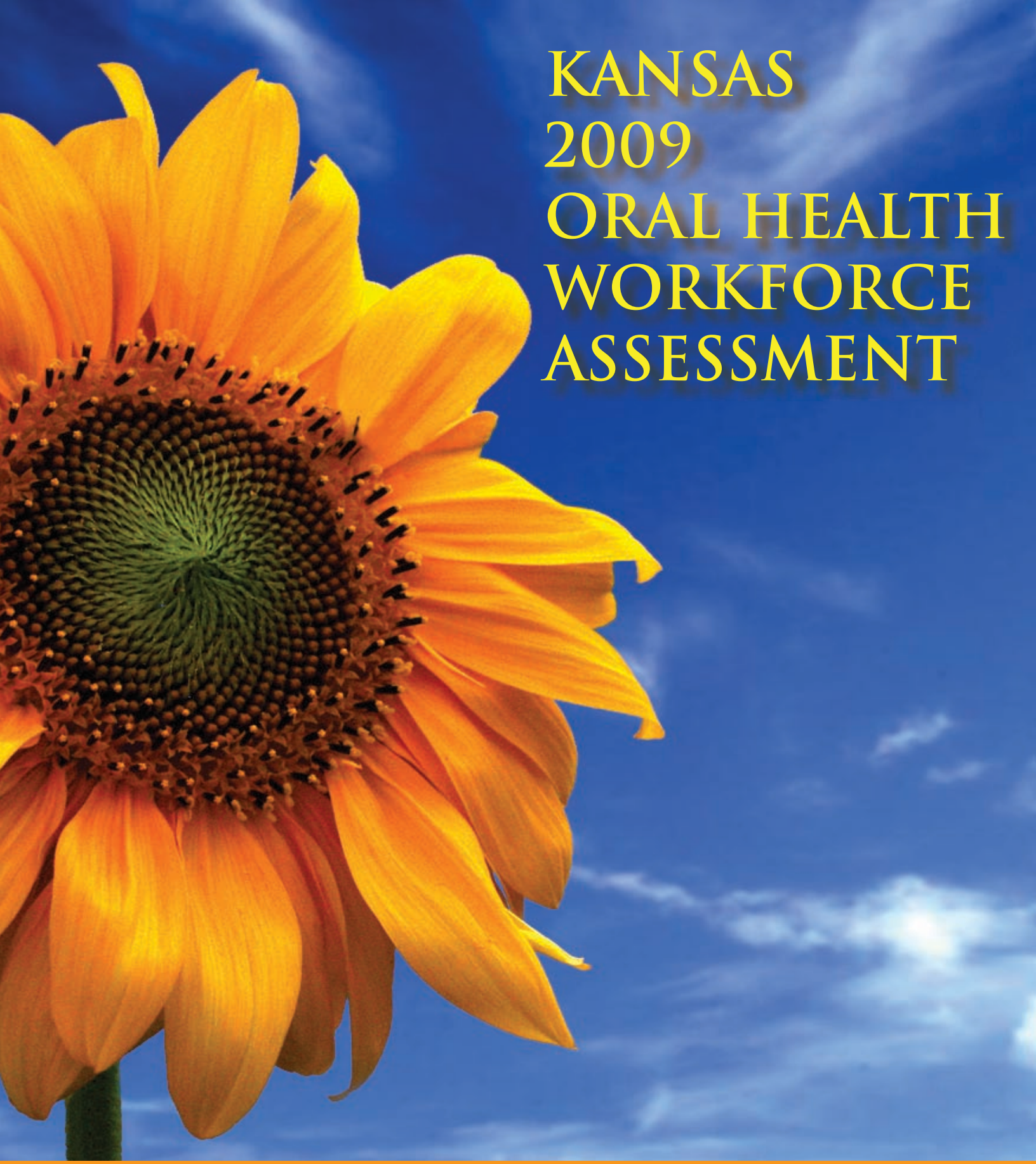

KANSAS 2009 ORAL HEALTH WORKFORCE ASSESSMENT

Bureau of Oral Health
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KANSAS
DEPARTMENT OF HEALTH
AND ENVIRONMENT
Division of Health

Mark Parkinson, Governor
Roderick L. Bremby, Secretary

www.kdheks.gov

Dear Fellow Kansans,

The Kansas Department of Health and Environment (KDHE) is pleased to share with you this first-ever statewide Oral Health Assessment for 2009. As the Kansas State Health Officer, I am happy to support the Bureau of Oral Health in its effort to provide up-to-date information about the status of current dental professionals working throughout the state. Primary care providers like dentists and dental hygienists play a critical role in statewide health improvement efforts by not only treating and preventing dental diseases, but also by participating in prevention and wellness efforts, such as tobacco cessation and nutritional counseling. Recent research confirms that poor oral health is connected to a host of other chronic diseases including diabetes, cardiovascular disease and poor pregnancy outcomes. It is clear that oral health professionals have a crucial role to play in the state's primary care workforce, and they are critical to maintaining the good health of Kansans.

Recent efforts by primary care advocates – in both the public and private sectors – to create new oral health care access points have moved the issue of oral health professional recruitment to the forefront. Many Kansans living in rural and urban underserved areas do not have access to dental professionals in their communities, creating holes of vulnerability in the state's oral health safety net. Kansas is a state without a dental school, and out-of-state dentist recruitment is often a challenge for underserved communities. The Bureau of Oral Health is working with statewide partners, such as the Kansas Dental Association, the Kansas Dental Hygienist Association, the Kansas Association for the Medically Underserved, and Oral Health Kansas to look seriously at problems of reach and equity in the dental workforce, and this document is the first step in evidence-based workforce planning. The data included in this report will set the stage for future discussions about how Kansas communities can ensure that all Kansans have access to high-quality and affordable oral health care.

We at KDHE value deeply the skills and commitment that our state's oral health professionals and advocates bring to their work every day. Those who contributed to this report are truly our special partners in public health, whom we thank for their tireless efforts to improve oral health for all and strengthen our dental workforce. We couldn't ask for better champions in the long march to better health for all Kansans.

Sincerely,

Jason Eberhart-Phillips , MD, MPH
Kansas State Health Officer and
Director of Health, KDHE

Acknowledgements

This project was made possible from a grant from the Health Resources and Services Administration (HRSA), U.S Department of Health and Human Resources, with additional support from the United Methodist Health Ministry Fund. Much credit is given to all of the survey participants and attendees of the community focus groups. Thank you for your precious time and insightful comments. Additionally the Bureau of Oral Health wants to thank the following partners for their contributions to this project:

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Ron Gaches and Ginny Clark on behalf of the Kansas Dental Hygienists Association

The Staff and Volunteers at the 2009 Manhattan Kansas Mission of Mercy

Chris Tilden, Robert Stiles and Barbara Huske at the KDHE Bureau of Local and Rural Health

Betty Wright and the members and staff of the Kansas Dental Board

Cathy Harding and staff at the Kansas Association for the Medically Underserved

The Director of the Bureau of Oral Health would like to give specific recognition to her partners in this project, Kim Kimminau and Anthony Wellever of the University of Kansas Medical Center, Melissa Ness at Connections Unlimited, and Greg Hill of the Kansas Dental Charitable Foundation. All partners exceeded expectations in their dedication and enthusiasm to the project . Lastly, much recognition is deserved to Ashley Streeter and Caron Shipley at the Bureau of Oral Health for their work on this project.

Katherine Weno, DDS, JD

Director, Kansas Bureau of Oral Health

August , 2009

Introduction to the 2009 Kansas Dental Workforce Assessment

The Bureau of Oral Health[i] within the Kansas Department of Health and Environment is Kansas' state-level public health program dedicated to oral health improvement. The Bureau works to increase awareness of the importance of oral health through information collection and dissemination, statewide oral health education, the development of evidence based oral health policy and programs dedicated to disease prevention. Bureau of Oral Health initiatives include a statewide school-based oral health screening program, educational oral health outreach directed at medical providers, and a comprehensive project dedicated to improving the oral health of children with special health care needs. The Bureau is committed to providing communities with accurate oral health information and relevant data. Documents produced by the Bureau include the *Kansas Oral Health Plan*[ii] and *Smiles Across Kansas*[iii], a statewide survey of the oral health status of third grade children. The 2009 Workforce Assessment was created as a response to a statewide need for dental workforce planning identified in the development of the State Oral Health Plan in 2007.

1. State Oral Health Plan and the Kansas Dental Workforce

In November of 2007 the Kansas Office of Oral Health and the state oral health coalition, Oral Health Kansas released Kansas' first comprehensive Oral Health Plan. Drafted in collaboration with oral health leaders and policy advocates, the plan is a road map for statewide oral health improvement. The document also provides information about current oral health programs and data sources, so users can access accurate information and coordinate programming to maximize efforts and resources. The original plan and the 2008 update are available on the Bureau of Oral Health's website http://www.kdheks.gov/ohi.

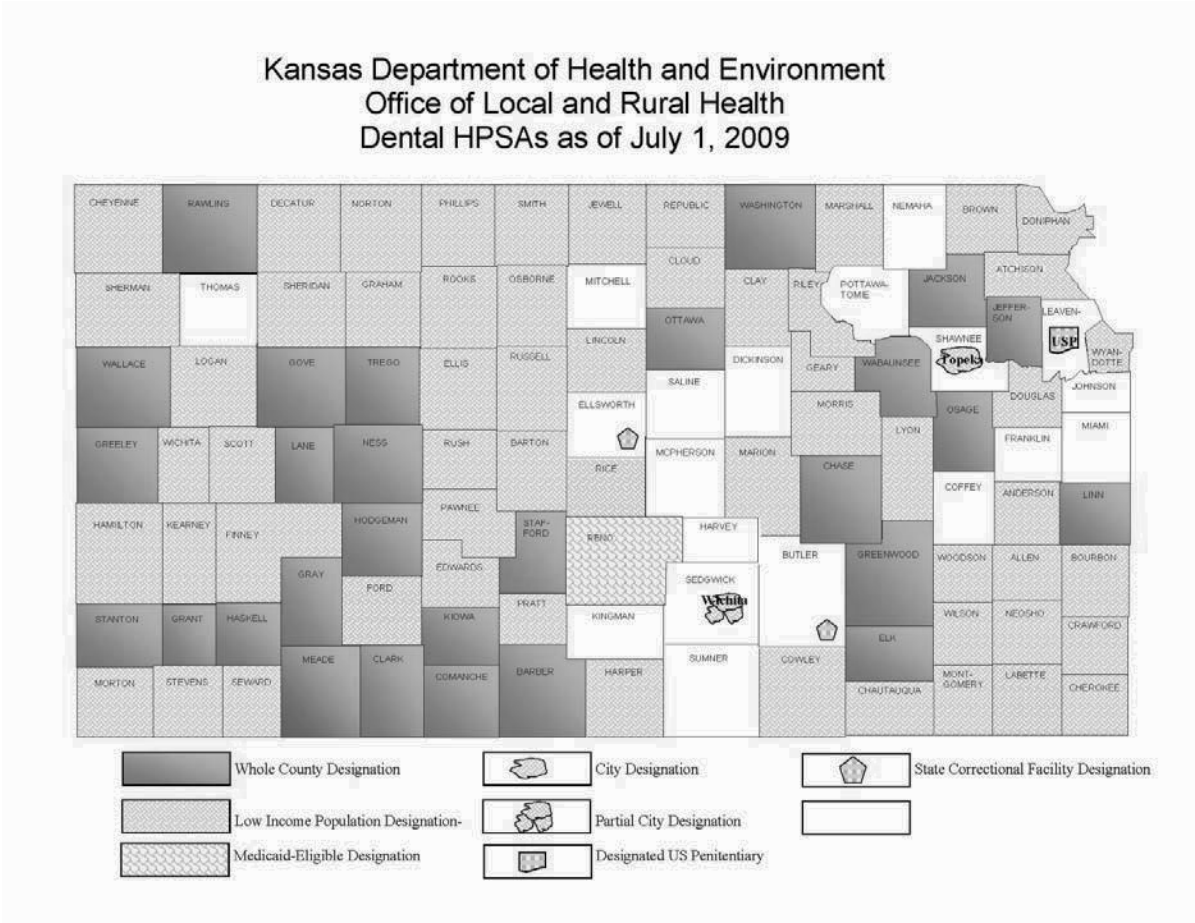
The Kansas Oral Health Plan contains four sections: Oral Health Workforce, Financing Oral Health for Underserved Populations, Community and Public Health and Children's Oral Health. Objectives, strategies and activities are listed for each section. Topics addressed in the broad plan include dental recruitment, water fluoridation, Medicaid financing, charitable care, prevention programs and social marketing. The plan is admittedly over-inclusive and ambitious, and it was clear at the outset that certain topics would require more comprehensive analysis and planning. Oral Health Workforce is one of these complex issues. Strengthening the dental workforce has risen to the forefront as a uniform concern among those working in oral health.

Successful oral health advocacy created opportunities for Kansas communities to build new dental access points in rural and urban safety net clinics. Funding was secured to create new dental facilities, but recruiting dental professionals proved difficult, and in many communities these new dental clinics were unable to operate effectively due to a lack of clinical staff. This frustration was not limited to community health clinics. Rural communities and providers are reportedly unable to attract new dentists and/or associates to replace aging local private practitioners. The State Oral Health Plan included workforce strategies such as educational loan re-payment, non-traditional delivery systems and a recruitment center, but progress has been slow. Additionally, little attention has been given to workforce assessment. Abundant anecdotal evidence exists about rural shortages and urban

oversupply, but accurate workforce data and analysis that could be used for evidence based programming and evaluation has not been done. Last spring the Health Resources Service Administration (HRSA) announced a funding opportunity for state dental programs to do health profession research and strategic planning. The Kansas Bureau of Oral Health received a one year grant for a comprehensive Kansas dental workforce data collection project, which funded this 2009 Kansas Oral Health Workforce Assessment.

2. Kansas Oral Health Workforce

At the outset of the project, Kansas had 1,334 licensed dentists[iv] with a practice address within Kansas' one hundred and five counties. The majority of these dentists have practice locations in population centers unevenly distributed through the state. Of the almost 2.8 million Kansans, almost 52% live in five urban counties located in the eastern (Kansas City metro, Topeka, Lawrence) and south central (Wichita) parts of the state. An additional 35% live in thirty-one semi-urban or dense rural communities[v]. The remaining 13% of the population lives in one of the sixty-nine rural or frontier counties, mainly in western Kansas. In 2009 the KDHE Office of Local and Rural Health designated ninety-one Kansas counties as containing dental professional shortage areas, meaning that the number of dentists practicing in the county (or within a reasonable distance to the county) is insufficient to meet the needs of the population (or a defined segment of the population)[vi].



Kansas law regulates two types of licensed dental professionals, dentists and registered dental hygienists. [vii] Kansas dental hygienists must work under the supervision of a dentist, although in certain cases they can provide hygiene services without a dentist being present. Dental hygienists who earn Extended Care Permits (ECPs) are allowed to work in public health sites such as community health centers, foster homes, long term care facilities and schools. ECP hygienists do not have an expanded scope of practice (they are limited to performing hygiene services) and they must have a sponsoring dentist who reviews their patient charts. A sponsoring dentist is not required to directly examine an ECP's patients or be on site while the ECP provides treatment. ECP regulations do not allow an ECP hygienist to directly bill for services so she must have a fiscal relationship with a dentist or other billing entity (clinic, health department, etc) in order to receive payment for her services. At the time of the survey ninety registered dental hygienists had an ECP permit. [viii]

Kansas does not license or certify dental assistants, but does allow for "scaling assistants". Scaling assistants must complete an educational course and register with the Kansas Dental Board in order to do supra-gingival scaling under the direct supervision of a dentist. There is no continuing education requirement and the Dental Board does not track them after their initial registration. Because of this, measuring the utilization of scaling assistants is difficult. A recent Kansas legislative post audit report indicated that over 400 assistants had registered with the Board, and at least 158 indicated that they were actively doing supra-gingival scaling.[ix]

3. Kansas Dental Education and Recruitment Strategies

Attracting new dentists to Kansas is challenging as Kansas does not have a dental school. Most of Kansas' dentists graduate from the University of Missouri-Kansas City (UMKC) School of Dentistry. UMKC has an agreement with the University of Kansas to reserve slots for Kansas dental students and provide them with in-state tuition. In the fall of 2009, twenty-one Kansans will start dental school at UMKC. There are four dental hygiene schools in Kansas: Johnson County Community College in the Kansas City metro, Wichita State University, Colby Community College and Flint Hills Community College in Emporia. At the time of this report another dental hygiene program is in development. The University of Missouri in Kansas City, Missouri also offers a dental hygiene program.

In the fall of 2009 Wichita State University is set to open an Advanced Education in General Dentistry Residency program in collaboration with GraceMed Community Health Center in Wichita. Oral health advocates developed this program as a strategy to attract young dentists to Kansas. Additional incentives available to Kansas dentists are student loan re-payment programs. The National Health Service Corps (NHSC) and the State Loan Re-Payment Program offer re-payment assistance in return for a minimum two year commitment to serve full time at an approved site in a designated Dental Health Professional Shortage Area.

