U.S. Department of Health and Human Services Oral Health Strategic Framework, 2014–2017

U.S. Department of Health and Human Services Oral Health Coordinating Committee

The U.S. Department of Health and Human Services (HHS) is committed to advancing the oral health and general well-being of all populations across the lifespan. The HHS Oral Health Strategic Framework 2014–2017 (hereinafter, the Framework) reflects the collective deliberations and next steps proposed by HHS and other federal partners to realize the department's oral health vision and eliminate oral health disparities. The Framework builds upon and outlines a strategic alignment of HHS operating and staff divisions' resources, programs, and leadership commitments to improve oral health with activities of other federal partners.

The U.S. Public Health Service Oral Health Coordinating Committee authored the Framework to provide the context for leveraging current and planned oral health priorities and actions across HHS and partner agencies. The Framework aligns key activities with five major goals and associated strategies in response to recommendations from two 2011 Institute of Medicine reports, *Advancing Oral Health in America* and *Improving Access to Oral Health Care for Vulnerable and Underserved Populations*,[1,2] and reflects discussions with external stakeholders. Although the Framework does not attempt to inventory all oral health initiatives supported by HHS and other federal partners, it provides a roadmap to prevent oral disease, increase access to services, develop and disseminate oral health information, advance public policy and research and translate it into practice, strengthen the oral health workforce, and eliminate oral health disparities.

The Framework is written primarily for oral health, behavioral health, and primary care health professionals and program administrators within and outside of the federal government and other external stakeholder groups interested in oral health. It serves as an essential resource to (*1*) optimize the implementation of activities that are planned and underway, (*2*) strengthen existing cross-agency collaboration, and (*3*) identify new avenues for private-public partnerships by creating maximum synergy with other current federal and nonfederal oral health initiatives.

THE CHALLENGE

A stated health objective of our nation is to place a greater focus on health and not just health care.[3] Total health and wellness cannot exist without oral health, and the two are closely linked. Oral disease can have an impact on physical, psychological, social, and economic health and well-being through pain, diminished function, and reduced quality of life. These impacts were underscored in the

Surgeon General's 2000 report, *Oral Health in America*, which referred to oral health as a "silent epidemic" of dental and oral diseases that burdens children and adults throughout the United States.[4] Although tooth decay is largely preventable, more than nine in 10 adults have experienced tooth decay (dental caries). Approximately one in five people in all age groups has untreated dental caries.[5] The statistics are even worse worldwide, with more than one in three people living with untreated decay in their permanent teeth.[6] The consequences of poor oral health have a negative influence on children's speech, growth, function, and social development.[4] Missing teeth, pain, and infection from oral diseases can limit food choices and worsen nutrition.[7] Pain caused by tooth decay also can result in missed days at school and work and diminished performance.[8,9]

Poor appearance resulting from dental problems can contribute to social isolation, lower wages, and loss of self-esteem.[4,10] Furthermore, poor oral health is associated with increased bacterial systemic exposure and increased inflammatory factors that can lead to adverse health outcomes, such as uncontrolled diabetes, cardiovascular disease, and respiratory disease.[11–13]

Biomedical and behavioral research provides knowledge to understand the fundamental causes of diseases and to transform that knowledge into a lifetime of better health. Most dental, oral, and craniofacial conditions arise from complex interactions of biological, behavioral, environmental, and higher system-level factors. Consideration of these interactions is essential to understanding the causes and pathological processes of oral diseases and can greatly enhance more rapid discovery of interventions that will improve their prevention, diagnosis, and treatment.

Barriers to oral health care

One of the greatest barriers to oral health care is a lack of dental services. This can be called the greatest unmet oral health need in the United States.[14,15] Many people living in the United States have poor oral health due to lack of access to care, because oral health is not universally integrated into primary or behavioral health-care services. As a result, dental care is usually set apart from other types of health care.

This separation of services results in a lack of integration between medical and dental records, a lack of use and acceptance of dental diagnostic codes, and separate insurance coverage and payment systems, treatment delivery, and health-care systems. Greater interprofessional education and collaborative practice could help integrate oral and primary health care and improve patient-centered care. Although community and clinical approaches have been shown to reduce oral diseases, lessen dental care costs, and improve the quality of individuals' lives, these approaches are not being used to the greatest extent possible.[1,16]

The cost of dental care and lack of dental coverage are often cited as reasons individuals do not seek needed dental care.[17] Publicly financed reimbursement programs covering the provision of oral health services are often limited in scope or are nonexistent for adults. For example, Medicare provides 22 preventive screenings for eligible individuals but does not include oral health services. Medicare is limited in its scope of coverage for dental care and, typically, dental care must be related to a covered medical procedure provided in a hospital setting. Although most state Medicaid programs cover emergency dental procedures for low-income adults, only 28 U.S. states provide dental benefits to Medicaid-enrolled adults beyond medically necessary care in emergency circumstances.[18] Emergency room treatment for preventable dental conditions, estimated at 830,000 visits in 2009, is expensive and continues to increase.[19] In addition, the geographic distribution of dentists varies substantially. In 2011, the number of dentists per 10,000 population ranged from 4.2 (in Arkansas and Mississippi) to 10.8 (in the District of Columbia).[20]

The lack of oral health literacy also presents a barrier to oral health. Effective communication between oral health and other health-care providers and their patients is the foundation for improved oral and general health outcomes. Engaging in meaningful patient-provider interactions, where patients understand their oral health status and treatment options, continues to be a concern. According to Selden et al., "An individual may have adequate understanding of material with familiar content, but struggle to comprehend information with unfamiliar vocabulary and concepts."[21] A survey of U.S. adults found that more than one-third had limited health literacy.[22] Tools, resources, and training to enhance health literacy are available and offer promise for enhancing oral health and health provider skills. However, many providers have limited knowledge of these tools or are only beginning to explore their potential for providing improved service delivery.

Oral health disparities

Suffering as a result of oral health problems is worse among the poor and members of some racial/ethnic groups, in which high percentages of people are affected by nearly all oral diseases and conditions. In addition to observed disparities in health status, inequities exist in the number of dental visits and receipt of

clinical and preventive services. Untreated dental caries is substantially more prevalent among children living at or below the federal poverty level compared with children living above the poverty level.[5] The percentage of adults aged ≥65 years who reported they did not obtain dental care because they could not afford it doubled from 3.5% in 2001 to 7.0% in 2011.[23] Older adults are more likely than those in younger age groups to have medical conditions, such as diabetes and cardiovascular disease, that worsen their oral health, and vice versa.[2]

In addition, multiple chronic medical conditions associated with aging, such as arthritis, palsy, and cognitive impairment, can make oral hygiene significantly more difficult or impossible to achieve. Periodontal (gum) disease is present in nearly half of adults older than 30 years of age, and in seven out of 10 older adults (aged ≥65 years).[24] Furthermore, fewer than 30% of adults aged 45–64 years have a full set of teeth, and nearly one in four adults older than 65 years of age has no teeth.[5]

This Framework identifies and explores these factors and concludes that solutions lie in collaborative partnerships across federal, state, and local agencies, as well as with public and private organizations.

