Rural hospital closures and perceived access to care: A qualitative descriptive study in an Appalachian county of Tennessee

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ABSTRACT

Background: Tennessee has suffered more hospital closures per capita than anywhere else in the nation. The impact of hospital closures on access to care in rural and economically distressed Appalachian counties of Tennessee is of particular concern because these communities experience great health disparities. Hospital closures may exacerbate these disparities and create additional barriers when accessing care.

Objectives: The aim of this study was to describe community residents' perceptions of health and access to care following a hospital closure in a rural and economically distressed Appalachian county of Tennessee.

Methods: This study used a qualitative descriptive approach to present community residents' perceptions of health and access to care following a hospital closure. Penchansky and Thomas' framework of healthcare access, which accounts for five different dimensions of access, was employed as the conceptual framework. Semi-structured interviews were conducted via telephone with 24 community residents from a rural and economically distressed Appalachian county of Tennessee that recently experienced a hospital closure. Interviews were analyzed using conventional content analysis to identify themes.

Results: Results from interviews revealed that perceptions of health and access to care were associated with the hospital. Four themes that emerged from the data were access to care; stress and reactions; value for the hospital; and unrest in the community. Access to care was negatively affected across all five dimensions of the health care access framework. Stress and reactions described an increase in stress after the hospital closure and, consequently, community residents reacted in different ways such as putting off care or having hope. Value for the hospital described the importance of a hospital for community viability and health outcomes. Unrest described the state of dissatisfaction among community residents after the closing of the hospital.

Conclusion: This study revealed that a rural hospital closure has a multi-dimensional, negative impact on the community, and community residents valued their hospital for more than accessing health care. The results of this study provide a critical perspective to inform local elected officials, health care professionals, and community leaders on how to more effectively and efficiently meet the health needs of their community.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

The recent increase in rural hospital closures has raised substantial concern among the health care industry, policymakers, and the general public (Cecil G. Sheps Center for Health Services, 2021). Although research regarding rural hospital closures' impact on access to care is limited, the available research generally draws similar conclusions: rural hospital closures may have adverse consequences for access to care and may disproportionally affect vulnerable communities (Muus, Ludtke, & Gibbens, 1995; Reif, DesHarnais, & Bernard, 1999; United States Government Accountability Office, 2018; Wishner, Solleveld, Rudowitz, Paradise, & Antonisse, 2016). Understanding closures from the perspective of community residents residing in vulnerable communities is critical when identifying barriers and offering solutions to improve access to care. The aim of this study was to describe community residents' perceptions of health and access to care following a hospital closure in a rural and economically distressed Appalachian county of Tennessee.

This chapter begins with a summary of the recent rural hospital closures in Tennessee and issues associated with access to care. The purpose of the study, research questions, definition of terms, delimitations, limitations, and significance of this research are also provided. The chapter will conclude with an introduction to the following chapters.

Statement of the Problem

Tennessee, a dramatically unhealthy state, has suffered more hospital closures per capita than anywhere else in the nation (Tennessee Justice Center, 2018; United Health Foundation, 2018). Sixteen rural hospitals have closed in Tennessee since 2010, and many more are at risk

(Cecil G. Sheps Center for Health Services, 2021). The increasing risk of hospital closures has fueled a discussion about health care delivery in vulnerable communities and how these closures affect community residents' access to care.

The impact of hospital closures on access to care in vulnerable communities, defined as a population that is more likely to be in poor health, is of particular concern because these communities face unique health challenges (American Hospital Association, 2016; Marshall et al., 2017). Rural and economically distressed Appalachian communities of Tennessee are some of the most vulnerable in the United States. Not only do these communities face persistent poverty, geographic isolation, and a shrinking population, they also are on average older, sicker, and poorer than the rest of the nation (Marshall et al., 2017; United States Government Accountability Office, 2018). Lower levels of education and higher rates of disability are also apparent across the region, indicating a less healthy population overall (Marshall et al., 2017). Appalachia Tennessee suffers from higher rates of mortality including heart disease, cancer, chronic obstructive pulmonary disease, injury, stroke, diabetes, and suicide compared to the United States (Marshall et al., 2017). These rates are even more severe in rural and economically distressed counties of Appalachia Tennessee, and these health disparities are widening (Marshall et al., 2017).

Distorted perceptions of health may contribute to these disparities (Ely, Miller, & Dignan, 2011). A study published by Griffith, Lovett, Pyle, and Miller (2011) found that Appalachian residents are more likely to report good health despite having one disease condition and/or participating in poor health behaviors. In fact, 74% perceived themselves as healthy, contradicting the fact that Appalachia is one of the unhealthiest regions in the United States (Griffith et al., 2011; Marshall et al., 2017). This disconnect suggests that Appalachian

communities may view health and access to care differently than other communities. Further research is needed to investigate the meaning of the concepts health and access to care among rural and economically distressed Appalachian communities of Tennessee.

The unique health challenges prevalent in Appalachia Tennessee may be exacerbated by the recent increase in rural hospital closures. While not all rural hospital closures have an adverse impact on access to care, hospital closures may exacerbate disparities and create additional barriers to health care services (United States Government Accountability Office, 1991; Wishner et al., 2016). A rural hospital closure may affect an individual's ability to obtain timely health care due to limited availability or absence of emergency services, may increase travel time to get care, or precipitate an outmigration of health care professionals from the area (Wishner et al., 2016). These barriers to access can result in delayed or unmet health care needs and may increase the risk of poorer health outcomes (Healthy People 2020, 2019). A recent study found that a rural hospital closure increased mortality rates by 5.9% (Gujral & Basu, 2019).

As rural hospitals continue to close, it is critical to understand the impacts on local access to care in vulnerable communities. Fentress County, the site of study, qualifies as a rural and economically distressed Appalachian county of Tennessee (Appalachian Regional Commission, 2019a; Health Resources and Services Administration, 2018a). Fentress County is characterized as having a higher poverty rate and lower median household income as compared to the rest of the state and nation (United States Census Bureau, n.d.). Fentress County is also characterized by higher rates of people who are uninsured, older, and disabled (United States Census Bureau, n.d.). Furthermore, Fentress County is designated by the United States Department of Health and Human Services as a Health Professional Shortage Area (HSPA) and a Medically Underserved Area (MUA) (Tennessee Department of Health, 2018). HPSAs indicate that there is a shortage of

primary, dental, or mental health care providers within a certain area, population, or facility (Health Resources and Services Administration, 2021). MUAs indicate that there is a lack of primary care access within a certain area or population (Health Resources and Services Administration, 2021). Jamestown Regional Medical Center, the sole community hospital in Fentress County, closed in June 2019 and left community residents without timely access to care (Cecil G. Sheps Center for Health Services, 2021). Given their experiences of accessing care in Fentress County, the community residents' perspective is critical in understanding the impact on access to care and identifying areas to reshape health care within their community.

Purpose of the Study

The purpose of this study was to describe community residents' perceptions of health and access to care following a hospital closure in a rural and economically distressed Appalachian county of Tennessee through qualitative methods.

Research Questions

Three research questions guided this study:

R1. How do community residents from a rural and economically distressed Appalachian county of Tennessee define health?

R2. How do community residents from a rural and economically distressed Appalachian county of Tennessee define access to care?

R3. How do community residents describe the impact of a hospital closure on access to care in a rural and economically distressed Appalachian county of Tennessee?

Conceptual Framework

Two frameworks guided this study: naturalistic inquiry and Penchansky and Thomas' framework of health care access. The philosophical framework, or research paradigm, that guided this study was the naturalist paradigm (Lincoln & Guba, 1985). This philosophy states that there are multiple realities constructed by different individuals (Lincoln & Guba, 1985). These realities can only be studied in their natural setting because realities are whole and cannot be understood without their context (Lincoln & Guba, 1985). The aim of this naturalist inquiry was to describe community residents' constructed meanings of reality regarding accessing care following a hospital closure. The approach would expect that community residents involved would have different experiences and perceptions of accessing care following a hospital closure. My objective was to capture and describe these multiple constructed realities through open-ended interviews without deeming which perceptions were right or held more truth.

This study was also guided by Penchansky and Thomas' framework of health care access to help construct interview questions, analyze data, and develop practice and policy recommendations (Penchansky & Thomas, 1981). Penchansky and Thomas (1981) define access to care as the "degree of 'fit'" (p. 128) between the patient and the health care system through five dimensions: availability, accessibility, accommodation, affordability, and acceptability. The framework informed my understanding of the dimensions of access impacted by a rural hospital closure and is explored further in Chapter Two.

Significance of the Study

United States health care expenditures have increased sharply from 5% of the economy in 1960 to 17.7% in 2018 (Centers for Medicare & Medicaid Services, 2020c). Not only is the rise

in health care spending unsustainable, this figure is more than twice the average among developed countries, and the United States still experiences worse health outcomes (Tikkanen & Abrams, 2020). A health care system with high costs and poor health outcomes is the result of many factors. One of these factors includes gaps in access to health care.

Evidence shows that access to affordable, quality health care is important for preventing, detecting, managing, and curing diseases and injury (Healthy People 2020, 2019). Federal and national organizations have declared improving access to health care services as a primary objective. Healthy People 2030, released by the United States Department of Health and Human Services, sets national objectives to improve the health and well-being of Americans. Improving access to quality health services, especially among the nation's most vulnerable populations, is one of the primary objectives (Healthy People 2030, n.d.). The American Hospital Association, an organization that represents hospitals and health care providers across the nation, has also declared ensuring access in vulnerable communities a top priority (American Hospital Association, 2016).

The recent trend of rural hospital closures has raised substantial concern about the impact on access to care, especially in vulnerable communities. Interventions thus far have focused on short-term reimbursement fixes to keep rural hospitals open, but this is not enough (Flex Monitoring Team, n.d.). Seventeen rural hospitals closed in 2019, and 20 closed in 2020 (Cecil G. Sheps Center for Health Services, 2021). As the United States health care delivery system continues to transform and recover from the current COVID-19 pandemic, more vulnerable communities will be at risk for losing their hospitals. Long-term solutions are needed to preserve local access to care in these vulnerable communities.

Understanding a particular community's capacity to address issues is critical when determining the community's options and future strategies (Mueller et al., 2017). Allowing community residents to share their voices, a perspective that is largely absent in the literature, is vital information when considering how to improve health care (Levy, Holmes, Mendenhall, & Grube, 2017). By studying community residents' perceptions of health and access to care following a rural hospital closure via open-ended questions, local elected officials, health care professionals, and community leaders can better understand the meaning of health and the factors influencing access to care. The findings of this study may provide long-term solutions to improve and preserve local access to care in Fentress County that more effectively and efficiently meet the health needs of its community. The findings of this study may also have broader transferability by serving as a resource for other vulnerable communities who have lost their hospital.

Definition of Terms

This section introduces and defines terminology in the study.

Access

Penchansky and Thomas (1981) define access to care as the "degree of 'fit'" (p. 128) between the patient and the health care system, which encompasses the following five dimensions: availability, accessibility, accommodation, affordability, and acceptability. For the purposes of this study, the "patient" is the community resident.

Community Resident

Individuals who reside in Fentress County.

Closed Hospital

A closed hospital, as defined by the Office of Inspector General, is any facility that no longer provides general, short-term, acute inpatient services (Rehnquist, 2003).

Distressed Counties

Every year, the Appalachian Regional Commission (ARC) creates an index of economic status for each United States county (Appalachian Regional Commission, 2019c). Economic status designations are created through the summation and average of each county's three-year average unemployment rate, per capita market income, and poverty rate compared to the national average. Counties are classified as distressed if they fall into the lower quartile for all three categories (Appalachian Regional Commission, 2019c). As of 2019, there are 15 distressed counties in Tennessee including: Lake, Lauderdale, Hardeman, McNairy, Perry, Wayne, Jackson, Clay, Grundy, Bledsoe, Fentress, Morgan, Scott, Hancock and Cocke (Tennessee State Government, 2019).

Rural Hospital

A rural hospital, as classified by the Federal Office of Rural Health Policy, is any general, non-federal, short-term, acute hospital that is located outside a metropolitan area, or is located within a metropolitan area and has a Rural Urban Commuting Area equal to or greater than 4, or is a Critical Access Hospital (Cecil G. Sheps Center for Health Services, 2021; Health Resources and Services Administration, 2018a) .

Delimitations

This study was delimited to hospital closures located in rural and economically distressed Appalachian counties of Tennessee. These vulnerable communities experience worse health disparities compared to the state as a whole (Marshall et al., 2017). This delimitation narrowed

the scope of the study to two possible counties: Clay and Fentress. The study was further delimited to Fentress County because its only hospital closed, leaving residents without a hospital in their county as of June 2019. Participants who had lived in Fentress County for at least 5 years were included in the study. All study participants were 30 years and older regardless of gender, race, or ethnicity. It was beyond the scope of this research to investigate the reasons behind the hospital closure or other impact measures such as economic effects or health outcomes.

Organization of the Study

This study is presented in five chapters. Chapter 1 contains the background and statement of the problem, purpose of the study, research questions, conceptual framework, significance of the study, definition of terms, and delimitations. Chapter 2 presents a review of relevant literature related to the research questions. Chapter 3 describes the methods including the research paradigm, methodology, sampling plan, data procedures of the study, and concludes with strategies used to establish trustworthiness Chapter 4 presents the results. Chapter 5 interprets the results, discusses implications for practice and policy, describes the limitations, and offers suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

Unequal access to health care is still widely prevalent in the United States, especially in economically distressed and rural communities of Appalachia (Dickman, Himmelstein, & Woolhandler, 2017; Wilson, Kratzke, & Hoxmeier, 2012). People living in economically distressed and rural communities of Appalachia are more likely than the rest of the nation to die prematurely from seven of the leading 10 causes of death in the United States including heart disease, cancer, chronic obstructive pulmonary disease, injury, stroke, diabetes, and suicide (Marshall et al., 2017). Ensuring access to care in these communities is critical for managing chronic health conditions, preventing premature death, and reducing health disparities.

This literature review begins with an exploration of the concept access to care followed by the conceptual framework of the study. The second section provides an overview of the geography, economic status, health disparities, and health perceptions of the Appalachian Region. The third section discusses barriers to care in rural and economically distressed Appalachia communities organized by the conceptual framework. The fourth and fifth section explore the rural hospital landscape and existing research studies on rural hospital closures' impact on access to care. The chapter concludes with gaps in the literature and how this study addressed these gaps.

What is Access to Care?

Access to care is the most frequently debated concern when discussing the United States health care system, yet there is considerable confusion on what the concept of access to care means (Levesque, Harris, & Russell, 2013). Many definitions and models of access to care have

developed from a range of perspectives over time and have been driven primarily by issues in the health care system (Donabedian, 1972; Freeborn & Greenlick, 1973; Institute of Medicine Committee, 1993; Penchansky & Thomas, 1981; Russell et al., 2013). To some, access to care is equated with having health insurance coverage. Others equate access to having enough doctors or hospitals within a certain area (MacKinney et al., 2014). The utilization of health services may also define access to care (Aday & Andersen, 1974). The lack of agreement on the operational definition can create flawed health policy responses and perpetuate access to care issues seen within the health care system (Levy et al., 2017; Russell et al., 2013). To establish the basis of this study's proposed framework, the following section investigates the three most common frameworks that attempt to understand access to care.

Behavioral Model of Health Services Use

The Behavioral Model of Health Services Use, created by Ronald Andersen, is the most common framework implemented in access research (Aday & Andersen, 1974; Ricketts & Goldsmith, 2005). It focuses on individual-level factors that influence health services utilization (Derose, Gresenz, & Ringel, 2011). The framework examines an individual's use of health services based on three factors: predisposing factors (e.g., demographics), enabling factors (e.g., health insurance), and need factors (e.g., health status) (Aday & Andersen, 1974). Over time, the Behavioral Model has undergone multiple iterations. It has been reformed to incorporate measures of potential access, realized access, environmental factors, health behavior, and health outcomes (Derose et al., 2011). The Behavioral Model serves as an appropriate framework if goal of the research is to use health services more effectively and efficiently (Karikari-Martin, 2010).

Penchansky and Thomas' 5 A's

Penchansky and Thomas offer another approach to understanding access by focusing on barriers to accessing health care. Penchansky and Thomas (1981) define access as the "degree of 'fit'" (p.128) between the patient and the health care system. Fit is measured across five dimensions including availability, accessibility, accommodation, affordability, and acceptability (Penchansky & Thomas, 1981). Availability is the extent to which the volume and type of existing health care services meet the needs of the patient. Accessibility is the geographic relationship between patients and heath care services. Accommodation describes how well the health care system fits the patient's needs and preferences. Affordability is the patient's ability and willingness to pay care provided by the health care system. Acceptability describes the relationship of patient's attitude towards the characteristics of the provider or facility and vice versa. Characteristics include age, sex, ethnicity, social class of the provider and patient, and the type of insurance coverage of the patient (Penchansky & Thomas, 1981). Penchansky and Thomas' 5 A's is an appropriate framework if the goal of the research is to understand subjective experiences of health care access (Karikari-Martin, 2010).

