

Executive Summary

Recent data indicate marked improvements in the oral health status of the maternal and child health (MCH) population.¹ While strides in untreated tooth decay and provision of dental sealants among children and adolescents are evident, significant disparities in oral health status of children and adolescents from families with low income and children and adolescents from minority groups remain.

To address disparities in oral health in the MCH population, state public health agencies are increasingly identifying opportunities to integrate oral health and MCH programs to reduce the incidence and prevalence of dental caries and periodontal disease, improve birth outcomes, and improve overall health of MCH populations. This issue brief provides examples of ways that state public health agencies are fostering relationships between oral health and MCH programs. It highlights efforts in improved surveillance, prenatal care, early childhood health, access to care, and injury prevention. Examples included in this brief illustrate that state public health agencies are uniquely positioned to improve the oral health status of the MCH population by linking oral health and MCH programs.

This issue brief is the fifth in a series addressing oral health and the role of state public health agencies. It was produced in partnership with the Association of State and Territorial Dental

Directors (ASTDD). The complete series is available at www.astho.org/?template=maternal_child_health.html.

Introduction

Oral health is essential to health and well-being throughout the lifespan and is a marker for overall health status.² Over the past half-century, advances in biomedical, health services, and behavioral research have led to safe and effective means of maintaining oral health that prevents dental caries and periodontal disease. Unfortunately, these improvements in oral health have not been equally shared among the U.S. population, and significant disparities in oral health exist among children from families with low-income and from minority groups. In order to maximize the impact of oral health programs and services, state public health agencies are increasingly working with partners to integrate oral health programs and services into MCH.

Women and children still suffer significant oral health disease. For instance, dental caries, or tooth decay, is the most prevalent chronic disease in children, and children from families with low-income are more likely than other children to have dental caries. According to recent National Health and Nutrition Examination Survey (NHANES) data, 55 percent of children ages two to 11 from families with low-income have tooth decay compared to 31 percent of children from families at or above

¹ Beltran-Aguilar ED, Barker LK, Canto MT, et al. "Surveillance for Dental Caries, Dental Sealants, Tooth Retention, Edentulism and Enamel Fluorosis—United States, 1988–1994 and 1999–2002." *Morbidity and Mortality Weekly Report*. 2005;54(03):1-44. Available at: www.cdc.gov/mmwr/preview/mmwrhtml/ss5403a1.htm#top. Accessed on 10/31/2005.

² US Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. Available at: <http://www.surgeongeneral.gov/library/oralhealth/>. Accessed on 09/06/2005.

200 percent federal poverty level (FPL). Additionally, 33 percent of children from families with low-income had untreated tooth decay compared to 13 percent of those above 200 percent of FPL.³ According to the Surgeon General's Report on Oral Health, dental related illness leads to loss of more than 51 school hours each year.⁴ With regard to women's health, research increasingly reports an important connection between maternal oral health and optimal birth outcomes.

This issue brief provides examples of how state public health agencies are integrating MCH and oral health programs to target women and children at high risk with oral health services. It highlights programs that focus on improving oral health surveillance, promoting optimal birth outcomes and early childhood health, increasing access to care, and reducing injuries and violence.

Funding

States are using a variety of funding streams to support integrated oral health projects, including the Title V MCH Block Grant, Maternal and Child Health Bureau's (MCHB) State Oral Health Collaborative Systems (SOHCS) grants, and the Centers for Disease Control and Prevention's (CDC) State-Based Oral Disease Prevention Program; the U.S. Department of Justice Violence Against Women Act grants; the U.S. Department of Agriculture (USDA); state general funds; national and state foundation funding; and mini-grants from ASTDD.

³ Beltran-Aguilar ED, Barker LK, Canto MT, et al. "Surveillance for Dental Caries, Dental Sealants, Tooth Retention, Edentulism and Enamel Fluorosis—United States, 1988–1994 and 1999–2002." *Morbidity and Mortality Weekly Report*. 2005;54(03):1-44. Available at

www.cdc.gov/mmwr/preview/mmwrhtml/ss5403a1.htm#top. Accessed on 10/31/2005.

⁴ US Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. Available at <http://www.surgeongeneral.gov/library/oralhealth/>. Accessed on 09/06/2005.