RELATED FEDERAL INITIATIVES

This Framework represents the most recent demonstration of the federal government's commitment to oral health. The first-ever Surgeon General's report on oral health, *Oral Health in America*, in 2000 was followed by the *National Call to Action to Promote Oral Health* in 2003 and the *HHS 2010 Oral Health Initiative*.[4,25,26] Although some improvements in oral health have been achieved in response to recommendations outlined in these reports, further action leading to measurable results is still needed.

The Framework is also aligned with other major departmental initiatives, such as the National Action Plan to Improve Health Literacy, the HHS Action Plan to Reduce Racial and Ethnic Health Disparities, and the HHS National Prevention Strategy.[27–29] These efforts support the federal government's commitment to promote healthy communities and empower individuals with the knowledge and skills to assume greater ownership of their own health. Strategies and actions that result from these initiatives can be crosscutting and incorporated into oral health activities.

Two broad federal initiatives recognize the integral role of oral health: *Healthy People 2020* and initiatives related to the Patient Protection and Affordable Care Act.[16,30] In the private sector, the U.S. National Oral Health Alliance (hereinafter, Alliance) has launched a parallel effort to address oral health for vulnerable populations. The Alliance has created an action plan, An Emerging Framework for Action, that reflects the wisdom and ideas of multiple disciplines and establishes a common platform for working together.[31] Alliance initiatives and the Framework provide opportunities for HHS, other federal partners, and external stakeholders to jointly engage in activities to improve oral health and reduce oral health disparities.

Healthy People 2020

Healthy People 2020 objectives are science-based, measurable, 10-year national objectives for improving the health of all Americans. Oral health is included as one of 12 *Healthy People 2020* leading health indicators. The leading health indicator for oral health is the proportion of people aged ≥2 years who used the oral health-care system in the last 12 months. In 2011, among people aged ≥2 years, 41.8% had a dental visit within the previous 12 months, short of the *Healthy People 2020* target of 49.0%. A total of 17 oral health objectives focus on the oral health of children, adolescents, and adults; access to preventive services; oral health interventions; monitoring/surveillance systems; and public health infrastructure.[16]

The Affordable Care Act and oral health

The Affordable Care Act recognizes the integral role of oral health services and includes provisions that address important improvements to increase oral health coverage, access, workforce and infrastructure development, surveillance, and public education. One important provision is the inclusion of pediatric dental coverage as part of the essential health benefits, which must be included in non-grandfathered individual and small-group market insurance plans (inside and outside Marketplaces), and Medicaid Alternative Benefit Plans.[30] In addition, a qualified health plan must include pediatric dental benefits unless the qualified health plan is in a Marketplace that offers stand-alone dental plans.[32]

THE VISION

The vision of this Framework is the commitment by HHS and other federal partners to increase the public's understanding that oral health is integral to overall health. HHS strives to leverage public and private sector partners to achieve better oral and overall health for all populations across the lifespan. The Framework provides the roadmap for engaging and resolving ongoing disparities in oral health.

Guiding principles

The Framework is grounded in three guiding principles:

1. Oral disease is a health and health-care problem and not solely a dental problem;
2. Long-term visibility of oral health in program and policy planning requires a comprehensive, deliberate, and innovative approach; and
3. HHS is a critical part of a larger oral health enterprise poised to implement the Framework's goals through collaborative efforts to create collective impact.[33]

The Framework is a commitment by HHS and federal partners to a collaborative call for action, with strategic and performance-based goals, strategies, and actions, and defined roles and responsibilities by which federal agencies, programs, and stakeholders can measure success.

THE COMMITMENT

The Framework serves as the catalyst for moving a national oral health agenda forward. The five major overarching goals, plus strategies and selected activities, underscore the ability of HHS and other federal partners to collectively address the nation's oral health concerns and disparities. Each plays a unique role in promoting knowledge and awareness, providing treatment and related oral health services, and translating biomedical and behavioral research to further the science and promote scientific advances into evidence-based practices.

The Framework is a guide for working collaboratively to achieve greater impact. It acknowledges the need to undertake several different approaches concurrently that respect racial and cultural differences, language barriers, behavioral health, and the health literacy levels of diverse individuals in need of oral health services and education. The Framework allows agency leadership and entities responsible for implementing oral health initiatives the flexibility to develop creative solutions and respond to new oral health issues. HHS challenges itself, other federal partners, and external stakeholder groups to commit to engaging in concerted efforts to create oral health equity for all populations. By working collaboratively, existing partnerships are strengthened and opportunities for engaging with new partners are identified. Through these collective efforts, HHS, federal partners, and oral health stakeholders have a greater opportunity to realize the vision that HHS and other federal partners are committed to increasing the public's understanding that oral health is integral to overall health.

GOALS

The goals outlined in the Framework are intentionally broad but well founded in the existing literature. The five overarching goals are:

1. Integrate oral health and primary health care.
2. Prevent disease and promote oral health.
3. Increase access to oral health care and eliminate disparities.
4. Increase the dissemination of oral health information and improve health literacy.
5. Advance oral health in public policy and research.

Below each goal is a set of strategies and actions.

STRATEGIES AND ACTIONS

Included within the Framework are examples of activities recently completed, currently underway, or planned. Each example relates to a particular strategy and goal, and each activity is identified by the primary federal partner responsible for the overlying strategy. Examples include training and technical assistance; evaluation, data, and policy; service delivery improvements; and opportunities for public and stakeholder engagement.

GOAL 1: INTEGRATE ORAL HEALTH AND PRIMARY HEALTH CARE

The U.S. health-care system has historically separated oral health care from overall health care in the health professions' education, practice, and payment systems. The lack of interoperability between medical and dental records further adds to segmentation of health-care delivery.