National Academy of Medicine

The National Academy of Medicine, formerly known at the Institute of Medicine, developed a framework for monitoring individuals' access to health care services. The framework defines access as "the timely use of personal health services to achieve the best possible health outcomes" (Institute of Medicine Committee, 1993, p. 4). Most applications of the framework are used to highlight health outcomes, such as mortality and morbidity, as an indicator of health care access (Derose et al., 2011). The framework is most useful for monitoring access because poor health outcomes indicate barriers to care (Derose et al., 2011).

Conceptual Framework: Penchansky and Thomas

Penchansky and Thomas' model of health care access was employed as the conceptual framework for the study to help understand the subjective experiences of community residents accessing care following a hospital closure. While Penchansky and Thomas' model recognizes that the process of access is dynamic, it is not often applied to structural transitions in the health care system, such as a closure of a hospital (Ricketts & Goldsmith, 2005). The dynamic process of accessing care depends largely on how community residents perceive the health care system and health care (Ricketts & Goldsmith, 2005). Therefore, understanding how community residents change or do not change their process of accessing care following a hospital closure is important evidence when considering how to improve local access to care.

The Appalachian Region

According to the Appalachian Regional Commission (ARC), established by Congress in 1965, the Appalachian Region is a 205,000 square-mile area stretching from Mississippi to New York along the Appalachian mountain range (Appalachian Regional Commission, 2011, n.d.-a). More than 25 million Americans live in one of the 420 counties, spanning 13 states including West Virginia, Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia (Appalachian Regional Commission, n.d.-a). Figure 2.1 is a map that outlines the Appalachian Region.

Although this definition offers a neat and succinct view of Appalachia, it is by no means comprehensive or completely accurate. It fails to capture the diversity of geography, populations, economies, and culture that are apparent across the 13 states of Appalachia (Denham, 2016). For

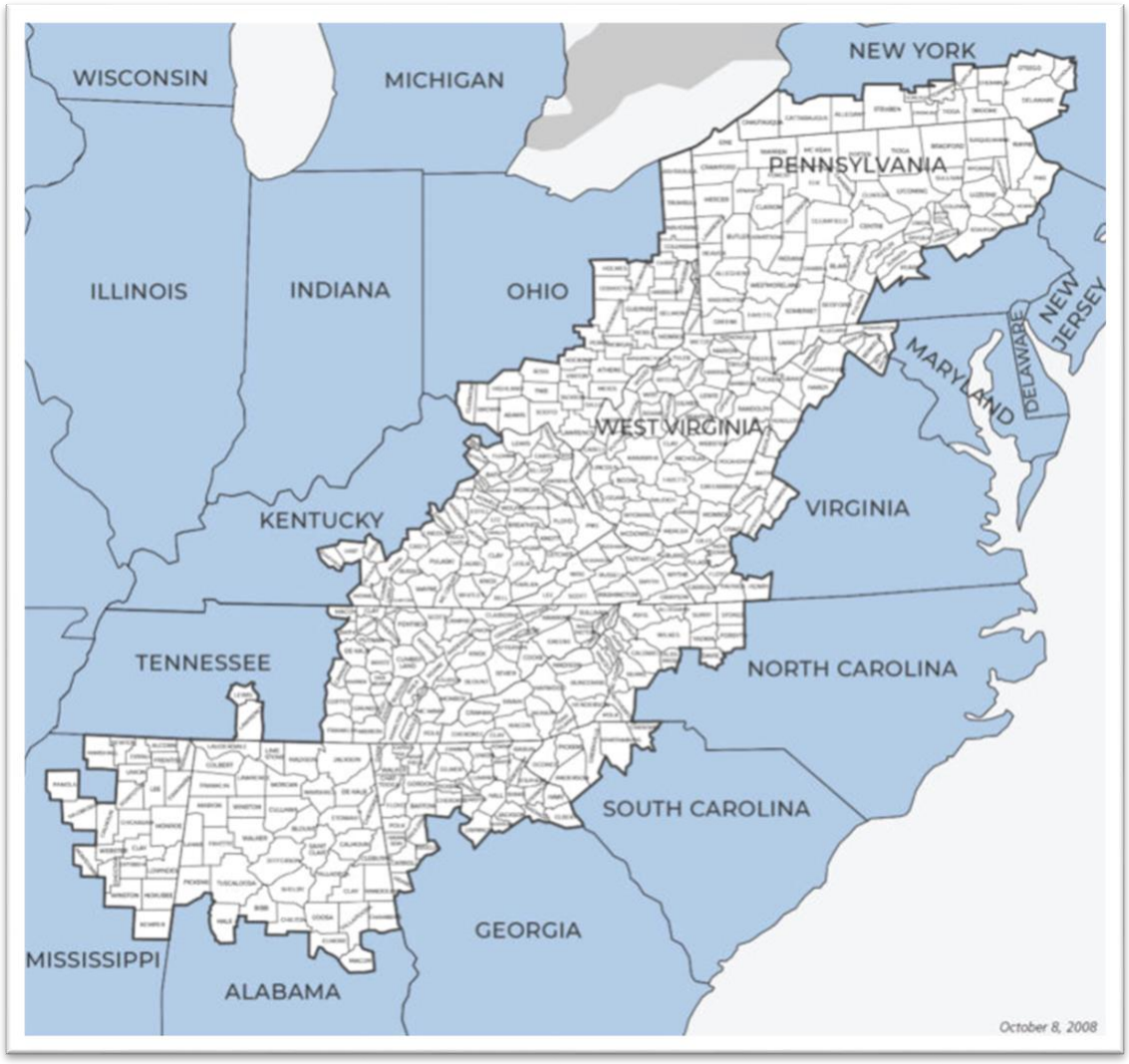

Figure 2.1. Map of the Appalachia Region (Appalachian Regional Commission, n.d.-a).

instance, although Appalachia is commonly referred and studied as rural, not all counties of Appalachia are rural. According to the ARC, 42% of Appalachians live in rural areas (Marshall et al., 2017). While this percentage is still more than double the national average, it is misleading to think that Appalachia does not include metropolitan areas.

While geography is an important factor when defining Appalachia, some have attempted to define it as a cultural region. Fatalism, religiosity, individualism, and self-reliance are all historical values tied to Appalachian culture (Ford, 1962). However, empirical evidence reveals that not all parts of the region ascribe to these cultural values (Coyne, Demian-Popescu, & Friend, 2006). These common misconceptions often create stereotypes when trying to describe a population, and this is true for Appalachia (Denham, 2016). For centuries, Appalachia has been ruled by negative stereotypes such as hillbillies, holler dwellers, and moonshiners (Denham, 2016). As offensive as these stereotypes are, they persist today and are barriers to truly understanding those living in the region (Denham, 2016). Whether a distinct culture exists in Appalachia is still debated, but what is most important to recognize is that Appalachia is a region of diverse people, geography, and culture.

County Economic Status in Appalachia

The Appalachian Region is most often characterized as a socially and economically disadvantaged part of the United States. Although pockets of wealth exist, Appalachia is largely made up of people who are older, disabled, unemployed, and have a low income (United States Census Bureau, n.d.). Based on the 2010-2014 American Community survey data, the median household income was 19% lower in Appalachia than the nation as a whole, with average wages of $45,585 per year for those in Appalachia compared with $56,135 for those in the nation (Marshall et al., 2017). Additionally, the percentage of people receiving disability benefits,

generally defined as having at least one health issue, was 2.2% higher in Appalachia than the nation as a whole (Marshall et al., 2017). These statistics indicate a less healthy population overall. Progress has been made to reduce these disparities, but gaps still remain, particularly among the Region's rural and economically distressed areas (Klesta, 2009; Marshall et al., 2017).

To improve the socioeconomic conditions of the Region, the ARC monitors the economic status of Appalachian counties and identifies those in distress every fiscal year (Appalachian Regional Commission, n.d.-b). Economic status is determined by comparing a county's three-year average per capita market income, poverty rates, and unemployment rates with the national averages. Counties are classified as distressed if they fall into the lower quartile for all three categories. As of 2019, 81 counties in Appalachia are classified as distressed (Appalachian Regional Commission, n.d.-b). Among the 81 distressed counties across Appalachia, 11 are located in Tennessee (Appalachian Regional Commission, 2019a). Out of the 11 distressed counties in Tennessee, nine are considered rural: Bledsoe, Clay, Cocke, Fentress, Grundy, Hancock, Jackson, Scott, Van Buren (Appalachian Regional Commission, 2019a; Roehrich-Pactrick, Moreo, & Gibson, 2016). Fentress County is the county of interest for the study and is explored later in the chapter. Figure 2.2 presents a map of county economic levels in Appalachia.

The Triple Threat for Health Disparities

Appalachia continues to suffer poorer health compared to the rest of the nation (Marshall et al., 2017; McGarvey, Leon-Verdin, Killos, Guterbock, & Cohn, 2011; Morrone, Kruse, & Chadwick, 2014). In fact, a report released by the Appalachian Regional Commission, the Robert Wood Johnson Foundation, and the Foundation for a Healthy Kentucky found health disparities widening between the Appalachian Region and the rest of the nation (Marshall et al., 2017). The

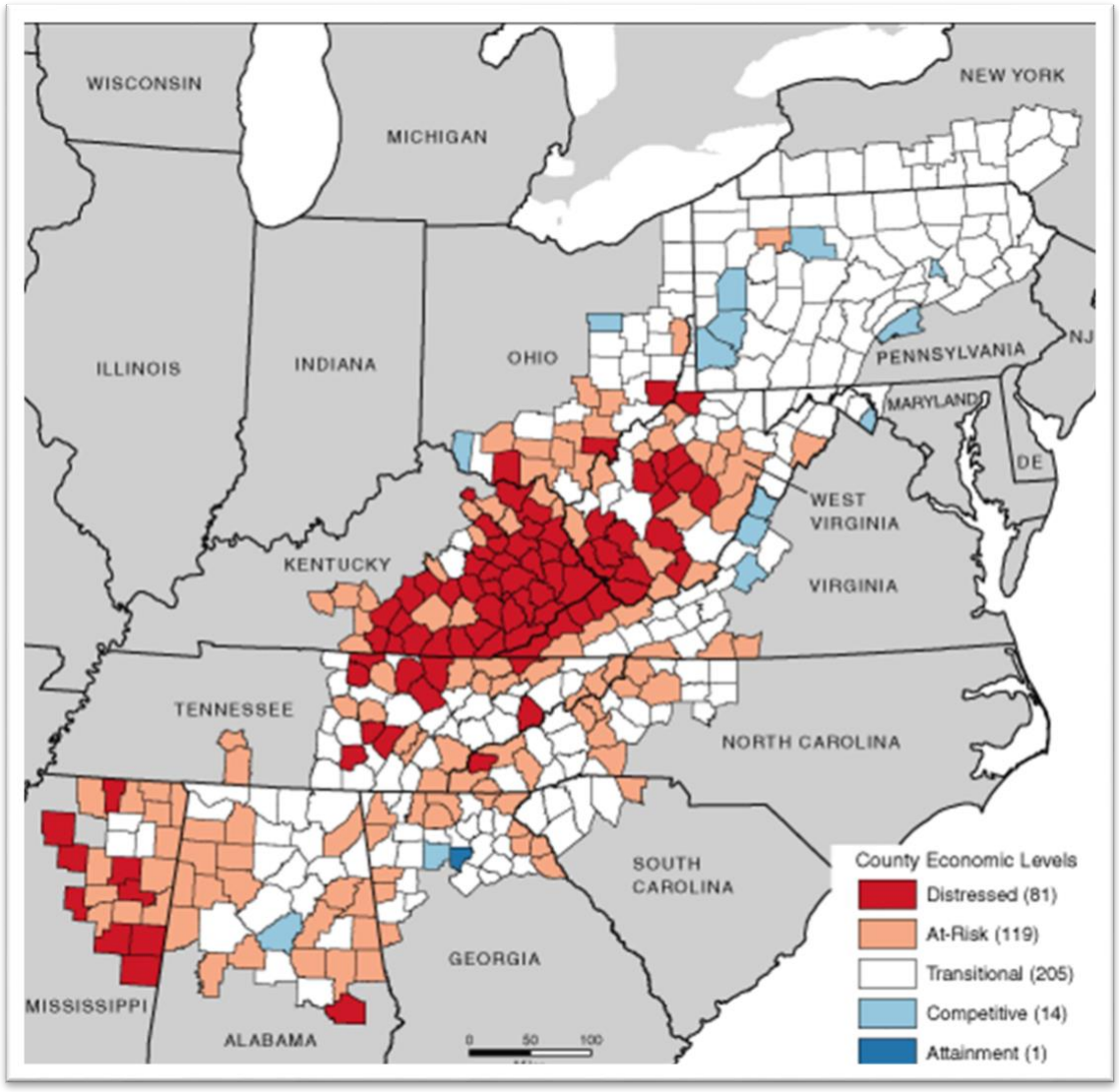

Figure 2.2. County Economic Levels in Appalachia (Appalachian Regional Commission, 2019a).

Region performed worse in 33 out of 41 population health indicators compared to the United States, including higher mortality rates for seven of the leading 10 causes of death: heart disease, cancer, chronic obstructive pulmonary disease, injury, stroke, diabetes, and suicide. These rates were even more severe in the Region's rural and economically distressed counties (see Figure 2.3). For example, the heart disease mortality rate in Appalachia was 17% higher than the national rate, while the heart disease mortality rate for rural Appalachia was 34% higher than the national rate. Economic status also played a role, as economically distressed counties have a heart disease mortality rate that was 47% higher than the nation (Marshall et al., 2017). The summative effects of these three risk factors—rural, economically distressed, and Appalachian—will be referred to as the *triple threat* for health disparities throughout this chapter.

Site of Study

Fentress County is the county of interest for this study and is subjected to the health disparities *triple threat* in the state of Tennessee; it is classified as rural, economically distressed, and Appalachian. According to the United States Census Bureau (n.d.), 18,523 people live in Fentress County, with a median household income of $36,520, less than Tennessee's ($53,320) and less than half of the national median household income ($62,843). Fentress County's poverty rate is 20.9%, higher than the statewide average of 13.9%, and the population is aging (United States Census Bureau, n.d.). In terms of community health, Fentress County ranks 76th out of 95 counties in a state that ranks 42nd out of 50 states (United Health Foundation, 2018; University of Wisconsin Population Health Institute, 2019b). More specifically, Fentress County ranks 57th in social and economic factors, 39th in health behaviors, 92nd in clinical care, and 17th in physical environment (University of Wisconsin Population Health Institute, 2019b). Table 2.1 provides a comparison of health measures between Fentress County and Tennessee.

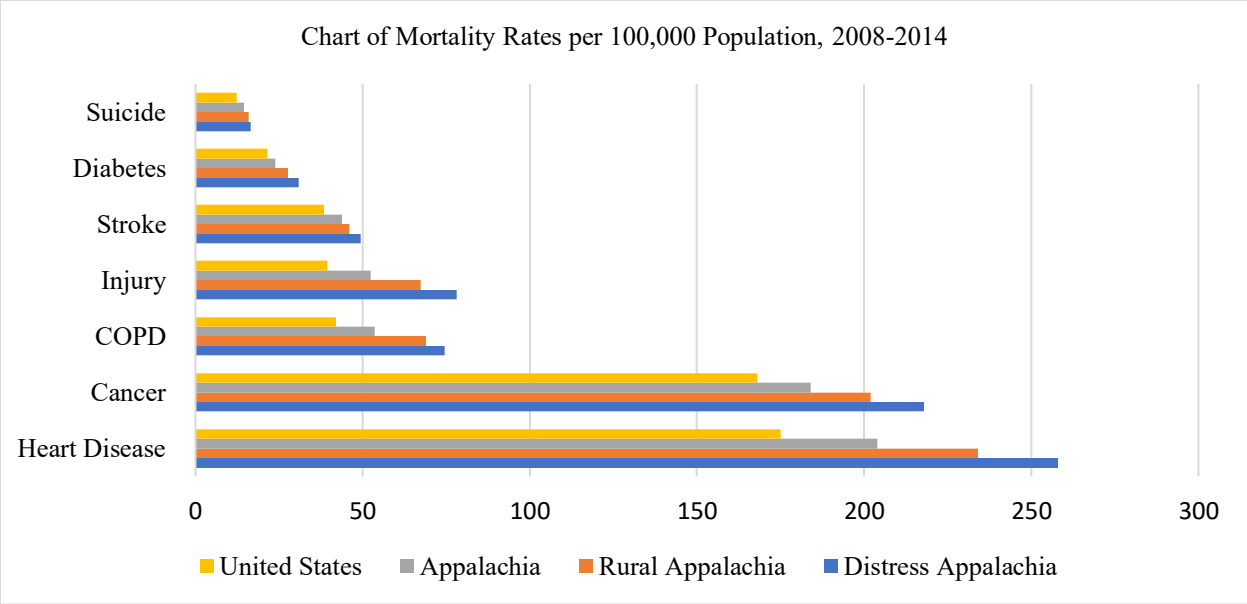

Figure 2.3. Chart of Mortality Rates per 100,000 Population, 2008-2014, of the Appalachian Region vs. the U.S., Rural Appalachia, and Distressed Appalachia (Marshall et al., 2017).