Surveillance Programs

Many states are pursuing a variety of data collection efforts through MCH programs to assess the extent of oral disease, access to care, and oral health status of the MCH population. Some oral health surveillance efforts provide baseline and progress data for the Title V program. For example, 27 states have state-negotiated performance measures around oral health. These measures evaluate, among other things, the number of children that have dental

Table 1: State-Negotiated Title V Performance Measures on Oral Health

Measure	States with Measure
Percent of children who receive dental services*	Arizona, Colorado, Florida, Iowa, Kansas, Kentucky, Maine, Massachusetts, Montana, New Hampshire, North Dakota, Utah, Vermont
Prevalence or incidence of caries, decay, or needed dental care in children*	American Samoa, Idaho, Illinois, New Hampshire, Ohio, Texas, Wisconsin
Percentage of dentists or clinics that treat Medicaid or other vulnerable children*	Alabama, Connecticut, Nebraska
Percentage of children or citizens with access to fluoride*	Federated States of Micronesia, Missouri, Oregon
Implement plan to increase access to or utilization of dental services among low income women and children or other special populations.	Alabama, Michigan, Nevada
Percentage of WIC families that use feeding practices to prevent early childhood caries	Vermont
*Specific measures vary by state. State measures are available at https://performance.hrsa.gov/mchb/mchreports/Search/neg/negmenu.asp#SPM .	

caries, how many children receive dental services, and how many dental providers and clinics provide care to special populations (see Table 1). Several states are working with Head Start and Early Head Start to conduct Basic Screening Surveys (BSS). ASTDD funds technical assistance (e.g., training, sampling, data analysis, etc.) to state health agencies conducting BSS through both cooperative agreements with the CDC and HRSA.

States are also using other surveillance mechanisms, such as including questions about oral health care during pregnancy and access in their Pregnancy Risk Assessment Monitoring System (PRAMS) surveys, and using oral health screening opportunities to screen for other health issues, such as obesity. A sampling of oral health surveillance efforts is highlighted below.

Alaska Division of Public Health

Alaska is conducting the BSS on MCH populations. These include surveying preschool children ages 3-5 years in Head Start, kindergarten students, and third grade students. The surveys are designed to 1) establish baselines for the state's *Healthy People 2010* objectives; 2) collect data for the Title V MCH Block Grant dental sealant performance measure; 3) assist with the Title V MCH five-year state needs assessment; 4) establish a state oral health surveillance system; 5) identify oral health issues in subpopulations, such as Alaska Native children and adults; and 6) discuss strategies to increase Medicaid participation in oral health services. For these projects, the state oral health program is partnering with the state Department of Education and Early Development, local school districts, and Tribal dental program staff. School nurses, where available, are assisting.

Data for caries experience, untreated caries, and dental sealants are analyzed by race/ethnicity, and health insurance status and compared to national levels. Some of the results from the survey of third grade students show that there is racial/ethnic variation in caries experience and untreated caries, as well as variation in caries based on socioeconomic status. The survey also

indicates that the state dental sealant utilization exceeds 50 percent (meeting the 2010 target as listed in *Healthy People 2010*). Data from the latter surveys will be available in winter 2005, and will focus on caries experience, untreated caries, and early childhood caries. Working with the tribal programs has assisted the health department with screening in rural/remote areas.

The state's Oral Health Program is also beginning to use the surveys as an opportunity to collect height/weight measurements for the state's Obesity Control Program. The program hopes to receive funding for additional oral health assessments in 2007 and 2010. MCHB and the CDC jointly funded these surveys.

Colorado Department of Public Health and the Environment (CDPHE)

As part of their state oral health project, the CDPHE partnered with Head Start to screen Head Start children for early childhood caries (ECC) using BSS. The project started out in Metropolitan Denver area and expanded statewide. As of September 2004, 2,935 children in Head Start in 22 counties received screening for decay experience, untreated decay, signs of ECC, and urgent dental needs. Of those children screened, 32 percent needed dental care and 13 percent needed urgent dental care. Eighteen percent of those screened showed signs of ECC. Data resulting from this program raised awareness about the need to include oral health in Head Start in Colorado, and a representative from Head Start recently joined the state oral health coalition.

CDPHE also developed two specific performance measures to assess the integration of oral health into MCH. Specifically, CDPHE worked with the state's Early Childhood Comprehensive Systems project to create two school readiness indicators: 1) the percent of children who have unmet oral health needs; and 2) the percent of third graders with untreated tooth decay. The Colorado Oral Health Program also participates in the Prevention and Intervention Programs for Children and Youth review process by assessing its school-based dental sealant program.

More information about these Colorado oral health initiatives is available at <http://www.cdphe.state.co.us/pp/oralhealth/OralHealth.htm>.

Nevada State Health Division

In 2004, Nevada conducted the Healthy Smile-Happy Child Head Start Survey to amass oral health data on children aged three to five years enrolled in all of the state's Head Start programs. The survey collected prevalence data on ECC, caries experience, untreated decay, and the need for urgent dental treatment. Findings from 1,677 children show that 54 percent of children screened had caries experience, 37.5 percent had untreated decay, and 37.4 percent of Head Start children were in need of either restorative or urgent dental care. A summary of the results from the survey is available at www.health2k.state.nv.us/oral.

