

A Roadmap for Implementation, Part I: Oral Health Provisions in Health Reform

January 2011



Purpose of this Whitepaper

With widespread support from across the child advocacy and oral health communities, Congress ensured that dental care for children was fully integrated throughout the Patient Protection and Affordable Care Act (ACA). The challenge now is to ensure that the numerous oral health provisions are sufficiently supported, implemented, and evaluated so that the promise they hold can be transformed into improved oral health for all.

The potential benefits are manifold: better health at lower cost; greater health equity; enhanced capacity for millions of children to grow, eat, play, and learn; improved general health throughout the lifespan; and –as adults – improved employability and productivity, lower costs to the US military for remedial care of inductees, and potential reductions in premature births.

By attending to oral health, both the House and Senate demonstrated awareness that the mouth is an essential bodily structure, as vital to health and function as any other major organ. Congress effectively responded to CDC’s finding that childhood tooth decay, despite being overwhelmingly preventable, stubbornly remains the most common chronic disease of US children and is worsening among young children.¹ It heeded the US Surgeon General’s call for increased attention to oral health as a core component of overall health and for the need to reduce oral health disparities.² It honored the work of advocates who highlighted for Congress that pediatric oral health is consequential, as tragically demonstrated by the death of 12 year old Deamonte Driver whose demise from complications of an abscessed tooth could have been prevented for less than \$100.³ Coupled with oral health provisions in the Child Health Insurance Reauthorization Act (CHIPRA)⁴ Congress has set a course of action that will allow Healthy People Objectives and Maternal and Child Goals to be met while reducing the national burden of unnecessary pain and dysfunction.

ACA’s references to oral health and dental care are not a loose potpourri of independent provisions but a comprehensive systems approach to a solvable health problem.⁵ Together with Medicaid and CHIP programs, ACA moves us toward dental coverage for all US children and adolescents with prevention as a priority. Dental and medical health professionals will be better trained to care for all children’s oral health needs. New providers will be developed to improve dental care for all ages. The dental “safety net” will be expanded. State-level oral health capacity will be strengthened. And surveillance will be improved so that Congress can monitor the salutary impact of its actions. While this vision of the future is possible, it is only attainable if each of the oral health provisions are fully funded and implemented, if all of the provisions are effectively linked together, and if the totality of provisions is supported and subjected to ongoing oversight.

Overview of oral health determinants

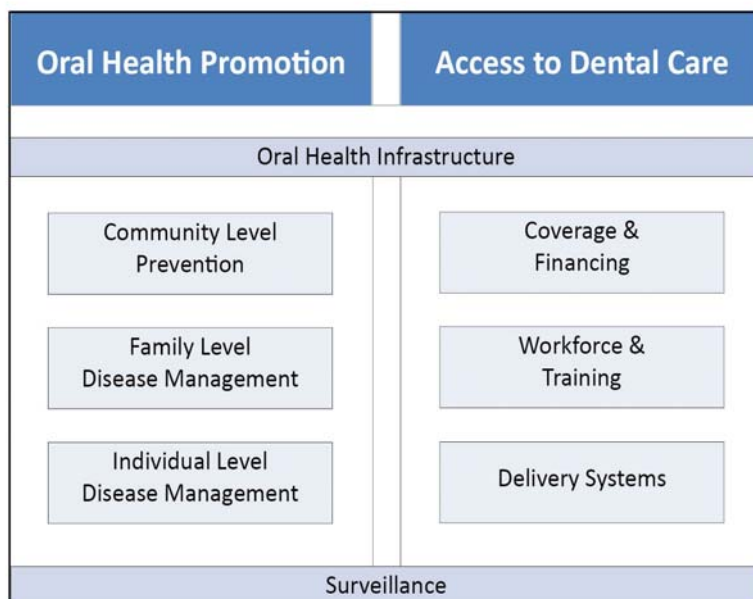
The ultimate goal of ACA is to improve Americans’ health status. The law focuses on coverage generally by including pediatric dental coverage as part of the essential benefits package, but the law also attends to many influences on both health care and health outcomes. The figure below demonstrates how ACA’s oral health provisions create a systematic way to advance oral health in America—with a particular focus on children. This whitepaper’s exploration of the ACA dental provisions addresses the left side of this figure by exploring the host of approaches to improving oral health independent of improving dental care. It clarifies the underlying oral health issues that ACA addresses and puts many of the dental

provisions within the context of addressing those issues through a public information campaign and integration of oral health into other health promotion activities, advancement of science-based prevention, workforce enhancements including alternative providers who provide disease management and care coordination, dental sealants, and oral health surveillance.