Table 2.1. Comparison of County Health Measures of Fentress County vs. TN (University of Wisconsin Population Health Institute, 2019b).

	Measures	Fentress County	TN
Health Outcomes	Premature death	10,800	9,300
	Poor or fair health	25%	20%
Social & Economic Factors	High school graduation	95%	90%
	Unemployment	4.2%	3.5%
Health Behaviors	Adult Smoking	25%	23%
	Adult Obesity	27%	33%
Clinical Care	Uninsured	12%	11%
	PCPs	2,270:1	1,400:1
Physical Environment	Long commute – driving alone	35%	35%

Health Perceptions in Appalachia

Some research suggests that distorted perceptions of health in Appalachia may be one reason behind these disparities (Ely et al., 2011). There is strong evidence to support the premise that perception of health is a powerful predictor of future health outcomes (Carlson, Pozehl, Hertzog, Zimmerman, & Riegel, 2013). In fact, self-rated health, a common measure of health perception, has been well-established in the literature as a strong predictor of mortality (DeSalvo, Bloser, Reynolds, He, & Muntner, 2006; Schnittker & Bacak, 2014; Vejen, Bjorner, Bestle, Lindhardt, & Jensen, 2017). However, in Appalachia, evidence supports the premise that self-rated health conflicts with objective health measures (Ely et al., 2011; Griffith et al., 2011). A study published by Griffith et al. (2011) evaluated self-rated health in Appalachian adults and found that objective measures of health did not match their self-rated health responses. In fact, 74% perceived themselves as healthy, contradicting the fact that Appalachia is one of the unhealthiest regions in the United States (Griffith et al., 2011; Marshall et al., 2017). Ely, Miller, and Dignan (2011) found similar results when comparing perceived health status and actual health status in rural, Appalachian adults. Over 60% of the sample perceived themselves as generally healthy despite engaging in poor health behaviors and having excess weight (Ely et al., 2011). The disconnect suggests that Appalachian adults may view good health differently from researchers and other populations. If access to care is indeed the "degree of 'fit'" (p. 128) between the patient and health care system, then exploring perceptions of health in *triple threat* communities is needed in facilitating the next step of accessing care (Penchansky & Thomas, 1981).

Barriers to Health Care

Many residents of *triple threat* communities face multiple barriers when accessing health care. These barriers can result in unmet health care need and contribute to widening disparities (Healthy People 2020, 2019). Although medical care alone is not sufficient for improved health, only accounting for 20% of health status, it is necessary for achieving optimal health (MacKinney et al., 2014; University of Wisconsin Population Health Institute, n.d.). The most common barriers when accessing care in *triple threat* communities are organized by Penchansky and Thomas' five dimensions of access to health care below (Penchansky & Thomas, 1981). It is important to recognize that these five dimensions are interdependent and overlapping.

Availability

The availability of health care resources is critical to health care access. Availability refers to the number and type of health care services, such as the supply of primary care providers (Penchansky & Thomas, 1981). The shortage of primary care providers in *triple threat* communities may mean patients experience longer wait times, delayed care, or no care at all (Dassah, Aldersey, McColl, & Davison, 2018). According to the Robert Wood Johnson Foundation, the patient to primary care physician ratio in Appalachia is 1,497:1 as compared to the national ratio of 1,322:1 (Marshall et al., 2017). This ratio is even worse in the Region's rural and distressed counties of 1,798:1 and 2,444:1 respectively (Marshall et al., 2017). In Fentress County, the patient to primary care physician ratio is 2,270:1, and the trend is worsening (University of Wisconsin Population Health Institute, 2019a). This shortage of primary care physicians can limit the supply of health care services offered in the area and prevent residents in receiving health care when needed (Zhang, Lin, Pforsich, & Lin, 2020) .

Accessibility

The accessibility of health care services has been a long-time concern in remote locations. Accessibility refers to the geographic relationship between patients and health care services, including transportation resources, distance, time, and cost (Penchansky & Thomas, 1981). For example, having reliable transportation directly impacts an individual's ability to access health care to support one's health and wellbeing (Henning-Smith, Evenson, Corbett, Kozhimannil, & Moscovice, 2017). Transportation issues are especially prevalent in rural areas where long distances are common and public transportation options are lacking (Henning-Smith et al., 2017). Rural residents are more likely to travel farther to health care services than urban residents (Rural Health Information Hub, 2019b). According to a recent study by the Pew Research Center, rural residents have to travel an average of 10.5 miles to the nearest hospital (Lam, Broderick, & Toor, 2018). That is about twice as far or seven minutes longer than individuals in urban areas (Lam et al., 2018). At current, the closest hospital to Fentress County is 28 miles or 41 minutes away. Increased travel time can be particularly burdensome for individuals who are older, of lower income, or have a disability (Lam et al., 2018).

Affordability

Affordability refers to the relationship between prices of services, ability to pay, and perception of value, all of which can facilitate or impede community residents from accessing care (Penchansky & Thomas, 1981). Lower incomes and higher poverty rates are associated with higher incidence of diseases and mortality rates due to a decreased ability to afford resources that lead to heathier outcomes (Khullar & Chokshi, 2018; Wagstaff, 2002). According to the 2010-2014 American Community Survey, the median household income in Appalachia was $45,585, with rural households earning $36,265 (Marshall et al., 2017). Economically distressed counties

in Appalachia were even worse off, with a median household income of $32,777 (Marshall et al., 2017). The median household income for Fentress County was $36,520 (United States Census Bureau, n.d.). Higher poverty rates are also common in rural and economically distressed communities. The household poverty rate from 2010 to 2014 was 17.2% in the Appalachian Region compared to the national rate of 15.6% (Marshall et al., 2017). In the Appalachian Region's rural areas, 23.0% of households were below the poverty line. The poverty rate was even higher in the Appalachian Region's distressed counties at 26.9% (Marshall et al., 2017). In Fentress County, the poverty rate was 20.6% as of 2018 (United States Census Bureau, n.d.).

In addition to lower incomes and higher poverty rates, rural populations are less likely to be covered by employer-sponsored insurance than the urban population (Newkirk II & Damico, 2014). Lack of health insurance coverage is another potential barrier to accessing health care and has been identified as a risk factor for premature mortality (Wilper et al., 2009). The percentage of people under age 65 without health insurance in the Appalachian Region as of 2016 was 15.8%, which is better than the national average of 16.8% (Marshall et al., 2017). However, rural and distressed counties of Appalachia fare worse than the national average, with 18.2% and 18.7% uninsured respectively (Marshall et al., 2017). Interestingly, the percentage of those without insurance in Fentress County was 13.4% (United States Census Bureau, n.d.). Although having insurance may mitigate access problems, it still does not eliminate access problems (Allen, Call, Beebe, McAlpine, & Johnson, 2017).

Acceptability

Acceptability is a broad concept that describes the relationship between the patient's perception of the provider's and facility's characteristics and acceptance of the patient (Penchansky & Thomas, 1981). For example, patients may experience discrimination from the

health care provider or staff which can deter them from seeking services in the future (Penchansky & Thomas, 1981). On the other hand, providers may have biases about the characteristics of their patients or their insurance provider (Penchansky & Thomas, 1981). For instance, a provider may choose not to see Medicaid patients (Penchansky & Thomas, 1981). Acceptability also refers to whether health care services meet the patients' social and cultural needs (Jolly, 2019). For example, social stigma and privacy issues are common barriers to accessing care in rural community (Rural Health Information Hub, 2019b). Living in a "everyone knows everyone" town can deter rural residents from seeking care because of the lack of privacy (Rural Health Information Hub, 2019b).

Accommodation

Accommodation describes how well the health care system fits the patient's needs and preferences (Penchansky & Thomas, 1981). When services provided, such as hours of operation and walk-in services, do not meet the needs of the community, they are less likely to seek or use services (Penchansky & Thomas, 1981). Those living in rural areas are more likely to have decreased communication with providers, trouble with scheduling appointments during hours of operation, and delays in receiving referrals (Jolly, 2019). Navigating these services may be even more difficult without health literacy skills (Rural Health Information Hub, 2019b). Less education is often associated with lower levels of health literacy, and consequently, less capacity to understand health information and to navigate the health care system (Lazar & Davenport, 2018). In 2010-2014, 57.1% of adults ages 25 to 44 in the Appalachian Region had some type of postsecondary education versus 63.3% in the nation (Marshall et al., 2017). Adults in the Appalachian Region's rural areas were 49.0% likely to have attended a postsecondary institution. Only 45.0% of adults living in distressed counties had attended a post-secondary institution

(Marshall et al., 2017). Only 39% of Fentress County residents had some post-secondary institution (University of Wisconsin Population Health Institute, 2019a).

Rural Hospitals

Rural hospitals, as classified by the Federal Office of Rural Health Policy, are any general, non-federal, short-term, acute hospital that is located outside a metropolitan area, or is located within a metropolitan area and has a Rural Urban Commuting Area (RUCA) equal to or greater than four or is a Critical Access Hospital (Cecil G. Sheps Center for Health Services, 2021; Health Resources and Services Administration, 2018a). According to the 2019 American Hospital Association Annual Survey, there are 1,805 rural hospitals in the United States (American Hospital Association, 2019a).

Rural hospitals are often smaller and have lower utilization rates than urban hospitals, yet they still provide access to basic health care services such as inpatient, outpatient, emergency medical services, obstetrical services and others (Hatten & Connerton, 1986). Not only do they provide important health services, rural hospitals are also vital to the community's economy and are often their largest employer (American Hospital Association, 2019b). They provide jobs, attract businesses and retirees, and stimulate local purchasing (American Hospital Association, 2019b). Rural hospitals are also vital when the community faces health issues like the COVID-19 pandemic (Centers for Disease Control and Prevention, 2020).

Since 2005, 180 rural hospitals have closed and hundreds more are at risk of closing (Cecil G. Sheps Center for Health Services, 2021). Although hospital closings are not always unwarranted (i.e. underutilized by their community), rural hospitals are sometimes the only source of care in the community (American Hospital Association, 2019b). As rural hospitals

continue to close, some communities may be at risk of losing access to essential health care services.

A History of Rural Hospital Closures

The recent increase of rural hospital closures is not necessarily a new trend. Hundreds of rural hospitals closed following adoption of the Prospective Payment System in 1983 (United States Government Accountability Office, 2018). Prior to 1983, hospitals were reimbursed retrospectively by Medicare. Under this system, hospitals were paid based on the services charged with no incentive to limit charges (Guterman & Dobson, 1986). In an attempt to reduce growth in hospital costs and limit the depletion of Medicare Part A Trust Fund, the Department of Health and Human Services proposed a plan for a Prospective Payment System (PPS) of hospitals under Medicare (United States Government Accountability Office, 2018). PPS reimbursements are fixed and are not based on hospital expenditures (Carroll, 2019). Many rural hospitals could not sustain the costs required to maintain operation under PPS, and 5% of rural hospitals closed between 1985 and 1988 (Guterman & Dobson, 1986; United States Government Accountability Office, 2018).

In response to the increasing rate of rural hospital closures following implementation of PPS, the Centers for Medicare and Medicaid (CMS) established the Sole Community Hospital (SCH) in 1983 to financially support rural hospitals that are the only source of inpatient hospital services in their community (Health Resources and Services Administration, 2018b; Sharita R. Thomas, Randolph, Holmes, & Pink, 2016). SCHs receive greater reimbursement rates from Medicare to protect against financial distress and maintain access to care in the community (Health Resources and Services Administration, 2018b). The Centers of Medicare and Medicaid also established the Medicare Rural Hospital Flexibility (Flex) Program through the Balanced

Budget Act of 1997 (Rural Health Information Hub, 2019a). The Flex Program allows for designation of rural hospitals as Critical Access Hospitals (CAHs) with the goals of reducing financial distress and improving access to health care in rural areas (Rural Health Information Hub, 2019a). CAHs receive generous, cost-based reimbursement by Medicare designed to protect rural populations' access to essential health care services (Flex Monitoring Team, n.d.). These designations prevented the closure of many rural hospitals, and hospital closures slowed in the early 1990s (Poley & Ricketts, 2001). However, the rate has been increasing ever since the Great Recession of 2008-2009 (Kaufman et al., 2016). Out of the 180 rural hospital closures since 2010, 63 of these closures were CAHs while 11 were SCHs (Cecil G. Sheps Center for Health Services, 2021). The causes of these closures are still not yet well understood (Gujral & Basu, 2019).

Challenges to Providing Hospital Care in Rural Areas

To understand why rural hospitals continue to close, the next section discusses some of the salient challenges hospitals face when operating in a rural area. This section explores four issues unique to rural hospitals including 1) rural designation 2) demographics 3) operational difficulties and 4) financial difficulties.

Rural Designation

Classifying hospitals as rural can be challenging due to various definitions created by federal, state, and local agencies. The most common definitions of rural are by the Federal Office of Management and Budget (OMB), the United States Census Bureau, and the United States Department of Agriculture Economic Research Service (USDA-ERS).

The OMB categorizes counties as metropolitan, micropolitan, or neither (Health Resources and Services Administration, 2018a). Metropolitan counties contain a core-based

statistical area (CBSA) of 50,000 or more residents. Micropolitan counties contain a CBSA of 10,000 to 50,000 residents (Health Resources and Services Administration, 2018a). All remaining counties are categorized as neither. Counties that are not categorized as metropolitan are considered rural (Health Resources and Services Administration, 2018a).

The United States Census Bureau has different criteria and classifies areas as urban based on population density at the census block or tract level (United States Census Bureau, 2018). Urbanized Areas (UAs) consist of areas with 50,000 people or more, and Urban Clusters (UCs) consist of areas with 2,500 to 50,000 people. Rural areas are all areas outside of urbanized areas or urban clusters (United States Census Bureau, 2018).

The United States Department of Agriculture Economic Research Service (USDA-ERS) and the Federal Office of Rural Health Policy (FORHP) collaborated to use components of each definition when determining rural or urban classification. FORPH classifies all non-metropolitan counties as rural and further categorizes rurality using Rural-Urban Commuting Areas (RUCAs) codes (Health Resources and Services Administration, 2018a). The RUCAs are a census tract-based classification scheme based on measures of urbanization, population density, and daily commuting. Primary RUCA codes delineate metropolitan and nonmetropolitan areas based on primary commuting patterns. Tracts inside metropolitan counties with primary RUCA codes 4-10 are classified as rural (Health Resources and Services Administration, 2018a).

These definitions under-bound or over-bound rurality to some extent, which in turn, affects resource allocation (Hart, Larson, & Lishner, 2005) . For example, the OMB definition classifies an entire county as metropolitan as long as 50% of the county falls under the metropolitan designation (Smith et al., 2013). Davidson County, home to Nashville, and Shelby County, home to Memphis, are the most densely populated counties in Tennessee, yet neither are

exclusively urban (Roehrich-Pactrick et al., 2016). In this case, rural is being under-bounded and urban is being over-bounded. Therefore, if a program or policy is based on nonmetropolitan status according to the OMB definition, rural hospitals within Davidson and Shelby County would not be eligible. The distinction is important to recognize because many program and policy decisions that serve rural populations are made on the basis of these common definitions (Hart et al., 2005). Each definition can produce dramatically different results and may result in disproportionate funding to need.

Demographics

Demographics of the community play a large role in rural hospital viability. The physical isolation of rural areas and a shrinking population results in low population density and, consequently, low volume occupancy in hospitals (United States Government Accountability Office, 1991). Low volume occupancy is associated with financial distress of hospitals (United States Government Accountability Office, 1991). There are inherent, fixed costs required to keep a rural hospital running, and these fixed costs must be spread over fewer patients, raising the unit cost of care (United States Government Accountability Office, 1991). This can reduce hospital profitability, which creates difficulties in maintaining and updating hospital services and in recruiting and retaining health care professionals (Bowman, 2019; United States Government Accountability Office, 1991).