Ohio Department of Health (ODH)

ODH conducted several oral health surveys in order to better understand parental, Head Start, and dental care provider perspectives on access to care for Head Start children. In 2002-2003, the Department collected data from oral screenings of 2,555 children aged three to five years at 50 Head Start centers. In addition, questionnaires and telephone interviews were used to obtain parental perceptions; Head Start provider points of view were gathered through interviews; and a survey was mailed to primary care dentists, pediatric dentists, and safety net dental clinic providers to get their perspectives on access to care and their willingness to treat young children.

The findings show that 28 percent of the three to five year olds enrolled in Head Start had dental caries, and 12 percent of the three-year old children had evidence of ECC. Findings also show that many Head Start children do not receive needed dental care due to the cost of dental care, lack of insurance, unavailability of dentists, and difficulty finding dentists who take Medicaid. Findings from the surveys have been published in *Pediatric Dentistry*, *The American Journal of Public Health*, and *The Journal of the*

American Dental Association. The findings from the surveys will be used to improve access to oral health care for children from families with low-income. Results from the surveys also provide county-level data to help target local efforts to address specific pockets of need.

Wisconsin Department of Health and Family Services

Wisconsin has conducted two statewide surveys to determine children's oral health status. The first survey screened third grade students and the second, "Healthy Smiles for a Healthy Head Start" screened preschool-age children enrolled in Head Start. This survey aimed to establish a baseline for monitoring oral disease status and trends in young children in 2003. A total of 456 children were screened. The survey revealed that 52 percent of the children were cavity-free; 24 percent had untreated decay; and 23.5 percent of the children needed dental care. A report on "Healthy Smiles for Head Start" is available at www.dhfs.state.wi.us/health/OralHealth/Reports.htm.

Prenatal Oral Health Programs

Birth weight is considered an important determinant of infants' survival, growth, and development. Recently, studies have found a possible relationship between maternal periodontal disease and delivery of preterm, low-birth weight (PLBW) babies.^{5,6} Every year, as many as 45,500 premature births in the U.S. may be linked to gingivitis; that is 18 percent of the 250,000 premature babies born every year, which is more than those caused by smoking and alcohol use together.⁷ In light of this research, several states have integrated oral health care and prenatal care to improve birth outcomes. State prenatal oral health programs usually

⁵ Khader YS and Ta'ani Q. "Periodontal diseases and the risk of preterm birth and low birth weight: a meta-analysis." *Journal of Periodontology*. 2005;76:161-165.

⁶ Sanchez AR, Krupp LI, Sheridan PJ, and Sanchez DR. "Maternal chronic infection as a risk factor in preterm low birthweight infants: the link with periodontal infection." *Journal of the International Academy of Periodontology*. 2004;6:89-94.

⁷ Offenbacher S, Katz V, Fertik G, et al. "Periodontal infection as a possible risk factor for preterm low birth weight." *Journal of Periodontology*. 1996; 67 (10 Suppl):1103-1113.

involve educational and awareness raising activities targeted to pregnant mothers, oral health providers, and health care providers. The educational message emphasizes the relationship between periodontal health and PLBW. Activities include encouraging pregnant women to obtain oral health screenings and training health providers to screen pregnant women for oral disease, providing education on oral hygiene, and referring them to dental providers, when necessary. Some states are expanding public insurance coverage for dental services to women with low-income. A series of state prenatal oral health programs follows.

Louisiana Department of Health and Hospitals (LDHH)

The Oral Health Program, which is part of the MCH program in the LDHH, partnered with the Louisiana Bureau of Health Services Financing to develop guidelines for covered services under the state's new Expanded Dental Services for Pregnant Women Program and develop and disseminate materials to promote enrollment of pregnant women into the dental program.

LDHH also launched "Your Mouth—Your Baby's Health," a marketing strategy that emphasizes the relationship between periodontal disease and PLBW births. The campaign targets obstetricians and gynecologists, public health clinic providers, dentists, expectant mothers, and the general public in Louisiana. As part of the campaign, LDHH mailed 1) literature on the relationship between periodontal disease and PLBW; 2) Medicaid dental referral forms; 3) letters encouraging health providers to refer eligible women to a Medicaid dental provider; and 4) a laminated instruction card to help them fill out the referral form to all the American College of Obstetricians and Gynecologists members, Medicaid nurses, and public health clinics in Louisiana.⁸

