

WHAT'S NEXT?

PRACTICAL SUGGESTIONS FOR RURAL COMMUNITIES
FACING A HOSPITAL CLOSURE



**RURAL & COMMUNITY
HEALTH INSTITUTE**
TEXAS A&M UNIVERSITY

IN PARTNERSHIP WITH



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Health has a new voice in Texas.

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Acknowledgements

We acknowledge our partnership with the Episcopal Health Foundation and appreciate their support.

We also appreciate the contributions of the Texas A&M University Rural & Community Health Institute (RCHI) team. Significant contributors include: Nancy W. Dickey, MD, Misti H. Carter, JD, PhD, Bree Watzak, PharmD, Mandy R. Allen, BSN, RN, and Abeer S. Nasir.

Suggested Citation:

Texas A&M University Rural & Community Health Institute (RCHI). (2017). *What's next? Practical suggestions for rural communities facing a hospital closure*. Retrieved from <https://www.rchitexas.org/>

Foreword

BEYOND “TO CLOSE OR NOT TO CLOSE”

What you will find in the attached report, **“What’s Next? Practical Suggestions for Rural Communities Facing a Hospital Closure”**, is a powerful perspective on rural hospital closures across Texas.

The team at Texas A&M University Rural & Community Health Institute (RCHI) challenge conventional policy conversations that go beyond solely focusing on a community losing a hospital. Instead, the authors look at the problem through a geographic lens and focus on the available health resources in areas surrounding hospital closures.

The RCHI team’s research, including interviews with former leaders of shuttered hospitals, confirm that most hospital closures occur because of lack of patient volume, lack of leadership, or the inability to partner with a larger healthcare system.

So, the question to ask is not **“to close or not to close”**, but more importantly, **does the current healthcare delivery system meet the needs of the community?**

The RCHI team offers alternatives for rural communities to consider when faced with a potential hospital closure. Additionally, for every hospital closure in Texas, the report includes maps that show available healthcare delivery resources within a 20-mile and a 50-mile radius of the closed facility.

We invite federal and state legislators and local leaders to read the report to better understand the challenges faced by rural populations and to help address the health needs of rural Texans. Let’s work together to develop new solutions to rural healthcare, moving beyond the narrow focus on hospital closures, so we can right-size our rural healthcare delivery system.

ALL Texans deserve to live a healthy life and should be able to receive high-quality, affordable healthcare.



Elena M. Marks
President and CEO
Episcopal Health Foundation

Executive Summary

This report was initiated in response to **concerns about access to healthcare for those who reside in rural Texas**. In recent years, Texas has had an unprecedented number of rural hospital closures, and those that remain open are facing increasing legislative, regulatory, and fiscal challenges. While the population of Texas mirrors the national trend of migration to cities, nearly **20% of the state's population still resides in what can be considered "rural" areas**. In Texas, more than 170 of the 254 counties are rural and **more than three million Texans** call these counties home. That population tends to be **older, poorer**, and – according to recent surveys – **less healthy** than their urban and suburban counterparts. The closure of many rural hospitals across the state has accelerated the urgency to understand and ultimately address the problems faced by the rural population in accessing healthcare.

The **health status for rural Texas and current state of rural healthcare delivery** are outlined in this report. Specifically, the challenges faced by rural regions as they attempt to deliver quality healthcare are addressed, as well as factors that contribute to a hospital closure. One section of the report details the **obstacles created by new regulatory and legislative changes** to the healthcare delivery system. Another section discusses the economic impact a hospital closure has on the community it serves. The report then discusses **gaps in healthcare delivery** and possible **solutions to the rural access to care problem**. Issues that receive an in-depth review include the need to develop metrics about acceptable distances/times to travel to access healthcare, the importance of "locally available" care, and the expectations developed over generations of legislative and cultural health discussions.

A significant portion of the report evaluates **alternatives to the binary decision** of either keeping a hospital open versus closing its doors. A **menu of alternatives** to closure provides a continuum of options with suggestions regarding the process by which a community could proceed. Alternatives include technology, new types of healthcare workers, and potential partnerships. Finally, **two communities** are presented: one that has been successful in meeting the challenges of rural healthcare delivery, and another that is struggling to preserve local healthcare options. By applying the information in the report to specific examples, one may creatively think about the healthcare needs and problems of a particular county, community, or region.

Multiple solutions exist when attempting to address the gap in access to healthcare in rural Texas. The rural communities in Texas are as unique as the residents themselves. Therefore, there is no one right answer and no "cookie cutter" approach to remedying the disparities. Communities must be comprehensively assessed to determine their unique characteristics and needs regarding access to healthcare and improving health outcomes. Texas A&M University Rural & Community Health Institute (RCHI) has provided several avenues to consider a wide array of possible solutions.

It is clear that the challenges of rural healthcare access will not be easily met. However, this report describes the problems, addresses areas that still need examination, and discusses potential steps that a community or region might take in an attempt to avoid the most dire consequences. Approximately one-fifth of Texans live in rural communities. This is a population with a significant impact on the state, and their unique health challenges merit attention equal to populations in urban and suburban areas. Texas has the potential to lead the nation in identifying robust, new solutions to the longstanding problem of rural hospital closure. We must now take the first steps to establish expectations and set reasonable goals.

Introduction

Some years ago, when officials in Massachusetts tried to close a small and foundering community hospital in the north-central part of the state, busloads of loyal patients and angry citizens descended on the State House in protest and ultimately fought the effort all the way to the Supreme Judicial Court of the Commonwealth. Health planners were bewildered. The decision to close Winchendon Hospital was based on an objective assessment of area wide needs and available resources; it was part of a plan to create a more rational, efficient, and less costly statewide health system. There were good and well-known reasons for closing the hospital: it had fewer than fifty beds; it had an outdated physical plant in serious violation of health, fire, and safety codes; and it was unequipped to handle even the most routine of inpatient care.¹

The story above goes on to explain that most of the community hospital's patients were already accustomed to going to one of two newer, larger facilities located less than a twenty-minute drive away. Patients even traveled to Boston for more serious illnesses. But these patients preferred their "own" hospital. The local facility provided care that was "personal, kind, and attentive."

While the small hospital in question ultimately closed, those words should inform discussions about providing rural healthcare in other hometowns. Community voices should be heard when a community is facing a possible closure of a rural hospital. Healthcare is more than having the most up-to-date equipment at some reasonably accessible site. It is about meeting the *perceived* needs and desires of a community. But it is also about providing quality care in a safe manner that meets the standards of care expected by both providers and patients. There are serious implications for the rural residents if their healthcare needs remain unaddressed, ineffectively addressed, or addressed in a substandard manner.

Texas A&M University Rural & Community Health Institute (RCHI) understands that local healthcare is important for reasons that transcend the financial bottom line. Supported by the Episcopal Health Foundation (EHF), the following report is intended to provide information to rural communities regarding healthcare organizations and closures in Texas. The goal of this report is to equip those communities with information that can be used to evaluate healthcare facilities in rural Texas and alternative means of achieving high-quality care and meaningful access for the residents of those communities. The report has the following sections: (1) introduction and the status of healthcare in rural Texas; (2) identified "gaps" in rural communities and potential solutions regarding rural healthcare; and (3) the basics of an assessment tool that RCHI proposes to potentially help fill the identified gaps. The overarching aim is to provide a menu of healthcare delivery options that communities could implement.

Beyond the information available in the body of the report, a systematic literature review regarding rural hospital closures was conducted. Literature was obtained from the following databases: Medline (138); CINAHL (52); EBSCO's Business Source Complete (39); EBSCO's

¹ Gerteis, M., Edgman-Levitan, S., Daley, J., & Delbanco, T. L. (1993). Introduction: Medicine and health from the patient's perspective. In M. Gerteis, S. Edgman-Levitan, J. Daley, & T. L. Delbanco (Eds.), *Through the patient's eyes: Understanding and promoting patient-centered care* (pp. 1-15, p. 1). San Francisco, CA: Jossey-Bass.

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Academic Search Complete (11); and a “gray literature search” of information falling outside the mainstream published journals (73). Suggested online resources can be found in Appendix A.

Status of Healthcare in Rural Texas

The rural-urban gap has led to increasing concerns regarding unequal distribution of health services and access across the state of Texas. A 2015 policy brief gave plausible explanations underlying the rural-urban health status and disparities.² Rural America is generally comprised of a more vulnerable population. This is partially due to the demographics in rural regions consisting of a larger number of elderly individuals. There is also a notable socioeconomic difference in rural and urban regions that has led to health disparities. As of 2015, 18% of the rural population was living below the poverty line, which was 2% more than the population under the poverty line in urban regions.³ There is also a higher percentage of those suffering from chronic diseases living in rural areas than in urban areas. For example, when comparing death rates, ischemic heart disease carried a 25% higher death rate, and chronic obstructive pulmonary disease carried a 53% higher death rate.⁴

Rural residents often face different, and usually greater, challenges to obtaining healthcare than do their urban counterparts.⁵ For example, a recent Center for Disease Control and Prevention (CDC) report found that rural Americans are more likely to die from preventable diseases than urban Americans.⁶ The study found that while the five leading causes of death from 1999-2014 were the same in urban and rural America, the number of “potentially preventable deaths” were higher in rural areas. The CDC reported that in 2014, the following number of rural American deaths were from potentially preventable causes: 25,000 from heart disease; 19,000 from cancer; 12,000 from unintentional injuries; 11,000 from chronic lower respiratory disease; and 4,000 from stroke. Tom Frieden, the CDC director, calls this a “striking gap” between the rural and urban populations and one that we need to work to understand and address.⁷ Approximately 60 million Americans or about 19% of the U.S. population live in rural areas.⁸ In Texas alone, there are over 3 million rural residents, or approximately 11% of the state’s population.⁹

² U.S. Department of Health and Human Services, National Advisory Committee on Rural Health and Human Services. (2015, October). *Mortality and life expectancy in rural America: Connecting the health and human service safety nets to improve health outcomes over the life course*. Retrieved from <https://www.hrsa.gov/advisorycommittees/rural/publications/mortality.pdf>

³ U.S. Department of Agriculture, Economic Research Service. (2015, April 27). *Poverty overview*. Retrieved from: <https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/poverty-overview/>

⁴ Meit, M. et al. (2014, October). *The 2014 update of the rural-urban chartbook*. Retrieved from: <https://ruralhealth.und.edu/projects/health-reform-policy-research-center/pdf/2014-rural-urban-chartbook-update.pdf>

⁵ Gamm, L., Hutchison, L., Bellamy, G., & Dabney, B. J. (2002). Rural healthy people 2010: Identifying rural health priorities and models for practice. *Journal of Rural Health*, 18(1), 9–14.

⁶ Moy, E., et al. (2017, January 13). *Morbidity and mortality weekly report: Leading causes of death in nonmetropolitan and metropolitan areas — United States, 1999–2014*. Retrieved from Centers for Disease Control and Prevention website: <https://www.cdc.gov/mmwr/volumes/66/ss/ss6601a1.htm>

⁷ Centers for Disease Control and Prevention. (2017, January 12). *Rural Americans at higher risk of death from five leading causes*. Retrieved from <https://www.cdc.gov/media/releases/2017/p0112-rural-death-risk.html>

⁸ U.S. Census Bureau. (2016, December 8). *New census data show differences between urban and rural populations*. Retrieved from <https://www.census.gov/newsroom/press-releases/2016/cb16-210.html>

⁹ U.S. Department of Agriculture, Economic Research Service. (2017, February 7). *State fact sheets*. Retrieved from <https://data.ers.usda.gov/reports.aspx?StateFIPS=48&StateName=Texashttp://www.ers.usda.gov/data-products/state-fact-sheets.aspx&ID=10633>

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In this section, the focus is first on the current status of healthcare for rural Texans followed by a review of the factors that have contributed to rural hospital closures, how policy has affected rural healthcare, and the economic impact of rural hospital closures.

Texas by the Numbers

For many years, there has been a call for more doctors in Texas.¹⁰ The need for more physicians has been especially acute in rural areas.¹¹ But what exactly constitutes being “rural”? Determining whether a location is “rural” or “urban” can be difficult to delineate and carries a host of implications, especially for healthcare.¹² The Rural Health Information Hub (RHIhub) recently published a new online tool for determining if an address is labeled “rural.”¹³ Once an address is entered, a report is generated that indicates if the address is considered “rural” and what programs the resident of that address might be eligible for from various agencies.¹⁴ Of the 254 counties in Texas, 177 were deemed “rural” by the Texas Department of Agriculture and 172 are deemed “rural” by the Texas Department of State Health Services.^{15,16} Aside from the longstanding and well-known issue of a nursing shortage, Texas faces a physician shortage as well.¹⁷ The Texas physician shortage becomes even more disconcerting when looking at a survey conducted by the North Texas Regional Extension Center:¹⁸

- 185 Texas counties with a combined population of more than 3.1 million people, which is equal to or greater than 21 states listed in the report, have no psychiatrist
- 158 Texas counties with a combined population of 1.9 million, which is equal to or greater than 14 states listed in the report, have no general surgeon
- 147 Texas counties with a combined population of more than 1.8 million people have no obstetrician/gynecologist
- 80 counties have five or fewer physicians
- 35 counties have no physician

¹⁰ Texas Medical Association. (n.d.). *Why Texas needs more physicians*. Retrieved March 21, 2017 from <https://www.texmed.org/template.aspx?id=5427>

¹¹ Ramshaw, E. (2010, January 4). No country for health care, part 1: Far from care. *The Texas Tribune*. Retrieved from <https://www.texastribune.org/2010/01/04/health-care-sparse-in-rural-texas/>

¹² U.S. Department of Agriculture, Economic Research Service. (2016, October 12). *Rural definitions*. Retrieved from <https://www.ers.usda.gov/data-products/rural-definitions/>

¹³ Rural Health Information Hub. (n.d.). *Am I rural? Tool*. Retrieved March 21, 2017 from https://www.ruralhealthinfo.org/am-i-rural?utm_source=racupdate&utm_medium=email&utm_campaign=update021517

¹⁴ The 57 counties covered by EHF are included in Appendix B.

¹⁵ Texas Department of Agriculture, Texas State Office of Rural Health. (2012, April). *Texas county designations*. Retrieved from: <https://www.texasagriculture.gov/Portals/0/forms/ER/Rural-Metro%20Counties.pdf>

¹⁶ Texas Department of State Health Services. (2015). *Definitions of county designations*. Retrieved from <https://www.dshs.texas.gov/chs/hprc/counties.shtm>

¹⁷ Commins, J. (2015, May 6). 35 Texas counties have zero physicians. *HealthLeaders Media*. Retrieved from <http://www.healthleadersmedia.com/community-rural/35-texas-counties-have-zero-physicians>

¹⁸ North Texas Regional Extension Center. (2015, April). *The physician workforce in Texas: An examination of physician distribution, access, demographics, affiliations, and practice patterns in Texas' 254 Counties*. Retrieved from https://www.merrithawkins.com/UploadedFiles/MerrittHawkins/Surveys/Merritt_Hawkins_NTREC_Physician_Workforce_Survey.pdf

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The study uses an illustrative example to reinforce the severity of the physician shortage in Texas: “We’re saying that more than 3 million people in the state of Texas don’t have a psychiatrist. That is like saying Kansas doesn’t have a psychiatrist. That is like saying the state of Nebraska or Montana doesn’t have an OB.”¹⁹ The maldistribution of the population in correlation with the location of healthcare providers appears to be the crux of the matter.

The State of Texas has taken a variety of approaches to try and increase the number of physicians in the state and particularly the number who choose to practice in non-metropolitan areas. In 2009, Texas legislators passed an amendment to the state’s Physician Loan Repayment Program to provide incentives to physicians who practice in medically underserved areas.²⁰ In the 2017 Texas legislative session, there is a pending bill (HB2996) that would make money available to establish graduate medical education programs in rural areas; the data suggests that physicians who train in rural areas are more likely to practice in rural areas. In addition to state-level legislation, the Affordable Care Act (ACA) attempted to address the problem.²¹ Potential solutions included in the ACA were: a bump in Medicare payments to primary care physicians (which expired in 2015), more than a billion dollars into the National Health Service Corps to increase the number of primary care physicians practicing in health shortage areas, improving grants and scholarships in primary care, and establishing a national workforce commission to coordinate and implement workforce planning.

The Texas Tribune published an article outlining a physician shortage, the areas where shortages are most prevalent, and the possible causes (budget cuts, physician recruitment, and a shortage of residency positions). At the time of publication, there were 132 Texas counties that had a shortage of primary care providers equating to approximately 484 physicians.²²

Physician availability is not the only metric to evaluate healthcare in rural Texas; facilities must also be considered. Across the U.S., in 2015 there were 1,829 rural hospitals.²³ In 2015, there were 404 hospitals in Texas.²⁴ And 145 of those hospitals were categorized as “rural” by the Texas State Office of Rural Health.²⁵ Nationwide, there were 1,332 Critical Access Hospitals (CAHs) as of April 2016.²⁶ Eighty-one Texas hospitals qualified as CAHs, meaning

¹⁹ Commins, J. (2015, May 6). 35 Texas counties have zero physicians. *HealthLeaders Media*. Retrieved from <http://www.healthleadersmedia.com/community-rural/35-texas-counties-have-zero-physicians>

²⁰ Conway, C. A. (2010, July). The physician shortage problem in Texas. *Health Law Perspectives*. Retrieved from the University of Houston Law Center website:

[https://www.law.uh.edu/healthlaw/perspectives/2010/\(CC\)%20Shortage.pdf](https://www.law.uh.edu/healthlaw/perspectives/2010/(CC)%20Shortage.pdf)

²¹ The Henry J. Kaiser Family Foundation. (2013, April 25). *Summary of the Affordable Care Act*. Retrieved from <http://kff.org/health-reform/fact-sheet/summary-of-the-affordable-care-act/>

²² Aaronson, B. (2012, May). Interactive: Mapping access to health care in Texas. *The Texas Tribune*. Retrieved from https://www.texastribune.org/library/data/texas-shortage-health-care-providers/?%20utm_source=texastribune.org&utm_medium=alerts&utm_campaign=News%20Alert:%20Subscriptions

²³ American Hospital Association. (2016, December 1). *Fast facts on U.S. hospitals*. Retrieved from <http://www.aha.org/research/rc/stat-studies/fast-facts.shtml>

²⁴ The Henry J. Kaiser Family Foundation. (2015). *State health facts: Total hospitals*. Retrieved from <http://kff.org/other/state-indicator/total-hospitals/?currentTimeframe=0>

²⁵ Texas Department of Agriculture, Texas State Office of Rural Health. (n.d.). *Texas rural hospitals*. Retrieved from <http://www.texasagriculture.gov/Portals/0/forms/ER/RuralHealth/Rural%20Hospitals%20%202017.pdf>

²⁶ Rural Health Information Hub. (2016, April 8). *Critical access hospitals*. Retrieved from <https://www.ruralhealthinfo.org/topics/critical-access-hospitals#how-many>

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approximately 6% of the country's CAHs were located in Texas.²⁷ As of 2015, there were 1,375 Federally Qualified Health Centers (FQHCs) in the U.S.²⁸ Seventy-three of those FQHCs were located in Texas and provided services at 477 distinct locations.²⁹

For the past several years, rural hospital closures in Texas have become a growing public concern.^{30,31,32} The North Carolina Rural Health Research Program has been closely tracking rural hospital closures and reports that 78 rural hospitals have closed in the U.S. since January 2010.³³ Of the closed rural hospitals, 12 were located in Texas. Notably, some reports have cited more closures in Texas as additional hospitals closed only to later reopen. The Cozby-Germany Hospital reopened in 2015 as the Texas General Van Zandt Regional Medical Center. The Central Texas Hospital reopened in 2014 as the Little River Healthcare Cameron Hospital. And Colorado-Fayette Medical Center reopened in 2016 as Weimer Medical Center. In its report, Texas Organization of Rural and Community Hospitals (TORCH) included two additional hospital closures in Cleveland and Bastrop.³⁴ For the 17 hospitals that closed, we have included maps of other healthcare options that are located within a 20-mile and 50-mile radius of the closed facility (see Appendix D).³⁵

Researchers have begun to investigate avenues to predict which rural hospitals are in danger of closure.³⁶ The 2016 iVantage "Rural Relevance – Vulnerability Value" study estimated that 673 rural hospitals are "vulnerable to closure," with 210 being the most at risk.³⁷ As of 2015, there were 1,829 rural hospitals, meaning that approximately 37% are at risk of closure.³⁸ iVantage

²⁷ Rural Health Information Hub. (2016, April 8). *Texas: State guide*. Retrieved from <https://www.ruralhealthinfo.org/states/texas>

²⁸ The Henry J. Kaiser Family Foundation. (2015). *Number of federally-funded federally qualified health centers*. Retrieved from <http://kff.org/other/state-indicator/total-fqhc/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

²⁹ National Association of Community Health Centers. (2015). *Key health center data by state*. Retrieved from http://www.nachc.org/wp-content/uploads/2016/10/Key-Health-Center-Data-by-State_2015.pdf

³⁰ Hanna, B. (2016, November 25). Small-town hospital closing leave rural Texans far from medical care. *Star-Telegram*. Retrieved from <http://www.star-telegram.com/news/state/article16987298.html>

³¹ Mulero, A. (2016, November 22). Last hospital in a rural Texas community closes down. *Healthcare DIVE*. Retrieved from <http://www.healthcaredive.com/news/last-hospital-in-a-rural-texas-community-closes-down/431015/>

³² Gonzalez, E. (2016, November 27). Small-town, rural hospitals face difficult issues, closure. *Amarillo Globe-News*. Retrieved from <http://amarillo.com/news/latest-news/2016-11-27>

³³ University of North Carolina Rural Health Research Program. (n.d.). *78 rural hospital closures: January 2010 - present*. Retrieved March 20, 2017 from <http://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/>

³⁴ Texas Organization of Rural and Community Hospitals (TORCH). (2017, March). *Rural hospital environmental impact study*. Retrieved from <http://www.episcopalhealth.org/en/news/releases/new-report-outlines-growing-health-crisis-facing-rural-counties-texas/>

³⁵ Several closed hospitals did convert to freestanding ERs. Please see Appendix D for additional information.

³⁶ Kaufman, B. G., Thomas, S. R., Randolph, R. K., Perry, J. R., Thompson, K. W., Holmes, G. M., & Pink, G. H. (2016). The rising rate of rural hospital closure. *The Journal of Rural Health*, 32, 35–43.

