



SOUTHWEST KANSAS OVERVIEW OF RURAL HEALTH-CARE RESEARCH

Spring 2018

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BACKGROUND

In response to a request from the City of Dodge City and the Dodge City/Ford County Development Corporation, the Public Policy and Management Center (PPMC) at Wichita State University is assisting the community with research regarding rural health-care initiatives to help develop potential options and strategies to implement in southwest Kansas and specifically the Dodge City area. The PPMC worked closely with leadership from Dodge City/Ford County Development Corporation and healthcare stakeholders to ensure a quality process and product to address community health-care needs.

PURPOSE & PROCESS

Rural America has experienced significant shortages in health-care services for many years. According to the 2005 “Quality Through Collaboration: The Future of Rural Health” report published by the National Academy of Sciences Institute of Medicine, Committee on the Future of Rural Health Care: “There are fewer health-care organizations and professionals of all kinds in rural areas compared to urban areas and less choice and competition among them. In 2000, there were 119 physicians per 100,000 population in rural areas, compared with 225 physicians per 100,000 population in urban areas.”

In addition, according to the Rural Health Information Hub (RHIH), health-care workforce shortages are prevalent in rural America with less than 10% of all physicians choosing to practice in rural settings. RHIH reports higher mortality rates in rural areas compared to urban areas in many different categories.

Therefore, the purpose of the project is to provide research, analysis and facilitation services to identify opportunities to address rural health-care issues and specifically the recruitment and retention of trained health-care professionals in southwest Kansas.

The four-part report contains the following information:

1. Rural Health-Care Research

The WSU Public Policy and Management Center provides research on rural health care and implications for southwest Kansas and the Dodge City area. The intent of the research is to provide a broad overview of health data, trends and examples of addressing rural health issues. This section includes the following items:

- Current state of health trends for the region,
- Overview of rural health-care trends and projections and
- Case studies addressing rural health-care issues.

2. Market Analysis

The PPMC analyzed current health-care labor market trends for southwest Kansas to establish a snapshot of the market demands for health-care workers. The information is intended to demonstrate labor market issues for health-care workers in the region.

3. Stakeholder Survey

The PPMC conducted an online survey that was sent to stakeholder groups in the region. The purpose of the Health-Care Labor Force Perception Survey was to identify the factors related to health-care labor needs in a 28-county area within southwest Kansas. The survey was completed by 366 respondents.

4. Stakeholder Input

Finally, the PPMC collected an overview of stakeholder perspectives through a summary of stakeholder interviews conducted by Terri Mujica, a consultant with the Dodge City/Ford County Development Corporation and an online stakeholder survey. Information from this section provides qualitative information regarding concerns from stakeholders in the region.



PART 1

RURAL HEALTH- CARE RESEARCH

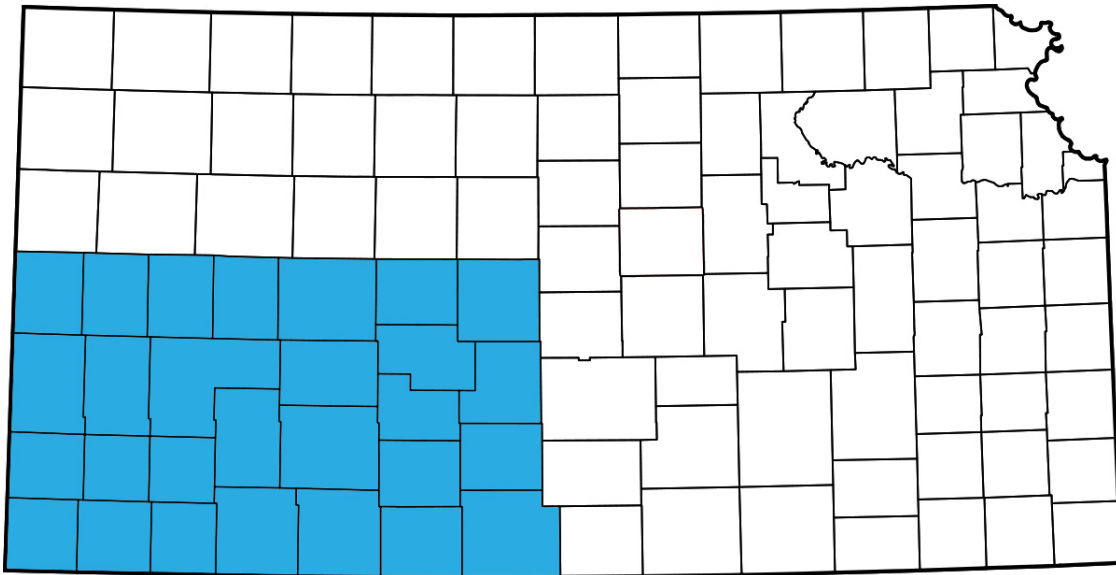
Southwest Kansas
Overview of Rural Health-Care Research
Spring 2018
Wichita State University
Public Policy and Management Center

Part 1. Rural Health-Care Research

A. Analysis and Summary of Health-Care Information for Southwest Kansas

Rural areas in Kansas are facing health-care workforce challenges and service delivery issues that may reduce the quality of life for residents. Research shows this lack of capacity may be prevalent throughout rural areas in all of Kansas and the United States as a whole. Federal and state funding reductions have put pressure on rural areas and these reductions are expected to continue (Kansas Health Institute 2016). The statistics and rankings below provide insight into the current rural health-care environment in 28 southwest Kansas counties. For a list of the 28 counties studied, see Attachment A. Statistical data presented below reflects data from the 28-county study. Most of the following data is gathered from the National Association of Counties (NACO) and the County Health Rankings and Roadmap (CHRR).

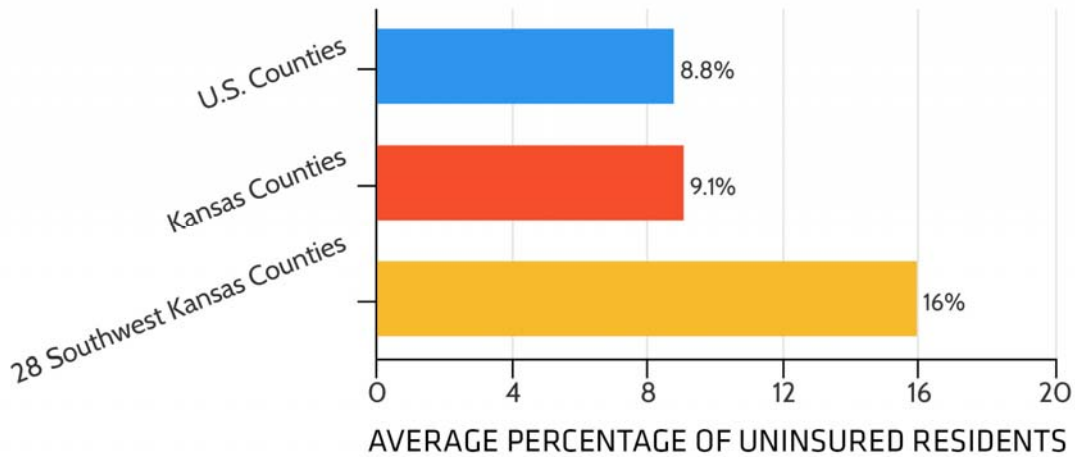
Map of 28 Southwest Kansas Counties Studied



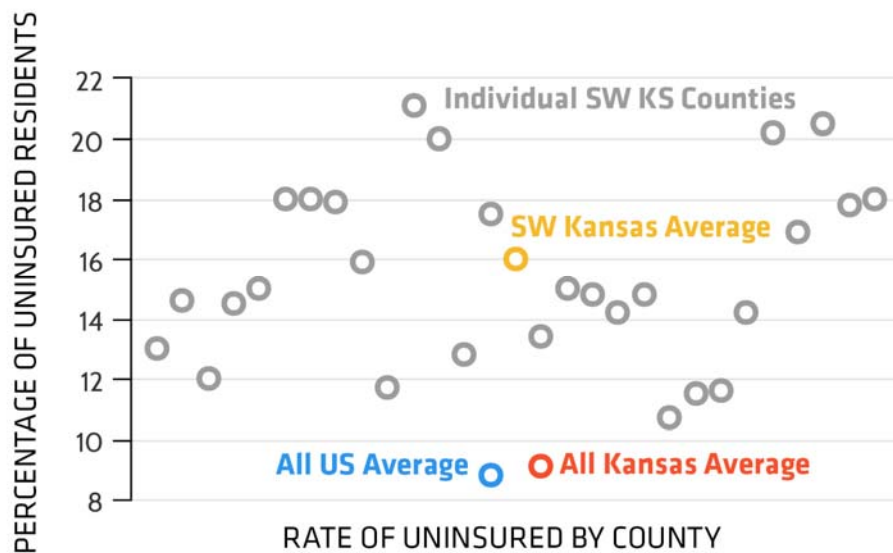
Percentage of population uninsured: 16%

Uninsured rates have decreased in Kansas (9.1%) and the U.S. (8.8%), but, unfortunately, many residents in rural Kansas remain uninsured. The average rate of uninsured residents within the 28-county area studied is 16%, while many of the 28 counties studied contain uninsured rates of more than 20%. According to the Kansas Health Institute, 261,000 residents in Kansas remain without any health insurance coverage (NACO; Census Bureau).

