

Community Health Needs Assessment:

Health and Behavioral Health Needs Reagan County, Texas

Prepared by:

**Community Development Initiatives,
Angelo State University**

Principal Investigators:

**Kenneth L. Stewart, Ph.D., Director, Community Development Initiatives
Susan McLane, Project Coordinator, Concho Valley Community Action Agency
Cera Cantu, Research Assistant, AmeriCorps VISTA**

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This report is part of a comprehensive project to assess the Health and Behavioral Health Needs of the Extremely Poor in a twenty-county region of West Texas. The regional assessment includes Coke, Concho, Crockett, Edwards, Irion, Kimble, Kinney, Mason, McCulloch, Menard, Mills, Reagan, Runnels, San Saba, Schleicher, Sterling, Sutton, Tom Green, Upton, and Val Verde counties. The set of project documents includes a report for each county, plus a regional-level assessment.



Reagan County Courthouse - Big Lake, Texas

Methodist Healthcare Ministries of South Texas and the San Angelo Health Foundation provided support for this Community Health Needs Assessment for the people of Reagan County.

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PREFACE

Community Development Initiatives at Angelo State University prepared this Community Health Needs Assessment for the people of Reagan County, Texas. The assessment is the product of collaboration among Community Development Initiatives, the Concho Valley Community Action Agency, and many community champions and stakeholders of the twenty-county region covered in the comprehensive study of the Health and Behavioral Health Needs of the Extremely Poor in West Texas.

Community Development Initiatives is based on a belief that flourishing communities thrive on trust between individuals, organizations and institutions. Its mission is to link Angelo State University to West Texas communities through innovative community-based research in support of their development.

The Concho Valley Community Action Agency is a 501(c)3 nonprofit corporation founded in 1966 in response to War on Poverty legislation. Although programs and services have changed over the years, the purpose of fighting the causes of poverty in the Concho Valley has been constant. The Agency's vision is a community free of barriers to self-sufficiency.

The purpose of the comprehensive study is to identify and prioritize health and behavioral health needs of the approximately 14,743 extremely poor individuals living in a twenty-county region covered by the project. The Reagan County Community Health Needs Assessment is a vital part of the regional project.

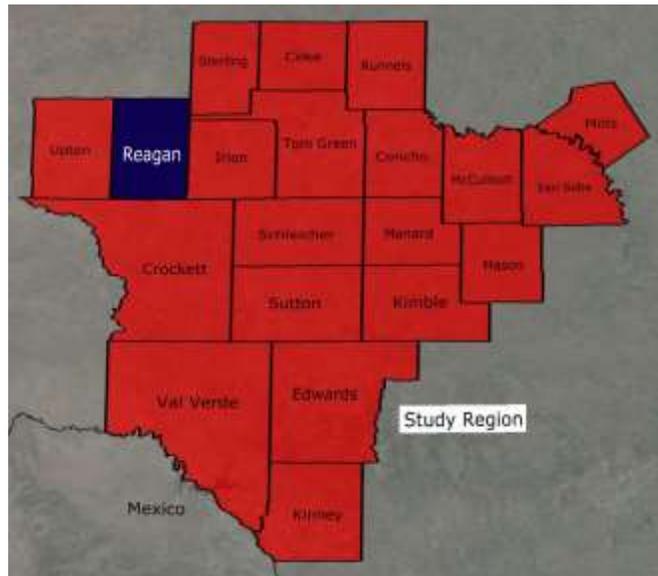
The research to assess the Health and Behavioral Health Needs of the Extremely Poor in West Texas was guided by a six-member advisory group including:

- Mark Bethune, Concho Valley Community Action Agency
- Tim Davenport-Herbst, St. Paul Presbyterian Church of San Angelo
- Dusty McCoy, West Texas Counseling & Guidance
- Susan McLane, Concho Valley Community Action Agency
- Sue Mims, West Texas Opportunities & Solutions
- Kenneth L. Stewart, Community Development Initiatives

The generous support of Methodist Healthcare Ministries of South Texas and the San Angelo Health Foundation made the comprehensive regional project and this Community Health Needs Assessment for the people of Reagan County possible.

INTRODUCTION

The project to assess Health and Behavioral Health Needs in West Texas employs a collaborative community-based research approach to evaluate the health status and situation of the vulnerable population groups in the study region. By definition, vulnerable populations are the most underserved by the health care system. They include individuals with the least education, low incomes, and members of racial or ethnic minority groups. People living in rural areas such as Reagan County are an important segment of the vulnerable populations in health care. The assessment includes the following:



1. A demographic profile featuring the vulnerable groups in the population. The profile integrates publicly available secondary demographic data.
2. A health status profile of community health and mental health care resources, utilization patterns, and morbidity and mortality rates.
3. Results of a survey of poor and extremely poor residents of selected counties in the western part of the study region.
4. Identification and prioritization of health and behavioral health issues in Reagan County based on the prevalence, consequences, and impact of risk factors on health inequities, and the feasibility of communities acting toward solutions.

GENERAL DESCRIPTION OF THE REAGAN COUNTY COMMUNITY

Reagan County is a 1,176 square mile land area in the Permian Basin region of West Texas. The county sits atop one of the largest oil and gas fields in the Western Hemisphere. Big Lake, Texas is the county seat. Located at the crossroads of U.S. Highway 67 and Texas State Highway 137, the town of Big Lake was founded as a small ranching community in the late 1880s.



The county's economic base is farming, ranching, and oil and gas service and production. Oil and gas activities in recent years have had a substantial impact on the Reagan County community. The Industrial Park to the east of Big Lake on Highway 67 has grown from six companies in 2011 to 24 companies in 2014. The Reagan County Hospital District has a new \$32 million hospital and care center currently under construction. Community recreational opportunities include a county park, walking, hiking, biking, basketball, softball, tennis, and golfing facilities.

Table 1 reports private industry and employment for Reagan County in 2013. About 90 private industry establishments employed nearly 1,400 county residents at an average pay rate of \$62,091. Private industry employees comprised approximately 80 percent of the county's 1,719 person labor force in 2013.¹

North American Industry Classification System (NAICS) Sectors	Annual Average Establishment Count	Annual Average Employment	Percent Total Employment	Average Annual Pay
All private industries	90	1,381	100	\$62,091
NAICS 21: Mining, quarrying, and oil and gas extraction	36	631	46	\$60,295
NAICS 48-49: Transportation and warehousing	11	569	41	\$74,883
NAICS 44-45: Retail trade	9	90	7	\$23,673
NAICS 81: Other services, except public administration	13	35	3	\$36,980
NAICS 11: Agriculture, forestry, fishing and hunting	10	26	2	\$18,614
NAICS 54: Professional and technical services	8	19	1	\$44,762
NAICS 62: Health care and social assistance	3	11	1	\$30,385

Source: US Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages, April 1, 2015: <http://www.bls.gov/cew/>

¹ The estimate of 1,719 labor force participants is from the US Census Bureau's 2009-2013 5-Year American Community Survey, retrieved April 1, 2015: <http://factfinder.census.gov>.

