

National Call To Action To Promote Oral Health

A Public-Private Partnership

*under the leadership of
The Office of the Surgeon General*

Acknowledgements

We express our appreciation to the many voluntary and professional organizations, private and government agencies, foundations, and universities that contributed to the development of this document. We thank them for their existing and future efforts to improve the nation's health through promoting oral health and for their commitment to public-private partnerships.

Suggested Citation

U.S. Department of Health and Human Services. *National Call to Action to Promote Oral Health*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Dental and Craniofacial Research. NIH Publication No. 03-5303, Spring 2003.

Preface from the Surgeon General

The great and enduring strength of American democracy lies in its commitment to the care and well-being of its citizens. The nation's long-term investment in science and technology has paid off in ever-expanding ways to promote health and prevent disease. We can be proud that these advances have added years to the average life span and enhanced the quality of life. But an "average" is necessarily derived from all values along a continuum and it is here that we come to recognize gaps in health and well-being. Not all Americans are benefiting equally from improvements in health and health care. America's continued growth in diversity has resulted in a society with broad educational, cultural, language, and economic differences that hinder the ability of some individuals and groups from realizing the gains in health enjoyed by many. These health disparities were highlighted in the year 2000 Surgeon General's report: *Oral Health in America* where it was reported that no less than a "silent epidemic of oral diseases is affecting our most vulnerable citizens—poor children, the elderly, and many members of racial and ethnic minority groups." The report also highlighted the disabling oral and craniofacial aspects of birth

defects.

The report was a wake-up call, raising a powerful voice against the silence. It called upon policymakers, community leaders, private industry, health professionals, the media, and the public to affirm that oral health is essential to general health and well-being and *to take action*. No one should suffer from oral diseases or conditions that can be effectively prevented and treated. No schoolchild should suffer the stigma of craniofacial birth defects nor be found unable to concentrate because of the pain of untreated oral infections. No rural inhabitant, no homebound adult, no inner city dweller should experience poor oral health because of barriers to access to care and shortages of resources and personnel.

Now that call to action has been taken up. Under a broad coalition of public and private organizations and individuals, orchestrated by the principals who led the development of the *National Call To Action To Promote Oral Health* has been generated. We applaud the efforts of these partners to heed the voices of their fellow Americans. At regional meetings across the country concerned citizens addressed the critical need to resolve inequities in oral health affecting their communities. More than that, ideas and programs were described to explain what groups at local, state or regional levels were doing or could do to resolve the issues.

Combining this store of knowledge and experience with private and public plans and programs already under way has enabled the partnership to extract the set of five principal actions and implementation strategies that constitute the *National Call To Action To Promote Oral Health*. These actions crystallize the necessary and sufficient tasks to be undertaken to assure that *all* Americans can achieve optimal oral health. It is abundantly clear that these are not tasks that can be accomplished by any single agency, be it the Federal government, state health agencies, or private organizations. Rather, just as the actions have been developed through a process of collaboration and communication across public and private domains, their successful execution calls for partnerships that unite private and public groups focused on common goals. The seeds for such future collaborative efforts have already been sown by all those who participated in the development of this *Call To Action*. We appreciate their dedication and take it as our mutual responsibility to further partnership activities and monitor their impact on the health of the public. We are confident that sizable rewards in health and well-being can accrue for all Americans as these actions are implemented.

Richard H. Carmona, M.D., M.P.H., F.A.C.S.
VADM, USPHS
Surgeon General and Acting Assistant
Secretary for Health

Table of Contents

- [Introduction](#)
- [Partnering for Progress](#)

- [Vision and Goals](#)
- [The Actions](#)
 - [Action 1: Change Perceptions of Oral Health](#)
 - [Action 2: Overcome Barriers by Replicating Effective Programs and Proven Efforts](#)
 - [Action 3: Build the Science Base and Accelerate Science Transfer](#)
 - [Action 4: Increase Oral Health Workforce Diversity, Capacity, and Flexibility](#)
 - [Action 5: Increase Collaborations](#)
- [The Need for Action Plans](#)
- [Next Steps](#)
- [Appendix 1: Partnership Network Members](#)
- [Appendix 2: What People Said](#)

Introduction

The *National Call To Action To Promote Oral Health* is addressed to professional organizations and individuals concerned with the health of their fellow Americans. It is an invitation to expand plans, activities, and programs designed to promote oral health and prevent disease, especially to reduce the health disparities that affect members of racial and ethnic groups, poor people, many who are geographically isolated, and others who are vulnerable because of special oral health care needs. The *National Call To Action To Promote Oral Health*, referred to as the *Call To Action*, reflects the work of a partnership of public and private organizations who have specified a vision, goals, and a series of actions to achieve the goals. It is their hope to inspire others to join in the effort, bringing their expertise and experience to enrich the partnership and thus accelerate a movement to enhance the oral and general health and well-being of all Americans.

Origins of the Call To Action

Oral Health in America: A Report of the Surgeon General alerted Americans to the importance of oral health in their daily lives^[1]. The Report, issued in May 2000, provided state-of-the-science evidence on the growth and development of oral, dental and craniofacial tissues and organs; the diseases and conditions affecting them; and the integral relationship between oral health and general health, including recent reports of associations between chronic oral infections and diabetes, osteoporosis, heart and lung conditions, and certain adverse pregnancy outcomes. The text further detailed how oral health is promoted, how oral diseases and conditions are prevented and managed, and what needs and opportunities exist to enhance oral health. Major findings and themes of the report are highlighted in Table 1.

Table 1: Major Findings and Themes from *Oral Health in America: A Report of the Surgeon General*

Oral health is more than healthy teeth.

Oral diseases and disorders in and of themselves affect health and well-being throughout life.

The mouth reflects general health and well-being.

Oral diseases and conditions are associated with other health problems.

Lifestyle behaviors that affect general health such as tobacco use, excessive alcohol use, and poor dietary choices affect oral and craniofacial health as well.

Safe and effective measures exist to prevent the most common dental diseases—dental caries and periodontal diseases.

There are profound and consequential oral health disparities within the U.S. population.

More information is needed to improve America's oral health and eliminate health disparities.

Scientific research is key to further reduction in the burden of diseases and disorders that affect the face, mouth, and teeth.

Source: U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000: 10-11.

The Report's message was that oral health is essential to general health and well-being and can be achieved. However, a number of barriers hinder the ability of some Americans from attaining optimal oral health. The Surgeon General's Report concluded with a framework for action, calling for a national oral health plan to improve quality of life and eliminate oral health disparities.

The Rationale for Action

The rationale for action is based on data from the Surgeon General's Report (Table 2). These and other data on the economic, social, and personal burdens of oral diseases and disorders show that although the nation has made substantial improvements in oral health, more must be done.

Table 2. The Burden of Oral Diseases and Disorders

The Burden of Oral Diseases and Disorders

Oral diseases are progressive and cumulative and become more complex over time. They can affect our ability to eat, the foods we choose, how we look, and the way we communicate. These diseases can affect economic productivity and compromise our ability to work at home, at school, or on the job. Health disparities exist across population groups at all ages. Over one third of the U.S. population (100 million people) has no access to community water fluoridation. Over 108 million children and adults lack dental insurance, which is over 2.5 times the number who lacks medical insurance. The following are highlights of oral health data for children, adults, and the elderly. (Refer to the full report for details of these data and their sources).

Children

- Cleft lip/palate, one of the most common birth defects, is estimated to affect 1 out of 600 live births for whites, and 1 out of 1,850 live births for African Americans.
- Other birth defects such as hereditary ectodermal dysplasias, where all or most teeth are missing or misshapen, cause lifetime problems that can be devastating to children and adults.
- Dental caries (tooth decay) is the single most common chronic childhood disease – 5 times more common than asthma and 7 times more common than hay fever.
- Over 50 percent of 5- to 9-year-old children have at least one cavity or filling, and that proportion increases to 78 percent among 17-year-olds. Nevertheless, these figures represent improvements in the oral health of children compared to a generation gap.
- There are striking disparities in dental disease by income. Poor children suffer twice as much dental caries as their more affluent peers, and their disease is more likely to be untreated. These poor-nonpoor differences continue into adolescence. One out of four children in America is born into poverty, and children living below the poverty line (annual income of \$17,000 for a single family of four) have more severe and untreated decay.
- Tobacco-related oral lesions are prevalent in adolescents who currently use smokeless (spit) tobacco.
- Unintentional injuries, many of which include head, mouth, and neck injuries, are common in children.
- Intentional injuries commonly affect the craniofacial tissues.
- Professional care is necessary for maintaining oral health, yet 25 percent of poor children have not seen a dentist before entering kindergarten.
- Medical insurance is a strong predictor of access to dental care. Uninsured children are 2.5 times less likely than insured children to receive dental care. Children from families without dental insurance are 3 times more likely to have dental needs than children with either public or private insurance. For each child without medical insurance, there are at least 2.6 children without dental insurance.
- Medicaid has not been able to fill the gap in providing dental care to poor children. Fewer than one in five Medicaid-covered children received a single dental visit in a recent year-

long study period. Although new programs such as the State Children's Health Insurance Program (SCHIP) may increase the number of insured children, many will still be left without effective dental coverage.