In addition, all dentists participating in Medicaid in Louisiana received a mailing containing

literature on the relationship between periodontal disease and PLBW and a letter from the president of the Louisiana Dental Association encouraging them to accept dental referrals for pregnant women eligible for Medicaid as well as information from the state Medicaid program on the details of the Expanded Dental Services for Pregnant Women Program. Continuing education courses on the relationship between periodontal disease and PLBW were made available to obstetrician, gynecologists, and dentists.⁹

To reach women and the general public in Louisiana, LDHH developed a public service announcement emphasizing the need for dental care during pregnancy. LDHH also distributed brochures at maternity and health fairs in the state and provided brochures to the Nurse Family Partnership, the Healthy Start program, and other non-profit organizations in the state that work in MCH.¹⁰

More information on the Louisiana Oral Health Program is available at <http://www.oph.dhh.louisiana.gov/maternalchild/oralhlth/index.html>.

Pennsylvania Department of Health (PDOH)

The MCH Division in Pennsylvania has begun working on the first component of a series to address oral health education and awareness. This initial component targets pregnant women, new parents, and babies and children up to 24 months. The awareness campaign emphasizes the importance of oral health in overall health, the relationship between PLBW and periodontal disease, the prevalence of oral disease in Pennsylvania, risk factors for periodontal disease, and the importance of good oral health, especially during pregnancy. The campaign materials (e.g., brochures, pamphlets, videotapes, and a resource directory) will be test-marketed to a focus group of women who receive services from WIC, state health centers, and PDOH district offices. PDOH is

⁸ Oertling K. "Your Mouth-Your Baby's Health: A Marketing Strategy to Reduce Periodontal Disease in Pregnant Women" Year End Report. Available at <http://www.mchlibrary.info/MCHBfinalreports/docs/1H47MC01938.doc>. Accessed on 08/10/2005.

⁹ Ibid.
¹⁰ Ibid.

collaborating with the State Health Improvement Plan partners on this effort and hopes to expand this collaboration to include the Pennsylvania Dental Association, schools of dentistry, and allied dental providers.

Utah Department of Health (UDOH)

UDOH collaborated with local television and radio stations to create the “Baby Your Baby, Mind Your Mouth” awareness campaign. As part of the campaign, a news segment on the importance of good oral health during pregnancy was broadcast on the local news. Additionally, educational materials are available on the Baby Your Baby Web site, which covers a variety of health topics for pregnant mothers. The Web site emphasizes the importance of good oral hygiene and the need for dental check-ups before and during pregnancy. It also states that health and dental providers should work together to coordinate dental care in pregnant women and calls for physicians to make referrals to dental providers when necessary. More information is available on UDOH’s Oral Health Web site at www.health.utah.gov/oralhealth.

Wisconsin Department of Health and Family Services (WDHFS)

Integrating Preventive Oral Health Measures into Healthcare Practice, a program sponsored by the WDHFS, is another program that integrates oral health into prenatal care. WDHFS funds its program using Title V MCH block Grant and other HRSA grants. As part of the program, educational materials were developed for expectant mothers to help them understand the importance of oral health for both their overall health and for their babies. Providers distribute these materials to women during prenatal visits.

Integrating Preventive Oral Health Measures into Healthcare Practice also includes a training program for health care providers. The program addresses the importance of maternal oral health and the relationship between periodontal disease and PLBW births. It includes presentations on tooth anatomy, growth, and development; the etiology of dental caries and periodontal disease;

physiologic factors affecting oral health during pregnancy; and risk factors for periodontal disease. The training program also teaches health care providers how to conduct basic adult oral health screenings and risk assessments for periodontal disease in pregnant women and offers guidance on providing patients with oral health education and dental referrals when necessary. More information on this program, including training materials, is available at dhfs.wisconsin.gov/health/Oral_Health.

Wyoming Department of Health (WDH)

Currently, the Wyoming Medicaid program does not cover preventive or restorative dental care for adults. Therefore the MCH Section of the WDH funded the Dental Health Program for Pregnant Women, which reimburses providers for services delivered to pregnant women with low-income at rates higher than typical Medicaid reimbursements. Recognizing the importance of maternal oral health, the Dental Health Program and MCH Section of WDH partnered to conduct a pilot Dental Health Program for Pregnant Women in 2002. This pilot program was integrated into the “MCH Best Beginnings for Wyoming Babies” program which aims to provide coordinated, comprehensive, community-based health care to pregnant women with low income. Services included examinations, radiographs, periodontal services, restorations, and palliative emergency treatment. Private practice dentists were recruited to participate in the program. Participating providers received educational materials about maternal oral health.

The pilot was intended to last for one year, but high demand for the services exhausted the funding after only six months, indicating a significant amount of unmet need among this population. The program found periodontal disease in fewer pregnant women than expected and many of the women in greatest need of dental care had been eligible for these services under Medicaid a few years earlier but did not take advantage of this benefit.

