

Oral Health in North Dakota

Executive Summary

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The Center for Health Workforce Studies is a not-for-profit research organization whose mission is to provide timely, accurate data and conduct policy-relevant research about the health workforce. The Center's work assists health, professional, and education organizations; policy makers and planners; and other stakeholders to understand issues related to the supply, demand, distribution, and use of health workers.

Preface

In the spring and summer of 2012, the Center for Health Workforce Studies at the School of Public Health, University at Albany, with support from the Otto Bremer Foundation and the Pew Center on the States Children's' Dental Campaign performed an environmental scan and contextual assessment of the oral health of North Dakota's residents. The research involved a literature review, analysis of available secondary data, and interviews with 48 stakeholders in oral health. This report is a summary of the literature review and data analysis which were part of the study process. A separate report describes the results of the personal telephone interviews which were conducted between April and July, 2012.

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Summary

In the spring and summer of 2012, the Center for Health Workforce Studies at the School of Public Health, University at Albany with support from the Otto Bremer Foundation and the Pew Center on the States Children's Dental Campaign performed an environmental scan and contextual assessment of the oral health of North Dakota's residents. The research involved a literature review, analysis of available secondary data, and interviews with 48 stakeholders in oral health. This report is a summary of the literature review and data analysis which were part of the study process. A separate report describes the results of the personal telephone interviews which were conducted between April and July 2012.

North Dakota is a sparsely populated state with large geographic areas classified as rural or frontier based on low population density. The state is mainly agricultural. Parts of the state are being drilled for oil due to large natural gas and oil reserves. The state's people are mainly non-Hispanic White with American Indians constituting the largest minority group.

Approximately 680,000 people reside in the state. The most populous city is Fargo with a population of about 107,000 people. Currently, there are 360 licensed dentists with practice addresses in North Dakota and an additional 24 dentists licensed in North Dakota who are principally practicing in contiguous states. There are 518 licensed dental hygienists (DHs) with practice addresses in North Dakota. There are also DHs licensed in North Dakota who are principally practicing in contiguous states including 74 DHs with primary practice addresses in Minnesota, four with practice addresses in South Dakota, and four with practice addresses in Montana. In addition, 83 DHs maintain a DH license in North Dakota but have no current practice address. This suggests that there is more capacity within the profession than jobs to accommodate the trained and credentialed supply of DHs.

As is common throughout the U.S, the oral health workforce in North Dakota is mainly distributed in the metropolitan areas of the state and in service centers where rural residents travel to purchase commodities and commercial and health services. There are 16 counties in the state with no dentist in practice. There are 31 dental health professional shortage areas (DHPSAs) in North Dakota designated by the federal government as lacking sufficient providers to meet the dental needs of the population. Ten counties are designated as whole county geographic DHPSAs while 17 counties hold partial designations as geographic (three), population (three), facility (nine), or both geographic and facility (two) DHPSAs (HRSA, 2012). The remaining DHPSAs in the state are facility designations which are automatically granted to all federally qualified health centers and other qualifying institutions.

While North Dakota has a per capita income that places it among the top 20 of all states, 9.7% of the population qualifies for North Dakota Medicaid because they live at or below the federal poverty level (FPL) (in the case of very young children or pregnant women, at 133% FPL or below). Only children and their parents who meet the poverty criteria can qualify for Medicaid. There are childless adults living at or below poverty who do not qualify for public insurance programs. An additional 4,000 children are eligible for the state Children's Health Insurance Program because their families live at or below 140% FPL. North Dakota provides a dental

benefit to both children and adults. The adult benefit is relatively comprehensive but is more limited than the benefit available to children on North Dakota Medicaid.

North Dakota is fourth in the nation in the percentage of people (96.4%) in the state on community water supplies who receive fluoridated water (CDC, 2011). However, there are people in the state, particularly in rural areas on private wells, without fluoride supplementation. Fluoridation is an important public health intervention that reduces the risk of developing dental caries over a lifetime and especially in children.

The following statements summarize the findings from the literature review and data analyses which benchmarked North Dakota with other states and the U.S. overall to describe similarities and differences in the oral health status of the population.

For many years, North Dakota stakeholders have been concerned about the oral health of the state's population. There have been some successful initiatives to improve oral health and to increase access to services.