4. The 2009 Workforce Assessment Project

The Bureau of Oral Health Workforce Assessment project was developed and implemented during the fall of 2008 through the spring of 2009. The project collected data about Kansas dental practices and solicited community input about dental recruitment and oral health access. To collect the practice data

the Bureau of Oral Health partnered with the University of Kansas Medical Research Institute to complete a telephone survey of dentists. A separate survey was developed for dental hygienists with Extended Care Permits to measure their utilization and program satisfaction. The content of the survey was developed by the researchers in collaboration with the Bureau of Oral Health, the Kansas Dental Association and the Kansas Dental Hygienists Association.

In addition to dental practice data, this project captured community opinions and local experiences concerning dental recruitment and oral health access. Oral Health Kansas, the Bureau of Oral Health and several other interested parties have held oral health summits in Kansas over the past ten years, including one in 2007 in preparation of the State Oral Health Plan. Careful planning was done to ensure that the community focus groups for this workforce project were not duplicative. Focus groups locations and participants were chosen based on community perspective and experience in the topic. The Bureau partnered with an independent facilitator to assist in focus group selection and content development. In May of 2009 five meetings were held in Dodge City, Hays, Wichita, Lawrence and Topeka. To share the content of these focus groups in a more direct way, the Bureau contracted with the Kansas Dental Charitable Foundation to record the events and to prepare a DVD summary. The video can be utilized by oral health advocates across the state to facilitate discussions about dental access and workforce.

This report was finalized in August of 2009. The first section contains the survey data and was completed by University of Kansas researchers Kim Kimminau and Anthony Wellever. The second part is a summary of the community focus groups written by Connections Unlimited consultant Melissa Ness. The report is complemented with a DVD summary of the community input produced by Kansas Dental Charitable Foundation's Greg Hill. The Bureau of Oral Health offers this information to those working on dental workforce issues, and hopes it will be the basis for many fruitful policy discussions.

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[i] In 2009 the Office of Oral Health changed its name to the Bureau of Oral Health

[ii] *Kansas Oral Health Plan,* 2007, and 2008 Update, Office of Oral Health and Oral Health Kansas http://www.kdheks.gov/ohi/download/Kansas_Oral_Health_Plan.pdf

[iii] *Smiles Across Kansas: The Oral Health of Kansas Children,* K.Kimminau, C. Huang et al. http://www.kdheks.gov/ohi/download/smiles_across_kansas_2004.pdf.

[iv] Kansas Dental Board, 12/17/2008, http://www.accesskansas.org/kdb.

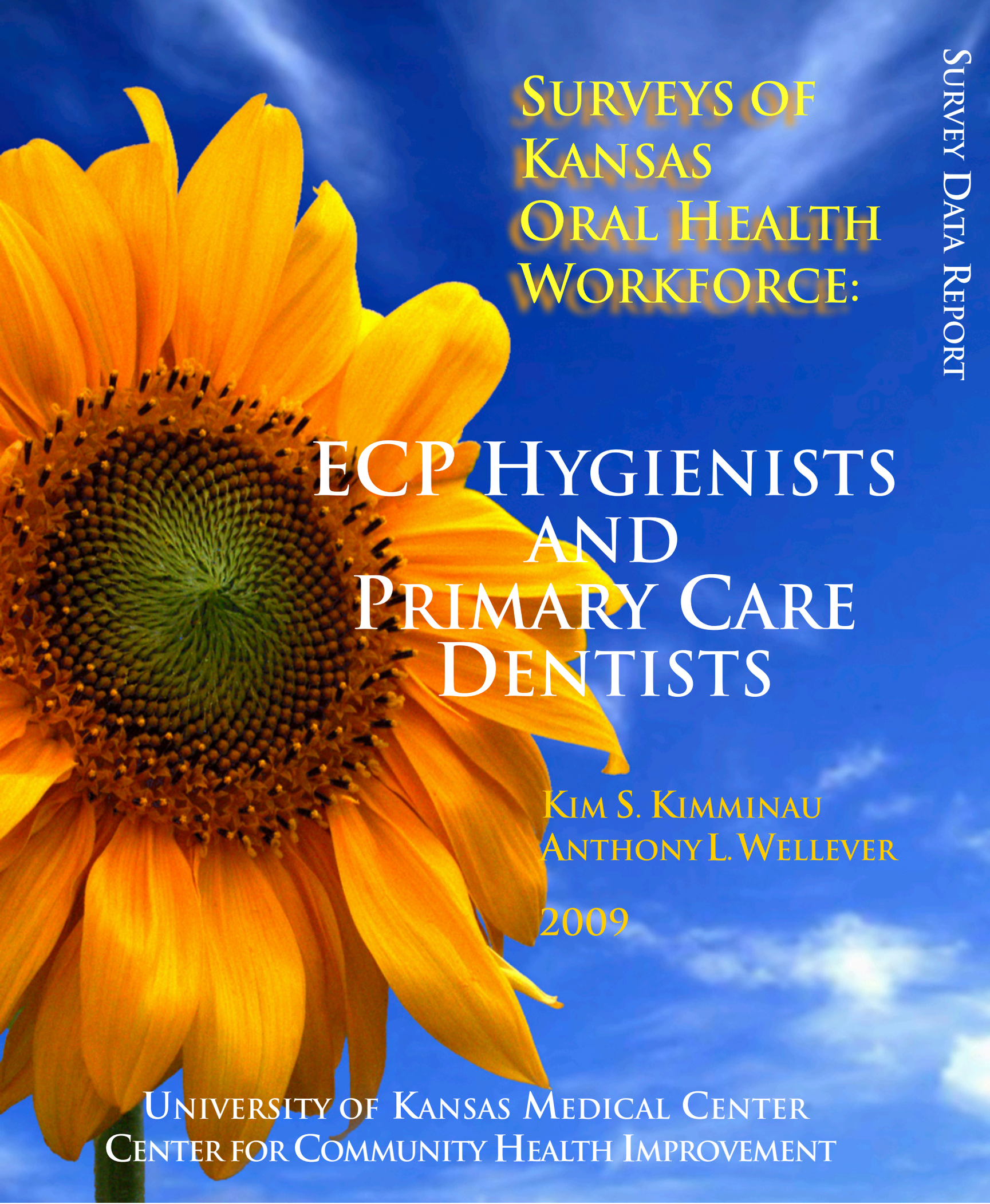
[v] 200 Census information as utilized in the KDHE Office of Local and Rural Health, 2009 Kansas Department of Health and Environment Underserved Areas Report, Barbara Huske, Workforce Analyst, http://www.kdheks.gov/olrh/SD.htm.

[vi] Ibid.

[vii] Kansas Dental Practice Act, K.S.A. 65-1421- 69, http://www.accesskansas.org/kdb.

[viii] Kansas Dental Board, 12/17/2008, http://www.accesskansas.org/kdb/

[ix] Kansas Legislative Post Audit, June 2007. http://www.kslegislature.org/postaudit/audits_perform/07pa23.pdf



Survey Data Report

Surveys of Kansas Oral Health Workforce:

ECP Hygienists and Primary Care Dentists

Kim S. Kimminau
Anthony L. Wellever

2009

University of Kansas Medical Center
Center for Community Health Improvement

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Executive Summary

The dentist workforce in the United States moved from an oversupply in 1983[1] to a projected undersupply by the year 2020.[2] Many stakeholders have a long-standing concern about the adequacy of the oral health workforce in Kansas, particularly in regard to meeting the needs of rural communities across the state. Small and rural communities often face the challenge of recruiting a dentist and their staff, and many go without access to services because they lack a provider or the distance to one is too great. In 2004, the United Methodist Health Ministry Fund commissioned a study of the workforce that included a projection of the impact of a decrease in the supply of dentists for Kansas. The report suggested that there were an insufficient number of dentists in the state, and that they were inappropriately distributed geographically to meet the dental needs of the population[3].

To help ensure an adequate workforce to meet the needs of Kansans, the Bureau of Oral Health engaged the Center for Community Health at the University of Kansas Medical Center to thoroughly profile two groups of the current workforce: Extended Care Permit (ECP) dental hygienists and primary care dentists (including pediatric dentists). Profiling was achieved by collecting key demographic and practice characteristic data, querying respondents on their educational backgrounds, what plans they have in place for retirement, what factors influenced their decisions to seek additional licensing, where they locate their practice, and a variety of other personal and practice characteristics considered of potential value in predicting what influences these professionals' practice. The purpose of the study was to examine current workforce characteristics to identify key predictors of dentists and hygienists relevant for improving access to oral healthcare services in communities and in encouraging practices to serve underserved populations.

Using computer-assisted telephone interviewing, the complete census of ECP hygienists and a population density-based, stratified, random sample of primary care dentists (including pediatric dentists) was contacted by the University of Kansas Department of Political Science Survey Research Center, Institute for Policy and Social Research, and asked to complete a survey tailored to their professional roles. The research team and survey administrators ensured a high level of participation by scheduling time for the survey interview at the convenience of each dental professional.

Highlights of the Kansas ECP Dental Hygienist Workforce Study:

- As of 2008, 89 Extended Care Permit dental hygienists were licensed in Kansas. *(Ref: Pg. 6)*
- Ninety-five percent of the ECP workforce is female; 97 percent is White and 96 percent is non-Hispanic. *(Ref: Pg. 8)*
- Two-thirds of ECP hygienists grew up in Kansas, and 80 percent of them grew up in a rural county. *(Ref: Pg. 9)*
- Asked the reasons why they obtained their permits, two-thirds of ECP hygienists said they did so because they wanted to help underserved populations. *(Ref: Pg. 10)*
- Sixty-six percent of ECP hygienists use their ECP licensure capabilities for eight or fewer hours per week. *(Ref: Pg. 13)*

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[1] American Dental Association (1983). *Strategic Plan. American Dental Association's Report of the Special Committee on the Future of Dentistry, 1983*(p 65).

[2] U.S. Department of Health and Human Services (2000). *Oral Health in America: A Report of the Surgeon General*. Rockville, MD:U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000 (p 235).

[3] Allison, RA. The declining supply of dental services in Kansas: Implications for access and options for reform. 2005. *Kansas Health Institute Issue Brief Number 18* (Jan, 2005). Kansas Health Institute, Topeka, KS.

- About half of all dentists are unaware of changes to the dental hygienist practice act that permit ECP practice. *(Ref: Pg. 15, 28)*
- Ninety-four percent of ECP dental hygienists are "satisfied" or "very satisfied" with being ECPs. *(Ref: Pg. 15)*

Highlights of the Current Kansas Dentist Workforce Study:

- The average age of a Kansas dentist is 50. Older dentists tend to practice in less densely populated counties. *(Ref: Pg. 24)*
- 70 percent of dentists raised in rural counties also practice dentistry in rural counties, whereas only 25 percent of dentists who graduated from urban high schools practice in rural settings. *(Ref: Pg. 26)*
- 95.5 percent of dentists practice in a private practice setting, and 65.1 percent of those are solo practices. *(Ref: Pg. 27)*
- If you are a new patient, almost 60 percent of dentists report that they can see you within a week of contacting their office for an appointment; if you are a publicly insured patient (Medicaid), about 1 in 4 dentists (25.8 percent) accept your insurance coverage. *(Ref: Pg. 29, 30)*
- Most dentists consider themselves to be employed full-time (84.5 percent report working 32 hours or more in a typical work week). *(Ref: Pg. 31)*
- More than half (55.3 percent) of dentists over 61 years old or older have no plans for retirement. *(Ref: Pg. 32)*
- Access to dental services for all Kansans in the next five years is of concern to 90.8 percent of the respondent dentists. The populations perceived as having the worst overall access are those living in sparsely populated areas. *(Ref: Pg. 33)*
- Dentists consider the extent of coverage for most dental insurance as inadequate (71 percent). *(Ref: Pg. 34)*
- The most important reasons given for why dentists choose to practice in Kansas is because they are Kansans, have family ties to the state and/or they enjoy the quality and cost of living. *(Ref: Pg. 33)*

Ten key findings from the surveys and their individual impact are provided in the report. *(Ref: Pg. 40)*

Recommendations:

Workforce planning for Kansas could be enhanced by:

1. A collaborative, multi-stakeholder endorsed and sponsored process to collect ongoing oral health professional workforce data;
2. An effort to better estimate or measure the demand for oral health care services (including specialty care) in both rural and urban areas of the state; and
3. The development of a nonaligned, stakeholder-endorsed forum that would serve as a common platform for dental professionals to seek and share information about the oral health of Kansans. This might also serve as a vehicle to bridge differences among the various oral health professional groups allowing them to better plan for meeting the oral health care needs of the state.

Studying factors that influence the practice of dentistry and monitoring the supply of oral health professionals are essential activities to ensure access and the delivery of clinical services to the public. Because of the close relationship between dental hygiene and dentistry, both workforces must be studied to ensure that adequate oral health services are available.

The dentist workforce in the United States moved from an oversupply in 1983[1] to a projected undersupply by the year 2020.[2] Much work has been accomplished nationally on the topic by organizations such as the American Dental Association, and research has contributed to making the practice of dentistry more efficient and increasing productivity with the use of electronic patient record systems[3], non-dentist team members[4], and other factors. Researchers also have studied factors that influence the dental hygiene workforce and its impact on the availability of oral health education and clinical services.[5] While these focused studies are of great importance, a primary step needed in Kansas is a complete profile of the current workforce for planning purposes. It does little good to identify efficiency improvements if little is known about the intent of oral health professionals to practice in areas of need across the state. Furthermore, oral health policymakers have been interested in the "pipeline" issue – the educational output of dental schools and dental hygiene programs that provide the training for oral health professionals, particularly because Kansas does not have a state-based dental school. Policymakers are greatly concerned that the supply of dentists to serve the needs of the public is inadequate, yet a clear snapshot of the current workforce is missing from the conversation. Local anecdotes can be helpful, but such information often builds myth rather than evidence-based information. To establish a realistic and valid profile of two oral health workforce professional groups, a comprehensive assessment of ECP hygienists and primary care dentists was undertaken for Kansas.

[1] American Dental Association (1983). Strategic Plan. American Dental Association's Report of the Special Committee on the Future of dentistry, 1983(p. 65)
[2] U.S. Department of Health and Human Services (2000). Oral Health in America: A Report of the Surgeon General. Rockville, MD:U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. (p. 235)
[3] Walki, MF, Taylor, D, Langabeer, JR, Valenza, JA. Factors influencing implementation and outcomes of a dental electronic patient record system.. J. Dent. Educ. 2009 May; 73(5): 589-600.
[4] Levin, RP. Increasing hygiene productivity. Compend. Contin. Educ. Dent. 2003 Mar: 24(3) 170-2.
[5] Basile, SV, Born, DO. Dental hygiene workforce issues: a Minnesota study. J Dent Hyg 2007 81(1):11 Epub 2007 Jan 1, 2007.

This report is divided into four sections: first, a complete discussion of the Extended Care Permit dental hygienist study is provided. That section is followed by the Primary Care Dentist study and findings. A qualitative study of pediatric and primary care dentists serving at the Manhattan, Kansas "Kansas Mission of Mercy" event is included as it provided a unique opportunity to speak directly with dentists serving the needs of those who lack a dental home and the means to pay for dental care. The report concludes with summary findings, impact assessments and recommendations regarding workforce related issues for consideration as strategies are developed to enhance oral health workforce issues for the state of Kansas. Questions concerning the surveys should be directed to the Bureau of Oral Health, Kansas Department of Health and Environment.

ECP Hygienist Survey Introduction

Twenty-nine states, including Kansas, have statutes permitting certain dental hygienists to practice in settings outside of the traditional dental office without a dentist being present. In most of these states, practice locations are restricted to community and public health settings, but four states (Colorado, Maine, New Mexico, and New York) allow authorized dental hygienists to practice in any setting, public or private. (Colorado and New Mexico also permit dental hygienists to own and operate independent dental hygiene practices.) The implicit goal of the 25 states that restrict practice to community and public health settings is to expand access to dental hygiene services to low-income, underserved populations, primarily the elderly, children, and individuals with special needs. The specific settings, services, and populations served by the hygienists permitted to practice outside of dental offices without a dentist being present vary at the margins from state to state. The laws in various states that permit dental hygiene practice in settings alternative to a dental office are not based on a model act that states adopted with little or no amendment. In each case, the laws were developed locally as a response to circumstances within the state. The Kansas model of this form of oral health practitioner is referred to as the dental hygienist Extended Care Permit, also called the ECP.