Comparison between County Groups: Average Rate of Uninsured Residents



Uninsured Rates by Individual Southwest Kansas County with Averages for County Groups



Number of residents per primary care physician: 2,227

The CHRR indicates that Kansas counties average one primary care physician per around 1,330 residents. Kansas ranks 40th in the country when looking at the number of physicians serving the number of residents, with fewer physicians to provide medical services in rural areas in comparison to a majority of other states. In the 28 counties studied, on average there is only one physician per 2,227 residents. In some of these counties, the disparity is even greater; for instance, in Gray County there is only one physician per over 6,000 residents (CHRR).

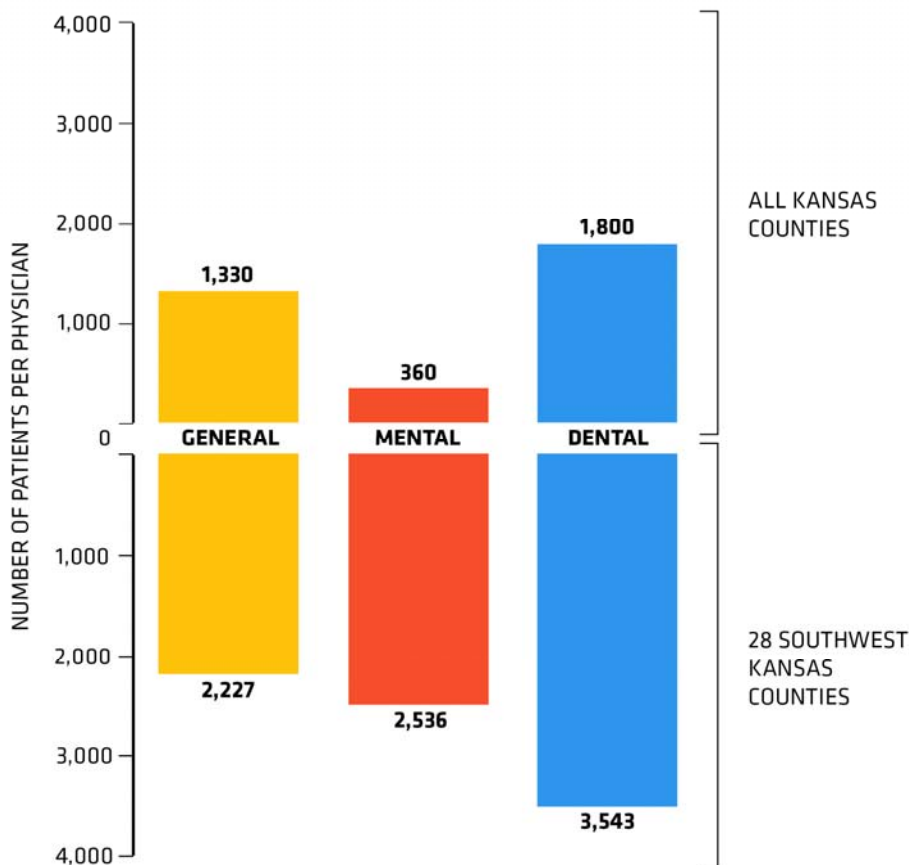
Number of residents per mental health provider: 2,536

The number of mental health providers is measured as a ratio of the county population to the number of mental health providers, including psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, mental health providers treating alcohol and drug abuse and advanced practice nurses specializing in mental health care (CHRR). CHRR indicates that 30% of the U.S. population lives in a county designated as a Mental Health Professional Shortage Area. In Kansas counties overall, there is one mental health provider per 360 residents. Within the 28-county study, the average number of residents per mental health provider is 2,536. Many of these counties have zero mental health providers for their entire county area, and some counties have only one mental health provider per over 4,000 residents.

Number of residents per dental health provider: 3,543

CHRR reports that untreated dental disease can lead to serious health issues, including pain, infection and tooth loss. In Kansas counties overall, there is one dental provider per around 1,800 residents. That figure is significantly higher within the 28-county study, at one dental health provider per 3,543 residents. Many of the counties contain zero dentists for their entire county area, while others have one dentist per over 4,000 residents (CHRR).

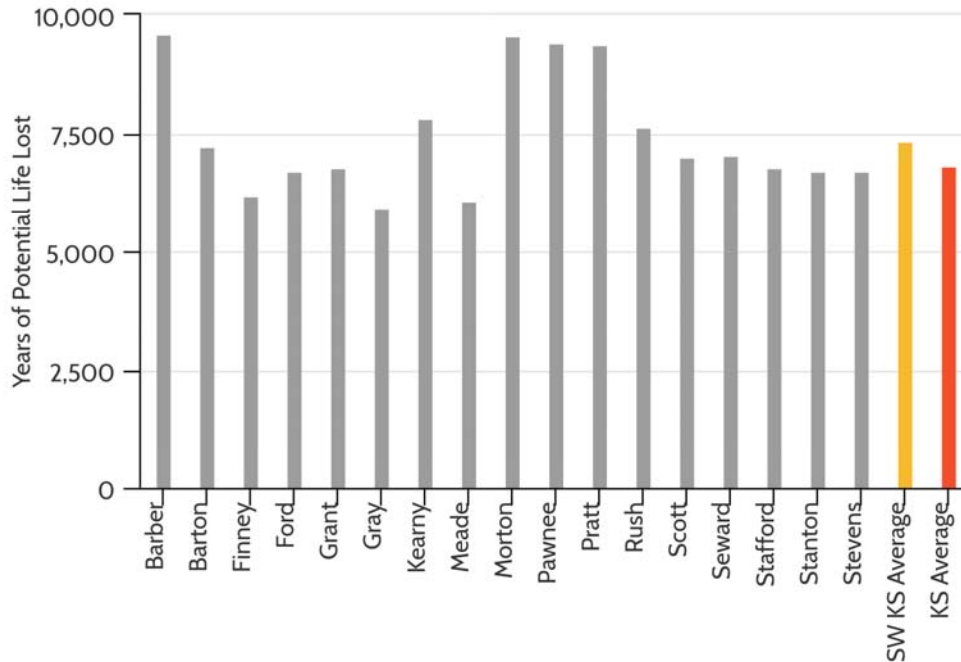
Comparison between All Kansas Counties and Southwest Kansas Counties: Average Number of Patients per Physician by Type



2017 premature death rate: 7,316 years of potential life lost before age 75 (per 100,000 residents)

Premature death rate is measured by the number of years of life lost before age 75. Top U.S. county performers average around 5,200 years. In Kansas, the overall average is 6,800 years of life lost before age 75. Reducing years of potential life lost is important because of its financial and emotional impact on society. While the average amount of potential life lost for those reporting in the 28-county area was 7,316 years, several individual counties reported over 9,000 years of potential life lost (NACO; CHRR).

Years of Potential Life Lost for Individual Counties with Southwest Kansas and All Kansas Averages



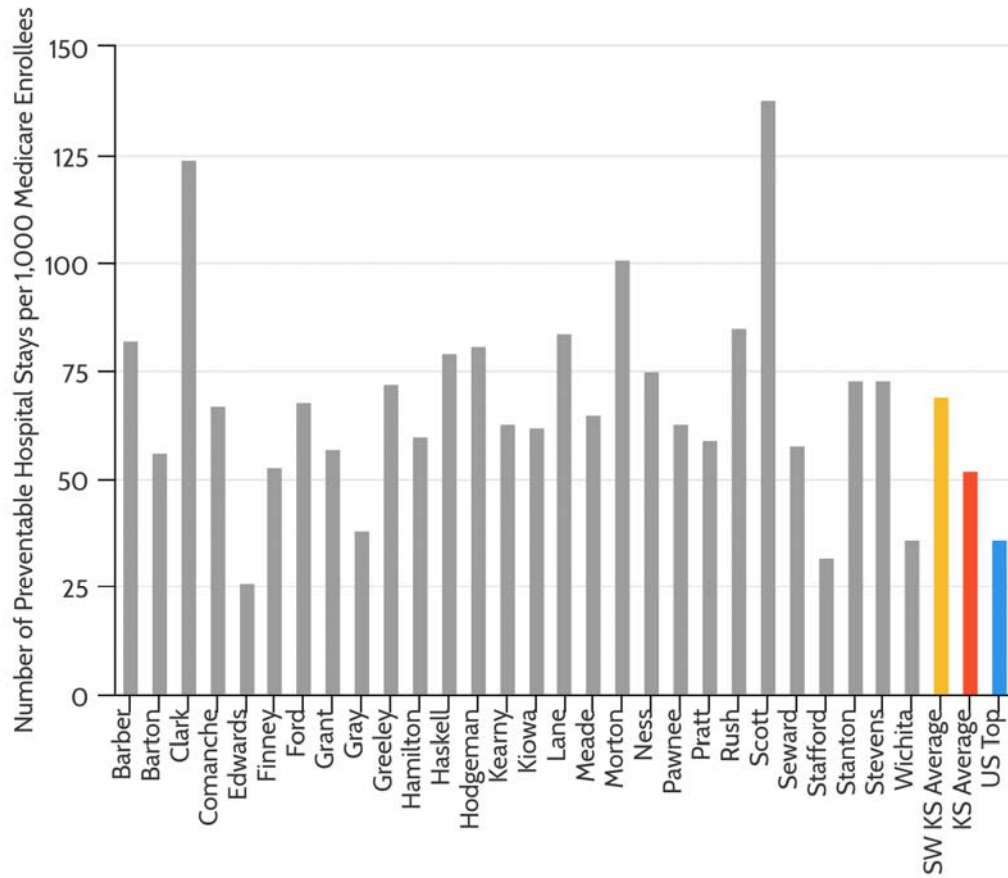
Percentage of residents who reported they were in a state of poor or fair health: 16%

According to CHRR, measuring the percentage of adults reporting poor or fair health helps characterize the burden of disabilities and chronic disease within a community. In Kansas, 15% of residents report being in a state of poor or fair health. Within the 28 southwest Kansas counties, over 20% of Ford, Finney and Seward county residents report that they are in a state of poor or fair health. The overall percentage of the 28 counties was 16%: slightly higher than the Kansas average.