³⁷ iVantage Health Analytics (2016). *Rural relevance – Vulnerability to value*. Retrieved from http://www.chartis.com/resources/files/INDEX_2016_Rural_Relevance_Study_FINAL_Formatted_02_08_16.pdf

³⁸ American Hospital Association. (2016, December 01). *Fast facts on U.S. hospitals*. Retrieved from <http://www.aha.org/research/rc/stat-studies/fast-facts.shtml>

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pointed out that southern states are especially vulnerable and named Texas the state with the “highest number of vulnerable hospitals” with 75 facilities at risk.³⁹

The RHInhub has also summarized population information for Texas under the heading “Selected Social Determinants of Health.”⁴⁰ The following statistics were highlighted:

- 16% of Texas residents did not have health insurance⁴¹
- Rural Texans’ per capita income was roughly \$38,996, while urban Texans’ was \$46,947
- The poverty rate in rural Texas was 17.8%, whereas it was 15.6% in urban Texas
- The unemployment rate was 5.2% in rural Texas compared to 4.4% in urban Texas
- 21.9% of rural Texans did not have a high school diploma compared with 15.6% of urban Texans⁴²

These statistics provide some possible contributions to the variance between rural and urban health outcomes.⁴³

Factors Contributing to Closure

While many factors contribute to hospital closures, the most significant factor is financial. However, the reasons leading to a poor financial condition are far from simple. In preparing this report, RCHI staff had informal conversations with leaders of rural hospitals that recently closed in Texas (see Appendix C). They indicated that their hospitals closed due to a lack of patient volume. But other issues were cited as well: lack of leadership, inability to partner with a large healthcare system, and nearby competition with more specialty services. These conversations suggested that there were a host of problems that ultimately led to closure.

The academic literature echoes that there are many factors leading to the closure of rural hospitals. In 2003, the Department of Health and Human Services Inspector General looked at rural and urban hospital closures.⁴⁴ At that time, 8% of all rural hospitals that closed cited reasons such as competition, relocation, merger or consolidation, low census, and insufficient public insurance reimbursements. This deficit in local care resulted in rural residents having to travel 20-30 miles for healthcare and sometimes farther for specialized care.

³⁹ iVantage Health Analytics (2016). *Rural relevance – vulnerability to value*. Retrieved from http://www.chartis.com/resources/files/INDEX_2016_Rural_Relevance_Study_FINAL_Formatted_02_08_16.pdf

⁴⁰ Rural Health Information Hub. (2016, April 8). *Texas: State guide*. Retrieved from <https://www.ruralhealthinfo.org/states/texas>

⁴¹ The Henry J. Kaiser Family Foundation. (2015). *State health facts: Health insurance coverage of the total population*. Retrieved from <http://kff.org/other/state-indicator/total-population/?currentTimeframe=0&selectedRows=%7B%22nested%22:%7B%22texas%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

⁴² U.S. Department of Agriculture, Economic Research Service. (2017, February 7). *State fact sheets*. Retrieved from <https://data.ers.usda.gov/reports.aspx?StateFIPS=48&StateName=Texashttp://www.ers.usda.gov/data-products/state-fact-sheets.aspx&ID=10633>

⁴³ Population health data is being organized, which will help decision makers regarding healthcare deliver. For instance, the Episcopal Health Foundation has compiled county-level data for the 57 counties that it serves (see: <http://www.episcopalhealth.org/en/research/county-health-data/>)

⁴⁴ U.S. Department of Health and Human Services, Office of Inspector General. (2003, May). *Trends in rural hospital closure: 1990-2000*. Retrieved from <https://oig.hhs.gov/oei/reports/oei-04-02-00610.pdf>

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A more recent case study analyzed 306 rural hospitals across nine different states to investigate the reasons why rural hospitals were closing their obstetric units.⁴⁵ During the study timeframe – 2010 through 2014 – 7.2% of rural hospitals stopped offering obstetric services. The reasons for these closures included low birth volume, private hospital ownership, limited local family physicians who provide obstetrical care, and geographical constraints within a low-income county. Providing obstetric services can become very cost prohibitive for rural hospitals. The cost of staffing the units with appropriate workforce coupled with liability insurance premiums can become cumbersome for a hospital that performs a very small number of deliveries per year. While there was no definitive measurable data to explain why privately owned rural hospitals close their obstetrical units more frequently than publicly owned rural hospitals, the authors assert that publicly funded hospitals may be more focused on the needs of the population it serves and therefore, keep their obstetric units open. The study went on to state that the predictability of obstetric unit closure was correlated to payer mix, median family income of the county in which the hospital was located, and birth rate.

Mueller et al. (2003) studied variables that could reveal which rural hospitals were in danger of closing.⁴⁶ The researchers hoped to provide insight on closures and incorporate this knowledge in proactive policy change and enactment to prevent further health disparities and improve access to care among rural populations. Rural areas were identified as a population of not more than 3,500 people living in areas outside of a 25-mile radius around a healthcare facility. Facilities in this study were defined as anywhere residents could access healthcare (e.g., a physician's office, a freestanding emergency room, a FQHC, or a hospital). Rural and vulnerable populations were defined as underserved based on criteria such as location, population-to-provider ratio, low income, and high unemployment rates. Results revealed important population factors including unemployment, over 65 years of age, minority, below 100% of the poverty line, between 100-200% of the poverty line, and older than 25 years of age with less than a high school education. Populations with these characteristics were found to be more vulnerable, and hospitals serving populations with significant numbers of these characteristics were at higher risk for failing. Thus, knowing the density of these characteristics in the population(s) served by a troubled hospital might assist in assessing strategies being considered to avoid closure.

In a collaborative study between Widener University and the Agency for Healthcare Research and Quality (AHRQ), a comparison of cost inefficiencies between Critical Access Hospitals (CAHs) and the non-converting rural hospitals was conducted contrasting hospital performance under different payment systems.⁴⁷ Stochastic Frontier Analysis (SFA) was utilized to estimate cost inefficiency between these two types of rural hospitals. Analysis was conducted with pooled time-series, cross sectional data from 543 hospitals in 34 states including Texas between 1997 and 2004. The study found that the average cost inefficiency was greater in CAHs (15.9%) than in non-converting rural hospitals (10.3%). The study drilled down on measures such as cost per

⁴⁵ Hung, P., Kozhimannil, K. B., Casey, M. M., & Moscovice, I. S. (2016). Why are obstetric units in rural hospitals closing their doors? *Health Services Research Journal*, 51(4), 1546–1560.

⁴⁶ Mueller, K. J., Stoner, J. A., Shambaugh-Miller, M. D., Lucas, W. O., & Pol, L. G. (2003). A method for identifying places in rural America at risk of not being able to support adequate health services. *The Journal of Rural Health*, 19(4), 450–460.

⁴⁷ Rosko, M. D. & Mutter, R. L. (2010). Inefficiency differences between critical access hospitals and prospectively paid rural hospitals. *Journal of Health Politics, Policy and Law*, 35(1), 95–126.

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admission, labor productivity, and operating margin. This study illustrates that SFA can be used as a possible financial measure to inform facilities that face and/or contemplate closures.

As mentioned above, another factor that can contribute to closure is a lack of leadership. Small facilities are often challenged to attract the “best” leaders who often have invitations to facilities in larger markets. However, partnering with an academic program seeking to place interns or creating mentorships between established leaders and new administrators in comparable facilities, could help cultivate fresh, innovative leaders.

The consolidation of healthcare during the last decades has also posed threats to small and rural facilities. Many large systems do not have metrics by which to measure performance on the different scale required by rural facilities. Some small, rural facilities do not want to give up their independence to become owned by a large system. However, the changing payment mechanisms of paying for value instead of volume means that the rural facility that understands the concepts embedded in “value payment” will be in a better negotiating position. The rural population, with its increased vulnerabilities as discussed above, can be a “drain” to the value payments and yet will invariably end up in the larger system facility if they either do not have access to care locally or are triaged in for serious illness. Finding a way for the rural facility to co-manage the elderly, the chronically ill, and the multi-comorbid patient will be to the ultimate advantage of the tertiary care facility.

Another of the issues raised when closures were evaluated was the presence of competitive healthcare facilities, particularly if the competing facility had more specialized care available. The maps provided in Appendix D show that when a rural hospital closed in Texas, another acute-care hospital was usually located within the 20-mile radius. In fact, only three closures lacked another hospital within the 20-mile radius, and those had other hospitals located approximately 30-35 miles away. In a geography that has a sparse population, it should be considered that the entire population might be better served by attempting to bring communities, healthcare facility leaders, and possibly healthcare providers together to discuss the resources available, and the flexibility of those resources to combine/partner/collaborate in a fashion that would not eliminate any of the seriously needed resources but would capitalize on existing assets. Might the smaller facility become a 24-hour emergency department that feeds the larger facility? Might the providers cross-cover, thus minimizing the likelihood of losing one or more providers? Might the use of non-physician providers or a pharmacy delivery service help to assuage any loss secondary to converting one of the facilities? Intense competition in the instance of limited resources is unlikely to resolve the underlying problem and might actually accelerate any decisions that are imminent.

As one evaluates the contributors to closure and continues to delve deeper into the issues at hand, it appears that the discussions perhaps need to be broadened. Rather than focusing almost exclusively on “to close or not to close,” the questions should be: What geography is being discussed – a county or some other defined community? Which perceived needs could reasonably be met with alternative healthcare delivery processes? Which needs require sophisticated healthcare delivery even if it is at a greater than ideal distance? As those questions are parried, issues of leadership, current healthcare environment, and available resources must be considered.

Regulatory, Legislative, & System Changes

Policy developments and changes over the past years have affected rural healthcare significantly. From the Balanced Budget Act of 1997 to the Medical Access and CHIP Reauthorization Act of 2015 (MACRA), rural areas have suffered from reimbursement changes, increased reporting demands, and technology deficiencies. Mechanisms for timely tracking of regulatory, legislative, and system changes – as well as being involved in advocacy efforts regarding rural-specific issues – will be necessary for organizations to survive the ever-changing landscape of the healthcare environment.⁴⁸

It is important to note that state and federal policies can be incongruent and disproportionately affect a specific population. Helping rural communities and/or facilities understand what role they might have in the new model of care may assist the community in determining which pathway to follow going forward. The external policies that affect rural hospitals make it imperative that they consider alternative care models. With more than 45% of rural hospitals' income sourced from Medicare, federal cuts and policy changes will clearly have a substantial, most likely negative, impact on rural facilities.⁴⁹

Researchers have identified specific “value-based” Affordable Care Act provisions that could disproportionately affect rural hospitals, such as tying reimbursements to quality measures under the Hospital Readmission Reduction Program (HRRP) and the Hospital Value Based-Purchasing Program (HVPB).⁵⁰ Disproportionate effect does not necessarily mean a death knell for rural facilities, but rather it points to the need to identify capacities to comply with emerging provisions. For example, the Office of the National Coordinator (ONC) established a network of Regional Extension Centers (RECs) across the country tasked with assisting physicians, offices, and hospitals in acquiring and implementing electronic health records. As the HRRP and HVPB came online, some of those same RECs expanded their roles to assist small hospitals and office practices to collect the reportable data needed to comply with the regulations and qualify for value-based payments.⁵¹

One of the anticipated changes that is already in process is the Medicare move from volume to value payments. The volume to value shift means *changing from* providing enough in-patient care to economically survive *to* ensuring sustainable services that improve the health of the population and that can be reimbursed in the new models of care. Organizations called Accountable Care Organizations (ACOs) are one of the most prevalent models for participating in bonuses or sharing in any cost savings (value-based payments). Either learning how to join an

⁴⁸ For a policy review, see Texas Organization of Rural and Community Hospitals (TORCH). (2017, March). *Rural hospital environmental impact study*. Retrieved from <http://www.episcopalhealth.org/en/news/releases/new-report-outlines-growing-health-crisis-facing-rural-counties-texas/>

⁴⁹ Janney, C. (2014, January 24). Small rural hospitals face big changes under the Affordable Care Act. *Journal Star*. Retrieved from <http://www.pjstar.com/article/20140125/NEWS/140129435>

⁵⁰ Balasubramanian, S., & Jones, E. (2016, July 28). Hospital closures and the current healthcare climate: The future of rural hospitals in the USA. *Rural and Remote Health*, 16, 3935. Retrieved from http://www.rrh.org.au/publishedarticles/article_print_3935.pdf

⁵¹ The Rural and Community Health Institute (RCHI) at Texas A&M houses a REC and provides services for rural providers and facilities (see <http://www.rchitexas.org/>).

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ACO or becoming part of a system hospital's ACO is one way that a small, rural facility might enhance its future.⁵² Larger facilities and/or systems of care are struggling with how to be accountable for the health measures of people that the larger facility only sees when they are admitted to the hospital. The rural community facility or healthcare team that can work with the larger facility to reduce readmissions, improve adherence to treatment plans, and improve health measures will be a welcome partner to the metropolitan system. The decision to “stick one's head in the sand” and not learn about and potentially participate in one of the value-based payments systems may be very shortsighted. According to the Texas State Office of Rural Health, “even an enhanced fee-for-service payment may be insufficient to cover high fixed costs in a low-volume environment.”⁵³

Economic Impact of Rural Hospital Closures

When a rural hospital shuts down, there may be more consequences than the healthcare void that is created. In general, hospitals, whether they be rural or urban, hold a significant economic position in a community. Multiple theories have been proposed regarding the effect a healthcare facility closure has on the community it serves. The data is unclear and seems ultimately dependent upon the unique characteristics of the facility and the community.

One study indicated that there was no economic impact on a community when a rural hospital closes.⁵⁴ Pearson and Tajalli (2003) conducted a comparative study of 48 rural Texas counties – 24 that experienced a hospital closure and 24 that did not experience a closure. They evaluated five economic measures for the 48 counties: personal income, earned income, population, unemployment, and labor force employment. For those five measures, the researchers found that there were no significant differences, short-term or long-term, between the counties that lost a hospital and the counties where the hospital remained open. The researchers suggested a possible explanation for this finding: by the time a rural hospital closes, its economic impact might be so diminished that its closure is not felt by the community in the same way it would have been felt when the hospital was fully functioning and financially healthy.

A more recent study found that when a rural hospital closes, it negatively affects the local economy if there are no other hospitals nearby.⁵⁵ Holmes et al. (2006) studied rural hospital closures across America from 1990 through 2000. The team defined communities as counties. Three possible adverse economic measures were evaluated: direct, indirect/induced, and amenity. A direct effect would be the job loss and health professionals' departure from the community following a hospital closure. Indirect or induced effects included the loss of goods and services that the hospital would have purchased in its normal operations (e.g., construction or laundry services) and the loss of revenue produced by nonresidents that came to the hospital

⁵² For example, facilities could contact the National Rural Accountable Care Consortium for more information (see <http://www.nationalruralaco.com/about-us.shtml>).

⁵³ Health Resources and Services Administration, National Advisory Committee on Rural Health and Human Services. (2016, July). *Alternative models to preserving access to emergency care*. Retrieved from <https://www.hrsa.gov/advisorycommittees/rural/publications/alternatemodel.pdf>

⁵⁴ Pearson, D., & Tajalli, H. (2003). The Impact of Rural Hospital Closure on Economic Health of the Local Communities. *Texas Journal of Rural Health*, 21(3), 46-51.

⁵⁵ Holmes, G. M., Slifkin, R. T., Randolph, R. K., & Poley, S. (2006). The Effect of Rural Hospital Closures on Community Economic Health. *Health Services Research*, 41(2), 467-485.

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as patients or visitors (e.g., food from local restaurants, hotel revenue, floral services). Amenity loss took into account that businesses or individuals often have a desire to have a hospital in the community; not having a hospital could deter businesses or individuals, specifically retirees, from choosing to reside in a community due to the absence of immediate healthcare and perception of a deteriorating economic status.

The study found that a rural hospital closure had a direct, negative effect on the community only if the hospital was the sole hospital in the community. In fact, when the only hospital in a community closed, it was estimated that per-capita income in the community would fall by 4% in the first year and the unemployment rate would rise by 1.6%. On the other hand, the data suggested that if there was another hospital in the community, there could be a dip in per-capita income, but it was estimated to only last for two years following the closure. This study suggests that nearby alternatives to healthcare can mitigate the economic impact on a rural community when a hospital closes.

Another study looked specifically at how rural hospital closures affected nearby rural hospitals.⁵⁶ Although this study is 20 years old, the findings remain relevant today. The researchers tracked the financial performance of hospitals that were “neighbors” to the rural hospitals that closed, defined as rural hospitals that were located within a 30-mile radius of the closed rural hospital.⁵⁷ The neighbors to closed rural hospitals did see a rise in patient admissions while non-neighboring rural hospitals saw a decrease, on average, in admissions. However, the increased volume for the neighboring hospitals did not lead to cost reductions nor did it increase overall profitability. This result could have been a shift in the payer mix (e.g., more Medicaid patients), but the authors point out that the payer mix was not significantly different in neighboring hospitals versus non-neighboring hospitals. The authors suggested that the conditions needed for a free market are absent because Medicare and Medicaid payments are fixed and unable to respond to market changes. As noted earlier, there is a larger uninsured population in rural areas which means increased admissions likely come with increased cost without a source of payment. Thus, the small numbers of insured and paying patients may be too small to impact the bottom line of those facilities that realize any increased admissions. Furthermore, the researchers noted that the hospitals in their data set were largely not-for-profit, but no explanation was offered as to how this designation influenced hospital closure rates. One could surmise that mission-driven, non-profit hospitals might be able to operate at a narrower profit margin than for-profit hospitals. Therefore, policy makers must continue to take this information into account when passing legislation for rural healthcare.

As this section indicates, many factors contribute to hospital closures. Hospitals facing a possible closure must be aware of not only financial factors, but also the actual and perceived needs of the community. The facility must also understand state and federal regulations and their impact on the ability to continue to operate the facility as well as the possible community impact that might follow a closure. With all of these factors at play, decision makers should consider alternatives

⁵⁶ McKay, N. L., & Dorner, F. H. (1996). The effect of rural hospital closures on the financial performance of neighboring rural hospitals. *Inquiry*, 33(3), 271-282.

⁵⁷ The 30-mile radius was chosen by the researchers based on the concept that rural residents travel 30 minutes to access hospital care (see Damasauskas, R. (1988). Health Care Environment: Access, payment, and the rural hospital. In L. Straub and N. Walzer (Eds.), *Financing Rural Health Care*, New York: Praeger.).

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that might allow continued access to care in the face of closure. For example, collaborations among neighboring rural hospitals and other care delivery resources may allow a region to fully utilize all resources and identify the most efficient and effective combination of care delivery for the area. The remainder of the report examines a variety of possible alternative care delivery options for regions considering closure of a hospital facility.

Identified Gaps & Potential Solutions

One of the challenges with describing the problem to be solved lies in defining *the problem* itself. Meeting the desires of a community and the expectations of the potential patients within the current healthcare environment is daunting. The desires and expectations of communities were elevated with the passage of the Hill-Burton Act in 1946.⁵⁸ This act was passed in part as a result of a message delivered by President Harry S. Truman in which he outlined a five-part program for improving the health and healthcare of Americans. The program was designed to provide federal grants and guaranteed loans to improve the physical plant of the nation's hospital system. The goal was 4.5 beds per 1,000 people. The five-point plan and the Hill-Burton Act led many Americans to believe that they should have minimal travel barriers in order to access care.

However, in the last decade in the U.S., the average number of hospital beds per 1,000 people has dropped to 2.6 beds per 1,000 and even lower in many areas – this is clearly far fewer beds across the United States.⁵⁹ Are the “promises” of the Hill-Burton Act out of date? Are those individuals who are trying to “save” rural facilities chasing an impossible goal?

In 1946 when the bill was passed, a hospital was a vastly different kind of place than it has evolved to be in 2017. The expected and available technology was extremely limited in 1946 – no CT or MRI, no endoscopes, no “minimally invasive surgery,” nor cardiac stents. Patients checked into the hospital for a barium enema – the standard of care for early detection of colon cancer. A gallbladder surgery was a 3-to-5-day stay and a 4-to-6-inch incision in the right upper quadrant of the abdomen. The spectrum of specialized care and the specialty physicians to provide that care was substantially narrower than today. It was not unreasonable for virtually every community to have a hospital, a physician, and a reasonable level of quality of care. Patients today want that same convenience of a facility within their community, but they also want many of the same technologies to which they have been introduced by advertising, television, and social media. It is likely that some compromise in expectations regarding convenience, access, and technology will be needed.

Thus, as communities consider the future of healthcare access, one part of the process should be overt discussion about acceptable distances/times to care, quality of care, and the level of technologically driven care, directly correlating to the costs of care – taking into account both personal and community costs. In some communities that have had broad discussions driven by these goals, policies have been created that provide an infrastructure for decision-making and for setting priorities for goals for the community and its healthcare.

In this section, identified gaps and potential solutions will be reviewed. Three main areas were identified that a community should address as they evaluate healthcare opportunities: (1) metrics and expectations, (2) closures and alternatives, and (3) understanding policy and advocacy for rural areas. It is generally assumed that if a community is looking at the accompanying

⁵⁸ Newman, R. K. (n.d.). Major Acts of Congress: Hill-Burton Act of 1946, Retrieved March 28, 2017 from Encyclopedia.com: <http://www.encyclopedia.com/history/encyclopedias-almanacs-transcripts-and-maps/hill-burton-act-1946>

⁵⁹ Minich-Pourshadi, K. (2012, March 12). How many hospital beds is enough? *HealthLeaders Media*. Retrieved from <http://www.healthleadersmedia.com/finance/how-many-hospital-beds-enough#>

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information, it has come to the conclusion that it may be too small to support a full-service hospital but perceives a need for access to care that meets the identified needs of the community and the areas it has traditionally served.

Metrics & Expectations

There are no consistent metrics proven to identify a healthcare facility's viability or lack of viability. There are many tools available, but they appear to be geared toward grant-writing and public health or health status evaluations rather than funding for or creation of permanent healthcare delivery solutions.⁶⁰ Working through the Texas State Office of Rural Health, a community may have access to a tool called Financial Distress Index, which was developed to identify vulnerable hospitals and might help to quantify the degree of urgency to decision-making.⁶¹ It is clear that a decision about whether to maintain a facility or close it must be based on more than a gut feeling or individual perception. Having access to performance information for a period of time – likely more than a single year – should help drive the discussions. Consultation with organizations or individuals who have some expertise in both rural facility management and knowledge of any pending policy or legislative changes might also help to “load the spreadsheet” in order to better prioritize any discussion. Specific knowledge about the geographic area in question is also important. Is there a taxing district? What is the payer mix for the catchment area in general and of those who have historically used the facility? Are there new entities competing for healthcare business that are impacting performance data? More information is better than less, but an organization must also guard against permanent indecision while awaiting perfect information. The *environment* is very fluid and perfect information is likely to be fleeting or impossible to obtain.