In 2003, the Kansas Legislature created the Extended Care Permit, and in 2007, at the urging of Oral Health Kansas, the Kansas Dental Association, and the Kansas Dental Hygienists Association, the Legislature expanded the groups ECPs could serve and the locations where services could be provided, and modified the number of hours of clinical practice necessary for obtaining an ECP. The permit is divided into two categories: ECP I and ECP II. ECP I hygienists are permitted to serve low-income children and adults in prison, federally-qualified health centers and local health departments and require 1,200 hours of clinical practice under the supervision of a dentist to quality for a permit. Hygienists who qualify for an ECP II may also serve persons over age 65 in specifically named settings and individuals with special health care needs. To obtain an ECP II a hygienist must complete at least 1,800 hours of clinical practice under the supervision of a dentist and complete a course of training on the care of special needs patients.

ECP practice is limited to:

1) Removal of extraneous deposits, stains and debris from the teeth and the rendering of smooth surfaces of the teeth to the depths of the gingival sulci;

2) Application of topical anesthetic if the dental hygienist has completed the required course of instruction approved by the dental board;
3) Application of fluoride;
4) Dental hygiene instruction;
5) Assessment of the patient's apparent need for further evaluation by a dentist to diagnose the presence of dental caries and other abnormalities; and
6) Other duties which may be delegated to the ECP hygienists verbally or in writing by the sponsoring dentist.

Examples of sites for ECP I practice include: schools, Head Start programs, local health departments, safety net clinics, and state correctional institutions. Examples of ECP II sites include all ECP I sites plus adult care homes, long-term care facilities, and organizations proving services under the Medicaid Home and Community-based Services Waiver.

ECPs work in collaboration with dentists licensed in Kansas who serve as their sponsors. Sponsoring dentists sign a written agreement with ECP dental hygienists stating that they will monitor the hygienist's community-based practice. ECP dental hygienists must provide sponsoring dentists with a copy of findings and a report of treatment. Sponsoring dentists are not required to examine patients treated by ECP dental hygienists nor are they responsible for treating patients subsequent to the ECP hygienist's assessment of apparent need for follow-up care.

ECPs must carry their own professional liability insurance. Payments to the ECP dental hygienists for services provided are received from the sponsoring dentist or the participating organization. Patient revenues that form the basis of these payments to ECP dental hygienists come from several sources: cash payments from patients on a fee-for-service basis, third-party payments from commercial dental insurance and Medicaid billed through the sponsoring dentist, safety-net clinic, Head Start program, or local health department (registered dental hygienists cannot be issued provider numbers in Kansas and consequently cannot bill third-party payers directly), and payments related to contracts with community organizations (e.g., schools) for the provision of group services to organization participants.

ECP Survey Design and Methodology

To assess who becomes an ECP dental hygienist, the characteristics of their practice, and their satisfaction with being an ECP, we conducted a telephone survey of all licensed dental hygienists who had received an extended care permit (N = 89). The survey included questions about socio-demographic characteristics of the ECPs and descriptions of their practices, as well as questions about their current use of their ECP permit and their opinions on oral health access and other oral health issues. Questions were pre-tested by three ECP dental hygienists and the Bureau of Oral Health

Director, and modifications were made based on their feedback to increase clarity or to expand potential answer choices not anticipated by the research team.

Contact information for ECPs came from licensing data. We could not make contact with 25 ECPs for one reason or another (e.g., the person had moved; the telephone number provided was incorrect; the person had given up a land line for a cellular phone not recorded on the license form). We achieved a response rate of 79 percent.[1] The relatively high response rate coupled with the assumption that the ECPs we were unable to reach were randomly distributed across the ECP population, leads us to argue that the survey responses provide a fair picture of the ECP practitioners and practice in Kansas.

The focus on ECPs and the exclusion of other dental hygienists from the survey requires an explanation. Because extended care permits are relatively new and not widely adopted, we wanted to learn more about who had obtained the permits and what their experience had been to date. The Bureau of Oral Health's workforce planning effort will use data from multiple sources. The two surveys (ECP and primary care dentists) we conducted are only two of the many sources that will be used. They were conducted to gather information that is not currently available from other sources.

In our survey of dentists, we asked them questions about dental hygienists. For example, we learned that 81 percent of dentists in Kansas employ dental hygienists (safety-net dentists employ hygienists at a substantially higher rate than primary care dentists). One-third of the dentists who don't employ hygienists say they prefer to provide hygiene themselves, and 18 percent say they have not been able to find a hygienist to hire. Ten percent of all dentists said they currently have an opening for a dental hygienist, and 48 percent said they have found it somewhat difficult or very difficult to recruit and hire a dental hygienist. More than half of the practices surveyed (57 percent) employ between two and four hygienists. The Bureau of Labor Statistics (U.S. Department of Labor) projects that employment of dental hygienists nationally will grow by 30 percent between 2006 and 2016, a rate that is "much faster than the average for all occupations." Job prospects for dental hygienists according to BLS "are expected to remain excellent."

[1] Response rate: (59 [complete] + 6 [refusals] / (89 – 1 [disconnected] – 5 [wrong number] – 1 [ineligible] = 65/82 = 79.26%.

Results

Questions were asked in the following domains: demographic characteristics, early ECP experience, current practice characteristics (scope of practice, practice sites, nature of sponsorship), satisfaction with ECP practice, and opinions on adequacy of access to dental services and other oral health issues.

Demographic Profile of Respondents

ECP dental hygienists tend to be somewhat older than dental hygienists generally; 74 percent of them are older than 40 years of age (Table 1). What accounts for this distribution is not clear. Although the disproportionate influence of the Baby Boom cohort might explain the size of the age 50 and over segment of the ECP population, it does not completely explain the even greater size of the 41 – 50 year old segment. Only four of ten persons in this age group were born in the final years of the Baby Boom when birth rates were returning to normal; six of ten were born after the Baby Boom had ended. Rather than seeking an explanation of why so many ECPs hygienists are older, a better question – especially in terms of workforce planning – is why so few younger dental hygienists have extended care permits. One reason may be that recent dental hygiene graduates do not qualify for ECP status because they have not yet completed the 1,200 hours of clinical practice under the supervision of a dentist necessary to qualify for a permit. It might take recent graduates who work part-time, or who have had difficulty finding a position, more time to acquire the needed hours of practice. Other reasons likely also exist including the relatively new practice act modification that permits ECP licensure and some may be unaware of the opportunity because they may not have been exposed to this career option while studying dental hygiene.

Table 1. ECP Dental Hygienists Tend to be Older

≤30 years old	10%
31 - 40 years old	16%
41 - 50 years old	43%
Over 50 years old	31%

Perhaps not surprisingly, 95 percent of the respondents are female. Somewhat more surprising is that an even higher percentage – 97 percent – is White. Self-reported ethnicity was asked as a separate question, and only four percent are Hispanic. With the concentration of ECP practice in underserved populations, one might have expected the make-up of the workforce to reflect that of the populations served to a greater degree. Future recruitment of racial and ethnic minorities to careers in oral health would offer access to an untapped resource of potential workers who enter the workforce with cultural

sensitivity and proficiency. However, among the currently licensed ECP dental hygienists, fully one-third (34 percent) report that they can speak to their patients in a language other than English, and 70 percent of them speak Spanish.

Two-thirds of ECP dental hygienists grew up in Kansas, and 80 percent of them grew up in a rural county. This connection to rural areas in part may account for the current distribution of ECPs in Kansas (see the section on practice characteristics below).

Training and Practice Experience

Most ECP dental hygienists (64 percent) received their dental hygiene training in Kansas. Among those trained in Kansas, 89 percent attended one of two schools: Wichita State University (54 percent) and Johnson County Community College (34 percent). The most frequently cited states among ECP hygienists who obtained their educations outside of Kansas is Missouri (38 percent), Nebraska (14 percent), and Texas (10 percent). The remaining 38 percent is scattered among seven states and one U.S. territory. The most commonly reported entry-level degree in dental hygiene is an associate degree (74 percent), but 24 percent report they received a baccalaureate degree and two percent report being awarded a certificate. We also asked ECP hygienists what is their current dental hygiene degree status. The purpose of this question was to see the degree to which ECP hygienists pursued additional formal education in the field. Currently, 58 percent hold an associate degree, 40 percent has a baccalaureate degree, and two percent earned a certificate. Approximately one in five ECP hygienists who entered the profession with associate degrees went on to complete baccalaureate training in dental hygiene. Additionally, seven percent earned master's degrees in other field of study; two ECP hygienists have Master's degrees in public health.

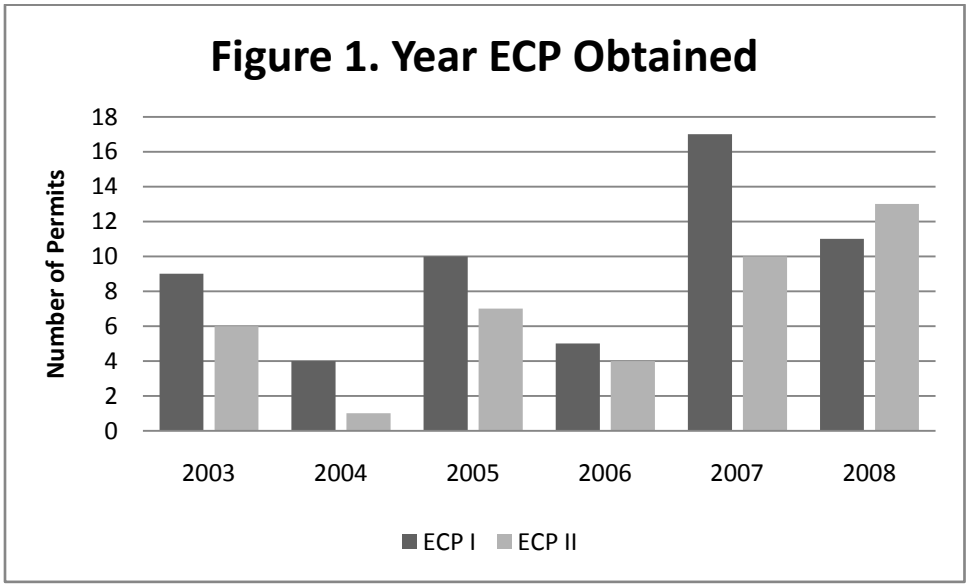
On average, ECP hygienists have practiced dental hygiene in Kansas for 14 years. Years of practice in Kansas ranged from a low of one year to a high of 39 years. Thirteen percent of ECP hygienists have over thirty years of practice experience in Kansas.

Year ECP Obtained and Reasons Why ECP Permit Sought

The first extended care permits were issued in 2003. A total of approximately 20 permits were issued to ECP I and ECP II applicants. The number of application declined in 2004 to fewer than half of those in 2003. In response, Oral Health Kansas, an oral health advocacy non-profit organization in the state, obtained a grant from the United Methodist Health Ministry Fund to hire a part-time consultant to encourage dental hygienists to apply for ECP status and assist them in using their permits. Oral Health

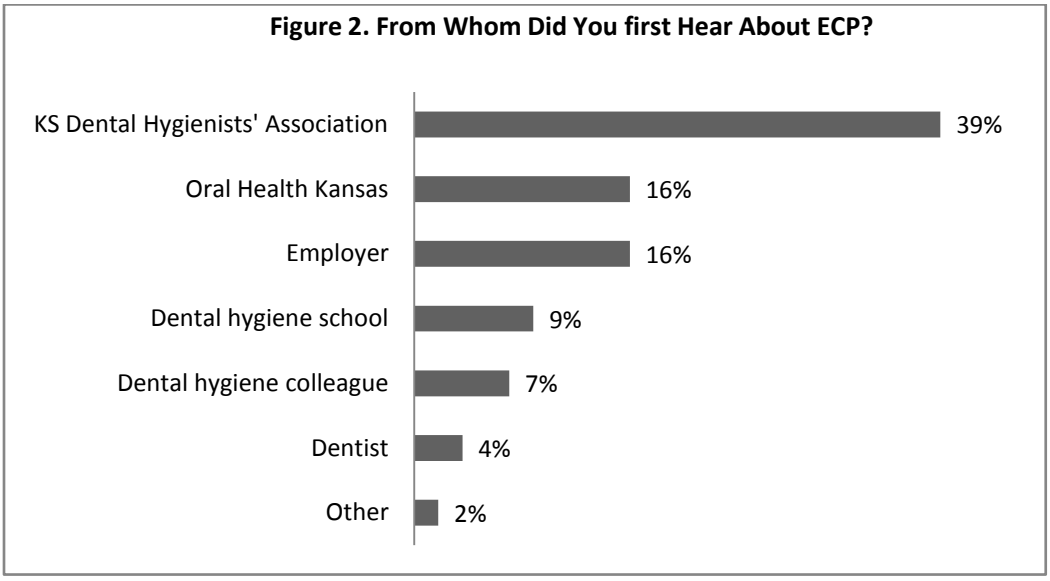
Kansas created a number of promotional materials to inform dental hygienists about the change in the law, and created several tools to help ECP hygienists implement their community-based practices. As a consequence, the number of new permits began to rise. In both 2007 and 2008 the number of new permits for both ECP I and ECP II applicants were ten or more. This period of time also corresponds with a parallel expansion of dental services in safety-net clinics achieved through other initiatives. Figure 1 shows the yearly update of obtaining extended care permits for both ECP categories among the respondents to the survey.

Asked the reasons why they obtained their permits, two-thirds of ECP hygienists said they did so because they want to help underserved populations. Seventeen percent responded that they obtained their permit because their job required it. These hygienists were most likely employed by safety-net clinics or local health departments. Twelve percent said that they were interested in the independent practice of dental hygiene, and three percent said they applied for the permit because they thought it might help them get a job and/or more income.



Early Experience

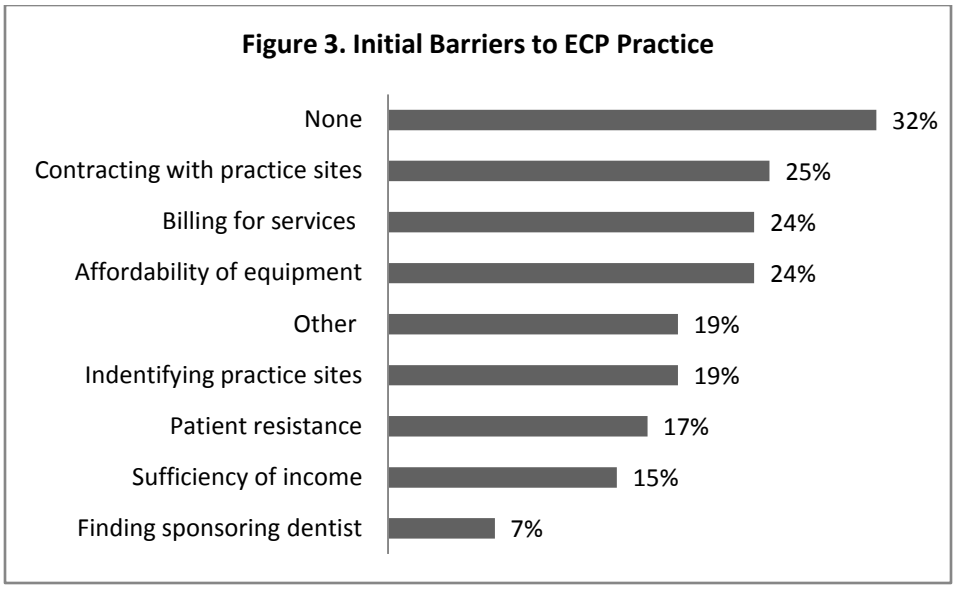
ECP dental hygienists first heard about the possibility of obtaining an extended care permit from a variety of sources (Figure 2). Approximately 40 percent first heard about it through the Kansas Dental Hygienists' Association. Sixty percent learned of ECP licensure from other sources.



Obtaining an extended care permit is not synonymous with using it. Seven percent of ECPs surveyed no longer practice dental hygiene of any sort in Kansas, and 15 percent have never used their extended care permits. All of the reasons given by those who have never used their ECP and do not plan to use it in the future were idiosyncratic. Ninety-three percent of ECPs who have never used their permits plan to use it in the future.

Eighty percent of the responding ECPs surveyed are currently working at least some hours during a regular work week as ECP hygienists. Twenty percent of ECP hygienists report that they are not currently working in positions where they can use their Extended Care Permit. Thirty-eight percent of the hygienists who are under-using their full practice privileges said they cannot find a position that allows them to use their ECP, and 19 percent said their current job does not allow enough time to function as an ECP dental hygienist.

Respondents were asked to identify barriers to starting up their ECP practice. Sixty-eight percent of respondents reported a barrier, and approximately one-third of ECP hygienists said that there were no barriers to practice (Figure 3). The tools prepared by Oral Health Kansas in 2004 and 2005 included



information on identifying practice sites and contracting with them. Early adopters – those obtaining their first permits in the period 2003 to 2005 – were more likely than later adopters – those obtaining their first permits in the period 2006 to 2008 – to say that the following were barriers to initiating their ECP practice: 1) identifying practice sites, 2) contracting with practice sites, and 3) learning about ways to bill for services. The differences between early and later adopter responses, however, were not statistically significant. Only seven percent described finding a sponsoring dentist as a barrier, and no respondents said that contracting with a sponsoring dentist was barrier.