Number of preventable hospital stays per 1,000 Medicare enrollees: 69

A preventable hospital stay is defined as admittance with an ambulatory care-sensitive condition, such as diabetes, asthma or hypertension. Measuring preventable hospital stays can help identify the effectiveness and accessibility of primary health care (CHRR). On average in all Kansas counties, there are 52 preventable hospital stays per 1,000 Medicare enrollees. The 28-county area average is 69. Top U.S. county performers have around 36 preventable hospital stays per 1,000 Medicare enrollees. Within the present study, some of the counties report more than 100 preventable hospital stays per 1,000 Medicare enrollees.

Number of Preventable Hospital Stays by Individual County with Southwest Kansas, All Kansas and Top U.S. County Averages



2016 dollar amount of total federal medical benefits: \$23 million

Total federal medical benefits include Medicare, public assistance medical care benefits and military medical insurance benefits provided by the federal government for 2016. The median amount of federal medical benefits for all Kansas counties is \$29.8 million. Within the 28-county study, the average amount of federal medical benefits is \$23 million, with Greeley County receiving the lowest amount of benefits (\$5.5 million) and Finney County receiving the highest (\$87.5 million). Population differences likely account for some of this disparity.

2015 per capita dollar amount of total health and hospital expenditures: \$1,610

Total per capita health and hospital expenditures include costs related to current operations, construction, other capital outlay and other expenses for the year 2015 (most recent data available). The 28-county average of \$1,610 includes only the seven counties for which information is available. Stevens (\$2,729) and Morton (\$6,121) counties experienced the highest per capita costs associated with total health and hospital expenditures in 2015 (NACO). Some of this disparity may be due to the timing of new projects during the surveyed year.

2015 total number of patient days: 3,622

The total number of patient days accounts for resident days spent in hospital care and is compiled from the most recent Medicare cost reports from all hospitals located within a given county. Counties in the state of Kansas overall average around 2,918 total patient days. Within the 28-county study, the average was 3,622 days. Pawnee County, which has 117 hospital beds, reported 33,400 total patient days, while Gray County reported zero patient days because it does not have a hospital (NACO).

2015 median number of hospital beds: 25

The number of beds indicates the total number of available beds for use by patients in all hospitals within a county. A bed is defined as an adult bed, a pediatric bed, a birthing room or a newborn bed maintained in a patient area for lodging patients in acute, long-term or domiciliary areas of a hospital. Within the 28 southwest Kansas counties, the larger Finney and Ford counties each contain around 70 hospital beds, while most other counties have 30 or fewer, and Gray County contains zero hospital beds for the entire county-wide area. The median number of beds for the 28-county area is 25. The median for all Kansas counties is also 25 beds (NACO).

2017 average resident-reported number of mentally unhealthy days per 30 days: 3.11

Mentally unhealthy days refer to the average number of days that residents reported feeling mentally unhealthy over a 30-day period. The average number of mentally unhealthy days for the 28-county area is 3.11. The average for Kansas counties overall is 3.3 (NACO).

2017 average resident-reported number of physically unhealthy days per 30 days: 3.25

Physically unhealthy days refer to the average number of days that residents reported feeling physically unhealthy over a 30-day period. Counties in the state of Kansas reported 3.1 physically unhealthy days on average over a 30-day period. While the average number for the 28 counties in this study is slightly higher at 3.25, Ford, Barton, Finney, Seward and Stafford counties each reported the highest physically unhealthy days over a 30-day period (NACO).

Percentage of adults who report that they smoke: 16%

Each year 443,000 premature deaths can be attributed to smoking (CHRR). Percentage of adults who smoke indicates the percentage of the adult population within a county that smokes every day or most days and has smoked at least 100 cigarettes in their lifetime. In all Kansas counties, 18% of the adult population reported smoking. The 28 southwest Kansas counties are slightly lower at 16%. Top U.S. county performers are down to 14%. Within the counties studied, Seward and Hamilton counties had the highest rates of adult smoking at 19%.

Percentage of adults considered obese: 33%

The adult obesity rate is the percentage of the adult population (age 20 and older) that reports a body mass index greater than or equal to 30kg/m². Top U.S. county performers report 26% obesity. In all Kansas counties, an average of 31% of the adult population is considered obese. In the 28-county study area, the average is 33%, with obesity rates ranging from 27% in Meade County to 39% in Seward County (CHRR).



Summary

The environmental scan of health-care access and outcomes indicates that there are health-care deficiencies in southwestern Kansas, with high resident-to-provider ratios in medical, dental and mental health services, a high rate of uninsured residents and high rates of preventable hospital stays and of potential years of life lost. An overall lack of health-care access is the first determinant for further investigation to address the health-care access and provider shortage.

B. Rural Health-Care Trends and Issues

The following section provides an overview of trends in rural health care and alternatives to address health-care shortages in rural areas. This section includes additional information on rural health care in Kansas, overall rural health-care challenges and alternative solutions.

Overall lack of health-care providers

Results from a survey containing samples from the 50 most populous counties in Kansas indicate that Ford and Finney counties rank 47th and 50th respectively in percentage of civilians working in the health-care industry compared to all other industries. As stated above, on average within the 28 counties studied, there is one primary care physician per 2,227 residents; one mental health provider per 2,536 residents; and less than one dental health provider per 3,543 residents. Some counties have zero dental health providers (KHRR; Statistical Atlas 2017).

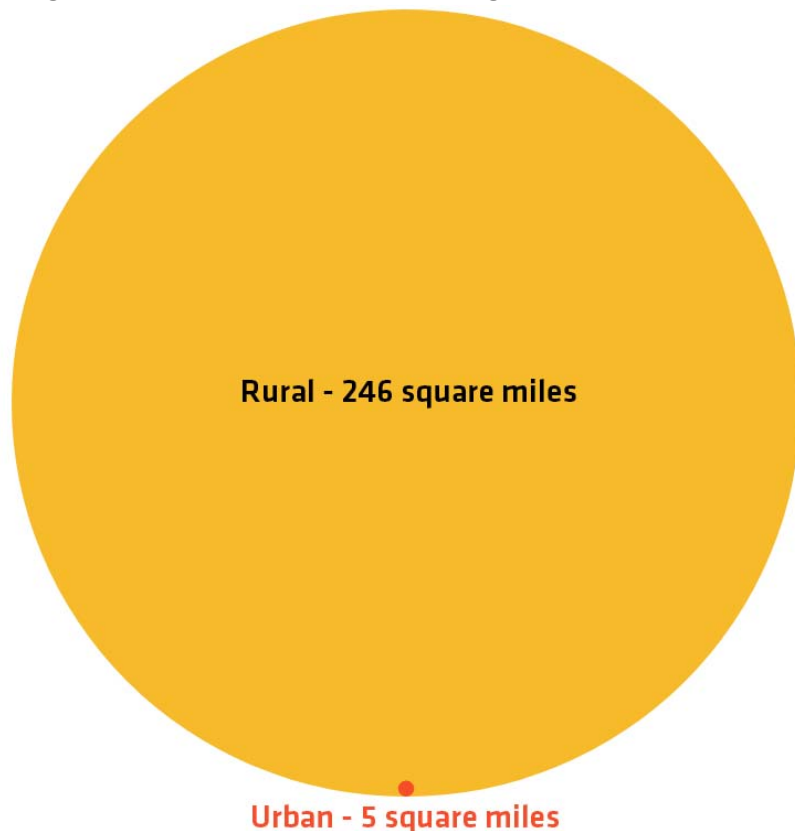
Outmigration

Depopulation of rural communities has continued over the past decade, while a disproportionate share of the elderly population remains. Decreasing populations in rural areas have created a scenario in which health services are not adequately supported by the economy. A study by the WSU Center for Economic Development and Business Research covering 2014–2044 shows significant population declines trending in multiple southwest Kansas counties, including Clark County at 60.1% and Kiowa County at 76.8% (Rural and Frontier Sub-Committee 2017 Annual Report).

Fewer health-care services

In rural Kansas, fewer health-care services are available, and people must travel farther for services and bear the related travel costs. In Kansas, rural medical doctors (PhD, MD, LSCSW) cover an average service area of 246 square miles, which is drastically higher than that of their urban-setting colleagues, who cover a 5-mile area. Addiction specialists in southwest Kansas cover an average service area of 216 miles, compared to their urban setting colleagues, who cover a 10-mile area (Rural and Frontier Sub-Committee 2017 Annual Report).

Average Kansas Service Area Coverage (PhD, MD, LCSW): Rural vs. Urban



Policies

Kansas policies or services that are financed or supported on a per-capita basis result in underfunded programs and service shortages in more than 80% of the state. The inability to clearly define rural and urban areas in Kansas increases the use of inaccurate information when policy and fiscal decisions are made that impact care and treatment available to rural Kansas residents. According to the Rural and Frontier Subcommittee, federal funding and grant proposals will be strengthened if the Kansas Department of Health and Education's definition of less than six people per square mile is used to define a "rural area" (Rural and Frontier Subcommittee 2017 Annual Report).

Lack of specialists

Rural areas lack specialists, especially for mental health and dental care. As mentioned above, the disparity of mental health providers between these 28 counties and the rest of Kansas is 2,535 to 360 per provider. From 2004 to 2013, U.S. small towns and rural counties experienced a 20% increase in suicide rate, while metropolitan counties showed a 7% increase. (Rural and Frontier Sub-Committee 2017 et al. KDHE and RHIB).