A separate document addresses issues related to the right side of this column, “Access to Dental Care.” It clarifies why dental care and dental coverage are important, how Medicaid, CHIPRA, and ACA work together to provide extensive dental coverage for children, and how ACA impacts the dental safety net and workforce in states.

- **Why oral health matters**

All essential human functions engage the mouth as a biological structure: breathing, eating, speaking, expression, sensation, and protection from the external environment. It alone combines our respiratory and gastrointestinal systems - allowing us to both breathe and eat. The mouth is a primary determinant of general health. Through its shared circulation, neural, and immune connections, the mouth both impacts and reflects pathologic conditions throughout the body and is therefore justifiably regarded as "the mirror of the body."⁶



The specialized tissues of the mouth are each susceptible to unique diseases and conditions. Teeth, despite their tremendous hardness, can decay when the pathological mix of bacterial plaque and sugar yield destructive acids. Gums, despite their resiliency, can become inflamed, infected, and destroyed. The positioning of the teeth into a functioning unit for effective chewing may be sufficiently faulty as to require orthodontics to correct particular conditions. All of the soft parts of the mouth are susceptible to oral cancer, particularly if stressed by chronic exposure to irritants in tobacco and alcohol. Among children and teens, oral trauma from accidents and injury is common. Far less commonly, other oral pathologies – ranging from unique infections to immunological conditions and tumors of many types – affect many people’s health, function, and appearance.

- **US Oral Disease Burden**

Taken together, tooth decay, periodontal disease, oral trauma, and oral cancer constitute a tremendous disease burden on the US population despite all being significantly preventable. Among children, tooth decay remains the most common chronic disease in America, five times more common than asthma.⁷ Tooth decay is initiated in the toddler and preschool years when the causative bacteria are transmitted, most commonly from mother to child. Cavities, the result of an invisible caries process, have lifelong effects on oral health and function and later in life – on employability. CDC reports (Chart 1) that of children entering Kindergarten, nearly half have experienced cavities and by high school graduation age

more than two-thirds have experienced tooth decay.⁸ While those numbers may seem staggering, unfortunately three quarters of young children (73%) and half of 6-11 year olds (48%) have *untreated* cavities.^{9,10} Once established in childhood, tooth decay continues to progress, affecting 86% of 20-34 year olds, 94% of 35-49 year olds, and 96% of 50-64 year old.¹¹ Healthy People 2010 Objectives for childhood tooth decay were not met. CDC's midcourse review notes that "no objectives in the Oral Health focus area met or exceeded their targets" and reports only partial improvement for teens (40% toward the goal), very modest improvements for children (10% toward the goal), and worsening for preschoolers (18% worse than baseline).¹²

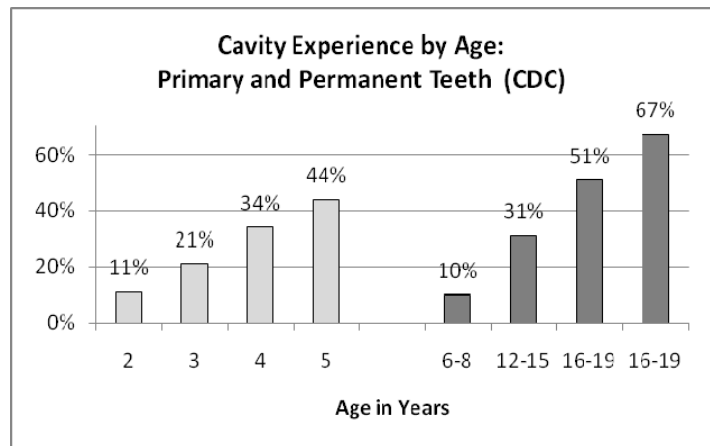


Chart 1: Tooth decay experience by age in primary teeth (light grey) and permanent teeth (dark grey). Nearly half of children have had cavities before entering kindergarten. Two-thirds have had cavities by age of high school graduation