Early Childhood Oral Health Programs

According to recent NHANES data, children ages two to 11 years from families with low income are almost twice as likely to have dental decay compared to children from families with higher income, and one in three children from families with low income had untreated decay compared to 13 percent of those from families above 200 percent of FPL.¹¹ Early childhood caries (ECC) is the most severe form of tooth decay in children; it can lead to loss of primary teeth. Good oral hygiene and feeding practices can prevent ECC and regular oral health screenings can identify the disease in early stages. To prevent ECC, several state public health agencies are partnering with Head Start, Early Head Start, WIC, and other programs that provide health services to young children from families with low income to promote oral health. These partnerships aim to reduce decay in children, prevent ECC, and teach children and parents good oral hygiene skills and the importance of oral health and its relationship to overall health.

Alabama Department of Public Health

Due to a high prevalence of ECC among Alabama WIC children, low usage of dental services by children eligible for Medicaid and limited access to dentists participating in Medicaid, especially in rural areas, Alabama's Oral Health Action Plan called for collaboration between the Oral Health Branch (OHB) of the Alabama Department of Public Health and WIC to educate pregnant women, new mothers, infants, and children. The collaboration between WIC and OHB yielded a nutrition education model that promotes oral health as a component of good nutrition and general health. The program was funded by a USDA infrastructure grant.

¹¹ Beltran-Aguilar ED, Barker LK, Canto MT, et al. Surveillance for Dental Caries, Dental Sealants, Tooth Retention, Edentulism and Enamel Fluorosis—United States, 1988–1994 and 1999–2002. *Morbidity and Mortality Weekly Report*. 2005;54(03):1-44. Available at www.cdc.gov/mmwr/preview/mmwrhtml/ss5403a1.htm#top.

Behavioral scientists from the University of Alabama at Birmingham School of Public Health assisted OHB and WIC staff to develop a culturally-sensitive, low literacy educational model for use by the WIC nutritionists. The model consists of videotapes for WIC nutritionists and tools to assist them in teaching participants enrolled in WIC oral hygiene skills. All materials were produced in English and Spanish.

The WIC nutritionists spend about 10 minutes discussing oral hygiene and ECC with families at least once per year. They also provide mothers and children with toothbrushes, toothpaste, and floss and encourage them to access dental care early and periodically.

WIC nutritionists have been using the Nutrition Education Model for Prevention of ECC for over two years now. WIC has sites in every county in Alabama. By partnering with WIC, OHB reaches about 100,000 women, infants, and children annually. The program is currently being evaluated to determine how it has affected the prevalence of ECC among children enrolled in WIC. Because oral health is linked to nutrition, and because many children with poor oral health meet failure to thrive criteria, the Alabama WIC program and OHB are committed to continuing the program after the USDA grant ends. WIC has added oral health to their Nutrition Education Plan and both WIC and OHB provide staff to sustain the project.

Nevada State Health Division

“Healthy Smile-Happy Child” is an educational campaign to reduce the incidence of ECC among young children in Nevada. The Nevada Bureau of Family Health Services sponsors the campaign, which is part of Nevada's State Oral Health Plan. The campaign includes training for health care providers, child care providers, and social workers. This training teaches providers the causes of tooth decay, the risk factors for ECC, the effects of ECC, and how to recognize signs of ECC. It also teaches participants how to perform a basic screening for ECC in children, refer to a dental provider, and apply fluoride varnish when appropriate. Additionally, the training includes a manual that provides

anticipatory guidance for educating children and parents about ECC prevention, including feeding and eating practices and oral hygiene at different ages, starting with prenatal care continuing to 24 months of age. The Bureau of Family Health Services also produced fact sheets on community water fluoridation, dental sealants, and early childhood oral health needs to raise awareness of opportunities for prevention of dental disease in Nevada, as well as brochures for parents. Each brochure is available in English and Spanish. CDC funds Healthy Smile-Happy Child. More information, including the fact sheets, is available at www.health2k.state.nv.us/oral/.

Ohio Department of Health (ODH)

Ohio's "Help Me Smile" program is funded through the state's SOHCS grant. The ODH contracted with the Children's Dental Health Project to identify key content themes in curricula for training non-dentists to provide oral health assessment and anticipatory guidance for young children. The program includes assessment, anticipatory guidance, and referral to dental providers. The Stark County Educational Services developed and piloted the Help Me Smile Program developed and piloted the content and training materials in Ohio's "Help Me Grow" home visiting program and WIC Clinics in collaboration with community health workers from the Ohio Infant Mortality Reduction Initiative.