Ethnic populations

Ten counties concentrated in the southwest corner of the state have more than twice the state average of Hispanic populations, with the top four being considerably higher: Seward (54%), Ford (49%), Finney

(45%) and Grant (42%). Vietnamese, African and German languages are spoken at home at a rate higher than the state average in a number of the 28 counties studied. Therefore, in these counties, all health-care materials and services must be provided in at least two languages, resulting in increased costs (Rural and Frontier Sub-Committee 2017 et al. U.S. Census Bureau; Statistical Atlas 2017).

Uninsured rates

Rural areas have a higher incidence of uninsured patients, and those with insurance in rural areas tend to have less comprehensive coverage. As stated above, within the 28-county study, 16% of residents are uninsured, which is almost twice the national average.

C. Alternatives to Address Challenges

Southwest Kansas is not alone in its attempts to address rural health-care challenges. The following are alternatives implemented in other rural areas struggling with health-care and health-care worker shortages. While not intended to be exhaustive, this list provides several alternatives that other rural areas have identified as solutions.

Grant funding

One solution is to identify rural community programs that administer aid, such as: Health Resources and Services Administration programs, the Rural Health Care Coordination Network Partnership Program, the Rural Healthcare Services Outreach Grant Program, the Rural Health Network Development Planning Program, the Rural Network Allied Health Training Program and the Small Health Care Provider Quality Improvement Program. Other grant programs include the Rural Health Care Coordination Network Partnership Program, which awarded \$1.6 million to fund eight grants in 2015 and 2016. Many rural health-care funding opportunities can be found at the Federal Office of Rural Healthy Policy (FORHP).

Telehealth

Telehealth is an important service in rural and remote areas that lack sufficient health-care services, particularly specialty care. Patients can utilize the telehealth option for health-care delivery, education and health information services (preventative care). Telehealth services can be conducted via video conferencing, the internet, store-and-forward imaging, streaming media and terrestrial and wireless communications. Using telehealth resource centers and reviewing profiles of telehealth and telemedicine project grants may help regions develop and implement medical care and services in remote areas. According to the Rural and Frontier Sub-Committee, benefits of telemedicine include improved access, reduction of unnecessary patient travel, addressing provider shortage, reduction of provider travel time and cost to outreach sites, reduction of patient travel time and cost, keeping patients in their home communities and alleviating family stress as a result of frequent travel and appointments. Medicare and Medicaid recognize the treatment efficacy of telemental health, as they reimburse for telemental health in most states (Rural and Frontier Sub-Committee 2017).

Achieve sufficient population to support health-care services

Local rural health systems often close because they lack the population necessary to support the local medical practice facilities. When one provider closes, it impacts entire communities. To achieve a population that can sustain medical practice facilities in rural areas, cities and counties must take measures to market their communities in a way that will attract new residents. Marketing amenities such as schools and park systems can help attract and retain the population needed to support health-care services.

Investment in chronic disease management

Rural areas have a higher incidence of chronic diseases, such as heart and respiratory diseases. Investment into chronic disease management involves delivering preventative health care and increasing health literacy. Creating disease management plans in rural areas may help combat these issues. Plans include assigning patients a disease management nurse and maintaining software that tracks a patient's progression through the disease management plan. All reports between the nurse and patient are forwarded to the patient's primary physician for review. Disease management planning has shown positive outcomes in clinical care and patient satisfaction (Zuniga 2003).

University online nursing programs

Research indicates that hospitals and medical facilities that contain a majority of bachelor's level trained nurses have better outcomes than those who mostly employ nurse assistants. This also applies to RN versus BSN levels in the nursing field (Bluestein 2011). Several Kansas universities, including Fort Hays State University, Wichita State University and the University of Kansas, offer online RN-to-BSN programs, which allow registered nurses to complete their BSN degrees in as few as three semesters, without leaving their home communities. To attract nurses and physicians to rural areas, requires the development of partnerships that pair students with rural facilities during clinical internships and post-graduation placement.

Recruitment and retention strategic planning

Difficulty in recruiting and retaining health-care talent is one of the major issues plaguing rural areas in their ability to deliver quality health care. The data mentioned in the prior section indicates a poor ratio of physicians to residents in southwest Kansas counties. In response to this disparity, some nonprofit organizations such as "3RNET" (National Rural Recruitment and Retention Network) focus on connecting health-care professionals to jobs in rural areas. Another valuable strategy is creating incentives to attract and retain medical professionals, which this study explores in further detail in the best practice case section. Rural and frontier areas struggle to provide competitive salaries, so instituting alternative incentives is vital to recruiting and retaining medical professionals (Rural Health Sub-Committee 2017).

Identify sources of alternative funding

Alternative sources of funding include grants, endowments and corporate contributions toward increasing capacity in health service delivery. Software such as Grant Finder HQ can help leaders in rural areas identify state, local, federal and foundation dollars that can provide necessary funding for a multitude of health-care functions. Endowments can help provide scholarships for rural young

professionals interested in starting medical careers with plans to return to a rural area to practice after finishing their medical education. Collective partnerships between health-care agencies and associations with business partners can often jump-start the necessary fundraising to help build capacity in health service delivery.

Processes for licensure

The Behavioral Sciences Regulatory Board (BSRB) has instituted regulations that limit numbers of health professionals who can be recruited to rural communities. The limitation is due to the amount of in-person supervision required by BSRB regulations. Allowing for more technology-based supervision will make it more feasible for new professionals to be recruited to rural areas and receive the certifications necessary to practice. The Georgia Composite Board of Professional Counselors, Social Workers and Marriage and Family Therapists, for example, approved a regulation supporting telesupervision for professionals seeking independent licensure without limits to in-person supervision time (Rural and Frontier Sub-Committee 2017).

Regional university centers

Regional university centers offer courses, programs and often housing for students who live in remote areas. Such centers require partnerships between local colleges and other educational organizations that serve areas with limited access to higher education. Often, these satellite campuses become entities that are shared between a number of universities and community colleges. For example, in Indiana, Purdue and Indiana universities share space on satellite campuses in both the Indianapolis and Fort Wayne communities. In South Dakota, a Sioux Falls university center includes six different colleges and universities that partner to provide a regional academic center for students who live in an educationally underserved area of the region (Gazette 2015). If the Kansas Legislature and Kansas Board of Regents sponsor the expansion of partnerships between the Regents universities and community colleges, then similar university centers could be established in the rural areas of Kansas where residents have limited access to higher education. Increased access to higher education could create the talent pool of medical professionals needed to adequately deliver quality health care.

Transportation solutions

If communities can provide transportation services to assist in access to health care, health-care providers may benefit from decreased inappropriate use of EMS services and no-show rates. As provided by the Rural Info Hub, solutions to transportation barriers include: offering transportation services for health-care appointments using paid or volunteer drivers, coordinating a shared ride/cost transportation program (a door-to-door, advance-reservation, ride-sharing service), brokering out coordinated trips to qualified vendors, using telehealth to decrease travel for local patients to see specialists, starting a mobile clinic to bring services directly to patients in remote areas, providing some services in local schools to reach low-income or high-needs children and having community health workers or community paramedics visit people in their homes.

D. Best Practice and Case Studies

To improve health-care delivery and outcomes, primary care may need to be expanded and transformed. Current methods for strengthening rural care through clinic payments, bonuses and other incentives to overcome professional shortages and training could be supplemented by efforts to redesign medical education, reshape payments to providers and restructure primary care as accessible and patient-centered. Furthermore, health information technologies could be essential to achieving seamless transfer of clinical and administrative information among providers and to ensuring transparency in cost and quality information. This is especially true for rural areas to achieve a continuum of care. Community health planning is the foundation for healthy communities, and, as such, requires primary care providers and their patients to connect to a wide range of community health resources, such as public health agencies, school districts, local employers, area agencies on aging, community colleges and social services (MacKinney 2012). The following provides an overview of best practices and successful case studies in rural health-care service and education deliveries.

Rural clinical sites

Western Carolina University (WCU)

WCU is a member of the University of North Carolina system, which makes it part of a comprehensive regional institution system with sites in multiple locations. WCU and partners identified a major shortage of qualified primary care providers in the rural areas surrounding their region. To address the growing need, they developed a hybrid family nurse practitioner program in which students are required to be on campus only one day a week while all other courses are taught online and clinical placements are in or near the students' communities. The school also prepares nurses at the baccalaureate and graduate levels to address the health-care needs of diverse populations in the region. Many of the university's clinical sites are located in Health Professional Shortage Areas (HPSA). In 2012, the WCU school of nursing had over 380 students enrolled. Upon graduation, many of these students will be able to fill the current demand for primary care providers in the region: "More than 90% of the family nurse practitioner graduates remain in their North Carolina home communities after graduation" (Comer 2012).

Regional university centers

Sioux Falls, South Dakota

In Sioux Falls, South Dakota, there is a gap between the large number of job openings and the talent to fill the open positions. To increase educational opportunities for the region and create a pool of educated workers, state and community leaders created the University Center in Sioux Falls. The center is a partnership among six public universities that attempts to include local employers and community-based organizations to help supplement its efforts and provide additional opportunities after graduation. At the University Center, students can earn a degree from any of the six universities involved in the partnership, while only having to attend courses at the University Center delivery site. This partnership required cooperation among not only the universities, but also the state legislature and Board of Regents. The center now has multiple facilities in different locations to provide opportunity and access for young people interested in advancing their education and entering the labor market (SD University Center 2018).