The impact of activities in the oil and gas industries is readily evident from the industry and employment picture in Table 1. In 2013, just two North American Industry Classification System (NAICS) sectors concentrated in oil and gas extraction and transportation services (NAICS codes 21 and 48-49) employed about 86 percent of the county's private industry employees.² The average annual wage rate of employees in these sectors was \$67,212. In addition, a recent economic development study completed by the Texas A&M Engineering Extension Service estimates that the transient population attracted to the region by oil and gas activity swells the daytime population of the county from the Census Bureau's estimated 3,755 to as many as 12,000.³

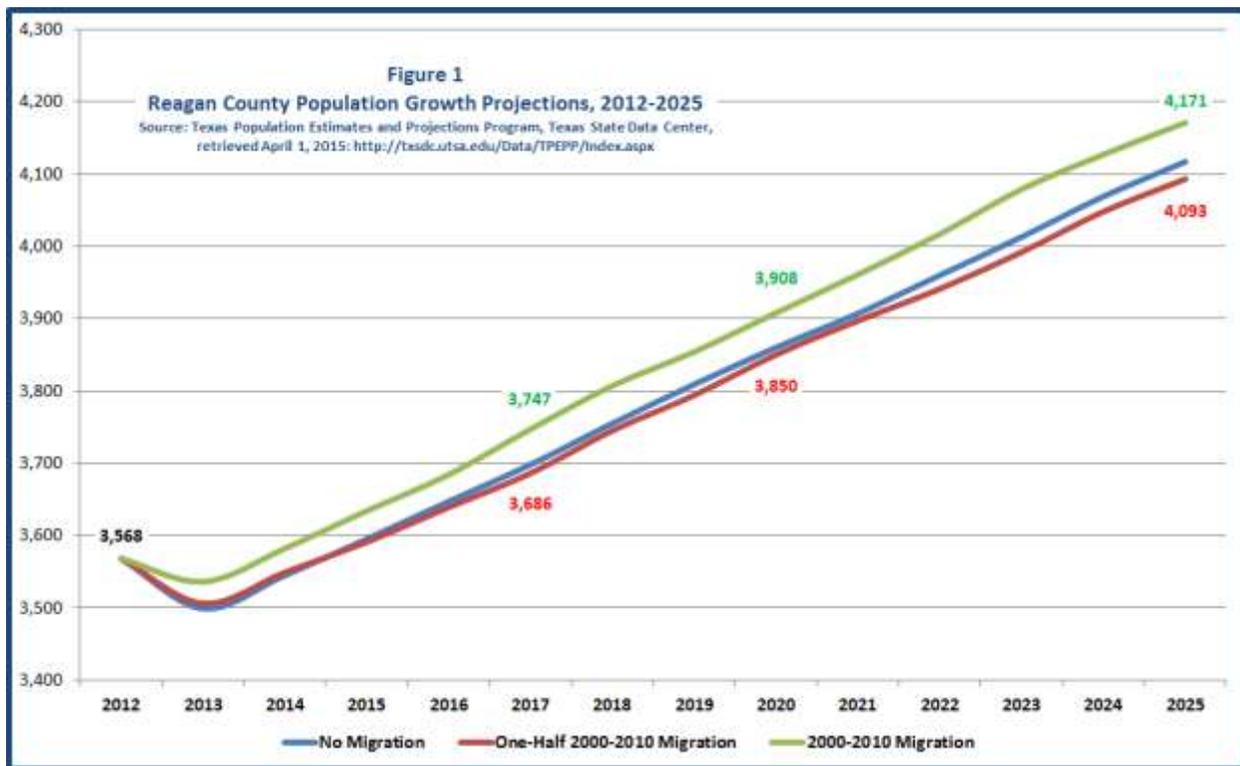
In contrast, privately employed healthcare and social assistance workers (NAICS code 62) were few in number, and the average annual rate of pay in that sector was less than half the wage of workers in the oil and gas and transportation industries.

² Reagan County's 2013 location quotient for NAICS 21 employment was 50.5. This means that employment in the mining, quarrying, and oil and gas extraction sector was about 50 times more concentrated in Reagan County compared to average concentration of workers in the sector across the nation.

³"Big Lake, Texas Competitive Assessment," Knowledge Engineering, Texas A&M Engineering Extension Service (September, 2014), p. 5.

DEMOGRAPHICS

The Census Bureau’s 2014 estimate of the Reagan County resident population is 3,755.⁴ In addition, the State Demographer developed three population projections based on varying assumptions about migration to and from the county in years ahead. Figure 1 depicts the State’s current projections for population growth in Reagan County through 2025.



The highest growth projection (green line) is based on the assumption that migration in and out of the county is following the trend set between the decennial census counts in 2000 and 2010. This projection approximates the county will reach 3,908 by 2020, and 4,171 for 2025. The State Demographer’s population growth picture for Reagan County is considerably more conservative than recent estimates garnering attention in the local community.⁵

⁴ From US Census Bureau, Population Division, Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2014, retrieved July 24, 2015: <http://factfinder.census.gov>.

⁵ One article in the July 17, 2014 *Big Lake Wildcat* newspaper was entitled “2019: Big Lake – Population 17,262.” The “Big Lake, Texas Competitive Assessment” by the Texas A&M Engineering Extension Service, *op. cit.*, claimed that “more realistic estimates” for 2019 fall in the range of 13,000-14,000.

Vulnerable Populations

Reagan County has a “majority-minority” population as described in Table 2 below. The county’s 2,199 Hispanic residents comprised the majority (62%) of the population in 2012 according to estimates of the State Demographer. Black citizens and other minorities added another 102 residents, bringing the total minority population to 64 percent.

Table 2								
Race & Ethnicity: 2012 Estimate with Projections to 2025								
Groups	2012		2017		2020		2025	
White, Non-Hispanic	1,267	36%	1,265	34%	1,263	32%	1,256	30%
Total Minority	2,301	64%	2,482	66%	2,645	68%	2,915	70%
Hispanic	2,199	62%	2,387	64%	2,551	65%	2,823	68%
Black	68	2%	63	2%	63	2%	61	1%
Other	34	1%	32	1%	31	1%	31	1%
Total Population	3,568	100%	3,747	100%	3,908	100%	4,171	100%

Source: Texas Population Estimates and Projections Program, Texas State Data Center, retrieved April 1, 2015: <http://txsdc.utsa.edu/Data/TPEPP/Index.aspx>. The forward projections for 2017, 2020, and 2025 reflect the State Demographer's high-growth assumption that migration will equal the rates of the 2000-2010 time period.