ECP Dental Hygienists' Practice Characteristics

Fifty-three counties, slightly more than one-half of all counties in Kansas, are served by ECP dental hygienists. All five urban counties are served by at least one ECP hygienist. The broad coverage by ECP hygienists of rural areas is likely due, in part to the Dental Hub Grant Program which promoted both ECPs and rural practice sites.[2] Approximately one-half of responding ECP hygienists provides service in more than one county: 20 percent serve two counties, and 29 percent serve three or more counties. Twelve percent of ECP hygienists provide services in five different counties.

[2] The Dental Hub Grant Program is a public/private collaboration in which capital and operating funds are provided to safety-net clinics to expand their capacity to provide oral health services to low-income Kansans. The program operates on a hub and spoke model in which hubs (safety-net clinics) increase the number of oral health providers and operatories and integrate oral and primary health care. Spokes extend oral health services through the use of ECP dental hygienists practicing in community settings. Hubs exist in both urban and rural counties; spokes mainly serve rural counties.

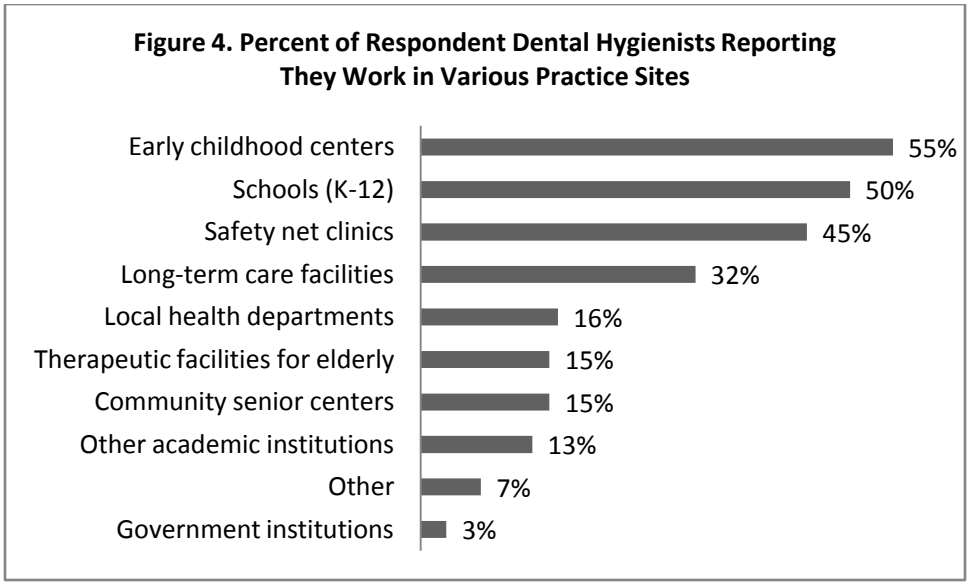
The majority of ECP hygienists (88 percent) do not work full-time in community settings allowed by their permit. Two-thirds of them (66 percent) work eight hours a week or less as ECPs. Twenty-nine percent of respondents work only one or two hours per week as ECP hygienists. Presumably, the other portion of their time is spent in typical office practice. Table 2 lists the hours per week of community-based practice for responding ECP hygienists.

Table 2. Hours per Week Worked by ECPs in Community Settings

Hours per Week	Community Setting
1 to 8 hours	66%
9 to 16 hours	9%
17 to 24 hours	0%
25to 32 hours	14%
33 to 40 hours	9%
Over 40 hours	3%

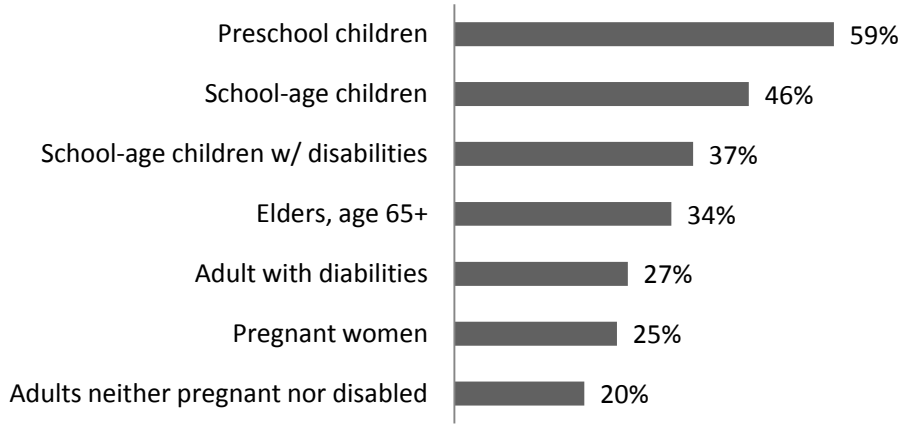
Figure 4 displays the percentage of ECP dental hygienists working in various community sites. Early childhood centers and public schools were the most frequently mentioned practice sites. Government institutions (exclusive of local health departments) were cited least frequently. Respondents were asked to estimate the number of hours worked per week at various sites. The average hours worked per week varied substantially among practice sites. The practice sites with the greatest average hours worked per week were other academic institutions (22.3 hours), safety net clinics (20.0 hours) and local health departments (19.4 hours). In three sites, ECP dental hygienists said they averaged between eight and ten hours per week: school, community senior centers, and therapeutic facilities for the elderly and disabled. Hours per week averages for other sites were lower.

Figure 4. Percent of Respondent Dental Hygienists Reporting They Work in Various Practice Sites



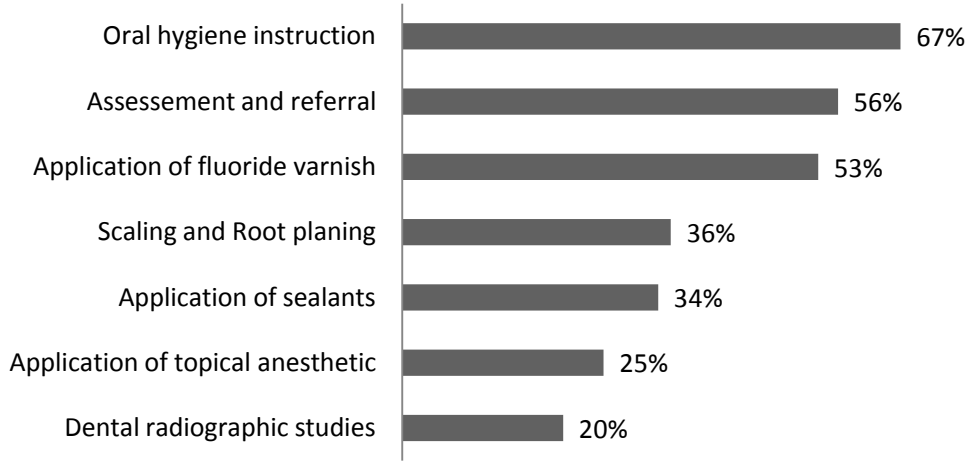
ECP dental hygienists serve primarily children, people with disabilities, and seniors. Adults – pregnant women and adults who are not disabled – are the smallest groups served. One in four ECP hygienists serves pregnant women and one in five serves adults who are not disabled (Figure 5).

Figure 5. Percent of Respondent ECP Dental Hygienists Reporting They Serve Various Groups



ECP dental hygienists offer the full range of dental hygiene services (Figure 6). Education, screening for referral and application of fluoride varnish are principal activities engaged in by ECP hygienists. Over one-half of all ECP hygienists provide all three services. Approximately one-third of respondents conducts scaling and root planing and applies sealants.

Figure 6. Percent of Respondent ECP Dental Hygienists Reporting They Provide Various Services



ECP dental hygienists are paid in several ways. Thirty-seven percent are salaried, and 35 percent are hourly employees. Pay structure for the other respondents is determined by productivity: 16 percent are paid according to the number of patients they treat, and 12 percent by the number of services they provide.

Relationship with Dentists

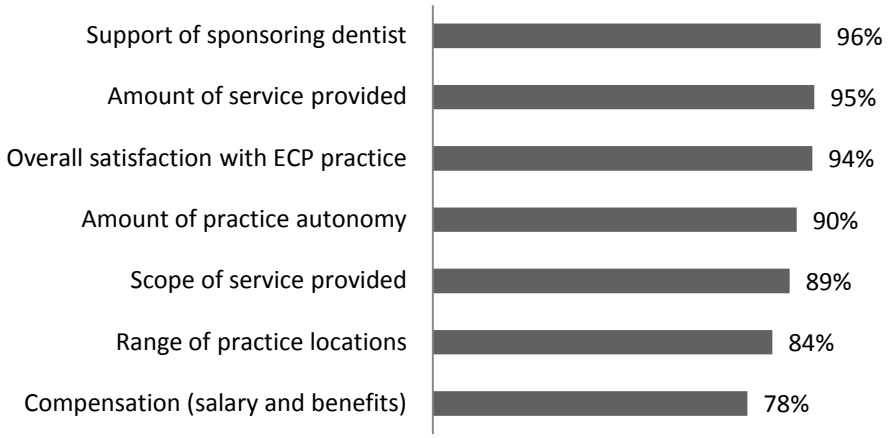
According to the survey of dentists reported in greater detail in the next section of this report, slightly more than one-half of dentists (55 percent) are aware of the extended care permit for dental hygienists. Only seven percent of dentists included in this study who are not safety net dentists sponsor an ECP dental hygienist. Still, 86 percent of ECP hygienists report that finding a sponsoring dentist was either "somewhat easy" or" very easy." Forty-seven percent of ECP hygienists said that their sponsoring dentist also sponsored one or more other ECPs. By state law, dentists are limited to sponsoring no more than five ECP dental hygienists.

Kansas law requires that ECP hygienists practice under the sponsorship of a dentist. Four of ten ECP dental hygienists (40 percent) communicate with their sponsoring dentist on a daily basis. Sixty-eight percent communicate at least weekly. For the remaining 31 percent, the intervals between communications with their sponsoring dentists are somewhat longer.

Satisfaction

Satisfaction among respondents was high. Overall, 94 percent of ECP hygienists rated their satisfaction with their current ECP position as "very satisfied "or "somewhat satisfied" on a five-point Likert scale. The highest satisfaction rankings on specific items were support of sponsoring dentist, scope of services provided, and autonomy of practice. Respondents were least satisfied with their compensation, but still 78 percent said they were "very satisfied" or "somewhat satisfied" with it (Figure 7). One-hundred percent of responding ECP dental hygienists said they would encourage other dental hygienists to obtain their extended care permits. The primary reason given for encouraging other dental hygienists to pursue ECP status was because of the "opportunity to provide more service to underserved populations."

Figure 7. Percent of Respondents Reporting Satisfaction with Various Aspects of Their ECP Practice



Respondent Opinions – Access to Oral Health Services

Respondents were asked whether they agreed or disagreed with a series of statements on access to oral health services (Table 3). The responding ECP hygienists were in strong disagreement with most of the statements put to them regarding access. Eighty percent somewhat disagreed or strongly disagreed with the statement that access to oral health services for seniors is adequate. Seventy-five percent disagreed that access for people with special needs is adequate. In contrast, one-third of ECP hygienists agreed that access to dental services for children was adequate and ten percent had a neutral opinion.

Seventy-eight percent of ECP hygienists disagreed that the rate of people who have dental insurance is about right, and 68 percent disagreed that the extent of coverage for most dental insurance policies is about right. This suggests that these ECP dental hygienists consider individuals who have dental insurance as underinsured relative to their oral health care needs.

Table 3. ECP Dental Hygienists Opinions About Access

Statement: Access to dental services for ___ is adequate	Percent Strongly Agree	Percent Inclined to Agree	Percent Neutral	Percent Inclined to Disagree	Percent Strongly Disagree
low-income and working poor	7%	22%	2%	36%	34%
children	8%	27%	10%	32%	22%
seniors	3%	14%	3%	36%	44%
immigrants	8%	9%	9%	43%	30%
people with special needs	7%	7%	11%	33%	42%

Over one-half of ECP hygienists believe that availability of preventive education and the public's level of knowledge of oral health are inadequate (Table 4). It is not known among the 38 percent who said that educational resources and public knowledge are adequate whether they believe that oral health behavior is also appropriate or whether they believe a "disconnect" exists between knowledge and behavior. Eighty-four percent of ECP hygienists disagreed with the statement that all of the public water systems in Kansas that should be fluoridated already are. A small percentage (16 percent) believed that the current level of fluoridation was adequate, but none of the respondents had a neutral position.

Table 4. ECP Dental Hygienists Opinions-Education, Insurance and Fluoridation

Statement:	Percent Strongly Agree	Percent Inclined to Agree	Percent Neutral	Percent Inclined to Disagree	Percent Strongly Disagree
Availability of preventive education/awareness of oral health in the population is adequate.	10%	28%	7%	29%	26%
The rate of people with dental insurance is about right.	4%	16%	2%	25%	53%
The extent of coverage for most dental insurance policies is about right.	5%	19%	8%	31%	37%
All of the public water systems in Kansas that should be fluoridated already are.	7%	9%	0	29%	55%

Respondent Opinions – Oral Health Policy

A list of potential oral health policy issues were provided to ECP dental hygienist respondents. For each item on the list, they were asked whether they believed that in the next five years in Kansas this issue would be (1) very important, (2) somewhat important, (3) neither important nor unimportant, (4) slightly unimportant, or (5) not important at all (See Table 5). Most ECP dental hygienists concurred in their opinions on many of the oral health policy issues named. In regard to access to dental services and availability of dental insurance, there was almost complete accord that both issues would be important in Kansas. Ninety-five percent said that the availability of skilled staff would be an important oral health policy issue over the next five years. Approximately ninety percent said that dental office costs, undersupply of dentists, and water fluoridation would be important issues. Seventy-four percent said that the oversupply of dentists would *not* be an important oral health policy issue.

Eight-four percent said that creating a new category for a mid-level dental provider would be an important policy issue within five years, however the survey question did not specifically define "mid-level" provider. Those ECPs who said they would support the development of a new mid-level dental provider were then asked if they would be interested in becoming one if the law were changed. Eight-three percent affirmed an interest in pursuing qualifications to become a mid-level provider for Kansans.

Table 5. Percent of Respondent ECPs Opinions About Important Issues in the Next Five Years

The following will be important in the next 5 years:	Very Important	Somewhat Important	Neutral	Slightly Unimportant	Not Important at All
Access to dental services	85%	15%	0	0	0
Access and availability of dental insurance	74%	24%	0	0	2%
Government regulation of dentistry	36%	26%	14%	16%	8%
Availability of skilled staff	74%	21%	4%	2%	0
Dental office costs	59%	29%	9%	4%	0
Amalgam issues	13%	32%	18%	14%	23%
Oversupply of dentists	5%	9%	11%	18%	56%
Undersupply of dentists	71%	20%	2%	2%	5%
Water fluoridation	68%	22%	7%	2%	2%
Creating a new category of mid-level provider	50%	34%	5%	7%	4%

Finally, ECP hygienists were invited to suggest additional issues that were not on the list of oral health policy issues presented to them. The most frequently cited additional issue was access to oral health services. This issue was indeed on the list – 100 percent of respondents said it would be an important issue. The fact that it was volunteered yet again underscores the important of this issue to ECP dental hygienists. The second most frequently cited additional issue concerned the employment of scaling assistants (supragingival scalers, sometimes referred to as "untrained staff") in dental practices. No specific questions about scaling assistants were asked on the survey of ECP dental hygienists. It is not possible from the voluntary responses of a handful of ECP hygienists to judge the depth of their concern about scaling assistants or the reasons for their concern. A question concerning scaling assistants was asked in the dentist survey, and one in five dentists in Kansas (20 percent) reported that they employ scaling assistants.

Dentist Survey Introduction

A thorough assessment of the reservoir of skilled professionals currently available to the state is an important beginning step in oral health workforce planning. The assessment considers both the size and distribution of the current workforce. Workforce planning is anticipatory decision-making that attempts to manage the size of the reservoir and assure that resources are distributed as evenly and rationally as possible across the population and geography of the state. Like any reservoir, this one is filled by a pipeline at one end which introduces new resources (e.g., dentists), and a spillway at the opposite end that releases resources from the reservoir in a predictable way (e.g., retirement and/or closing of practice sites). The size of the oral health workforce may be managed by strategies and policies that attempt to optimize the entry of new dental graduates into service for the state, based on estimates of the expanding need and knowledge of approaching resource losses due to retirement or other forms of withdrawal from the dental workforce. To estimate accurately how many dentists will be required to satisfy the needs and demands of the public in the future, it is necessary to learn first the number of dentists currently practicing in the state, the locations of their practices, the distribution of their ages and practice characteristics, and their plans for withdrawing from practice. To increase our knowledge of the current dental workforce in Kansas as an aid to oral workforce planning, the Center for Community Health Improvement at the University of Kansas Medical Center conducted a survey of primary care and pediatric dentists on behalf of the Bureau of Oral Health, Kansas Department of Health and Environment.