Capacity-building partnership to curb out-migration

Holt County, Nebraska Case Study

Community leaders in Holt County, Nebraska, collaborated with the Nebraska Community Foundation (NCF) and built capacity via partnerships between city/county leaders, nonprofits and philanthropic individuals or businesses. In 2010, the HomeTown Competitiveness (HTC) program received a three-year grant commitment from NCF to help attract young families to the area to address out-migration. As a result, more than 120 families and/or individuals moved into the county. The leadership team developed the HTC program through four key resources. They identified leadership to mobilize communities with a long-term vision for entrepreneurship to support innovation and economic growth as well as youth engagement to cultivate a sense of belonging and opportunity. In addition, they identified the philanthropic individuals necessary to provide financial resources for economic development activities. Perceived success resulted in small and medium gifts from a broad range of individuals and businesses, plus several major gifts and bequests. To aid in retention, an endowment was established to fund scholarships to non-traditional students and students who intend to return to the area. Today, Holt County has more than \$3.5 million in endowed assets through several NCF-affiliated funds. Grants support non-traditional scholarships to improve the skill levels of adults working in the community as well as high-quality health care for families and seniors (Rural Futures Lab 2013).

Incentives to attract medical professionals

Kearny County Hospital's Physician Recruitment Model

At Kearny County Hospital in Kansas, administrators were forced to serve only in-county patients because of a lack of providers. At one point, at least 50 out-of-county patients a week were turned away. The hospital was unable to adequately deliver health services because it could not employ enough medical professionals to serve the region. To address the shortage, it formed a partnership with Via Christi's International Family Medicine Fellowship program in Wichita, Kansas, to recruit program graduates. To attract graduates to the hospital, it instituted student loan forgiveness programs; however, the most attractive incentive was allowing paid time off for the doctors to serve internationally as they had while in the fellowship program. Since several southwest Kansas counties are home to many different ethnic populations, the hospital believed the international experience would be beneficial for both the doctors and the patients. As a result, the hospital was able to reopen its doors to out-of-county residents, resulting in over 180 new patients per month. This collaborative effort is now being utilized by many medical providers in the southwest region, and it could provide a greater impact if applied in each county within the 28-county study (Rural Health Info 2016).

Mobile health-care

Ohio Northern University's Healthwise Mobile Outreach Program

A partnership among Ohio Northern University, Hardin County, Hardin Memorial Hospital and other local medical associations created solutions to two major issues that hamper health-care delivery in Ohio's rural Hardin County. Funded by the Federal Office of Rural Health Policy (FORHP), the program addressed the lack of local medical professional talent by employing medical students from the university. It addressed the health-care access issue by sending mobile teams to different rural areas to deliver preventative health care.

A mobile team of two Ohio Northern University pharmacy residents and three pharmacists was established. The team conducts disease management, medication reviews, immunizations and preventive health education services from a mobile RV. Patient results are immediately shared following point-of-care testing. Residents receive hands-on education and a paper copy of patient results, while patients receive pharmacist notes and recommendations. Patients are advised to take their results to their primary care physician. The team also faxes notes to the primary care provider's office or speaks directly with providers via telephone when necessary. Interventions are documented in paper charts taken to clinic sites and stored in a protected system for outcome tracking (Rural Health Info 2018). Students benefit by gaining clinical experience, while residents receive needed access to care. Nearly 36 advanced pharmacy students per year complete ambulatory care rotations with the program. Visits are scheduled at community gathering locations, such as churches and schools.

Between September 2015 and November 2017, results included: 801 patients served, 576 screenings, 514 appointments, 123 referrals made, 17 tobacco cessation patients, 66 previously undiagnosed conditions detected and 221 flu shots (Rural Health Info 2018).

Utilization of telehealth

Wyoming Trauma Telehealth Medical Clinic

Similar to the case mentioned above, the Wyoming Trauma Telehealth Medical Clinic provides solutions to both the lack of service providers and lack of health-care access in rural areas. Funded by the state of Wyoming, the clinic is a partnership of the University of Wyoming psychology department and the University of Wyoming Center for Rural Health Research and Education. Under the supervision of psychologists, University of Wyoming psychology doctoral students, who have been trained in trauma intervention theory and techniques, provide psychotherapy via videoconferencing to crisis center clients in two rural locations. Survivors of domestic violence, sexual assault and other violent crimes can access the free psychotherapy services via secure, encrypted videoconferencing technology. An individual session lasts 60 to 90 minutes and occurs weekly.

Clients, student therapists and crisis center staff were satisfied with the quality of services, and clients reported reduced symptoms of depression and PTSD. Clients completed a questionnaire to measure the presence and severity of PTSD symptoms. The 2015 study showed that the mean score from this questionnaire decreased from 54.43 pre-treatment to 34.10 post-treatment, showing an improvement in PTSD symptoms. Clients also completed a self-report that measured depression symptoms. The mean score from this report decreased from 29.33 pre-treatment to 15.24 post-treatment, showing an improvement in depression symptoms (Rural Health Information Hub).

Summary of Research

Rural health-care service delivery and labor shortage issues present community leaders and policy-makers with a variety of complex and interrelated challenges. Addressing these challenges is vital for ensuring positive health outcomes and quality of life in rural Kansas. While a host of solutions can be utilized to combat the health-care delivery challenges in southwestern Kansas, there is likely no silver bullet. The best-practice solutions implemented in other rural areas that face challenges similar to those in southwestern Kansas have proven to have positive outcomes.



PART 2

HEALTH-CARE LABOR MARKET ANALYSIS

Southwest Kansas
Overview of Rural Health-Care Research
Spring 2018
Wichita State University
Public Policy and Management Center

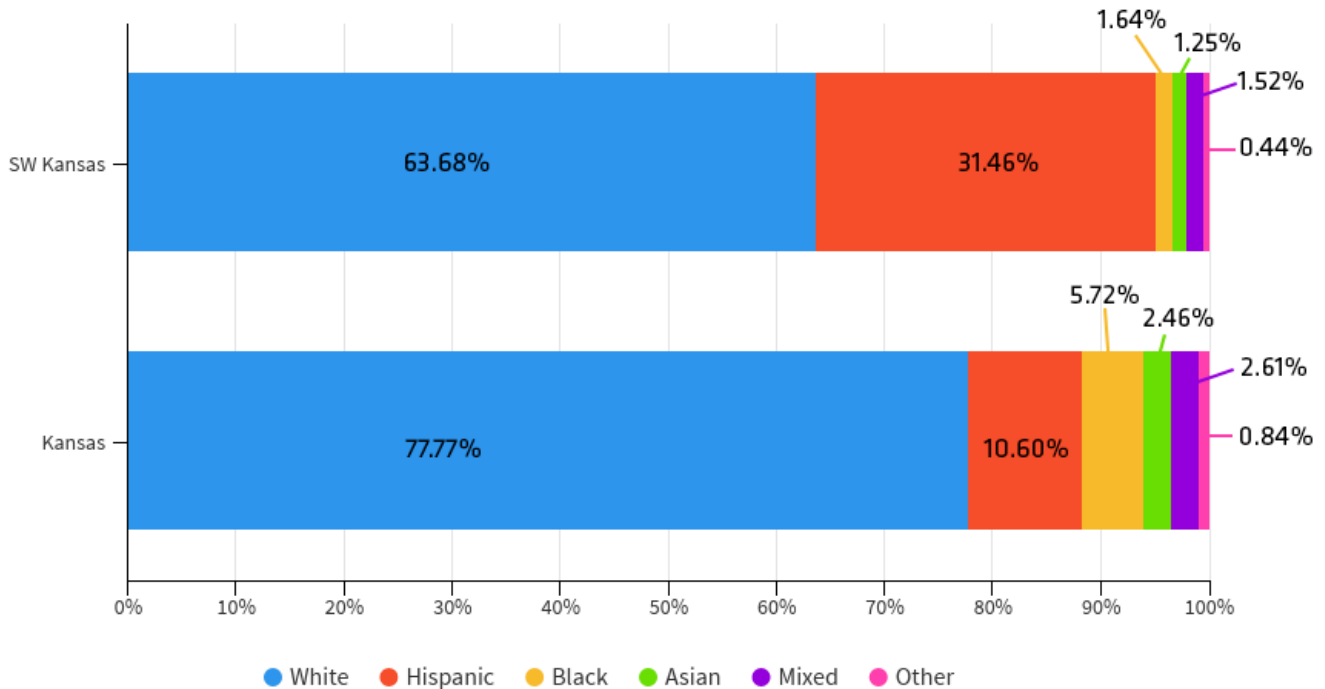
Part 2. Health-Care Labor Market Analysis

The health-care industry is an important part of the local economy and the long-term economic health of southwest Kansas. The following information provides a snapshot of the market demographics and an overview of the health-care labor market.