In addition, the State Demographer’s projections indicate that Hispanic residents are likely to account for all of the county’s population increase in the near future. The expectation is for the Hispanic segment of the community to steadily grow from 62 to 68 percent between 2012 and 2025. All other race and ethnic groups are projected to decrease proportionately.

Children under age 18 (numbering 1,041) made up 29 percent of the county’s population in 2012 according to State estimates. Youngsters of school attendance age (5-17 years) comprised 74 percent of the children, while preschoolers accounted for 26 percent.

Table 3								
Children: 2012 Estimate with Projections to 2025								
Groups	2012		2017		2020		2025	
All Children (under age 18)	1,041	100%	1,001	100%	1,043	100%	1,082	100%
School-age children (ages 5-17)	771	74%	723	72%	738	71%	761	70%
Pre-school-age children (under 5)	270	26%	278	28%	305	29%	321	30%

Source: Texas Population Estimates and Projections Program, Texas State Data Center, retrieved April 1, 2015: <http://txsdc.utsa.edu/Data/TPEPP/Index.aspx>. The forward projections for 2017, 2020, and 2025 reflect the State Demographer's high-growth assumption that migration will equal the rates of the 2000-2010 time period.

The child population is expected to decline slightly in the short-term, but to grow modestly by 2025. Pre-school toddlers are projected to increase from 26 percent of children in 2012 to 30 percent in 2025, accounting for all (or nearly all) growth of the child population by 2025.⁶

⁶Nearly all growth of the child population is also expected to take place in the Hispanic segment of the community. Hispanic children were an estimated 77% of youngsters in 2012; they are expected to grow to 79% in 2025.

The county was home to 412 senior citizens in 2012 according to State estimates. They comprised 12 percent of the total population. Hispanics (numbering 142) made up 34 percent of the senior residents in the county.

Table 4								
Seniors: 2012 Estimate with Projections to 2025								
Groups	2012		2017		2020		2025	
Total Population	3,568	100%	3,747	100%	3,908	100%	4,171	100%
Seniors (65 & over)	412	12%	532	14%	630	16%	816	20%
Hispanic Seniors (65 & over)	142	34%	206	39%	255	40%	369	45%

Source: Texas Population Estimates and Projections Program, Texas State Data Center, retrieved April 1, 2015: <http://txsdc.utsa.edu/Data/TPEPP/Index.aspx>. The forward projections for 2017, 2020, and 2025 reflect the State Demographer's high-growth assumption that migration will equal the rates of the 2000-2010 time period.

Official State projections suggest brisk growth of the senior population to 20 percent by 2025. Elder residents are expected to nearly double (from 412 to 816) between 2012 and 2025.

Hispanics, once again, will account for much of the increase. The number of Hispanic seniors is expected to more than double between 2012 and 2025, increasing their representation within the elder population from 34 to 45 percent.

There are 1.08 males in Reagan County for every female. Women and girls comprised 48 percent of the population according to the State Demographer's 2012 population estimates. Projections indicate the female population will slowly increase in number through 2025, but decrease as a segment (from 48% to 45%) because the overall population is set for faster growth.

Table 5								
Females: 2012 Estimate with Projections to 2025								
Groups	2012		2017		2020		2025	
Total Population	3,568	100%	3,747	100%	3,908	100%	4,171	100%
Female (all ages)	1,728	48%	1,743	47%	1,792	46%	1,869	45%
Female (ages 13-17)	155	9%	144	8%	136	8%	120	6%
Hispanic Female (ages 13-17)	119	77%	118	82%	112	82%	90	75%

Source: Texas Population Estimates and Projections Program, Texas State Data Center, retrieved April 1, 2015: <http://txsdc.utsa.edu/Data/TPEPP/Index.aspx>. The forward projections for 2017, 2020, and 2025 reflect the State Demographer's high-growth assumption that migration will equal the rates of the 2000-2010 time period.

Girls age 13-17 are particularly vulnerable to risks of teen pregnancy, single parenthood, poverty, and a range of associated factors. Girls in this age range make up nine percent of the county's female population. Hispanic teens comprise 77 percent of the population in this age group.

COMMUNITY HEALTH RESOURCES

The Reagan County Hospital District anchors the county's health resources. According to the records of the Texas Comptroller, the Hospital District's 2013 tax rate of 21.6 cents per \$100 of the county's taxable property base valued at \$2.5 billion produced a total tax levy of \$5,320,006 in 2013. The District dedicates some 68 percent of tax revenue to maintenance and operations of facilities according to reports to the Comptroller.⁷

Hospital District facilities include Reagan Memorial Hospital. Originally constructed in 1949, the Hospital today provides critical access short-term acute care and adult Level IV emergency room services, a wellness center, and a helipad.

Hospital Utilization, Revenue, and Charges

Reagan Memorial Hospital reported availability of seven staff beds in the 2012 Annual Survey of Hospitals.⁸ The number translates to availability of two staff beds per 1,000 residents of the county. This compares to 2.7 staff beds available per 1,000 residents in 13 acute care hospitals located in 10 counties across the 20-county study area.⁹ Three physicians are affiliated with the hospital including two family medicine practitioners and one nephrologist.

The Hospital received an excellent rating from discharged patients who participated in the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey. The survey was conducted in partnership with Centers for Medicare and Medicaid Services between January and December 2013.¹⁰ Beyond the 2013 HCAHPS items, no comprehensive quality of care ratings or indicators for Reagan Memorial Hospital are publicly available.

An initial indication of hospital underutilization is suggested by the 22 annual admissions for 108 inpatient days reported for 2012. This computes to just 6.2 admissions per 1,000 county residents and compares to 91.8 per 1,000 in the combined 13 hospitals within the study region.

⁷ "Special District Rates and Levies," 2013, Texas Comptroller of Public Accounts, retrieved May 2, 2015: <http://www.window.state.tx.us/taxinfo/proptax/taxrates/>.

⁸ The Annual Survey of Hospitals is a cooperative project of the American Hospital Association, the Texas Hospital Association and the Texas Department of State Health Services. The Annual Survey of Hospitals reports for Texas are available at: <http://www.dshs.state.tx.us/chs/hosp/>.