- In 2008, North Dakota was fourth among states in the percent of the population on community water supplies who were receiving fluoridated water (96.4%).
- The dental safety net in North Dakota has grown in recent years. Safety net providers offer important preventive and restorative dental services to patients in their catchment areas. There are three safety net dental clinics sponsored by federally qualified health centers (FQHCs) and two non-profit dental clinics operating in the safety net with no federal subsidies. In addition, there is now a mobile dental van traveling in western North Dakota serving children without a dental home who are in need of dental care.
- In 2010, 72.6% of the population in North Dakota visited either a dentist or a dental clinic in the prior year comparing favorably with national data showing that 70.1% of the U.S. population visited a dentist or a clinic in the year prior to the survey (BRFSS, 2010). North Dakota has increased the percent of the population visiting a dentist or clinic annually by 5.5% since 1999 (BRFSS, 2012).
- North Dakota is one of only a few states in the U.S. that still provides an adult dental benefit for Medicaid insured people.

Despite efforts to improve the availability of oral health care, there are still access barriers. North Dakota stakeholders continue to be challenged by the state's geography and the needs of special population groups to improve access to oral health services.

- North Dakota is one of the most rural states in the nation. Thirty-six of the 53 counties in the state are designated as frontier with less than six persons per square mile (McDonald's Charities, 2011). National population density is 79.6 persons per square mile in the U.S (Rural, 2006).
- The American Indian population is the largest minority population in North Dakota, constituting 5.4% of the state's population. Nationally, American Indians constitute about 0.8% of the U.S. population (U.S. Census Quick Facts, 2012).
- Almost half (48%) of the state's American Indian population is younger than 20 years of age. The median age of the overall North Dakota population is about 38.8 years (U.S. Census, ACS, 2012). The relatively young age of the American Indian population, the cultural expectations about oral health, a lack of oral health literacy among tribal elders,

and the remote locations of the reservations where many American Indians reside constitute special challenges to the delivery of oral health services to this population group. Although people living on the reservations benefit from the presence of the Indian Health Service (IHS) and their dental programs, IHS resources are not sufficient to address the need for oral health services in the population.

- There are remote counties in the state with high numbers of Medicaid eligible children with no dentist to serve their oral health needs. For example, there are 3,000 children enrolled in Medicaid in Rolette County with no dentist in the county to serve them. There are some dental services available to children on the American Indian reservation but generally families must travel to get services. The closest pediatric dentist to Rolette County is in Minot, North Dakota which is about a two-hour drive.
- The elderly, particularly those living in nursing homes in North Dakota, are at risk for not receiving oral health care because of their decreased mobility or declining mental status, a lack of financial resources to pay for care, and the lack of portable dental service programs in the state. The rural areas of the state are disproportionately elderly so geography also complicates access for many older people. There is a successful demonstration project in two nursing homes in Bismarck using portable dental equipment. However, due to limited grant monies allotted for the project, expansion of the initiative to other nursing homes is not likely at this time.
- Low income adults without dental insurance in North Dakota have few options when seeking oral health services. While there are safety net programs that provide preventive and restorative dental services on a sliding fee scale, these programs are not widely available.

While there has been improvement in measures of oral health overall for state residents during the decade, there are difficulties with improving the oral health status of certain population groups in the state.

- While North Dakota has achieved the Healthy People 2010 and 2020 goals for the percentage of third graders with dental sealants on permanent molars (50% goal, 60% of children in North Dakota), the percentage of children in third grade who have ever experienced dental caries (55% in North Dakota) remains higher than the Healthy People objectives (41% for HP 2010 and 49% for HP 2020) (CDC, Healthy People 2020, 2012).
- The needs of minority children are higher than the needs of other children in the state. In an oral health survey of third-grade school children in North Dakota during the 2004 to 2005 school year, minority children were more likely than their non-Hispanic White peers to have decay experience, untreated caries, or urgent dental needs with 5% of minority children demonstrating decay at examination that was significant enough to cause pain or infection (NDDoH, Survey, 2005).
- In 2010, North Dakota ranked in the lowest quartile of states for the percentage of Medicaid eligible children that received any dental service (32.2%). In that year, 25.4% of Medicaid eligible children in the state received a preventive dental service and 13.1% of eligible children received a restorative service (CMS, 2011).
- North Dakota's rate of edentulism in the population was higher in 2010 (18.8%) than the national average (16.9%) and the percent of adults that had any permanent teeth extracted (45.2%) was also higher than the national average (43.6%) (BRFSS, 2010). In states such as North Dakota, where public insurance limits coverage for adult restorative services or

there is no dental benefit for adult beneficiaries, extraction may be selected as the treatment of choice when a tooth is decayed and in need of expensive endodontic treatment and restoration.