The Help Me Smile educational materials have been incorporated into the resources available to physicians that will be trained to implement the new oral health assessment, fluoride varnish, and referral service package for children ages zero to two years enrolled in Ohio's Medicaid program.

In addition, ODH has partnered with the Ohio Head Start Association to conduct a statewide oral health forum in 2004. At this forum, key stakeholders created a Head Start Oral Health Strategic Plan to address access to dental care for children enrolled in Head Start and families. The strategy calls for the development of professional training for Head Start programs on

the importance of oral health and dental access; identifying, developing, and implementing a program to motivate parents to get oral health examinations and follow-up treatment for their children; and to develop, pilot test, and evaluate a model oral health promotion project for children enrolled in Head Start (e.g. the use of fluoride varnish or tablets). The state's Head Start Collaborative Office is funding production of the training materials in order to bring the Help Me Smile into Head Start.

Rhode Island Department of Health

The Office of Primary Care and Rural Health is working on a Head Start/Early Head Start ECC Initiative to reduce ECC in children enrolled in Head Start and Early Head Start by 40 percent between 2004 and 2006. In order to achieve this goal, the department formed a Head Start/Early Head Start ECC Coalition. They have also developed and distributed an oral health curriculum, including a training manual for department staff, parents, and caregivers. The initiative refers children in need of dental services to an oral health provider through Head Start/Early Head Start and includes a media campaign to raise awareness about ECC. Throughout the four-year initiative, data will be collected and analyzed for surveillance and evaluation purposes. The Head Start/Early Head Start ECC Initiative is supported by funding from MCHB.

Texas Department of State Health Services

The department partnered with the state's Early Head Start/Head Start Program, WIC, and Texas schools of dental hygiene on an outreach oral health project for children enrolled in Early Head Start/Head Start Program and WIC and their families. The project, funded by MCHB, seeks to obtain baseline oral health data and conduct surveillance to monitor the burden of oral disease in children up to age five and pregnant women; build a preventive oral health project for Early Head Start/Head Start Program and WIC participants; increase participation in the dental benefit of Medicaid; and increase

parent's understanding of the interaction between oral health and overall health.

Programs That Increase Access to Preventive Care

Since the 1980s, a growing shortage of dental providers has led to decreased access to oral health care, especially among vulnerable populations. Many states do not have enough public health dental providers to screen and treat women and children from families with low income for dental care. To improve the provision of primary and secondary prevention in light of these workforce shortages, several state oral health programs are working with schools, local public health departments, and private providers. Health providers, such as pediatricians and nurses who work in these settings, receive training to recognize tooth decay and early signs of dental disease, educate patients about oral health and its relationship to overall health, and to make referrals to a dental provider when appropriate. This integration of oral health services into MCH-focused health programs can help improve access to oral health care.

Treatment costs can also limit access to oral health services, especially among women and children from families with low incomes and children with special health care needs (CSHCN). Some states are addressing this by shoring up the dental health safety net. Others are exploring ways to pay for services among special populations.

Colorado Department of Public Health and Environment

The Colorado Oral Health program partnered with the Primary Care Association on the Colorado Oral Health Outcomes Project (COHOP) which trains physicians working in community health centers to screen pediatric patients for dental disease by age one and refer them to a dental safety net provider or clinic. This system facilitates the screening of more children, and allows the limited number of Colorado's public health pediatric dentists to

focus their time treating dental disease. The Oral Health Program supports this project by providing the training and fluoride as well as funding administrative staff time for COHOP. COHOP also receives support from HRSA's Bureau of Primary Care at, the Caring for Colorado Foundation, and the Denver Affiliate of the Komen Foundation. More information about COHOP is available at <http://www.cchn.org/activities/cohop.asp>.

Connecticut Department of Public Health

Connecticut addressed the challenge of promoting oral health with a shortage of public health dentists by starting the Oral Health Program to Engage Non-Dental Health and Human Service Workers in Integrated Dental Education (OPENWIDE) program. The statewide program trains physicians, nurses, nutritionists, child care workers, outreach workers, and other health and human service workers in oral health education. The goals of OPENWIDE training are to educate and build awareness of oral health while integrating it into existing health systems; enable non-dental providers to recognize and understand oral disease, engage in anticipatory guidance, prevention, and make appropriate referrals; and to positively impact overall health and well being through improved oral health.

The OPENWIDE program utilizes a standardized training module with curricula on tooth decay, ECC, risk factors for dental disease, and prevention. The training also includes a how-to module titled, "What to Do and How to Do It." Trainees are provided custom binders, laminated fact sheets and clinical guides for quick reference, and compact discs containing slide presentations in English and Spanish on ECC which can be customized by the provider. Additionally, English and Spanish videotapes are available to provider to trainees to play in their offices or give to clients. The OPENWIDE curriculum is available at www.dph.state.ct.us/bch/oralhealth/publications_reports.html.