Other demographic factors such as an older, sicker, and poorer patient population affect rural hospital viability. Rural hospitals serve a disproportionately older population that suffers from higher rates of disability and are more likely to engage in risky health-related behaviors as compared to the patient population served by urban hospitals (The Council of State Governments, 2019; United States Government Accountability Office, 2018). These patients

usually require more health care services and suffer from poorer health compared to younger patients (The Council of State Governments, 2019).

Rural hospitals also serve more uninsured and publicly insured patients as compared to urban hospitals (American Hospital Association, 2019b). In fact, 30.7% of Fentress County residents are on Tennessee's state Medicaid program compared to 20.7% of the state as a whole (Annie E. Casey Foundation, 2019). Rural hospitals rely heavily on public health insurance for revenue, however, public health insurance reimburses less than the costs of providing care to Medicare and Medicaid patients (American Hospital Association, 2019c). For each dollar spent on Medicare and Medicaid patients, hospitals are reimbursed 87 cents (American Hospital Association, 2019c). These low Medicare and Medicaid reimbursements further decreases a rural hospital's profitability and resilience to policy change (Sharita R Thomas, Holmes, & Pink, 2016). Furthermore, rural hospitals are more likely to incur uncompensated costs by uninsured patients (Balasubramanian & Jones, 2016). By federal law, hospitals are required to stabilize and treat patients in an emergency regardless of insurance or their ability to pay (Balasubramanian & Jones, 2016). Uncompensated care may create significant debt for rural hospitals, increasing financial distress and risk of closure (Balasubramanian & Jones, 2016).

Operational Difficulties

Alternative payment models are being tested as rural hospitals transition from a volume-based to a value-based purchasing system. However, new models bring their own challenges to rural hospitals. The Patient Protection and Affordable Care Act of 2010 dramatically reshaped health care in the United States by establishing a number of value-based payment approaches such as the Hospital Readmissions Reduction Program and the Hospital Value-Based Purchasing Program (Centers for Medicare & Medicaid Services, 2020b, 2021). Under the Hospital

Readmissions Reduction Program (HHRP), hospitals are financially penalized with excessive readmissions in an effort to improve the quality of hospital care (exempt are Critical Access Hospitals) (Boccuti & Casillas, 2015). Financial penalties for readmissions are problematic because rural hospitals treat some of the sickest and poorest patients (Centers for Disease Control and Prevention, 2019b). The HRRP penalty for having to re-admit patients soon after they are released is difficult for rural hospitals to avoid (Boccuti & Casillas, 2015). Penalties incurred under the HHRP reduces hospital's Medicare revenues leading to more financial distress.

Under the Hospital Value-Based Purchasing Program (HVBP), hospitals may also be financially penalized based on the quality of care provided (United States Government Accountability Office, 2017). The Centers for Medicare and Medicaid Services' adjusts payments to hospitals, leading to bonuses or penalties, depending on the results of quality performance (United States Government Accountability Office, 2017). Hospitals that provide care to a large volume of low-income patients, such as rural hospitals, tend to score lower in quality (United States Government Accountability Office, 2017). Therefore, many rural hospitals receive reduced Medicare revenues under the HVBP, which can lead to financial distress.

Financial Difficulties

The failure to expand Medicaid is another contributing factor to rural hospital closures (United States Government Accountability Office, 2018). Although the Patient Protection and Affordable Care Act of 2010 decreased the number of uninsured people in the United States, nearly 30.1 million adults still remain uninsured because 12 states have chosen not to expand Medicaid (Centers for Disease Control and Prevention, 2019a; Kaiser Family Foundation, 2021). Studies revealed that states who accepted federal money for Medicaid expansion are experiencing less hospital closures than states who refused to expand (United States Government

Accountability Office, 2018). In a study published by the Commonwealth Fund, Medicaid expansion states saved an estimated $6.2 billion in uncompensated care costs, leading to greater financial stability and viability of rural hospitals (Dranove, Gartwaite, & Ody, 2017). In states that did not expand Medicaid, care that could have been covered under Medicaid remains uncompensated and becomes another financial challenge for rural hospitals (Dranove et al., 2017).

It is also important to recognize that a pandemic, such as the current and evolving COVID-19 pandemic, may be another contributing factor to rural hospital closures specifically in 2020 (Diaz, Chhabra, & Scott, 2020). Elective and non-essential surgeries, an important revenue source for rural hospitals, were suspended for weeks in the beginning of the pandemic to help contain the spread of the virus (United States Government Accountability Office, 2020). The impact of the pandemic on rural hospitals is still evolving, however, suspending these profitable surgeries may be another factor that sends rural hospitals into financial distress (Diaz et al., 2020).

Impact on Access to Care

Several earlier studies have explored the effects of rural hospital closures that occurred during the 1990s (Fleming, Williamson, Hicks, & Rife, 1995; Muus et al., 1995; Rosenbach & Dayhoff, 1995; United States Government Accountability Office, 1991). Some of these studies documented that hospital closures can negatively affect community residents' access to care, particularly among vulnerable community residents who are older, of lower income, have a disability or are pregnant (Fleming et al., 1995; Hart, Pirani, & Rosenblatt, 1991; Muus et al., 1995; Reif et al., 1999). Fleming, Williamson, Hicks, and Rife (1995) studied 25 rural hospitals closures during 1990 and their impact on accessibility among Medicare patients. The results

indicated that access to care was negatively affected due to increased travel time and distance, with an average travel time of 30 minutes to the nearest hospital. Fleming et al. (1995) also noted that most of the Medicare patients preferred a hospital in their county, therefore, the additional travel time may be particularly difficult for older patients who lack reliable transportation or need timely care. There was also an improvement in service availability in the remaining open hospitals, however, greater access to specific services was exchanged for additional travel time (Fleming et al., 1995).

Reif, DesHarnais, and Bernard (1999) interviewed health professionals about the impact of hospital closures on community residents' access to care from six different closure sites across the United States. Health professionals perceived some negative effects on access to care including increased travel time. Health professionals also perceived a greater negative effect for vulnerable populations, specifically those who are older, of lower income, or have a disability (Reif et al., 1999). Hart, Pirani, and Rosenblatt (1991) found similar results from a survey with mayors based on 130 hospital closures across the United States. They indicated that a major consequence of the hospital closure was reduced access to care. They also perceived worse health outcomes and increased travel time and distance (Hart et al., 1991). Muus, Ludtke, and Gibbens (1995) surveyed residents from rural North Dakota about the perceived causes and effects of a hospital closure that occurred in their community. Findings indicated that the closure diminished health care access, particularly emergency care, and 17% of the sample said they or a family member could not access care due to inconvenience (Muus et al., 1995).

Other earlier studies found that rural hospital closures produced negligible negative effects on access to care for residents. The United States Government Accountability Office (GAO) (1991) analyzed national level data and conducted 11 case studies of selected rural

hospitals located in Illinois, Mississippi, Montana, and Texas that closed between 1980 and 1988. Most rural hospital closures GAO studied did not reduce access to care for residents. In these areas, alternative sources of care were available and utilized by many residents at least two years before the closures. Hospital use declined among residents in closure areas, however, it declined to rates comparable to the United States average. The decline suggested that residents were still able to obtain hospital care after a closure. However, problems in access appeared to worsen following a closure in some areas, particularly for residents of lower income and those needing emergency care (United States Government Accountability Office, 1991).

More recent research studying hospital closures in the 2000s generally drew similar conclusions as the 1990s: closures may be associated with reduced access to care for community residents. The United States Government Accountability Office (2018) did a review of the literature funded by the Department of Health and Human Services (HHS) between 2013 and 2017 and found that hospital closures can reduce community residents' access to care, particularly among those who are older and low income. The Kaiser Commission on Medicaid and the Uninsured and the Urban Institute conducted three case studies of hospital closures in 2015 in Kentucky, Kansas, and South Carolina funded by HHS (Wishner et al., 2016). They found that hospital closures primarily decreased access to care, particularly primary and emergency care, influenced health care providers to leave the community post-closure, and worsened pre-existing barriers when accessing specialty care. Hospital closures also influenced individuals to postpone or avoid care due to longer travel time and distance (Wishner et al., 2016). Additionally, another HHS funded study found that of the 125 rural hospitals that closed in the United States between 2005 and 2017, nearly half of the sample were at least 15 miles to the nearest hospital (Clawar, Thompson, & Pink, 2018). The authors concluded that even if

distance to the next nearest hospital was the only downside for a community losing its hospital, the additional travel burden created an access problem for residents (Clawar et al., 2018).

Conclusions

A review of the literature reveals three major gaps. First, no studies were found that considered how a hospital closure affects access to care in a rural and economically distressed Appalachian county of Tennessee. Considering that health disparities are most severe for rural and economically distressed counties of Appalachia, and rural hospitals are often a sole provider of health care, hospital closures could potentially have serious negative effects on local access to care in *triple threat* communities (Marshall et al., 2017). Second, the individual community resident perspective is consistently absent in the literature. The community resident is a key stakeholder in health care, yet only one of the studies mentioned explored the perceptions of community residents of access to care following a hospital closure, and the study was dated (Muus et al., 1995). Third, exploring health perceptions in *triple threat* communities is necessary in understanding how residents may view health. If Appalachians view themselves as generally healthy when evidence shows that the region is generally unhealthy, further research is needed to understand this disconnect (Ely et al., 2011; Marshall et al., 2017).

The recent rise of rural hospital closures presents a timely opportunity to study the perceptions of community residents seeking care after a closure. My study is the first to explore a hospital closure in a *triple threat* county or rural and economically distressed Appalachian county of Tennessee. My study attempts to add to the body of knowledge and address the limitations of previous studies by describing community residents' perceptions of health and access to care following a hospital closure in a triple threat county of Tennessee. The next chapter, Chapter 3 describes the methods of the study.

CHAPTER THREE

METHODS

The purpose of Chapter Three is to describe the methods of the qualitative descriptive study. The chapter is organized by research paradigm, methodology, sampling plan, data procedures of the study, and concludes with strategies used to establish trustworthiness. The study was funded by the University of Tennessee Graduate School and approved by the University of Tennessee Institutional Review Board in May 2020 (UTK IRB-20-05869-XP).

Naturalist Paradigm

The philosophical framework, or research paradigm, employed was the naturalist paradigm (Lincoln & Guba, 1985). A research paradigm consists of ontology, epistemology, and methodology. The ontology of the naturalist paradigm states that there are multiple realities constructed by different individuals, conveying that reality is subjective rather than objective. The epistemology of the naturalist paradigm ascertains that the relationship between the researcher and the researched are interdependent. Therefore, understanding these subjective realities can only be studied through human interaction in their natural setting because realities are whole and cannot be understood without their context. The methodology of the naturalist paradigm relies heavily on qualitative methods because they are more adaptable to the many multiple realities constructed in the minds of individuals (Lincoln & Guba, 1985).

Methodology

Naturalistic inquiry recommends using qualitative methods for data collection because these methods are more adaptable for capturing the multiple, subjective realities constructed by individuals (Lincoln & Guba, 1985). This study used qualitative descriptive methodology to

present a straightforward description of community residents' perceptions of health and access to care following a rural hospital closure. Qualitative description is a methodology used in qualitative research for studies that seek direct descriptions of the phenomenon of interest (Sandelowski, 2000). Researchers stay close to the surface of their data in an effort to provide the facts and meanings as ascribed by participants in everyday language (Sandelowski, 2000). Qualitative description also provides a voice for those who are directly experiencing the phenomenon (Bradshaw, Atkinson, & Doody, 2017). Qualitative description was the most appropriate method to answer the research questions because it recognizes the subjectivity of perceptions, the different experiences of participants involved, and attempts to get the facts straight through low-inference interpretation (Sandelowski, 2000).

Sample

Setting of Study

My study took place in a rural and economically distressed Appalachian county of Tennessee: Fentress County. Jamestown, the county seat of Fentress County, closed the doors of its 54-bed hospital on June 13, 2019. Jamestown Regional Medical Center was the sole community hospital in the county inhabited by 17,959 residents (United States Census Bureau, n.d.). A hospital is classified as a Sole Community Hospital (SCH) if the facility is the only hospital serving the community determined by distance requirements that vary depending on location, weather, travel, and the absence of other hospitals (Health Resources and Services Administration, 2018b). Jamestown Regional Medical Center was an acute care facility that provided clinical services including emergency, radiology/nuclear medicine/imaging, and wound care.

The top three zip codes of residence for inpatients of Jamestown Regional were 38556, 38553, and 38504. 38565 and 38577; all located in Fentress County. The closest hospital to Fentress County, Livingston Regional Hospital, is 28 miles or 41 minutes away. Cumberland Medical Center is 37 miles or 49 minutes away, and Cookeville Regional Medical Center is 51 miles or 1 hour and 4 minutes.

Participant Selection

Participants from Fentress County were recruited using purposeful, criterion-specific sampling. This sampling strategy is common in qualitative description and encouraged by the naturalistic paradigm, allowing for the selection of information-rich cases (Sandelowski, 2000). Snowball sampling was also used by asking each participant to share the project information to any eligible participant who might be interested in taking part in the study. Inclusion criteria to participate included the following: must be 30 years or older and must reside in Fentress County for at least 5 years. Participants who were at least 30 years old at the time of the study suggested that they were at least 25 years old when the hospital closed and no longer classified as a "young adult." Both criteria increased the likelihood that the participant may have had an experience with the closed hospital.

Recruitment Strategy

Participants were recruited online via posts in Fentress County related Facebook groups and through advertisements in the local newspaper during the months of May and June 2020. Facebook posts (see Figure 3.1) and newspaper advertisements included the purpose of the study, eligibility criteria, incentive of a $25 electronic gift card, and principal investigator (PI) contact information. Prospective participants contacted the PI directly via phone or email and were screened for eligibility. Forty-one individuals responded to advertisements. Nine were

Figure 3.1. Facebook Recruitment Advertisement.

ineligible and eight were no longer interested. Figure 3.2 displays the recruitment process flowchart.

Sample Size

The number of participants required depends on the study's research questions (Saldaña & Omasta, 2016). Qualitative research typically focuses on a small number of cases in-depth (Patton, 2002; Sandelowski, 1995). Because the goal of this study and sampling strategy was to seek information-rich cases, sampling until saturation was recommended (Sandelowski, 1995). Some scholars suggest that qualitative researchers specify a minimum sample size based on the researcher's judgment and study's research questions (Patton, 2002). Factors to consider when specifying a minimum include research design, sampling strategy, how often the phenomena is being researched, as well as other research using the same research design (Bradshaw et al., 2017). A recent systematic review regarding characteristics of qualitative descriptive studies found that 24 out of 55 articles had a sample size between 11-20 (Kim, Sefcik, & Bradway, 2017). The 8-10, 21-30, 31-50, and greater than 50 participant ranges were less than ten studies (Kim et al., 2017). Based on the above factors, a minimum sample size of 15 participants was anticipated to reach saturation, or when additional data do not contribute to any additional learnings (Saldaña & Omasta, 2016). However, the researcher has the flexibility to change the minimum sample size based on new information if necessary (Patton, 2002).

A total of twenty-four participants were interviewed. Informed consent was obtained prior to each interview, and participants were compensated with a $25 electronic gift card. Participants were assigned a project identification number to protect confidentiality. To give the data life, pseudonyms were chosen based on the Social Security Administration's article "Top Names Over the Last 100 Years" (Social Security Administration, n.d.).