It is highly likely that one of the overriding problems is community perception. As referenced in the introduction, many individuals cling to having “their” hospital or other facility. Often, many of those same individuals seek much of their care at a different facility that is newer, more sophisticated, and more widely staffed; but they want to assure that “their” facility remains functional “just in case.” Having a broad community discussion can assist decision makers in understanding the community's perceptions and expectations, learning the possible costs versus benefits to various alternatives, and ranking what is most important to the community. The goal of the discussion should be to inform the community that the pending decision may not necessarily be an all-or-nothing decision, but instead could be a moderated solution that meets the highest priority desires while eliminating some of the more costly medium-to-low-priority desires. Collecting community perceptions and expectations could be a formal or informal process. Formal processes might include referenda or other ballot initiatives; informal mechanisms might be conversations with a variety of individuals. Communities could also hold town hall meetings, city/county council discussions, or other community forums to garner input and disseminate information.

⁶⁰ Rural Health Information Hub. (n.d.). *Tools for success*. Retrieved March 21, 2017 from <https://www.ruralhealthinfo.org/success>

⁶¹ Rural Health Research Gateway. (2016, October). *Trends in risk of financial distress among rural hospitals*. Retrieved from <https://www.ruralhealthresearch.org/alerts/145>

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As a community begins the dialogue, information from reputable sources will be important. Depending on the community, a variety of such sources can be identified. For example, the Episcopal Health Foundation has created a rich resource for the 57 counties it serves with detailed maps including population health information, such as the percentage of the population that is uninsured, the poverty rate, and life expectancy by county.⁶² Identifying such resources should enrich and inform the dialogue.

Whatever decisions are made, any viable solution will require proactive leadership, appropriate planning, and possibly targeted technical assistance.

Policy Understanding & Advocacy

As explored above, the changing healthcare environment, particularly many of the regulatory and legislative actions, have a significant and often negative impact on rural healthcare services. Consequently, it is imperative that the rural community leadership and/or their providers – including facility leadership – remain very current on pending discussions and proposed language in pending legislation. Relationships with elected leadership can facilitate having concerns heard. Membership in industry organizations can provide both a network for group messages and a convenient means of tracking pending changes. Survival for rural healthcare likely demands a stronger policy knowledge and advocacy commitment than required for their urban counterparts.

Examples of how rural communities have used up-to-date knowledge to enhance their community's access to care might include helpful anecdotal information. For instance, the Texas 1115 Medicaid Transformation Waiver demonstration project allowed many small towns to expand the dollars available for healthcare. In Brenham, Texas, an EMS-managed house call project resulted in decreased readmissions to the local hospital, thereby improving the hospital's reportable numbers for Medicare/Medicaid. In College Station, Texas, a community health worker project was implemented that partnered with a local hospital to fast-track follow-up appointments with primary care providers and clinics, thereby reducing inappropriate utilization of the emergency department. Subsequently, hospitalizations for participants were reduced. Those communities that knew the waiver was rolling out and became involved in their region, saw a substantial increase in funds available for improving access to care.

Funds are being proposed to increase graduate medical education training in rural areas. If HB2996 passes the 2017 Texas state legislative session, it is possible that a collaborating group of small hospitals might be able to work with an academic health center to create or expand a training program that would place physicians-in-training in their town. Data suggests that physicians who do part of their training in small towns or rural areas are much more likely to ultimately practice in a small town. Thus, one of the goals would be for some of the individuals trained to decide to stay and establish a practice.

Many current discussions in Congress revolve around changes to healthcare. As those bills move through the process, it may be important for rural communities to track the bills and any related

⁶² Episcopal Health Foundation. (n.d.). *County health data*. Retrieved March 25, 2017 from <http://www.episcopalhealth.org/en/research/county-health-data/>

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information. Will changes to the insurance rules allow members of a rural community to identify insurance choices that were not available before? Could small industries in a region pool together to create a group insurance plan that was not an alternative prior to proposed insurance modifications?

As a recent TORCH report suggested, advocacy is important to everyone in healthcare, and it is imperative for rural healthcare. Knowing elected and appointed officials, tracking important legislative proposals, and weighing in on those proposals may help assure that rural voices are heard, that negative impact for rural areas is considered, and perhaps that changes can be made to minimize the ultimate negative effect on the community. At the conclusion of TORCH's *Rural Hospital Environmental Impact Study*, there were recommendations regarding actions a rural area might want to pursue.⁶³ These and other regulatory and legislative discussions will impact rural healthcare and those who are working to maintain that care in non-metropolitan areas.

Alternatives to Closures

According to Becker's Hospital Review, more rural hospitals have closed in Texas than in any other state since 2010.^{64,65} For each rural hospital that closed, this report includes maps indicating facilities located within a 20-mile radius and a 50-mile radius of a closed facility.⁶⁶ One observation that leaps off the page is that for most closures that occurred, there were one or more facilities within the 20-mile radius – meaning that the community that lost their facility was only a relatively short distance from alternative sites of care. In reality, there were only two cases where there was *not* a hospital facility within the 20-mile radius. Nonetheless, the communities affected by a closure might have benefited from a proactive discussion of alternatives to their local facility.

The research on access to care for the non-metropolitan population has at times suggested that the issue may be less one of miles than one of minutes. While the attached maps depict facilities within 20-mile and 50-mile radii of the closed facility, there are a couple of examples where the radius is “as the crow flies,” where the roads take a somewhat less direct route. For example, in the accompanying maps, Gilmer, item four in Appendix D, has two facilities within the 20-mile radius, but internet mapping suggests they are approximately a 30-minute drive. The seventh location in Appendix D, Commerce, which is home of a regional university, is only 15 miles from the nearest hospital; however, mapping suggests it takes more than 20 minutes to drive. And while many of the roads are major roads assumed to be in good driving condition, some of the roads may be traveled heavily by truck traffic or may be less than ideal during certain

⁶³ Texas Organization of Rural and Community Hospitals (TORCH). (2017, March). *Rural hospital environmental impact study*. Retrieved from <http://www.episcopalhealth.org/en/news/releases/new-report-outlines-growing-health-crisis-facing-rural-counties-texas/>

⁶⁴ Ellison, A. (2016, December 13). A state-by-state breakdown of 80 rural hospital closures. *Becker's Hospital Review*. Retrieved from <http://www.beckershospitalreview.com/finance/a-state-by-state-breakdown-of-80-rural-hospital-closures.html>

⁶⁵ As discussed above, the number of closures varies by source in that some hospitals were ultimately reopened or converted to another type of healthcare facility. See Appendix D for maps and additional information regarding rural hospital closures in Texas.

⁶⁶ See Appendix D.

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weather conditions. Finally, the facility within the 20-mile radius may be a very small, rural facility while a larger more complete facility is 30-45 minutes away.

In an effort to assure information included in Appendix D was as current as possible, phone calls were placed to many of the facilities. We were met with a myriad of responses from the facilities when we asked if they were open and what type of healthcare services they offered. Responses ranged from a straightforward answer to surprise and defensiveness, sometimes even transferring our call to higher levels of administration, or in one instance, to the nurses' station. This demonstrates the importance of a facility keeping its front-line, patient-interfacing staff informed about the facility's status.

Converting a general community hospital to another type of healthcare delivery organization might include a primary care clinic, long-term care facility, a specialty hospital, or mechanisms to assure access to care other than a local inpatient facility. The purpose of considering an alternative to closure is to maintain access to care, and to take advantage of alternative funding sources and perhaps different patient streams. However, since the most common factor leading to potential closure is financial, if the alternative under consideration does not have either a substantially different fiscal foundation or requirement, or a different patient flow, it is questionable whether that alternative would be fiscally viable.

As communities consider alternatives to a traditional hospital facility, they must seek an optimal balance between fiscal reality and community priorities. Each community is unique in its capacities and its perceived priorities. Thus, there is no singular tool, but rather a process that should be applied to individual communities or regions in an effort to best meet local needs within local capacities.

The remainder of this section reviews alternatives to simple closure and suggests points for the community to consider such as: the impact of closure, what issues they feel need to be addressed regarding access to care, and how to best meet those needs. The list could be considered a "menu of alternatives" to closing a hospital, starting with the costliest, most robust alternative and working to less expensive options with fewer healthcare services.

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Menu of Alternatives

The following table provides a summary of alternatives to consider as a community evaluates its healthcare delivery status. There are certainly other possible variations and potentials but this menu is a reasonable starting place. Selection of the best possible combination to meet the needs and resources of a particular area requires communication, compromise, knowledge of resources and limitations, and hard work.

Conversion to Alternative Organization (p. 19)	Telemedicine (p. 21)	Pharmacy (p. 22)	Mid-level Providers (p. 24)	Community Health Workers (p. 25)
Freestanding emergency rooms	Primary care	Commercial pharmacy	Physician Assistants	Transportation assistance
Freestanding emergency rooms with transfer agreements (see literature regarding Frontier Extended Stay Clinics) ^{67, 68, 69}	Follow up care	Independent pharmacy	Nurse Practitioners ~ Full Practice ~ Reduced Practice ~ Restricted Practice	System navigation ~ acquire coverage or financial assistance ~ set appointment, arrange record transfer
Emergency department with infirmary capacity	Higher level of care paired with one of above (e.g., stroke consultant for a primary clinic or a freestanding emergency department)	Quick pharmacy		Assist in acquiring appointments or coordinating appointments between multiple providers
Primary care clinic (with or without telemedicine expansion of breadth of service)	Triaging care (primary/chronic care management) with linkage to another higher level of care site			Obtain appropriate referrals for diagnostics and testing
Rural health clinic	24/7 coverage for providers present for only part of the time			
Federally Qualified Health Center (FQHC)	Project ECHO or other virtual access to specialty care			

A. Conversions

If the primary goal of the hospital is to maintain the availability of access to healthcare, one consideration may be to convert from a traditional hospital facility to a facility that offers one or more services but does not include traditional inpatient care. Conversion to a facility that picks

⁶⁷ Centers for Medicare & Medicaid Services. (2015). *Frontier extended stay clinic demonstration*. Retrieved from <https://innovation.cms.gov/initiatives/Frontier-Extended-Stay-Clinic/>

⁶⁸ Frazier, R., & Doucette, S. (2013). Characteristics of the frontier extended stay clinic: a new facility model. *International of Journal of Circumpolar Health*, 72. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3748438/>

⁶⁹ Rural Health Information Hub. (n.d.). *Frontier extended stay clinics (FESC)*. Retrieved March 24, 2017 from <https://www.ruralhealthinfo.org/new-approaches/frontier-extended-stay-clinics>

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up the care continuum following hospitalization, such as rehabilitation services, may meet many needs. For some communities, strengthening pre-hospital care by enhancing emergency services and formalizing relationships with larger facilities for rapid transfer may effectively meet local emergency needs while not requiring inpatient beds. Cataloging the highest-volume services utilized in the current facility and identifying which of those can be met in a non-hospital setting may help define a book of services that can be delivered in a facility that no longer offers traditional overnight care. When evaluating a healthcare setting, it may be necessary to shift the perspective from “How do we keep our hospital?” to questions such as “What do we use most frequently?” and “What and who do we need to provide those services?”

One example is to have freestanding emergency departments that have longer observation periods. Many facilities have an observation unit that serves as a byway between inpatient stays and the emergency department for some patients. It is not intended for the individual who will likely stay more than 24 hours; that individual should probably be admitted. But it does allow for a longer period of assessment and evaluation prior to either discharge or admission. Patients with chest pain are often admitted for serial blood tests and repeated ECGs and, at times, for functional tests like a stress test. Other common diagnoses treated in an observation unit are congestive heart failure, acute; benign positional vertigo; syncope; transient ischemic attack; or asymptomatic severely elevated blood pressure. Obviously, not every diagnosis is appropriate for care in an observation unit; most would suggest that altered mental status, post-operative recovery, new neurologic findings, or a new inability to ambulate are not appropriate for such a unit. Observation unit care is outpatient care that may not be covered by insurance, and it does not count toward Medicare’s 3-day stay requirement prior to long-term care. But it may offer the opportunity for a facility to try and manage a “book of business” that is more than the usual emergency department without necessarily requiring inpatient admissions. The Centers for Medicare and Medicaid Services (CMS) defines observation care as a specific, defined set of clinically appropriate services, which include ongoing assessment, reassessment, and short-term treatment.⁷⁰ These are considered outpatient services and allow more time to determine whether a patient will require admission or can be discharged.

Another example of an emergency department redefined was created in the Medicare Modernization Act of 2003, which allowed remote clinics to treat patients for more extended periods including overnight stays. The extended stay clinic was to be at least 75 miles from the nearest acute care facility or be inaccessible by public road.⁷¹ The demonstration project ultimately opened five such facilities at significant cost in order to meet the Medicare requirements. Beneficiaries believed that it was a good experience and according to clinician assessments nearly half (45.4%) of those extended stay beneficiaries who had an extended stay for monitoring and observation ultimately avoided an emergency transfer and hospitalization.⁷² But ultimately it was believed that frontier communities would likely not be able to sustain extended stay capacity under fee-for-service Medicare.

⁷⁰ Centers for Medicare & Medicaid Services. (2014). *Medicare benefit policy manual*. Retrieved from <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/bp102c06.pdf>

⁷¹ Centers for Medicare & Medicaid Services. (2015). *Frontier extended stay clinic demonstration*. Retrieved from <https://innovation.cms.gov/initiatives/Frontier-Extended-Stay-Clinic/>

⁷² Burwell, S. M. (2014). *Secretary of Health and Human Services report to congress: Evaluation of the Medicare frontier extended stay clinic demonstration*. Retrieved March 28, 2017 from <https://innovation.cms.gov/Files/reports/MFESCD-RTC.pdf>

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Although many rural communities could potentially benefit from the extended stay model of care, becoming an extended stay facility is difficult. Such facilities require a high level of staffing, infrastructure, and administrative capacity that is beyond the resources available to many clinics in frontier areas, particularly those without access to additional funding under the Public Health Service Act and from the Indian Health Service (IHS).⁷³ However, in a facility that *has been providing* inpatient care, the conversion might be less problematic. Advocacy and legislative modification might open this type of conversion to a much larger rural audience.

Knowing that one of the most common causes of closure is financial, consideration might be appropriate for a federally qualified clinic – either a Federally Qualified Health Clinic (FQHC)⁷⁴ or a Rural Health Clinic (RHC).⁷⁵ Both entities were created by federal legislation in an effort to help address an inadequate supply of healthcare providers in rural areas and as an incentive to increase the use of non-physician providers like nurse practitioners and physician assistants. Both are paid an enhanced fee for medically necessary primary care and qualified preventive services for Medicare and Medicaid patients. The enhanced fee helps to retain healthcare providers; therefore, the entire community benefits from having providers available. There is an application process to qualify.

Of course, there should also be consideration of how to keep local health providers if the hospital facility closes. One option is a partnership with a health system in the area to develop a primary care clinic with ties to the larger system. Good primary care and chronic care management are important to large systems as part of their reimbursement in the ever-evolving payment system. Systems can maximize their reimbursement by managing patients' needs on an outpatient basis and by reducing hospitalizations, particularly avoiding readmissions within 30 days after hospital discharge. A system might also benefit from having follow-up care accessible in a community so that patients can continue to improve their health status following discharge from inpatient care.

B. Telemedicine

Telemedicine has also been found to increase access and expand the breadth and quality of care to rural areas while reducing cost and travel. Some potential benefits include: providing expanded services that could be delivered by an advanced practice nurse or a physician assistant; allowing for follow-up care or even consultations with specialized physicians; providing interim care between face-to-face appointments at another site; and many other alternatives. It can also bolster the breadth of services that a well-trained primary care physician can provide. Telemedicine thus can enhance the level and breadth of care in the community within the bandwidth of the available workforce.

⁷³ Centers for Medicare & Medicaid Services. (2015). *Frontier extended stay clinic demonstration*. Retrieved from <https://innovation.cms.gov/initiatives/Frontier-Extended-Stay-Clinic/>

⁷⁴ Centers for Medicare & Medicaid Services. (n.d.). *Federally Qualified Health Centers (FQHC) center*. Retrieved March 29, 2017 from <https://www.cms.gov/Center/Provider-Type/Federally-Qualified-Health-Centers-FQHC-Center.html>

⁷⁵ Centers for Medicare & Medicaid Services. (2013). *Rural health clinics*. Retrieved from <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/RHCs.html>

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The facilities which can support patient access to telemedicine are extremely varied and could range from a consultation room in a pharmacy to an extension of an emergency department. The widest range of care would be achieved by having a site that has personnel and facilities that meets the State of Texas regulations for telemedicine and telehealth.⁷⁶

One of the reasons for closure is the limited range of service that has been/can be rendered by the small number of providers at a rural facility. If the providers in a community could address the needs of a wider range of patients, it is possible that a larger number of individuals would seek their care at that site – thereby reducing the likelihood of closure. Utilization of telemedicine is one way to bring specialty care to rural areas. Successful programs have demonstrated savings of thousands of miles not traveled and high levels of patient satisfaction.

As medicine has become more complex, physicians have become increasingly more specialized in their training and their practice. However, the number of patients in any particular rural area is unlikely to be large enough to justify a subspecialist locating in that site. Importantly, for some specialties, there are too few providers in a particular specialty to meet the needs even in large, urban areas. Thus, the disparity between need and capacity is substantial across the state and it is markedly worse in rural areas.

A lack of specialized physicians is not limited to Texas. In New Mexico, there were not enough hepatologists (liver specialists) in the state to treat the numbers of people who had Hepatitis B & C, cirrhosis, and other liver diseases. The University of New Mexico School of Medicine created Project ECHO: an innovative “hub-and-spoke knowledge-sharing network” that provides training materials and information to rural providers and prescribers.⁷⁷ The program originally was established to assist primary care clinicians with the information and support to treat complex problems of the liver and biliary system, but since its initiation, many conditions that may not be common in a rural practice have been added, including HIV and chronic pain. According to their website, Project Echo has allowed New Mexico patients to receive care in their own communities and saved these patients “539,000 travel miles” in 2009.

There are Project Echo programs in Texas. Partnerships with the many academic health centers could be a potential solution for keeping a wider range of patients near home while still receiving state-of-the-art care. Beyond the care provided to specific patients, ECHO also facilitates learning among providers. ECHO allows for a consultative process where patient-specific information is sent to the specialist as well as several providers to participate in a group consultation. This allows multiple providers to listen as the case is discussed and specific suggestions and recommendations are made. Such group consultations allow many providers to learn from a single case.

⁷⁶ Texas Medical Board. (n.d.). *Telemedicine FAQs*. Retrieved April 25, 2017 from <http://tmb.state.tx.us/page/laws-gc-faqs-telemedicine>

⁷⁷ University of New Mexico School of Medicine. (n.d.). *Project ECHO: A Revolution in medical education and care delivery*. Retrieved March 25, 2017 from <http://echo.unm.edu/>

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C. Pharmacy

A complex relationship exists between rural Texans, rural physicians, and their rural independently owned pharmacies. Big retail pharmacies do not come to small towns because the payer mix will not support their business model and so communities welcome the solo pharmacist willing to open a pharmacy. In 2014, over 2.7 million people lived in 663 U.S. rural communities served by a sole, independently owned pharmacy.⁷⁸ These pharmacies fill many roles in rural areas, such as: medication dispensing; clinical services (e.g., blood pressure monitoring, immunizations, tobacco cessation programs, diabetic counseling, and screening for osteoporosis/asthma/hearing/cholesterol); and pharmacy-related services for the local hospital, nursing home, and community health center. Rural communities are experiencing a shortage of primary medical access and therefore come to rely heavily on the array of health services available at the pharmacy.⁷⁹ Additionally, many small hospitals do not have enough beds to justify a full-time pharmacist and depend upon the pharmacist in town to be the drug information resource.

Independently owned pharmacies face business challenges from their limited ability to negotiate with pharmacy benefit managers, drug wholesalers, and health plans.⁸⁰ These pharmacies simply do not have the volume of business to secure price breaks or competitive contracts. This challenge was highlighted when Medicare Part D was implemented in 2006. Medicare Part D plans lowered patient drug costs by selectively contracting with pharmacies. An unforeseen consequence of these selective contracts was that many rural patients switched to mail-order pharmacies or independent pharmacies signed contracts with low or negative profit margins. The loss of revenue contributed to a significant decline in the number of independently owned pharmacies in rural areas.⁸¹ When the sole rural independent pharmacy closes its doors, there is a void in the community. While medications can be delivered by mail, where do the other clinical services come from once the pharmacy is gone? For many, the next closest pharmacy is more than 10 miles away. This distance is more of a barrier to those with a low income, the publicly insured, and people over the age of 65.⁸² To those who do not see 10 miles as a barrier, there is a

⁷⁸ Nattinger, M., Ulrich, F., & Mueller, K. (2015, April). *Characteristics of rural communities with a sole, independently owned pharmacy* (Brief No. 2015-6). Retrieved from The University of Iowa, RUPRI Center for Rural Health Policy Analysis website:

<http://cph.uiowa.edu/rupri/publications/policybriefs/2015/Sole%20Independent%20Pharmacies.pdf>

⁷⁹ Weigel, P., Ulrich, F., & Mueller, K. (2013, November). *Demographic and economic characteristics associated with sole county pharmacy closures, 2006-2010* (Brief No. 2013-15). Retrieved from The University of Iowa, RUPRI Center for Rural Health Policy Analysis website:

<http://cph.uiowa.edu/rupri/publications/policybriefs/2013/Sole%20County%20Pharm%20Closures.pdf>

⁸⁰ Ulrich, F., & Mueller, K. (2014, June). *Update: Independently owned pharmacy closures in rural America, 2003-2013* (Brief No. 2014-7). Retrieved from The University of Iowa, RUPRI Center for Rural Health Policy Analysis website:

<http://cph.uiowa.edu/rupri/publications/policybriefs/2014/Pharm%20Closure%20Brief%20June%202014.pdf>

⁸¹ Weigel, P., Ulrich, F., & Mueller, K. (2013, November). *Demographic and economic characteristics associated with sole county pharmacy closures, 2006-2010* (Brief No. 2013-15). Retrieved from The University of Iowa, RUPRI Center for Rural Health Policy Analysis website:

<http://cph.uiowa.edu/rupri/publications/policybriefs/2013/Sole%20County%20Pharm%20Closures.pdf>

⁸² Nattinger, M., Ulrich, F., & Mueller, K. (2015, April). *Characteristics of rural communities with a sole, independently owned pharmacy* (Brief No. 2015-6). Retrieved from The University of Iowa, RUPRI Center for Rural Health Policy Analysis website:

<http://cph.uiowa.edu/rupri/publications/policybriefs/2015/Sole%20Independent%20Pharmacies.pdf>

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shift in business to the town that has the pharmacy. Residents will see a physician and do shopping in the town where they are getting their pharmacy services, thereby drawing resources away from the community in which they live.