Oklahoma State Department of Health

The Oklahoma State Department of Health received funding through MCHB for the Oklahoma Initiative for Children's Oral Health Improvement. The initiative seeks to develop community based action through partnerships that focus on improving oral health access, reduce dental caries experience, increase use of dental sealants, and facilitate data collection to produce models that can be implemented statewide. The project is education based, emphasizing the importance of good oral health, and seeks to broaden the oral health provider network and dental health safety net. Presentations are given at Head Start centers and in classrooms at local elementary schools.

Montana Department of Public Health and Human Services

Approximately 9.4 million children (12.8 percent of all children) have special health care needs.¹² Dental care is the most prevalent unmet need among children with special health care needs (CSHCN).¹³ In most states, the CSHCN programs only pay for limited dental services and do not provide or pay for routine dental care for children in the program.¹⁴

The Montana Department of Public Health and Human Services is working to improve access to oral health services among CSHCN. Recently, a committee was convened to consider inclusion of orthodontia as a covered service in the state's Medicaid program. By demonstrating the impact of cleft lip and cleft palate on oral health and the long-term treatments sometimes

necessary for these conditions, the committee was able to make progress in this area. The Montana Oral Health Program would like to expand beyond treatment of cleft lip/cleft palate to a broader approach to oral health for CSHCN which includes preventive services.

Nebraska Health and Human Services System (NHHSS)

The NHHSS Office of Oral Health plans to integrate oral health promotion and dental services into newly formed local health departments and boards by assisting these entities with needs assessment, strategic planning, and development of a system of care. The Nebraska State Dental Plan calls for 75 percent of local health departments to include oral health services by the year 2010.

As part of their integration project, NHHSS plans to partner with school health programs to promote oral health and identify children in need of oral health services and refer them to volunteer dentists for treatment. NHHSS has developed PowerPoint presentations, videotapes, fact sheets, and quick references to help teachers and school health workers screen children for decay and educate them about good oral hygiene. These resources are available at www.hhs.state.ne.us/dental.

South Carolina State Department of Health and Environmental Control (DHEC)

The goal of the "Healthy Smiles for South Carolina" project is to establish a school-based dental public health system within the DHEC. The program is intended to improve oral health for the more than 50 percent of South Carolina children eligible for free or reduced-cost lunch. "Healthy Smiles for South Carolina" seeks to expand community water fluoridation and start school-based or school-linked fluoride varnish and sealant programs that are targeted and culturally competent. Additionally, DHEC hopes to increase awareness among policymakers and the public of the link between oral health and overall health. The program's Web site is www.dhec.sc.gov/health/mch/oral/school.htm.

¹² U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. *The National Survey of Children with Special Health Care Needs Chartbook 2001*. Rockville, Maryland: U.S. Department of Health and Human Services, 2004.

¹³ Lewis C, Robertson AS, Phelps S. "Unmet Dental Care Needs Among Children With Special Health Care Needs: Implications for the Medical Home." *Pediatrics*. 2005; 116(3): e426-e431.

¹⁴ Balzer J. Promoting the Oral Health of Children with Special Health Care Needs: Opportunities for increased collaboration between state Oral Health and CSHCN programs. Association of State and Territorial Dental Directors. 2002. Available at http://www.astdd.org/docs/CSHCNAssessment2_11.pdf. Accessed on 10/31/2005.

Injury Prevention Programs

Oral health providers can have a critical role in helping to prevent and identify cases of child abuse and neglect. For instance, many cases of physical abuse involve injury to the head, neck, and mouth.¹⁵ Some state programs are taking action to educate oral health providers and health care providers to recognize and report possible abuse and neglect. The following programs highlight some of those efforts.

Arkansas Department of Health

Although state law requires dentists to report suspected cases of child abuse and neglect to authorities, dentists make less than one percent of the reports. In response to this, the Prevent Abuse and Neglect Through Dental Awareness (PANDA) Coalition was established to create awareness among dental providers and others to recognize and appropriately intervene to prevent child abuse and neglect. The Missouri Bureau of Dental Health was instrumental in beginning the coalition in 1992, and worked with Delta Dental of Missouri as the corporate sponsor. The PANDA coalition offers a variety of educational opportunities aimed at providing information on the prevention of child abuse and neglect. Originally designed for dental audiences, the presentations can be tailored for a variety of groups, including dentists, dental hygienists, dental assistants, physicians, nurses, child care workers, teachers, and anyone who works with, or cares about, children. State health agencies typically provide the expertise and logistic support for PANDA, such as grant funding or trainers. PANDA Coalitions now exist in 44 states and eight other countries. It is estimated that PANDA has trained more than 50,000 people worldwide. The program is now housed within the Arkansas Office of Oral Health at the Arkansas Department of Health. Additional information is available at www.healtharkansas.com/Oral_Health/panda/panda_index.htm.