⁹ The 13 hospitals within the study region include Concho County Hospital, Kimble Hospital, Heart of Texas Healthcare System, Reagan County Memorial, Ballinger Memorial Hospital District, North Runnels Hospital, Schleicher County Medical Center, Lillian M. Hudspeth Memorial Hospital, San Angelo Community Medical Center, Shannon West Texas Memorial Hospital, McCamey Hospital, Rankin County Hospital District, and Val Verde Regional Medical Center.

¹⁰ HCAHPS items cover topics such as doctor and nurse communication, hospital cleanliness and noise levels, medication and post-discharge care instructions, and overall patient ratings. Data retrieved July 31, 2015: <https://data.medicare.gov/>.

It also equates to an average daily hospital census in Reagan County of less than one (0.3) patient. The Staffed Occupancy Rate for Reagan Memorial indicates that only 4.2 percent of its staff bed capacity was used in 2012. This is about one-tenth of the 40.6 percent Staffed Occupancy Rate for the 13 hospitals across the region.

Table 6		
2012 Hospital Utilization, Revenue and Charges		
Service Geography	Reagan County	Region
Utilization Measures		
Staff Beds	7	643
Admissions	22	21,832
Inpatient Days	108	95,593
Medicare Inpatient Days	91.7%	59.6%
Medicaid Inpatient Days	0.0%	12.9%
Average Daily Census	0.3	20.1
Average Length Stay	4.9	4.5
Staffed Occupancy Rate	4.2%	40.6%
Revenue & Charges		
Total Uncompensated Care	\$814,493	\$130,254,618
Bad Debt Charges	\$812,520	\$67,864,830
Charity Charges	\$1,973	\$62,389,788
Net Patient Revenue	\$3,537,489	\$401,687,575
Total Gross Patient Revenue	\$3,660,843	\$1,474,374,831
Gross Inpatient Revenue	\$139,577	\$664,983,937
Gross Outpatient Revenue	\$3,521,266	\$809,390,894
Percent of Gross Patient Revenue in Uncompensated Care	22.2%	8.8%
Population Measures		
Population Estimate	3,568	237,912
Staff Beds per 1,000 Population	2.0	2.7
Admissions per 1,000 Population	6.2	91.8
Inpatient Days per 1,000 Population	30.3	401.8
Per Capita Gross Patient Revenue	\$1,026	\$6,197
Per Capita Uncompensated Care	\$228	\$547
Source: Texas Department of State Health Services, Annual Survey of Hospitals, retrieved May 12, 2015: http://www.dshs.state.tx.us/chs/hosp/ .		

Underutilization is also reflected in the 2012 published data on revenues and charges at Reagan Memorial Hospital. Gross patient revenue, on a per capita basis for 2012, amounted to \$1,026 per resident of the county. This was about one-sixth of \$6,197 per capita revenue in the combined 13 hospitals of the region. In addition, Reagan Memorial reported uncompensated

care charges (almost all of which were accounted as “bad debt”) totaling 22.2 percent of the gross patient revenue. That rate of uncompensated care compares to 8.8 percent of gross patient revenue in the 13 regional hospitals combined.

Further evidence of the low level of use at Reagan Memorial Hospital is in data on inpatient and outpatient discharges from Texas health facilities. Data for 2013 from the Texas Department of State Health Services shows 366 inpatient discharges of Reagan residents from various facilities located elsewhere in Texas. Hospitalization in one of Tom Green County’s regional facilities accounted for 307 or 84 percent of the inpatient visits by Reagan County residents. In addition, the 2013 data show 1,229 outpatient visits by residents of Reagan County with 1,168 or 95 percent of these occurring at regional facilities in Tom Green County.¹¹

It was in the year 2013 that Reagan County voters approved a \$32.2 million bond proposal to construct a new medical complex. Now under construction, the new facility is not planned to substantially increase staff bed capacity at the hospital. The aim is to upgrade the more than 65 year-old current facility and its equipment to “state of the art” infrastructure.

Even as Reagan County Hospital District works toward its new complex, however, there is tightening of the belt in hospital staffing. Actions in the spring of 2015 included reduction of the full-time-equivalent workforce, elimination of unnecessary staff overtime, and re-evaluation of employee benefits.¹²

Other Health Care Resources

Reagan County Care Center is a senior care center for long-term stay. Like the Hospital, the Care Center is owned and operated by the Hospital District. The plan for the District’s new facility includes construction of a new Care Center.

The current Care Center has 42 certified beds and maintains a census of approximately 35 resident patients. The Center is rated “Above Average” overall (4 of 5 stars) based on the Nursing Home Compare data developed by the Centers for Medicare and Medicaid Services from recent health inspections, staffing levels, and quality measures of patient treatment and experience.¹³

¹¹ Texas Department of State Health Services, Inpatient and Outpatient Public Use Data Files, 2013.

¹² “CUTBACKS: RHD sees drastic changes with eye to the future,” *Big Lake Wildcat*, April 30, 2015.

¹³ See the Nursing Home Compare database at <http://www.medicare.gov/nursinghomecompare/search.html>. Results reported here were retrieved on May 20, 2015. The Center’s “Above Average” rating was based on 2014 data reports on health inspections, staffing, and quality measures. Specifications for the rating system are in Centers for Medicare and Medicaid, “Design for Nursing Home Compare Five-Star Quality Rating System: Technical Users’ Guide,” February 2015, retrieved May 20, 2015: <http://www.cms.gov/Medicare/Provider-Enrollment-and->

Big Lake Volunteer Fire Department provides Emergency Medical Services (EMS) for Reagan County. A recent assessment of services across rural West Texas details major challenges facing EMS in Reagan County and other rural parts of the study region.

A previous “Assessment of Rural West Texas Emergency Medical Services” was conducted by the F. Marie Hall Institute for Rural and Community Health at Texas Tech University Health Sciences Center (TTUHSC) in 2013.¹⁴ The assessment featured a 23 item telephone interview with 176 EMS service representatives. The interviews covered EMS personnel, service areas, wages, training, funding, equipment, and distances to trauma facilities. The study found the following challenges shared by many rural EMS providers:

- Funding: Rural EMS services often rely on unstable revenue streams. State funding is allocated by formulas that include the trauma service area size, population, and number of runs submitted to the State EMS/Trauma Registry. Oil and gas companies operating in rural areas sometimes give donations or help buy emergency equipment. Some rural services depend on funds from local foundations, farmers, and ranchers.¹⁵
- Equipment: The 2013 Assessment identified 539 ambulances in the 108 county area served by TTUHSC. Ambulances in rural areas were generally older; some were as old as 27 years at the time of the study. The combination of distances traveled and vehicle maintenance deficiencies linked to breakdown issues during transport. Failing road systems also complicate this issue.
- Distances: In addition to wear and tear on ambulance vehicles, distances in West Texas represent obstacles for EMS personnel licensing and continuing education training opportunities. Distance obstacles to education and training are particularly challenging for keeping paramedics (essential personnel for Medical Intensive Care service) in rural West Texas.
- Personnel: The TTUHSC Assessment estimated 3,685 practicing EMS providers in its 108 county area in 2013. At the same time, The Department of State Health Services listed 6,748 licensed providers in the same area. This suggests that as many as half of the officially licensed personnel in rural West Texas counties may not be practicing due to retirement, career changes, change in residence, or other factors.