There have been several approaches to preserve the synergistic relationship of the rural patient, the provider, and the pharmacist. Traynor and Sorensen (2005) developed a risk assessment tool to allow for prospective assessment of the risk of losing local pharmacy services.⁸³ If local officials and customers are aware that their pharmacy is at risk they can target resources to areas most in need and serve as a bridge to collaborative relationships to ensure local access to pharmacy services. *The 2006 Report to the Secretary: Rural Health and Human Services Issues* suggested that Boards of Pharmacy need to become sensitive to rural needs to help facilitate novel approaches such as telepharmacy.⁸⁴ There has certainly been interest and expansion in the utilization of telepharmacy services. Pharmacists themselves are banding together to exchange ideas and best practices as they strive to provide the best care possible with shrinking budgets and reduced personnel. The Small and Rural Hospitals Special Interest Group is an online forum managed by the American Society of Health-System Pharmacists that allows for creative sharing. Another online option for information exchange is housed by the College of Public Health at the University of Iowa and known as the Rural Policy Research Institute.

There is an inextricable link between rural healthcare and rural pharmacy services. The loss of one may not necessitate the loss of the other, but the complex relationship must be explored and understood in order to anticipate the impact of loss.

D. Mid-level providers

Instituting the use of more mid-level providers such as Nurse Practitioners (NPs) and Physician Assistants (PAs) may provide an avenue to relieve the access to care obstacle. Currently, the state of Texas requires mid-level practitioners to work under the supervision of a licensed physician. Some NPs feel limited in their ability to treat patients because of this required link.⁸⁵ There are NPs that recognize the rural access to care dilemma and would like to bridge the gap by being able to serve these rural areas. However, they are unable to because there are not enough physicians in those areas. Further, because the population in these areas is largely publicly insured, there is a lower financial incentive for physicians to practice in these areas. Unfortunately, data suggest that NPs and physicians often follow similar location patterns, which leaves non-metropolitan areas underserved.

Physician groups and NPs are at odds about granting more independence and autonomy for NPs. Physicians generally assert that the training of an NP is significantly different than that of a

⁸³ Traynor, A. P., & Sorensen, T. D. (2005). Assessing risk for loss of rural pharmacy services in Minnesota. *Journal of the American Pharmacists Association*, 45(6), 684-693.

⁸⁴ U.S. Department of Health and Human Services, National Advisory Committee on Rural Health and Human Services. (2006, January). *The 2006 report to the secretary: Rural health and human service issues*. Retrieved from <https://www.hrsa.gov/advisorycommittees/rural/2006secreport.pdf>

⁸⁵ Ura, A. (2014, May 18). Nurse practitioners say that greater autonomy would cure challenges. *The Texas Tribune*. Retrieved from <https://www.texastribune.org/2014/05/18/nurse-practitioners-struggle-integrate-medicaid/>

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physician and granting their independence is a patient safety issue.⁸⁶ Conversely, NPs reference a 2000 study published in the *Journal of the American Medical Association* that compared patient outcomes of those treated by fully authorized NPs to those treated by physicians.⁸⁷ There were no significant statistical differences in health statuses discovered.

Many states have already granted this practice independence in varying degrees. According to the American Association of Nurse Practitioners, 22 states and the District of Columbia have full practice authority, 16 states possess reduced practice parameters, and the remaining 12 states, including Texas, have restricted practice limits.⁸⁸

- **Full Practice** authority allows NPs to evaluate, diagnose, order and interpret diagnostics, initiate and manage treatments, prescribe medication, under the exclusive licensure authority of the state board of nursing. This is currently the recommendation of the National Academies of Sciences Engineering and Medicine (formerly the Institute of Medicine) and National Council of State Boards of Nursing.
- **Reduced Practice** parameters reduce the ability of NPs to engage in at least one element of practice requiring a regulated collaborative agreement with an outside health discipline to provide patient care or limits the setting or scope of one or more elements of practice.
- **Restricted Practice** restricts the ability of NPs to engage in at least one element of practice. These states require supervision, delegation, or team-management by an outside health discipline for the NP to provide patient care.

While there is substantive argument of both sides of the issue, reducing disparity by increasing access to care is a point on which both sides agree. Further discussion, conversation, and exploration is imperative if a solution is to be rendered.

E. Community Health Workers

Community health workers (CHWs) are generally individuals who do not have a formal degree, certificate, or license in traditional health professions; however, they might have acquired a certificate indicating they have completed training as a CHW. The American Public Health Association defines CHWs as frontline staff who are trusted members of and/or have a deep understanding of the community that is served.⁸⁹ This unique relationship allows the CHW to serve as a liaison, link, and intermediary between health or social services and the community, facilitating access to services and improving the quality and cultural competence of service delivery. CHWs also build individual and community capacity by increasing health knowledge and self-sufficiency through multiple activities such as outreach, community education, informal

⁸⁶ Ramshaw, E. (2010, May 21). Diagnosis: Turf war. *The Texas Tribune*. Retrieved from <https://www.texastribune.org/2010/05/21/nurse-practitioners-want-less-doctor-oversight/>

⁸⁷ Munding, D. M., et al. (2000). Primary care outcomes in patients treated by nurse practitioners or physicians. *Journal of the American Medical Association*, 283(1), 59-68.

⁸⁸ American Association of Nurse Practitioners. (n.d.). *State practice environment*. Retrieved March 25, 2017 from <https://www.aanp.org/legislation-regulation/state-legislation/state-practice-environment/66-legislation-regulation/state-practice-environment/1380-state-practice-by-type>

⁸⁹ American Public Health Association. (2017). *Community health workers*. Retrieved March 25, 2017 from <https://www.apha.org/apha-communities/member-sections/community-health-workers>

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counseling, social support, and advocacy.

Some CHWs have college degrees and some have only a high school education. Notably, there is no requirement for certification to become a CHW; however, there are currently 40 Texas Department of State Health Services (DSHS) certified training programs for CHWs.⁹⁰ Certified CHWs receive 160 hours of training on topics such as communication, advocacy, and organizational skills.⁹¹ Despite the various levels of training a CHW might have, they generally bring a commitment to assist individuals to access and navigate the healthcare delivery system.

CHWs have been used for a variety of roles and it is possible that identifying a workforce of unlicensed but trained and committed individuals to fill the service gaps could help resolve some healthcare access problems. Transportation to a more centrally located site of care, assistance with telemedicine transmissions and scheduling, and pharmaceutical delivery to homes of the aging are all services that could be rendered. Other roles could include helping patients schedule appointments, seek referrals, acquire diagnostic tests like labs or imaging, or even navigate the insurance acquisition process. Having such a workforce could offset many of the inconveniences that closing a particular site of care could cause patients who would then have farther to travel in order to access healthcare services. Note that while assistance with telemedicine connections was mentioned above, it would require that the State of Texas recognize the certificate of community health workers as an acceptable provider to assist in delivery of telemedicine services.

The alternatives listed here are a starting point for communities facing a hospital closure. Early recognition of the vulnerability of healthcare delivery in virtually every small town is important. There are likely as many solutions as there are rural communities facing this situation, but there are also foundational lessons to be learned from both successes and failures. Below, the report will review one Texas community that has not only managed to survive but to thrive, and another Texas community that appears to be on the precipice of possible closure.

Case Study: A Town with a Vulnerable System

A Texas community with a population of just under 6,000 located 30-35 miles from full-service community hospitals is the focus of this case study.⁹² This small Texas town has a relatively high rate of uninsured and individuals who live below the poverty line. It is a challenge for the people who live there to access quality care. The Census of 2013 showed the population to have declined by 12.1% since 2000. The median income for a household was \$27,121, compared to \$50,740 for the Texas average, and the estimated per capita income was \$12,166. The median age was 35.4 years.

The community needs assessment showed that the problems of the town's citizens are not significantly different than the rest of the state. For example, the data showed:

⁹⁰ Texas was the first state to develop legislation to govern CHW activities in 1999. Senate Bill 1050 (77th legislative Sessions) called for the establishment of a formal training program for CHWs and requires CHW programs in health and human services agencies to hire state-certified CHWs when possible (see <https://www.ruralhealthinfo.org/community-health/community-health-workers/3/certification>).

⁹¹ Texas Department of State Health Services. (2017). *Community health workers – Training information*. Retrieved from <https://www.dshs.texas.gov/mch/chw/Community-Health-Workers---Training-Information/>

⁹² Falls Community Hospital & Clinic. (n.d.). Retrieved March 25, 2017 from <http://www.fallshospital.com/>

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- Adult diabetes rate: 12.0% (9% in Texas)
- Adult obesity rate: 32.0% (29.0% in Texas)
- Low-income preschool obesity rate: 16.7% (15.7% in Texas)

The needs identified in the assessment included: need for access to dental care (a mobile program comes to town periodically), wellness visits for women, and care for chronic diseases including diabetes, hypertension, degenerative joint disease, diseases of the aging, mental health, and kidney disease. The community appears to already be using telehealth for some mental health issues and has some physical therapy and chiropractic care options available.

Their community hospital has approximately 35 beds and at one time the city also had a Veteran's Administration (VA) Hospital with an additional 200 beds. But economies and expectations have changed, the VA facility has closed, and the community hospital is challenged to keep its doors open.

If we put the “menu” together with the most recent community health needs assessment, the community may want to consider both the economics and the acceptability of the following options:

- Maintaining the current 24/7 emergency care (if fiscally manageable) and alternatively exploring the provision of a primary care clinic with as many extended hours as possible. With the shrinking population, it is possible that maintaining an inpatient facility may not be the right long-term solution. Recruitment/retention of non-physician providers may assist in extending hours. A Women's Health NP (WHNP) might be a solution to both expanded access and provide increased women's health screenings.
- Exploring partnerships in larger surrounding areas that might allow a wider array of services like chemotherapy and rehabilitation within the current facility that could enhance the fiscal picture.
- Exploring telemedicine, with or without specialist collaborators, to expand the breadth of services that can be either achieved locally or followed locally. This could involve negotiating with a health system and there are several to choose from.
- Working with local school districts and local providers to begin to address some of the social determinants of health (e.g., obesity, nutrition, exercise).
- Developing a core of community health workers to address issues of transportation, and access to the health system; this might be particularly important if the local facility closes or is forced to reduce its breadth of services.
- Seeking one of a variety of access points that might address part of the economic challenge. These include Rural Health Clinics (RHCs) or Federally Qualified Health Centers (FQHCs). The community might also consider a taxing district which would potentially provide some funds to help support local access solutions.

While it appears there are a variety of potential solutions to the resident's needs, the experiences of other rural communities suggest that the community and particularly its leaders – both governmental and economic – need to determine their level of commitment. Commitment to identifying a solution(s) requires leadership, energy, and support for identified solutions.

Case Study: A Success Story

A recently published article in STAT, a division of the *Boston Globe*, highlights a Texas rural hospital that is 220 miles from a major city, and more than 100 miles away from any other hospital.⁹³ Notably, it is the only facility that provides obstetrical services within more than 100 miles. The hospital has 39 beds, is a public, non-profit entity, and has a very distinct chemistry that has seemingly contributed to its success in the face of an onslaught of rural hospital closures. The administration has employed methods that include bringing in specialists such as orthopedists and oncologists, implementing telemedicine, and expanding clinic services to provide greater primary care utilization. While this facility appears to be experiencing great success, the story outlines the history whereby the local hospital was facing potential loss of virtually all providers. Recruiting one physician who then assisted in recruiting others helped lead to today's successes. Additionally, this hospital contracts with an organization within an academic health center that facilitates staying up-to-date on the latest legislative, regulatory, and reporting requirements for maximum reimbursement.⁹⁴ These services include physician peer review, nursing peer review, utilization management, and data extraction and reporting.

Whether basking in the glow of success or trembling on the edge of a change decision, there are lessons to be learned. When a facility finds itself on the verge of closure, there are steps that can be taken to potentially revive it or at least address the impact of closure. On the other side, rural facilities that have found success must remain vigilant and creative to sustain and strengthen their position. The vigilance and leadership are remarkably similar for the failing and the currently succeeding facilities. Many facilities are taking actions such as:

- Establishing metrics that might be used as an early warning system for administrators and providers (e.g., admissions numbers, financial performance or margins, number of providers actively working in the community)
- Having a list of issues that require substantive lead time to provide solutions (e.g., replacing or adding to numbers of providers)
- Changes in the healthcare environment that would impact provider numbers or facility performance (e.g., changes in reimbursement rates and changes in insurers who offer products in the area)

Leadership must remain proactive. Becoming experts in the kinds of solutions that are available to rural areas and developing a network of individuals who can share new concepts, brainstorm possible solutions, or assist in advocacy efforts may mean the difference for a community being a step ahead of bad news. Leadership should also keep an open dialogue with the population served. This might include periodic discussions with the community about their perceived needs and satisfaction with how those needs are being met. If there is a “living” wish list and leadership is constantly working to address the wish list, it is less likely that community members will feel disengaged and take their healthcare needs elsewhere.

⁹³ Huff, C. (2017, January 4). In a small town in Texas, a rural hospital thrives against all odds. *STAT*. Retrieved March 21, 2017 from <https://www.statnews.com/2017/01/04/hospital-rural-childress-texas/>

⁹⁴ Rural & Community Health Institute (RCHI). (n.d.). Retrieved March 25, 2017 from <http://www.rchitexas.org/>

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Yet another level of discussion should be considered. As the maps in Appendix D indicate, there was usually another facility within a 20-to-25-mile radius of the closed hospital. Consideration should be given to identifying a geographic area, defining the health needs, and attempting to bring together all of the health resources in that area (or that serve that area). Such consolidation might preserve a wider range of services to a larger defined population with more financial stability than many unaligned independent facilities would expect if they go it alone. Medicine is certain to continue to change and evolve. It will probably become even more specialized and technology-based. If those changes occur, it will become more difficult to preserve adequate resources to keep care local. It will become less likely that maintaining two, three, or four small facilities within a 20-mile radius is possible or even preferable. Each facility would need to have enough patients to attract specialty care providers, including the highly trained staff and equipment necessary to support those providers. Rural healthcare is likely to benefit from minimizing the “survival of the fittest” mentality and encouraging collaborative community partnerships to accomplish shared goals.

The steps above are far from a smooth step-by-step process, but they do provide an outline of important considerations. They give both short- and mid-term steps to survival in the current climate. By delving into the resources in this report, communities can take the first steps to evaluate hospital closure alternatives.

Assessment Tool for Rural Healthcare Organizations

In reviewing the literature for this project, it is apparent that rural healthcare needs and challenges were frequently studied in the 1990s. Following a quiescent period, there has been some reemergence of concern and publication on the topic. However, while there is a great deal written about the challenges faced and some about specific instances of success, no broad-based tool or process was found. The tools identified tended to define subsets of the problems to be addressed.

With healthcare and broad potential changes in healthcare delivery in the news, it is timely to attempt to develop a tool or process. Such a tool or process could aid in evaluating and assessing non-metropolitan healthcare delivery. The evaluations and assessments could be used to identify solutions for areas (regions) that decide that the current delivery processes/systems are not sustainable or adequate. Any tool should be multi-faceted and must outline a community's desires and expectations measured against fiscal and economic realities. While no such tool was identified in the reviewed literature, much foundational work has been done and the environment appears ripe for development, application, and improvement of such a tool. This would almost certainly be an iterative process involving learning from each round of implementation and evaluation and building upon that knowledge.

The resources vary by state, but in Texas there are a wide variety of possible participants in building, applying, and improving such a tool. They include:

- Schools of public health
- Academic health centers
- Texas Agricultural Extension Service
- Texas A&M University Rural & Community Health Institute (RCHI)
- Texas State Office of Rural Health

The criteria to be evaluated would include qualitative information such as the impact on the community as well as information from relevant stakeholders (e.g., patients, healthcare providers, and other businesses in the community). Quantitative measures would also be important, such as the organization's financials and metrics about the community. Other measures that could be included in the evaluation process are Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores, health outcomes, and patient access. For each location, an evaluation of possible alternative operating structures (see the suggestions above) would be conducted. To determine the operating structures that would be available for a given location, the following items would be closely examined: federal funding, local stakeholder support, local community healthcare needs, and a review of nearby care options.

Forward steps toward creating solutions for improving health outcomes and increasing healthcare access for rural areas seem to be particularly timely in the current environment. Every journey starts with a single step, and it would appear to be a right time to take a first step. For the populations in need now, better solutions cannot come too soon.

Resources for Community Decision Makers
Source: RCHI Staff

Following are the governmental and regulatory materials generated over the last decade or more regarding toolkits, policies, guidelines, national initiatives, quality improvement/performance improvement, health information technology, strategies and tools to advance patient safety.

General Resources for Rural Health

1. National Patient Safety Foundation (NPSF): <http://www.npsf.org/>
2. Health Resources and Service Administration (HRSA): <https://www.hrsa.gov/>
3. National Rural Health Resource Center: <https://www.ruralcenter.org/>
4. Rural Health Information Hub: <https://www.ruralhealthinfo.org/>

Resources for Rural Health Policy and Advocacy:

5. National Rural Health Association (NRHA): <http://www.ruralhealthweb.org>
6. Texas Organization of Rural & Community Hospitals (TORCH): <http://www.torchnet.org>
7. Texas Hospital Association (THA): <http://www.tha.org/>
8. American Hospital Association (AHA): <http://www.aha.org/>
9. Agency for Healthcare Research and Quality (AHRQ): <https://www.ahrq.gov/>
10. National Organization of State Offices of Rural Health (NOSORH): <https://nosorh.org/>

Resources for Rural health research, clinical quality improvement, data measurement and grant opportunities:

11. Agency for Healthcare Research and Quality (AHRQ): <https://www.ahrq.gov/>
12. Health Resources and Service Administration (HRSA) most specifically Federal Office: <https://www.hrsa.gov/>

Definition of “Rural”

In order to identify and address rural health disparities and issues, defining “rural” must be attended to first. There are several definitions and accepted guidelines on what the term rural involves. The Center for Medicare and Medicaid Services (CMS) has set location requirements for rural health clinics (RHCs). To qualify as an RHC, it must be in a non-urban area where there is currently a healthcare shortage or underservice factor. CMS, however, does not restrict how close RHCs can be to one another, unlike the restrictions imposed on Critical Access Hospitals (CAHs). RHCs must be in a shortage or underserved area that has been designated within the last four years by the Health Resources and Services Administration (HRSA).

Several types of shortage areas meet the requirements set forth by HRSA. There are three categories of Health Professional Shortage Areas (HPSAs) designated as having shortages of primary care, dental care, and/or mental health providers. The categories include geographic (a county or service area), population (e.g., low income or Medicaid eligible), or facilities (e.g., federally qualified health centers, or state or federal prisons). These categories may be independent of each other or overlapping and inclusive of multiple factors.

Medically Underserved Areas (MUAs) and Medically Underserved Populations (MUPs) identify geographic areas and populations with a lack of access to primary care services. MUAs have a shortage of primary care health services for residents within a geographic area such as: a whole county, a group of counties in a geographic area, a group of urban census tracts, or a grouping of county or civil divisions. MUPs are specific sub-groups of people living in a defined geographic area with a shortage of primary care health services. These groups may face economic, cultural, or linguistic barriers to healthcare such as the homeless, low-income, Medicaid ineligible, migrant farm workers, or Native Americans. MUA/P designation is calculated based on the criteria of population to provider ratio, percent of the population below the federal poverty level, the percentage of population over 65, and the infant mortality rate in the defined area. Finally, the Governor Designated and Secretary Certified Areas are areas of the state designated by the governor as shortage areas specifically for the purpose of RHC certification and must meet specific criteria.

If an area qualifies for a Federal Office of Rural Policy grant, it is considered rural. The Office of Management and Budget (OMB) designates counties as Metropolitan, Micropolitan, or neither. A metropolitan area consists of a population of 50,000 or more, a micropolitan area contains an urban core of at least 10,000 but not more than 50,000. Anything that does not fall into those bounds are considered neither and can be deemed rural according to the HRSA.