A. Race and Languages

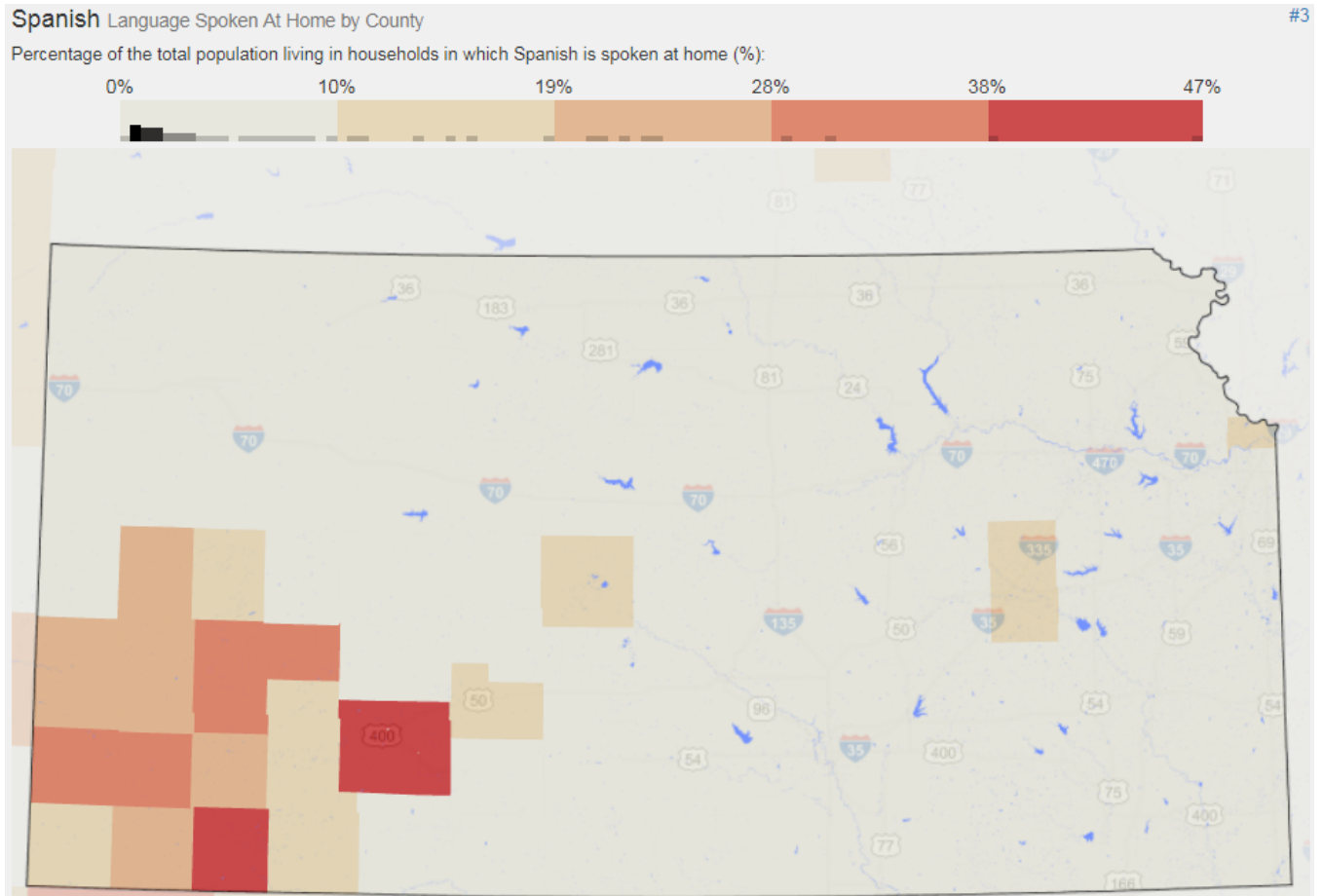
Ten counties concentrated in the southwest corner of the state all have more than twice the state average of Hispanic populations, with the top four having considerably higher Hispanic populations: Seward (54%), Ford (49%), Finney (45%) and Grant (42%). In addition, Vietnamese, German and a variety of African languages are spoken at home at a rate higher than the state average in a number of the 28 counties studied. Due to this diversity, all health-care materials and services must be provided in at least two languages, resulting in increased resource costs. In addition, the cultural differences with these populations impact the mobility of potential higher education students.

Average Racial Demographics: SW Kansas vs. All Kansas



Rate of Spanish Spoken at Home by County

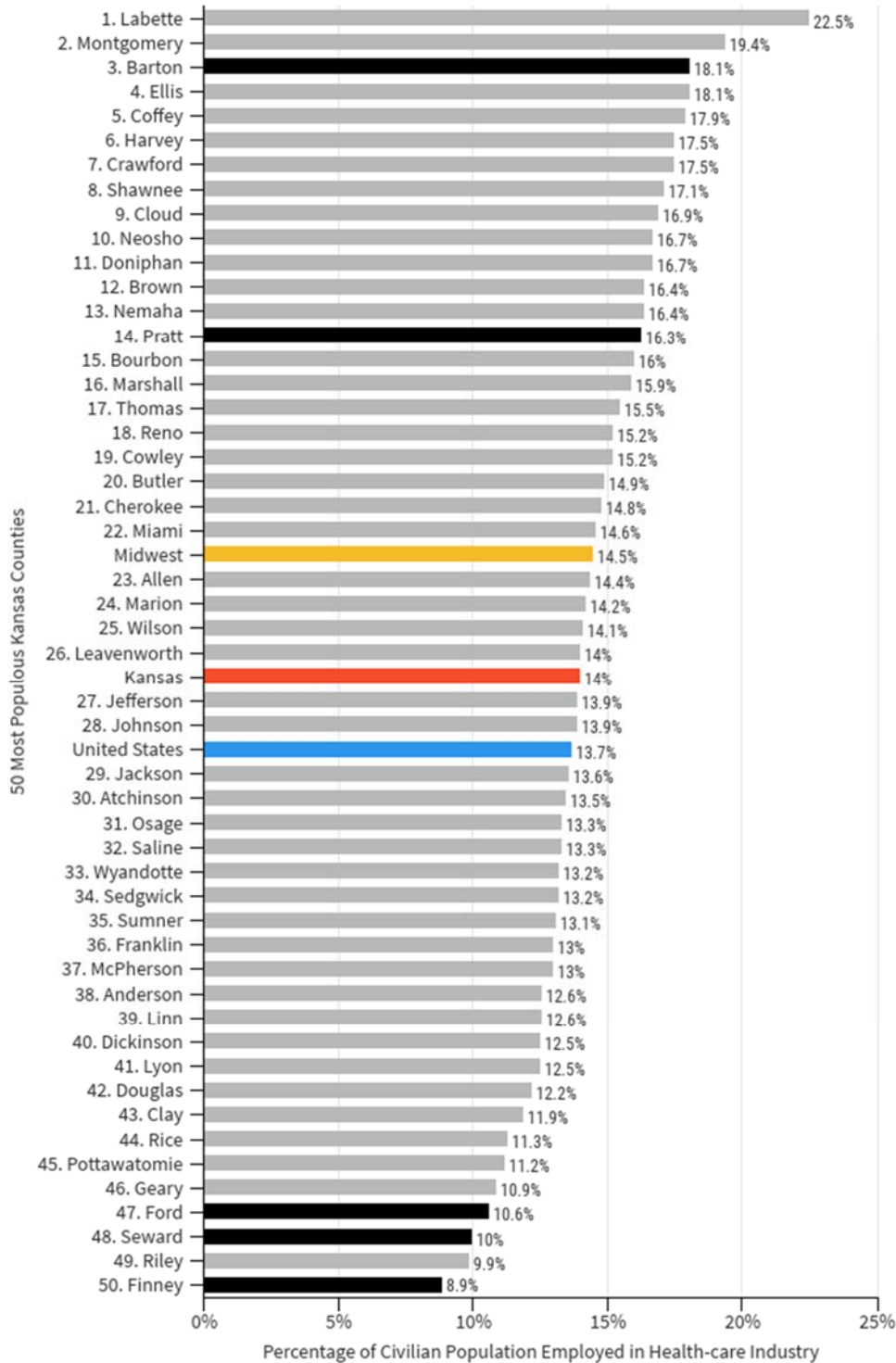
See maps for German, Vietnamese and African languages in Attachment B



B. Health-Care Industry Employment Market Share

The following graph compares health-care employment market percentage the 50 most populous of Kansas's 105 counties to each other, the rest of Kansas, and the United States.

Percentage of Civilian Population Employed in Health-Care Industry by Kansas County





PART 3
**STAKEHOLDER
SURVEY**

Southwest Kansas
Overview of Rural Health-Care Research
Spring 2018
Wichita State University
Public Policy and Management Center

Part 3. Stakeholder Survey

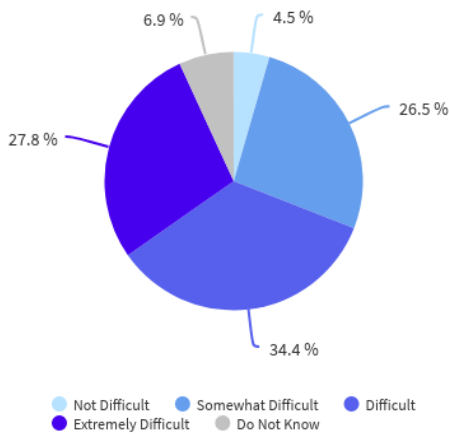
Health-Care Labor Force Perception Survey

Purpose

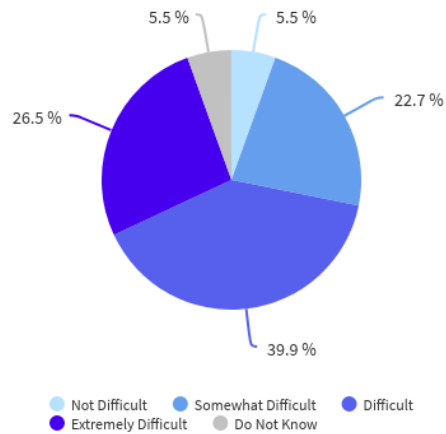
The purpose of the Health-Care Labor Force Perception Survey is to identify the factors related to health-care labor needs in southwest Kansas. The survey was completed by 366 respondents characterized as health-care administrators, physicians, mid-level practitioners, registered nurses, nurse assistants, dentists, mental health professionals or community leaders denoted as “other.”