[certification/CertificationandCompliance/Downloads/usersguide.pdf](#).

¹⁴ F. Marie Hall Institute for Rural and Community Health, “Assessment of Rural West Texas Emergency Medical Services,” Texas Tech University Health Sciences Center, Lubbock Texas, retrieved May 27, 2015:

<http://www.ttuhsc.edu/ruralhealth/>.

¹⁵ As recently as 2011, service to Reagan County depended on volunteer EMS personnel, reportedly at the expense of timely and reliable response. More recently, the Hospital District reportedly discontinued monthly payments under a contract with the county for the EMS service. See “Big Lake EMS Having Issues with Emergency Services,” NewsWest9, February 16, 2011; and “Reagan County, Hospital District At Odds Over Contract,” NewsWest9, February 20, 2014, retrieved May 27, 2015: <http://www.newswest9.com/>.

In Reagan County specifically, 2014 data from the Department of State Health Services counts 16 EMS professionals. This yields a population ratio of 222 residents per EMS specialist; a favorable population ratio compared to 295 residents per specialist in the 20-county study area and 438 for Texas overall.

Table 7 Selected Health Professionals by Geography, 2014						
Licensed or Certified Professionals	Number in Reagan County (3,549 Population)	Ratio of Population per Professional	Number in 20 County Study Region (239,529 Population)	Ratio of Population per Professional	Number in Texas (26,581,256 Population)	Ratio of Population per Professional
Certified Nurse Aides	43	83	1,879	127	124,616	213
Dentists	0	No Supply	70	3,422	12,767	2,082
Dieticians	1	3,549	33	7,258	4,668	5,694
Emergency Medical Services	16	222	812	295	60,690	438
Licensed Chemical Dependency Counselors	0	No Supply	87	2,753	9,285	2,863
Licensed Professional Counselors	0	No Supply	158	1,516	20,655	1,287
Licensed Vocational Nurses	9	394	1,197	200	77,624	342
Marriage and Family Therapists	0	No Supply	12	19,961	3,149	8,441
Medication Aides	4	887	139	1,723	10,012	2,655
Occupational Therapists	0	No Supply	45	5,323	7,914	3,359
Optometrists	0	No Supply	18	13,307	3,272	8,124
Pharmacists	0	No Supply	146	1,641	23,561	1,128
Physical Therapists	0	No Supply	109	2,198	13,136	2,024
Physician Assistants	0	No Supply	51	4,697	6,543	4,063
Physicians (Direct Patient Care)	2	1,775	357	671	47,289	562
Primary Care Physicians	2	1,775	168	1,426	19,277	1,379
Psychiatrists	0	No Supply	12	19,961	1,971	13,486
Promotores (Community Health Workers)	0	No Supply	15	15,969	2,032	13,081
Psychologists (All)	0	No Supply	43	5,570	7,382	3,601
Registered Nurses	14	254	1,696	141	206,027	129
Advanced Practice (APRN)	0	No Supply	119	2,013	15,194	1,749
Social Workers	0	No Supply	117	2,047	19,536	1,361
Total Selected Health Professionals	91	39	7,283	33	696,600	38

Source: Texas Department of State Health Services, Supply and Distribution Tables for State-Licensed Health Professions in Texas, retrieved May 26, 2015: <http://www.dshs.state.tx.us/chs/hprc/health.shtm>.

Table 7 depicts the supply of key health professionals in Reagan County according to 2014 Department of State Health Services data. Based on population ratios, it appears the county is well supplied with low-level personnel such as certified nurse aides or medication aides, while it is undersupplied with advanced practitioners such as physicians and registered nurses. Reagan County joins many rural West Texas areas with no advanced professionals for oral (dentists) or behavioral health (psychiatrists, psychologists).

HEALTH STATUS

Family and Maternal Health

The Census Bureau's 2009-2013 5-Year American Community Survey estimated 922 resident families residing in Reagan County over that time. Overall the basic indicators of family and maternal health in the county are positive.

Our calculations indicated that about 87 (9.4%) of these were single-parent (mostly female-parent) families with one or more children. This is a lower number than the study region or the state overall, as is the estimated percent of women (8.4%) in the county who are divorced.

Indicator	Reagan County	Study Region	Region 9	Texas
Divorce Rate (Annual Divorces as a Percent of Annual Marriages)	52.0	43.2	No Data	45.0
Percent Women Age 15 & Over who are Currently Divorced	8.4	12.4	No Data	12.2
Single-Parent Families (Percent of All Families)	9.4	13.1	No Data	15.6
Teen Pregnancy Rate (Pregnancies per 1,000 Females Age 13-17)	20.3	25.3	30.5	21.4
Teen Birth Rate (Births to Mothers Age 13-17 per 1,000 Same Age Females)	18.9	23.1	28.1	18.4
Abortion Rate (Abortions as a Percent of Pregnancies among Females Age 15-44)	7.0	9.8	9.0	15.6
Percent Births to Unmarried Mothers (Female Population Age 15-44)	37.4	44.6	45.9	42.3
Child Abuse Rate* (Confirmed Incidents of Abuse per 1,000 Children)	5.7	12.9	13.8	9.5
Intimate Violence Rate (Incidents of Family Violence & Sexual Assault per 1,000 Population)	2.5	9.4	No Data	8.0

* All ratios and percents, except the Child Abuse Rate, cover 2008-2012. The Child Abuse Rate is for 2010-2014.
Sources: All calculations of rates and percents were performed by Community Development Initiatives at Angelo State University using data on Divorce, Teen Pregnancy, Teen Birth, and Abortion from Vital Statistics, Texas Department of State Health Services, retrieved June 9, 2015: <http://www.dshs.state.tx.us/>. The Child Abuse Rate was calculated using data from the Annual Data Books, Texas Department of Family and Protective Services, retrieved June 9, 2015: <http://www.dfps.state.tx.us/>. Estimates of Single-Parent Families and Percent Divorced Women were computed using data from the US Census Bureau, American Community Survey 2009-2013 5 Year Data, retrieved June 9, 2015: <http://factfinder.census.gov/>. Intimate Violence Rates were derived from data at Crime in Texas, Texas Department of Public Safety, retrieved June 9, 2010: <http://www.txdps.state.tx.us>.