Source: Rural Health Information Hub. (n.d.). *Am I rural? Tool*. Retrieved March 21, 2017 from https://www.ruralhealthinfo.org/am-i-rural?utm_source=racupdate&utm_medium=email&utm_campaign=update021517

Appendix B: Definition of “Rural”

EHF Central Region

County Name	CMS-Rural Health Clinics (RHC) Program	FORP-Grant Programs	Federal Office of Rural Health Policy (FORHP) defined rural area?	Census 2010-Percent Rural	Health Profession Shortage Area (HPSA) Primary Care	Health Profession Shortage Area (HPSA) Dental Care	Health Profession Shortage Area (HPSA) Mental Health	Medically Underserved Area (MUA)?
Lampasas	Yes	No	No	68.27%	Yes	No	Yes	Yes
Burnet	Yes	Yes	Yes	55.67%	No	Yes	Yes	Yes
Travis	No	No	No	5.4%	No	No	No	No
Coryell	Yes	Yes	Yes	19.42%	Yes	No	No	Yes
Bell	No	No	No	15.19%	No	No	No	No
Milam	Yes	Yes	Yes	56.18%	Yes	No	Yes	Yes
Lee	Yes	Yes	Yes	69.72%	Yes	No	Yes	Yes
Bastrop	Yes	No	No	63.85%	Yes	Yes	Yes	Yes
Fayette	Yes	Yes	Yes	67.14%	Yes	Yes	Yes	Yes
Washington	Yes	Yes	Yes	53.49%	Yes	No	Yes	Yes
Burleson	Yes	No	No	76.66%	Yes	Yes	Yes	Yes
Brazos	No	No	No	12.06%	No	No	Yes	No
Grimes	Yes	Yes	Yes	68.9%	Yes	No	Yes	Yes
Madison	Yes	Yes	Yes	67.4%	Yes	No	Yes	Yes
Leon	Yes	Yes	Yes	100%	Yes	No	Yes	Yes
Freestone	Yes	Yes	Yes	66.48%	Yes	No	Yes	Yes
Limestone	Yes	Yes	Yes	53.62%	No	No	Yes	Yes
McLennan	No	No	No	23.35%	No	Yes	Yes	No
Falls	Yes	No	No	67.36%	Yes	No	Yes	Yes
Robertson	Yes	No	No	73.86%	Yes	Yes	Yes	Yes
Williamson	Yes	No	No	11.99%	No	No	No	Yes
Totals:	Y:17 N:4	Y:11 N:10	Y:11 N:10	Avg.: 52.19%	Y:14 N:7	Y:6 N: 15	Y:17 N:4	Y:17 N:4

Appendix B: Definition of “Rural”

EHF East Region

County Name	CMS-Rural Health Clinics (RHC) Program	FORP-Grant Programs	Federal Office of Rural Health Policy (FORHP) defined rural area?	Census 2010-Percent Rural	Health Profession Shortage Area (HPSA) Primary Care	Health Profession Shortage Area (HPSA) Dental Care	Health Profession Shortage Area (HPSA) Mental Health	Medically Underserved Area (MUA)?
Jefferson	Yes	No	No	8.4%	No	Yes	No	No
Orange	Yes	No	No	35.14%	Yes	Yes	No	No
Hardin	Yes	No	No	51.55%	No	No	No	Yes
Newton	Yes	Yes	Yes	100%	Yes	Yes	Yes	Yes
Jasper	Yes	Yes	Yes	78.19%	No	Yes	Yes	No
Tyler	Yes	Yes	Yes	78.13%	Yes	No	Yes	Yes
Polk	Yes	Yes	Yes	77.64%	Yes	No	Yes	Yes
San Jacinto	Yes	Yes	Yes	100%	Yes	Yes	Yes	Yes
Trinity	Yes	Yes	Yes	77.24%	Yes	Yes	Yes	Yes
Angelina	Yes	Yes	Yes	43.08%	Yes	Yes	Yes	No
San Augustine	Yes	Yes	Yes	100%	Yes	No	Yes	Yes
Sabine	Yes	Yes	Yes	100%	Yes	No	Yes	Yes
Houston	Yes	Yes	Yes	73.49%	Yes	No	Yes	Yes
Nacogdoches	Yes	Yes	Yes	46.46%	Yes	Yes	Yes	No
Shelby	Yes	Yes	Yes	79.43%	Yes	Yes	Yes	Yes
Panola	Yes	Yes	Yes	72.72%	Yes	Yes	Yes	Yes
Rusk	Yes	Yes	Yes	65.87%	No	No	Yes	Yes
Cherokee	Yes	Yes	Yes	63.05%	No	No	Yes	Yes
Anderson	Yes	Yes	Yes	67.06%	No	No	Yes	Yes
Smith	No	No	No	31.61%	No	No	No	Yes
Gregg	Yes	No	No	13.36%	No	No	No	No
Harrison	Yes	Yes	Yes	56.05%	Yes	No	No	Yes
Marion	Yes	Yes	Yes	100%	Yes	No	Yes	Yes
Totals:	Y:22, N:1	Y: 18, N:5	Y:18, N:5	Avg.: 66.02%	Y:15, N:8	Y:10, N:13	Y:17, N:6	Y:17, N:6

Appendix B: Definition of “Rural”

EHF Upper Gulf Region

County Name	CMS-Rural Health Clinics (RHC) Program	FORP-Grant Programs	Federal Office of Rural Health Policy (FORHP) defined rural area?	Census 2010-Percent Rural	Health Profession Shortage Area (HPSA) Primary Care	Health Profession Shortage Area (HPSA) Dental Care	Health Profession Shortage Area (HPSA) Mental Health	Medically Underserved Area (MUA)?
Walker	Yes	Yes	Yes	45.58%	Yes	No	No	Yes
Montgomery	No	No	No	22.73%	No	No	No	No
Liberty	Yes	No	No	63.23%	Yes	No	No	Yes
Chambers	Yes	No	No	45.72%	Yes	Yes	Yes	Yes
Harris	No	No	No	1.21%	No	No	Yes	No
Galveston	Yes	No	No	6.15%	No	No	No	No
Brazoria	No	No	No	22.53%	No	No	No	Yes
Matagorda	Yes	Yes	Yes	36.42%	No	Yes	Yes	Yes
Wharton	Yes	Yes	Yes	49.9%	Yes	Yes	Yes	Yes
Colorado	Yes	Yes	Yes	62.61%	Yes	No	Yes	No
Austin	Yes	Yes	Yes	66.34%	Yes	No	Yes	Yes
Waller	Yes	No	No	61.64%	Yes	No	Yes	Yes
Fort Bend	No	No	No	5.54%	No	No	No	No
Totals:	Y:9, N:4	Y:5, N:8	Y:5, N:8	Avg.: 37.66%	Y:7, N:6	Y:3, N:10	Y:7, N:6	Y:8, N:5

Reflections by Leaders from Recently Closed Rural Hospitals*

Why did your hospital close?

One leader explained that the number one factor for his hospital closure was that liabilities were five times higher than assets. The money that was borrowed from the USDA went into operations and not into projects to increase growth. Eventually, there was not enough cash flow to cover operations and existing debt. Another identified issue was the hospital infrastructure, including dismissal of a CEO/CFO and turnover on the Board of Directors. Overall, the leader identified a lack of leadership, no sense of ownership, and mismanagement of funds.

At another facility, the healthcare climate and competition were identified as the main contributors to closure. The facility struggled for five to seven years due to decreased reimbursements and increased costs. During that time, the Medicare Recovery Audit Contractor (RAC) program was cutting reimbursements due to readmissions within 30 days. Due to uncertainty surrounding the RAC program, physicians were hesitant to readmit patients, which drove volume down at that facility. Competition was also an issue. The facility performed market studies and identified that they were losing out to larger hospitals providing the same services or specialty services. Therefore, the facility had trouble maintaining and sustaining its market share.

What was the timeframe of the closure? When did you realize that closure was inevitable? Was there an interim time in which you attempted some solution(s) to the contributing factors before determining closure was the decision to be made?

At one facility, they knew about the closure for approximately six months before the hospital board voted to officially close the hospital. The following steps were taken to keep the hospital open:

- The hospital leadership shifted staff and changed coverage policies, which worked for a short time.
- The hospital tried a taxing district, but that failed.
- The hospital discussed joining a larger system, but when the board found out that the larger system wanted a “stability ship” structure, the idea was dismissed.
- The hospital discussed declining admissions with the physicians, but the physicians replied that they did not have patients to admit.

At another facility, leaders were aware of the inevitable closures at least one year prior to closing. They too spoke to community leaders, local and county government leaders, and the stakeholders that would be impacted by the closures. The community explored alternatives for closure. Ultimately, they negotiated a contract for EMS services with a nearby facility. The hospital also let the staff and community know a year in advance that the hospital would be closing in order to help prepare everyone for what was coming. The alternative of a freestanding emergency room was also explored, but once they studied the payment mix and reimbursement for that type of entity, it was not a viable solution.

* These comments were compiled from informal conversations between RCHI staff members and leaders of recently closed hospitals. The information has been de-identified.

What attempts were made to keep the hospital open? For example, did you restructure or hire a consulting group?

At one hospital, the leaders encouraged community awareness through presentations and meetings with community leaders. The hospital also performed market studies that included nearby hospitals. Findings suggested that the hospital was losing patients because the nearby hospitals had more specialists. And finally, the hospital hired a management group to manage the pharmacy (tele-pharmacy). This collaboration did help the hospital reduce the cost of onsite pharmacists and saved over \$150,000 per year in direct costs.

At another hospital, they worked on a plan for over a year to try and either keep the facilities open or look at ways to scale down but still provide some type of service. They consulted with community stakeholders and individuals with financial interest in the hospital that were well informed about the market variables they were facing. They thought the freestanding emergency room would be an alternative, but it was clear that the hospital did not have the volume to sustain that type of business model. The hospital decreased its staff to a number that was almost too low to operate a full-service facility. Ultimately, staff became fearful and nervous about an impending closure. As staff started resigning, the hospital was left severely understaffed, which compounded the problems.

Did your hospital have community support opposing hospital closure? Do you know how the closure impacted the community?

One former leader explained that the closure was most difficult for the community's senior citizens, mostly due to their limited transportation options to get to the next closest hospital. The younger population adjusted. The hospital found that the most significant impact had to do with emergency services. The closest facility was around 20 minutes away and the community had volunteer EMS services.

Another leader cited excellent support from the community, which included city and county officials. The community was losing population, which led to businesses closing. Closing the hospital contributed to residents leaving the community. The small community could barely support a full-service hospital. Nearby alternatives (only 20 minutes away) led to limited community support to keep this facility open.

What suggestions do you have for hospitals that are facing closure today? Please share what you know now that could have made a difference for your hospital.

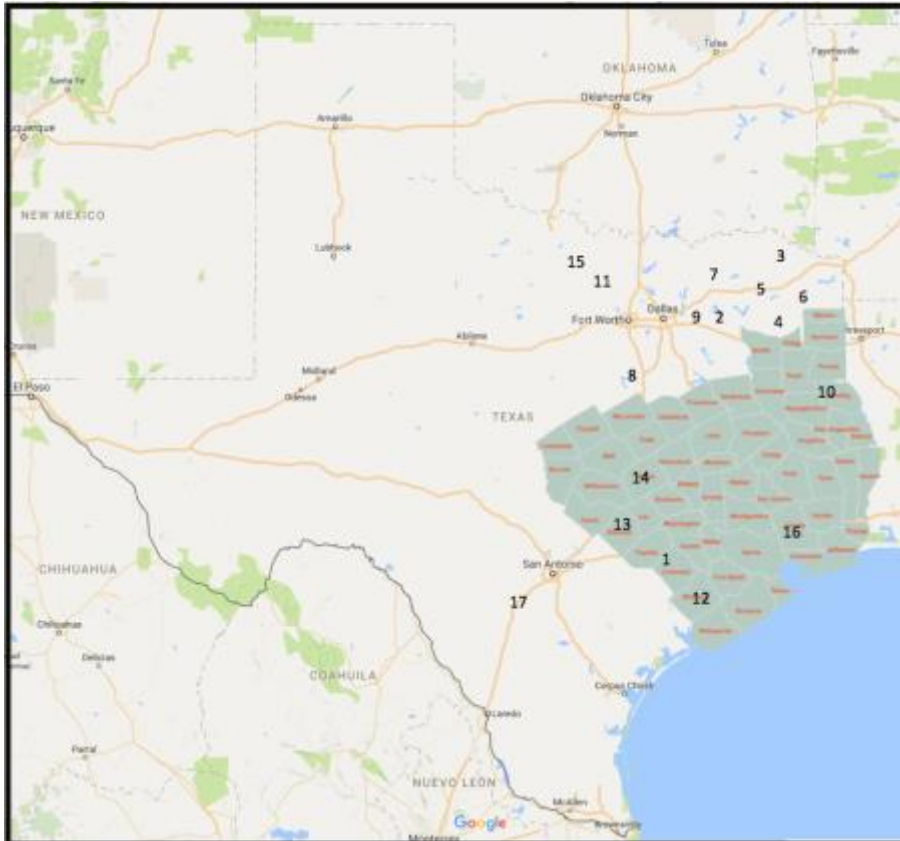
One leader explained that you cannot cut yourself into profit; you must grow your volume and/or reduce costs. This leader suggested that other facilities should look at alternative revenue sources for new business. The leader is currently at another facility and found that the facility could take advantage of the Nursing Home Upper Limit Payment (UPL) program. This is an example of a non-traditional program that leaders should make themselves aware of and should research the possible benefits to their facilities and patients. He also suggested becoming active in grant writing so that facilities can use grant awards for services. Finally, he suggested that "wellness" centers, if managed appropriately, can bring in revenue for a facility and provide a benefit to the

Appendix C: Reflections

community. However, such centers do require that the hospital system invests money for marketing and promoting community awareness.

Finally, another leader suggested that if a facility is a managed or leased hospital, the parties involved must remember that it takes a long time for a successful transition to occur. Facilities should look at and consider other models of care delivery, even if it falls outside the “traditional” structures. He suggested investing in strong rural health clinics with heavy imaging resources that could possibly partner with a neighboring hospital.

Texas Rural Hospital Closures



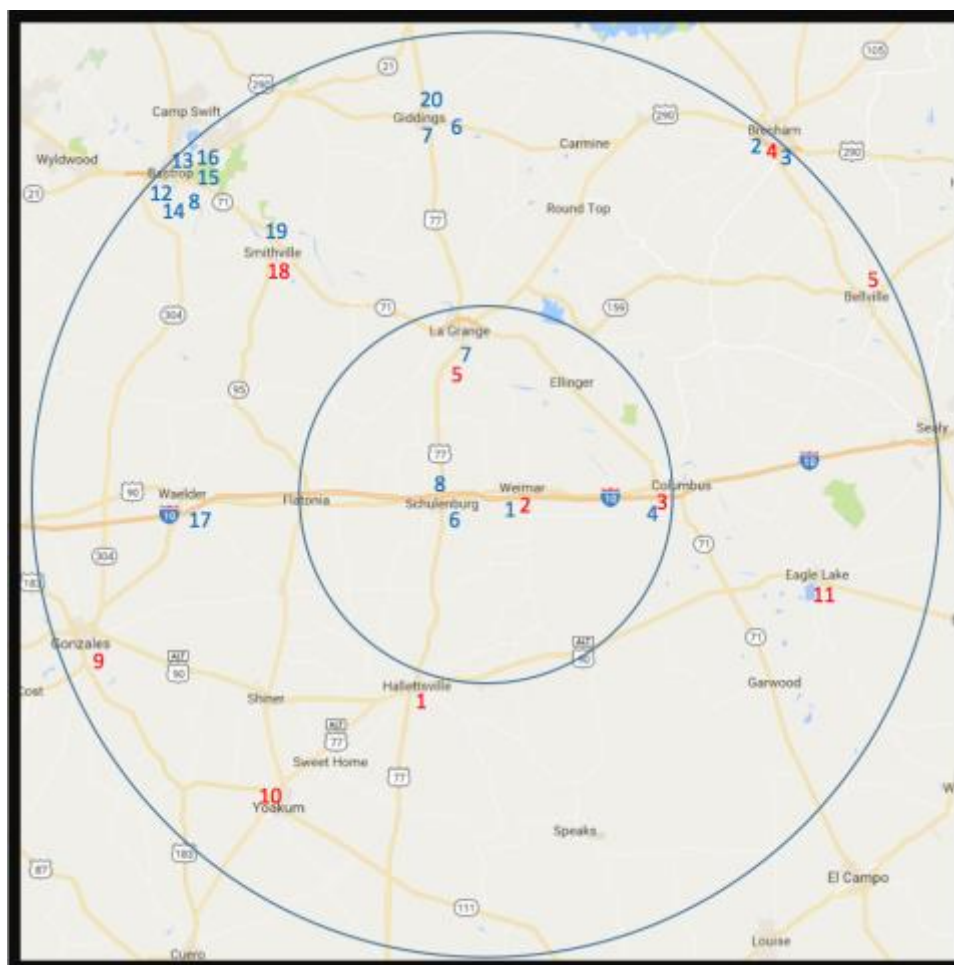
The Episcopal Health Foundation's 57 counties are indicated above.

Number on Map	City of closed hospital	Converted To ER	Re-opened
1	Weimar		X
2	Grand Saline		X
3	Clarksville		
4	Gilmer		
5	Mount Vernon		
6	Linden		
7	Commerce	X	
8	Whitney		
9	Terrell		
10	Center		
11	Bridgeport		
12	Wharton		
13	Bastrop	X	
14	Cameron		X
15	Bowie		
16	Cleveland		
17	Dilley		

On the following maps:

- The 20 and 50-mile radius are from the city-center according to Google Maps for each city in which a rural hospital closed.
- Hospitals that were "Converted to ER" means that the facility converted to a freestanding emergency department in lieu of closing.
- Numbers and locations in **red** are traditional, acute-care hospitals. The numbers and locations in **blue** are other healthcare facilities that provide primary care services in the 20- and 50-mile radius. These locations were gathered using Google Maps on March 24, 2017. The locations noted are approximate. Furthermore, the included locations are not exhaustive, especially in metropolitan areas.

**1. Colorado Fayette Medical Center (Weimar, TX)
Reopened as Weimar Medical Center**

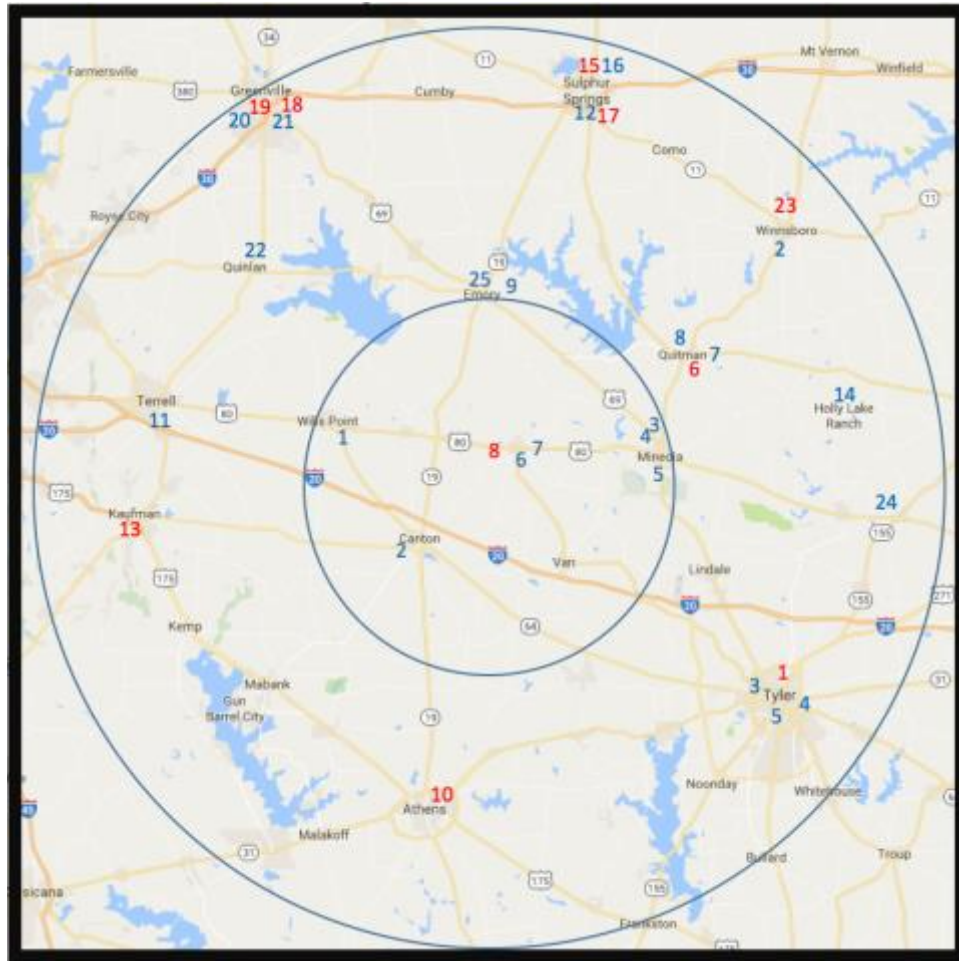


20-mile radius (inner circle)	50-mile radius (outer circle)
1. Youens & Duchicela Clinic	1. Lavaca Medical Center
2. Weimar Medical Center	2. Brenham Clinic
3. Columbus Community Hospital	3. CHI St. Joseph Primary Care Brenham
4. Four Oaks Medical Clinic	4. Baylor Scott & White Medical Center & Clinic
5. St. Mark's Medical Center & Clinic	5. CHI St. Joseph Hospital & Clinic – Bellville
6. Kocurek & James Clinic	6. Giddings Medical Center
7. La Grange VA Clinic	7. Giddings Family Health Clinic
8. Schulenburg Community Clinic	8. Lost Pines Family Health Clinic
	9. Gonzales Memorial Hospital
	10. Yoakum Community Hospital
	11. Rice Medical Center & Clinic

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	12. Fast Med Urgent Care
	13. Bastrop Community Health Center
	14. Seton Family Doctors of Bastrop
	15. St. David's Emergency Center
	16. Bastrop Community Health Care
	17. Waelder Medical Clinic
	18. Seton Smithville Regional Hospital
	19. Family Health Center of Bastrop – Smithville
	20. Family Care Clinic

2. Cozby-Germany Hospital (Grand Saline, TX) Reopened as Texas General Hospital

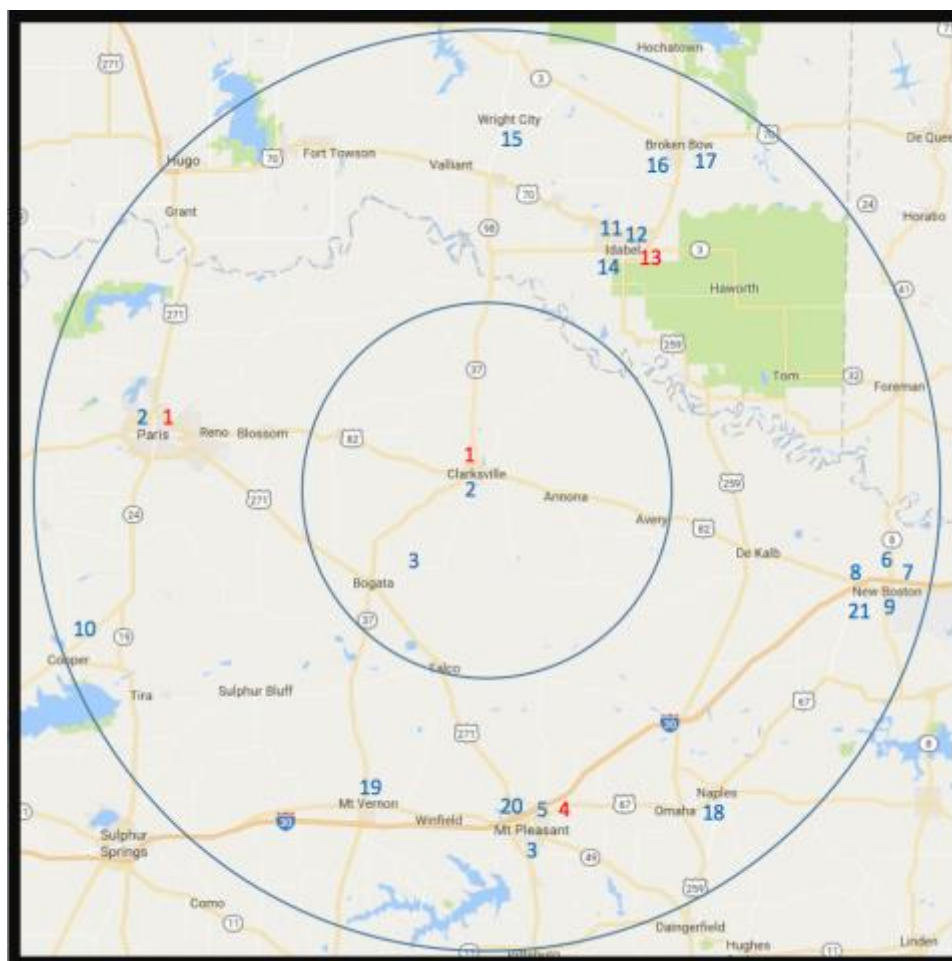


20-mile radius (inner circle)		50-mile radius (outer circle)	
1.	Wills Point Medical Clinic	1.	Christus Mother Frances Hospital & Clinic – Tyler
2.	Christus Trinity – Canton	2.	Christus Trinity – Winnsboro
3.	Christus Trinity – Mineola	3.	UT Health Northeast – Tyler
4.	ETMC – Mineola	4.	ETMC – Tyler
5.	Bankhead Medical Clinic	5.	VA Special Care Clinic
6.	Christus Trinity – Grand Saline	6.	ETMC – Quitman
7.	ETMC – Grand Saline	7.	Christus Trinity – Quitman
8.	Texas General Hospital	8.	ETMC – Quitman
		9.	Christus Trinity – Emory
		10.	ETMC Hospital & Clinic – Athens
		11.	Family Medical Center at Terrell