Periodontal disease is first established in adolescence and is ultimately responsible for more tooth loss than is tooth decay. It also causes systemic inflammation that exacerbates diabetes management and increases risk for cardiovascular, reproductive, kidney and other systems diseases.¹³ Because periodontal disease is slowly progressive, symptom-free until advanced, and dependent upon x-rays to fully diagnose, prevalence is harder to determine and is not measured by CDC until age 18. Among 18 and 19 year olds, a third (33%) have signs of gum disease and 6% have destruction of the attachment between tooth and gum.¹⁴ These rates progress with age as the disease advances. Healthy People 2010 did not report a midcourse review for these measures.

• **Oral Health Disparities**

For all oral diseases, people of color, poverty and low-income, modest education, and disability have higher oral disease rates than do more socially advantaged populations.^{15 16} For example, early childhood tooth decay experience is 10% higher in Black children than White children and 43% higher in Mexican-American children than White children. Children of color are approximately 1.5 times more likely to have untreated cavities while children of poverty and low income are twice as likely to have untreated disease.¹⁷

Similar disparities are reported by both federal objective studies of oral health status that involve an oral examination by a standardized professional, e.g. National Health and Nutrition Examination Survey, as well as in subjective reports made by individuals for themselves, e.g. National Health Interview Survey, and for their children, e.g. National Survey of Children's Health. This last survey found that Black parents were twice as likely, and Hispanic parents four times as likely, to report their child to be in only poor or fair oral health compared to reports by White parents. After adjusting for the linkages between ethnicity and income, "Hispanics still were twice as likely as non-Hispanic whites to report their children's oral health to be fair or poor, independent of socioeconomic status."¹⁸

Among children, unmet need for dental care is 3.3 times greater than unmet need for medical care, 4.4 times greater than unmet vision care, and 4.8 times greater than unmet prescription needs. After

adjusting for all known risk factors, poor and low-income children are three times more likely to have an unmet dental need than children from higher income families. Children who lack health insurance are three times more likely to have an unmet dental need than insured children and unmet need increases steadily with age.¹⁹

- ***Consequences of Poor Oral Health***

Consequences of poor oral health are evident at child, family, community, and society levels.²⁰ At the child level, consequences range from aesthetic to major disturbances of normal functions including growth and development. Consequences increase with more serious infections that are often medically significant or life threatening. This has been demonstrated in a small survey of 161 academic dentists and emergency department (ED) physicians that revealed first-hand knowledge of at least one child death each year for the last five years from infections that began as dental abscesses.²¹

Children with dental symptoms are often brought to the hospital emergency department (ED) for pain relief despite few offer definitive dental services. Extrapolating from one state's data,²² approximately 175,000 children under age 18 present to the ED each year for acute dental problems. Use of the ED for these preventable conditions has increased substantially in recent years (e.g. 162% increase in New York State from 2004-2008).²³ These children have high levels of interference with school (32%), sleeping (50%) and eating (82%).²⁴ Tens of thousands of preschool-aged children and children with disabilities are additionally admitted to the hospital or surgical center for dental repair each year at a cost of millions of dollars. Such treatment is costly to families and payers, particularly Medicaid and CHIP, yet is essentially preventable at low cost through early intervention and individualized disease management.^{25,26}

As children mature into adulthood, those who have obtained good oral health because of improvements made by ACA will be at markedly reduced risk for the kinds of disease progression and tooth loss that result in ever increasing dental costs. However, children with poor oral health will be at higher risk of continued disease progression and will be more likely to suffer the associated financial consequences:

- **Employability:** Glied and Neidell recently reported that oral health (using childhood access to water fluoridation as proxy) increases earnings capacity in adulthood by 2% with a larger effect for women (4%). They report that the income-enhancing effects of oral health are greatest for individuals from low socioeconomic families. After discounting alternative hypotheses, they conclude that poor oral health diminishes income because of consumer and employer discrimination against those with unsightly dental appearance.²⁷
- **Missed work:** The Commonwealth Fund's health insurance surveys consistently reveal that one-in-ten US adults miss work or school during a year because of dental problems.²⁸
- **Military readiness:** A 2000 Department of Defense study of the oral health of Army recruits revealed that 42% have a "dental condition that, if not treated, is expected to result in a dental emergency within 12 months."²⁹ Despite remarkable success in treating such recruits, the effectiveness of our fighting forces in combat is impaired by dental problems. A paper published in *Military Medicine* in 2005 reports that one-in-five (19%) soldiers presenting for emergency treatment to the US Army echelon II medical facility during nine months of Operation Iraqi Freedom did so for dental problems – more than twice the number who were wounded in action.³⁰ The lay press reports similar military preparedness problems among National Guardsmen. (NYT). One representative DOD study reported that "The dental readiness of this National Guard unit was greatly inferior to that of the Active Component, and there is a

significant cost in personnel, dollars, and readiness to provide the needed dental treatment before mobilization.”³¹

While ACA’s coverage provisions address only children, improvements in their oral health may ultimately reduce disease burden among US adults, thereby muting the long term costs for their coverage.

ACA’s Strategies to Improve Oral Health in America

ACA’s oral health references relate to provisions that support advances and improvements in the oral health of America’s children independent of their dental treatment.

- ***Prevention opportunities***

ACA Section 4102, “Oral Healthcare Prevention Education Campaign” charges the Secretary of DHHS immediately to “conduct planning activities” over two years to prepare for a “5-year national public education campaign that is focused on oral healthcare prevention and education, including prevention of oral disease such as early childhood and other caries, periodontal disease, and oral cancer.” ACA further calls for implementation within two years which requires appropriations by FY 2011. This prevention campaign will target “specific populations such as children, pregnant women and parents” as well as “the elderly, individuals with disabilities, and ethnic and racial minority populations”; will “utilize science-based strategies to convey oral health prevention messages that include, but are not limited to, community water fluoridation and dental sealants”; and will be developed “in consultation with professional oral health organizations.”

CDC’s Center for Chronic Disease Control and Prevention currently stages number of campaigns (“Fruits and Veggies Matter,” “Inside Knowledge: Get the Facts About Gynecologic Cancer Campaign,” “National Diabetes Education Program,” “Smoking and Health: Media Campaign,” “Physical Activity: The Arthritis Pain Reliever,” and “Screen for Life: National Colorectal Cancer Action Campaign”³²) that aim to improve health behaviors through increased knowledge and promotion of specific actions. Analogous to these prior campaigns, the oral health campaign envisioned by this provision may better inform the public about the preventable nature of all three primary oral diseases and thereby improve health and decrease treatment costs.

Federal actions needed:

1. Fulfill funding. Appropriations request for FY2011 was \$5.0 million.
2. Engage federal leadership. Preparing for the Campaign will require coordination among:
 - a. the Office of the Secretary
 - b. the Office of the Assistant Secretary of Planning and Evaluation
 - c. the Assistant Secretary of Health and Administrator of HRSA in their roles as co-chairs of the federal Oral Health Initiative
3. Congressional Oversight. The development and implementation of the Campaign will need the oversight of Congress to ensure the intent is achieved.

- ***Disease management opportunities***

ACA Section 4102, “Research-based Dental Caries Disease Management” charges the DHHS Secretary with awarding grants “to demonstrate effectiveness of research-based dental caries disease management activities.” Information gained through these grants is to inform the public education Campaign.

This provision addresses the lack of disease management approaches to reducing caries burden and reducing the high relapse rates that follow from current surgical interventions.

Federal actions needed:

1. Fulfill funding. Appropriations request for FY2011 was \$8.0 million.
2. Convene Public-Private Partnership. In the development of grant guidance, CDC should involve federal authorities from HRSA/MCHB, CDC, and NIH (NIDCR, NIMHD, NICHD) with nationally recognized experts in cariology, caries prevention, and disease management to offer input and advice.

- ***New solutions to reducing disease burden***

ACA Section 4304, “Alternative Dental Health Care Providers” authorizes novel five year \$4 million demonstrations to develop new dental health care providers and directs the Institute of Medicine to evaluate the outcomes. The legislation defines the term “alternative dental health care provider” sufficiently broadly that any existing or new ideas may be tested.