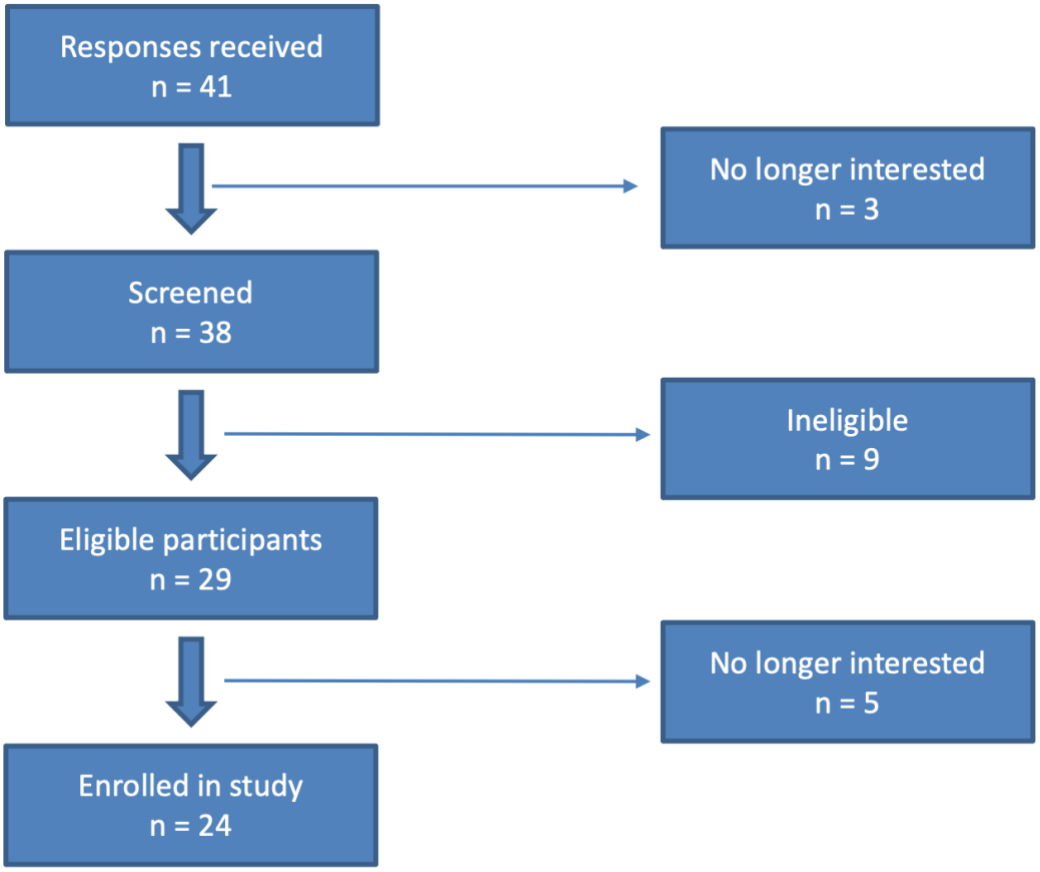

Figure 3.2. Flowchart of the Recruitment Process of Participants.

Procedures

Data Collection

Semi-structured interviews via telephone were used to assess perceptions of health and access to care of participants (Sandelowski, 2000). The semi-structured interview guide (see Appendix) was created based on naturalistic inquiry, Penchansky and Thomas's model of access to care framework, three pilot-test interviews, and existing literature. To confirm interview guide quality, the PI pilot-tested the interview guide with three different individuals, including two from a rural, Tennessean county. Interviews lasted between 20 and 60 minutes and were audio-recorded. Participants' demographics were recorded prior to the interview. Data collection ceased when saturation was achieved, or when additional data did not contribute to any additional learnings (Saldaña & Omasta, 2016). The PI maintained a researcher journal during data collection and analysis.

Data Analysis

Qualitative transcripts were analyzed using conventional content analysis, which is the analysis of choice for qualitative description (Sandelowski, 2000). Qualitative content analysis is inductive, meaning that codes are generated from the data themselves (Sandelowski, 2000). However, researchers may begin analysis with a set of pre-existing codes, under the condition that these codes may be modified or rejected in an effort to best reflect what the data indicate (Sandelowski, 2000). This study used a hybrid coding scheme that included an inductive approach and a deductive approach using a priori codes guided by Penchansky and Thomas's model of access to care (Penchansky & Thomas, 1981). Five deductive codes (availability, accessibility, affordability, accommodation, and acceptability) were developed a priori based on

Penchansky and Thomas' framework (Penchansky & Thomas, 1981). Later during analysis, these codes evolved into categories.

The analysis followed an iterative process as described by Saldaña from the development of codes to the generations of themes (Saldaña, 2016). During first cycle coding, the first five interviews were independently reviewed, and two researchers performed open coding. Open coding began with reading transcripts entirely to absorb the data fully. Then data were read line-by-line coding for patterns. Patterns are "repetitive, regular, or consistent occurrences of action/data that appear more than twice" (Saldaña, 2016, p.5). Researchers then met to compare codes, allowing for reflexivity as each researcher discussed their own reflection of the data. An initial codebook was developed, and codes were applied to the remaining interviews, allowing for codes to evolve, drop, and emerge. Through weekly meetings and discussions, the codebook (Appendix) was revised as necessary based on new findings. Some codes were merged based on similarities, infrequent codes were assessed for their utility, and some codes were dropped altogether. Data were recoded to reflect these changes. A final total of 34 codes were generated for the data corpus. Coding occurred by hand, which is recommended for novice qualitative researchers or small-scale studies (Saldaña, 2016). First cycle coding methods included in vivo codes (displayed in quotes) and descriptive codes. During second cycle coding, the 34 codes were compared based on differences and similarities and collapsed into 12 categories. Four themes emerged from the process. The themes were shared, discussed, and refined by the research team. See attachment for codebook (codebook.xlsx).

Code landscaping was also used to produce word clouds for the definitions of health and access to care as defined by participants. Word clouds are used as a visualization method for preliminary analysis of text data (Saldaña, 2016). Each definition of health and access to care

were copied, pasted, and initially analyzed using a world cloud software (EdWordle) to give the researcher a holistic view of key terms (Saldaña, 2016). Definitions were then coded by key terms and re-entered into the word cloud software. Words mentioned more frequently appear in a larger font size, while words mentioned less frequently appear in a smaller font size or were not included.

Strategies to Establish Trustworthiness

Lincoln and Guba offer four perspectives that assess the rigor and truth of naturalistic inquiry: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Credibility in this study refers to the truth value of the findings (Lincoln & Guba, 1985). The PI performed a careful review of the literature and thoughtfully integrated the conceptual frameworks of naturalistic inquiry and access to care. Triangulation by data source was implemented by interviewing 24 separate individuals about the rural hospital closure. Considering data from at least three different sources helps ensure more dimension to the data (Saldaña & Omasta, 2016). All members of the research team provided methodological and content expertise to ensure credibility of findings. Transferability, or how well the findings can transfer to other contexts, was established by providing a thick description of the methods and findings which allows the reader to assess whether they can transfer the findings to their own situation (Lincoln & Guba, 1985).

Dependability, or the consistency of findings, was established through daily communication between the PI and dissertation chair (Lincoln & Guba, 1985). Weekly meetings were established during data collection and analysis. Both researchers analyzed the data separately for the first five interviews. Although only the PI coded the rest of the interviews, weekly meetings provided a space to discuss any thoughts, issues, and changes to data collection

and analysis. Confirmability, or remaining neutral, was ensured by maintaining a reflexive journal to record impressions during data collection and analysis, biases that might have affected data collection and analysis, and decisions made during the research process (Lincoln & Guba, 1985). These were discussed in the weekly meetings. A subjectivity statement was written as an entry in the reflexive journal before data collection began to identify how beliefs and experiences may affect the research.

CHAPTER FOUR

RESULTS

The purpose of this chapter is to report the results. This chapter includes demographics, definitions of health and access to care, and themes.

Demographics

The results of this qualitative study are based on interviews with 24 community residents of Fentress County, Tennessee (*n*=24). Over half of the participants (54%) were recruited through snowball sampling, while 29% and 16.7% were recruited through social media and newspaper advertisements, respectively.

Demographic information was collected from each participant at the beginning of the interview. Table 4.1 contains a demographic summary of the participants using pseudonyms. The length of residence ranged from 5 to 72 years, with half of the participants born and raised in Fentress County. The median age of the sample was 51 years. Approximately 67% of the sample, or 16 participants, were female. Over half or 54% were married and not separated. Most of the sample, or 83.3%, had either graduated from high school or had post high school training (i.e. some college). Six participants, or 25%, were unemployed. Five participants, or 20.8%, were uninsured, which is higher than the overall county uninsured rate of 13.4% (Marshall et al., 2017).

Definitions of Health and Access to Care

Participants were asked to describe what health means to them. Good health was most often characterized as remaining independent. John remarked, “Good health is just feelin’ like

Table 4.1. Demographic Characteristics of Study Sample (n=24).

Name (Pseudonym)	Length of Residence (yrs)	Age (yrs)	Sex	Marital Status	Education	Employment Status	Health Insurance
Nancy	6	63	F	Divorced	Post high school training/ some college	Retired	Public and private
Patricia	45	48	F	Married	Post high school training/ some college	Working- full time	Private
Jennifer	15	60	F	Living with a partner	High school graduate/ GED	Working- full time	Private
Linda	5	30	F	Married	None to 12th grade	Homemaker	Public
Elizabeth	56	56	F	Married	Post high school training/ some college	Working- full time	Private
Barbara	15	66	F	Married	High school graduate/ GED	Working- part time	Public
Susan	7	56	F	Divorced	High school graduate/ GED	Other: Self-employed	Private
James	40	75	M	Widowed	High school graduate/ GED	Retired and working- part time	Public and private
Karen	42	42	F	Married	Post high school training/ some college	Homemaker	Public
John	11	48	M	Married	None to 12th grade	Unemployed and looking for work	Public

Table 4.1. Continued.

Name (Pseudonym)	Length of Residence (yrs)	Age (yrs)	Sex	Marital Status	Education	Employment Status	Health Insurance
Sarah	7	38	F	Living with partner	Post high school training/ some college	Wanting to work but unemployed due to health-related reason; disability	Public
Jessica	38	38	F	Married	High school graduate/ GED	Other: Self-employed	None
Charles	68	70	M	Divorced	Post high school training/ some college	Retired	Public
Ashley	17	48	F	Married	High School graduate/ GED	Homemaker	Public
David	17	50	M	Married	None to 12th grade	Wanting to work but unemployed due to health-related reason; Disability	Public
Michael	42	42	M	Living with a partner	Post high school training/ some college	Other: Self-employed	None
Margaret	20	32	F	Living with a partner	None to 12th grade	Unemployed and looking for work	None
Lisa	31	31	F	Married	High school graduate/ GED	Working- full time	None
Donna	35	56	F	Married and separated	High school graduate/ GED	Wanting to work but unemployed due to health-related reason; Disability	Public
Thomas	28	32	M	Married	High school graduate/ GED	Temporarily laid off	None

Table 4.1. Continued.

Name (Pseudonym)	Length of Residence (yrs)	Age (yrs)	Sex	Marital Status	Education	Employment Status	Health Insurance
Richard	55	72	M	Never been married	High school graduate/ GED	Retired	Public
Betty	43	72	F	Married	Post high school training/ some college	Retired	Public and private
Emily	30	30	F	Living with a partner	Post high school training/ some college	Working- part time	Not sure
Robert	72	80	M	Married	Post high school training/ some college	Retired	Public

takin’ care of the day, you know? I mean, just bein’ able to get up, feel real good, do what you want to do." Participants also characterized health as having access to health care (i.e., doctors and hospitals). Linda described health as, “to me it means, bein' able to say, ‘Hey, there's somethin' wrong with me. I need to go to the doctor.’ And bein' able to have that access to a regular doctor or to a regular hospital.” Other perceptions of health included “no health issues,” “taking care of yourself,” “well-being,” and “quality of life.” See Figure 4.1 for Word Cloud.

Participants were also asked to describe what access to care means to them. Access to care was most commonly defined as health care being available or being able to get what you need. David described access as “it means bein’ able to get it when you need it, when it’s there, availability.” In particular, participants mentioned the availability of emergency services. Barbara described access as, “It means having some place to go if you have an emergency and bein’ able to, maybe, have someone save your life.” Convenience was another important term when describing access to care. Elizabeth emphasized, “A normal person in today’s 21st century should not expect to have to travel so far to get medical attention…And if you’re seeking medical attention that’s not in your doctor’s office, then it’s pretty much an emergent care. And you should not have to travel from county to county.” Participants also stressed the importance of timely medical care. Sarah remarked, “Access to care is knowing that when you get hurt, you'll be able to get to somebody who can and will help you in a appropriate amount of time,” while Jennifer described timely as, “I can pick up the phone and call my doctor and get an appointment within 24 hours if I feel it's necessary.” See Figure 4.2 for Word Cloud.

Themes

The major themes identified from the findings of this study included:

1. Loss of hospital negatively affects all five dimensions of access to care.

Figure 4.1. Word Cloud of Health Definition.

Figure 4.2. Word Cloud of Access to Care Definition.

2. Loss of hospital creates stress among community residents, and community residents react in different ways.
3. Loss of hospital jeopardizes the health of a compromised community.
4. Loss of hospital creates unrest in the community.

Theme I: Loss of hospital negatively affects all five dimensions of access to care.

"The poorest of access is still better than none."-John

Theme I described participants' difficulties accessing health care after the closure of the hospital. The categories follow Penchansky and Thomas' framework of access to care and include availability, accessibility, affordability, accommodation, and acceptability (Penchansky & Thomas, 1981).

Availability. Availability referred to the volume and type of health care services (Penchansky & Thomas, 1981). Codes included a lack of providers and a lack of services. Participants reported health care providers closing their facilities and leaving the area soon after the closure of the local hospital. John recounted, "With the closin' of the hospital, also came closing of some local doctors that we had here, too." As a result, participants described the existing doctors overwhelmed with caring for the extensive number of patients. Karen reflected on her recent experience accessing care as, "It's just everything is overcrowded." The lack of health care services, particularly emergency and specialty care, was also a common concern from participants. Patricia stressed, "We do not have an emergency care facility. We do not have anything critical care, any type of facility, in this town," while Jennifer emphasized, "We don't have any specialists in Jamestown at all."

Accessibility. Accessibility described the proximity of health care facilities in relation to community residents (Penchansky & Thomas, 1981). Codes included rural roads, time or

distance, cost of travel, and transportation. Participants described the hazardous conditions of driving in a rural area such as challenging roads, unmarked streets, livestock crossing areas, and limited signal. John described one road as, “I mean that is a curvy, curvy, curvy down the side of that mountain road.” Jennifer suggested knowing two ways to the nearest hospital “because sometimes the roads are blocked by trees or cows.” Karen recounted a time when an ambulance had trouble finding her location because of limited GPS signal, “I’ve had the ambulance call us back before when we called 911 at a friend’s house—her little boy had got hurt—[the ambulance] could not find it.” Participants also reported longer travel times and distances to receive care, spotlighting the importance of time in emergency situations. As Linda reflected on the nearest hospital, she pointed out, “You have to go all the way to Cookeville or all the way to Crossville,” while David commented, “It’s the travelin’ part, you know…me livin’ in Jamestown and you have to go outta the county, either Oak Ridge, Knoxville, Crossville, Putnam County…I believe that’s probably the way everybody looks at it.” Longer travel times and distances to receive care also resulted in increased costs on participants relating to gas, mileage, and forgoing work. For instance, James commented on the cost of travel as, “A lot of people don't have money for the gas to drive to Cookeville,” while Michael stated, “A lot of people can’t afford [to travel]…if they have to go quite a bit—that’s taking more money from ‘em to have to travel further.”

Inadequate transportation was another pattern that emerged in interviews, particularly across older populations. Sarah described that she had no source of transportation as, “there's no one available to take me [to the hospital],” while Margaret stressed the lack of transportation resources, particularly among individuals who are older, “Especially with these elder people because some of ‘em can’t drive, and some of ‘em, you know, can’t drive their own vehicles or

can't see to drive...they're putting additional people at risk." Some participants acknowledged that transportation services were available through certain health insurances but must be called in advance to schedule an appointment. As Donna reflected on her transportation struggles, she said:

> I can get transportation with my insurance, but you have to have a three-day notice to give 'em before you can get the transportation…I mean, when you need it then, who wants to call three days ahead to get into see the doctor when you need 'em now?

Peggy described the barriers to transportation as:

> You had to have TennCare to get on those transport buses around here. And there were certain qualifications for the UCHRA bus and for the vet bus. All of those, in a rural place, are not truly accessible. You had to leave Cookeville to get on another bus from all of the areas, and ride this bigger bus through Nashville…well, we couldn't do that 'cause my husband's arm, the cancer…he couldn't tolerate any type of movement hardly.

Participants also expressed concerns about a lack of transportation options for returning home from the hospital. Donna stated, "If I call the ambulance to take me, ain't got nobody to come and get me [from the hospital]."

Affordability. Affordability referred to the community resident's ability and willingness to pay for care (Penchansky & Thomas, 1981). Codes included financial burden and health insurance. Participants reported difficulty in affording health care costs after the closure of the hospital, including higher ambulance bills and an overall "financial burden." After receiving a $900 ambulance bill for her son, Linda pointed out, "Not havin' a hospital close means higher medical bills for everybody because, if you need an ambulance, you're gonna have to for much further now." When describing an emergency situation, Jessica said, "[My friend] couldn't afford

the ambulance bill" to the nearest hospital 35 miles away. Participants also expressed frustration with health insurance, noting that health insurance was essential in receiving care, yet did not have it or did not know what it would cover. Lisa noted, "We don't have health insurance, so we can't afford to go to a doctor." Charles commented on his insurance as, "[The ambulance] sent the bill to Medicare, and I turn it into my insurance. Medicare didn't pay half of that bill," while James observed, "Sometimes [the ambulances] have been known to run people to Nashville. Can you imagine what a bill like that is?"