- The social impact of oral diseases in children is substantial. More than 51 million school hours are lost each year to dental-related illness. Poor children suffer nearly 12 times more restricted-activity days than children from higher-income families. Pain and suffering due to untreated diseases can lead to problems in eating, speaking, and attending to learning.

Adults

- Most adults show signs of periodontal or gingival diseases. Severe periodontal disease (measured as 6 millimeters of periodontal attachment loss) affects about 14 percent of adults aged 45-54.
- Clinical symptoms of viral infections, such as herpes labialis (cold sores), and oral ulcers (canker sores) are common in adulthood affecting about 19 percent of adults 22 to 44 years of age.
- Chronic disabling diseases such as temporomandibular disorders, Sjögren's syndrome, diabetes, and osteoporosis affect millions of Americans and compromise oral health and functioning
- Pain is a common symptom of craniofacial disorders and is accompanied by interference with vital functions such as eating, swallowing, and speech. Twenty-two percent of adults reported some form of oral-facial pain in the past 6 months. Pain is a major component of trigeminal neuralgia, facial shingles (post-herpetic neuralgia), temporomandibular disorders, fibromyalgia and Bell's palsy
- Population growth as well as diagnostics that are enabling earlier detection of cancer means that more patients than ever before are undergoing cancer treatments. More than 400,000 of these patients will develop oral complications annually.
- Immunocompromised patients, such as those with HIV infection and those undergoing organ transplantation, are at higher risk for oral problems such as candidiasis.
- Employed adults lose more than 164 million hours of work each year due to dental disease or dental visits
- For every adult 19 years or older with medical insurance, there are three without dental insurance.
- A little less than two thirds of adults report having visited a dentist in the past 12 months. Those with income at or above the poverty level are twice as likely to report a dental visit in the past 12 months as those who are below the poverty line.

Older Adults

- Twenty-three percent of 65- to 74-year-olds have severe periodontal disease (measured as 6 millimeters of periodontal attachment loss). (Also, at all ages men are more likely than women to have more severe diseases, and at all ages people at the lowest socioeconomic levels have more severe periodontal disease.)

- About 30 percent of adults 65 years and older are edentulous, compared to 46 percent 20 years ago. These figures are higher for those living in poverty.
- Oral and pharyngeal cancers are diagnosed in about 30,000 Americans annually; 8,000 die from these diseases each year. These cancers are primarily diagnosed in the elderly. Prognosis is poor. The 5-year survival rate for white patients is 56 percent; for blacks, it is only 34 percent.
- Most older Americans take both prescription and over-the-counter drugs. In all probability, at least one of the medications used will have an oral side effect – usually dry mouth. The inhibition of salivary flow increases the risk for oral disease because saliva contains antimicrobial components as well as minerals that can help rebuild tooth enamel after attack by acid-producing, decay-causing bacteria. Individuals in long-term care facilities are prescribed an average of eight drugs.
- At any given time, 5 percent of Americans aged 65 and older (currently some 1.65 million people) are living in a long-term care facility where dental care is problematic.
- Many elderly individuals lose their dental insurance when they retire. The situation may be worse for older women, who generally have lower incomes and may never have had dental insurance. Medicaid funds dental care for the low-income and disabled elderly in some states, but reimbursements are low. Medicare is not designed to reimburse for routine dental care.

Source: U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000:2-3.

The nation's total bill for dental services was estimated by the Department of Health and Human Services' Centers for Medicare and Medicaid Services to be \$70.1 billion in 2002; this figure underestimates the true cost because it does not take into account the indirect expenses of oral health problems, nor the cost of services by other health care providers. These other providers include specialists who treat people with craniofacial birth defects, such as cleft lip or palate, and children born with genetic diseases that result in malformed teeth, hair, skin, and nails, as happens in the ectodermal dysplasias. Patients with oral cancers, chronic pain conditions such as temporomandibular (jaw) disorders, autoimmune disease such as Sjögren's syndrome (which leads to the destruction of the salivary and tear glands) and victims of unintentional or intentional facial injury are examples of other groups of patients who may require costly and long-term oral and medical services. Beyond these expenses are the millions of school and work hours lost every year because of oral health problems.

Partnering for Progress

Aware that the Report had reinforced and stimulated a number of ongoing activities, but seeing a need to

facilitate communication and coordination of the nation's efforts, the Office of the Surgeon General extended an open invitation to organizations to launch the development of the *Call To Action*. The resulting Partnership Network (Appendix 1) was charged to enumerate promising existing initiatives to enhance oral health, with an emphasis on those related to the Surgeon General's Report and to the *Healthy People 2010* oral objectives^[2], and to expand these efforts by enlisting the expertise of individuals, health care providers, communities, and policymakers at all levels of society. Input was captured through convening listening sessions held in five cities and by using Internet websites. The listening sessions were much like town hall meetings, providing opportunities to present the issues and solutions and attracting participants with diverse points of view. The testimony proved to be extremely valuable in demonstrating the extent to which oral health concerns extend beyond the oral health community and in providing a wealth of ideas and activities for resolving the issues (Appendix 2). The text that follows expresses the vision, goals, and actions proposed for the *Call To Action*.

Vision and Goals

The Vision

of the *Call To Action* is

To advance the general health and well-being of all Americans by creating critical partnerships at all levels of society to engage in programs to promote oral health and prevent disease.

The Goals

of the *Call To Action* reflect those of *Healthy People 2010*:

To promote oral health.

To improve quality of life.

To eliminate oral health disparities.

As a force for change to enhance the nation's overall health and well-being, the *Call To Action* urges that oral health promotion, disease prevention, and oral health care have a presence in all health policy agendas set at local, state, and national levels. For this to happen, the public, health professionals, and policymakers must understand that oral health is essential to general health and well-being at every stage of life. In addition, the oral health community must be ready to act in efforts to address the nation's overall health agenda.

The Actions

Each of the five actions that follow should be read as a call for a response from the individuals and groups who are most concerned and in a position to act—whether as community leaders, volunteers, health care professionals, research investigators, policymakers, and other concerned parties, or as public and private agencies able to bring their organizational mandates and strengths to the issues. The groups and individuals responding need to work as partners, sharing ideas and coordinating activities to capitalize on joint resources and expertise to achieve common goals. The actions proposed reflect ideas and approaches outlined in the Surgeon General’s Report and emphasized in public testimony during listening sessions. Note, however, that individual Network members may not necessarily concur with every assessment or conclusion in the text that follows.

The theme that emerged was that people care about their oral health, are able to articulate the problems they face, and can devise ingenious solutions to resolve them--often through creative partnerships. Ultimately, the measure of success for any of any of these actions will be the degree to which individuals and communities--the people of the nation itself--gain in overall health and well-being. To achieve those ends, the partners have proposed four guiding principles: Actions should be 1) culturally sensitive, 2) science based, 3) integrated into overall health and well-being efforts, and 4) routinely evaluated.

Action 1. Change Perceptions of Oral Health

For too long, the perception that oral health is in some way less important than and separate from general health has been deeply ingrained in American consciousness. Activities to overcome these attitudes and beliefs can start at the grassroots level, which can then lead to a coordinated national movement to increase oral health literacy, defined as the degree to which individuals have the capacity to obtain, process, and understand basic oral and craniofacial information and services needed to make appropriate health decisions. By raising Americans’ level of awareness and understanding of oral health, people can make informed decisions and articulate their expectations of what they, their communities, and oral health professionals can contribute to improving health; health professionals and researchers can benefit from work with oral health partners; and policymakers can commit to including oral health in health policies. In this way, the prevention, early detection, and management of diseases of the dental, oral, and craniofacial tissues can become integrated in health care, community-based programs, and social services, and promote the general health and well-being of all Americans.