Federal actions needed:

1. Fulfill funding. Appropriations request for FY2011 was \$15.0 million.
2. Encourage Innovation. In order to prepare states and other grantees to receive demonstration funding, state dental practice acts must allow for specific demonstrations. Therefore federal policymakers should encourage their State policymakers to ensure that practice acts and Boards of Dentistry will allow the proposed demonstrations.

- ***Workforce enhancement opportunities***

ACA Section 5303, “Training in General, Pediatric, and Public Health Dentistry” enhances the longstanding “Title VII” health professions training program at HRSA that supports the training of primary dental care providers including dentists, dental hygienists, and other approved primary care dental trainees. The authorization of this Section includes, but is not limited to, grants or contracts “to provide technical assistance to pediatric [dental] training programs in developing and implementing instruction regarding...risk-based clinical disease management of all pediatric populations with an emphasis on underserved children.” Regarding faculty loan repayments for teachers of primary care and public health dentistry, a priority is stated for “applicants that propose collaborative projects between departments of primary care medicine and departments of general, pediatric, or public health dentistry.” Together these provisions directly address the need to shift the focus of primary care dentistry even further toward prevention and disease management. The first can result in entirely novel curricula that re-conceptualize early childhood caries as a disease process (rather than the resulting cavities) and develop mechanisms and protocols for early intervention and disease suppression consistent with science. The latter can facilitate dentistry’s adoption of a more “medical” approach to

care that focuses more intensely on risk-assessment, anticipatory guidance, primary prevention, and adopts principles and practices of chronic disease management.

This approach to disease management is already well underway conceptually if not yet widespread in daily dental practice. The American Dental Association, American Academy of Pediatric Dentistry, and American Dental Hygienists' Association all promote concepts of risk assessment, individualized care plans, adoption of recognized health education modalities, and behavioral as well as pharmacological interventions.

Federal actions needed:

1. Fulfill funding. Appropriations request for FY2011 was \$30.0 million.
2. Build on Existing Research. Engage the current Institute of Medicine Committee on Oral Health Access to Services to promote incorporation of disease management recommendations into its definition of dental services.

- ***Dental Safety Net Improvement Opportunities***

ACA expands the capacity of two specific safety net approaches, both of which may include dental services. The dental safety net, which is comprised of professionals who practice in health centers, hospitals, dental schools, and public clinics, is very small. Less than 5 percent of dentists practice in these settings³³. ACA's expansion of the safety net provides unique opportunities to expand the size and availability of the dental safety net for those who currently have limited access to private dental care.

The "Grants for the Establishment of School-Based Health Centers" (SBHCs) program creates a fund for facilities, inclusive of acquisition and construction, and equipment purchase. Priority is given to sites that preferentially serve children in Medicaid and CHIP with comprehensive services. Comprehensive services are defined as providing "health assessments, diagnosis, and treatment of minor, acute, and chronic medical conditions, and referrals to, and follow-up for, specialty care and oral health services." This language fails to recognize that an increasing number of SBHCs provide dental services directly. Of the over 1,900 school-based health centers currently operating nationwide, the majority offer dental education; about one quarter provides dental examinations, sealants and screenings; and approximately one tenth provides reparative dental services to students.³⁴ Larger numbers of schools participate in school-based dental sealant programs which could be expanded to provide more comprehensive services.

Much greater support is provided through an additional \$11 billion over the period FY2011-2015 for construction, capital improvements, and service expansions for community health centers. These expansions may support both dental program expansions within Centers and expansions by contracting with private dentists. Federally Qualified Health Centers (FQHCs) are the most substantial component of the dental safety net. They provide a range of medical services to 16 million people and offer preventive dental care in over 70% of sites.³⁵ In 2008, the 1080 FQHCs provided oral examinations and preventive services to 2.3 million people, dental reparative services to 1.2 million people, and emergency and oral surgical services to nearly 800,000 people.³⁶

Federal actions needed:

1. Prioritize Oral Health. Congress should explicitly prioritize oral health in safety net settings by expanding the legislative definition of dental care beyond referral and monitoring to include direct services, coupled with school-based sealant programs.
2. Build on Existing Research. Engage the current IOM Committee on Access to Dental Care and Committee on the Oral Health Initiative to support integration of oral health care within the SBHC and FQHC safety-net.