Recognizing the value of good oral health as an integral part of overall health, government sector and non-dental primary care professional organizations recently increased their engagement in, and support of, the integration of oral health and primary care at the institutional training and practice levels.[34–36] Front-line primary care professionals, specifically nurses, physicians, and physician assistants, are members of the medical delivery system who are most likely to see vulnerable and underserved populations with limited or no access to dental services. This group of primary care professionals has the capacity to incorporate oral health information and the provision of preventive oral health services into their day-to-day practice. Concurrently, dental professionals can serve as key players in detecting chronic diseases such as diabetes,

hypertension, and hypercholesterolemia in dental practices. A recent study showed the potential savings to the health-care system from increased efforts to screen for chronic conditions in dental offices.[37]

In 2012, the Health Resources and Services Administration's (HRSA's) Integration of Oral Health and Primary Care Practice Initiative created a set of oral health core clinical competencies and implementation strategies appropriate for primary care clinicians.[38] Most states currently allow the provision of preventive dental services in primary care practice, especially during well-child visits. Early detection of oral disease, delivery of preventive interventions, and referral to oral health professionals could improve oral health for all populations, especially for underserved populations that have significant oral health disparities.

Strategies for goal 1

1-A. Advance interprofessional collaborative practice and bidirectional sharing of clinical information to improve overall health outcomes.

1-B. Promote education and training to increase knowledge, attitudes, and skills that demonstrate proficiency and competency in oral health among primary care providers.

1-C. Support the development of policies and practices to reconnect the mouth and the body and inform decision making across all HHS programs and activities.

1-D. Create programs and support innovation using a systems change approach that facilitates a unified patient-centered health home.

Federal partners

Centers for Medicare & Medicaid Services (CMS). CMS supports state Medicaid programs and the Children's Health Insurance Program (CHIP) to implement policies that encourage the integration of oral health and primary health care. CMS provides technical assistance to state Medicaid and CHIP dental programs on reimbursing primary care medical providers for oral health services, including through managed care contracting arrangements, on tracking the provision of those services on line 12f of the CMS Form 416 (Annual Early and Periodic Screening, Diagnostic, and Treatment Participation Report), and on implementing strategies to convert physician visits into referrals to dental providers for follow-up care.[39] (Strategy 1-C)

HRSA. HRSA supports the National Center for Interprofessional Practice and Education to provide sustainable national leadership in transitioning from a focus on care delivery to a focus on health, and promotes collaboration, avoids duplication, and creates definitions and standards to advance interprofessional practice and education. HRSA also supports the Integration of Oral Health and Primary Care Practice initiative and pilot project by providing technical assistance and support to community health centers to create systems-level change through education of primary care providers, demonstration of oral health competency in practice, and integration of communication, health records information, and workflow processes to support continuity and patient-centered care.[40] (Strategy 1-A)

HRSA will develop a set of oral health core clinical competencies for primary care clinicians, delineate the elements that influence the implementation and adoption of competencies, and outline the basis for implementation strategies and translation into primary care practices in safety-net settings. HRSA will also promote oral health education and training among primary care providers by developing and implementing a human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) oral health curriculum targeting primary care providers. (Strategy 1-B)

HRSA supports and encourages health center organizations to engage in practice transformation and achieve patient-centered medical home certification, and promotes patient-centered medical-dental home professional training and practice described in the recommendations from the report issued by the Advisory Committee on Training in Primary Care Medicine and Dentistry to the HHS Secretary and Congress.[41] (Strategy 1-D)

Indian Health Service (IHS). IHS provides oral health assessment and fluoride varnish application training to primary care providers and ancillary staff, including IHS and tribal physicians, mid-level providers, public health nurses, Head Start staff members, pharmacists, and community health workers. (Strategy 1-B) IHS also engages in interprofessional collaboratives (e.g., the IHS Early Childhood Caries [ECC] Collaborative), and works with non-dental health partners to bring renewed attention to oral health and disease disparities in American Indian/Alaska Native populations.[42] (Strategy 1-D)

National Institutes of Health (NIH). NIH evaluates the effectiveness of training pediatric clinicians to administer fluoride varnish and patient-centered counseling on the reduction and prevention of ECC by conducting research to inform decision making on activities to decrease ECC. NIH also evaluates the effect of increased clinician knowledge of ECC and counseling to reduce ECC among children. (Strategy 1-C)

Office of Minority Health (OMH). OMH incorporates oral health screening into primary care providers' practice standards and convenes meetings with partners to begin discussions about incorporating oral health screenings into primary care practice standards. (Strategy 1-D)

Substance Abuse and Mental Health Services Administration (SAMHSA). SAMHSA educates the workforce through continuing education activities on tobacco cessation and alcohol screening and intervention, as well as mental and substance use disorders, and educates dentists on the medical science behind mental and substance use disorders and associated risks to oral health. SAMHSA disseminates information electronically through webinars and in-person trainings and presentations. The agency also works to increase smoking cessation programs within behavioral health programs by building on existing efforts with SAMHSA grantees, other behavioral health providers, and state behavioral health systems to integrate tobacco cessation efforts into behavioral health programs. (Strategy 1-A)

GOAL 2: PREVENT DISEASE AND PROMOTE ORAL HEALTH

Remarkable progress in oral health occurred during the second half of the 20th century in the United States.[43] Since the 1970s, untreated dental caries among children and adolescents aged 6–19 years has declined more than 70%, from 55% in 1971–1974 to 16% in 2007–2010.[20]

Americans are healthier because of preventive efforts such as community water fluoridation and dental sealants, which reduce both the prevalence and severity of tooth decay. Children receiving dental sealants in school programs have 60% fewer cavities on treated surfaces after placement of a sealant.[43,44] Community water fluoridation is a cost-saving measure; it is estimated that every $1 invested in fluoridation yields about $38 in savings from fewer cavities treated.[45] As a result of preventive efforts and improved oral health care, baby boomers will be the first generation to largely maintain their natural teeth during an entire lifetime.[46]

Despite these advances, tooth decay affects one in four children aged 3–9 years who lives in poverty.[47] Older adults are keeping more teeth than previous generations, yet develop new decay at rates equal to or higher than those in children.[48] Prevention of oral disease can be enhanced through the increased delivery of clinical and community preventive services that remain underutilized. HHS, along with public and private partners at the national, state, tribal, and local levels, can increase the reach of preventive interventions that promote healthy behaviors, such as effective self-management activities to improve health and quality of life.

Strategies for goal 2

2-A. Promote delivery of dental sealants in school-based programs and expand community water fluoridation.

2-B. Identify reimbursement strategies and funding streams that enhance sustainability of prevention programs.

2-C. Coordinate federal efforts focused on strengthening the infrastructure and capacity of local, state, and regional oral health programs.

2-D. Explore new clinical and financial models of care for children at high risk for developing caries, such as risk-based preventive and disease-management interventions.