Implementation strategies to change perceptions are needed at local, state, regional, and national levels and for all population groups. All stakeholders should work together and use data in order to:

Change public perceptions

- Enhance oral health literacy.
- Develop messages that are culturally sensitive and linguistically competent.
- Enhance knowledge of the value of regular, professional oral health care.
- Increase the understanding of how the signs and symptoms of oral infections can indicate general health status and act as a marker for other diseases.

Change policymakers' perceptions

- Inform policymakers and administrators at local, state, and federal levels of the results of oral health research and programs and of the oral health status of their constituencies.
- Develop concise and relevant messages for policymakers.
- Document the health and quality-of-life outcomes that result from the inclusion (or exclusion) of oral health services in programs and reimbursement schedules.

Change health providers' perceptions

- Review and update health professional educational curricula and continuing education courses to include content on oral health and the association between oral health and general health.
- Train health care providers to conduct oral screenings as part of routine physical exams and make appropriate referrals.
- Promote interdisciplinary training of medical, oral health, and allied health professional personnel in counseling patients about how to reduce risk factors common to oral and general health.
- Encourage oral health providers to refer patients to other health specialists as warranted by examinations and history. Similarly, encourage medical and surgical providers to refer patients for oral health care when medical or surgical treatments that may impact oral health are planned.

Action 2. Overcome Barriers by Replicating Effective Programs and Proven Efforts

Reduce disease and disability. While the effectiveness of preventive interventions such as community water fluoridation and school-based dental sealants applied to children at risk have been persuasively demonstrated, very few states have implemented both measures sufficiently to meet their health objectives. Private and public agencies have conducted pilot projects and demonstration programs to inform the public and health professionals on ways to reduce the burden of oral disease through education, behavior change, risk reduction, early diagnosis, and disease prevention management. Local efforts to engage and educate community leaders in activities to improve oral health have been developed. The designs and outcomes of those programs should be well documented, evaluated, and made available to others. *The Guide to Community Preventive Services*^[3] and *The Guide to Clinical Preventive Services*^[4] provide criteria and strong foundations for evaluating the scientific evidence and promoting effective interventions. Testimony at the listening sessions also identified programs and interventions that warrant consideration.

Having accurate data on disease and disabilities for a given population is critical. Program success depends on how well the program is designed and implemented to address the defined problems. While available data reveal variations within and among states and population groups in patterns of health and disease, there are many subpopulations for which data are limited or nonexistent.

Improve oral health care access. Health disparities are commonly associated with populations whose access to health care services is compromised by poverty, limited education or language skills, geographic isolation, age, gender, disability, or an existing medical condition. While Medicaid, State Children's Health Insurance Programs (SCHIP), and private organizations have expanded outreach efforts to identify and enroll eligible persons and simplify the enrollment process, they have not completely closed the gap. Adults lacking language skills or reading competence may not know that they or their children are eligible for dental (or medical) services. In addition, some 25 million Americans live in dental care shortage areas, as defined by Health Professional Shortage Area criteria.

Those who seek care may be faced with health practitioners who lack the training and cultural competence to communicate effectively in order to provide needed services. Programs that have overcome these barriers, including outreach efforts and community service activities conducted through dental schools and other health professional schools and residency programs, should be highlighted and replicated.

Compounding health disparity problems is the lack of adequate reimbursement for oral care services in both public and private programs. Private insurance coverage for dental care is increasing, but still lags behind medical insurance. Inadequate reimbursement has been reported for many Medicaid and SCHIP programs. Eligibility for Medicaid does not ensure enrollment, and enrollment does not ensure that individuals obtain needed care. Several states are demonstrating the potential for improving children's oral health access by conducting outreach programs to the public and improving provider participation through operational changes. These improvements include increasing dental reimbursement to competitive levels, eliminating bureaucratic administrative barriers, contracting out the management of dental benefit plans, and modeling commercial insurance programs to eliminate patient stigma associated with Medicaid.

The federal effort to address gaps in care through new funding for oral health services at Community Health Centers and Migrant Health Centers is also a positive step. Appendix 2 describes a number of approaches for improving oral health care access that were presented in testimony. No matter which approach is taken, a necessary first step is to establish close working relationships with the groups in question so that strategies tailored to their varying and continuing health needs can be developed.

Enhance health promotion and health literacy. Public policies and community interventions to make health care and information more accessible have been effective. So have been efforts to encourage healthier lifestyles and increase interventions for prevention or early detection of disease by changing the environment (the places where people work, play, learn, or live). Expansion of community-based health promotion and disease prevention programs, including increasing understanding of what individuals can do to enhance oral health, is essential if the needs of the public are to be met. Policies and programs concerning tobacco cessation, dietary choices, wearing protective gear for sports, and other lifestyle-related efforts not only will benefit oral health, but are natural ways to integrate oral health promotion with promotion of general health and well-being.

Many Americans don't know why oral health is important, they don't know all they can do to preserve

their oral health, and may not recognize signs indicating that they are in trouble. Several oral health campaigns are raising awareness of why oral health is important and how to access care, such as a nationwide campaign by the American Dental Association emphasizing the importance of the early diagnosis of oral cancer. It is encouraging that messages like these are being communicated--through public service announcements, campaigns, and all the venues available in today's media-conscious culture. More needs to be done to increase the health literacy of the public.

Implementation strategies to overcome barriers in oral health disparities need to engage all groups, particularly those most vulnerable, in the development of oral health care programs that work to eliminate health disparities and aim to:

Identify and reduce disease and disability

- Implement science-based interventions appropriate for individuals and communities.
- Enhance oral health-related content in health professions school curricula, residencies, and continuing education programs, by incorporating new findings on diagnosis, treatment and prevention of oral diseases and disorders.
- Build and support epidemiologic and surveillance databases at national, state, and local levels to identify patterns of disease and populations at risk. Data are needed on oral health status, disease, and health services utilization and expenditures, sorted by demographic variables for various populations. Surveys should document baseline status, monitor progress, and measure health outcomes.
- Determine, at community or population levels, oral health care needs and system requirements, including appropriate reimbursement for services, facility and personnel needs, and mechanisms of referral.
- Encourage partnerships among research, provider, and educational communities in activities, such as organizing workshops and conferences, to develop ways to meet the education, research, and service needs of patients who need special care and their families.
- Refine protocols of care for special care populations based on the emerging science base.

Improve access to oral health care

- Promote and apply programs that have demonstrated effective improvement in access to care.
- Create an active and up-to-date database of these programs.
- Explore policy changes that can improve provider participation in public health insurance programs and enhance patient access to care.
- Remove barriers to the use of services by simplifying forms, letting individuals know when and how to obtain services, and providing transportation and child care as needed. Assist low-income patients in arranging and keeping oral health appointments.
- Facilitate health insurance benefits for diseases and disorders affecting craniofacial, oral, and dental tissues, including genetic diseases such as the ectodermal dysplasias, congenital anomalies such as clefting syndromes, autoimmune diseases such as Sjögren's syndrome, and chronic orofacial pain conditions such as temporomandibular disorders.

- Ensure an adequate number and distribution of culturally competent providers to meet the needs of individuals and groups, particularly in health-care shortage areas.
- Make optimal use of oral health and other health care providers in improving access to oral health care.
- Energize and empower the public to implement solutions to meet their oral health care needs.
- Develop integrated and comprehensive care programs that include oral health care and increase the number and types of settings in which oral health services are provided.
- Explore ways to sustain successful programs.
- Apply evaluation criteria to determine the effectiveness of access programs and develop modifications as necessary.

Enhance health promotion and health literacy

- Apply strategies to enhance the adoption and maintenance of proven community-based and clinical interventions, such as community water fluoridation and dental sealants application.
- Identify the knowledge, opinions, and practices of the public, health care providers, and policymakers with regard to oral diseases and oral health.
- Engage populations and community organizations in the development of health promotion and health literacy action plans.
- Publicize successful programs that promote oral health to facilitate their replication.
- Develop and support programs promoting general health that include activities supporting oral health (such as wearing oral facial protection, tobacco cessation, good nutrition).

