

Dental Public Health Activity Descriptive Summary

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Mapping the Rural Kansas Dental Workforce

While dentists and dental hygienists play a critical role in improving health outcomes, many Kansans living in rural and urban underserved areas do not have access to dental professionals. In order to provide the state with objective dental workforce data, the Kansas Department of Health and Environment (KDHE)'s Bureau of Oral Health and the University of Kansas Medical Center -Center for Community Health Improvement conducted two Oral Health Workforce Assessments in 2009 and 2011. This research takes a serious look at the problems of reach and equity in the state's dental professional workforce, and makes recommendations for strategic workforce interventions to improve access to oral health care for Kansas citizens.

The first Assessment completed in 2009 surveyed Kansas dentists and community based dental hygienists (those with an Extended Care Permit) about the scope of their practices and their opinions about oral health access. The project also held regional community focus groups to gather input from rural and urban perspectives. Some of the 2009 findings included:

- Frontier and small rural areas of Kansas will face a significant shortage of dentists in the next three to five years. This is due to the fact that currently there are fewer dentists in these communities and many plan to retire during this time.
- In general, dentists do not make plans to retire as many professionals do in other fields. Among those who have a practice for sale, finding a buyer is challenging. For those who plan to retire, many want to find an associate. In certain areas, those seeking an associate are discovering it difficult to find one.
- The current primary care dentist and hygienist workforce does not resemble the population of Kansas racially or ethnically. Research shows that minority patients have better outcomes when they are served by a medical or dental practitioner of their own race/ethnicity.
- Frontier and rural dentists are more likely to participate in the Kansas Medicaid program than those in urban areas.
- Few dental hygienists (only 6% of the total) in Kansas have Extended Care Permits. For those that do, 66% only use their Permit 1-8 hours a week. About half of all Kansas dentists were unaware of the Extended Care Permit. Most of the hygienists actively using the Permit worked in Kansas dental safety net clinics.

Fewer people living in rural communities, limited access to all types of health care services, an aging dentist workforce and the high costs necessary to run and maintain a viable dental practice combine to produce an oral health care workforce crisis in rural Kansas. This project uses a geographic information systems (GIS) approach to pinpoint locations in Kansas there are the fewest dental providers serving their communities and oral health care delivery innovation is needed most urgently. Findings from this research confirm a 2009 KDHE Bureau of Oral Health workforce study that described a shortage of primary care dentists and Extended Care Permit dental hygienists (ECPs) in certain rural areas of Kansas. Setting aside county boundaries typically used to describe federally designated health professional shortage areas (HPSA); this research expands on the concept of workforce shortage areas to look at where people live, how they travel and where providers practice.

Taking these factors into account, this research identifies gaps in the dental provider coverage map more precisely than traditional HPSAs designations.

The authors introduce the concept of a "Dental Care Service Desert" to describe the primary GIS result. This methodology is used to define food deserts and other relevant public health shortage areas, but up to this point has not been applied to oral health. The "Dental Care Service Desert" is a new designation that describes geographic areas where there are no dental services where the closest dental office is at least a half-hour drive from residents' homes. Findings indicate that at least 57,000 Kansans live in Dental Care Service Deserts, and this number is projected to increase as the current primary care dentist rural workforce retires, and as currently forecast, is not fully replaced.

Key findings from the study include:

1. Access to primary care dentists is not equal for all Kansans.
2. Extended Care Permit dental hygienists have not fully filled in the geographic gaps where primary care dentistry is unavailable.
3. Areas of western Kansas will join the Dental Care Service Desert in the next three years because of retirement of many primary care dentists.
4. The addition of strategically placed dental providers could make a difference in access to oral health care in western Kansas.
5. Dental care workforce innovations or pilot interventions could be tested in Dental Care Service Deserts.

2011 Oral Health Workforce Assessment Project: Mapping the Rural Dentist Workforce

In 2010 the Bureau of Oral Health received funding to expand research on the oral health workforce. Utilizing the surveys and studies described above as a foundation, the Bureau contracted with University of Kansas Center for Community Health Improvement to provide additional research that would help guide state oral health workforce planning. Based on prior research, people currently not served by the oral health system include three major subpopulations of interest:

- People who cannot easily travel for services (this group includes the elderly and frail population, a group that represents an important sector of many rural communities) and others with limited mobility or lack of support systems that contribute to their inability to have dependable travel options (e.g., individuals who have to borrow a car or depend on a neighbor or family member to take them) to access services;
- Those without dental insurance and those who cannot afford to pay out-of-pocket for care; and
- Medicaid/Health Wave enrollees who cannot find a dental provider willing to accept patients that have public insurance as their only source of payment.

Regardless of the impression that traveling for care is routine and expected in rural Kansas, most rural residents would agree that receiving oral health care is more challenging in rural and frontier areas, and they would prefer to have access to a primary dental practice located closer to home. This in combination with the workforce data that demonstrates the declining dentist oral health workforce in rural and frontier areas, led the research team to focus their efforts on identifying the parts of western and central Kansas with most severe workforce needs. By providing specific geographical data, the team reasoned that newly developed programs and innovations could be piloted in these targeted areas.

This report is available in full on the Bureau of Oral Health website: www.kdheks.gov/ohi.

Lessons Learned:

The 2009 dentist survey achieved an exceptional 77.7% response rate which can be attributed to our aggressive survey design. Past attempts to work with the Kansas Dental Board to include surveys in

the re-licensure process had not been successful, the research team decided to use a telephone survey of a sample of dentists chosen to reflect the overall dental workforce. A sample was drawn from primary care dentists (n=1110), with specialists excluded. All dentists working in the Kansas safety net clinics were included. The rest of the sample was stratified based on practice location population density to insure that opinions were gathered from rural and frontier county dentists. The final completed sample contained 475 completed dentist surveys.

The research team worked with the Kansas Dental Association to design the survey and a letter co-signed by KDA and KDHE was sent to all dentists explaining the survey and asking for their cooperation. Another letter was sent during the survey sample period to remind dentists that we would be calling in the near future. The survey was conducted by a contract phone bank, and if the dentists were not available, the surveyors made appointments to speak to them at their convenience. Surveys were done at night, weekends and during lunch hours. Dentists were contacted seven times before being dropped from the sample.

Additionally, surveys were conducted at the Kansas Mission of Mercy event that occurred during the sampling period. Dentist volunteers in our sample that had not already participated in the survey were able to complete the survey in person. We were able to complete an additional 58 surveys at KMOM. This also provided the survey with sub-sample of KMOM participating dentists. Additional analysis was done to determine if the dentists who participate in KMOM were different (more aware of access to care deficiencies, more likely to take Medicaid, more open to new workforce models, etc) than the entire dental survey sample. Results showed they were not; the dentists working in KMOM were no different than the general sample of dentists in practice patterns or in their opinions about access to care and workforce.

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