- The safety net clinics are mainly located in more populous areas of the state including Fargo, Grand Forks, and Bismarck although there are safety net services in parts of rural northern North Dakota. While some safety net providers treat patients who live quite far from the clinic site, other safety net providers limit their geographic service area due to high demand for dental services and limited capacity. Many areas in the state do not have access to a safety net provider that offers oral health services. In addition, the financial sustainability of the existing network of providers is threatened by low reimbursement rates and the high cost of providing dental care.

There has been an increase in the number of dentists licensed in North Dakota in recent years due in part to concerted efforts to build a pipeline of potential professionals by increasing the awareness of young people about the opportunities in dentistry. There has also been emphasis on recruitment of graduating dentists to the state.

- There are 5.4 dentists per 10,000 population in North Dakota in 2012. However, there is significant variation in the ratio of dentists to population by county in the state. There are 16 counties in the state with no dentist and eight counties with a single dentist. Thirty percent of the licensed dentists in the state are practicing in Cass County.
- In Cass County, there are 1,374 people per dentist which is 7.28 dentists per 10,000 population. In McLean County, there are 8,962 people per dentist which is 1.12 dentists per 10,000 population.

Despite increases in the number of dentists in North Dakota, not all dentists will treat Medicaid insured patients. Many dental providers assert that reimbursement for services to Medicaid does not cover the cost of providing dental services.

- While the North Dakota legislature has approved increases to the Medicaid reimbursement rates for dental care during recent and concurrent legislative sessions, the increases have been incremental. The cost of treating patients on Medicaid is typically higher than the reimbursement for services rendered. For that reason, some dentists in the state choose not see any Medicaid insured patients, some limit the number of new Medicaid patients in their caseload, and others treat only established Medicaid patients.
- In 2009, only 20% of dentists in North Dakota indicated that they were accepting any new Medicaid patient (Dental Fact Sheet, 2009). In contrast, 49% of dentists in North Dakota in 1992 indicated they were accepting any Medicaid patient seeking care (Dental Fact Sheet, 2009). Currently, 20% of dentists in the state provide the majority of dental services for Medicaid eligible patients.

There is a surplus of DHs in the state. For many years DHs in the state were required to work under the direct or indirect supervision of a dentist limiting their ability to provide services in places where dentists were not generally found. A recent legislative change has created new opportunities for DHs in public health settings.

- There are 83 DHs licensed in North Dakota who list no practice address, indicating that they are not working in dental hygiene. There appears to be more DHs in the state than jobs available in the field. Some DHs report working as dental assistants (DAs) while

others report working in non-oral health jobs because of the lack of opportunities in dental hygiene.

- North Dakota has one CODA-accredited DH education program which graduates about 25 students annually, while neighboring Minnesota has 10 CODA-accredited DH programs graduating approximately 212 students annually (ADA, 2012). There is a flow of graduates between states.
- Until 2011, DHs were required to work under the direct or indirect supervision of a dentist. After recent statutory and regulatory change, DHs are now permitted to provide some DH services under general supervision status in compliance with standing orders from a supervising dentist. Currently four DHs employed by the state are working under general supervision in school-based sealant programs with standing orders from a government contracted dentist.

There is a shortage of registered DAs in the state.

- North Dakota has for many years required that a DA be a graduate of a CODA-accredited program or be certified by the Dental Assisting National Board (DANB) as a certified dental assistant (CDA) to be permitted to fully function as a registered dental assistant (RDA) in the state. While there are chairside trained DAs in North Dakota who are called qualified dental assistants (QDAs), their scope of work is more restrictive than the scope allowed for RDAs. Dentists in North Dakota appear to prefer hiring RDAs because of the flexibility in tasks permitted.
- The shortage of DAs is partly attributed to the lack of educational programs in the state. There is a single CODA-accredited DA education program that graduates approximately 15 students annually. Upon graduation, some dental assisting graduates pursue immediate acceptance to the dental hygiene program which is offered on the same college campus. DAs recognize that the earning potential as a DH is greater than that for a DA, which encourages them to pursue further education. As a result, there are fewer new graduates available for employment as DAs.
- Neighboring Minnesota has 13 CODA-accredited DA education programs that graduate a total of about 420 DAs annually. These programs are likely a source of some new DAs in North Dakota (ADA, 2012).
- As previously mentioned, some DHs who are unable to find jobs as DHs are working as DAs in dental practices. This requires either formal or chairside training as the functions of DAs vary considerably from that of DHs. Dually trained DHs, however, provide flexibility in a dental practice since they can function in a number of roles and be responsive to changing demands within a practice.