Action 3. Build the Science Base and Accelerate Science Transfer

Advances in health depend on biomedical and behavioral research aimed at understanding the causes and pathological processes of diseases. This can lead to interventions that will improve prevention, diagnosis, and treatment. Too many people outside the oral health community are uninformed about, misinformed about, or simply not interested in oral health. Such lack of understanding and indifference may explain why community water fluoridation and school-based dental sealant programs fall short of full implementation, even though the scientific evidence for their effectiveness has been known for some time and was reaffirmed with the release of *Oral Health in America*. These and other effective preventive and early detection programs should be expanded—especially to populations at risk.

Biomedical and behavioral research in the 21st century will provide the knowledge base for an ever-evolving health care practice. This scientific underpinning requires the support of the full range of research from basic studies to large-scale clinical trials. To achieve a balanced science portfolio it is essential to expand clinical studies, especially the study of complex oral diseases that involve the interactions of genetic, behavioral, and environmental factors. Clinical trials are needed to test interventions to diagnose and manage oral infections, complications from systemic diseases and their treatment, congenital and acquired defects, and other conditions. Oral health research must also pursue research on chronic oral infections associated with heart and lung disease, diabetes, and premature low-

birth-weight babies. Such research must be complemented by prevention and behavioral science research (including community-based approaches and ways to change risk behavior), health services research to explore how the structure and function of health care services affect health outcomes, and by population health and epidemiology research to understand potential associations among diseases and possible risk factors. Surveys are needed to establish baseline health data for America's many subpopulations as well as to monitor changing patterns of disease.

No one can foresee the findings from genetic studies in the years ahead, but without question these advances will profoundly affect health, even indicating an individual's susceptibility to major diseases and disorders. Hybrid sciences of importance to oral health are also on the rise. For example, bioengineering studies are establishing the basis for repair and regeneration of the body's tissues and organs—including teeth, bones, and joints-- and ultimately full restoration of function. Oral diagnostics, using saliva or oral tissue samples, will contribute to overall health surveillance and monitoring.

If the public and their care providers are to benefit from research, efforts are needed to transfer new oral knowledge into improved means of diagnosis, treatment, and prevention. The public needs to be informed, accurately and often, of findings that affect their health. They need clear descriptions of the results from research and demonstration projects concerning lifestyle behaviors and disease prevention practices. At the same time, research is needed to determine the effect of oral health literacy on oral health. Communities and organizations must also be able to reap the benefits of scientific advances, which may contribute to changes in the reimbursement and delivery of services, as well as enhance knowledge of risk factors. Advances in science and technology also mean that life-long learning for practitioners is essential, as is open lines of communication among laboratory scientists, clinicians, and the academic faculties that design the curricula, write the textbooks, and teach the classes that prepare the next generation of health care providers.

Implementation strategies to build a balanced science base and accelerate science transfer should benefit all consumers, especially those in poorest oral health or at greatest risk. Specifically there is a need to:

Enhance applied research (clinical and population-based studies, demonstration projects, health services research) to improve oral health and prevent disease

- Expand intervention studies aimed at preventing and managing oral infections and complex diseases, including new approaches to prevent dental caries and periodontal diseases.
- Intensify population-based studies aimed at the prevention of oral cancer and oral-facial trauma.
- Conduct studies to elucidate potential underlying mechanisms and determine any causal associations between oral infections and systemic conditions. If associations are demonstrated, test interventions to prevent or lower risk of complications.
- Develop diagnostic markers for disease susceptibility and progression of oral diseases.
- Develop and test diagnostic codes for oral diseases that can be used in research and in practice.
- Investigate risk assessment approaches for individuals and communities, and translate them into optimal prevention, diagnosis, and treatment measures.
- Develop biologic measures of disease and health that can be used as outcome variables and

applied in epidemiologic studies and clinical trials.

- Develop reliable and valid measures of patients' oral health outcomes for use in programs and in practice.
- Support research on the effectiveness of community-based and clinical interventions.
- Facilitate collaborations among health professional schools, state health programs, patient groups, professional associations, private practitioners, industries, and communities to support the conduct of clinical and community-based research as well as accelerate science transfer.

Accelerate the effective transfer of science into public health and private practice

- Promote effective disease prevention measures that are underutilized.
- Routinely transfer oral health research findings to health professional school curricula and continuing education programs and incorporate appropriate curricula from other health professions-- medical, nursing, pharmacy, and social work--into dental education.
- Communicate research findings to the public, clearly describing behaviors and actions that promote health and well-being.
- Explore ways to accelerate the transfer of research findings into delivery systems, including appropriate changes in reimbursement for care.
- Routinely evaluate the scientific evidence and update care recommendations.

Action 4. Increase Oral Health Workforce Diversity, Capacity, and Flexibility

Meet patient needs. The patient pool of any health care provider tends to mirror the provider's own racial and ethnic background^[5]. As such, the provider can play a catalytic role as a community spokesperson, addressing key health problems and service needs. While the number of women engaged in the health professions is increasing, the number of underrepresented racial and ethnic minorities is decreasing and remains limited. Specific racial and ethnic groups are underrepresented in the active dental profession compared to their representation in the general population: African Americans comprise 2.2 percent of active dentists versus 12 percent of the population; Hispanics comprise 2.8 percent of active dentists versus 10.7 percent of the population; Native Americans comprise 0.2 percent of active dentists versus 0.7 percent of the population. The reasons are complex but certainly include the high cost of dental school education (upwards of \$100,000 indebtedness for dentist graduates). Efforts to address these problems at all levels—from improving K-12 education in science and math to providing scholarships and loan forgiveness programs for college and pre-doctoral programs--are essential if a truly representative health workforce is to be achieved. Efforts require full community participation, mentorship, and creative outreach as well as building upon federal or state legislation and programs.

Enhance oral health workforce capacity. The lack of progress in supplying dental health professional shortage areas with needed professional personnel underscores the need for attention to the distribution of care providers, as well as the overall capacity of the collective workforce to meet the anticipated demand for oral health care as public understanding of its importance increases. Dental school recruitment

programs that offer incentives to students who may want to return to practice in rural areas and inner cities are in a prime position to act. Through these programs schools increase the diversity of the oral health workforce. To effect change in oral health workforce capacity, more training and recruitment efforts are needed. The lack of personnel with oral health expertise at all levels in public health programs remains a serious problem, as does the projected unmet oral health faculty and researcher needs. In public health programs, oral health professionals are needed to implement surveillance, assess needs, and target population-based preventive programs. Oral health professionals in state health agencies frequently promote integration of federal, state, and local strategies and serve as the linking agent for public-private collaborations. Currently, there is an acknowledged crisis in the ability to recruit faculty to dental schools and to attract clinicians into research careers. Dental school faculty and oral health researchers are needed to address the various scientific challenges and opportunities oral health presents, and to help transfer emerging knowledge to the next generation of health care providers. The lack of trained professionals ultimately results in a loss in the public's health. Efforts are underway to address these needs, but the rate of recruitment and retention is slow. Scholarships and loan forgiveness programs have made a difference, but more public investment in developing health workforce personnel is needed.

Enhance flexibility and develop local solutions. The movement of some states towards more flexible laws, including licensing experienced dentists by credentials is a positive one and today, 42 states currently permit this activity. The goal of moving society toward optimal use of its health professionals is especially important in a society that has become increasingly mobile, especially since the oral health workforce has projected shortages that are already evident in many rural locales. State practice act changes that would permit, for example, alternative models of delivery of needed care for underserved populations, such as low-income children or institutionalized persons, would allow a more flexible and efficient workforce. Further, all health care professionals, whether trained at privately or publicly supported medical, dental, or allied health professional schools, need to be enlisted in local efforts to eliminate health disparities in America. These activities could include participating in state-funded programs for reducing disparities, part-time service in community clinics or in health care shortage areas, assisting in community-based surveillance and health assessment activities, participating in school-based disease prevention efforts, and volunteering in health-promotion and disease-prevention efforts such as tobacco cessation programs.

Implementation strategies to increase diversity, capacity, and flexibility must be applied to all components of the workforce: research, education, and both private and public health administration and practice. Efforts are needed to:

Change the racial and ethnic composition of the workforce to meet patient and community needs

- Document the outcomes of existing efforts to diversify the workforce in practice, education, and research.
- Develop ways to expand and build upon successful recruitment and retention programs, and develop and test new programs that focus on individuals from underrepresented groups.
- Document the outcomes of existing efforts to recruit individuals into careers in oral health

education, research, and public and private health practice.

- Create and support programs that inform and encourage individuals to pursue health and science career options in high school and during graduate years.

