financial incentives, legislation

11. What should training programs be doing to support rural practice?
    - Probes:
        - Curriculum, rural rotations, rural residency placement

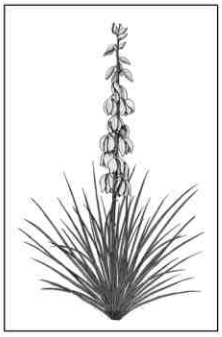
12. Do you have any other thoughts or concerns that you would like to share?

APPENDIX G

Volunteer for a Research Study

Rural maternity care access in northern New Mexico

We are looking for volunteers to help us understand what it is like to experience pregnancy & birth in a rural NM community.



You may be eligible to participate if you…

- Are over 18 years old
- Are pregnant, or gave birth during the past 5 years

Participation involves an interview that will take approximately 1- 2 hours.

Participants are compensated $40 for their time.

For more information,
Contact Abby Reese at:
(505) 850-3973
areese@salud.unm.edu

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