Federal partners

Administration for Community Living. The Administration for Community Living (ACL) encourages the Aging Services Network to engage in oral health promotion and disease prevention interventions for older adults and people with disabilities by utilizing resources available on the Administration on Aging oral health Web pages. (Strategy 2-A) The ACL also encourages innovative programs and partnerships that improve the oral health status of older adults and lists innovations on the Administration on Aging website.[49] (Strategy 2-C)

Centers for Disease Control and Prevention (CDC). CDC promotes community water fluoridation by supporting state and local water fluoridation efforts through monitoring, training, and technical assistance, and develops and disseminates communication tools about community water fluoridation for key audiences. (Strategy 2-A)

IHS. IHS works to increase the number of American Indian/Alaska Native children aged 0–5 years who receive dental sealants by utilizing various provider types and community members in the ECC Collaborative to promote oral health and application of dental sealants.[42] (Strategy 2-A)

Multiagency efforts. CMS, CDC, and HRSA work together to identify actions that enhance children's access to and use of dental sealants, such as providing funding to state oral health programs, strengthening technical assistance, and setting state-specific goals to increase the use of sealants among Medicaid-enrolled children. (Strategy 2-A)

Multiagency efforts by CDC, CMS, and HRSA also encourage states to incorporate oral health innovations in their efforts to redesign their health-care delivery

systems, support payers and funders to design and implement payment and funding approaches that favor prevention and better health outcomes, and encourage cooperation between payers and funders to magnify the effects of available dollars. (Strategy 2-B)

CDC and HRSA coordinate program oversight and monitoring of related oral health programs, increase communication and knowledge sharing between project officers, and hold regularly scheduled discussions across agencies. CDC, HRSA, and SAMHSA build and/or maintain effective public health capacity for implementation, evaluation, and dissemination of best practices for preventing and improving oral health, and deliver joint webinars and coordinate technical assistance to state grantees. (Strategy 2-C)

CDC, CMS, and HRSA work together to (*1*) reduce ECC, such as tooth decay in children younger than 6 years of age; (*2*) invest in projects seeking to demonstrate the feasibility and effectiveness of risk-based prevention and disease-management approaches to ECC; (*3*) support the dissemination of results from privately and publicly funded pilot projects on risk-based prevention and chronic disease-management approaches to ECC; and (*4*) identify opportunities to work with state Medicaid and CHIP agencies to create options for new payment methodologies for risk-based prevention and chronic disease-management approaches to ECC. (Strategy 2-D)

GOAL 3: INCREASE ACCESS TO ORAL HEALTH CARE AND ELIMINATE DISPARITIES

Public health entities engage communities in efforts to increase awareness, prevention, research, and policies that address health disparities and increase access to care. Despite these efforts, oral health disparities persist and affect self-esteem, employability, productivity, nutrition, ability to learn, and overall wellness. More than 4 million people receive dental services through health center programs, and dentists are working in underserved areas through various federal and state programs. However, the oral health crisis continues to be a problem, especially for vulnerable populations. More than 47 million individuals are living in designated dental shortage areas, and 37% of currently practicing dentists are aged ≥55 years and nearing retirement.[50]

Oral health disparities result from multiple, complex, interrelated determinants, and disproportionately affect low-income or racial/ethnic minority populations. The prevalence of untreated caries is nearly three times as high for non-Hispanic black adolescents than for non-Hispanic white adolescents aged 13–15 years (35% vs. 9%).[47] The same pattern has been found in adult populations with respect to tooth retention. Significantly more non-Hispanic black older adults had lost all of their natural teeth compared with non-Hispanic white older adults (32% vs. 22%). The use of dental sealants, one of the strongest evidence-based preventive interventions for dental caries, is also substantially lower for children from low-income and some racial/ethnic groups.[5]

Access to dental services is also closely related to insurance coverage. A report by the U.S. Government Accountability Office found that in 2010, only 63% of individuals had dental insurance through private coverage, Medicaid, or CHIP.[51] Overall, people without dental insurance were about half as likely as people with private coverage (28% vs. 57%) to have had a dental visit. Access to dental services is even more limited for older populations. Almost 70% of older adults lack dental coverage and slightly fewer than 25% of older adults were likely to have a dental visit.[52] Without regular dental care, the likelihood that a preventable problem can result in the need for complicated and expensive care increases. A recent report from the Pew Charitable Trusts revealed that approximately 830,000 emergency room visits in 2009 were to treat dental-related problems.[53]

Identifying dental providers who accept Medicaid and other public dental insurance can be difficult.[53] Transportation and finding participating providers are significant barriers for low-income or rural populations.[54] According to the recent Pew report, data from several states revealed that only 10% to 20% of dentists accept patients who are covered through Medicaid. The major reason for this low participation in Medicaid was inadequate reimbursement rates.[53] In addition, lack of understanding and emphasis on the importance of oral health and oral health care by individuals and health professionals can be a significant barrier to accessing such care.[55] Supporting individuals to navigate the existing oral health-care system for timely and affordable care is critical.

The majority of dental problems are preventable, and the science has grown to preserve essential functions of teeth and other oral structures. To advance the oral health of the nation, the dental public health community should emphasize prevention and greater access to providers who are knowledgeable, sensitive, and responsive to diverse populations.

Strategies for goal 3

3-A. Expand the number of health-care settings that provide oral health care, including diagnostic, preventive, and restorative services in federally

qualified health centers, school-based health centers, Ryan White HIV/AIDS-funded programs, and IHS-funded health programs.

3-B. Strengthen the oral health workforce, expand capabilities of existing providers, and promote models that incorporate other clinicians.

3-C. Improve the knowledge, skills, and abilities of providers to serve diverse patient populations.

3-D. Promote health professionals' training in cultural competency.

3-E. Assist individuals and families in obtaining oral health services and connecting with a dental home.

3-F. Align dental homes and oral health services for children.

3-G. Create local, regional, and statewide partnerships that bridge the aging population and oral health systems.

3-H. Support the collection of sex- and racial/ethnic-stratified data pertaining to oral health.