Ensure a sufficient workforce pool to meet health care needs

- Expand scholarships and loan repayment efforts at all levels.
- Specify and identify resources for conducting outreach and recruitment.
- Develop mentoring programs to ensure retention of individuals who have been successfully recruited into oral health careers.
- Facilitate collaborations among professional, government, academic, industry, community organizations, and other institutions that are addressing the needs of the oral health workforce.
- Provide training in communication skills and cultural competence to health care providers and students.

Secure an adequate and flexible workforce

- Assess the existing capacity and distribution of the oral health workforce.
- Study how to extend or expand workforce capacity and productivity to address oral health in health care shortage areas.
- Work to ensure oral health expertise is available to health departments and to federal, state, and local government programs.
- Determine the effects of flexible licensure policies and state practice acts on health care access and oral health outcomes.

Action 5. Increase Collaborations

The private sector and public sector each has unique characteristics and strengths. Linking the two can result in a creative synergy capitalizing on the talent and resources of each partner. In addition, efforts are needed within each sector to increase the capacity for program development, for building partnerships, and for leveraging programs. A sustained effort is needed right now to build the nation's oral health infrastructure to ensure that all sectors of society--the public, private practitioners, and federal and state government personnel--have sufficient knowledge, expertise, and resources to design, implement, and monitor oral health programs. Leadership for successfully directing and guiding public agency oral health units is essential. Further, incentives must be in place for partnerships to form and flourish.

Disease prevention and health promotion campaigns and programs that affect oral and general health--such as tobacco control, diet counseling, health education aimed at pregnant women and new mothers, and support for use of oral facial protection for sports—can benefit from collaborations among public health and health care practicing communities. Interdisciplinary care is needed to manage the general health-oral health interface. Achieving and maintaining oral health requires individual action,

complemented by professional care and community-based activities. Many programs require the combined efforts of social service, education, and health care services at state and local levels. Most importantly, the public in the form of voluntary organizations, community groups, or as individuals, must be included in any partnership that addresses oral and general health.

Implementation strategies to enhance partnering are key to all strategies in the *Call To Action*. Successful partnering at all levels of society will require efforts to:

- Invite patient advocacy groups to lead efforts in partnering for programs directed towards their constituencies.
- Strengthen the networking capacity of individuals and communities to address their oral health needs.
- Build and nurture broad-based coalitions that incorporate views and expertise of all stakeholders and that are tailored to specific populations, conditions, or programs.
- Strengthen collaborations among dental, medical, and public health communities for research, education, care delivery, and policy development.
- Develop partnerships that are community-based, cross-disciplinary, and culturally sensitive.
- Work with the Partnership Network and other coalitions to address the four actions previously described: change perceptions, overcome barriers, build a balanced science base, and increase oral health workforce diversity, capacity, and flexibility.
- Evaluate and report on the progress and outcomes of partnership efforts.
- Promote examples of state-based coalitions for others to use as models.

The Need for Action Plans with Monitoring and Evaluation Components

Activities proposed to advance any or all of the actions described above must incorporate schemes for planning and evaluation, coordination, and accountability. Because planning and evaluation are key elements in the design and implementation of any program, the need to create oral health action plans is emphasized.

Whether individuals are moved to act as volunteers in a community program, as members of a health voluntary or patient advocacy organization, employees in a private or public health agency, or health professionals at any level of research, education, or practice, the essential first step is to conduct a needs assessment and develop an oral health plan. Because the concept of integrating oral health with general health is intrinsic to the goals of this Call To Action, oral health plans should be developed with the intent of incorporating them into existing general health plans. *Healthy People 2010* objectives can be used to help guide needs assessment and to establish program goals and health indicators for outcome measures. At the state level many, but not all, states have already developed oral health plans; however, not all of these plans have been integrated into the state's general health plan and policies. While a detailed plan is

necessary to guide collaboration on the many specific actions necessary for enhancing oral health, integration of key components into the state's general health plan will assure that oral health is included where appropriate in other state health initiatives.

At any level, formal plans with goals, implementation steps, strong evaluation components, and monitoring plans will facilitate setting realistic timelines, guidelines, and budgets. The oral health plan will serve as a blueprint, one that can be a tool for enlisting collaborators and partners and attracting funding sources to ensure sustainability. Building this plan into existing health programs will maximize the integration of oral health into general health programs—not only by incorporating the expertise of multidisciplinary professional teams, but also allowing the plan to benefit from economies of scale by adding on to existing facilities, utilizing existing data and management systems, and serving the public at locations already known to patients.

To facilitate establishing, monitoring and revising written plans and ensure their progress:

- Use the *Healthy People 2010* objectives to help establish program goals and guide the needs assessment and development of health indicators for outcome measures.
- Develop and nurture a consortium of stakeholders.
- Align plan priorities with the views and expertise of primary stakeholders.
- Build upon existing plans within your organization, state, or local community or apply aspects of plans established at other locations to suit program needs.
- Ensure that cultural sensitivity is utilized in the design, development, implementation, and evaluation of plans.
- Emphasize the value of incorporating oral health into general health plans by educating the public, health professionals, and policymakers about oral health and its relation to general health and well-being.
- Integrate existing oral health plans into general health plans.
- Establish and maintain a strong surveillance and evaluation effort.
- Regularly report on progress to all stakeholders and policymakers.
- Commit resources to ensure that oral health programs and systems include staff with sufficient time, expertise, and information systems, and address oral health needs.

Next Steps

This *National Call To Action To Promote Oral Health* provides the basis for integrating efforts of current and future members of the Partnership Network to facilitate improvement of the nation's health through oral health activities. The five actions outlined in this report require public-private partnerships at all levels of society and a commitment from those who are involved in health programs to contribute expertise and resources. The Partnership Network members will serve to foster communication and collaborations and will act as a forum to measure progress toward these actions in coordination with the

Healthy People 2010 initiative.

Appendix 1

Partnership Network Members (as of November 2001)

Academy of General Dentistry
American Academy of Pediatrics
American Academy of Pediatric Dentistry
American Association of Public Health Dentistry
American Association of Women Dentists
American College of Nurse-Midwives
American Dental Association
American Dental Hygienists' Association
American Dental Trade Association
American Dental Education Association
American Medical Association
American Public Health Association
American Society of Dentistry for Children
Association of Maternal and Child Health Programs
Association of Academic Health Centers
Association of Clinicians for the Underserved
Association of Maternal and Child Health Programs
Association of Schools of Public Health
Association of State and Territorial Health Officials
Association of State and Territorial Dental Directors
Bureau of Dental Health, New York State Health Department
Campbell Hoffman Foundation
Center for Child Health Research
Children's Defense Fund
Children's Dental Health Project
Colorado Department of Public Health and Environment Oral Health Program
Connecticut Health Foundation
Consumer Health Care Products Association
Delta Dental Plans Association
Delta Dental/Washington Dental Service
DENTSPLY International/Families USA

Family Voices (Federation for Children with Special Needs)
Friends of NIDCR
Colgate Palmolive Company

Grantmakers In Health
Henry Schein, Inc.
Hispanic Dental Association
Illinois Department of Public Health
International Association for Dental Research, American Association for Dental Research
Maryland Department of Health and Mental Hygiene
National Oral Health Policy Center
Minority Health Communications
National Association of Child Advocates
National Association of Children's Hospitals
National Association of Community Health Centers
National Association of County and City Health Officials
National Association of Local Boards of Health
National Association of State Medicaid Directors
National Maternal and Child Oral Health Resource Center
National Conference of State Legislatures
National Dental Association
National Foundation for Ectodermal Dysplasias
National Governors' Association
National Health Law Program
National Health Policy Forum
National Association of Urban-Based HMOs
New York State Department of Health
Oral Health America
Reforming States Group
Research America
Ronald McDonald House Charities
Special Olympics and Special Olympics University
The Children's National Medical Center
The Robert Wood Johnson Foundation
The Rotunda
Urban Institute Health Policy Center
Washington Dental Service Foundation
W.K. Kellogg Foundation
Women's and Children's Health Policy Center

Appendix 2

What People Said

The sections that follow are derived from the presentations of individuals and organizations at the five

regional listening sessions held during winter and spring 2002 and from the written testimony received. The issues identified in the Surgeon General's Report were restated in terms of objectives and grouped into five objectives: 1. Change perceptions, 2. Overcome barriers, 3. Enhance research and its application, 4. Strengthen infrastructure, and 5. Expand partnerships. These objectives formed the basis for summarizing the testimony and for the Actions described in the text. By describing general approaches as well as some specific programs and projects underway, this appendix can serve as a resource to aid responses to the *Call To Action*. Some programs might lend themselves to replication at other sites; others may inspire new and ingenious plans, programs, and partnerships. As background, each of the five objectives is preceded by a text box quoting relevant portions of *Oral Health in America: A Report of the Surgeon General*.