The ratio of divorces compared to marriages may be a point of some concern for the health of families in the future. Over the 2008-2012 time frame, the number of divorces totaled 52 percent of the number of marriages in the county. This was a higher proportion than the 20-county study region (43.2%) or the state (45%).

Historically, the 30 counties in the Public Health Region 9 of West Texas have been high compared to the state in the number of teen pregnancies and births. Reagan County, however, is an exception. Its teen pregnancy and birth rates for 2008-2012 were aligned with statewide levels and significantly lower than Region 9. The county's rates of abortion, births to unmarried mothers, child abuse, and intimate violence were also distinctly lower.

Leading Causes of Death

The Department of State Health Services recorded 130 deaths from all causes among Reagan County residents between 2008 and 2012. This computes to a five-year crude death rate of 36.4 deaths per 1,000 residents based on the 2012 population estimate. This is slightly higher than the Texas rate of 32 per 1,000 over the same time frame. It is lower than the rate of 45.6 per 1,000 for the study region.

Medical conditions classified as Diseases of the Heart top the list of the leading causes of death in Reagan County. The county generally has lower death rates than the study region on the leading causes. However, Reagan County has higher death rates than the overall state from Diseases of the Heart, Cerebrovascular Diseases, and Accidents.

Table 9				
Leading Causes of Death in Reagan County, 2008-2012				
Causes of Death	Deaths	Crude Death Rate*	Study Region Rate*	Texas Rate*
Diseases of the Heart (ICD-10 Codes I00-I09, I11, I13, I20-I51)	34	9.5	9.5	7.4
Malignant Neoplasms (ICD-10 Codes C00-C97)	20	5.6	9.6	7.0
Cerebrovascular Diseases (ICD-10 Codes I60-I69)	13	3.6	2.3	1.8
Accidents (ICD-10 Codes V01-X59, Y85-Y86)	11	3.1	2.0	1.8
Chronic Lower Respiratory Diseases (ICD-10 Codes J40-J47)	6	1.7	2.7	1.7

*All rates in the table express the number of deaths per 1,000 residents based on the estimated population for 2012. They are crude rates, not adjusted for age or other demographic characteristics.
Source: Texas Department of State Health Services, retrieved June 23, 2015: <http://www.dshs.state.tx.us/chs/datalist.shtm>.

SURVEY OF THE POOR AND EXTREMELY POOR IN WEST TEXAS

The Census Bureau's 2009-2013 5-Year American Community Survey data approximates that 2,540 residents of Crockett, Reagan, Schleicher, Sutton, and Upton counties in the western part of the 20-county study region are living below the federal poverty level. This computes to a poverty rate of 14.4 percent for these five western counties combined. Moreover, the Census Bureau data indicates that some 1,208 or 47.6 percent of these residents are extremely poor, living with incomes less than half the poverty level.¹⁶

Between April and September 2015, Angelo State University's Community Development Initiatives and 72 organizations collaborated to complete detailed interviews with poor and extremely poor residents of the 20 counties in the study region.¹⁷ A total of 597 interviews were completed, including 49 with residents of the five western counties in the study region: Crockett, Reagan, Schleicher, Sutton, and Upton counties.¹⁸ Respondents from the five western counties had self-reported household incomes below the applicable federal poverty level. Approximately 38.8 percent were extremely poor with incomes equal to or below half of the applicable poverty level. They ranged in age from 20 to 77 with an average age of 48.1 years. Females made up 89.8 percent. See Table 10 for a summary of the sample characteristics.

A schedule of questions covering health, behavioral health, and dental health topics was developed for the interviews. The Behavioral Risk Factor Surveillance System (BRFSS) surveys, conducted with adults age 18 and over by state health departments in partnership with the Centers for Disease Control and Prevention, served as the model for questions.¹⁹ Indeed, the three-page questionnaire yielded 31 indicators which closely parallel similar items in the 2013 BRFSS results for Texas.

¹⁶ The combined rates of poverty and extreme poverty for the five counties were computed by Angelo State University's Community Development Initiatives based on data from the US Census Bureau, American Community Survey, 2009-2013 5-Year Estimates, retrieved October 2, 2015: <http://factfinder.census.gov/>.

¹⁷ Residents were defined as extremely poor for the purposes of the interviews if their self-reported household income was near 50 percent or less of the applicable federal poverty level for 2015. They were deemed to be poor if self-reported household income was near or below the applicable 2015 poverty level. Based on the results of the 2009-2013 five-year combined samples of the Census Bureau's American Community Survey, we estimated that approximately 14,743 extremely poor individuals reside in the 20-county study region. See the US Census Bureau's 2009-2013 5-Year American Community Survey at <http://factfinder.census.gov>.

¹⁸ The number of interviews conducted in the respective counties was proportional to the estimated total of extremely poor population from the American Community Survey. Based on the American Community Survey, for instance, we estimated that 8.2% of extremely poor individuals in the study region resided in the western counties of Crockett, Reagan, Schleicher, Sutton, and Upton. Reflecting this, we conducted 49 or 8.2% of the interviews in these counties.

¹⁹ BRFSS interviews are conducted by telephone. In contrast, the interviews for this project were conducted by trained community-based interviewers in a face-to-face informal format. Information on Texas participation and results for the BRFSS is at <http://www.dshs.state.tx.us/chs/brfss/default.shtm>.

Table 10
Sample Characteristics*

County of Residence		
Crockett	16	32.7%
Reagan	0	0.0%
Schleicher	19	38.8%
Sutton	2	4.1%
Upton	12	24.5%
Poverty Status		
Severly poor	19	38.8%
Poor	29	59.2%
Gender		
Male	5	10.2%
Female	44	89.8%
Ethnicity		
Not Hispanic	15	30.6%
Hispanic	34	69.4%
Age		
18-29	7	14.3%
30-39	11	22.4%
40-49	4	8.2%
50-64	17	34.7%
65 & Over	10	20.4%
Average Years of Age	48.1	
Years of Schooling		
Less than 12	18	36.7%
12 or More	31	63.3%
Average Years of Schooling	11.2	
Household Composition		
Single Person	6	12.2%
Single Parent	9	18.4%
Couples with Children**	9	18.4%
Couples without Children**	17	34.7%
Other***	8	16.3%
Average Household Size	3.2	
*The sample size in the western counties was 49. Some frequencies and percentages reported do not sum to 49 or 100% because of missing data for selected variables.		
**Couples may be married couples or unmarried partners.		
***Other households includes small numbers of respondents living with their parents, grandparents living with grandchildren, persons living with extended relatives, and persons living with roommates.		