Methodology

Dental Boards in various states conduct dental workforce surveys at the time of license renewal. Even when completion of these surveys is “mandatory,” the response rates, from our review of states using this approach, is often less than the proportion of the workforce necessary to make reliable generalizations of the entire population. This occurs because the dentists who do not return their surveys are likely not randomly distributed and may be substantially different from the ones that do. For example, a sizeable portion of the non-responses may be dentists who are no longer practicing or dentists who are about to quit practicing. Failure to complete and return surveys skew the findings in ways that are difficult to adjust for statistically, and this can result in erroneous or incomplete information for planning. To overcome this problem, we decided to conduct a telephone survey of a stratified random sample of primary care and pediatric dentists with currently active Kansas dental

licenses and who practice in private and non-safety net settings (N=1,110). (Kansas licensed dentists who provide clinical services in safety net clinics were surveyed separately and are reported on in a subsequent section of this report; Kansas licensed dentists who live out of state where not included).

The sample frame was stratified based on the population density of the county of record for each dentist's practice site. We made the choice to use a stratified random sample because we believed that a targeted telephone survey that was supported by letters of endorsement by the Bureau of Oral Health and the Kansas Dental Association and a surveying design that featured persistent calls to the point of refusal to participate by the dentist would improve the response rate. Because the sample was selected randomly within each population density group, the responses can be extrapolated statistically to represent the population of primary care and pediatric dentists. To assure that the sample size was adequate within and across strata, we conducted power analyses to establish the minimum number of completed surveys needed to assure reliable results at a confidence level of 95 percent.

Kansas is a relatively large state geographically. More than two-thirds of its population lives in the eastern one-third of the state. While it is rural by any definition of the term, the western two-third of the state is composed of counties and communities of different sizes. Because the distribution of dentists across the state is related, at least in part, to population density, our stratification method was designed to assure adequate representation throughout the urban-rural continuum. We decided on four population density-based groupings, from most to least dense: urban, large rural, small rural, and frontier. The following population density cut points were used to group the strata: urban dentists included those practicing in counties with greater than 150 people per square mile; large rural county dentists include those practicing in counties with populations between 40 and 149 people per square mile; small rural dentists include those practicing in counties with populations between 6 and 39 people per square mile and frontier dentists include those practicing in counties that have populations with less than 6 people per square mile. Our use of "small rural" encompasses the "rural" and "densely-settled rural" categories used by the Kansas Department of Health and Environment. The power analysis was based upon this sampling frame. See Table 6 for information about the distribution of the sample.

Table 6. Distribution of Sample Across Population Density Strata				
Population Density Strata	**Distribution of All Primary Care and Pediatric Dentists[1]**	**Sample Required for 95% Confidence**	**Completed Surveys**	**Response Rate[3]**
Frontier	21	21[2]	12	57.1%
Small Rural	210	80	114	80.9%
Large Rural	171	70	78	82.1%
Urban	708	250	271	75.5%
TOTAL	1,110	421	475	77.7%

[1] Does not include safety-net dentists; see subsequent section of the report concerning the survey of safety-net dentists
[2] Because of the relatively small number of frontier dentists, a census sample was used
[3] Response rate = completed surveys / (completed surveys + refusals + ineligible dentist (e.g., specialists))

We knew that it would be difficult to make contact with dentists because of their busy clinic schedules. To assure that we had enough completed surveys from which to draw reliable conclusions, we adopted multiple strategies. First, we oversampled each of the strata except frontier. The frontier stratum had so few dentists that we attempted to survey the entire population. The purpose of drawing more sample than was statistically required was based on the need to have an adequate replacement sample if, after seven attempts to schedule and conduct the survey, we judged that we could not reach the dentist. (The oversampling strategy resulted in collecting 13 percent (n=54) more completed surveys than the number identified in the power analysis.) Second, we divided the sample into 10 groups and began calling dental practices in each group sequentially, separated by intervals of approximately one week. We timed a letter to the dentists to arrive two to three days before the first survey calls would be made to a practice. The letter was co-signed by the Director of the Bureau of Oral Health and the Executive Director of the Kansas Dental Association. The letter discussed the survey and the need for data to be used in workforce planning. Approximately one week following the receipt of the first letter, a second letter was sent to the practice. This letter discussed the problem of surveyors getting through the reception desks of many practices. The letter asked the dentist for his or her support in informing front office staff of the survey and either, putting the call through, or scheduling an appointment (at any time that was convenient for the dentist (including evenings and weekends)) to complete the survey. Leaving a one week interval between each "wave" of sample permitted effective use of the survey staff and encouraged them to follow-up consistently with each dentist's office or dentist to attempt to conduct and complete the survey.

In addition to the stratified random sample of dentists described above, we also conducted a survey of all safety-net dentists within the state using the same survey instrument we used for the statewide, population density-based sample. Based on knowledge of the workforce from previous studies, we

knew that many dentists do not accept Medicaid or (State) Children's Health Insurance Plan patients and do not routinely provide services to patients who do not have insurance. By contrast, safety net clinics are designed to target these populations. Given the statewide focus of the Bureau of Oral Health's workforce planning initiative and the role of safety net clinics in the provision of dental services, we decided it was important for planning to obtain comparable information about safety-net dentists.

At the time the survey was conducted, there were 38 dentists practicing in safety-net clinics across the state. Thirty-one safety net dentists completed the survey for a response rate of 81.6 percent.[3] Although every safety net dentists we spoke to agreed to participate in the survey, we were unable to make contact with seven of the safety net dentists. Survey responses from this subgroup of dentists will also be included in the Results of this section of the report.

Survey Design

The survey developed for this project included questions about sociodemographic characteristics of the dentists and descriptions of their practices, as well as questions about their plans for retirement and their opinions on oral health access and a variety of other oral health issues. Questions were pre-tested by two dentists who were ineligible for the survey because of their practice location or licensure status, and modifications were made based on their feedback to increase clarity or to expand potential answer choices not anticipated by the research team. In addition, the Director of the Bureau of Oral Health and the Executive Director of the Kansas Dental Association reviewed the dentist survey to ensure that questions were unbiased and that they covered relevant areas of dental practice that would inform workforce planning efforts.

The final survey was provided to the University of Kansas Department of Political Science's Survey Research Center, Institute for Policy and Social Research, and transcribed into computer-assisted telephone interview (CATI) software. After testing to ensure skip patterns and open-ended questions functioned as required, the Survey Research Center was provided first with the ECP dental hygienists and frontier dentist samples, and then sequentially with the other 9 groups of the stratified dentist sample. This allowed the Center to work each sub-sample effectively, particularly enabling survey staff to be responsive to the scheduling needs of the respondents. For example, in some cases the dentist asked to be called back within 10-15 minutes because of a break in their patient schedule; others asked

[3] Response rate: (31 [complete] + 0 [refusals] / (40 – 0 [disconnected] – 0 [wrong number] – 2 [ineligible] = 31/38 = 81.6%

to be called back on their cellular phones after business hours on a particular day. In each case, the Survey Research Center staff worked to accommodate the specific needs and requests of each potential respondent. Only after seven attempts to contact and/or schedule time to conduct the interview was the selected respondent dropped and replaced with a new stratum-specific respondent. The advantage of the CATI software is that it tracks attempted calls, dropped calls, wrong numbers and other information relevant to each sampled individual/office, so an efficient process was maintained that reduced the number of times dental offices were contacted and dentists were disturbed.

The duration for fielding the survey to all dentists – frontier, population density-based and safety net – was approximately three months (January through early April 2009). Survey data collected was provided to the Center for Community Health Improvement research team after data checking and cleaning.

Data Analysis

To begin, all of the dentists who participated in the survey were analyzed as an entire population of respondents. Second, respondents were grouped by two major categorical variables: by the population density group they represented and by age of the dentist. Population density groups represent a critical component of the survey's approach and design. Rather than assume that dental access and workforce initiatives can be modified on a county by county basis, the cohorts of like-sized population groupings of dentists was conducted to reveal whether there exist quantifiable differences in training, experience, and opinions about dental access among these providers practicing in these areas. The researchers reasoned that if individuals who choose to practice in frontier or small rural settings share a set of characteristics and practice-based features, then understanding what those are would be valuable to developing recruitment and/or retention programs to meet their population's oral health care needs. Similarly, if urban dentists tend to share certain opinions, life experiences and training, then identifying what those features are can also serve to improve workforce planning effectiveness for those areas of the state.

Age was a variable of interest as it might provide a proxy measure for dental school exposure to issues of public and population oral health (e.g., younger dentists may be more sensitive to population issues given greater exposure in dental school curriculum than older dentists) and possibly willingness to participate in public insurance programs. Where relevant, age related differences will be highlighted in the Results section.

Because the sample was stratified, samples from each group were made as if each was independent of all other groups yielding different sampling weights (p weights). For descriptive inference, all of the data were weighted to correctly represent the population of Kansas dentists. No corrections were applied to control variances. Data analysis and weighting was accomplished using SAS® statistical software and the SURVEYMEANS procedure.

Results

Demographics of Respondent Dentists

Table 7 provides the average age of the respondent dentists by population density group as well as by the distribution of age within each stratum. While the average age of dentists responding to the survey was 50 years, there is a substantial age gradient as population density decreases; older dentists tend to practice in more rural areas and younger dentists tend to practice in urban and safety net settings. Almost three percent of dentists in the sample are 71 years or older; slightly more than one quarter of the workforce is 40 years old or younger.

Table 7. Age Distribution of Respondent Dentists

			Distribution by Age				
Dentist Group	Average Age	Std Dev	Percent 40 yr and younger	Percent 41-50 yr	Percent 51-60 yr	Percent 61-70 yr	71 yr and older
Frontier	57.7	1.0	0	4.0	58.0	38.0	0
Small Rural	53.7	4.8	15.1	18.8	39.4	22.9	3.9
Large Rural	52.3	5.5	18.9	21.4	36.9	18.7	4.0
Urban	50.6	9.1	24.8	20.7	34.7	17.6	2.3
Safety-Net	43.5	14.1	54.8	12.9	16.1	12.9	3.2
Total Sample	50.0	8.33	27.4	19.4	32.7	17.8	2.7

Male dentists outnumber female dentists 3 to 1; only 24 percent of the workforce is female. Female dentist are most likely to practice in safety net settings (52% of safety net dentists are female) and are least likely to practice in frontier settings (0.5 percent of frontier dentists are female).

The percent of dentists who self-identify their ethnicity as “Hispanic or Latino/Latina” is 2.5; the overwhelming majority of dentists (97.5 percent) are non-Hispanic. Seventy-four percent of those dentists who are Hispanic practice in urban communities and 19.7 percent practice in the safety net; the

balance (5.9 percent) practice in large rural settings and none practice in frontier or small rural communities.

Table 8 presents the distribution of respondent dentists by self-identified racial categories. The majority of dentists are White (91.2 percent). The highest level of racial diversity is reported among safety net dentists.

Table 8. Self-Identified Race Distribution of Respondent Dentists

	Race				
Dentist Group	**White**	**Black / African American**	**Asian / Pacific Islander**	**American Indian / Alaska Native**	**Other**
Frontier	70.0%	0	0	30.0%	0
Small Rural	96.3%	0	1.0%	1.0%	1.9%
Large Rural	97.0%	1.0%	1.0%	0	1.0%
Urban	92.7%	1.6%	2.9%	0.4%	2.4%
Safety-Net	77.4%	9.7%	6.4%	0	6.4%
Total Sample	91.2%	2.5%	3.1%	0.4%	2.8%

Information about linguistic skills among the respondent dentists was collected on the survey. A critical area of competency required for effective care is the ability to share information, and sometimes language can be a barrier between a medical provider and patient. Thirty-two percent of the respondents shared that they could converse with patients in a language other than English. Among these foreign language speakers, it is important to note that the most commonly spoken language reported was Spanish (72.4 percent), and dentists who can speak Spanish are equally represented in all population density as well as safety net settings. Other languages reported include German, Chinese, Korean, Hindi, French and Italian.

A set of related questions was asked about where the dentists who participated in the survey grew up, where they graduated high school, where they went to dental school and how soon they began to practice dentistry. Based on other workforce studies among dentists, as well as other studies about medical providers, where a provider grows up is a predictor of whether they return to a comparable environment when they begin to practice. Table 9 provides information about the life course of dentists who responded to the survey.

Table 9. Education and Early Professional Experiences Among Respondent Dentists

Dentist Group	Percent Graduated from a Kansas High School	Percent Graduated from UMKC School of Dentistry	Percent Started Practice Upon DDS Graduation
Frontier	16.0	34.3	66.0
Small Rural	70.7	71.1	72.4
Large Rural	71.7	65.3	72.2
Urban	59.4	71.3	57.3
Safety-Net	45.2	56.7	100.0
Total Sample	64.0	68.8	63.5

Among the 36 percent of dentists who graduated high school somewhere other than Kansas, the states of Missouri (33.8 percent), Nebraska (5.2 percent), Oklahoma (3.9 percent), Iowa (3.5 percent), and California (3.5 percent) were cited most frequently. Ten percent of the workforce reported graduating high school in a foreign country.

Most of the responding dentists report graduating from the University of Missouri School of Dentistry (68.8 percent). Among other schools mentioned, Creighton University (17.5 percent) and University of Nebraska (9.2 percent) were most common, followed by more than 30 other schools of dentistry.

The majority of dentists responded that they began to practice dentistry in Kansas immediately after graduation (63.5 percent). Among those who postponed starting a practice in Kansas, some entered a residency program (18.8 percent) while others began to practice in another state (17.7 percent). If the dentist entered residency, most entered a general practice residency (43.1 percent); 13.2 percent entered an Advanced Education in General Dentistry (AEGD) program, 5.3 percent entered a specialty residency, and 38.4 percent entered a military residency.

Because we surveyed dentists about where they grew up, we examined whether their early life experience was related to where they currently practice dentistry. We examined current practice location and their county of high school graduation by the same population density codes, and tested whether there was directional movement from rural upbringing to urban practice setting or vice versa. There is a strong relationship between county population density of high school graduation and population density of dental practice location ($p<.0001$). This finding is interpreted to mean that dentists prefer to practice in settings similar to the one where they grew up, but not necessarily in the *same* county – they most often practice in the same population density group of counties. When we

examined movement from one population density stratum to another, we found that 70 percent of dentists raised in rural communities eventually practice in more population dense areas (but most often non-urban areas) whereas only 25 percent of dentists who graduated from urban high schools eventually practice in rural settings.

Dental Office, Staffing, and Insurance Participation Characteristics of Respondent Dentists

An important component of the workforce study is to learn more about the nature of dentists' practices across the state. Understanding how they operate, their staffing structure and other operational issues along with the work hours and conditions under which private practice and safety net dentists care for patients increases understanding of the various constraints or opportunities that might exist to expand access where needed.

Ninety percent of dentists reported that they work in only one practice location in a typical work week. Safety net and public health dentists can practice at more than one site, but the majority of them (77 percent) also report practicing at a single location.

Private practice is the most common business model reported among dentists; 95.5 percent practice in a private practice setting, and 65.1 percent are solo practices. If a dentist works in a group practice, they most commonly work with only one other dentist (38 percent); 26.1 percent work with two other dentists and 10.5 percent work with three other dentists. Only 6.6 percent practice with four or more other dentists.

Seventeen percent of dentists reported that they are currently recruiting an additional dentist to their practice. Among these dentists, almost half (48.5 percent) reported that recruiting has been "very difficult" or "somewhat difficult."

A variety of factors affect dentist's productivity in a practice. Improved technology, increased dentist hours and expanded scope and numbers of auxiliary dental professionals employed are among the ways productivity can be increased. This survey project did not attempt to quantify productivity or identify ways to enhance productivity, but it did seek to identify the distribution of auxiliary staff (dental hygienists and scaling assistants) across the state's dental practices.

Table 10 presents the distribution and average number of dental auxiliary professionals among responding dentists' practices. The majority of dentists (82.2 percent) employ dental hygienists. Among

those seeking to hire a dental hygienist (9.4 percent), 53.4 percent reported that it has been "very difficult" or "somewhat difficult."

Table 10. Distribution of Dental Hygienists and Scaling Assistants Among Respondent Dentists

Dentist Group	Percent Who Employ Dental Hygienist	Percent Who Employ One Dental Hygienist	Percent Who Employ 2-4 Dental Hygienists	Percent Currently Recruiting Dental Hygienist	Percent Who Employ Scaling Assistant
Frontier	92.0	63.0	37.0	4.0	12.0
Small Rural	78.0	38.2	59.2	12.2	27.9
Large Rural	84.0	17.7	66.7	17.6	23.5
Urban	80.1	26.4	58.4	7.6	17.5
Safety-Net	93.6	40.0	46.7	12.9	19.4
Total Sample	82.2	28.9	56.9	9.4	19.0

Among dentists who responded that they do not employ a dental hygienist, the survey asked what reasons the dentist had for not utilizing one. The most commonly provided answer (36.0 percent) was that the dentist "preferred to provide dental hygiene services myself," sometimes sharing that it gave them more contact time with their patient. Other common reasons provided included "my patient load is too low" (to warrant the cost) (20.6 percent), "the cost of employing hygienists is too high" (12.8 percent) and "I have not been able to find one" (3.4 percent).