While it was expected that many of those who testified came from segments of the oral health community, it was especially gratifying that many of the respondents spoke from other perspectives. They were community leaders, concerned citizens, representatives of health voluntary organizations, and other nonprofit organizations and foundations, and employees of public agencies at all levels of local, state, and federal government.

A Rich Repertoire...

The listening sessions exemplified the kind of democracy-in-action associated with town meetings in America. The people who attended reflected the racial and ethnic diversity of the community's population and demonstrated the degree of innovation and creativity Americans can achieve when committed to resolve critical health issues. Participants were ingenious in describing coalitions, partnerships, and funding opportunities involving all kinds of entities: a community church working with the local dental society, a state health agency cooperating with a private foundation and volunteer dental professionals, a dental insurance corporation subsidizing treatment costs to improve access to services for poor people, school nurses working with parents, dental hygienists, and local dentists to implement dental screening programs and referrals for care, and private philanthropies financing mobile vans to reach people in remote areas. Several organizations detailed how they had competed for small federal grants, which they used to plan and conduct pilot programs. Several dental schools described using private foundation grants to fund community outreach programs utilizing dental students. Clearly there is no one-size-fits-all remedy to the health problems that the nations' communities and populations experience.

...but an Uncertain Future

However, not every program was a demonstrable success. Indeed, more than one presenter expressed concern that their efforts were piecemeal and the future was cloudy: programs could last only as long as the resources and funding. In one case, a program that was built on the promise of partial support had to cease when state funding was cut back. Thus the listening sessions were also a declaration that more long-term strategies must be pursued and public awareness of the importance of oral health must grow. The commitment of communities to build the public-private partnerships by expending the social, political, and economic will at federal, state, and local levels can yield long-lasting health benefits for all community members.

Testimony Highlights

Objective 1: Change perceptions of the public, policymakers, and health providers regarding oral health and disease so that oral health becomes an accepted component of general health.

What the report said

The mouth is the major portal of entry to the body and is equipped with formidable mechanisms for sensing the environment and defending against toxins or invading pathogens. In the event that the integrity of the oral tissues is compromised, the mouth can become a source of disease or pathological processes affecting other parts of the body.... The mouth and face act as a mirror that can reveal signs of disease, drug use, domestic physical abuse, harmful habits or addiction such as smoking, and general health status. Imaging...may provide oral signs of skeletal changes such as those occurring with osteoporosis and musculoskeletal disorders, and may also reveal salivary, congenital, neoplastic, and developmental disorders. Oral-based diagnostics are increasingly being developed and used as a means to assess health and disease without the limitations and difficulties of obtaining blood and urine.

Oral diseases and disorders in and of themselves affect health and well-being across the life span. They include the common dental diseases, dental caries and the periodontal diseases, and other oral infections, such as cold sores and candidiasis, as well as birth defects occurring in infancy and chronic craniofacial pain conditions and oral cancers seen in later years.... Diseases and disorders that result in dental and craniofacial defects damage self-image, self-esteem, and well-being. Oral-facial pain and loss of sensori-motor functions limit food choices and the pleasures of eating, restrict social contact, and inhibit intimacy... Patients with oral and pharyngeal cancers may experience loss of taste, loss of chewing ability, difficulty in speaking, pain, and the psychological stress and depression associated with disfigurement.

Oral complications of many systemic diseases also compromise the quality of life, Problems of speaking, chewing, taste, smell and swallowing are common in neurodegenerative conditions such as Parkinson's disease; oral complications of AIDS include pain, dry mouth, and Kaposi's sarcoma; cancer therapy can result in painful ulcers, mucositis, and rampant dental caries; periodontal disease is a complication of diabetes and osteoporosis. Prescription and non-prescription drugs often have the side effect of dry mouth.

Oral infections can be the source of systemic infections, especially in people with weakened immune systems, while oral signs and symptoms are often a significant feature of a general health problem, such as the autoimmune disease, Sjögren's syndrome.

Most intriguing of all, are associations reported between chronic oral infections and serious health problems, such as diabetes, heart and lung disease, and adverse pregnancy outcomes.

Investigators are actively engaged in research to confirm initial findings and discover the mechanisms involved.

Source: U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. pp.133, 283-284.

Addressing the Issue

The testimony reinforced the concept that oral health is secondary and separate from general health is one that is deeply ingrained in American consciousness and hence may be the pivotal and most difficult barrier to overcome. Cultural historians can point to a tradition in Europe and America in which dentistry was long associated with tooth extractions performed by itinerant surgeons who were reviled as charlatans, despised as sources of acute pain and suffering, and abundantly caricatured in art and literature. Something of this stigma associated with dentistry and its practitioners remains today, not only in terms of the way the profession is popularly depicted in films and comedy routines, but also in terms of its ranking in the hierarchy of health and medical specialties. The very fact that dental education was established separately from medical training, as was the practice of dentistry, may have unwittingly contributed to the stigma—and may also in part account for why a lack of perceived need remains one of the major reasons that many people do not seek regular dental care. Thus, efforts to achieve acceptance of the intrinsic importance of oral health and its interdependence with general health must be directed to medical practitioners and other health professionals and researchers, as well as to educators, policymakers, and the general public. This point was brought home to attendees at one regional meeting during which a woman testified that in all her years as a diabetic patient in which her physicians referred her to specialists such as ophthalmologists and neurologists for potential diabetes complications, no one had ever once suggested that she see a dentist concerning her oral health status. At another hearing it was reported that medical residents in a prenatal clinic were interested to learn that women with moderately severe periodontal disease might be at risk for pre-term and low birth weight infants. Even with that knowledge, however, they would not act on any new findings such as these, without an official recommendation from the American College of Obstetricians and Gynecologists.

***“No physician or other medical specialist I saw ever suggested I see a dentist.”
-- a woman with diabetes***

Associations between oral infections and systemic conditions continue to be reported, and if the results of studies prove a cause-effect relationship, their widespread communication may very well effect a significant change in the practices and programs of health professionals as well as policymakers and the general public. In the meantime, the various programs described at the listening sessions to explain the oral health-general health connection are helping to make a difference. In so doing, they also reveal to what extent otherwise well-educated Americans, even health care providers, are uninformed about the multiple defense, repair, and maintenance functions performed by oral tissues as gatekeepers to the body,

the fine-tuned sensory-motor skills of orofacial nerves and muscles, and the necessary role of oral hygiene and nutrition in keeping oral tissues healthy.

Listening session participants gave a number of examples of public relations awareness campaigns conducted at local and state levels, the exemplary use of public service announcements, and even dental product infomercials on the Internet with educational content.

Model programs in which volunteer oral health professionals educate segments of the population at the places where they congregate -older Americans at senior centers, primary grade students in school, pregnant women seen in prenatal clinics- offer the possibility of stimulating high interest by tailoring the message to the specific oral health problems and appropriate interventions for the given audience. Programs that test training methods for nurses and physicians to conduct oral health evaluations, make appropriate dental referrals, and apply preventive interventions such as fluoride varnishes or dental sealants were seen as ways to integrate oral health services with medical care and pave the way for a time when such practices will be routinely accepted. An example of a well-thought-out awareness campaign was the Watch Your Mouth program in Washington state, which used radio and print advertisements to educate the public on the importance of oral health. The campaign also included an evaluation component allowing before-and-after statistical analyses of effectiveness.

With regard to educating policymakers, there is no question that the advocacy of members of consumer and health voluntary organizations (e.g., Sjögren's Syndrome, March of Dimes, The Temporomandibular Joint Association, National Foundation for Ectodermal Dysplasias) as well as oral health research and professional organizations, has done much to inform and raise the consciousness of these leaders and with positive effects. These advocates have used persuasive and well-documented arguments concerning the impact of oral health—and its lack—on the health, education, financing, and productivity of large segments of the constituencies the legislators represent. On the principle of strength through numbers, coalitions of such groups, especially partnering oral health patient organizations with medical disease organizations (e.g., heart, cancer, diabetes, arthritis) might achieve a greater impact, while underscoring that oral health and general health are inextricably linked.