Federal partners

Administration for Children and Families (ACF). The ACF aims to increase the number of children with a dental home by (*1*) helping grantees to identify dental homes for Early Head Start and Head Start children and families and (*2*) utilizing dental hygienist liaisons to work with state oral health contacts from the Office of Head Start, National Center on Health, to promote oral health care and improve oral health for pregnant women and children enrolled in Head Start. (Strategy 3-F)

Head Start regional offices use and analyze data to identify Head Start grantees and provide technical assistance to identify strategies for establishing dental homes for enrolled children in low performing states. Head Start also conducts a pilot project to develop a data-driven model to improve the Office of Head Start National Center on Health and Head Start regional offices' use of data to monitor grantee compliance. ACF also disseminates materials for programs to share with parents on the importance of establishing a dental home for their children, and shares materials and links to resources with Head Start programs and others to improve consistent messaging on oral health. (Strategy 3-F)

CMS. CMS helps states provide accurate and complete information about Medicaid and CHIP participating dentists, and encourages and broadly promotes the use of the Insure Kids Now dental provider locator tool.[56] (Strategy 3-E)

HRSA. HRSA supports the delivery of oral health services through health center programs; monitors dental expansion or renovation projects at community health centers and analyzes services data to measure increases in access to oral health services; supports the inclusion of oral health activities in school-based health centers; monitors the efforts of nearly 240 grantees funded for construction, renovation, and equipment purchases; provides grants to demonstrate effective ways to strengthen existing school-based health center capacity for early childhood and elementary/middle-school-aged children of greatest need to increase oral health access to services; and increases oral health care for individuals living with HIV/AIDS. Ryan White HIV/AIDS-funded programs provide oral health-care services to individuals living with HIV/AIDS. (Strategy 3-A)

HRSA works to increase dental workforce training through various HRSA-supported programs. The Ryan White HIV/AIDS Dental Reimbursement Program and Community-Based Dental Partnership programs train dental students and residents, dental hygiene students, and community-based dentists to provide oral health services to individuals living with HIV/AIDS. HRSA increases access to care for populations living in remote settings, and promotes area health education center efforts to facilitate and support oral health initiatives in their regions, including support for HRSA State Oral Health Workforce development grants. (Strategy 3-B)

HRSA works to increase the dental workforce through various HRSA-supported programs by providing support for dental workforce development, including training programs in general dentistry, pediatric dentistry, dental hygiene, and dental public health, to increase access to care, as well as through State Oral Health Workforce grants, loan repayment, and scholarship programs. The National Health Service Corps helps underserved communities receive critically needed primary medical, oral, behavioral, and mental health care. Through the National Health Service Corps, oral health students and clinicians can receive scholarships and loan repayment in return for committing to practice in a dental health professional shortage area for a defined period of time. (Strategy 3-B)

HRSA expands and sustains statewide oral health programs for pregnant women and infants to a national level, by expanding the availability and increasing the utilization of quality preventive dental care and restorative services for pregnant women and infants through a Perinatal and Infant Oral Health Quality Improvement Initiative (http://mchoralhealth.org/projects/piohqi.html), with a long-term goal to achieve sustainable improvement in the oral health-care status of maternal and child health populations most at risk. (Strategy 3-B)

HRSA also supports the collection of sex- and racial/ethnic-stratified data pertaining to oral health by Ryan White HIV/AIDS Program data reports. (Strategy 3-H)

Office for Civil Rights. The Office for Civil Rights ensures nondiscriminatory access to HHS-funded programs and services and continues to accept, investigate, and take action on complaints alleging discrimination by oral health-care providers. The Office for Civil Rights also develops and enforces standards for health information privacy, security, and breach notification; initiates compliance reviews; and investigates complaints alleging violations of the Health Insurance Portability and Accountability Privacy and Security Rules and reports under the Health Information Technology for Economic and Clinical Health (HITECH) Act Breach Notification Rule.[57] (Strategy 3-E)

OMH. OMH develops Web-based training that addresses the National Standards for Culturally and Linguistically Appropriate Services in Health Care and health literacy for oral health providers,[58] and offers cultural competency training for oral health professionals on the Think Cultural Health website (www.thinkculturalhealth.hhs.gov). (Strategy 3-D)

SAMHSA. SAMHSA offers access to oral health care for people with behavioral health disorders by providing a structured, sequential learning experience for single state agencies for substance abuse services, discretionary grantees, and other appropriate stakeholders on the correlation between oral health and behavioral health, how to detect oral health problems in behavioral health-care settings, and how to effectively link behavioral health clients to oral health care. (Strategy 3-C)

Multiagency efforts. ACF, Office of Assistant Secretary for Health (OASH), and Office on Women's Health (OWH) work together to increase the ability of oral health providers to identify victims of human trafficking and make referrals for services. They include oral health providers in pilot trainings conducted as part of the Federal Strategic Action Plan on Services for Victims of Human Trafficking in the United States, 2013–2017.[59] (Strategy 3-C)

HRSA and SAMHSA engage the SAMHSA-HRSA Center for Integrated Health Solutions to promote oral health and then disseminate oral health-care information and resources on the Center for Integrated Health Solutions website (www.integration.samhsa.gov). (Strategy 3-F)

HRSA and ACF implement the Interagency Memorandum of Understanding for Improving Oral Health for Migrant and Seasonal Head Start Children and Their Families by coordinating resources, aligning policies, fostering stronger working relationships, and ensuring that quality, culturally competent, and comprehensive oral and other primary health-care services are available in each state where Migrant and Seasonal Head Start programs and community health centers coexist.[60] (Strategy 3-G)

ACL, CDC, HRSA, and OASH/OWH work together to create local, regional, and statewide partnerships that bridge the aging and oral health systems, ultimately increasing access to oral health care for vulnerable older adults. They also leverage technology by bringing data together into an interactive, searchable Aging and Dental Services Mapping Tool. (Strategy 3-H)

CMS and OASH/OWH leverage the OWH Health of Girls and Women Across the Lifespan priority area to initiate discussions with CMS to improve the availability of treatment, oral health assessment, and surveillance of patients in assisted-living and long-term care facilities, particularly for women, who comprise the majority of individuals in assisted-living and long-term care facilities.[61] They also identify and promote oral health training for staff members in assisted-living and long-term care settings, particularly for individuals with cognitive and physical disabilities. (Strategy 3-H)

CDC and NIH collect and make oral health data publicly available, maintain oral health datasets for public use, and provide analysis on selected datasets related to state and national indicators. (Strategy 3-H)

GOAL 4: INCREASE THE DISSEMINATION OF ORAL HEALTH INFORMATION AND IMPROVE HEALTH LITERACY

According to the Institute of Medicine report, *Advancing Oral Health Care in America*, many patients and health-care professionals are unaware of the risk factors and preventive methodologies for oral diseases. Moreover, many patients do not clearly understand the relationship between oral health and overall health and well-being. Improving the communication and understanding of essential oral health messages is the key to behavior change.[1]

Given the multifaceted nature of oral health problems, treatment is often complex and requires clear and concise communication. Messaging must overcome cultural barriers to be easily understood by all stakeholders, including patients and providers. At the core of messaging is health literacy, defined as the "capacity to obtain, process, and use basic health information and services needed to make appropriate health decisions."[21]