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	12. Hopkins Minor Emergency Center
	13. Texas Health Presbyterian Hospital & Clinic – Kaufman
	14. Christus Trinity – Holly Lake
	15. Christus Mother Frances Hospital – Sulphur Springs
	16. Memorial Pediatric Clinic
	17. Red River Regional Hospital
	18. Glen Oaks Hospital
	19. Hunt Regional Medical Center & Clinic
	20. Lake Pointe Family Medicine
	21. Greenville Community Health Center
	22. Hunt Regional Emergency Medical Center – Quinlan
	23. Christus Mother Frances Hospital – Winnsboro
	24. Big Sandy Medical Clinic
	25. Rains Family Healthcare

3. East Texas Medical Center-Clarksville (Clarksville, TX)



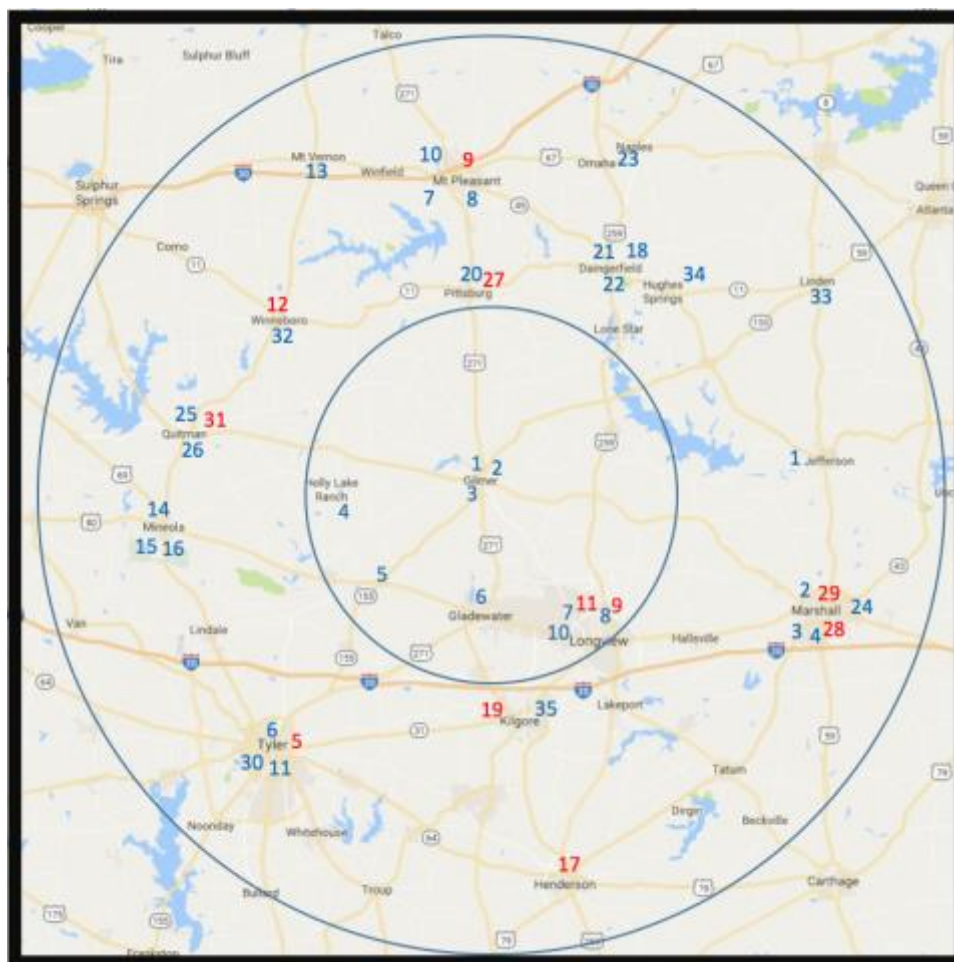
20-mile radius (inner circle)	50-mile radius (outer circle)
1. Clarksville General Hospital*	1. Paris Regional Medical Center
2. Red River Urgent Care	2. Primary Care Associates of Paris
3. Higgins Family Clinic	3. Family Care Center
	4. Titus Regional Medical Center
	5. Mt. Pleasant Clinic
	6. Pediatric Clinic
	7. Supracare Family Health
	8. New Boston Family Clinic
	9. Christus Quick Care – New Boston
	10. Cooper Community Health Center
	11. John H. Migliaccio, MD
	12. STAT Health Clinic
	13. McCurtain Memorial Hospital

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	14. Michael C. West Jr., MD
	15. Lane Family Clinic
	16. Choctaw National Health Clinic
	17. McCurtain Family Medical Clinic
	18. East Texas Clinical Associates
	19. ETMC – Mt. Vernon
	20. Doctors Clinic
	21. Collom & Carney Clinic

*A new hospital was planned to open on March 1, 2017, at the same location as the closed hospital; however, as of March 27, 2017, the hospital has not reopened and the phone number listed is a disconnected number.

4. East Texas Medical Center-Gilmer (Gilmer, TX)

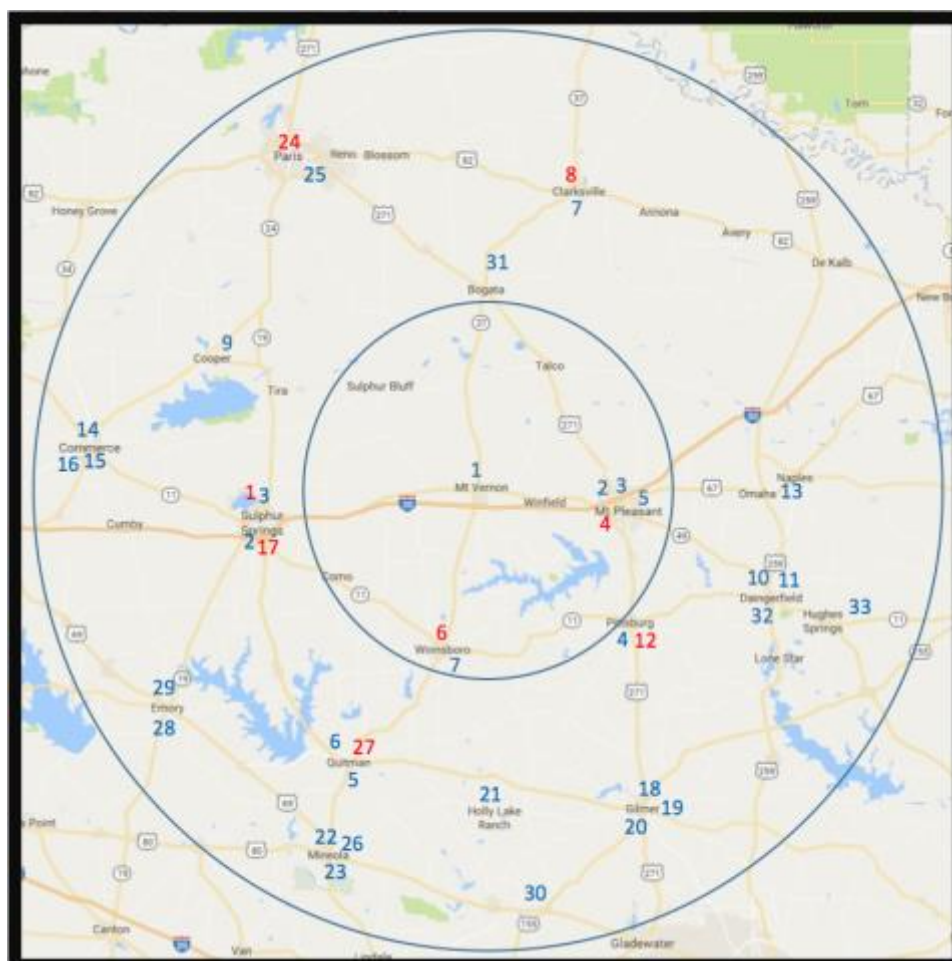


20-mile radius (inner circle)		50-mile radius (outer circle)	
1.	Good Shepherd Medical Associates Family Center – Gilmer	1.	Jefferson Life Center
2.	Healthfast Medical	2.	HealthCARE Express Marshall
3.	ETMC – Gilmer	3.	Marshall Pediatric
4.	Christus Trinity – Holly Lake	4.	Good Shepherd Medical Associates Family Center Marshall
5.	Big Sandy Medical Clinic	5.	Christus Mother Frances Hospital & Clinic – Tyler
6.	Good Shepherd Medical Associates Family Health Center – Gladewater	6.	UT Health Northeast – Tyler
7.	HealthCARE Express – Longview	7.	Family Care Center
8.	QuickCare	8.	Mt. Pleasant Clinic
9.	Good Shepherd Medical Center	9.	Titus Regional Medical Center
10.	Hospital Health ER	10.	Doctors Clinic
11.	Longview Regional Medical Center	11.	VA Special Care Clinic

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	12. Christus Mother Frances Hospital – Winnsboro
	13. ETMC – Mt. Vernon
	14. ETMC – Mineola
	15. Bankhead Medical Clinic
	16. Christus Trinity – Mineola
	17. ETMC – Henderson
	18. Daingerfield Family Medicine Clinic
	19. Roy H. Laird Memorial Hospital
	20. ETMC – Pittsburg
	21. ETMC – Daingerfield
	22. Mitchells Medical Clinic
	23. East Texas Clinic Associates
	24. Good Shepherd Medical Emergency Clinic
	25. ETMC – Quitman
	26. Christus Trinity – Quitman
	27. ETMC – Pittsburg
	28. Good Shepherd Medical Center – Marshall
	29. Marshall Regional Medical Center
	30. ETMC – Tyler
	31. ETMC – Quitman
	32. Christus Trinity – Winnsboro
	33. Good Shephard Glenn Clinic
	34. Good Shephard Glenn Garrett
	35. Christus Trinity – Kilgore

5. East Texas Medical Center-Mount Vernon (Mount Vernon, TX)



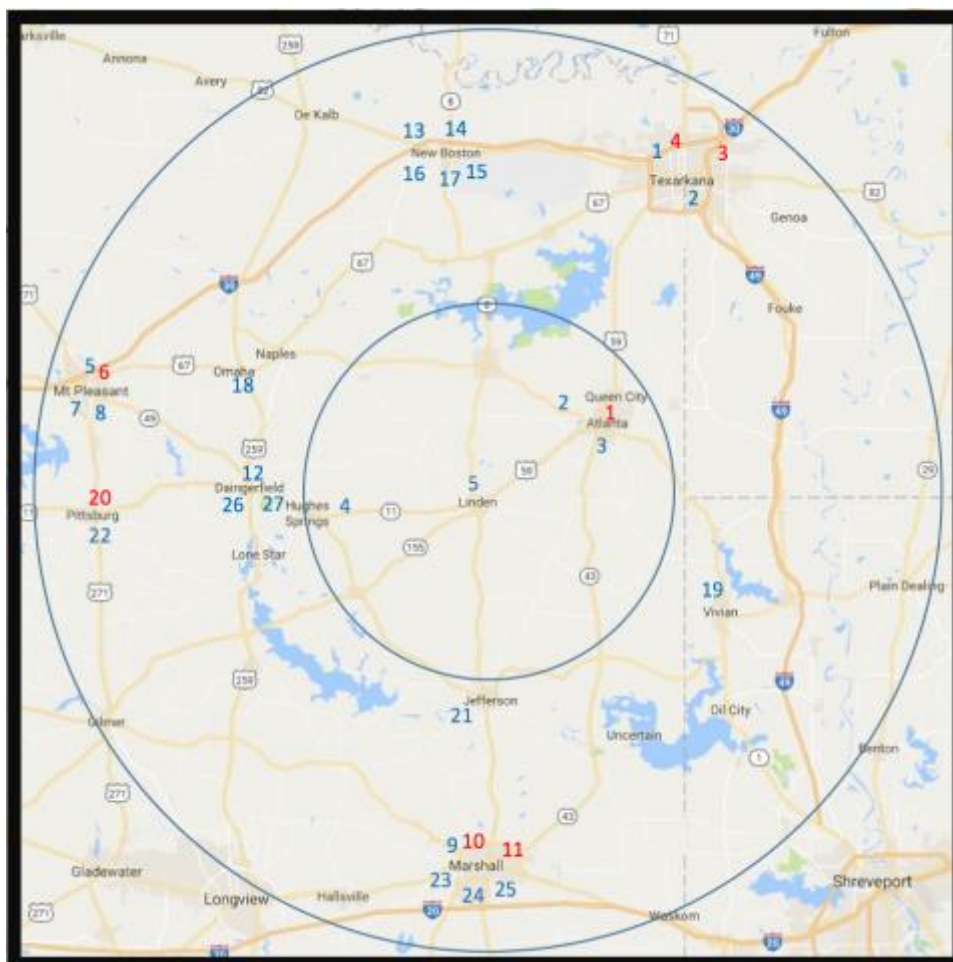
20-mile radius (inner circle)	50-mile radius (outer circle)
1. ETMC – Mt. Vernon	1. Christus Mother Frances Hospital – Sulphur Springs
2. Family Care Center	2. Hopkins Minor Emergency Center
3. Mt. Pleasant Clinic	3. Memorial Pediatric Clinic
4. Titus Regional Medical Center	4. ETMC – Pittsburg
5. Doctors Clinic	5. ETMC – Quitman
6. Christus Mother Frances Hospital – Winnsboro	6. Christus Trinity – Quitman
7. Christus Trinity – Winnsboro	7. Red River Urgent Care
	8. Clarksville General Hospital*
	9. Cooper Community Health Center
	10. Mitchells Medical Clinic
	11. Daingerfield Family Medicine Clinic
	12. ETMC – Pittsburg

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	13. East Texas Clinical Associates
	14. Hunt Regional Emergency Medical Center – Commerce
	15. Synergistic Health Care
	16. Live Oak Professional Center
	17. Red River Regional Hospital
	18. Good Shepherd Medical Associates Family Center – Gilmer
	19. Healthfast Medical
	20. ETMC – Gilmer
	21. Christus Trinity – Holly Lake
	22. ETMC – Mineola
	23. Bankhead Medical Clinic
	24. Paris Regional Medical Center
	25. Primary Care Associates of Paris
	26. Christus Trinity – Mineola
	27. ETMC – Quitman
	28. Christus Trinity – Emory
	29. Rains Family Healthcare
	30. Big Sandy Medical Clinic
	31. Higgins Family Clinic
	32. ETMC – Daingerfield
	33. Good Shepherd Glenn Garrett

* This facility was not open as of March 27, 2017.

6. Good Shepard Medical Center (Linden, TX)

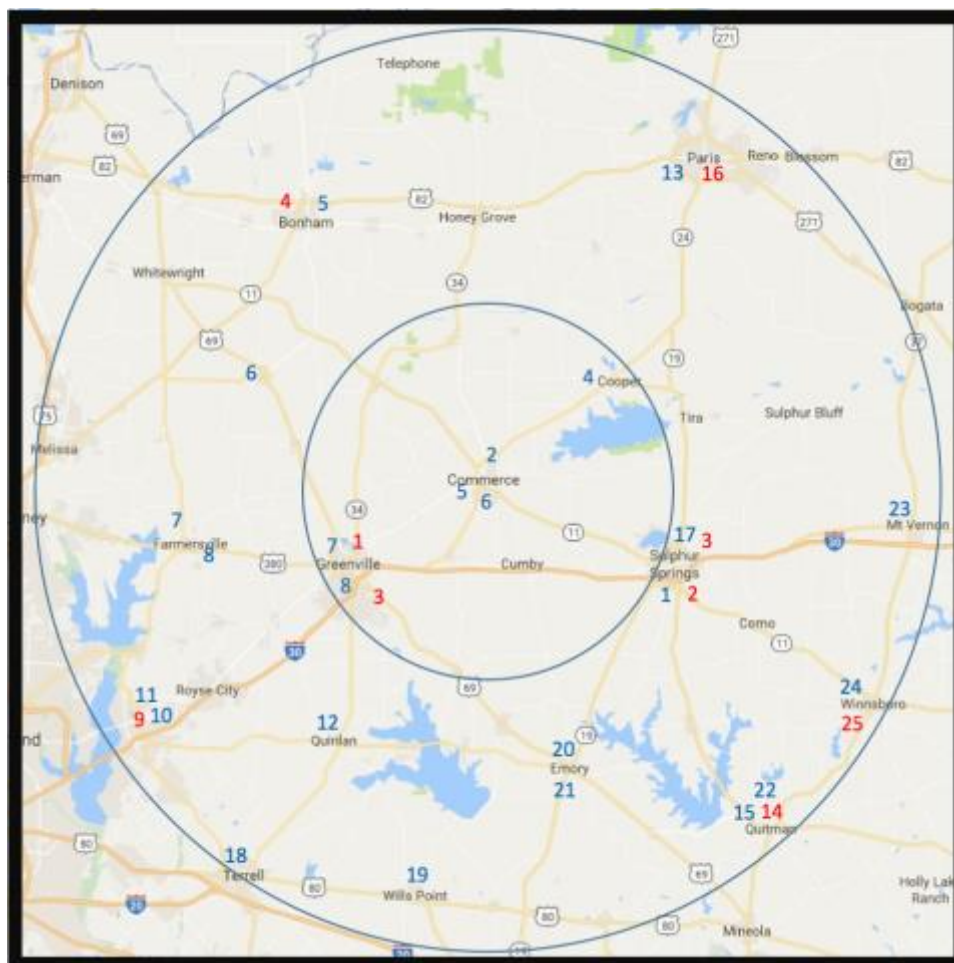


20-mile radius (inner circle)	50-mile radius (outer circle)
1. Christus St. Michael Hospital – Atlanta	1. Genesis Prime Care
2. Ellington Memorial Clinic	2. HealthCARE Express
3. HealthCARE Express Atlanta	3. Wadley Regional Medical Center
4. Good Shepherd Glenn Garrett	4. Christus St. Michael Health System
5. Good Shepherd Glenn Clinic	5. Family Care Center
	6. Titus Regional Medical Center
	7. Doctors Clinic
	8. Mt. Pleasant Clinic
	9. HealthCARE Express Marshall
	10. Good Shepherd Medical Center – Marshall
	11. Marshall Regional Medical Center
	12. Mitchells Medical Clinic
	13. Christus Quick Care – New Boston

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	14. Supracare Family Health
	15. Pediatric Clinic
	16. Collom & Carney Clinic
	17. New Boston Family Clinic
	18. East Texas Clinical Associates
	19. North Cado Medical Center
	20. ETMC – Pittsburg
	21. Jefferson Life Center
	22. ETMC – Pittsburg
	23. Marshall Pediatric
	24. Good Shepherd Medical Associates Family Center Marshall
	25. Good Shepherd Medical Emergency Clinic
	26. ETMC – Daingerfield
	27. Daingerfield Family Medicine Clinic

7. Hunt Regional Hospital of Commerce (Commerce, TX) Converted to a Freestanding ER

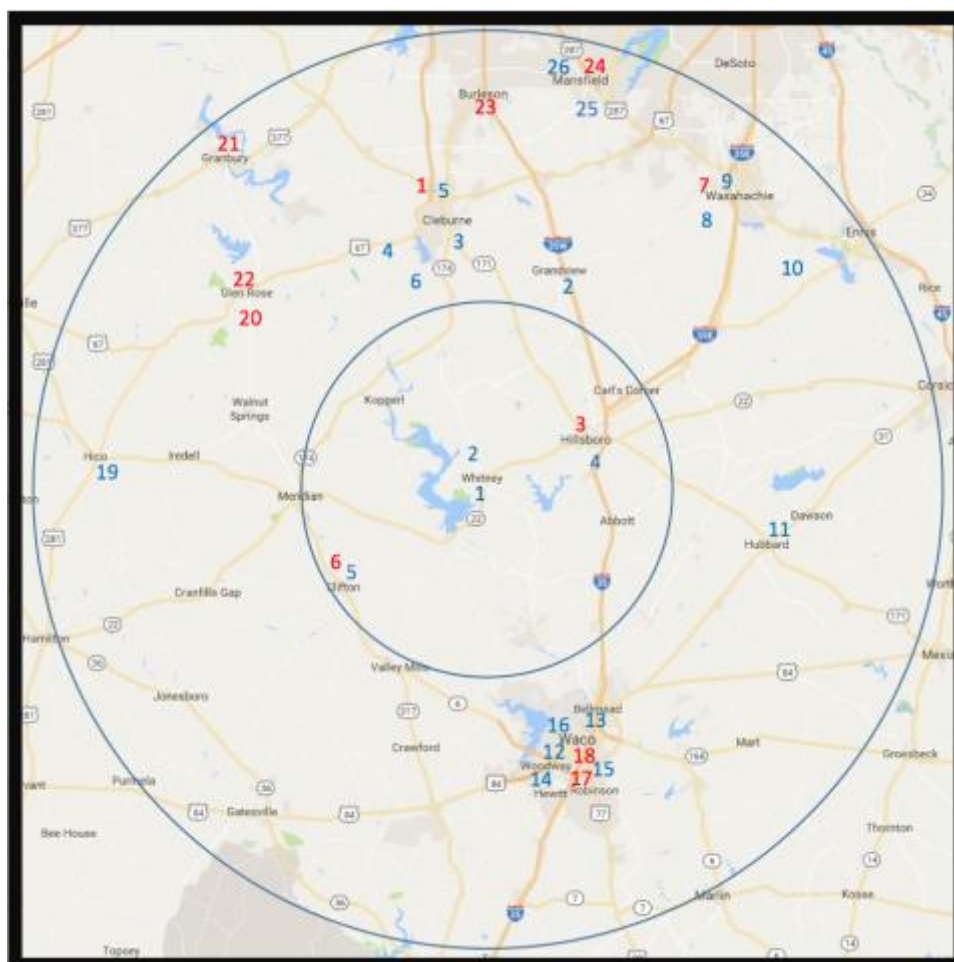


20-mile radius (inner circle)	50-mile radius (outer circle)
1. Glen Oaks Hospital	1. Hopkins Minor Emergency Center
2. Hunt Regional Emergency Medical Center – Commerce	2. Christus Mother Frances Hospital – Sulphur Springs
3. Hunt Regional Medical Center & Clinic	3. Red River Regional Hospital
4. Cooper Community Health Center	4. TMC Bonham Hospital
5. Synergistic Health Care	5. Texomacare
6. Live Oak Professional Center	6. Primary Care Associates – Leonard
7. Lake Pointe Family Medicine	7. Farmersville Family Medical Center
8. Greenville Community Health Center	8. Gloria Gamboa Parsley, MD
	9. Texas Health Presbyterian Hospital & Clinic – North Rockwall
	10. MedPost Urgent Care
	11. Baylor Emergency Medical Center – Rockwall