Changing the Paradigm

Nonetheless, no matter how well meaning and constructive local, state, and regional efforts at changing perceptions have been, the best route to overcoming the cultural, historical, legal, and structural impediments to accepting oral health as essential to general health and well-being may be to create a broad awareness and education program that would be coordinated at the national level. This program could foster the necessary paradigm shift in perception. Such a program--supported by a broad coalition of patient and consumer groups, private and public research and practitioner organizations--could achieve collectively what no one group has yet been able to achieve singly.

Objective 2: Remove known barriers between people and oral health services.

What the Report said:

This report presents data on access, utilization, financing, and reimbursement of oral health care; provides additional data on the extent of the barriers, and points to the need for public-private partnerships in seeking solutions. The data indicate that lack of dental insurance, private or public, is one of several impediments to obtaining oral health care and accounts in part for the generally poorer health of those who live at or near the poverty line, lack health insurance, or lose their insurance upon retirement. The level of reimbursement for services also has been reported to be a problem and a disincentive to the participation of providers in certain public programs.

Source: U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. p. 286.

Addressing the Issue

Concern about barriers to care was by far the issue that most engaged speakers at the *Call To Action* listening sessions, eliciting the widest range of proposals and programs. There was unanimous agreement that rates of reimbursement for oral health care under the Medicaid program are low and, as a result of many state budget shortfalls in recent years, will be subject to further cuts. These budgetary limitations have also affected State Children's Health Insurance Programs, in which dental care is only an option. States that have made concerted legislative efforts to raise Medicaid reimbursement rates to levels consistent with customary fees in the area have seen improvements in the number of poor patients served and providers willing to treat patients covered under Medicaid. Speakers also expressed hope that Medicare, which specifically excludes dental services other than in exceptional cases, such as when dental care is integral to treating a medical condition, could some day be expanded to cover oral health care for seniors.

“When did we allow dental care to become medically unnecessary in the first place?”
--An advocate for special care dentistry

While participants argued for coordinated and large-scale efforts at legislative and corporate reforms to extend coverage and improve oral health care benefits for Americans who lack dental insurance or have extremely limited coverage, a number of speakers described programs and demonstration projects targeted to particular risk groups. Rather than wait for policy changes and insurance reforms, they saw the urgency to create innovative access and delivery programs to serve poor children, members of racial and ethnic minorities, the elderly, rural residents, or individuals with disabilities and other special care needs.

A few examples of targeted programs that have been launched in recent years have been chosen from the

listening sessions to illustrate their variety and are described below. Subject to evaluation of their overall effectiveness and cost, they might be adapted to other venues. In all cases, it was clear that it was the dedication and drive of a few key individuals determined to turn dreams into realities that enabled these programs to be implemented. Whether a school nurse or principal, a health agency official, dental hygienist, a clergyman, academic faculty member, practicing dentist or physician, a private foundation director, or a local community leader, these were people who sought out and obtained the trust, cooperation, commitment, and funding from multiple sources to get their programs going and keep them going.

A dental school-based program for children with special care needs. The College of Dental Medicine of the Medical University of South Carolina in Charleston developed a demonstration project that provided the screening and referral of children to a state-wide network of dentists willing and able to treat children with complex care needs. Administrators have used this project to enrich the education of dental students through clinical rotations and an expanded special care curriculum and to increase the competencies of practicing dentists to serve special care patients through continued education courses. The project has also advanced research by collecting data on the oral health problems seen in special care patients and by correlating these problems with the underlying health problem. The project resulted in greatly increased services, the publication of a dental directory for parents, and an extension of special care seminars and courses for other health professionals and administrators.

“A hallmark of successful programs is community-level involvement”
--A community volunteer

SABER promotora model. Much of the appeal of this model is its grassroots origin in a Hispanic community in southern California. As the program director indicates, “The model is based on naturally occurring networks and linkages that exist in the Latino community.” Promotoras are community health advocates who serve as role models for behavior change and work in traditional ways to provide culturally appropriate dental health education and information, while promoting the bonding of neighbors, friends, and family.

Meeting the needs of rural communities. “Rural communities are the canaries in the workforce coal mines,” was the way one federal dentist described the ever-growing shortage of dental care providers in rural and frontier communities. These communities are also unlikely to have access to a fluoridated water supply and adequate transportation to larger cities and towns. What is impressive is how some communities have taken it upon themselves to meet the challenges. For example, three rural communities in New York State have each implemented a different approach to the provision of care: a mobile dental clinic, a primary care-based dental clinic at a critical access hospital, and a freestanding satellite dental clinic. These facilities reflect the commitment of partners that included community and consumer groups, foundations, dental associations, hospitals, government agencies, and the dental school of the State University of New York at Buffalo.

Care for institutionalized elderly. A nonprofit charitable organization, Apple Tree Minnesota, was first

designed to serve indigent elderly living in institutions and has since been expanded to serve poor children. The program brings dental care to individuals through mobile dental vans that work out of stationary clinics as hubs. The program also conducts needs assessment to support a role in public policy development and advocacy and creates regional advisory councils to develop grassroots advocates. The program has been replicated in other states, but because funding for care comes from Medicaid there have been severe shortfalls, which must be made up by seeking other sources of revenue.

An Indian Health Service prenatal dental education program for Native American mothers. This Oklahoma program was designed to provide oral health care to expectant mothers and to advise them on ways to prevent early childhood dental caries by adopting appropriate feeding practices to their babies and teaching appropriate oral hygiene for newborns (as well as the mothers). The program has a strong evaluation component that includes follow-up interviews with participants. Such a program provides an opportunity for integrating oral health education and services in a hospital where women are already being seen in an obstetrics unit.

Private practitioners reach out. The Georgia Dental Association in partnership with the Georgia Medicaid agency were effective at the level of the legislature and governor in increasing the state's investment in oral health. In 2002 Georgia was the only state to receive an increase in Medicaid funding for dental care – a 3.5 percent increase in provider reimbursement rates. Georgia also successfully reduced administrative barriers, such as prior authorization requirements and burdensome provider applications. As a result, the number of dentists signing up to provide care to Medicaid patients continues to increase. Dentists themselves orchestrated a Medicaid promotional campaign called Take 5, encouraging each dentist to take on five new Medicaid patients.

Objective 3: Accelerate the building of the scientific and evidence base and accelerate the application of research findings to improve oral health.

What the Report Said

The science base for dental diseases is broad and provides a strong foundation for further improvements in prevention; for other craniofacial and oral conditions the base has not reached the same level of maturity...The nation's continued investment in research is critical for the provision of new knowledge about oral and general health and disease...However the next steps are more complicated. The challenge is to understand complex diseases caused by interaction of multiple genes with environment and behavioral variables—a description that applies to most oral diseases and disorders—and translate research findings into health care practices and healthy lifestyles. At present there is an overall need for behavioral and clinical research, clinical trials, health services research, and community-based demonstration research. Also, development of risk assessment procedures for individuals and communities and of diagnostic markers to indicate whether an individual is more or less susceptible to a given disease can provide a basis for formulating risk profiles and tailoring treatment and program options accordingly.

Source: U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*.

Addressing the Issue

Support for continued research to advance oral health science, particularly in exploring the oral health-general health connection, was implicit in the testimony of many individuals addressing the *Call To Action*. Clearly, additional well-designed research studies that can explore the role of chronic oral infections as risk factors for adverse pregnancy outcomes, poorly controlled diabetes, heart and lung diseases, and the potential role of oral infections in other conditions are needed. The major private oral health research organization, the American Association for Dental Research (AADR), stated that it was committed to promoting the goals of the *Call To Action* and is encouraging its section members to follow up with symposia at annual meetings. Also, the research agenda of the American Dental Association sets out many of the profession's research needs and can be used as a blueprint for research studies.

Many who testified at the listening sessions concentrated on the need to put research into practice. They spoke as community leaders, care providers, directors of clinics and public health and health care financing agencies, and as representatives of dental schools, schools of dental hygiene, and dental societies. Participants expressed frustration that known ways of preventing oral disease and promoting oral health are still not being adopted by individuals and communities, often where the needs are greatest. Many noted that in the 21st century, over a third of Americans fail to enjoy the benefits of community water fluoridation—one of the most effective and inexpensive means of preventing dental caries. Similarly, the need to increase applications of dental sealants and topical fluorides were emphasized. In addition, the need for epidemiology and surveillance studies to determine the scope of oral health problems and project future service needs at local, state, and national levels was stressed. There was also a call for expanding health services research and the use of outcomes measures to determine the effectiveness and cost-effectiveness of various prevention and treatment modalities as well as ways of delivering oral care services. Calls for the adoption of a universal oral survey assessment form and for research to develop diagnostic markers and other measures of risk assessment were also strongly recommended as ways to facilitate surveillance and epidemiology studies as well as providing optimal tailor-made oral health care to patients.