Question 1. Respondents were asked to identify their organization's difficulty in hiring, retaining and attracting qualified health-care employees. The results indicate that 87% of respondents believe their organization has a level of difficulty (somewhat difficult, difficult, or extremely difficult) in hiring, retaining, or attracting qualified health-care employees. Almost 25% of respondents believe their organization has an extreme difficulty in hiring, retaining and attracting qualified health-care employees.

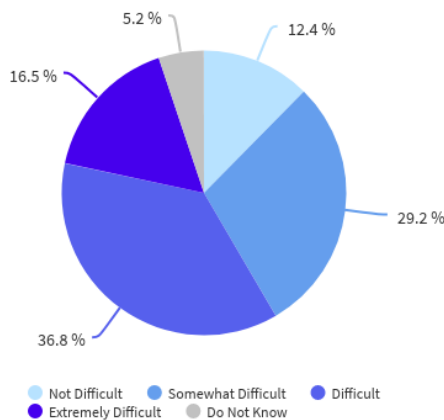
...hiring qualified health-care employees



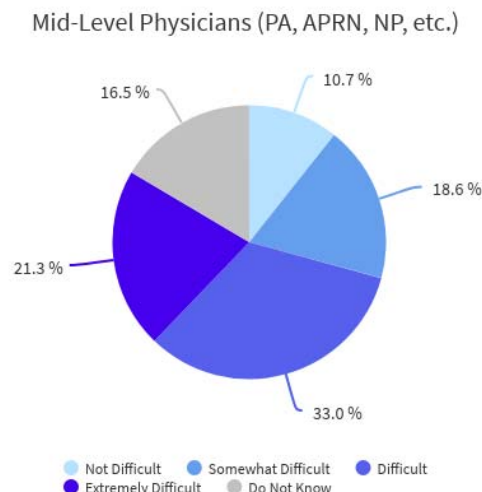
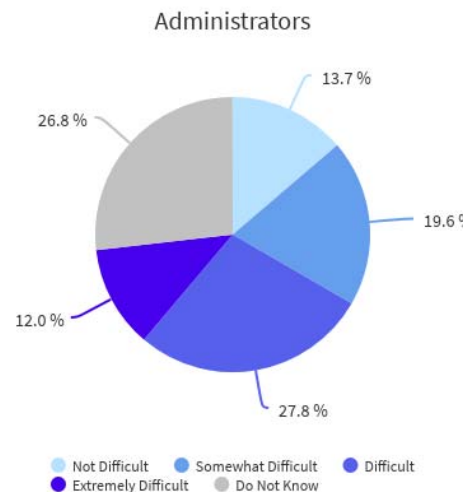
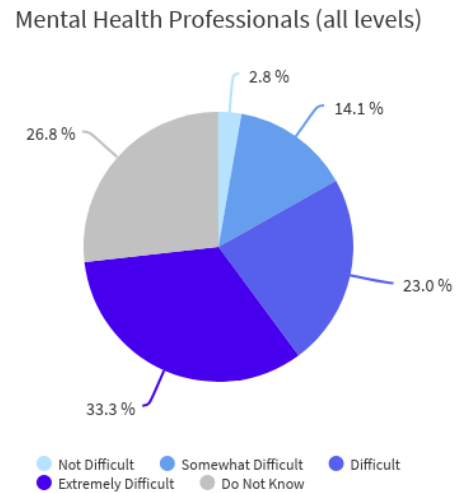
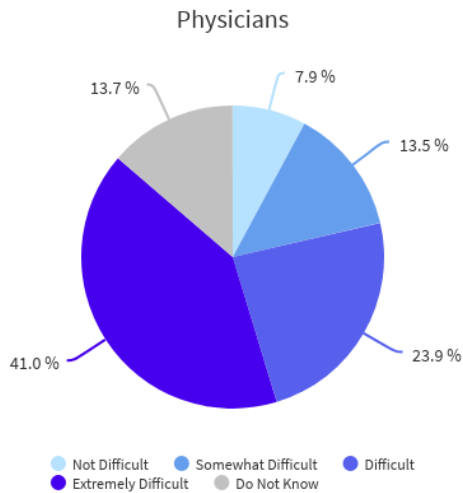
...attracting qualified health-care employees



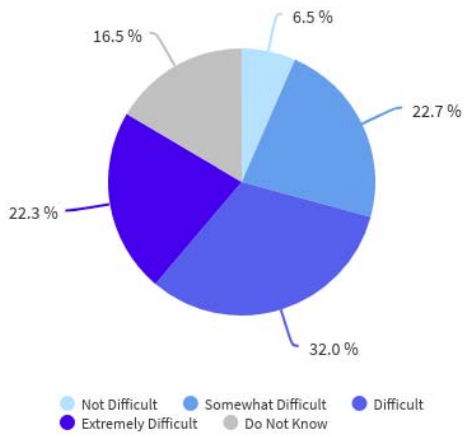
...retaining qualified health-care employees



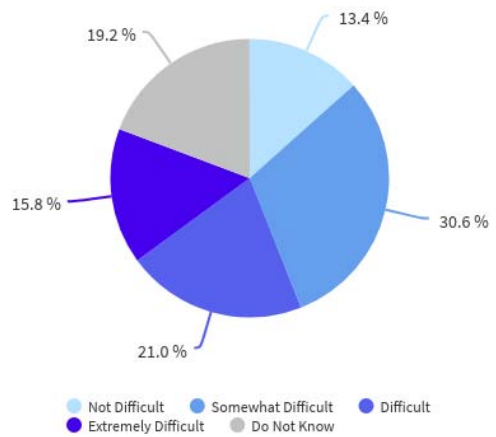
Question 2. Respondents were asked to identify their community’s difficulty in attracting and retaining health-care employees for specific positions such as: administrators, physicians, mid-level physicians, registered nurses, nurse assistants, dentists and mental health providers. Results show that communities are having the most difficulty (somewhat difficult, difficult, or extremely difficult) in attracting and retaining physicians (78.4%), registered nurses (77%) and mid-level physicians (72.9%). Respondents indicated an extreme difficulty in attracting and retaining mental health employees (33%) and physicians (41%).



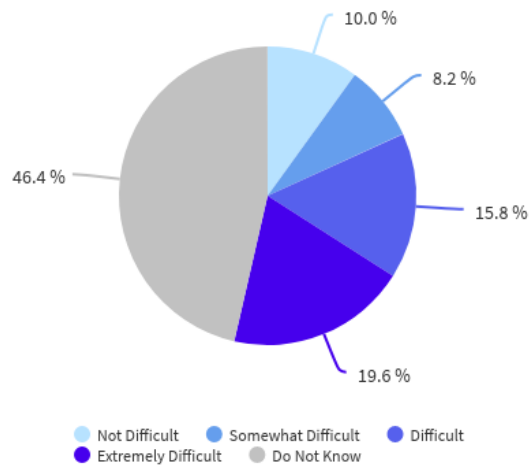
Registered Nurses



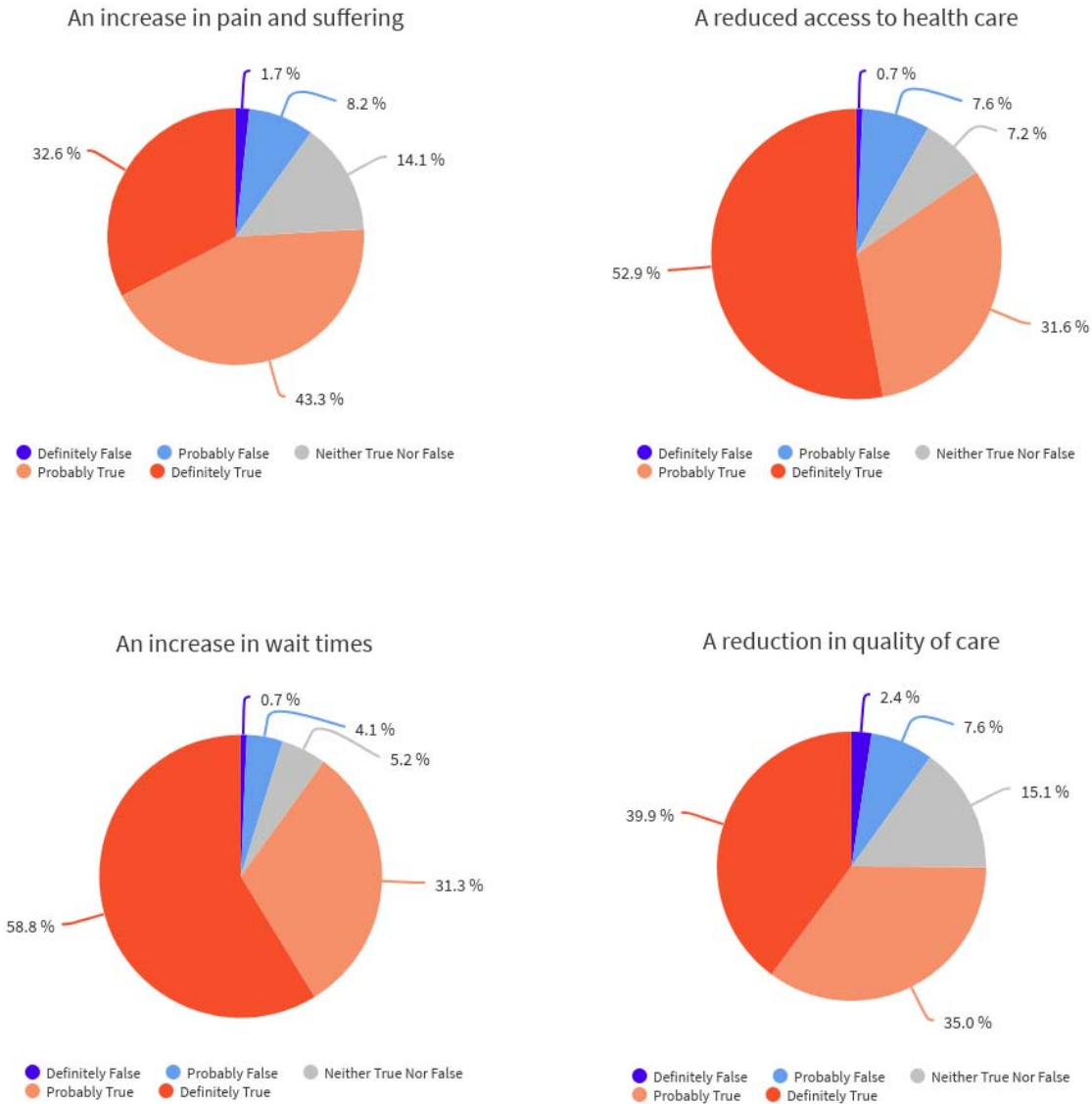
Assistants (CNA, CMA, MA, etc.)