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	12. Hunt Regional Emergency Medical Center – Quinlan
	13. Primary Care Associates of Paris
	14. ETMC – Quitman
	15. Christus Trinity – Quitman
	16. Paris Regional Medical Center
	17. Memorial Pediatric Clinic
	18. Family Medical Center at Terrell
	19. Wills Point Medical Clinic
	20. Christus Trinity – Emory
	21. Rains Family Healthcare
	22. ETMC – Quitman
	23. ETMC – Mt. Vernon
	24. Christus Trinity – Winnsboro
	25. Christus Mother Frances Hospital – Winnsboro

8. Lake Whitney Medical Center (Whitney, TX)

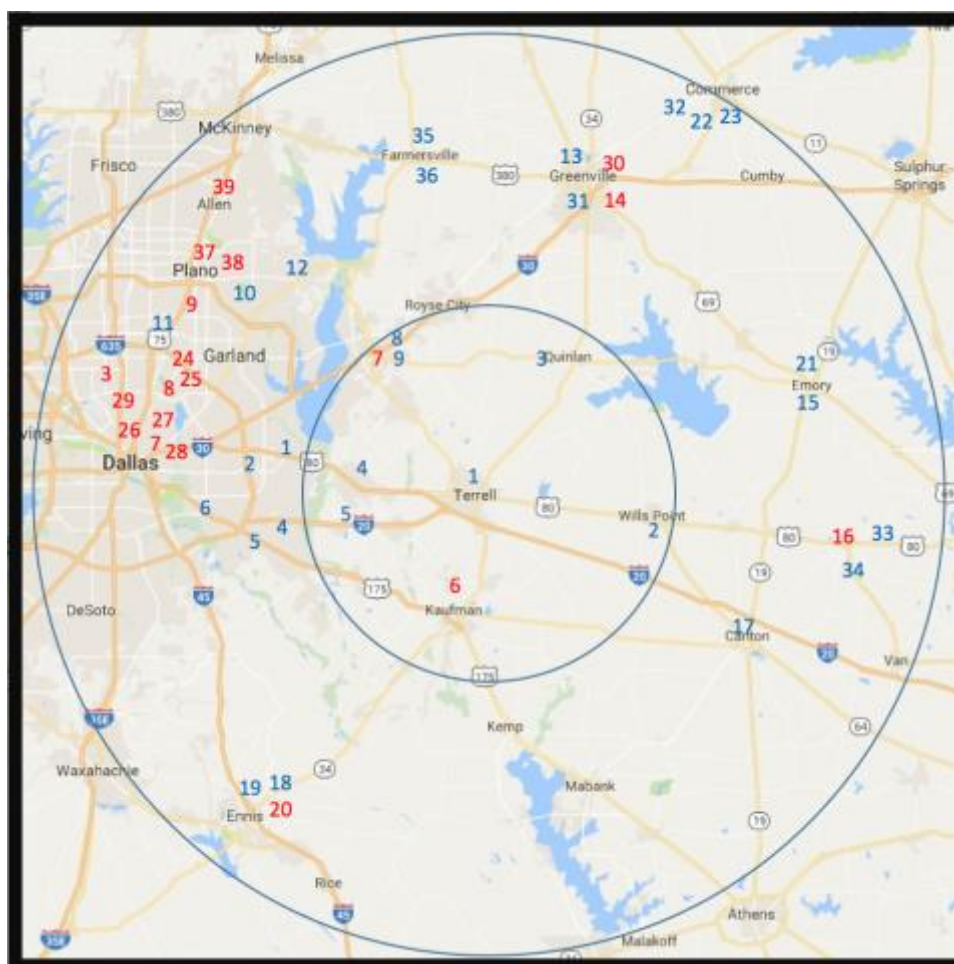


20-mile radius (inner circle)	50-mile radius (outer circle)
1. Lake Whitney Physicians Clinic	1. Texas Health Harris Methodist Hospital – Cleburne
2. Whitney Family Medicine	2. Dwight Hines, MD
3. Hill Regional Hospital	3. Family Medicine Associates
4. Providence Clinic – Hillsboro	4. Delta Medical Clinic
5. Clifton Medical Clinic	5. Medical Clinic of North Texas
6. Goodall-Witcher Hospital	6. Dr. Ladybugs Family Practice
	7. Baylor Scott & White Medical Center
	8. Methodist Family Health Center – Waxahachie
	9. Our Children's House
	10. Ellis County Family Clinic
	11. Parkview Regional Clinic
	12. Providence Family Health Clinic

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	13. Hillcrest Bellmead Clinic
	14. Hillcrest Hewitt Clinic
	15. Cook's Children Specialty Clinic
	16. Hillcrest Bosque Clinic
	17. Baylor Scott & White Medical Center
	18. Providence Health Center
	19. Hico Clinic
	20. Glen Rose Medical Center Hospital
	21. Lake Granbury Medical Center – Granbury
	22. Lake Granbury Medical Center – Glen Rose
	23. Texas Health Huguley Hospital & Clinic
	24. Methodist Mansfield Medical Center
	25. Baylor Emergency Medical Center
	26. Mansfield Urgent Care & Family Medicine

9. Renaissance Hospital Terrell (Terrell, TX)

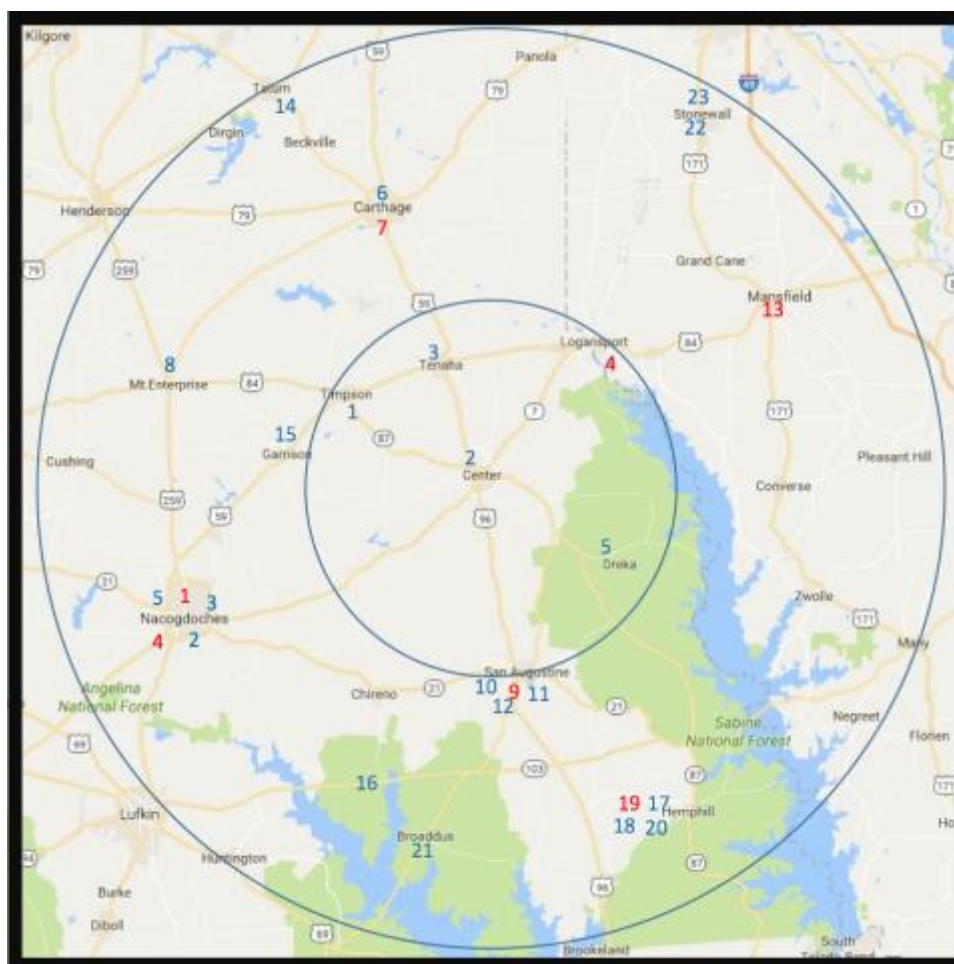


20-mile radius (inner circle)		50-mile radius (outer circle)	
1.	Family Medical Center at Terrell	1.	Mesquite Children’s Clinic
2.	Wills Point Medical Clinic	2.	1 st Class Urgent Care Clinic
3.	Hunt Regional Emergency Medical Center – Quinlan	3.	Dallas Regional Medical Center
4.	Care United Medical Center Forney	4.	PrimaCare Medical Center
5.	Minute Clinic	5.	Concentra Urgent Care
6.	Texas Health Presbyterian Hospital & Clinic – Kaufman	6.	Hatcher Station Health Center
7.	Texas Health Presbyterian Hospital & Clinic – North Rockwall	7.	Baylor Medical Center
8.	MedPost Urgent Care	8.	Highland Park Hospital
9.	Baylor Emergency Medical Center – Rockwall	9.	Methodist Richardson Medical Center
		10.	Prima Care Medical Center
		11.	Methodist Urgent Care

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	12. UT Southwestern Clinical Center
	13. Greenville Community Health Center
	14. Glen Oaks Hospital
	15. Christus Trinity – Emory
	16. Texas General Hospital
	17. Christus Trinity – Canton
	18. Urgent Plus Care
	19. Ennis Children’s Clinic
	20. Ennis Regional Medical Center
	21. Rains Family Healthcare
	22. Synergistic Health Care
	23. Live Oak Professional Center
	24. Medical City Dallas Hospital
	25. Texas Health Presbyterian Hospital Dallas
	26. Parkland Hospital
	27. Methodist Dallas Medical Center
	28. Baylor University Medical Center Dallas
	29. UT Southwestern University Hospital
	30. Hunt Regional Medical Center & Clinic
	31. Lake Pointe Family Medicine
	32. Hunt Regional Emergency Medical Center – Commerce
	33. ETMC – Grand Saline
	34. Christus Trinity – Grand Saline
	35. Farmersville Family Medical Center
	36. Gloria Gamboa Parsley, MD
	37. Texas Health Presbyterian Hospital – Plano
	38. Baylor Scott & White Medical Center
	39. Texas Health Presbyterian Hospital – Allen

10. Shelby Regional Medical Center (Center, TX)

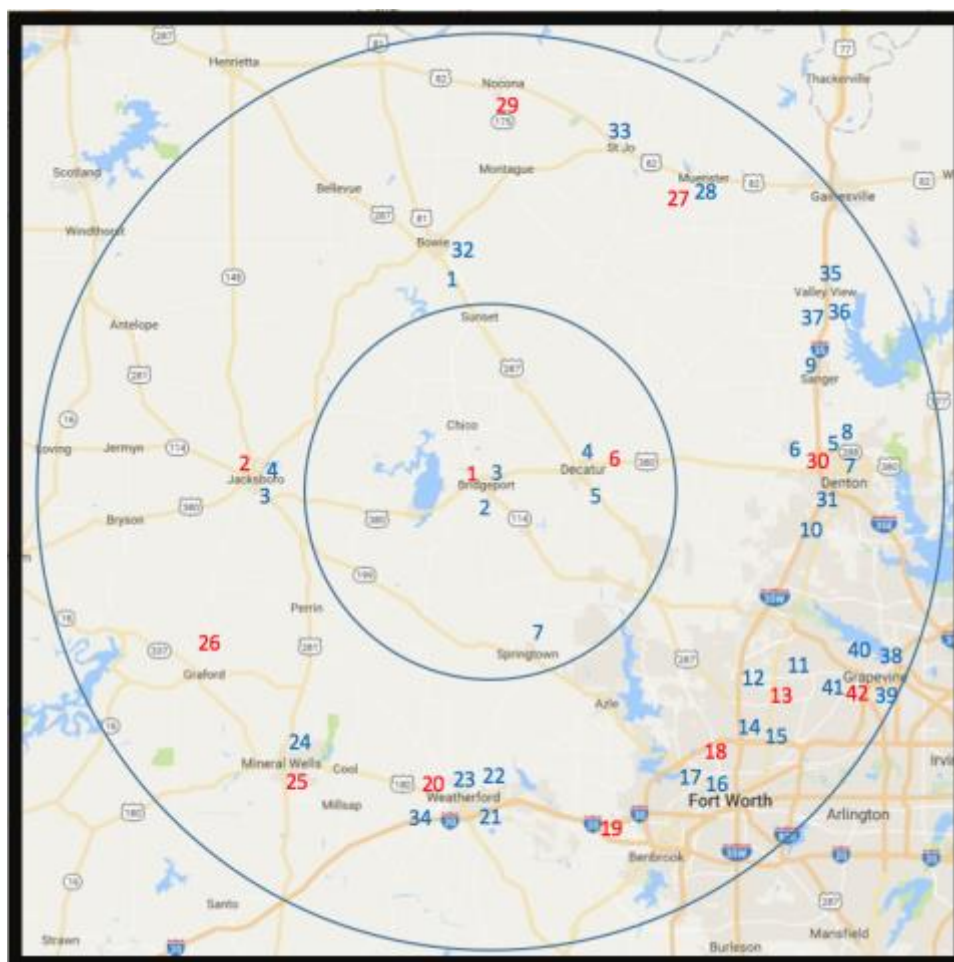


20-mile radius (inner circle)	50-mile radius (outer circle)
1. Texas Quick Care	1. Nacogdoches Memorial Hospital
2. Shelby Clinic	2. Md2 Urgent Care Clinic
3. Hope Medical Community Medicine	3. Urgent Doc
4. Logansport Memorial Hospital	4. Nacogdoches Medical Center
5. Dreka Neighborhood Clinic	5. Excel ER
	6. ETMC – Carthage
	7. ETMC – Carthage
	8. Mt. Enterprise Health Clinic
	9. CHI St. Luke’s Memorial – San Augustine
	10. Oglesbee Family Clinic
	11. Haley Family Clinic
	12. Texas Quick Care
	13. DeSoto Regional Health System

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	14. Tatum Medical Clinic
	15. Garrison Medical Clinic
	16. Etolie Clinic
	17. Sabine Family Medical Center
	18. Toledo Bend Family Medicine
	19. Sabine County Hospital
	20. Winslow Clinic
	21. Broaddus Family Medicine
	22. Velocity Urgent Care
	23. Stonewall Clinic

11. Wise Regional Health System (Bridgeport, TX)

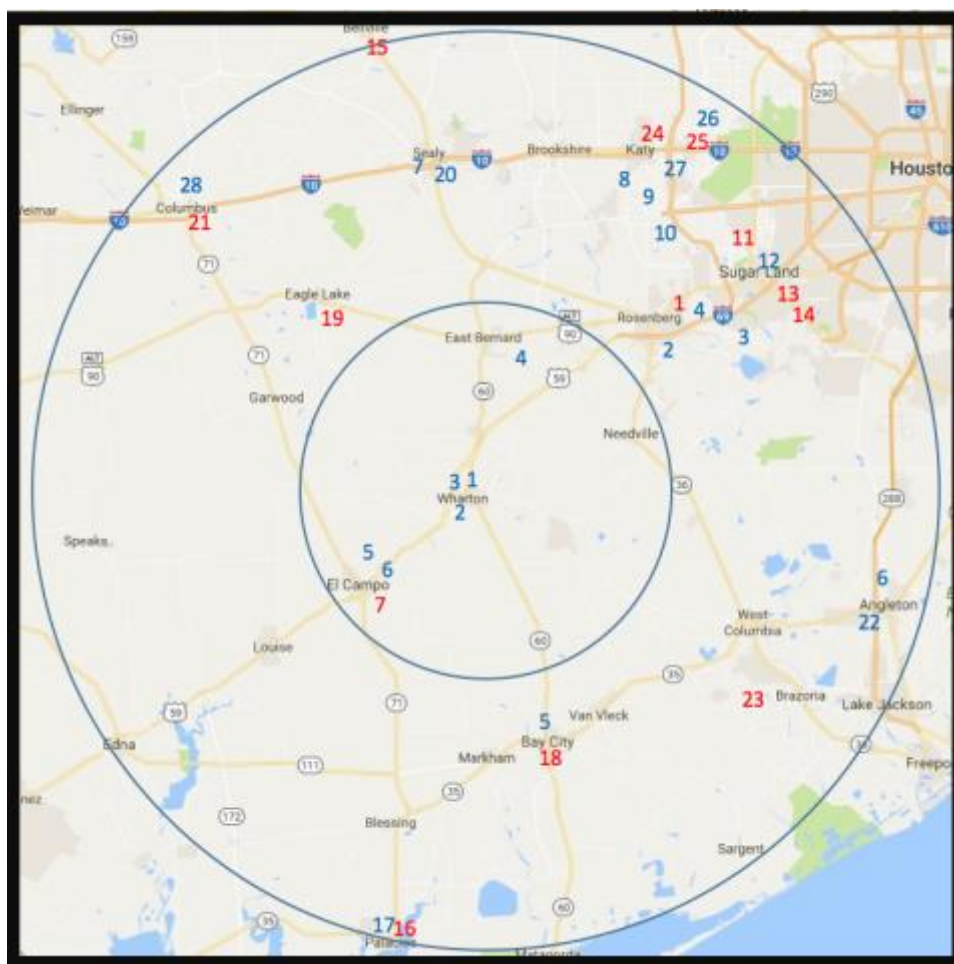


20-mile radius (inner circle)	50-mile radius (outer circle)
1. North Texas Community Hospital	1. Bowie Medical Clinic
2. Family Clinic	2. Faith Community Hospital
3. Bridgeport Medical Clinic	3. Brent Shepherd, MD
4. Wise Family Practice & Urgent Care	4. Jack County Medical Clinic
5. Wise County Medical & Surgical Associates	5. Denton Regional Urgent Care Center
6. Wise Health System – Decatur	6. Cook Children’s Specialty Clinic
7. Springtown Family Health Center	7. Denton Community Health Clinic
	8. Denton VA Clinic
	9. Sanger Medical Clinic
	10. Minor Emergency of Denton
	11. Better Faster Urgent Care Center
	12. First Med

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	13. Baylor Medical Center – Trophy Club
	14. JPS Family Medicine Center
	15. Cook Children’s Urgent Care
	16. Care Now Urgent Care
	17. Clinicas Mi Doctor
	18. Cook’s Children’s Northeast Hospital
	19. USMD Hospital at Fort Worth
	20. Weatherford Regional Medical Center
	21. Campbell Clinic
	22. Excel ER
	23. Integra Care Center in Weatherford
	24. Tim Tarkenton, MD
	25. Palo Pinto General Hospital
	26. Graham Regional Medical Center
	27. Muenster Memorial Hospital
	28. MMH Family Health Clinic
	29. Nocona General Hospital & Clinic
	30. Texas Health Presbyterian Hospital – Denton
	31. Medical City Denton
	32. United Clinics of North Texas
	33. St. Jo Health Care
	34. Lone Star Medical Group
	35. Valley View Family Medical Clinic
	36. Thelma’s Hometown Clinic
	37. Neighborhood Care Clinic
	38. Care Now
	39. Main Street Medical Clinic
	40. Minute Clinic
	41. Grapevine Medical & Surgical Clinic
	42. Baylor Scott & White Medical Center