The results in Table 11 below apply only to the western counties (Crockett, Reagan, Schleicher, Sutton, and Upton) of the study region. The table compares results from the Survey of the Poor and Extremely Poor to BRFSS estimates of health risk among the total adult populations of the west counties and the state overall. The first row of the table, for instance, reports that 15 individuals or 30.6 percent of the 49 extremely poor survey participants from Crockett, Reagan, Schleicher, Sutton, and Upton counties said they were limited by poor mental, physical, or emotional health conditions. Texas BRFSS results from a similar question²⁰ asked in 2013 estimate that only 13.2 percent of all adult residents in the five counties share this risk of impairment.

Table 11					
Health Risks of the Poor and Extremely Poor in West Counties with BRFSS Comparisons					
Risk Indicators	Survey Results: West Counties*			BRFSS Risk Comparisons**	
	Sample	Population at Risk	Percent at Risk	West Counties	Texas
Limited by poor physical, mental, or emotional health conditions	49	15	30.6	13.2	11.6
Could not see a doctor because of cost during past 12 months	49	21	42.9	19.8	19.3
Diagnosed heart disease	49	7	14.3	7.3	5.7
Diagnosed cardiovascular disease	49	7	14.3	10.2	7.2
Diagnosed asthma	49	9	18.4	15.4	12.6
Diagnosed COPD (incl. emphysema, chronic bronchitis)	49	9	18.4	5.0	5.4
Diagnosed arthritis, rheumatoid arthritis, gout, lupus, fibromyalgia	49	17	34.7	23.7	20.7
Diagnosed depression (major, chronic, minor)	49	14	28.6	14.8	16.0
Diagnosed kidney disease	49	3	6.1	2.1	3.1
Diagnosed diabetes	49	9	18.4	13.8	10.9
Morbidly Obese BMI => 35	49	7	14.3	11.6	12.7
Current smoker	49	12	24.5	18.6	15.9
Current smokeless tobacco user				8.3	4.3
Binge drinking	49	10	20.4	15.1	16.7
Difficult to access fresh fruits & vegetables	49	11	22.4	9.9	7.7
*These columns report the Survey of the Poor & Extremely Poor in West Texas combined results for Crockett, Reagan, Schleicher, Sutton, and Upton counties.					
**These columns include results from the Texas BRFSS conducted by the Texas Department of State Health Services in 2013. The BRFSS estimates reported for the West Counties are risk-adjusted by Community Development Initiatives at Angelo State University to account for the specific demographic characteristics of Crockett, Reagan, Schleicher, Sutton, and Upton counties.					

The 14 risk indicators in Table 11 were selected because the Survey of the Poor and Extremely Poor suggests that this vulnerable group has a level of risk on these factors that is at least 10 percent higher than the risk in the total adult population in the western counties. Indeed, based

²⁰ The similar item in the BRFSS was a more formal question asking whether respondents were kept from normal activities for five or more days in the past 30 days by poor mental or physical health.

on the comparisons to the BRFSS estimates, the vulnerable poor and extremely poor population experiences elevated risks that range from 19 percent higher (for being diagnosed with asthma) to 265 percent higher (for being diagnosed with COPD).

Other significant findings from the Survey of the Poor and Extremely Poor add context to some of the elevated risks indicated in Table 11. For instance, the 24.5 percent of poor and extremely poor residents who reported being a current smoker helps explain the elevated risk of COPD diagnosis (as well as other diagnosed diseases) in this vulnerable group.

Also, the 42.9 percent who reported not seeing a doctor because of cost indicates an elevated cost barrier to health care. Additional results from the survey expand on this by indicating that 40.8 percent of survey respondents lack health insurance. This compares to the Census Bureau's 2013 estimate that 27.1 percent of all adults age 18-64 in Crockett, Reagan, Schleicher, Sutton, and Upton counties are uninsured.²¹

The survey findings also indicate that 83.7 percent of the poor and extremely poor do not have dental insurance; 69.4 percent do not have a regular dentist; 47 percent have not had a routine dental checkup within the past five years; and 28.6 percent never had dental cleaning or x-rays.

In addition to the apparent lack of access to preventative dental care, the survey shows other serious obstacles to preventative medicine among poor and extremely poor residents of the west counties. For instance, 67.3 percent said they never had a colon/rectal exam.

Still other survey findings shine additional light on the indication in Table 11 of a 94 percent higher risk of poor and extremely poor adults being diagnosed with depression. Sizeable proportions of survey respondents also reported always, often, or sometimes feeling a fulfilling life is impossible (44.9%); avoiding situations out of nervousness, fear, or anxiety (71.4%); and feeling alone and not having much in common with people (58.3%).

Finally, Table 11 indicates that 22.4 percent of the poor and extremely poor have difficulty accessing grocery stores with fresh fruits and vegetables. This suggests a level of food insecurity that is more than double the BRFSS estimate of 9.9 percent lacking such access in the overall adult population of the western counties. It may also be associated with the higher obesity rate depicted in Table 11.

²¹ US Census Bureau, Small Area Health Insurance Estimates, retrieved September 29, 2015: <http://www.census.gov/did/www/sahie/>.

IDENTIFICATION AND PRIORITIZATION OF HEALTH NEEDS

Identification of Community Health Needs

The previous sections of this report summarize the findings relating to Reagan County from primary and secondary data collected by community-based participants in a comprehensive project to assess the Health and Behavioral Health Needs of vulnerable populations in a 20-county region of West Texas. The following data provide a foundation for identifying pertinent community health needs in Reagan County:

- **Demographic Trend Data:** Demographic projections of population growth in Reagan County were reviewed. Growth trends for vulnerable population groups were included in the review.
- **Hospital Data:** Available data on utilization, revenue, charges, and quality of care at Reagan Memorial Hospital were analyzed.
- **Other Health Care Resources:** Data and information on the supply of health care professionals, nursing homes, and emergency medical services were reviewed.
- **Family and Maternal Health:** Indicators of family composition, domestic abuse data, and maternal health were reviewed.
- **Potentially Preventable Hospitalizations:** Data on hospitalization of Reagan County residents that might have been avoidable if individuals accessed and complied with relevant preventative and outpatient healthcare services were reviewed.
- **Leading Causes of Death:** Data on leading causes of death were used to identify specific diseases associated with higher death rates in Reagan County compared to the state.
- **Survey of the Poor and Extremely Poor in West Texas:** Original survey data was reviewed in conjunction with Texas BRFSS data to identify elevated health and behavioral health risks among the poor and extremely poor population of Crockett, Reagan, Schleicher, Sutton, and Upton counties.