A focus on health literacy is critically important, especially because the U.S. population is becoming

increasingly racially and ethnically diverse. One common barrier to effective communication is the preparation of health education materials that are not at appropriate literacy levels for the target populations. For example, some racial/ethnic populations may have limited English language proficiency because English is not their primary language. Problems with limited health literacy can be even worse for older adults, individuals with limited education, and the poor.[62–64] The Institute of Medicine report noted that adults with limited health literacy report less knowledge about their medical condition and treatment, poorer health status, less understanding and use of preventive services, and higher rates of hospitalization.[1]

Plain writing and simple verbal communication are essential when initiating individual and community-wide strategies.[65] Oral health literacy is pivotal for effective communication and building sustained collaborative relationships for addressing and eliminating barriers to oral health. Plain writing concepts, principles, policies, and practices should be infused at all levels of health management and service delivery to create oral health-literate organizations. At the same time, all health professionals are encouraged to participate in training opportunities to learn skills, strategies, and tools to communicate effectively with patients; share information about oral health issues with other health professionals; and develop health messages and patient education materials.

Oral health information should be integrated into the health record and be readily available to health providers. To this end, *Healthy People 2020* has added a new objective: "Use health communication strategies and health information technology (IT) to improve population health outcomes and health-care quality, and to achieve health equity."[16,66] Health IT will play a critical role in addressing the HHS Strategic Plan's objective to improve health care and population health through meaningful use of health IT.[67] As part of the Affordable Care Act, the HITECH Act was enacted to "promote the adoption and meaningful use of health [IT]."[68,69]

The benefits of combining health IT tools and effective health communication are expected to influence quality and safety in many health-care areas, including the efficiency and delivery of health care, improved public health information infrastructure, facilitation of clinical and consumer decision making, and improvement of health skills and knowledge.[68]

Strategies for goal 4

4-A. Enhance data value by making data easier to access and use for public health decision making through the development of standardized oral health measures and advancement of surveillance.

4-B. Improve the oral health literacy of health professionals through the use of evidence-based methods.

4-C. Improve the oral health literacy of patients and families by developing and promoting clear and consistent oral health messaging to health-care providers and the public.

4-D. Assess the health literacy environment of patient care settings.

4-E. Integrate dental, medical, and behavioral health information into electronic health records.

Federal partners

ACF. ACF presents oral health information, including parental engagement in oral health and oral health literacy at national, state, and regional meetings. (Strategy 4-D)

ACL. ACL undertakes oral health literacy and education efforts to help older adults, caregivers, communities, and health-care professionals to more successfully navigate the oral health-care system. (Strategy 4-B)

CDC. CDC builds public awareness of the immediate health damage caused by smoking and exposure to secondhand smoke and encourages smokers to quit through CDC's Tips from Former Smokers campaign. CDC also links individuals and health-care providers, including dental professionals, with resources to help patients quit. (Strategy 4-C)

CMS. CMS works to improve the collection and analysis of data and quality measures related to the delivery of Medicaid and CHIP oral health services, annually reports state progress on the oral health quality measures in the child core set of health-care quality measures, applies a mandatory quality-assurance process to the annual submission by states of CMS-416 dental data, and upgrades the CMS Form 416 instructions to be more specific to support more uniform reporting across states. CMS also supports the validation of two dental measures (sealants and continuity of care) for inclusion in the Meaningful Use Phase 3 for electronic health records, and the enhancement of the dental treatment quality measure in the child core set of quality measures through the Pediatric Quality Measures Program. (Strategy 4-A)

CMS develops and promotes free oral health education materials, in English and Spanish, targeted to parents and pregnant women. (Strategy 4-C)

U.S. Food and Drug Administration (FDA). FDA ensures the public has science-based information on drugs, devices, and foods to improve oral health; utilizes multimedia consumer information to provide timely updates to the general public and to specific audiences (e.g., seniors, women, patients and patient advocates, parents and caregivers, health educators, students, and children); educates the public about the health risks of tobacco through the Center for Tobacco Products; and reduces smoking in young people through the national youth tobacco prevention campaign, The Real Cost, which is targeted to at-risk teens aged 12–17 years who are open to smoking or are already experimenting with cigarettes. (Strategy 4-C)

HRSA. HRSA helps states and communities to address public oral health issues; and develops, updates, and disseminates tools, materials, and resources to promote oral health for the public and health professionals. (Strategy 4-C)

IHS. IHS establishes and promotes initiatives on oral health literacy and the integration of oral health into primary care. (Strategy 4-B) IHS also provides, through the IHS Electronic Dental Record project, all the necessary clinical and dental practice management functionality needed by IHS/tribal/urban dental programs (Strategy 4-E), and continues the deployment of the Electronic Dental Record project to new sites beyond the 134 sites that already have IHS-certified, -accredited, and -implemented electronic dental records.[70] (Strategy 4-B)

NIH. NIH evaluates the effectiveness of approaches to improve health literacy, supports studies to understand the basis of health disparities and inequalities, develops and tests interventions tailored and targeted to underserved populations, supports basic research to understand both the mechanisms of behavior change and the influence of behavioral and social factors on oral health, disseminates study findings, and develops culturally appropriate materials. (Strategy 4-D)

OASH/OWH. OASH/OWH share oral health resources and raise awareness through the OWH website and other social media, link the Oral Health Fact Sheet available online to other federal agencies that have oral health resources for the public, and develop additional fact sheets on the impact of oral health and Affordable Care Act preventive benefits for adults. (Strategy 4-C)

Office of the Secretary/OMH. The Office of the Secretary/OMH works to improve awareness of the benefits of electronic health records for providers serving underserved and at-risk communities, and use websites and trainings to fully promote functional and exchangeable

Department of Health and Human Services Oral Health Coordinating Committee Members