12. Gulf Coast Medical Center (Wharton, TX)

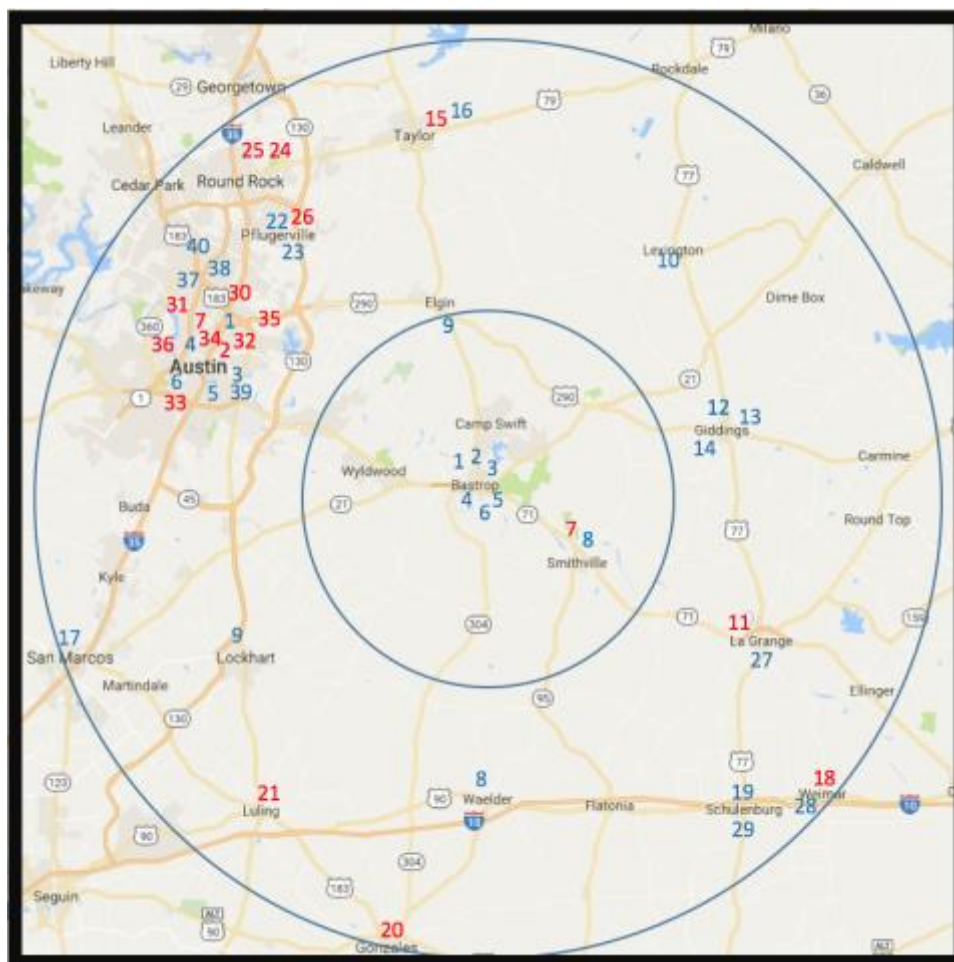


20-mile radius (inner circle)		50-mile radius (outer circle)	
1.	Memorial Herman Medical Group Wharton Clinic	1.	OakBend Medical Center
2.	South Texas Medical Clinic	2.	Access Health
3.	Robin Ferguson, MD	3.	Richmond VA Clinic
4.	Rice Medical Associates Clinic	4.	South Texas Medical Clinics
5.	Southwest Urgent Care	5.	Matagorda Medical Group
6.	Mid Coast Medical Clinic	6.	Family Practice Associates
7.	El Campo Memorial Hospital	7.	Medical Clinic of Sealy
		8.	Memorial Hermann Medical Group – Katy
		9.	Katy 24 Emergency Center
		10.	Texas Children’s Urgent Care Cinco Ranch
		11.	Memorial Hermann Hospital – Sugar Land
		12.	Med-Spring Urgent Care

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	13. CHI St. Luke's Sugar Land Hospital
	14. Houston Methodist Sugarland Hospital
	15. CHI St. Joseph Hospital & Clinic – Bellville
	16. Palacios Community Medical Center
	17. Palacios Medical Clinic
	18. Matagorda Regional Medical Center
	19. Rice Medical Center & Clinic
	20. Sealy Emergency Room
	21. Columbus Community Hospital
	22. Angleton Danbury Medical Center
	23. Sweeny Community Hospital
	24. Memorial Hermann Hospital – Katy
	25. Houston Methodist Hospital West
	26. West Houston Community Health Center
	27. Preferred Urgent Care
	28. Four Oaks Medical Clinic

13. Lakeside Hospital – Bastrop (Bastrop, TX)

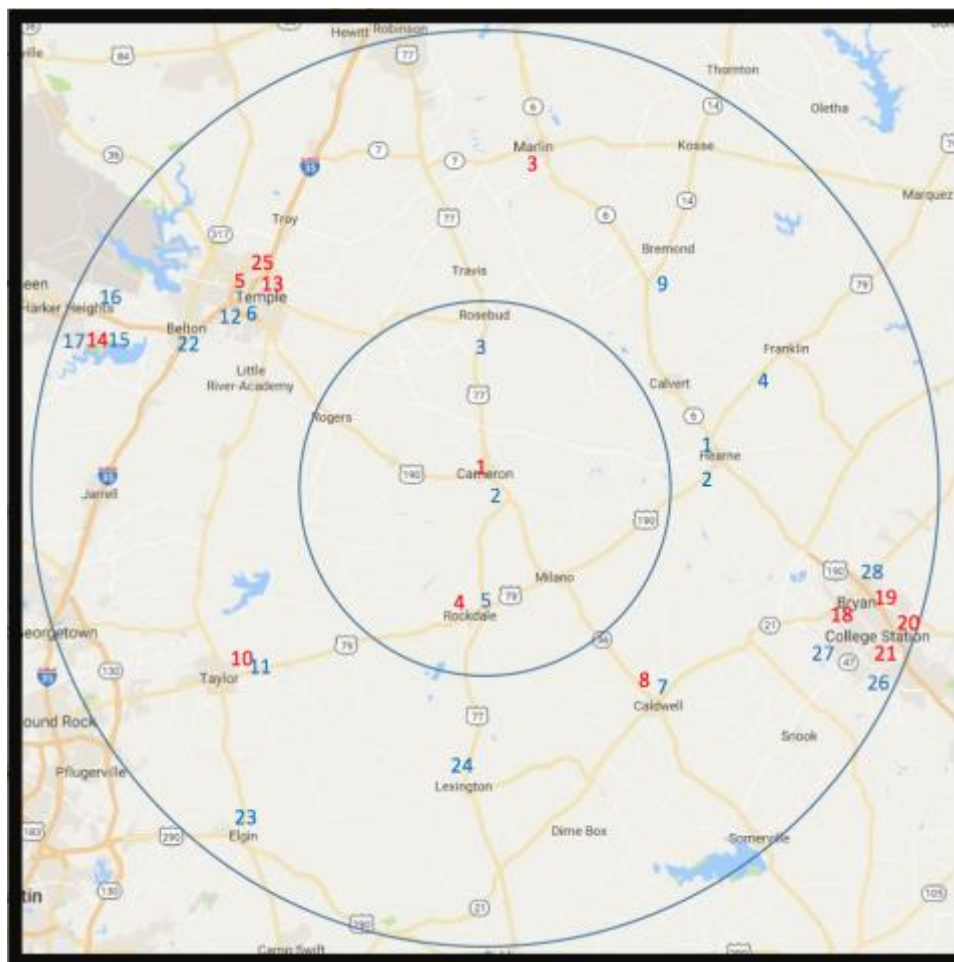


20-mile radius (inner circle)		50-mile radius (outer circle)	
1.	Fast Med Urgent Care	1.	Austin VA Clinic
2.	Bastrop Community Health Care	2.	Seton Medical Center
3.	Lost Pines Family Health Clinic	3.	Integral Care
4.	Seton Family Doctors of Bastrop	4.	Baylor Scott & White Clinic
5.	St. David's Emergency Center	5.	People's Community Clinic
6.	Bastrop Community Health Center	6.	Brackenridge Specialty Clinic
7.	Seton Smithville Regional Hospital	7.	St. David's Medical Center
8.	Family Health Center of Bastrop – Smithville	8.	Waelder Medical Clinic
9.	Elgin Medical Center	9.	Seton Lockhart Family Health Center
		10.	CHI St. Joseph Primary Care
		11.	St. Mark's Medical Center & Clinic
		12.	Giddings Medical Center

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	13. Family Care Clinic
	14. Giddings Family Health Clinic
	15. Baylor Scott & White Medical Center
	16. Fast Med Urgent Care
	17. Med-Spring Urgent Care
	18. Weimar Medical Center
	19. Schulenburg Community Clinic
	20. Gonzales Memorial Hospital
	21. Seton Edgar B. Davis Hospital
	22. Seton Pflugerville Health Center
	23. St. David's Urgent Care
	24. Seton Medical Center Williamson
	25. Baylor Scott & White Medical Center
	26. St. David's Pflugerville
	27. La Grange VA Clinic
	28. Youens & Duchicela Clinic
	29. Kocurek & James Clinic
	30. St. David's North Austin Medical Center
	31. Seton Northwest Hospital
	32. University Medical Center Brackenridge Hospital
	33. Seton Southwest Hospital
	34. Seton Shoal Creek Hospital
	35. Dell Children's Medical Center
	36. The Hospital at Westlake Medical Center
	37. Texas Med Clinic
	38. Austin Regional Clinic
	39. South Austin Medical Clinic
	40. Baylor Scott & White Emergency Medical Center

**14. Central Texas Hospital (Cameron, TX)
Reopened as Little River Healthcare Hospital Cameron**

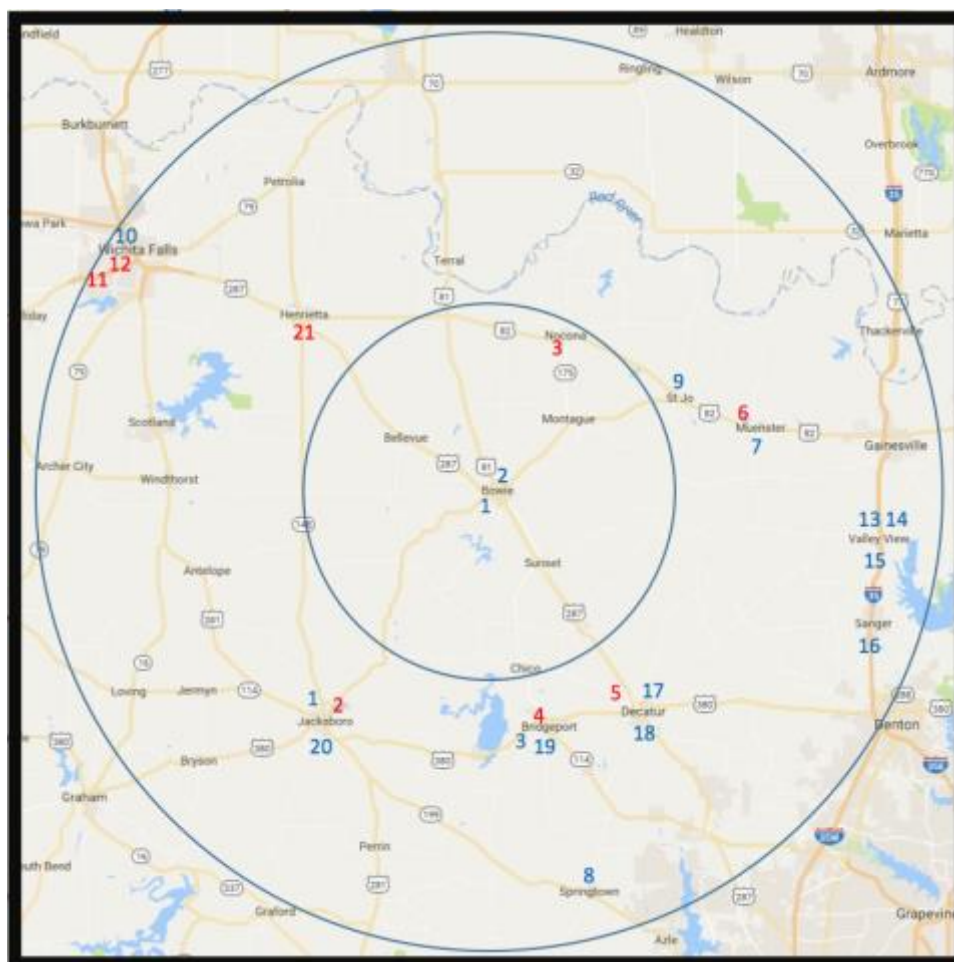


20-mile radius (inner circle)	50-mile radius (outer circle)
1. Cameron Hospital – Little River Healthcare	1. CHI St. Joseph Primary Care – Hearne
2. Scott & White Clinic – Cameron	2. HealthPoint – Hearne
2. Rosebud Rural Clinic	3. Falls Community Hospital & Clinic
4. Rockdale Hospital – Little River Healthcare	4. CHI St. Joseph Franklin Family Clinic
5. Rockdale Medical Clinic – Little River Healthcare	5. Baylor Scott & White Medical Center
	6. Central Texas VA Health Care System
	7. CHI St. Joseph Health Primary Care
	8. CHI St. Joseph Health Burleson Hospital
	9. Bremond Rural Clinic
	10. Baylor Scott & White Medical Center
	11. Fast Med Urgent Care

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	12. King's Daughters Clinic
	13. Temple VA Hospital
	14. Seton Medical Center Harker Heights
	15. King's Daughters Clinic
	16. Baylor Scott & White Clinic
	17. Freedom Urgent Care
	18. CHI St. Joseph Hospital & Clinic
	19. The Physician's Centre & Clinic
	20. Baylor Scott & White Medical Center & Clinic
	21. College Station Medical Center & Clinic
	22. Baylor Scott & White Convenient Care
	23. Elgin Medical Center
	24. CHI St. Joseph Primary Care
	25. McClain Children's Hospital
	26. CapRock ER
	27. Neighbors ER
	28. Signature ER

15. Bowie Memorial Hospital (Bowie, TX)

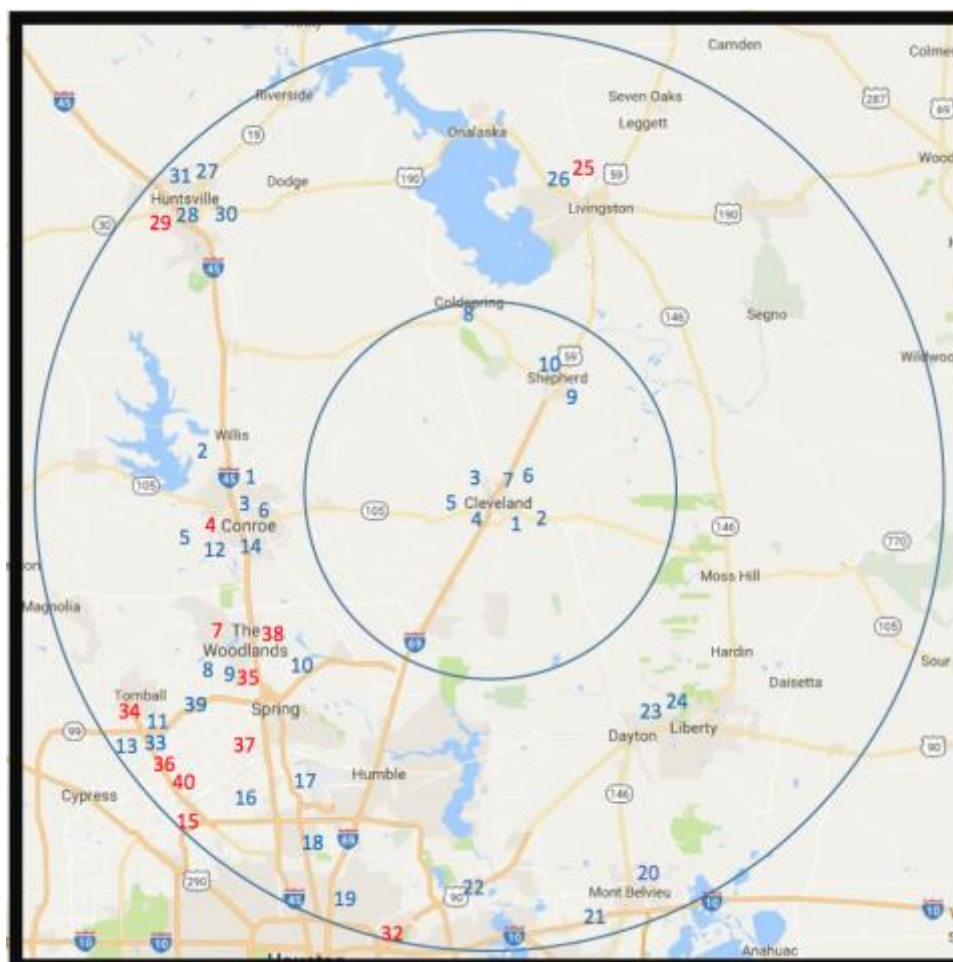


20-mile radius (inner circle)	50-mile radius (outer circle)
1. United Clinics of North Texas	1. Jack County Medical Clinic
2. Bowie Medical Clinic	2. Faith Community Hospital
3. Nocona General Hospital & Clinic	3. Family Clinic
	4. North Texas Community Hospital
	5. Wise Health System – Decatur
	6. Muenster Memorial Hospital
	7. MMH Family Health Clinic
	8. Springtown Family Health Center
	9. St. Jo Health Care
	10. Wichita Falls VA Clinic
	11. Red River Hospital
	12. Kell West Regional Hospital
	13. Valley View Family Medical Clinic

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	14. Thelma's Hometown Clinic
	15. Neighborhood Care Clinic
	16. Sanger Medical Clinic
	17. Wise Family Practice & Urgent Care
	18. Wise County Medical & Surgical Associates
	19. Bridgeport Medical Clinic
	20. Brent Shepherd, MD
	21. Clay County Memorial Hospital & Clinic

16. Cleveland Hospital (Cleveland, TX)

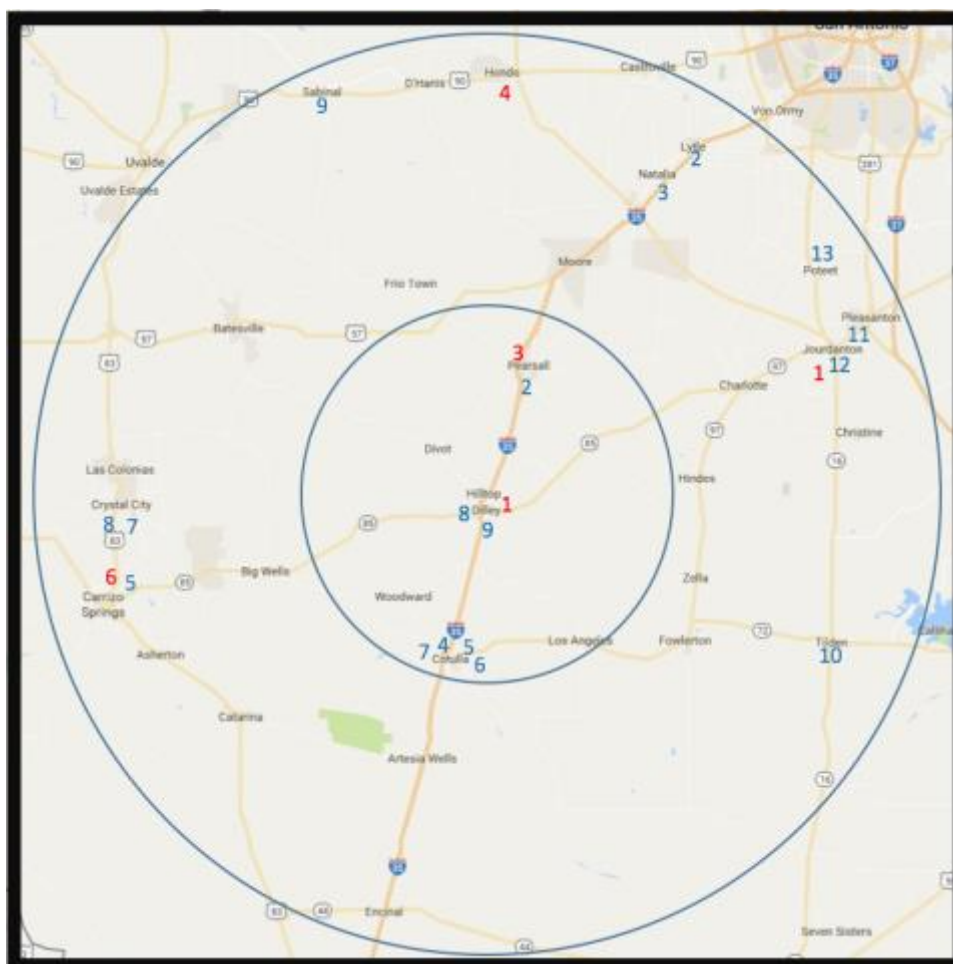


20-mile radius (inner circle)	50-mile radius (outer circle)
1. Livingston Pediatrics – Cleveland	1. Baylor St. Luke’s Emergency Center
2. Dr. Ds Urgent Care	2. Houston Methodist Primary Care Group
3. Cleveland Emergency Hospital	3. Urgent Clinics Medical Care
4. Family Health Clinic	4. Conroe Regional Medical Center
5. Cleveland Family Clinic	5. Lone Star Family Health Center
6. Cleveland Medical Clinic	6. Conroe VA Clinic
7. Health Center of Southeast Texas Cleveland	7. CHI St. Luke’s Health
8. Coldspring Family Care	8. Houston Northwest Urgent Care Center
9. Family Health Clinic	9. Affinity Medical Associates Center
10. Health Center – Southeast Texas	10. Next Level Urgent Care
	11. Express Family Clinic
	12. Redi Clinic

Appendix D: Maps of Texas Rural Hospital Closures

20-mile radius (inner circle)	50-mile radius (outer circle)
	13. Pediatric Healthcare of Northwest Houston
	14. St. Michael's Emergency Room
	15. Memorial Hermann Hospital
	16. St. Hope Foundation Clinic
	17. The Center for Children and Women
	18. Harris Health Center
	19. Concentra Urgent Care
	20. Mont Belvieu Urgent & Family Care Clinic
	21. Primary Urgent Care
	22. Legacy Community Health
	23. Liberty Dayton Medical Clinic
	24. Trinity Valley Medical Clinic
	25. CHI St. Luke's Health Memorial – Livingston
	26. Livingston Clinic
	27. Independent Clinic of Texas
	28. HMH Medical Clinic
	29. Huntsville Memorial Hospital
	30. Huntsville Pediatric and Adult Medicine Associates
	31. Baylor St. Luke's Emergency Center
	32. CHI Baylor St. Luke's Medical Center
	33. Emerus Community Hospital
	34. Tomball Regional Medical Center
	35. CHI St. Luke's Springwoods Village
	36. CHI St. Luke's The Vintage
	37. Houston Northwest Medical Center
	38. Memorial Hermann The Woodlands
	39. Houston Methodist Emergency Care
	40. Houston Methodist Willowbrook

17. Nix Community General Hospital (Dilley, TX)



20-mile radius (inner circle)	50-mile radius (outer circle)
1. Dilley Community General Hospital	1. South Texas Regional Medical Center
2. Rural Health Clinic	2. Lytle Community Health Center
3. Frio Regional Hospital	3. Kellum Medical Group
4. Hometown Health Care	4. Medina Community Hospital
5. Khan Medical Clinic	5. Family Medical Center
6. Hood Medical Clinic	6. Dimmit Regional Hospital
7. South Texas Rural Health Services	7. Vida y Salud Health Systems
8. Dilley Family Medical Clinic	8. Rural Health Clinic
9. Hometown Healthcare	9. Health Care Clinic of Sabinal
	10. McMullin Community Health Center
	11. Atascosa Health Center
	12. South Texas Regional Medical Center
	13. Mario Perez, DO