Given the relatively new category of Extended Care Permit dental hygienist, the survey asked respondents whether they were aware of this category of professional and whether they employed or sponsored an ECP. Awareness was highest among safety net and small rural dentists and lowest among frontier dentists (see Table 11).

Table 11. Extended Care Permit Dental Hygienists Issues Responding Dentists

Dentist Group	Percent Who Are Aware of ECP Dental Hygienist	Percent Who Employ an ECP Dental Hygienist*	Percent Who Sponsor an ECP Dental Hygienist*
Frontier	28.0	4.2	4.2
Small Rural	63.7	8.0	5.6
Large Rural	40.4	21.3	13.1
Urban	50.0	6.4	5.8
Safety-Net	93.3	62.1	55.2
Total Sample	56.4	18.4	15.9

* non-exclusive categories; dentist could count the same hygienist as "employed" and "sponsored."

Many oral health stakeholders, policymakers and advocates have concerns about whether dentists participate in public health insurance programs. Their concern centers on the availability of dental care to low income populations for whom public health insurance has not always guaranteed access to providers. Information concerning participation in various insurance was collected and is presented in Table 12.

Table 12. Reported Participation in Commercial and Public Insurance

Dentist Group	Percent Who Participate in a Commercial Insurance Plan	Percent Who Participate in Medicaid
Frontier	100.0	58.0
Small Rural	90.1	50.5
Large Rural	89.7	27.5
Urban	86.7	22.2
Safety-Net	0	71.0
Total Sample	85.1	25.8

The survey also asked whether dentist provided free services for patients who could not afford their care. Frontier dentists reported the highest level of providing care at no cost (96 percent); 92.1 percent of small rural dentists, 81.2 percent of large rural dentists and 83.3 percent of urban dentists reported that they provide free care.

Respondent dentists were asked whether their practice was for sale. Results for this question along with the duration of time the practice has been for sale is presented in Table 13.

Table 13. Percent of Respondent Dentists Reporting Their Practice For Sale and Duration

Dentist Group	Percent Who Have a Practice For Sale	Percent Reporting Practice Has Been for Sale for 12 Months or More
Frontier	0	-
Small Rural	4.2	75.6
Large Rural	11.5	88.7
Urban	3.0	66.6
Total Sample	3.8	69.7

Patient-Level Characteristics of Respondent Dentists

Dentists were surveyed about how long it takes them to see various types of patients: a new patient, established patient, and an emergency patient. Tables 14-16 present those results. Bolded numbers identify the most common response category to the question by population density and safety net groups.

Table 14. Percent of Respondent Dentists Reporting Wait Time to See a *New* Patient

Dentist Group	0-1 day	2-7 days	8-14 days	15+ days
Frontier	**51.7**	6.9	13.8	27.6
Small Rural	8.7	**39.7**	21.0	30.6
Large Rural	14.2	**66.4**	13.0	6.4
Urban	12.5	**52.8**	17.8	16.9
Safety Net	4.0	16.0	32.0	**48.0**
Total Sample	12.5	46.8	19.5	21.2

Table 15. Percent of Respondent Dentists Reporting Wait Time to See an *Established* Patient

Dentist Group	0-1 day	2-7 days	8-14 days	15+ days
Frontier	**58.6**	20.7	13.8	6.9
Small Rural	17.9	**49.2**	13.1	19.8
Large Rural	24.0	**50.5**	15.5	10.0
Urban	24.0	**49.3**	15.5	11.2
Safety Net	0	33.3	25.9	**40.8**
Total Sample	39.3	28.2	16.7	15.8

Table 16. Percent of Respondent Dentists Reporting Wait Time to See an *Emergency* Patient

Dentist Group	0-1 day	2-7 days	8-14 days	15+ days
Frontier	**87.1**	12.9	0	0
Small Rural	**90.2**	8.6	1.1	0.1
Large Rural	**96.6**	3.4	0	0
Urban	**92.5**	4.4	0.9	2.2
Safety Net	**80.0**	16.7	3.3	0
Total Sample	**90.7**	7.2	1.2	0.9

The consistent pattern across all patient types is that frontier dentists report the shortest wait times, (except for emergency patients), and safety net dentists report the longest wait times. Small rural, large rural and urban setting dentists all report comparable wait times for all categories of patients. Although

reported in the table, the finding of dentists reporting a 15 day or greater wait for an emergency patient is considered ambiguous. First, very few dentists reported a wait this long for an emergency patient, and the result presented may be an artifact introduced during data collection (e.g., miscoding of response) or the question may have been misunderstood.

Work Hours and Retirement Plans for Respondent Dentists

A critical element of describing the current dentist workforce is to understand how many hours they work in a typical week and what percent of the workforce is part-time. Table 17 presents the results of hours worked, part vs. full time employment and primary reasons for working less than full time.

Table 17. Percent of Respondent Dentists Reporting Hours Worked in a Typical Week

Dentist Group	More than 40 hours	40-32 hours	31-20 hours	Fewer than 20 hours
Frontier	38.0	24.0	38.0	0
Small Rural	26.7	58.0	11.3	4.0
Large Rural	30.5	52.7	14.8	2.0
Urban	28.5	58.1	10.9	2.6
Safety Net	32.2	45.2	12.9	9.7
Total Sample	29.0	55.5	11.5	4.0

Among those reporting that they work fewer than 32-40 hours per week, each was asked to share why they work "part time". The most frequently cited reason was "I desire only part-time work" (60.1 percent). Other answers included "I am semi-retired" (21.1 percent), "There is a lack of demand for services in my practice" (3.1 percent) and "I desire full-time work but cannot find a position (1.7 percent).

Very few dentists reported that they plan to retire this year (2009; 2.0 percent). The survey asked when they do retire, how they were planning to handle their practice, and their answers were revealing. Most plan to take on an associate (66.3 percent), advertise and sell their practice (52.9 percent) or refer their patients and close (2.1 percent) (these were not mutually exclusive choices, so respondents could list as many options as they were planning to use when answering the question). In addition, a prompt question asked the respondent dentists to share any additional plans they have made for their practice, and 15.6 percent used the open-ended question to share that their daughter or son is a dentist or a dental student, and they plan for them take over their practice when they are ready to retire. Thirty-one percent of dentists surveyed have "never thought it" (i.e., the disposition of their practices).

Retirement plans and when the respondent dentist intends to stop practicing clinical dentistry are reported in Table 18. As would be expected, there is a relationship between the average age of the respondent dentist and planning for retirement. This pattern also is observed relative to the population density and safety net grouping variable used throughout this report; as was discussed in the demographics section, older dentists tend to practice in less densely populated communities so as a consequence, the rural dentists in more sparsely populated areas are likely to have a more active retirement plan in place. The pattern observed in Table 18 suggests that particular areas and communities will experience workforce issues sooner than others (e.g., in the next 3-5 years, over half of dentist practicing in frontier areas of the state plan to retire (54.3 percent) and almost 20 percent will retire in the next 3-5 years in large rural communities).

Table 18. Percent of Respondent Dentists Reporting Timeframe for Retirement by Population Group

Dentist Group	1-2 years	3-5 years	6-10 years	11 + years	No Current Plans for Retirement	Average Age (yr)
Frontier	0	54.3	5.7	17.1	22.9	57.7
Small Rural	2.0	10.2	21.2	30.3	36.6	53.7
Large Rural	5.2	14.2	14.5	20.0	46.1	52.3
Urban	1.2	9.7	17.2	26.4	45.5	50.6
Safety Net	9.7	16.1	3.2	12.9	50.1	43.5
Total Sample	2.1	11.0	15.3	24.3	46.7	50.0

Retirement plans are also presented by age group. No retirement planning or planning over a longer time frame would be expected among younger dentists, and that finding is presented in Table 19. Of interest is to note that over 60 percent of the oldest age group, a group that in many other professions would be expected to have already retired, still plans on working for the next 3-10 years. In addition, almost three in 10 of these older dentists have no current retirement plans.

Table 19. Percent of Respondent Dentists Reporting Timeframe for Retirement by Age

Dentist Group	1-2 years	3-5 years	6-10 years	11 + years	No Current Plans for Retirement
40 yr and younger	4.5	3.2	0	18.5	73.8
41-50 yr	0	0	8.8	32.8	58.4
51-60 yr	2.4	5.9	27.8	34.3	29.6
61-70 yr	3.0	40.2	22.5	8.6	25.7
71 yr and older	5.6	40.8	20.8	3.1	29.6

Many dentists surveyed intend to keep their dental license active after they are no longer practicing (32.3 percent). More of them reported being likely to keep their dental license if there was no required continuing education (75.9 percent).

The final question in this section of the survey asked dentists why they choose to practice dentistry in Kansas. By an overwhelming majority, dentists say that being a Kansan and having family ties in the state is the most important reason why they practice here (70.7 percent). Other factors cited that influence their decision to practice in Kansas include the lifestyle, low cost of living and economy (15.0 percent), the opportunity to practice dentistry (9.6 percent) and their military service (3.4 percent).

Opinions of Responding Dentists

A series of questions was asked of the respondents concerning dentistry, access to care, and dental insurance and water fluoridation. Each was asked on a five point Likert scale, and dentists were asked to agree or disagree with each statement. Statements and results for the total group of respondent dentists is provided in Table 20.

Table 20. Respondent Dentists' Opinions About Access

Statement: Access to dental services for ___ is adequate	Percent Strongly Agree	Percent Inclined to Agree	Percent Neutral	Percent Inclined to Disagree	Percent Strongly Disagree
low-income and working poor	10.3	27.1	14.1	28.0	20.6
children	26.3	38.6	9.6	18.5	7.0
seniors	24.3	40.9	12.2	14.4	8.1
immigrants	13.7	31.4	25.4	18.5	11.0
people with special needs	9.4	34.0	19.6	27.9	9.1
people in sparsely populated areas	6.4	13.6	26.3	33.2	20.4

Respondent dentists' opinions about a number of additional issues are presented in Table 21. Opinions did not vary substantially by population density or safety net setting nor by age, so the pooled sample of all dentists is presented here.

Table 21. Respondent Dentists' Opinions

Statement	Percent Strongly Agree	Percent Inclined to Agree	Percent Neutral	Percent Inclined to Disagree	Percent Strongly Disagree
Prevention education in the population is adequate.	18.9	38.4	11.5	21.0	10.3
The rate of dental insurance is about right.	8.5	34.0	20.2	24.4	13.0
The extent of coverage for most dental insurance policies is about right.	4.4	14.0	10.6	31.6	39.4
All of the public water systems in Kansas that should be fluoridated already are.	7.4	15.2	17.9	24.6	34.8

A series of statements about issues relevant to dentistry, dental practice and oral health were posed to the respondents, and each was asked to share whether they believe the issue will be important in the next five years. Results are presented in Table 22.

Table 22. Percent of Respondent Dentists' Opinions About Important Issues in the Next Five Years

The following will be important in the next 5 years:	Very Important	Somewhat Important	Neutral	Slightly Unimportant	Not Important at All
Access to dental services	59.0	31.8	4.6	2.4	2.2
Access and availability of dental insurance	40.0	40.0	11.6	4.4	3.9
Government regulation of dentistry	17.2	22.9	14.8	15.8	29.2
Availability of skilled staff	48.0	32.3	9.2	7.5	3.0
Dental office costs	47.5	36.0	10.5	4.2	1.8
Amalgam issues	9.1	24.9	22.1	18.5	25.4
Oversupply of dentists	5.4	15.0	15.7	23.6	40.1
Undersupply of dentists	33.0	31.9	15.2	18.9	9.0
Water fluoridation	45.1	29.7	13.0	7.6	4.7
Creating a new category of mid-level provider	11.7	15.1	20.4	14.4	38.4

A final open-ended question asked whether there were other issues that would be of importance over the next five years, and 29.5 percent of respondents chose to identify or discuss an issue. Most comments reflect categories of concerns or an issue already included in the opinion question set.

Respondent dentists chose to elaborate on issues that they felt were important to stress, and the research team categorized their concerns in Table 23.

Table 23. Volunteered Issues Considered Important In the Next Five Years

The following will be important in the next 5 years:	Percent of Respondents Citing Issue
Impact on care caused by dental insurance interference	16.2
Access and availability of dental insurance	15.3
Government regulation of dentistry	15.2
The cost of dental education	6.8
Access to dental services	6.4
Special population needs (e.g., elderly)	6.0
Distribution of dentist across the state	4.8

Background and Methodology

Coincident with the fielding period of the Kansas Dentist Workforce survey project, a Kansas Mission of Mercy (KMOM) event had been planned for Manhattan, Kansas on February 20-21, 2009. KMOM events provide free dental care, and dentists volunteer their time to treat individuals who cannot afford services or who cannot access care.

In an effort to increase response rate and to take advantage of being able to directly interview KMOM participating dentists, the research team sought and was granted permission to conduct the dentist survey at the event. Dentists who had signed up to volunteer were matched against the stratified, random sample drawn for each of the population density groups used for analysis. If the dentist was already in the sample pool, the survey conducted at KMOM substituted for the one that they would have taken by phone. These completed surveys were coordinated and entered into the common, CATI database used by the KU Research Center. One of the enticements to having the dentist agree to complete the survey during the KMOM event is that we guaranteed that their offices would not be contacted further by the survey team concerning the study. Perhaps more importantly, administering the survey in person permitted the collection of valuable qualitative data. Preceding or following the administration of the survey, one of the KU Center for Community Health Improvement researchers (Kimminau) discussed the purpose of the survey study and encouraged the dentist to share their concerns or ideas about the dentistry, oral health and workforce issues. The researcher stayed in the operatory area of KMOM during both days of the event making it as easy as possible to ask dentists to participate in the survey and to respond to their questions. Frequently, following the completion of the interview, individual dentists would take a break from their clinical work and come over to discuss some aspect of oral health or dentistry covered by the survey. Among the 125 primary care and pediatric dentists who volunteered, 58 surveys were completed.

Results – Quantitative Data

A critical value of this subset of surveys was to assess whether dentists who volunteer at Kansas Mission of Mercy events resemble all other dentists or whether they are a unique cohort of charity-care inclined individuals. The KMOM respondents were compared to the complete profile of participating dentists, and on all demographic parameters, they differ slightly, but not statistically significantly (tested using Wilks's Lambda) from other dentists.

Seventy percent of the KMOM dentists attended University of Missouri School of Dentistry, half of them having received their DDS before 1987. They are slightly younger than the total population samples (47.5 years), but otherwise match the total sample on race, ethnicity, language, practice type (e.g., solo; 56.4 percent compared to 61.0 percent). Dental auxiliary staff, hours worked per week, and retirement planning also was comparable to the results already provided in this report.

Results – Qualitative Data

Most dentists were willing to share their personal perspectives and concerns about dentistry and oral health in general during the KMOM. They care about their profession, about how the public views their role and about serving their patients' oral health care needs. Some of them stated that they regret that the public is not more aware of the importance of oral health. They feel that many people ignore their teeth until they are in pain when there are few options for treatment, and their experience at KMOM was used as an example of this health literacy issue.

When dentists were prompted about concerns they have that they thought would be important to consider during the development of a comprehensive workforce plan, many of them said that they perceive it to be much more difficult to get admitted to dental school today than it was when many of them were students. Some mentioned that they thought there is an uneven playing field due to reverse discrimination, giving certain candidates a better chance for admission than others. This observation was generally supported by sharing that their son or daughter was struggling to get into a dental program and feeling that other students had an unfair advantage. They worry that the limited number of graduates and the length of time needed to complete a DDS will have substantial impact on the future of the dentist workforce. They reinforced during these conversations that they feel strongly that a new mid-level professional is entirely unnecessary and that a focus on producing more dentists to serve the state's needs should be central to the plan.

When it comes to how dentistry currently is practiced, few dentists are dissatisfied. Overhead and operating costs were of concern, and dentists voiced the opinion that their profit margins were shrinking and that it is getting more difficult to keep their clinics running. The dentists frequently cited concerns with dental insurance as a major barrier to them being able to practice dentistry as they would choose. The public health insurance program, Medicaid, was most often the source of complaint, and a few providers shared that they have accepted Medicaid in the past, but have chosen not to do so anymore. Their reasons include required paperwork, reimbursement rates and general dissatisfaction

reported to them by their office manager or billing service with the program. When a follow-up question was asked concerning where Medicaid patients should go for care, no clear consensus answer was given. Many dentists shared that they feel between the safety net clinics and their willingness to provide charity care (in addition to the admonition that if patients took better care of their teeth there would be an absolute decrease in oral disease needing clinical services), there are adequate access points for low income/Medicaid patients.