Discussion

While North Dakota has made strides in increasing access to oral health services over recent years, some populations in the state still have limited access to oral health services. Children, particularly the very young and those who are Medicaid eligible, rural populations, low-income adults, the elderly, and American Indians are populations of specific concern.

North Dakota has made progress in the percent of children receiving a dental service annually yet many children on Medicaid still do not see a dentist or receive a preventive oral health

service annually. Not all dentists in North Dakota participate in Medicaid and only a few dentists are willing to accept any Medicaid patient seeking a dental service. As a result, a small number of dentists in North Dakota see the majority of children on Medicaid. The lack of participation in Medicaid by dentists further limits availability of oral health services even in areas where there may be abundant dental workforce.

There is a limited safety net for oral health services located mainly in the largest cities (Fargo, Bismarck, and Grand Forks) and in a few rural areas. As with many safety net providers throughout the U.S., long-term financial sustainability of community dental clinics and FQHCs is a concern for many of the community organizations operating dental programs. Safety net providers of oral health services are constrained from expanding by their physical infrastructures and their limited financial and human resources. Some safety net providers in North Dakota experience significant demand for the dental services they provide and must limit the catchment area from which patients are drawn because they do not have the capacity to meet need. In the past, it was difficult for not-for-profit clinics that were not FQHCs to offer dental services. North Dakota required that any entity providing dental services have a dentist as a majority owner (51%). Recent legislation exempted not-for-profit dental clinics from this requirement to now permit expansion of community clinics within the safety net.

The safety net in North Dakota is composed of four FQHCS, two not-for-profit dental clinics, and a mobile dental van serving children. There are areas of the state where there is no safety net dental provider within a reasonable driving distance of much of the population. While it is common in the rural and frontier areas of the state to drive great distances for any services, dental services seem particularly scarce even in commercial service centers in the west and south of North Dakota and in some of the northern areas of the state. There are areas in rural North Dakota with high numbers of children insured by Medicaid but no dentist to provide care or no dentist willing to accept Medicaid.

School-based oral health programs in many states have been key to addressing limited access to oral health services for children from low-income families in both urban and rural areas. School-based oral health programs are not as developed in North Dakota as they are in other states. This is likely due to the historical levels of required supervision for DHs. Recent statutory change now permits DHs to practice more autonomously in public health settings.

While DHs may now work under general supervision with the standing orders of a dentist, this type of practice has not been widely adopted. The state government operates the only school-based sealant program in North Dakota with a small number of regionally based DHs traveling to designated schools. The Ronald McDonald's Care Mobile will augment these school-based programs but van services are limited to western North Dakota where current need exceeds the capacity of the dental van to provide services. In addition, the services offered in school-based programs are oral health education and application of dental sealants and fluoride varnish. In other states, DHs working in schools are able to also provide prophylaxis and even temporary restorations for children. As previously noted, there is currently excess capacity in the dental hygiene workforce that might be used to expand school-based services across North Dakota. This expansion would require dentists to provide standing orders to DHs and might also require that DHs be permitted to seek Medicaid reimbursement for services provided in schools.

A recent demonstration project in which portable dental services were provided to residents of two nursing homes in Bismarck by dental providers from Bridging the Dental Gap was quite successful. Although there is emerging demand for such programs, there is limited grant funding to support and sustain dental services for those in institutional care. Such programs could be replicated in other areas of North Dakota using the model employed in Bismarck if funding were available. Again, the excess capacity of DHs in the state could be engaged to provide oral health services for the elderly living in nursing homes.

The oral health of the American Indian population in North Dakota is a particular concern for a number of reasons. The mean age of American Indians is considerably younger than the mean age for the state as a whole. While the population is served by both Tribal Health Services (THS) and IHS, it appears that these programs may be underfunded or under resourced to serve the needs of the growing population on the reservations (Health Action, 2012, Pine Ridge, 2012). In addition, American Indians living off the reservations do not have access to the federal programs managed by IHS. Efforts to bridge cultural differences, educate the population, especially the tribal elders and the young about the importance of oral health, and engage community dentists and other oral health workforce in areas surrounding the reservations might be helpful in addressing some of the unmet need for oral health services on Indian lands and improve the oral health literacy of the population.