Margo R. Adesanya, DDS, MPH, National Institutes of Health/National Institute of Dental and Craniofacial Research, Office of Science Policy and Analysis, Rockville, MD
William Bailey, DDS, MPH, Centers for Disease Control and Prevention, Atlanta, GA
Donald C. Belcher, DMD, MS, U.S. Coast Guard, CG-1122 Division Chief, Quality and Performance Improvement, Washington, DC
Marco Beltran, DrPH, Administration for Children and Families, Washington, DC
Tracy Branch, MPAS, PA-C, OS/Office of Minority Health, Washington, DC
Marcia K. Brand, PhD, Health Resources and Services Administration, Rockville, MD
Edwin M. Craft, DrPH, MEd, LCPC, Substance Abuse and Mental Health Services Administration, Rockville, MD
Agnes H. Donahue, DDS, MSD, MPH, OS/Office of the Assistant Secretary for Health, OASH Intergovernmental Affairs/RHA, Washington, DC
Bruce A. Dye, DDS, MPH, National Center for Health Statistics, Hyattsville, MD
Gina Thornton-Evans, DDS, MPH, Centers for Disease Control and Prevention, Division of Oral Health, Atlanta, GA
Isabel Garcia, DDS, MPH, National Institutes of Health/National Institute of Dental and Craniofacial Research, Rockville, MD
Frederick Hyman, DDS, MPH, U.S. Food and Drug Administration, Center for Drug Evaluation and Research, Division of Dermatology and Dental Products, Silver Spring, MD
Renée Joskow, DDS, MPH, FAGD, Health Resources and Services Administration, Rockville, MD
Arlene M. Lester, DDS, MPH, OS/Office of Minority Health, Washington, DC
Nicholas S. Makrides, DMD, MPH, Federal Bureau of Prisons, Washington, DC
Richard J. Manski, DDS, PhD, MBA, Agency for Healthcare Research and Quality, Rockville, MD
Marian Mehegan, DDS, MPH, Office of Assistant Secretary for Health/Office on Women's Health, Washington, DC
Lynn Douglas Mouden, DDS, MPH, Centers for Medicare & Medicaid Services, Division of Quality, Evaluation, and Health Outcomes, Children and Adults Health Programs Group, Washington, DC
Danielle Nelson, MPH, Administration for Community Living, Washington, DC
Laurie Norris, JD, Centers for Medicare & Medicaid Services Oral Health Initiative, Division of Quality, Evaluation, and Health Outcomes, Washington, DC
Jessica O'Hara, MPP, Office of the Secretary/Office of the Assistant Secretary for Planning and Evaluation, Washington, DC
Gail Cherry-Peppers, DDS, MS, U.S. Food and Drug Administration, Center for Tobacco Products, Office of Science, Silver Spring, MD
Timothy L. Ricks, DMD, MPH, Indian Health Service, Nashville Area Office of Public Health, Nashville, TN
Rochelle Rollins, PhD, MPH, Administration for Children and Families, Washington, DC

electronic health records to improve the quality and convenience of patient care, increase patient participation in their care, improve the accuracy of diagnoses and health outcomes, improve care coordination, and increase practice efficiencies and cost savings. (Strategy 4-B)

OMH promotes the adoption of patient-provider communication tools and resources available through the Cultural Competency Program for Oral Health Professionals (https://oralhealth.thinkculturalhealth.hhs.gov) to enhance oral health providers' awareness of and sensitivity to the cultural and linguistic needs of racially/ethnically diverse patient populations. The tools are designed to assist professionals to improve communication with their patients in areas ranging from scheduling of future appointments to discussion of diagnosis and treatment to follow-up appointments. (Strategy 4-B)

OMH also incorporates information about enrollment in state and federal health insurance Marketplaces, options for policies that can be purchased in the Marketplaces, and information about children's oral health coverage into broader health education and promotion activities. (Strategy 4-C)

Bureau of Prisons (BOP). BOP develops and promotes virtual Web-based trainings and other electronic messages focused on the importance of health literacy. The trainings offer tools and techniques to assist providers in communicating verbal and written oral health information to patients based on plain writing and speaking. BOP also provides oral health training to health-care professionals who transition inmates from incarceration into the community. (Strategy 4-B)

BOP also assesses patients' comprehension of health messages and develops metrics or uses established metrics to survey the patient population. (Strategy 4-D) BOP standardizes and improves the usability of electronic dental records, refines electronic dental records for greater interoperability, and establishes a uniform dental diagnostic code set. (Strategy 4-E)

IHSC. IHSC develops oral health surveillance to quantify the prevalence of complex dental needs within the IHSC immigration population by collecting and applying data from electronic medical records. (Strategy 4-A)

IHSC initiates actions to overcome cultural, racial/ethnic, and language barriers; and develops and provides oral health education materials in the patient's primary language, including illustrations of oral health prevention instructions for patients with low literacy. (Strategy 4-C)

IHSC also utilizes patient questionnaires to assess and evaluate patient comprehension and oral health literacy. IHSC maintains and tracks IHSC electronic medical record and electronic dental record software programs, and developed initiatives to standardize dental diagnosis codes, templates, and forms. Additionally, IHSC monitors the medical and dental records software interfaces for easy access to the patient's complete dental/medical information. (Strategy 4-D)

U.S. Coast Guard. The U.S. Coast Guard integrates electronic dental and medical records, and implements and monitors the use of Epic, electronic medical record software used in clinics. (Strategy 4-E)

Multiagency efforts. All agencies promote professional evidence-based verbal communication methods, such as those in the Agency for Healthcare Research and Quality (AHRQ) Universal Precautions Toolkit, to improve the oral communication skills of health professionals. (Strategy 4-B)

GOAL 5: ADVANCE ORAL HEALTH IN PUBLIC POLICY AND RESEARCH

Biomedical and behavioral research provides knowledge to support the ever-evolving practice of health care. This scientific base requires a broad array of research strategies to understand the fundamental causes of diseases and to transform that knowledge into a lifetime of better health for people everywhere. Most dental, oral, and craniofacial conditions arise from complex interactions of biological, behavioral, environmental, and higher systems-level factors. Thus, oral health-related research must involve a number of approaches, including basic research, intervention studies, behavioral science and public health research, population-health studies, clinical trials, and community-based studies.

Research is needed to support an array of methods to address clinical questions, and increased efforts are needed to develop technologies for clinical risk assessment and diagnosis. Public-private partnerships are essential to understanding the causes and pathological processes of oral diseases and to enhance more rapid development of interventions. Communities and organizations must be able to benefit from scientific advances, which may contribute to changes in the reimbursement and delivery of services as well as enhance knowledge of risk factors.[71] Dissemination of oral health advances is critical to the effective transfer of research findings to the public, providers, and policy makers.[1,72]

Given the broad reach of the federal government's oral health efforts and the increasing integration of oral health core clinical competencies across disciplines, the opportunity to develop and disseminate

policies supportive of change is substantial. Highly visible issues include protecting and expanding the optimal fluoridation of public water systems, increasing children's access to dental sealants, expanding the use of electronic dental records, increasing the use of integrated biological data, designing and deploying pay-for-performance reimbursement methodologies, expanding and diversifying the dental workforce, reducing the racial/ethnic disparities that persist in oral health, and implementing the Affordable Care Act. Other areas that are receiving greater visibility are the training of oral health professionals to provide language-appropriate and culturally competent care for diverse populations and trauma-informed care for abused or trafficked populations. Collaboration between government and private-sector partners can leverage the resources needed to address these important policy issues.