One of the most striking observations among many dentists made during KMOM was how clearly dentists focus on the "patient in the chair". They admitted that their perspectives are colored by their own daily experience in providing dental care, and that their assumptions and characterizations of the broader issues of the public's health were quite likely skewed because of their chair-side views. Dentists on the whole reported being so busy seeing patients and dealing with running a smoothly operating practice, that the broader issues of workforce adequacy, understanding the opportunities presented by an Extended Care Permit dental hygiene license, or national policy changes that could affect reimbursement rates for procedures are just not frequently considered. One patient at a time, one procedure at a time and providing the best quality dental care for that patient is the all-consuming focus for these professionals. In fact, they bring that same focus to each patient's mouth and oral conditions during their KMOM service, and it was deeply appreciated by every patient they saw.

On one hand, dentists mildly complained that they are not more highly regarded and more important players in discussions about health care service delivery and reform but on the other hand, they admitted that they rarely have time to do more than they currently do. The day-to-day requirements of running their practices leave little room to participate more actively, but they willingly offered to continue to offer ideas, participate in surveys as well as other efforts like KMOMs to improve oral health in Kansas.

Survey Limitations

As is the case in all surveys, there are limitations to this study that should be enumerated. The survey was administered by Survey Research Center staff that was unfamiliar with oral health and dental professionals, so it is possible that they misunderstood or misinterpreted information provided by the respondent dentists. The survey itself was modeled after comparable workforce surveys done in other states, but because uniquely Kansas questions were included and additional questions of interest were developed, the survey's validity (whether the survey is measuring what it says it is measuring) and reliability (is the survey measuring things consistent) can be questioned. Pre-testing was accomplished, but only a few dental professionals reviewed the questions prior to fielding the surveys. Individuals identified through their licensure status but not reachable for the survey present a unique group of providers for whom information concerning their departure from the workforce would have been very informative. The research team had only one source of information concerning each dentist's contact and address, so if any of that had changed, the individual dentist would have had to be dropped from our sample. Attempts were made to locate each dentist drawn in the samples, but these efforts may not have been sufficient, and that would have introduced a bias – dentists who no longer practice at their last known address due to retirement, selling their practice or leaving the field of dentistry are not represented in the survey's final sample. Some bias may have been introduced by mixing methods of administration of the survey. Collecting survey data face-to-face at the Kansas Mission of Mercy Manhattan event may have biased certain answers provided by the dentists. Putting this project's findings into context is limited by not having state level benchmarks. While the survey sample used for this study is powered to characterize all dentists in the state, no comparable study has been conducted, and baseline information about the population of interest was unavailable prior to this work. This project provides such a baseline, but it does not allow the current work to be put into a longitudinal or comparative context. The proportion of female dentists in Kansas is relatively small, and the survey was not designed to provide gender based comparison. Finally, Cronbach's alpha statistic to determine reliability of multi-item scales were not run on the pilot sample of survey responses, so modifications to the opinion questions prior to administration did not occur. (However, Cronbach's alpha score run on the final sample were all sufficiently high (.72-.85) to indicate that the participants were responding consistently to the survey items.)

Planning to meet the health needs of a population as diverse as the one found in the state of Kansas is not an easy task. Dispersed over 32,000 square miles, communities across Kansas are highly networked to deliver health care services to their residents. ECP dental hygienists practice in more than half of the counties in Kansas, and they represent a group of skilled, experienced professionals willing and interested in serving the needs of underserved populations. Dentists are essential players in that network, and depending on where an individual dentist practices, that interconnectedness plays out in different ways. Residents in rural communities tend to depend on one another. Dentist in less populated rural areas work more hours per week, have less time to plan retirement and are relatively more willing to serve Medicaid patients and to provide free care. Urban dentists may not own their practices as often as their rural counterparts, and they tend to be a bit younger and more diverse ethnically. Dentists and dental hygienists who responded to this survey share an overarching focus on their patients' care.

Workforces planning for the state's oral health care needs to take into account the following findings:

Finding 1: Demographically, ECP dental hygienists and primary care dentists do not resemble the population of Kansas racially or ethnically. In addition, women are underrepresented in the profession of dentistry, and men are underrepresented in the profession of dental hygiene.

Impact: National research indicates that racial and ethnic minority patients tend to receive better interpersonal care, display greater understanding and keep follow-up appointments when they are served by a medical or dental practitioner of their own race or ethnicity.[4,5] Strategies implemented now to better match the racial and ethnic profiles of the oral health workforce in Kansas with their patients will take many years to have an impact. As a result, providing more culturally appropriate care might be among the workforce options chosen for addressing these disparities during the interim.

Finding 2: Safety net dentists differ from their colleagues in that they are younger, more likely to be women, and as a group is interested in providing care to underserved populations. KMOM dentists do not differ significantly from their colleagues.

Impact: Understanding the motivations of dentists that serve in the safety net and volunteer at KMOM events may provide insight into levels of awareness of oral health care service needs of the poor and

[4] U.S. Department of Health and Human Services (2006, October). *The Rationale for Diversity in the Health Professions: A Review of the Evidence.*

[5] Mofidi, M, Konrad, TR, Porterfield, DS, Niska, R, Wells, B. *Provision of Care to the Underserved Populations by National Health Service Corps Alumni Dentists.* 2002. J Pub Health Dent 62(2):102-108.

uninsured. A limitation of the survey is that it did not ask dentists specifically why they choose to practice dentistry where they do at present. If a goal of the Kansas workforce planning effort is to attract and retain dentists who are interested and willing to serve in the safety net or provide care for the uninsured, further assessment in these two groups is needed.

Finding 3: ECP dental hygienists represent an experienced group of dental health professionals, and two-thirds of them acquired their permit because they wanted to help underserved populations.
Impact: ECPs are committed to the practice of dental hygiene and are strong advocates for the expanded use of their profession to serve specific population health needs.

Finding 4: While ECPs serve in 53 counties, the current demand for ECP dental hygienists requires only part-time application of their extended care permit.
Impact: While there may be unmet population needs for ECP I and ECP II dental hygienists, very few of these individuals actively use their ECPs for more than one day per week. This raises the obvious question of what constrains their ability to practice in ECP settings more frequently. Perhaps the finding that only half of the Kansas dentists surveyed knew about the Extended Care Permit for dental hygienists affects this issue.

Finding 5: Perceptions of access barriers and access issues vary between ECP dental hygienists and primary care dentists.
Impact: Dentists tend to have a chair-side view of their profession, and they may need assistance through various information channels to understand and focus on the more global issues affecting oral health in Kansas. Engagement in broader issues concerning dentistry for them tends to focus on insurance, regulation, and business costs. This is not to suggest that they are unaware of the larger environment in which they practice; it is to suggest that their day-to-day lives are consumed with a focus on meeting their patients' needs, running their business, and providing their clinical services to their communities. ECP dental hygienists have a wider lens through which to assess access issues because of their mobility and the populations they serve, and they shared higher levels of concern about adequacy of oral health care services for certain groups.

Finding 6: Statewide, one in four dentists (25.8 percent) accepts Medicaid insurance.
Impact: The opportunity to access care for many Medicaid-covered Kansans may be limited because three-fourths of all primary care and pediatric dentists do not accept public insurance coverage. The distribution of dentists who report accepting Medicaid follows the rural-urban continuum noted for other variables of interest in this study (age, retirement). All frontier dentists report accepting private insurance and 58.0 percent accept Medicaid; 13.3 percent of urban dentists report not accepting any

kind of private insurance and only 22.2 percent accept Medicaid. This difference likely contributes to access to care barriers in certain parts of the state.

Finding 7: Dentists in general do not report planning their retirement as many professionals do in other fields.

Impact: Dentists apparently choose to "slow down" (as they put it during interviews) by reducing the number of hours they work per week over time. It remains unclear what the triggering event(s) is that initiates their decision to decrease their clinical hours. Dentists shared anecdotally that their desire to spend more time with their families is a major factor, but their commitment to long-standing patients keeps them in active, clinical practice perhaps longer than they might like.

Finding 8: Dentists who have a practice for sale are not finding buyers. Dentists who plan to sell their practice assume they will be able to find an associate, but for those seeking dentists to join them in certain areas of the state, it has been very difficult to recruit.

Impact: Dentists who are planning to retire make assumptions about how they will exit the workforce and handle their practice. Many assume that they will be able to recruit an associate who could initially or eventually buy their practice, but recruiting dentists to certain areas of the state may be more difficult than to others. Almost 70 percent of practices for sale are on the market for 12 months or more. The largest number of practices for sale from this survey is among large rural dentists, and they report the longest times on the market (88.7 percent have been for sale 12 months or longer). Dentists at KMOM said that they would be happy to sell their practices for "the right price", but shared that, unless one of their children became a dentist, they might not be able to retire and still keep their clinic serving their community's needs.

Finding 9: Some areas of Kansas may face a shortage of dentists significantly sooner than others; this is the case for frontier and small rural communities in the next 3-5 years.

Impact: There is an age gradation from younger dentists to older dentists that matches the urban-rural continuum. Frontier dentists and small rural community dentists are older on average, and of approximately the same age (very little age variation among these dentists was noted (see Table 7)). As they report planning to retire within the same short timeframe (1-5 years), many options exist for young and newly graduated dentists to take over their practices, but strategies for filling those vacancies have yet to be developed. The survey and qualitative data collected from the dentists revealed that dentists are significantly more likely to locate their practices in communities that are similar to the ones in which they grew up. This has direct bearing on the development of pipeline programs and admissions policies intended to attract certain candidates into the profession of dentistry.

Finding 10: There is little agreement in the surveyed populations about the need for a new mid-level provider. Even though a definition of a "mid-level provider" was not offered to respondents, 84 percent of ECPs surveyed agreed that the development of one will be an important issue in the next five years in Kansas, and 83 percent of them would seek to become a mid-level provider. By contrast, only 26.8 percent of respondent dentists agreed with the same statement, and over half (52.8 percent) think the issue of a new mid-level provider is "slightly unimportant" or "not important at all."

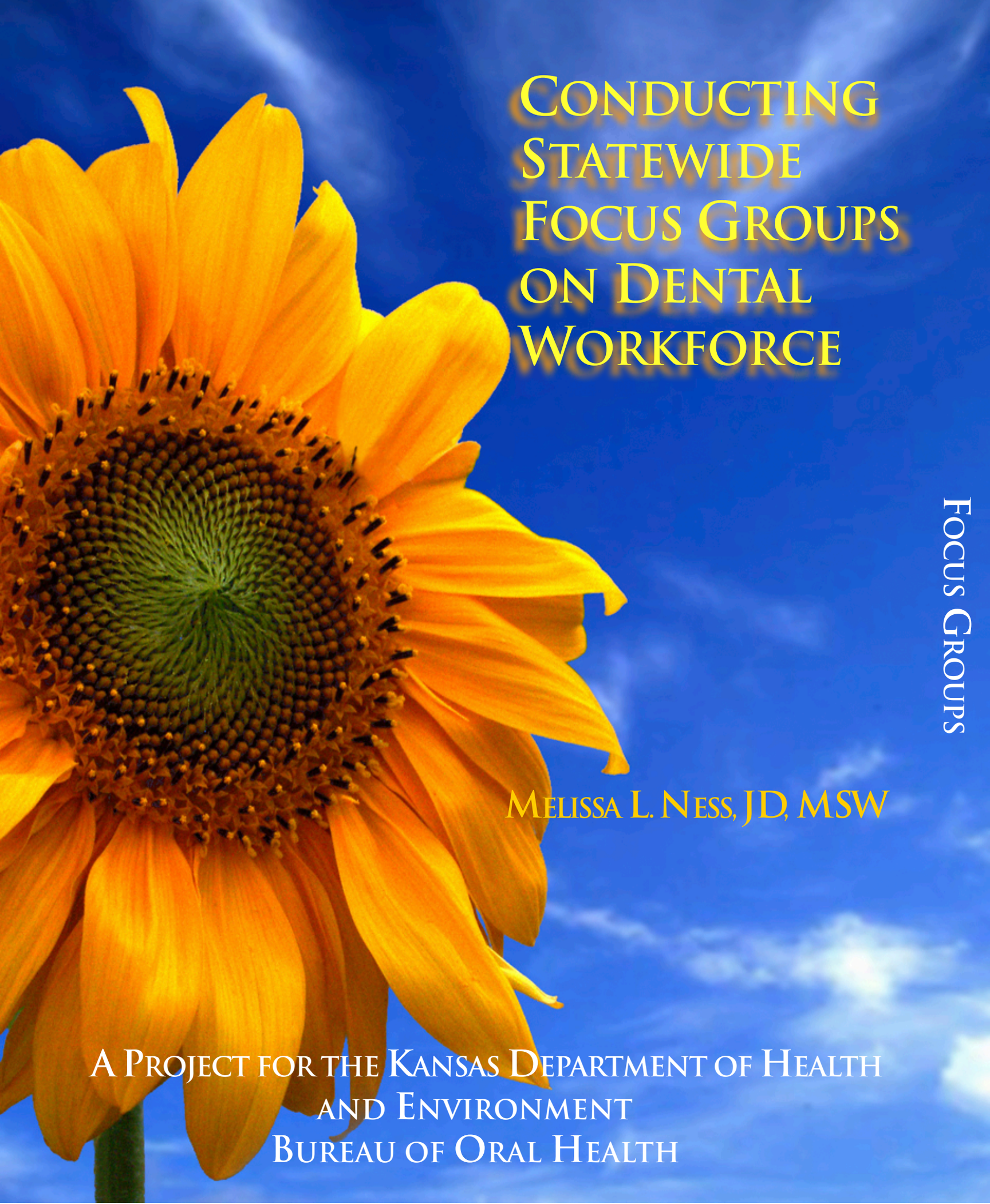
Impact: There are opposing views held by ECP dental hygienists and primary care dentists on the issue of a new mid-level professional. It is possible that each group surveyed has a different set of assumptions about what skills and qualifications should be or would be required for this new provider type. It also is likely that the perceptions each surveyed group has regarding the need for a new provider is influenced by the way(s) in which they practice dental hygiene or dentistry (see Finding #5). Whether they perceive a need for such a category of provided given the patients they see and the communities they routinely serve may influence their enthusiasm or interest if they feel that they currently meet the demand for their services adequately.

Recommendations

The value of this project is a direct result of the cooperation and information provided by a large sample of ECP dental hygienists and primary care dentists. Response rates and completeness of the survey have provided a very strong basis upon which to develop relevant workforce-related strategies for Kansas. Ongoing dialogue and collaboration among the various stakeholders will add substantially to the quality of workforce planning that will sustain the needs for oral health for the state.

General recommendations based on these surveys include the following:

1. Stakeholder organizations (Kansas Bureau of Oral Health, Kansas Dental Association, Kansas Dental Hygienists' Association, Kansas Dental Board, Oral Health Kansas) should work together to institute a routine, easy-to-administer workforce survey that all oral health care providers could complete at a time most convenient to them (e.g., when they apply for re-licensure or when they attend annual meetings). The data collected would permit ongoing monitoring of the workforce that would be beneficial to both short- and long-term planning. Including all dental hygienists and all dental specialties was beyond the scope of funds available for this project, but doing so going forward would provide a well-rounded picture of the oral health workforce in Kansas.
2. Matching the demand for oral health care services to the supply of practitioners is an essential activity for workforce planning. This survey project provides one important element in that equation – a better understand of the current supply – but demand remains unquantified.
3. The development of a nonaligned, stakeholder-endorsed forum that would serve as a common platform for dental professionals to seek and share information about the oral health of Kansans would be beneficial. This might also serve as a vehicle to bridge differences among the various oral health professional groups allowing them to better plan for meeting the oral health care needs of the state.



Conducting Statewide Focus Groups on Dental Workforce

Focus Groups

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A Project for the Kansas Department of Health and Environment
Bureau of Oral Health

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connections unlimited, inc.

I. Introduction and Project Overview

Purpose and context for the project: why focus groups?

The primary purpose of this focus group project was to gather feedback and input from local communities about their direct experience with access to oral health care and compare that to the data about the current oral health care system in Kansas. The information provides critical guidance for the Bureau of Oral Health's efforts to develop a state plan to strengthen and build the capacity of the oral health workforce. Along with the quantitative data from the research conducted, these focus groups provided a useful socially oriented research process and the method to gather qualitative data from those individuals who were willing to share their candid observations.

Acknowledging the importance and value of the "community voice" the focus groups were an efficient method for gathering information versus an individual interview approach. The format allowed the facilitator the flexibility to guide the groups as well as explore unanticipated issues in an efficient manner.

Expected outcomes

Information that will help the office design and develop plans, particularly related to oral health workforce that reflects the community perspective and voice was the primary expectation from conducting these groups. Using the same geographic focus (frontier, rural, small urban, and large urban) that the data research used gave us the opportunity to align community perception and experience with what the data indicated. In addition, it was our aim that the feedback would provide direction on helping us identify critical issues across the system that would allow the Bureau of Oral Health to set priorities based not only on data but community need. Important by-products of this effort include the networking among community stakeholders many of whom did not know each other or the challenges they faced prior to these sessions, and a better understanding by participants of the role of the Bureau of Oral Health in Kansas. Finally, these sessions built a community presence and connection that will assist the Bureau of Oral Health in implementing and promoting community based strategies related to workforce needs.