Accommodation. Accommodation described the capacity of providers to meet community residents' needs (Penchansky & Thomas, 1981). Codes included long waits and limited hours. Participants reported challenges with wait times when scheduling an appointment or when waiting to be seen by a provider. Karen noted, "We have a health department, but there's such a long waiting line even just for a nurse practitioner or doctor or a nurse to even call you back with a question to see if they can make an appointment for you." Jennifer said, "to get an appointment [to see my doctor], you would wait almost all day to see him, three or four hours, if not longer." Participants also highlighted limited hours to receive care. When reflecting on an emergency situation, Elizabeth commented, "The walk-in clinic is from 8:00 to 8:00, so if you get hurt after hours, then, you know, you're gonna have to travel…"

Acceptability. Acceptability referred to the relationship between provider and community resident. Codes included familiarity and insurance acceptance. Familiarity, or a personal connection, with the facility and provider was emphasized by participants. Nancy revealed the personal connection she had with her providers by calling them by first name. Patricia described familiarity as, "When you go to another facility now, you're looking for that comfort, uh,

personal contact." There was a "knowing" participants missed with the closing of their local hospital. Linda reflected on her experiences as:

> When I go to other hospitals for any reason, I'm just like—I feel—I don't know. I feel out of place. I don't know anybody there. It's nice to be able to go somewhere, and you know, see somebody and be like 'Oh, yeah…I went to school with them.'

Karen described familiarity of the hospital as, "it's like family or good friends, you know? But knowin' that's not there…older people, they won't go to new places 'cause they don't know the people."

Participants also described limited acceptance of health insurance among existing health care providers. Margaret commented on her experiences accessing care and being uninsured as, "We only have two doctors' offices, and if you don't have insurance, they won't see you." Participants also described how the local hospital was the only health care facility that would accept uninsured patients and appreciated that the emergency department never refused to see them.

Theme II: Loss of hospital creates stress among community residents, and community residents react to the hospital closure in different ways.

"I had to Google it. I had to Google like, how to know when to go to the hospital and everything."-Emily

Theme II consisted of two categories: stress and reactions. Stress is defined as a feeling of emotion or physical tension that may come from an event or thought (United States National Library of Medicine, 2021). Stress manifested itself across participants in terms of fear, uncertainty, emergency situations, second-guessing, having personal responsibility, and being concerned for others. Some participants expressed fear after the hospital closure. Betty commented, "I know that people I've talked to are frightened. And they said, 'Oh you can't get

sick. You can't afford to get sick,'" while Karen noted, "New experiences are scary to some people." Nancy described her fear as, "I'm scared…I'm scared if something happens to me and I have a heart attack, if I fall and break a hip, or I just get really sick—I'm gonna have to go an hour away." Uncertainty also generated stress among participants. After receiving care from the hospital for years, many did not know what to do next or where to go. After learning the hospital was going to close, Jennifer said, "I was upset. I did not know how [the hospital closure] would affect me…it was the first time I'd ever seen that." Karen revealed her uncertainty as, "I mean, what do people—heart attacks, wrecks, you know, life-threatening situations, it's what do they do—where do they go?"

Emergency situations contributed to stress among participants. Patricia described the prevalence of emergencies as "It's everyday. Somebody is battling something very critical in this community." Emergency situations often caused participants to second-guess themselves or questioning their actions or decisions. When her husband spiked a fever, Linda reflected:

> I was, like, freakin' out 'cause he was hallucinating and everything else. And I'm like, 'What do I do? Do I call an ambulance? They're gonna take him all this way. What are they gonna do in the ambulance to help him?' And the fact that I didn't know there was so much, like, in the middle that I just did not know, um, I just decided not to call anybody. And I was just like 'I'll just take this into my own hands, and hopefully he doesn't die'…It turned out well. But, when I think about it, I'm thinkin', 'Oh, my gosh. What as I thinkin'?

Jennifer, who has high blood pressure, expressed her second-guessing as:

> I'm very conscious of my heart…if I feel a twinge in my chest, what-what do I do? Do I sit down, take a deep breath, see how long it'll go away—before it goes away, or do I get in the car? I'm second-guessing myself a lot.

Some participants noted their personal responsibility of having to take care of a loved one, which generated emotional tension. As a daughter, mother, and wife, Karen described her stress as, "It was scary [when the hospital closed]—especially to have kids. And with a husband that—he had a heart attack…[and] my mom and dad are both older." Jessica stressed, "I've got an elderly mother. I've got a very sick child, and now I worry because [the hospital] is not here." Some participants demonstrated concern for others in the community who may be in more need of a hospital, such as for community residents who are older or in emergency situations. For example, Sara expressed, "It's a different feeling now when there's a bad wreck somewhere. You can tell it on Facebook, 'Hey, there's a bad wreck over on 62. Pray for the families.'" While Jennifer said, "I feel sorry for people who—like the people that I worked with—that need the hospital, you know, almost once a week because they don't feel good."

In response to the stress created by the hospital closure, participants described multiple reactions. Reactions are defined as actions in response to the hospital closing and included self-medicating, putting off care, being more cautious, figuring out a solution, and having hope. Some participants described situations in which they self-medicated, defined as treating oneself or someone else without the guidance of a health care provider, because the hospital was not open. Sara described self-medicating as, "I use my essential oils and CBD oil and that kind of stuff and I can limp through," while Donna described self-medicating as, "I'm taking everything you can get over the counter. Too much of it. It's literally made me sick to my stomach trying to

get out of pain." In some cases, participants chose to delay or avoid accessing care. When reflecting on an emergency situation, Thomas spoke frankly:

> Usually, whenever I got so sick, I would just go to the emergency room and let the ER bill me. Well, not anymore. I'll just be sick and try to cure it with home remedy stuff, or, you know, find a family member that's got some medicine from the last time they were sick.

David said:

> There's been one or two times I've not been able to [access health care]…if my blood pressure gets up and scare my wide or my boy—more than likely, I'd go to the emergency room. Now, since I gotta travel that far—I don't feel like goin', so I usually don't go. I've not been to a emergency room since Jamestown closed. Let's put it that way.

Some participants reacted to the hospital closure by trying to figure out or find a solution. Jennifer described conversations with her husband as, "We discuss alternatives. You know, we wanna think about what's going on, and - and how we're gonna take care of ourselves when this happens." Elizabeth described discussions with her family as, "Well if a kid gets to feelin' worse, or you know, a member of your family, what's the plan? We gotta have a plan. Which county are we going to?" Others responded by being more careful to avoid potential problems or dangers. Barbara said, "You have to try to be as careful as you can." Emily remarked, "I know I ain't got a hospital. I have nothing to turn to so I'm probably more cautious now." Some participants described having hope in terms of faith or wishing for something to happen. As Donna said, "I heard that one of the doctors here was gonna—was workin' on tryin' to get the hospital open.

And, god, I pray that he is," while David expressed, "I wish they'd open [the hospital] back up…it'd make life out here a whole lot more simpler."

Theme III: Loss of hospital jeopardizes the health of a compromised community.

"A hospital is the heartbeat of your community."-Karen

Theme III consisted of three categories: community health, value of hospital, and negative health consequences. Community health refers to the collective well-being of the community and encompasses health behaviors and health issues participants observed of the community and themselves. There were mixed opinions about whether their community was healthy or unhealthy. Some participants perceived their community as healthy. Linda observed, "We got a lot of people who work outside. And, even in their older age, they're still workin' outside. They're still—physically able to do the things they can do." When describing their own health behaviors, some participants described engaging in healthy behaviors such as exercising and eating right. Charles described his health behaviors as, "I try to exercise. I try to drink a lot of water. I try to do all the things my doctors tell me to do…I try to diet, you know, not to overeat and things like that."

On the other hand, participants perceived their community as unhealthy, observing many health issues including drug use, obesity, diabetes, cancer, tobacco use, and farm accidents. Participants acknowledged that age and socioeconomic status contributed to poorer health in their community. James observed, "This is a predominantly older, retirement [community]…and most of 'em are getting old enough to have health problems," while Karen acknowledged, "it's a low-income community…people don't have insurance unless they have TennCare….And I guess, like myself, they kinda let [their health] go to do other things to get by, until they had to."

Some participants acknowledged the lack of opportunities and resources to be healthy in the community, such as limited physical activity options and lack of access to health care facilities. Nancy noted that "I live in a small community, and I really don't think they have anything that meets my needs that I would like to have" when describing challenges in being healthy in a rural community such as engaging in physical activity. John directly associated the health of the community with the lack of a hospital, "I don't think that the community is as healthy as it could be…and you know, not havin' a hospital has really, really added to that."

Participants also engaged in poor health behaviors such as smoking, avoiding health care, and not valuing health until it becomes a problem. Michael said frankly, "I smoke cigarettes, which I know it's bad, but..." Avoiding health care providers was also common across participants. John observed, "A lot of people around here…they've got to be on their deathbed to even go [to the doctor]," while Barbara mentioned:

> We don't go to the doctors a lot. We go when we have to, like, for our six-month checkup to get our medicine. And if we have a bad cold or flu or somethin', we might go, but other than that, we don't go to doctors.

John admitted that he did not value his health until it became a problem:

> [My health] means a lot more to me now…as I've got older and of course…I've had a couple little hiccups with my health. It's very important to me now—it really makes you wish, well myself personally, that I would've been more concerned with it, you know, 15 years ago. Unfortunately, I had that attitude all the way up to my early 40s that I was indestructible. I didn't take the best care of myself.

Participants valued their local hospital. Some participants even reflected on when the hospital was first built: "I can remember the time, when I was a little girl, there was not a

hospital here. And I remember when the hospital was built, what a big thing that was." (Betty). For most participants, Jamestown Regional Medical Center served as a halfway point to stabilize patients and transfer to a hospital equipped with more specialties and equipment in emergency situations. Michael noted, "Jamestown did a good job of gettin' me ready to go to a better hospital," while John explained:

> [The hospital] was never known as a top-notch facility…it being a small hospital and all They didn't have access to a lot of stuff that the bigger hospitals did, but they could stabilize you, get you in a position to keep you from dyin'.

Having the hospital close by also provided participants with "peace of mind" or security and confidence in knowing that the hospital existed in the community. "An emergency room close by is something that I feel more comfortable with," said Linda. Charles commented, "[The hospital] was really good to the community, and the community—we had trust and confidence that a lot of things we could get done here with qualified people." Even considering his bad experiences at the hospital, Michael said, "I think it's just more peace of mind, if there was something here, you know. Even though I've had bad experiences with this hospital, it was still was peace of mind that there was somethin' there."

Participants also described the importance of the hospital for the viability of their community in terms of attracting businesses or residents and supplying jobs. Barbara acknowledged, "Somebody doesn't wanna move here if there's no hospital," while Linda emphasized the jobs it provided, "The biggest thing is--you know, the hospital closing, it-it was jobs for our community that's already hurting in that department." Some participants felt that their community could not survive without the hospital. Patricia commented, "I'm really

crumbled as to how we are gonna survive," while Emily expressed "It makes me wanna move, but I have so much invested here. Like I said, born and raised, you know?"

After the hospital closed, participants perceived negative health consequences for their community, such as death, loss of function, and poor quality of life. Some participants reflected on situations when individuals were not able to receive timely care due to the closing of the hospital. Linda described, "One of my friends, because it's so hard to get in the doctor's, she laid there and had a massive stroke, and she passed away." Betty reflected on her husband's stroke after the hospital closure as, "He can swallow now, but still no speech. So when you hear those words, those two little words, 'too late,' it says it all." As a result, worse health outcomes were perceived in the community as a whole. Charles described, "I think the health in our community has declined for the most part since the hospital closed… I think we probably have lost people because they had to be shipped a long ways." Donna said, "You can definitely see that [health] is on the decline since the hospital's closed. You can tell. It may be just minor right now."

Theme IV: Loss of hospital creates unrest in the community.

"Surely, the government, the state, somebody will step in and say, 'Hey, look now. Y'all can't just leave these people with nothin'…And sure enough, one day we were left with nothing."-John

Theme IV described a state of unrest, or state of dissatisfaction, in the community after the hospital closed (Oxford English Dictionary, n.d.). Theme IV consisted of two categories: attribution of blame and responsibility and discontent. Attribution of blame and responsibility is defined as assigning responsibility of the hospital closure to someone. Many participants noted that the quality of care at the hospital went "downhill" or declined during the last few years before its ultimate closure. Elizabeth reflected, "10 years ago [the hospital] was a excellent place to be when the previous owners owned it. It was kept up well…And then it got to where they would shut down a station, or they didn't have supplies." Nancy described the decline as, "Each

year, you could see it going downhill…there was a wing downstairs, and they closed it because it just wasn't making any money, so all you had was that one wing and that was it."

Some participants blamed the hospital owner for the decline and closing of the hospital. Emily said, "I think it was the owner's mistake, you know? Like, bein' behind on bills and everything like that and shut us down." While Michael commented:

> When Rennova bought this hospital, they took everybody to court that owed them…So that company just bought up this hospital and tried to get as much of the debt out of it as they could, and it wasn't long before it shut down…it's almost like a ponzi scheme.

Sarah voiced:

> If you're gonna own something like a hospital that's absolutely detrimental to smaller places that don't have as much access to care…there needs to be some kinda, like, checks in plan or somethin' where like you're a really crappy person, you can't own a hospital…I feel like at some point, when he was allowed to buy the hospital, knowing what all has come out now, somebody should have said, 'Hey guys. Wait just a second, before this deal goes through, let's look at a few things here. This is a hospital in a very small community, and it would be a big deal if he messes this up,' you know.

Other participants blamed the local government. Nancy stated, "I'm surprised the county didn't step in or the state…shame on the state for allowing it." Jennifer said, "I know we don't always like the government to get involved in everything, but in this particular instance, this is public safety." John recounted:

> It made me feel like the people from the outside, the powers, they just didn't care anymore…I understand there's a lot things goin' on in this state, let alone the world itself. I understand that, but that's why we have local politics. That's why we have local

government…I just feel like…even droppin' the ball is not a good word. I think they just didn't care.

Furthermore, participants voiced their discontent, or dissatisfaction of the hospital closing, throughout the interview. Participants expressed grievances, believing that the closure was wrong or unfair. After Jessica described her personal responsibility of caring for her elderly mother and sick daughter, she said, "I don't think [the closing of the hospital] is right at all...I don't agree with." Emily mentioned, "[The hospital closing] was a hard thing to accept. I mean, the community was in a uproar…there were petitions and everything." When describing how the hospital received COVID-relief funding after it was closed, Karen said "it got people just kinda more aggravated again…and then, right in the middle of all that, you have COVID and everything's shut down and nobody's meeting and nobody could even get together to talk about it."

While some participants expressed gratitude by being able to voice these grievances during the interview, such as "I want to tell you thank you so much for the effort that you're putting into this to…try to maybe get somebody to pay attention" (John), feelings of helplessness persisted. Some participants felt that they lacked the power to express their opinion or that it was out of their control. After learning of the hospital closure, Thomas said, "Out of so many things in Fentress County, how could they let our hospital close—but it was sort of out of my power." Jennifer confessed, "I don't think there is anything I can do to change the course." John mentioned, "I think that our representation are really losin' touch with what the people need and want. It just makes you feel like everybody's out for themselves." Furthermore, Barbara expressed her helplessness as, "We have no direct access to care here…and it doesn't look like anything's gonna happen to make that different because it's been sittin' there empty for a year."

As a result, the closure of the hospital left the community in a state of unrest, or a state of dissatisfaction (Oxford English Dictionary, n.d.).

CHAPTER FIVE

DISCUSSION

The purpose of this qualitative descriptive study was to describe community residents' perceptions of health and access to care following a hospital closure in a rural and economically distressed Appalachian county of Tennessee. This chapter includes a summary and interpretation of major findings as related to the literature, implications for practice and policy, discussion of the limitations of the study, recommendations for future research, and a conclusion to help answer the follow research questions:

R1. How do community residents from a rural and economically distressed Appalachian county of Tennessee define health?

R2. How do community residents from a rural and economically distressed Appalachian county of Tennessee define access to care?

R3. How do community residents describe the impact of a hospital closure on access to care in a rural and economically distressed Appalachian county of Tennessee?