¹⁵ Donly KJ, Nowak AJ. "Maxillofacial, neck, and dental lesions of child abuse." In: Reece RM, ed. *Child Abuse: Medical Diagnosis and Management*. Philadelphia, PA: Lea & Febiger, 1994: chap 7.

Kentucky Cabinet for Health and Family Services

The Kentucky Cabinet for Health and Family Services developed a program to educate dental providers throughout the state to identify victims of domestic violence and understand standard referral procedures for victims of domestic violence. The project includes developing an oral health/domestic violence continuing education workshop, "Family Violence: Guidelines for Reducing Liability in Your Practice." A computer-based course is in development. The health department has numerous partners, including the Kentucky Oral Health Program, University of Kentucky College of Dentistry, Kentucky Dental Association, Kentucky Domestic Violence Association, Kentucky Division of Child Abuse and Domestic Violence Services, Department of Aging, Department of Community Based Services, the Kentucky Injury Prevention Center's Intimate Partner Violence Surveillance Project, Centers for Research on Violence Against Women, Kentucky Justice Cabinet, the Kentucky Office of Women's Health, and the Family Violence Prevention Fund. The Kentucky Department of Justice funds the program through a Violence against Women's Act Grant.

Conclusions

State public health agencies are addressing the oral health needs of women and children in a variety of ways by integrating oral health into MCH programs. Integrating the two areas seeks to improve oral health and overall health for women, infants, and children by increasing access to care, especially among families with low income; raising awareness about the importance of oral health to overall health; educating women and children on good oral hygiene and feeding and eating practices; enabling surveillance of oral health indicators; and facilitating better surveillance for dental disease, chronic disease, and intentional injury.

Resources

ASTHO Oral Health Publications
www.astho.org/?template=maternal_child_health.html

ASTDD Best Practices
www.astdd.org/?template=bp_home.html&shell=best

ASTDD Guidelines for State Oral Health Programs
www.astdd.org/docs/ASTDD_Guidelines.PDF

ASTDD/CDC National Oral Health Surveillance System
www.cdc.gov/nohss

Centers for Disease Control Oral Health Program
www.cdc.gov/oralhealth

MCHB Title V Information System
<https://perfdata.hrsa.gov/mchb/mchreports/Search/search.asp>

MCHB DataSpeak Web cast, Integrating Oral Health and Maternal and Child Health Programs
www.mchb.hrsa.gov/mchirc/dataspeak/events/sept_04/

Maternal and Child Health Library
www.mchlibrary.info/

National Maternal and Child Oral Health Resource Center
www.mchoralhealth.org

Children's Dental Health Project
www.cdhp.org

National Oral Health Policy Center
www.healthychild.ucla.edu/OralHealth.asp

Featured State Health Agencies

Alabama Department of Public Health
www.adph.org/

Alaska Division of Public Health
<http://health.hss.state.ak.us/dph/>

Arkansas Division of Health
www.healthyarkansas.com/

Colorado Department of Public Health and the Environment
www.cdphe.state.co.us/cdphehome.asp

Connecticut Department of Public Health
www.dph.state.ct.us/

Kentucky Cabinet for Health and Family Services, Department of Health
<http://chfs.ky.gov/dph/default.htm>

Louisiana Department of Health and Hospitals, Office of Public Health
www.oph.dhh.louisiana.gov/

Nebraska Health and Human Services System
www.hhs.state.ne.us/

Nevada State Health Division
<http://health2k.state.nv.us/>

Ohio Department of Health www.odh.state.oh.us/

Oklahoma State Department of Health
www.health.state.ok.us/

Pennsylvania Department of Health
www.dsf.health.state.pa.us/health/site/default.asp

Rhode Island Department of Health
www.health.state.ri.us/

South Carolina Department of Health and Environmental Control
www.scdhec.net/

Texas Department of State Health Services
<http://www.dshs.state.tx.us/>

Utah Department of Health <http://health.utah.gov/>

Wisconsin Department of Health and Family Services, Division of Public Health
www.dhfs.state.wi.us/

Wyoming Department of Health
<http://wdh.state.wy.us/main/index.asp>

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The Association of State and Territorial Health Officials is the national nonprofit organization representing the state and territorial public health agencies of the United States, the U.S. territories, and the District of Columbia. ASTHO's members, the chief health officials in these jurisdictions, are dedicated to formulating and influencing sound public health policy, and assuring excellence in state-based public health practice.

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