II. Process

Description of the approach and development of the groups

Participants in these groups were carefully selected to participate in a tightly crafted discussion to obtain individuals' perceptions about access to dental care. Essentially we used a qualitative research approach that allowed data collection and produced valuable feedback. It is important to note here that often the success of a focus group lies in preparing the group. In addition to sending an introductory letter followed by a detailed agenda, many participants also received phone calls prior to the session. The agenda indicated they would be guided through a discussion based on questions that addressed strengths and gaps in the oral health care system, challenges and barriers, what resources are needed and what role did they think the state needs to play in ensuring an adequate workforce.

Sites

As indicated four focus groups and one stakeholder feedback session were held in frontier, rural, small urban and large urban areas of the state. Specifically, Dodge City and Hays, Kansas provided representation of frontier and rural areas of the state and Wichita and Lawrence, Kansas were held to solicit feedback about a more urban population in Kansas. A final group session of stakeholders was held in Topeka, Kansas for the purpose of presenting preliminary findings from the data as well as hearing collective feedback from all groups. Attending this meeting were key leaders in advancing, funding and advocating improved oral health in the state.

How participants were chosen and prepared for the session

Recruitment of participants was focused on providers serving populations where access to dental health care is part of their work or mission, practitioners, community activists, health care professionals and schools. Starting with a network of individuals known by the Bureau of Oral Health, we developed a diverse group of participants for each site. Given the nature of the effort, the group needed to be small enough to give everyone an opportunity to express their opinion but large enough to ensure the diversity of that opinion. Typically, focus groups studies of this character have a minimum of three focus groups with anywhere from 6- 15 participants. We conducted four groups with an additional stakeholder feedback group that reacted to the information gathered from the focus groups. Each group had approximately 10 -12 participants.

When contacted, we let participants know that they had been identified as someone who could provide insight about this issue in their community because of the direct service they provide, or the particular environment they were in such as a safety net clinic, local public health office or school. In addition, we also invited those individuals whom we believed could play an important role in the development of strategies and community support for addressing the workforce issue. They were also given an opportunity to suggest other participants from whom we could receive valuable input. This proved to be a useful strategy in ensuring balance of perspective in the groups.

Agenda and Discussion Process

Each participant, along with a letter of invitation outlining the time, purpose, site, and directions received a copy of the agenda in advance. They were encouraged to review it and think about how they would answer the questions outlined. The same agenda was used for each focus group. All participants were asked for their candor and assured that what we were looking for was their perspective and interpretations about access to dental health care in their community or region. They would not be required to justify or verify the feedback they provided. In addition, we emphasized these sessions would not address solution building in a concentrated manner and instead their information would be helpful to the Bureau of Oral Health in designing and developing their approach aimed at strengthening the dental work force and access to dental services in Kansas.

AGENDA

1. **Introduction and Overview** – Participants were told why they had been invited, what would happen to the information, the process we would be going through and a few ground rules for participation. As part of these facilitated session, videotaping was conducted to not only record the sessions but to use later in a variety of ways that would inform the Bureau of Oral Health and/or key stakeholders in the state. This process was also explained to participants who each signed a consent and release form granting permission to be videotaped. They were also given the option of not having their comments videoed by holding up a piece of paper which signaled to the videographer to stop recording. Only a few people at various sites used this option.
2. **Project Overview –** Dr. Katherine Weno the Director of the Bureau of Oral Health provide a brief overview to the participants about the vision and purpose of this project. She emphasized that having community input was essential in balancing data the choices the office would use in determining their approach to this issue.
3. **Data and Findings**- Dr. Kim Kimminau Associate Professor and Director of Community Health Research effectively set the context for the day's discussion by sharing the results of the research conducted with oral health providers.
4. **Greg Hill, Videographer, Kansas Dental Charitable Foundation** explained the purpose and process related to the videotaping of the sessions.
5. **Questions and Discussion-** Although some modification was made in order or additional questions asked to clarify responses from the group, the facilitator used the following framework of questions to guide all sessions.
    a) Why did you agree to participate in this session? What unique perspective do you bring to the group?
    b) In the presentation you heard about the data what surprised you the most? What validated what you already knew?
    c) What are your community's primary strengths and resources?
    d) What do you see as your community's most glaring gaps or weaknesses?
    e) How is this community doing in terms of addressing the dental or oral health needs of people?
    f) What would an ideal oral health care system include?
    g) What role do you think the state should play in ensuring access to quality oral health care? Your community's role?

h) What would you top three priorities be for ensuring quality, accessible and available oral health care?
i) Does your community have an adequate supply of oral health professionals? What makes you think that?

Collecting Feedback

At each session the facilitator noted every participant's comments on a flip chart and verified the observation as needed. Information was then organized by question in chart form allowing review of the key themes including:

- Barriers or Gaps
- Challenges to Addressing the Gaps
- Community Strengths or Drivers
- The Role the State Can Play and Strategies.

In addition to the information and feedback gathered we looked at:

- What was known and then confirmed or challenged by the focus group data?
- What was suspected and then confirmed or challenged?
- What was new information?

As is always important to remember in conducting focus groups, there are limitations on the information and conclusions. Because individuals rely on personal observations and experience, their perception of reality can be very individual. Still this is valuable information in understanding how to engage people in services by understanding and creating strategies that address those perspectives.

III. What We Found – Observations, Conclusions and Implications

Main Findings

Generally speaking there were common themes identified among all the focus group sites even though each site had its own unique blend of practitioners, providers, and community activists. The most distinct difference in perception was related primarily to the geographic location and associated dynamics of those communities e.g. frontier, rural, small urban, and large urban areas. The dimension of a particular community was always present in the feedback provided during the discussions. By way of example, although transportation as a barrier to care was a common theme the feedback was characteristically different between an urban and rural setting. In an urban setting it was the lack of public transportation and the restrictions on using the reimbursement option through Medicaid because of the need to schedule transportation 48 hours in advance. In a frontier and rural area the transportation issue was primarily related to the distance traveled to see a dental practitioner and the time away from employment. Time away from work was a particular concern because of the current economic and employment climate. Specifically, several participants indicated that time away from work could jeopardize an individual's ability to keep his or her job. People are less likely to take that risk in the current climate to make sure that can go to a dental appointment. Although there were similar topics and themes highlighted at each focus group site, the information is summarized in a manner that reflects the emphasis placed on a particular theme by a specific group. In other words, one group may have placed greater or lesser emphasis on the same issue than another group even though the topic was the same.

Dodge City, Kansas

Dodge City set the stage for the consecutive sessions. As the first session group, they were instrumental in validating that we had chosen the right approach, convened the right people and were asking relevant questions. The level of engagement of the group was high and they were eager to share their perspective based on their position, their organization, the people they served and their personal experience. Participants included an RN, Head Start personnel, Tiny K a disabilities program for infants and toddlers, providers of independent living services to people with disabilities, staff from the Women's Infants and Children's Program and Maternal and Infant care based at the health department, and personnel from the office of rural economic development.

Gaps and barriers that were a focal point of this group's discussion and an issue of primary concern was affordability of dental care by low income individuals and families. Preventive care for this same population is not accessible. Clearly a majority of participants were focused on those individuals who experienced major gaps in accessing care leading to another important consensus. The number of dentists who accept Medicaid or provide charity care is very small thus creating a significant barrier to care for a low income population without dental insurance.

It was pointed out however, by several participants that the quality of care in the community is not a problem. It is the shortage of dental providers. There was clear consensus around the high praise given

to the dentists in this community. Their level of engagement, compassion and commitment to their client population was recognized as a valuable asset in the community.

One participant pointed out that aggravating the problem of having no consistent dental provider for older individuals is the fact that often times once they *do* get care it is after years of neglect. By that point health related concerns are more challenging. Another group participant reminded us that there are a growing number of families that fall in the gap between being eligible for services and having no insurance. The trend given the economic conditions of the country right now and in Kansas is that more and more families will fall into this category with preventive care being the first casualty.

Recruitment of dental professionals is a particular challenge and is an economic development issue for many frontier and rural communities. For example, when a community has no dentist people are likely to travel to another community spending dollars there versus their own community. A participant with the Rural Economic Development office targeted the competition between rural and urban communities recruiting dentists. Most dentists have been trained in an urban setting and are used to what the community can offer. In addition new dentists are often more inclined to work in an urban setting because of the higher salary. He also indicated that they have tried to be very creative in their recruitment efforts by showing new dentists how they actually make more money in a rural setting because of a lower cost of living. In addition, what the community has to offer the new professional is often times a critical factor in recruiting and retaining professionals whose education has been in an urban area. What the community has to offer a dentist and often his or her family determines their location. Finally he asked the group if they were a dentist in Dodge would they rather take patients who paid for their service or a Medicaid client where the reimbursement is approximately $.50 on the dollar. No dentists lack for clients.

Hays, Kansas

The second stop was in a northwest frontier and rural community and a community that is home to one of the state's Regents institution, Fort Hays State. An ECP or Extended Care Permit Registered Dental Hygienist, a new designation for dental hygienists working in public health settings was among the participants, along with a safety net clinic director, a staff person from the Kansas Commission on Rural Economic Development, a hospital administrator, a special education director, a member of a local Smart Start Collaborative focused on early learning, and a staff to the Healthy Start home visitor program.

The primary focus that launched this group's discussion was the difficulty in finding dentists willing to locate in their communities and in particular those who specialize in providing services to children. Adding another layer, they see the lack of dentists will to accept the medical card, limited Medicaid coverage for low income adults very little charity care available as serious roadblocks to care for people who are uninsured or underinsured. One participant pointed out "We have the building, the equipment and the salary but can't get a dentist."

Because of the programs focused on educating the ECP hygienists, there is greater optimism that there are additional and critical resources being developed. However, participants believe there is

considerable need for educating current hygienists and dentists about the how to move into those positions and why it can make such a difference. Some participants felt there was reluctance by current hygienists to move beyond their current status. As fair as recruiting new dentists, some participants felt that as the dental schools incorporate more of a "business model" approach in order to assist and introduce new dentists to the world of dentistry there is more and more emphasis placed on the bottom financial line versus the profession of dentistry itself.

When asked who the drivers were in their community around ensuring and adequate dental work force, participants felt that is something by and large that local dentist do an in no formalized way. In this community, there is no real or identified coalition or business group that assumes responsibility in the arena. There are coalitions and groups who work on access issues and work collaborative to find solutions to access but there is no clear standard for investment in ensuring dental access.

Wichita, Kansas

As the large urban site for our focus groups, the sheer volume of need for dental services and the strain on the dental and health systems because of it set the tone for this discussion. Participants included staff from the early childhood system and Head Start, the local Oral Health Coalition that brings community players together, the safety net clinic and system, the education system, dentists in private practice, community outreach centers, the state fiscal agent's office and child welfare.

Given the number of people needing services, the priority seen for most participants is emergent care. Although prevention, services to an older population, and the need for pediatric dentistry were acknowledged emergent care and the concern that health professionals are overwhelmed set up a critically fragile scenario. The loss of current professionals would foster the already brewing crisis that participants believe is there. Not unlike other focus group sites, recruiting and retaining dental professionals is an important priority. The group cited similar barriers to bringing new professionals into the mix such as school debt.

They also pointed out that it is crucial that the regulatory framework under which dentists work, the Kansas Dental Practice Act is reviewed to ensure there are no unnecessary barriers. This is based on the premise that not unlike other professionals, the regulatory system should be designed to create the balance between protection of the public and not creating barriers for the work professionals are asked and required to perform. The group urged us to take a step back and look at distribution of dental professional resources, location of services, productivity of the system and critical training.

Administration of the Medicaid system relative to provider rates and billing practices has improved but there are still barriers that need to be addressed through training, better coordination, increased provider rates or better use of technology.

Lawrence, Kansas

Another university town was the site for our last community focus group. Known for its comparatively collaborative approach and availability of community services, the city of Lawrence presented a

different picture relative to access. Primarily, due to the effective coordination through the local health department and safety net clinic for dental services. Participants from a more southwest location in the state emphasized how critical collaboration and has been in expanding awareness and access in their communities. Attending this session was a school superintendent, local health clinic provider, staff from the southeast county collaborative that is using a dental hub approach, a disabilities center, state official from the Department of Health and Environment and an after school program.

Unequivocally, the main issue was "access to care". However, in their descriptions they painted a different picture than other focus groups. Specifically, the superintendent from southeast Kansas indicated that over 50% of the youth in their school are eligible for free and reduced lunch. He has developed a partnership with the dental community so they come to the school for screenings and now will also be applying varnishes. He attributes his level of awareness to the fact that at one time he was part of the Oral Health Kansas Dental Champions program. Additionally, the dental hub concept implemented in part through the Community Health Center of Southeast Kansas has provided a significant amount of care to a highly impoverished population proportionally. The clinic hires dentists rather than the dentists setting up their own practice so the issue of recruitment does not loom as large as other areas of the state. Mostly due to the fact that newly graduated dental students do not have to incur costs for setting up a practice in addition to education debt. Through this approach the clinic has minimized one of the key barriers noted in other communities.

One participant confirmed that Kansas has a significant number of underserved individuals and many counties that fit the definition of being a professional shortage area. He also acknowledged the critical role the legislature has played in gradually increasing support for safety net clinics many of whom provided dental care. A provider not taking Medicaid still is a real issue according to this participant.

Another indicator of the value and importance of collaboration was evident in the important role foundation funding has played in this area of the state. An after school program that facilitated important relationships among providers, schools and the business community has seen the payoff of this investment. Without the funding for this type of collaborative the number of children accessing care would be much lower according to one participant's observation.

Topeka Stakeholders Meeting

Rounding out the focus group dimension of this project was a meeting of oral health stakeholders. This group was primarily comprised of those individuals who have committed time, energy, and resources to advance oral health issues in Kansas and who have been funders, health officials, educators and activists. Our goal was to get their reaction and hear their comments on what we found in the field and to the preliminary data from the research portion of this initiative.

Several people said they were not surprised by the perceptions and observations from the focus group members but nonetheless had a sense of validation that their efforts were still needed and in many instances had made a difference. Local coalitions, after school programs, dental hub projects, expanding graduate education programs in dentistry were all things spearheaded and supported by the participants of this group.

The data presented perhaps was the most surprising to the group, particularly around the average age of dentists and hygienists. One participant was "horrified" to hear some of the focus groups observations and stories related to the difficulty in accessing care. Several members commented on how valuable this project will be in planning, programming and advocacy efforts.

Conclusion

There is always so much more information gathered through these efforts than can fairly and comprehensively be reported. That is inherent in the qualitative nature of a project like this. However, the community focus groups have brought an impressive perspective about the communities, their challenges, how they work together and their resilience. Once again the group's observations, expertise and willingness to participate bode well for the next steps in developing a state plan to address dental workforce needs in Kansas.

Community Focus Group Attendees

Dodge City
May 4th
Dodge City Community College – Ford County Room

CruzElia Corpus -Arellano	UMMAM
Marc Woofter	Head Start Coordinator
Gene Pflughoft	Grant County Economic Development
Troy Horton	Centers for Independent Living
Diane Lix	SW Kansas AAA
Julie McClain	Smart Start
Scott Kedrowsky	Russell Child Development Center
Cheryl Baldwin	Kansas Children's Service League
Leticia Arredondo	Seward County Health Department
Tiny Ortiz	Seward County Health Department

Hays
May 5th
Fort Hays University – Sternberg Museum

Chris Sramek	Atwood Economic Development
Les Lacy	Cheyenne County Hospital
Doug Stefek	Ellsworth County Medical Center
Sue Rouse	United Way, Hays
Dana Stanton	Smart Start
Kathy Kersenbrock-Ostmeyer	Special Ed Oakley
James Foster	Office of Rural Opportunity Representative
Kevin Robertson	Kansas Dental Association
Dana Schultz	First Care Clinic, Hays
Katie Schroeder	Salina Family Health Care Clinic
Alicia Bordier	Heart of Kansas Family Health Center

Wichita
May 11th
KUMC – Flint Hills Room

Linda Saleh	Wichita Oral Health Coalition
Sally Tesluk	Prairie Star Health Center
Anita Nance	Wichita AAA
Ruth Williams	EDS
Susie Schwartz	Hunter Health Clinic
Joyce Tibbals	KU Rural Health Education Services
Dr. Moncy Mathew	UMKC School of Dentistry
Dr. Paul Mitsch	Augusta Family Dentistry
Dr. Robert Colt	Augusta Family Dentistry
Kathy Hunt	Kansas Cavity Free Kids
Sarah Rolunson	Wichita Children's Home

Lawrence
May 20th
Lawrence Public Library

Jason Wesco	Community Health Center of Southeast Kansas
Julie Branstrom	Douglas County Dental Clinic
Robert Stiles	Kansas Department of Health and Environment
Angela Henry	USD 257
Brian Smith	Superintendent, Galena Schools
Phyliss Hess	Cottonwood Industries