It is important to affirm the community-wide and regional focus of this study of the health needs of vulnerable populations in the 20-county study region of West Texas. With this perspective at the forefront, the needs assessment has made every effort to use data to identify needs of community-level importance which, in many instances, can only be addressed through cooperative, collective community action. Analysis of the data from the community level focus leads to the following summary list of identified needs for Reagan County:

1. Needs of children and seniors.
Increase capacity to address health needs of growing numbers of children and seniors in the population.

2. Hospital utilization and financial stability.
Create a strategy and collective community campaign to increase utilization, revenue, and financial stability of Reagan County Hospital District facilities.
3. Shortage of core health professionals.
Create a collaborative community effort to recruit and retain one or more health professionals in core shortage areas such as:
 - Primary Care Physicians, Physician Assistants, and Nurse Practitioners
 - Dentists
 - Optometrists
 - Pharmacists
 - Psychiatrists or Psychologists
 - Social Workers
4. Access to dental care.
Increase capacity and access to quality dental care, especially by poor and extremely poor residents and households.
5. Behavioral health capacity and access.
Increase capacity and access to quality behavioral health resources.
6. Preventative actions.
Increase emphasis on preventative actions in treatment, case management, and community outreach and education to reduce prevalence of and mortality from:
 - Heart disease and cerebrovascular diseases
 - Cancer
 - Accidental deaths
 - COPD
7. Preventative outreach to the poor and extremely poor.
Increase community capacity to reach the poor, extremely poor, and other vulnerable groups with preventative actions to:
 - Reduce obesity
 - Reduce tobacco use
 - Reduce depression
 - Reduce diabetes
 - Reduce cost barriers to treatment
 - Improve case management and outreach
 - Provide education to promote healthy living and wellness
8. Food security.
Increase access to nutritious foods by poor and extremely poor individuals and households.

Prioritization of Community Health Needs

A prioritization instrument was used to facilitate a priority ranking of the identified health needs. Key informants and stakeholders reviewed the instrument at a series of community forums during October 2015. Invitations were sent to county judges and county officials, mayors and city officials, law enforcement officials, hospital/clinic administrators and key personnel, mental health leaders, dentists, health departments, church leaders, service organization leaders, school administrators and key personnel, chambers of commerce, and significant employers. Two events were held in San Angelo, one in Brady, and one in Del Rio.

Access to preview copies of the previous sections of this report, including the above list of identified needs, were subsequently distributed via e-mail to key informants and stakeholders interested in Reagan County. The informants and stakeholders also received an e-mail invitation and link to respond to the online instrument. Key informants and stakeholders responded from November 13 to December 14, 2015.

The prioritization instrument provided an opportunity for key informants and stakeholders to rank the health needs identified by the study for Reagan County. Respondents ranked the needs based the specified criteria. A total of one response ranking the identified needs for Reagan County was returned.

Respondents ranked the identified community health needs on four criteria. A score between 1 and 5 was assigned for each criterion. The four criteria were presented to respondents as follows:

- Prevalence: How many people are potentially affected by the issue, considering how it might change in the next 5 to 10 years?
 - 5 - More than 25% of the community (more than 1 in 4 people)
 - 4 - Between 15% and 25% of the community
 - 3 - Between 10% and 15% of the community
 - 2 - Between 5% and 10% of the community
 - 1 - Less than 5% of the community (less than 1 in 20 people)

- Significance: What are the consequences of not addressing this need?
 - 5 - Extremely High
 - 4 - High
 - 3 - Moderate
 - 2 - Low
 - 1 – Minimal Consequences

- Impact: What is the impact of the need on vulnerable populations?
 - 5 - Extremely High
 - 4 - High
 - 3 - Moderate
 - 2 - Low
 - 1 - Minimal Impact

- Feasibility: How likely is it that individuals and organizations in the community would take action to address this need?
 - 5 - Extremely High
 - 4 - High
 - 3 - Moderate
 - 2 - Low
 - 1 - Minimal

The list below reports the results of the prioritization of needs in Irion County. The needs are listed in the rank order determined by adjusted averages that emphasize the importance of needs that were viewed as the most feasible ones for the community take action upon.²²

- Increase capacity and access to quality Behavioral Health resources
- Create an engaged process for recruiting & retaining core health professionals for Primary Care, including Physicians, Physician Assistants & Nurse Practitioners
- Create an engaged process for recruiting & retaining core health professionals including Psychiatrists & Psychologists
- Increase emphasis on preventative actions (screening, treatment, case management, outreach & education) to reduce Heart & Vascular Diseases
- Increase emphasis on preventative actions (screening, treatment, case management, outreach & education) to reduce Cancer
- Increase emphasis on preventative actions (screening, treatment, case management, outreach & education) to reduce COPD
- Increase emphasis on preventative actions (screening, treatment, case management, outreach & education) to reduce mortality from Accidents

²² Reagan County did not meet the minimum threshold of three responses to report priority scores; instead, the list of needs has been presented in rank order according to the adjusted average. The adjusted average for each need was calculated using the following formula: $Adjusted\ Average = [prevalence\ score + significance\ score + impact\ score + (feasibility\ score \times 2)] \div 4$

- Increase community capacity to reach vulnerable groups with preventative actions to reduce Depression
- Increase community capacity to reach vulnerable groups with preventative actions to reduce Diabetes
- Create an engaged process for recruiting & retaining core health professionals including Social Workers
- Increase community capacity to reach vulnerable groups with preventative actions to improve Case Management & Outreach
- Increase community capacity to reach vulnerable groups with preventative actions to promote Healthy Living & Wellness
- Increase community capacity to reach vulnerable groups with preventative actions to reduce Obesity
- Increase community capacity to reach vulnerable groups with preventative actions to reduce Smoking & Tobacco Use
- Increase community capacity to reach vulnerable groups with preventative actions to reduce Cost & Other Barriers to treatment
- Increase capacity and access to quality Dental Care, especially by poor and extremely poor residents and households
- Create an engaged process for recruiting & retaining core health professionals including Dentists
- Create an engaged process for recruiting & retaining core health professionals including Pharmacists
- Create an engaged process for recruiting & retaining core health professionals including Optometrists
- Increase the Food Security of vulnerable populations by increasing access to nutritious foods

The needs below were not scored on all four criteria by the respondent:

- Create a strategy & collaborative community campaign to increase utilization, revenue & financial stability of Reagan County Hospital District facilities
- Increase capacity to address health needs of Children & Seniors