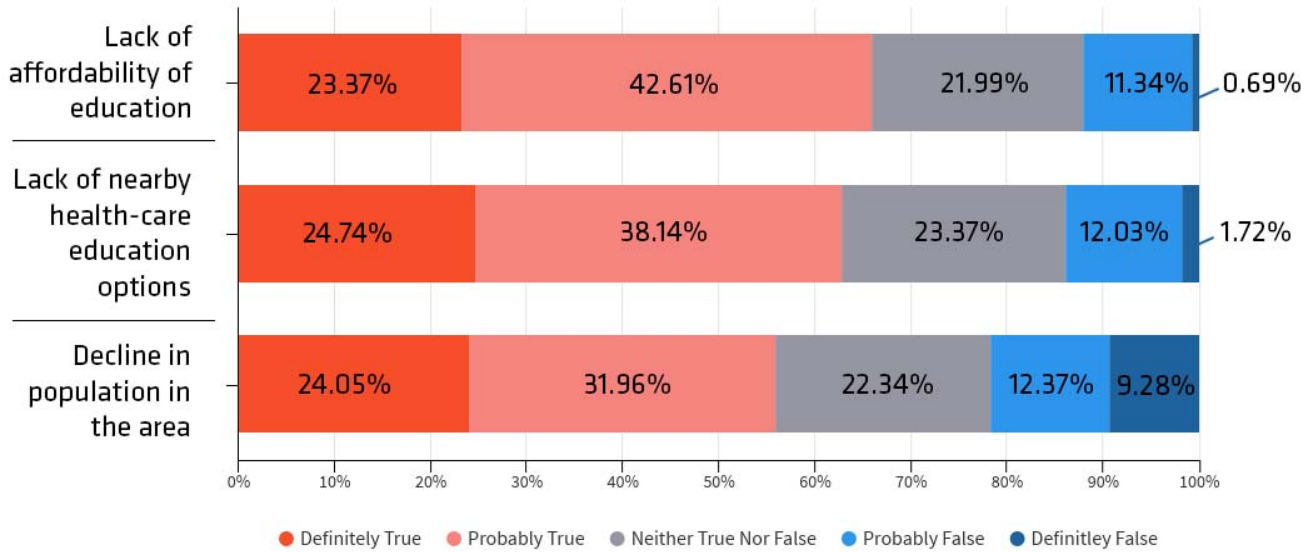
Dentists



Question 3. Respondents were asked to identify what they believe to be the result of health-care worker shortages in the community. Results indicate 76% of respondents believe it is true (probably true or definitely true) that pain and suffering are a result of health-care worker shortages in the community. The highest reported effect of the health-care worker shortage in the community is indicated as the increase in wait times (90%) and reduced access to health care (84.5%).



Question 4. Respondents were asked to indicate their perception as to why there is a health-care labor shortage in their community. The most often reported barriers are the lack of affordability of education (66%) and lack of education options nearby (63%). Over half of respondents (56%) believe a decline in population is also a barrier contributing to the area's health-care labor challenges.



Summary

The survey indicates that the biggest issue causing health-care labor shortages is most likely the region's inability to hire, retain and attract qualified health-care employees. A lack of educational opportunities, the affordability of educational opportunities and out-migration could be the contributing factors to the biggest issues mentioned above. The inability to maintain an adequate health-care labor force could be a contributor to reduced access to health care and an increase in the poor health outcomes outlined in prior sections of the comprehensive report.



PART 4
**STAKEHOLDER
INPUT**

Southwest Kansas
Overview of Rural Health-Care Research
Spring 2018
Wichita State University
Public Policy and Management Center

Part 4: Stakeholder Input

Purpose

Members of the Dodge City/Ford County Development Corporation interviewed medical professionals from 42 different hospitals, medical offices, nonprofit clinics and post-acute care facilities. The purpose of the interviews was to identify stakeholder-perceived health-care labor factors and issues in the 28-county region. The following is a summary of the interviews by area:

Hospitals

The most cited challenge identified by the 14 hospitals interviewed was the difficulty in recruiting and retaining staff of all position levels. Travel times, an inadequate level of bilingual services and a lack of specialists were other barriers cited often. Furthermore, minimal health education resources in the various hospital communities limit practices of preventative health measures, impacting health outcomes. The financial model and reimbursement processes have furthered issues related to the access of affordable health care. The most cited long-term barriers relate to perceived critical funding issues and the inability to recruit and retain staff. Many hospitals believed the region could address the shortage of health-care workers by improving educational options in the region and providing the means for prospective students to receive education. Representatives from every hospital expressed that they have students who would be interested in seeking higher education.

Medical offices

The medical offices interviews include respondents from eight different health-care organizations, such as counseling facilities, family practices, cancer centers or pharmacies. Similar to the most common barrier identified in the hospitals interviews, respondents cited that the most common health-care issues relate to the inability to recruit and retain health-care employees. Furthermore, an inability to hire specialists was a commonly cited concern. Commonly mentioned long-term barriers relate to the funding mechanisms for patients and the medical offices. Almost all medical offices believed that they are in need of bilingual services for their patients.

Nonprofits

Nonprofits interviewees represent a diverse group of 13 different health departments, care centers and other development and health organizations. The difficulties most cited by the nonprofit centers are their lack of qualified health employees and most notably a lack of specialists. Access to primary care is also an oft-mentioned concern and travel times for patients and health-care employees are a contributor to that barrier. A long-term health-care issue cited often is the increasing level of underinsured patients. Furthermore, it was often reported that the nonprofit centers believe their employees are in need of continued education and better training opportunities. Many also mentioned a need for addressing bilingual health-care assistance. All interviewees indicated that they are anticipating challenges in hiring health-care staff in the future and that recruitment has been difficult. Nearly all of the nonprofit centers indicated they had employees who would like to receive opportunities to obtain higher education.

Post-Acute

Interviewees labeled as post-acute represent seven different nursing or care homes. Almost all of the organizations cited difficulty in staffing issues due to an inability to recruit and retain employees. Furthermore, they believed staffing issues will persist or increase into the long-term. The majority of their employees are local and received education from area high schools or community colleges. They believed that funding, training, marketing and expanded benefits could help address the staffing issues they are facing. Most also mentioned that their staff are interested in obtaining higher levels of

education and that their organizations offer some sort of tuition reimbursement or educational assistance programs to help their staff reach the level of education they desire.

Summary

Recruiting and retaining staff was the barrier cited most frequently by interviewees. The organizations are having staffing issues for all types of positions, although an inability to fill physician and specialist positions seems to be the greatest concern. A lack of bilingual services was also a common theme within the organizations interviewed, with many having difficulty in employing health-care workers who speak multiple languages to serve ethnic populations concentrated in many counties within the 28-county study. It should also be noted that many of the organizations have employees who are interested in furthering their education, although there is a difficulty in affordability and access for those employees. Access to health care was also a common theme, as doctors and patients have to travel long distances to deliver and receive health-care services, respectively.

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Attachment A. Select Organizations List

Organizations that help meet the needs of rural communities and work to ensure the availability of essential healthcare services include:

- Federal Office of Rural Health Policy (FORHP) focuses on rural health-care issues and is part of the U.S. Health Resources and Services Administration.
- Rural Health Research Centers funded by the FORHP to produce policy-relevant research on health-care issues in rural areas.
- National Rural Health Association (NRHA) provides leadership and resources on rural health issues for health-care providers and organizations working to improve the health of rural communities.
- National Association of Rural Health Clinics (NARHC) works to improve the delivery of quality, cost-effective health care in rural underserved areas through the Rural Health Clinics (RHC) Program.
- American Hospital Association (AHA) Section for Small or Rural Hospitals represents the interests of small and rural hospitals and ensures that the unique needs of this segment of AHA's membership are a national priority.
- State Offices of Rural Health and State Rural Health Associations help rural communities build health-care delivery systems by coordinating rural health-care activities in the state, by collecting and disseminating information and by providing technical assistance to public and nonprofit entities in the state.
- National Rural Recruitment and Retention Network (3RNet) is a national organization that works on recruiting and placing health-care providers in job openings in rural communities.

Provided by the Rural Health Information Hub

Attachment B. Languages Spoken Demographics