Comments made at the listening sessions highlighted the need for further research on biomaterials and their health effects, as well as on the science transfer of proven dietary preventive measures. For example, there was some discussion of the use of xylitol and other cariostatic sugar substitutes to prevent dental caries as well as forms of restorative treatment using processes and products that might be less traumatic in treating children.

Objective 4: Ensure the adequacy of public and private health personnel and resources to meet the oral health needs of all Americans and enable the integration of oral health effectively with general health. The focus is on having a responsive, competent, diverse, and flexible workforce.

What the report said

The public health capacity for addressing oral health is dilute and not integrated with other public health programs...Local, state, and federal resources are limited in the personnel, equipment, and facilities available to support oral health program. There is also a lack of available trained public health practitioners knowledgeable about oral health. As a result, existing disease prevention programs are not being implemented in many communities, creating gaps in prevention and care that affect the nation's neediest populations...cutbacks in many state budgets have reduced staffing of state and territorial dental programs and curtailed oral health promotion and disease prevention programs.

There is a lack of racial and ethnic diversity in the oral health workforce. Efforts to recruit members of minority groups to positions in health education, research, and practice in numbers that at least match their representation in the general population not only would enrich the talent pool, but also might result in a more equitable geographic distribution of care providers.

A closer look at trends in the workforce discloses a worrisome shortfall in the numbers of men and women choosing careers in the education of oral health professionals and the conduct of oral health research.

Source: U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. p.286.

Addressing the Issue

If anything, testimony at the regional listening sessions affirmed that the oral health infrastructure has continued to deteriorate with additional shortfalls in personnel and budgets. Within the public sector, it is essential to have a strong federal oral health infrastructure that provides stability and support for state public oral health efforts. These state programs can then advise and provide technical assistance to community oral health programs. The Centers for Medicare and Medicaid Services has appointed a dental officer in recognition of the importance of having an oral health expert who can stimulate effective and efficient programs at the state and local levels as they relate to Medicaid and the State Children's Health Insurance Program. But the shortfall of oral health expertise in other state and federal agencies—individuals who can stimulate, facilitate, and ensure strong public-private partnerships—is critical. At present, 12 out of 50 states and 7 territories lack a permanent full time dental director. A similar lack of dental public health expertise exists in state agencies managing multi-million dollar Medicaid programs and the State Children's Health Insurance Program. The only remedy to this problem is to employ enough staff to enable states to conduct essential public health activities. One spokesperson defined the "minimum staffing requirement" to include dental public health experts and a support staff of epidemiologists, dental hygienists, public health educators, and information resource managers. Their

collective expertise is essential to conduct needs assessments, surveillance studies, maintain databases such as the National Oral Health Surveillance System, identify dental shortage areas and underserved populations, and develop, implement, and evaluate preventive programs and state oral health plans.

Many public health programs and activities rely for their performance on long-established partnerships with other public health agencies and with private sector dental practitioners. Indeed, public health dentists also frequently serve as faculty members of dental schools, teaching dental public health classes. But absent an authoritative oral health administrator within critical state health agencies--a central hub--the system falls apart and the public's health suffers.

Turning to the problems of personnel needs within the education, research, and practitioner community, there was widespread support for programs to expand recruitment, especially of racial and ethnic minority dental students, by easing dental school indebtedness through loan repayment programs, the quid pro quo variously being willingness to serve in dental shortage areas, treat underserved and Medicaid patients, or participate in federal oral health research activities. State practice act changes that would allow a more flexible and efficient workforce were recommended. Some listening session participants argued for greater autonomy in practice rules, emphasizing the educational and preventive services they could perform in non-traditional sites such as nursing homes and schools, if they were free to practice under general dentist supervision. Dental hygienists and non-dental health professionals offered alternative approaches to care delivery, providing examples of how they can contribute to meeting oral health needs at the local and state levels through screenings, patient education, and preventive care.

Objective 5: Expand public-private partnerships and build upon common goals to improve the oral health of those who suffer disproportionately from oral diseases.

What the Report Said

The collective and complementary talents of public health agencies, private industry, social service organizations, educators, health care providers, researchers, the media, community leaders, voluntary health organizations and consumer groups, and concerned citizens are vital if America is not just to reduce, but to eliminate, health disparities. This report highlights variations in oral and general health within and across *all* population groups. Increased public-private partnerships are needed to educate the public, to educate health professionals, to conduct research, and to provide health care services and programs. These partnerships can build and strengthen cross-disciplinary, culturally competent, community-based, and community-wide efforts and demonstration programs to expand initiatives for health promotion and disease prevention programs.

Source: U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000. p.286.

The establishment of the Partnership Network in the development of the *National Call To Action To Promote Oral Health* exemplifies how well this objective has been taken to heart. The partners will play a key role in disseminating the goals and objectives of the *Call To Action* and, as discussed in the final section, can propose how best to monitor and provide oversight in the implementation of the actions proposed.

In addition, abundant evidence from the listening sessions provides further examples of the creative public-private partnerships that are already being forged at all levels of community, state, and federal government. To facilitate partnership building, several sources can be mentioned that have been helpful in enabling groups to come together to develop oral health programs. For example, the Health Resources and Services Administration (HRSA) provided support for state dental health agencies to hold state summits, where interested private and public groups can come together to assess needs and opportunities. Other states have used technical assistance provided by the National Governors Association to convene problem-solving teams to develop state oral health plans.

Several states have received grants from the Centers for Disease Control and Prevention to improve basic oral health services, including support for program leadership, monitoring oral health risk factors, and developing and evaluating prevention programs. HRSA has a new cooperative agreement program where dental faculty train general pediatric and family medicine residents to provide basic components of oral health assessments to children from birth to five years who are medically or dentally underserved and at high risk for oral health problems. The National Institutes of Health also has a grant program targeted to health professional schools for enhancing faculty research skills and enriching curricula. Foundations such as the Robert Wood Johnson, W. K. Kellogg, and The Pew Charitable Trust are among a number of private foundations concerned with health and health care in America that have supported health services research and demonstration projects. Grantmakers In Health has provided guidance to the broad array of foundations all across the nation by highlighting private and public sector initiatives to meet oral health challenges and suggesting additional strategies involving foundation participation.

Certainly the media can be enlisted in alerting the public to oral health concerns; they have been and can continue to be a lightning rod in many areas of health, especially in terms of populations at risk. Often their accounts name individuals and organizations that are actively engaged in the health issues in question. Among them are consumer groups and health voluntary organizations, which have played significant roles in raising awareness, expanding research, and improving care and treatment. Often these organizations have started as grassroots groups formed by a few individuals and families concerned with a health problem and have grown into effective national and international organizations.

The enthusiasm and commitment demonstrated by the scores of attendees at the regional listening sessions and from the many written submissions are testimony that a critical mass of Americans view oral health as a priority and need. They demonstrated and expressed the willingness and ability to be recruited to work as partners to achieve the vision and goals of the *National Call To Action To Promote Oral Health*.

[1] U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000:2-3. (<http://www.nidcr.nih.gov/sgr/sgrohweb/welcome.htm>)

[2] U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. 2 vols. Washington, DC: U.S. Government Printing Office, November 2000. (<http://www.healthypeople.gov/>)

[3] Interventions to Prevent Dental Caries, Oral and Pharyngeal Cancers, and Sports-related Craniofacial Injuries: Systematic Reviews of Evidence, Recommendations from the U.S. Task Force on Community Preventive Services, and Expert Commentary. *Am J Prev Med* 2002; 1-84; 23(1S)

[4] U.S. Preventive Services Task Force. *Guide to Clinical Preventive Services*, 2nd Edition, Williams and Wilkins, Baltimore. 1996; 953p.

[5] Brown LJ, Lazar V. Minority dentists: why do we need them? Closing the gap. Washington Office of Minority Health, U.S. Department of Health and Human Services; 1999 Jul. p.6-7.



National Institute of Dental and Craniofacial Research
Bethesda, Maryland 20892