Summary of Findings

This study found that community residents primarily defined health as remaining independent and being able to access health care. Community residents defined access to care as health care being available or being able to get what you need, particularly access to emergency services. Findings suggest that the rural hospital closure negatively affected access to care in Fentress County across five dimensions: availability, accessibility, affordability, accommodation, and acceptability (Penchansky & Thomas, 1981). In particular, the hospital closure reduced access to emergency and specialty care, reduced number of health care providers, increased

travel time to receive care, raised the cost of medical bills, and increased waiting times among existing health care providers. Community residents also reported a loss of familiarity with the closing of the hospital. Reduced access to care following the hospital closure increased stress levels among the community, and residents reacted to the hospital closure in different ways such as putting off care or self-medicating. Community residents placed high value on their hospital for not only health care, but because it provided a sense of security and contributed to the viability of their community. Upon closure of the hospital, residents perceived worse health outcomes in their community and left residents in a state of unrest.

Interpretation of Findings

R1. How do community residents from a rural and economically distressed Appalachian county of Tennessee define health?

In response to the first research question of the study, *"How do community residents from a rural and economically distressed Appalachian county of Tennessee define health?"*, participants defined health as remaining independent and ability to access health care. Associating health with independence aligns with findings presented by Gessert and colleagues (Gessert et al., 2015). Gessert et al. (2015) conducted a systemic review regarding how individuals residing in rural areas define health. They found that rural residents tend to view health in terms of being independent and self-sufficient (Gessert et al., 2015).

Participants also defined health in terms of ability to access the health care system, which is inconsistent from the relevant literature (Arcury, Quandt, & Bell, 2001). In fact, studies suggest that rural residents define health as avoiding the health care system or only seeking care when it absolutely necessary (Arcury et al., 2001). The disconnect found in my study may reflect the recent loss of the hospital and realization among participants of the hospital's true value.

Although the contribution of health care on a person's health accounts for only 20% of health outcomes, there is evidence to support that perception of health is a powerful predictor of future health outcomes (Carlson et al., 2013; Keller et al., 2012; University of Wisconsin Population Health Institute, n.d.). If community residents in Fentress County perceived health as being able to access the health care system, and in particular, access to a hospital, that perception can become their reality. The closure of the hospital may convince residents that they cannot be healthy.

R2. How do community residents from a rural and economically distressed Appalachian county of Tennessee define access to care?

In response to the second research question of the study, *"How do community residents from a rural and economically distressed Appalachian county of Tennessee define access to care?"*, over half of participants described access to care as health care being available or being able to get what you need, particularly access to emergency services. Participants also defined care as convenient or close by, affordable, timely, and friendly. These terms reflect the more everyday language of the community resident and align with Penchansky and Thomas' five dimensions of access: the availability of services and providers, physical accessibility, affordability, how accommodating services and providers are, and the acceptability of the services and providers to patients (Penchansky & Thomas, 1981). Penchansky and Thomas (1981) conceptualize access as "the degree of 'fit'" (p. 128) between the health care system and the individual patient, meaning that this relationship is interdependent. My findings provide insight on what community residents' wish their health care system looked like in Fentress County: available, close by, affordable, timely, and friendly.

R3. How do community residents describe the impact of a hospital closure on access to care in a rural and economically distressed Appalachian county of Tennessee?

In response to the third research question, *"How do community residents describe the impact of a hospital closure on access to care in a rural and economically distressed Appalachian county of Tennessee?"*, all participants agreed that access to care decreased in their community following the hospital closure, particularly access to emergency and specialty care. Participants stressed the importance of the local hospital for providing care in emergency situations and providing access to specialists who would visit the local hospital for outpatient appointments. The hospital closure also influenced health care professionals to leave the area. These findings are consistent with the literature (Wishner et al., 2016). The Kaiser Family Foundation revealed that hospital closures decreased access to care, particularly emergency care, influenced health care professionals to leave the community, and worsened pre-existing barriers for specialty care (Wishner et al., 2016). They also reported reduced access to primary care, which is different from my findings. Respondents from their study reported that emergency room use was mostly for urgent or primary care (Wishner et al., 2016). My findings cannot discern whether the use of the emergency room was for true emergencies.

The Government Accountability Office (GAO) (2020) also reported that rural hospital closures reduced residents' access to care. More specifically, the GAO (2020) found that overall availability of health care professionals in counties with rural hospital closures was lower and declined over time compared to counties without closures. Considering that rural communities already have a small health care workforce, the loss of one health care professional is likely to have vast impacts on access since it further limits the supply of health care services provided in the area and, consequently, reduces access to care (Hamann, 2012; J. Liu, 2007).

All participants in my study reported that they had to travel substantially farther to access health care services after the closure of the hospital. This is consistent with the literature (Kelly, Hulme, Farragher, & Clarke, 2016; United States Government Accountability Office, 2020; Wishner et al., 2016). The GAO (2020) found that residents living in closed hospitals' service areas would travel an average increase of 20 miles to access care. This additional travel time to health care facilities may contribute to worse health outcomes. For instance, a systematic review conducted by Kelly and colleagues (2016) studied the relationship between travel to health care facilities and patient health outcomes. The majority of studies (77%) reported a negative association between travel and health outcomes (Kelly et al., 2016). Patients who had to travel farther distances to access health care facilities had worse outcomes including decreased survival rates, longer stays in the hospital, and no show follow-up appointments (Kelly et al., 2016). In some cases, longer travel times can be associated with better health outcomes, however, this is dependent on whether individuals are capable of traveling farther (Lipe, Lansigan, Gui, & Meehan, 2012).

In my study, one of the important advantages of having a hospital in their community was that it provided care that was convenient and close by. After the hospital closure, accessing care became difficult for participants who did not have a reliable source of transportation. Transportation is a common barrier when accessing care in rural areas, particularly with vulnerable populations such as individuals of lower socioeconomic status (Syed, Gerber, & Sharp, 2013). Transportation barriers can result in missed appointments, delayed care, and increased health expenditures (Syed et al., 2013). The consequence may lead to poorer management of health conditions that could potentially trigger more emergencies and ultimately worsen health outcomes (Syed et al., 2013).

Affordability of health care was less of a concern among participants compared to availability and accessibility. This may be due in part that 75% of the sample was insured, and research supports that health insurance, both private and public, lowers financial barriers and increases access to care (Paradise & Garfield, 2013). Nevertheless, participants still reported difficulty affording medical bills, particularly the cost of ambulance transport. Naturally, ambulance transport rates are higher in rural areas because of low volumes (King, Pigman, Huling, & Hanson, 2018). However, the additional mileage and any necessary services rendered during transport after a hospital closure can further increase cost (King et al., 2018). A study by Rocque et al. (2019) found that longer travel time resulted in increased patient cost responsibility. Depending on insurance coverage and financial status, patients may be billed prices that have significant financial consequences (Rocque et al., 2019). Additionally, 25% of my sample were uninsured and reported difficulties finding health care professionals who offered low-cost health care. Uninsured individuals tend to pay more out-of-pocket expenses than those with private or public coverage (Roemer, 2017). Individuals who pay more for their health care, such as the uninsured, are more likely to avoid care which can lead to unmet health needs and poor health outcomes (Garfield, Orgera, & Damico, 2019).

The limited availability of health care professionals puts pressure on the existing health care workforce and can affect timely access to care. Participants reported difficulties getting a doctor's appointment, long waits to see a provider, and limited hours of operation after the closing of the hospital. When services provided do not meet the needs of the community, they are less likely to seek or use services and, thus, can negatively impact health (Healthy People 2020, 2019; Penchansky & Thomas, 1981). Additionally, rural providers tend to work longer hours, see a greater number of patients, and are at a higher risk for turnover as compared to urban

providers (Hamann, 2012). Rural areas also tend to have a higher population of older adults, which is equally true for Fentress County, increasing the need care (Hamann, 2012). These factors make it especially difficult for rural health care professionals who still practice in the closed hospitals' service area to accommodate the needs of their clients.

Participants were familiar with their local hospital which helped facilitate access to care. Half of my sample was born and raised in Fentress County, and some reflected fondly on when the local hospital was first built. Familiarity has not been a topic of much discussion in the access to care literature, however, one study found that familiarity, defined as a close relationship with or understanding about something, was an important factor that influenced rural caretakers' choice of a nursing home (Ryan & McKenna, 2013). In my study, having a sense of familiarity, or personal connection with the facility and doctors, was key to accessing care. Participants enjoyed seeing familiar faces at health care facilities, and some referred to their doctor by first name. The closure of the hospital took away a familiar connection and may impede access to care.

It is clear from my findings that hospital closures have multiple impacts on the health of the community. Although it was not the focus of my study, participants reported increased stress after the hospital closed. Participants felt concerned on where and how to get care and what to do in case of an emergency, which generated stress. According to Stress and Coping Theory, stress is defined as when the demands of a situation exceeds an individual's ability to manage those demands (Lazarus, 1966). This indicates that community residents of Fentress County do not have the personal resources to mitigate the perceived consequences of the hospital closure. This is concerning because the literature on stress and health is well-established: more stress can lead to poorer health (United States Department of Health and Human Services, n.d.). A hospital

closure can compound the adverse effects of stress that these individuals experience, which may lead to poorer health outcomes.

Participants from my study reacted in different ways to the hospital closure. Some participants reported delaying or avoiding care due to a multitude of factors such as travel, cost, inconvenience, and unfamiliarity with other hospitals or health care professionals. The Kaiser and Family Foundation found similar findings, reporting that longer travel times and distances was associated with delaying or avoiding care (Wishner et al., 2016). An important finding from my study is that some participants reacted to the hospital closure by having hope. Research shows that hope is a protective factor of stress, which allows an individual to manage stressful events and leads to better health (Duggal, Sacks-Zimmerman, & Liberta, 2016).

Perceptions of community health were mixed in my study. Some participants perceived their community to be unhealthy, listing numerous health issues observed, while others perceived their community as healthy, noting that many residents were physically able to work. Considering that Fentress County is a *triple threat* for health disparities—rural, economically distressed, and Appalachian—it is no secret that this community experiences a high prevalence of poor health (Marshall et al., 2017). These mixed perceptions of health indicate that some participants from my study might not identify certain issues or behaviors they observe in their community as unhealthy.

Nevertheless, participants reported engaging in unhealthy health behaviors such as smoking, lack of physical activity, and avoiding health care. This supports the literature as rural residents tend to engage in more risk-taking health behaviors than urban residents (Centers for Disease Control and Prevention, 2018). In fact, Spleen, Lengerich, Camacho, and Vanderpool (2014) found that rural residents were nearly twice as likely to avoid health care versus urban

residents. A rural hospital closure may further exacerbate this behavior and contribute to worse health outcomes.

Community health is also heavily influenced by the economic and social conditions in which individuals work and live (Centers for Disease Control and Prevention, 2019c). Fentress County is considered economically distressed, indicating that the county already struggles with high unemployment and poverty rates (Appalachian Regional Commission, 2019b). Participants from my study perceived that the hospital closure negatively affected the viability of the community, as it reduced job supply and deterred businesses and residents from moving to the area. This perception is supported by other studies which have documented a decrease in the economic well-being of a community after a rural hospital closure, particularly when the hospital is designated as a sole community hospital (Holmes, Slifkin, Randolph, & Poley, 2006; Wishner et al., 2016). In fact, Holmes, Slifkin, Randolph, and Poley (2006) found that the closure of a sole community hospital had a significant negative effect on the economy that may be difficult to overcome. The closure of Jamestown Regional Medical Center may decrease economic opportunity, and consequently, negatively affect community residents' ability to be healthy.

Following the hospital closure, participants perceived worse health outcomes. Limited literature exists on the impact of rural hospital closures on patient health outcomes. Of the studies available, most have documented that rural hospital closures are not linked to worse health outcomes (Joynt, Chatterjee, Orav, & Jha, 2015; Rosenbach & Dayhoff, 1995). In fact, one study suggested that health status improved after a hospital closure (Liu, Hader, Brossart, White, & Lewis, 2001). This could be due to the low quality of care provided at the now closed hospitals. Yet, a recent study by Gurjal and Basu (2019) found that rural hospital closures

increased mortality rates by 8.7%, while urban hospital closures had no impact. Further research on health impacts is needed.

The last finding from my study indicated that a state of unrest ensued after the closure. This is consistent with the literature. A hospital closure without warning can lead to dissatisfaction in a community (Liu et al., 2001; Wishner et al., 2016). One study comprehensively assessed the impacts of rural hospital closures and found that many communities were unhappy with how leaders responded (Liu et al., 2001). Their main concern was that before the announcement of the closure, no conversations took place on how to address the loss of health care services (Liu et al., 2001). Additionally, some evidence suggests that vulnerable communities are not effectively engaged when addressing health issues in their community (Cyril, Smith, Possamai-Inesedy, & Renzaho, 2015; Tennessee Health Care Campaign, 2021). The Tennessee Health Care Campaign conducted a three-year community engagement research project to assess the impact of hospital closures in Tennessee and found that rural communities are rarely engaged by hospital systems in decision making (Tennessee Health Care Campaign, 2021). Therefore, unrest in a community after a rural hospital closure may expose a lack of community engagement.

Implications for Practice and Policy

Understanding how *triple threat* communities are affected by the loss of their hospital is imperative to developing interventions and creating policies to bridge gaps in access to care and improve health disparities. From this study, several implications for practice and policy concerning rural hospital closures and conserving access to care are evident.

1. Alternative models of rural health care delivery could mitigate the impact of rural hospital closures on access to care in triple threat communities.

My results suggest that rural hospital closures reduce access to care, particularly emergency and specialty care. Alternative rural health care delivery models are needed to preserve access to care in *triple threat* communities. The models discussed are not the only options to fill the gap in care, rather, they are suggestions based on my findings.

Freestanding Emergency Departments. Timely access to emergency care was a main concern from community residents after the closing of the hospital. Freestanding emergency departments (FEDs) may be one option to fill gaps in emergency care where a hospital has closed. A FED is an emergency facility separate from a hospital (American College of Emergency Physicians, 2020). They provide access to emergency care 24 hours a day, access to at least one physician and one nurse on-site at all times, and arrange appropriate transfer when necessary (American College of Emergency Physicians, 2020). Establishing a FED in Fentress County can provide access to time-sensitive emergency care and may alleviate stress among community residents. However, current state policies affect the growth and sustainability of FEDs in Tennessee (Gutierrez, Lindor, Baker, Cutler, & Schuur, 2016).

There are two types of FEDs: hospital-affiliated or independently-owned (Williams, Song, & Pink, 2015). FEDs established in Tennessee must be hospital-affiliated due to state policy (Gutierrez et al., 2016). Hospital-affiliated FEDs appear to be more sustainable because they are eligible to receive Medicare reimbursements, which is essential when serving a large Medicare and Medicaid population (Williams et al., 2015). Independently-owned FEDs are not eligible to receive Medicare reimbursements, however, recent federal legislation has temporarily

allowed independently-owned FEDs to access Medicare reimbursements during the COVID-19 pandemic (Centers for Medicare & Medicaid Services, 2020a).

Tennessee also requires a certificate of need to establish a FED, which is a permit for establishing or expanding health care facilities or services with the goal of managing health care costs (Gutierrez et al., 2016; Tennessee Department of Health, n.d.). However, research reveals that certificate of need laws are associated with more health care spending and worse health outcomes (Conover & Bailey, 2020). Furthermore, a policy analysis on state policies for FEDs indicated that states requiring a certificate of need was a significant barrier in establishing an FED in areas with limited emergency care (Gutierrez et al., 2016). Policymakers in Tennessee should review state regulations placed on FEDs and consider loosening certificate of need laws to help improve health care access in Tennessee.

The acceptance of federal funds to expand Medicaid in Tennessee would also help support the growth and sustainability of FEDs by providing health insurance coverage for more residents and consequently reducing debt accumulated when treating uninsured patients (Bipartisan Policy Center, 2018). Twelve states have not adopted Medicaid expansion, including Tennessee (Kaiser Family Foundation, 2021). The recent COVID-19 stimulus bill could provide health insurance coverage to 226,200 uninsured adults in Tennessee if the Tennessee legislature opted to expand TennCare, the state's Medicaid program (Kaiser Family Foundation, 2021).

Telehealth. Expanding telehealth services to increase access to care is another option for *triple threat* communities who have lost their hospital. The National Telehealth Policy Resource Center defines telehealth as "a collection of means or methods for enhancing health care, public health and health education delivery and support using telecommunications technologies" (National Telehealth Policy Resource Center, n.d., para. 1). Telehealth has the potential to

increase access to care, reduce cost, and improve health outcomes (Sanders, Allen, & Maurer, 2017). Different types of care (e.g. primary care, specialty care) can be provided via telehealth, which is particularly valuable for communities who have lost their hospital (Rural Health Information Hub, 2019c). In fact, the National Quality Forum conducted a report regarding the efficacy of telehealth and determined that telehealth would be particularly valuable in rural and disadvantaged areas (Sanders et al., 2017). The catch is to implement telehealth services that fill gaps in care and avoid service redundancies in the community (Bipartisan Policy Center, 2018).