Strategies for goal 5

5-A. Expand applied research approaches, including behavioral, clinical, and population-based studies; practice-based research; and health services research to improve oral health.

5-B. Support research and activities that examine the influence of health-care system organization, reimbursement, and policies on the provision of oral health care, including fostering government and private-sector collaboration.

5-C. Address disparities in oral health through research that fosters engagement of individuals, families, and communities in developing and sharing solutions and behaviors to meet their unique needs.

5-D. Promote the translation of research findings into practice and use.

5-E. Develop policy approaches that support state Medicaid and CHIP to move from paying for volume to purchasing value, and from treating disease to preventing disease.

5-F. Evaluate the impact of policy on access to care, oral health services, and quality.

Federal partners

Agency for Healthcare Research and Quality. AHRQ encourages and supports intramural and extramural research and disseminates innovations in health-care delivery; collects information on oral health-care needs, access, and expenditures; makes data available to researchers external to the federal government; and funds extramural research on oral health-care expenditures, insurance coverage, and access to care. (Strategy 5-A)

AHRQ also aims to improve the quality, safety, efficiency, and efficacy of health care for all American citizens, and to improve health-care outcomes by encouraging the use of evidence to make informed health-care decisions. (Strategy 5-D)

CDC. CDC enhances national oral health surveillance efforts by developing measures for use in surveillance of periodontal disease at the state and local levels; enhances surveillance of dental caries, periodontal disease, dental fluorosis, and fluoride intake; and supports the oral health components of the National Health and Nutrition Examination Survey. CDC also enhances state oral health surveillance efforts, provides funding to states through grants, and works with partners to assess and expand the capacity of state health departments to implement oral health surveillance. CDC enhances the National Oral Health Surveillance System used for state oral health surveillance, including implementing new indicators and transitioning to a new platform that provides enhanced capabilities and ease of use. (Strategy 5-A)

CDC promotes best practices and establishes guidelines for clinicians and public health practitioners on sealant programs, infection control, and community water fluoridation. (Strategy 5-D)

CMS. CMS aligns agency actions on dental care in Medicaid and CHIP with overall efforts to improve health and health care and lower costs. CMS also identifies opportunities to work with state Medicaid and CHIP agencies to promote and reimburse for risk assessment, evidence-based prevention, and chronic disease-management approaches to address early childhood caries. (Strategy 5-E)

FDA. FDA aims to (*1*) reduce the time needed to bring safe and effective medical devices to the U.S. market through the establishment of a commitment (the Medical Device User Fee Amendments) between the U.S. medical device industry and FDA; (*2*) facilitate the approval of safe and effective innovations that make drugs and devices that diagnose, treat, prevent, or mitigate oral disease; (*3*) improve communication and transparency between the drug applicant and the review team; and (*4*) expedite its review of promising new drugs for serious and life-threatening conditions through implementation of the FDA Safety and Innovation Act of 2012. (Strategy 5-A) FDA also works to reduce the public health burden from tobacco-related disease and death by regulating the manufacture, marketing, and distribution of tobacco products.[73] (Strategy 5-D)

HRSA. HRSA fosters an increase in the oral health competency of primary care clinicians and evaluates the impact on improving the oral health of populations in need. HRSA also engages associations, professional organizations, and accrediting bodies to increase the oral health competency of non-dental primary care clinicians through changes in licensure examinations, policies related to reimbursement, and evaluation of pilot and demonstration projects. (Strategy 5-B) Additionally, HRSA disseminates oral health research findings to advance the provision of oral health care for people living with HIV/AIDS. (Strategy 5-D)

IHS. IHS works to increase access to and sharing of data and support for epidemiology programs at the state, local, and tribal government levels, and partners with urban Indian organizations to resolve oral health disparities. IHS also aims to improve surveillance and epidemiologic capacity, enhance the ability to detect emerging threats, and monitor ongoing health issues and risk factors. (Strategy 5-C)

NIH. NIH works to expand intervention studies aimed at preventing and managing oral infections and complex diseases, and improve oral health through clinical trials, practice-based research, and studies that provide scientific evidence to establish or change standards of care or change health-care policy. NIH also leverages research to develop effective and personalized disease-management strategies, enhance patient-provider communication, partner with public and private organizations, and enable precise and personalized oral health care. (Strategy 5-A)

NIH supports oral health disparities research to better understand health disparities and inequalities and supports basic research to understand both the mechanisms of behavior change and the influence of behavioral and social factors on oral health. NIH develops and tests interventions that are designed to facilitate behavior change among families, communities, and providers serving underserved populations, and disseminates findings that can be used to translate the research into practice and action for these communities. (Strategy 5-C)

Multiagency efforts. CDC and NIH enhance surveillance and research activities related to monitoring the effects of the final national community water fluoridation recommendation, and evaluate the effects through detailed assessments of dental caries/dental fluorosis and monitoring fluoride content levels of home tap water. NIH and HRSA foster public/private partnerships that enhance science dissemination and translation into practice. The two organizations cosponsor a scientific meeting, Innovations in the Prevention and Treatment of Early Childhood Caries, to advance research and disseminate current and emerging approaches for the prevention, treatment, and impact on the prevalence of early childhood caries. (Strategy 5-A)

OASH/OWH and ACL inform and advance policy on the importance of evidence-based oral health as part of healthy aging, and use the Healthy Aging initiative, Oral Health and Women, to inform and advance policy.[74] OASH/OWH and HRSA advance policy on the interdisciplinary approach to violence and abuse as part of women's health curriculum in dental training institutions on screening and referral using principles of trauma-informed care. The agencies focus on the intimate partner violence screening and counseling preventive benefit under the Affordable Care Act and opportunities to train emerging dentists. (Strategy 5-B)

SAMHSA, HRSA, and NIH continue efforts to collaborate across behavioral health programs to assure that comprehensive information on the science of behavioral disorders is disseminated to dentists. HRSA, NIH, and CDC also collaborate to improve the dissemination of evidence-based oral health-care information to health-care providers and the public, and engage others to help develop and implement solutions to improve overall health and well-being. (Strategy 5-D)

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Address correspondence to: Nicholas S. Makrides, DMD, MPH, U.S. Public Health Service, Federal Bureau of Prisons, 320 First St. NW, Washington, DC 20534; e-mail <nmakrides@bop.gov>.

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