Implementing telehealth may be challenging in *triple threat* communities due to poor broadband infrastructure and restrictive reimbursement policies (Rural Health Information Hub, 2019c). In order to expand telehealth, investment in rural broadband infrastructure is crucial. Investment in broadband infrastructure includes increasing both broadband access and adoption rates (Stauffer, de Wit, Read, & Kitson, 2020). Tennessee has spearheaded this challenge through the Tennessee Broadband Accessibility Act (TBAA) (Tennessee Department of Economic and Community Development, n.d.). The TBAA provides funding ($15 million) to support expanding broadband in unserved areas of Tennessee (Tennessee Department of Economic and Community Development, n.d.). However, gaps in broadband access still remain (Tennessee Advisory Commision on Intergovernmental Relations, 2021). As of December 2019, 432,627 Tennessee residents lack access to broadband (Tennessee Advisory Commision on Intergovernmental Relations, 2021). Governor Bill Lee has proposed an increase in broadband development from $15 million to $200 million (Tennessee Office of the Governor, 2021). This proposal would make a significant difference in broadband access in Tennessee.

The TBAA also includes efforts to increase adoption such as partnering with the Tennessee State Library and Archives to offer digital literacy training in local libraries

(Tennessee Department of Economic and Community Development, n.d.). Although broadband adoption has improved, gaps still remain due to barriers such as cost and a lack of interest (Tennessee Office of the Governor, 2021). Findings from my study revealed that familiarity with the health care facility and provider was an important factor for community residents when accessing care. Community residents may be uninterested in using telehealth services because they are accustomed to seeing their provider in-person (Call et al., 2015). To increase adoption, educating community residents on the benefits of telehealth will be needed to increase their willingness and utilization of telehealth services (Call et al., 2015).

Policy changes during the COVID-19 pandemic have helped increase telehealth adoption. A recent law that passed in Tennessee lifted various telehealth restrictions during the coronavirus pandemic until April 1, 2022 (The Tennessee COVID-19 Recovery Act, 2020). The law mandates reimbursement parity for telehealth services, meaning that telehealth services are reimbursed at the same rate as in-person care (The Tennessee COVID-19 Recovery Act, 2020). With the lifting of this restriction, Blue Cross Blue Shield reported a significant increase in the use of telehealth services among its members during COVID-19 and announced it will permanently cover telehealth as part of its regular in-network policies (Blue Cross Blue Shield Association, 2020). Tennessee legislators must act and re-evaluate the benefits of this law to ensure access to care among *triple threat* communities.

Community Paramedicine. A community paramedicine program may be another option to fill health care service gaps in *triple threat* communities who have lost their hospital. Community paramedicine, or sometimes referred to as mobile integrated health care (MIH-CP), is an evolving health care model that expands the role of existing emergency medical technicians (EMTs) and paramedics to connect patients to underutilized resources in the community (Rural

Health Information Hub, 2018). EMTs and paramedics function outside the traditional role of emergency care in ways that facilitates proper use of emergency care resources through the provision of primary and preventative care (Kizer, Shore, & Moulin, 2013; Rural Health Information Hub, 2018).

Community paramedicine programs do not replace existing services, rather, they supplement and fill gaps in services (Kizer et al., 2013). The specific services offered in a community paramedicine program are determined by the health needs of the community (Pearson, Gale, & Shaler, 2014). Example of services include transportation to non-ED locations, hospital re-admission avoidance, effective chronic disease management, reduction of high-frequency 911 users, and preventative care (Kizer et al., 2013).

Considering that *triple threat* communities experience a shortage of primary care physicians and a patient population that requires an increase demand for health care services, the lack of access can result in 911 calls that are not a true medical emergency (Marshall et al., 2017; Rural Health Information Hub, 2018). Not only does this raise health care costs, but the care provided may not align with the patient's needs (Rural Health Information Hub, n.d.). Establishing a community paramedicine program can help ensure patients receive the most appropriate level of care, decrease emergency department visits, prevent hospital re-admissions, improve health outcomes, and reduce health care costs (Bennett, Yuen, & Merrell, 2018).

A community paramedicine program may be particularly appealing in Fentress County because EMTs and paramedics are generally well-respected and trusted by rural communities (Rural Health Information Hub, 2019c). One of my findings demonstrated that familiarity, or a personal connection with the facility and health care providers, facilitated access to care. Community residents in Fentress County may be more accepting of health care information from

their existing EMS and paramedics. EMTs and paramedics can use their specialized trainings to address unmet health needs in the community.

To establish a community paramedicine program in Fentress County, funding is needed. One way to receive funding is to encourage Tennessee policymakers to pass legislation that allows a community paramedicine program to be reimbursed through the state's Medicaid program. Minnesota was the first state to cover community paramedicine programs under their Medicaid program, and since then, other states have followed (Minnesota Department of Health, 2016). Another financial strategy is partnering with other health care organizations (Rural Health Information Hub, 2017). Some organizations may be willing to invest in a community paramedicine program because they would also benefit from the lower costs associated with community paramedicine programs (Rural Health Information Hub, 2017). Federal agencies, nonprofit organizations, and foundations may also offer grants to fund community paramedicine programs (Rural Health Information Hub, 2017).

2. Community engagement of all stakeholders is necessary to address gaps in access to care, develop effective interventions, and prevent unrest in triple threat communities.

The problems faced by Fentress County are best addressed locally by the people who live and work in these communities. Addressing gaps in access to care effectively will require better community engagement of all stakeholders in *triple threat* communities. Community engagement is defined as the process of working collaboratively to address issues affecting the wellbeing of the community (Alter et al., 2017). Better community engagement can help create effective solutions that meet the needs of the community, increase the likelihood that the solution will be accepted, and lead to improvements in health outcomes and health disparities (Cyril et al., 2015). Better community engagement may also help reduce unrest in the community (Alter et al.,

2017). I found that the closure of Jamestown Regional Medical Center resulted in unrest, or a state of discontent, in the community. Increased community engagement could empower community residents to address health issues in their community and improve their relationship with local powers (Bassler, Brasier, Fogle, & Taverno, 2008).

Identifying stakeholders across multiple sectors of the community is a critical component of community engagement (Washington State Hospital Association, 2014). Stakeholders are those that can influence the issue and those who are affected by the issue (Bassler et al., 2008). Community stakeholders to consider include school districts, faith-based organizations, community service organizations, public health, health department, community health clinics, emergency medical services, physicians, chamber of commerce, non-profit organizations, local business leaders, government officials, law enforcement, social service agencies, and residents.

Government officials, philanthropists, or leaders of anchor institutions in the community are key candidates for launching a community engagement effort. A community engagement manual, created by the Center for Rural Pennsylvania, provides a blueprint for improving community engagement in the community and may assist Fentress County leaders in developing a plan (Bassler et al., 2008). The first step is defining the problem. Having a clear goal in mind is crucial to work together effectively and address health issues in the community. The second step is defining engagement goals and the degree of citizen engagement. Step three is selecting the tools for engaging citizens, such as key informant interviews, panels, or community task forces, based on engagement goals. The fourth step is evaluating the current stakeholders and identifying individuals or groups that are missing or not represented. The fifth step involves developing a plan to recruit and maintain stakeholders. Step six is creating an environment where stakeholders comfortable to express and sharing their ideas. Step seven is identifying an

evaluation strategy to ensure that the community engagement initiative is meeting its goals. The last step is maintaining regular and open lines of communication (Bassler et al., 2008).

3. Building a Culture of Health may help address the social determinants of health, reduce health disparities, and promote health equity in triple threat communities.

Triple threat communities suffer from many health disparities compared to the rest of the United States (Marshall et al., 2017). While access to care is an important factor in health outcomes, reducing health disparities and achieving health equity in *triple threat* communities will require attention to all social determinants of health (Centers for Disease Control and Prevention, 2019c). Building a Culture of Health may be one way to advance health holistically in Fentress County. The Robert Wood Johnson Foundation's Culture of Health Action Framework provides a plan to improve the nation's health by intertwining the traditional health care system, the public health system, and the social determinants of health (Robert Wood Johnson Foundation, n.d.).

The first step to building a Culture of Health is Making Health a Shared Value (Chandra et al., 2016). Making Health a Shared Value means that individuals and communities prioritize health and understand that individual and community health are interdependent (Chandra et al., 2016). My findings revealed that Jamestown Regional Medical Center was directly associated with health and well-being. There is no doubt that quality medical care is important, but health is more than medical care (Centers for Disease Control and Prevention, 2019c). A more holistic view of health that recognizes every aspect of life affects an individual's ability to be healthy is needed in Fentress county. Discussions surrounding health promotion and well-being is one way to promote shared health values in a community (Robert Wood Johnson Foundation, 2020). Influential community leaders of *triple threat* communities, such as government officials, are

uniquely situated to communicate and improve the community's understanding that health is a priority and good health helps strengthen the entire community (Robert Wood Johnson Foundation, 2020).

The second step is Fostering Cross-Sector Collaboration (Chandra et al., 2016). Partnering across multiple sectors is necessary to improve health, however, it can be challenging to collaborate with non-health sectors due to differing priorities (Chandra et al., 2016). Communicating with these different sectors about how health relates to the economic and social conditions of their community is the first step to collaboration (Washington State Hospital Association, 2014). For example, local health departments can partner with businesses and explain the connection that a healthy workforce is the foundation of a prosperous economy (National Academies, 2017). The Governor's Rural Task Force is an another example of promoting cross-collaboration across sectors (Tennessee State Government, 2016). The Governor's Rural Task Force, representing 18 different agencies in Tennessee, released a strategic plan that recommends holistic solutions to improve economic development throughout the state. One recommendation links health and the economy through the development of trails, parks, and playgrounds. This recommendation not only increases opportunity for physical activity but generates job opportunities (Tennessee State Government, 2016).

The third step is Creating Healthier Communities by creating safe environments, improving social and economic opportunities, and advancing policy and governance (Chandra et al., 2016). One approach to building healthier communities is implementing Health in All Policies (Acosta et al., 2017). Health in All Policies is a collaborative approach that incorporates health considerations into policy making to improve community health (Rudolph, Caplan, Ben-Moshe, & Dillon, 2013). For example, using a Health in All Policies approach to increase access

to transportation in *triple threat* communities can connect individuals to healthcare services and consequently improve health (Rural Health Information Hub, 2016). The American Public Health Association in collaboration with the Public Health Institute and the California Department of Public Health created a comprehensive guide that outlines actionable steps for implementing a Health in All Policies approach (Rudolph et al., 2013).

The fourth step is Strengthening Integration of Health Services and Systems (Chandra et al., 2016). This step includes making quality health care accessible to all and improving coordination of care by integrating health care, public health, and social services (Chandra et al., 2016). Establishing alternative models of rural health care delivery is one way to improve access to care in *triple threat* communities (see first implication). Additionally, expanding Medicaid in Tennessee would help improve access to care by extending health insurance to currently uninsured adults in the state (Paradise & Garfield, 2013).

Limitations

No study is without limitations. First, this study was conducted during the COVID-19 pandemic. Given that rural hospitals play a vital role in delivering health care, participants may have placed greater importance on their local hospital during this time. Second, this study was delimited to Fentress County for data collection. The unique characteristics of this area limits the transferability of study findings to other areas. Third, the recent closure of the hospital in Fentress County is a limitation. Because the hospital had only been closed for 11 months prior to data collection, it may be too early to tell how the closure affects access to care. Lastly, Fentress County is no longer considered a distressed county for the fiscal year 2021; however, it is still considered at-risk (Tennessee State Government, n.d.).

Future Research

As rural hospitals continue to close, future research that aims to understand the impact on access to care should distinguish between the different types of care such as primary, specialty, hospital, urgent, and emergency. Understanding these differences can better address gaps in access to care after a rural hospital closure. Because one community's experience is not transferable to all communities who have experienced a hospital closure, future research should expand the site of study to include multiple rural hospital closures across vulnerable communities in the United States. Acceptability of health care in vulnerable communities is also another area for future research. Acceptability was an important factor in facilitating access after a hospital closure in my study, yet little research exists on this dimension of access to care. Lastly, as the rural health care delivery system transforms, examining alternative health care deliver models in vulnerable communities is another area for future research.

Conclusions

Access to health care is essential to maintain health. To my knowledge, this study is one of the first to explore perceived impact of access to care following a rural hospital closure from the community resident perspective in a rural and economically distressed Appalachian County of Tennessee. Understanding this perspective is paramount because these individuals are disproportionately affected by poor health outcomes. My findings provide ideas for long-term interventions to improve and preserve local access to care in Fentress County that more effectively and efficiently meets the health needs of its community. The results of this study may also have broader transferability by serving as a resource for other vulnerable communities who lost their hospital.

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APPENDIX

Semi-Structured Interview Guide

Introduction
[Review Consent Form]

Do you have any questions about the consent to participate (form)?

I will begin the recording now. *pause to start recording*

The recording has started. Today is (DATE/TIME) and I am speaking with participant (#).

To document your consent to participate, I will ask the following question: do you agree to participate in this study?

Establishing Rapport
Before I begin, please tell me a little bit about yourself. How long have you been living in Fentress County? What is your favorite thing about living there?

Demographic Questions
Great. Now I am going to ask you a few questions about yourself. Asking these questions helps me better understand who I interview and provides context for the data I collect.

1. How old are you? Or if you prefer, what is your birth year?
2. What is your sex?
3. What is the highest grade of school that you completed?
    - None to 12th grade;
    - High school graduate or GED;
    - post high school training other than college such as vocational, technical; some college;
    - graduated from college;
    - post graduate
4. What best describes your marital status?
    - Married,
    - Living with a partner,
    - Divorced,
    - Separated,
    - Widowed,
    - Never been married
5. What best describes your employment status?
    - Working- full time
    - Working- part time
    - On leave but still employed
    - Temporarily laid off
    - Unemployed and looking for work
    - Wanting to work but unemployed due to health-related reason
    - Going to school

- Homemaker
- Retired
- Other

6. Do you have health insurance coverage? What type?
    - Employer sponsored health insurance
    - Insurance purchased directly from an insurance company (such as through the exchange and marketplace)
    - State/government sponsored health insurance

Interview Questions

Thanks for answering those questions. I am now going to begin the interview. First, I would like to start by asking you some questions about the terms "health" and "access to care." Remember, there are no right or wrong answers to these questions.

1. What does "health" mean to you?
    Probes: What do you do to be healthy? What's the biggest challenge in being healthy?

    Sub-question: Would you consider your community to be healthy? Are there any health issues you see in your community?

2. What does the term "access to care" mean to you?
    Probes: What's the first thing that comes to mind? What influences you to get the care you need?

    Sub-question: Do you think you have good access to health care or poor access to health care in your community?

Now I would like to talk with you about the hospital that closed in 2019 in your community.

3. What did Jamestown Regional Medical Center mean to your community?
    Probes: How did you feel when you learned the hospital was going to close? Tell me a little more about [emotion].

4. What are your experiences with Jamestown Regional Medical Center?
    Probes: In what ways did you or a family/friend use the local hospital? Can you talk a little more about that experience?

    ***Reflect on how participant described health and access to care…*
    Has this experience influenced the way you described health and access to care previously?

5. How has the closing of Jamestown Regional Medical Center affected your or a family/friend's access to care?
    Sub-question: You mentioned that access to care meant X; how did the hospital closure affect this?

Can you tell me about a time when you were unable to access healthcare services after the closing of the hospital?

6. How has the closing of Jamestown Regional Medical Center affected your community's access to care?
   Probes: What types of health care services are available? How has this changed since the closing of the hospital?

7. How would you describe your health since the closure of Jamestown Regional Medical Center?
   Probes: Has it changed or stayed the same? How has it changed?

8. How would you describe the health of your community since the closure of Jamestown Regional Medical Center?
   Probes: Has it changed or stayed the same? How has it changed?

9. Is there anything else you would like to tell me that I might have missed? Is there anything you want to ask me?

VITA

Amanda Marie Letheren was born in Fulton County, Georgia to Diane Irene Lively and John David Letheren. She graduated from Parkview High School in Lilburn, Georgia in 2008. After high school, she pursued her undergraduate studies at the University of Georgia in Athens, Georgia. There she studied Animal Science before graduating with her Bachelor of Science in Animal Science in 2012. Thereafter, she enrolled in a Master's program at the University of Tennessee. Amanda completed her Master of Public Health in Community Health Education and Graduate Certificate in Health Policy in 2016. She then decided to pursue a Doctor of Public Health at the University of Tennessee. Upon completion of the doctoral program, Amanda hopes to work with health policy to eliminate rural health disparities and improve access to health care in rural communities of Tennessee.