- ***Public health sealant program opportunities***

ACA Section 4102(b), “School-based sealant programs” expands existing support for this validated public health preventive intervention³⁷ through federal grants “to each of the 50 States and territories and to Indians, Indian tribes, tribal organizations and urban Indian organizations.” While this intervention does require “hands-on” dental treatment, it is included among provisions that advance oral health because it is both community based and exclusively prevention oriented.

The CDC’s Guide to Community Preventive Services highlights the contribution of community water fluoridation (CWF) and dental sealant programs as primary determinants in obtaining and maintaining positive oral health. Equally important to health reform, both provide significant cost savings as well as disease prevention.³⁸ These powerful, low-cost public health interventions continue to result in tremendous oral health improvements and cost savings to Medicaid programs. A new CWF analysis reports that poor and low-income children of fluoridated communities receive one-third fewer dental treatments (restorations, root canals, and extractions) than do residents of fluoridated communities.³⁹ Similarly, dental sealant programs have been established as effective,⁴⁰ cost-effective,⁴¹ and potentially cost saving⁴² in preventing the most common cavities in permanent teeth.

Healthy People 2010 midcourse review⁴³ attributes the decline in cavities among 15 year olds from 61% to 57% as “likely due to increased use of dental sealants” thereby demonstrating the power of this preventive intervention. Nonetheless, far too few children and teens have sealants as only a third of eight year olds (34%) and a fifth of 15 year olds (20%) have sealants. School-based sealant programs target children of poor and low-income families who are at greater risk of experiencing cavities and are less likely to obtain dental reparative treatment.

Federal actions needed:

1. Fulfill funding. Appropriations request for FY2011 was \$15.0 million.
2. Coordinate dental sealant promotion across agencies. The Assistant Secretary of Health and Administrator of HRSA in their roles as co-chairs of the federal Oral Health Initiative should provide leadership to coordinate dental sealant promotion across agencies (CDC and HRSA/MCHB), particularly with regard to care delivered in school-based programs.

- ***Public health programming and surveillance opportunities***

ACA Section 4102 “Oral Health Infrastructure Cooperative Agreements” and Section 4102 “Updating National Oral Healthcare Surveillance Activities” together advance Americans’ oral health through well established dental public health strategies. The first markedly improves state oral health programming through leadership enhancements, development and implementation of state oral health plans, public-

private partnerships, oral health data collection and interpretation, and promotion of a multi-dimensional oral health delivery system that includes dental sealants and community water fluoridation. These fundamental public health activities hold strong promise to be accountable, efficient, and cost-effective as evidenced from states with strong dental public health units. Federal support for state oral health programming from both HRSA and CDC, combined with core state support holds tremendous promise to maximize public expenditures that target oral health improvements, independent of dental care.

ACA's surveillance improvements will ensure that both oral health and dental care can be well tracked so that deficiencies and disparities can be noted and addressed. Surveillance priorities include increased attention to the oral health of women during and immediately following pregnancy in "PRAMS" state-level survey; maintenance of detailed oral health assessments in the "NHANES" national survey; validation of findings in the "MEPS" national survey; and expansion of the state-level National Oral Health Surveillance System, a comprehensive program that reports on fluoridation, sealants, oral cancer, tooth retention, and caries experience as well as dental care usage.⁴⁴

Federal actions needed:

1. Fulfill funding. Appropriations request for FY2011 was \$25.0 million.
2. Build on Federal Leadership. The Assistant Secretary of Health and Administrator of HRSA in their roles as co-chairs of the federal Oral Health Initiative should assist in prioritizing and providing technical assistance to, state-level oral health agencies to maximize new oral health ACA opportunities.

- ***Integration of oral health into ACA public health and wellness programs***

ACA creates a number of targeted programs to improve public health and wellness⁴⁵ that are not specific to oral health but that may appropriately incorporate oral health as an essential component of general health. These include:

- ✓ The creation of a Presidential "*National Prevention, Promotion and Public Health Council*" to develop strategies for the most effective and achievable means of improving the health status of Americans and reducing preventable illness and disability. By Executive Order on June 10, 2010, this Council was created with the US Surgeon General as Chair and membership comprised of Secretaries of the Departments of Agriculture, Labor, Health and Human Services, Transportation, Education, and Homeland Security as well as the leaders of the Environmental Protection Agency, Federal Trade Commission, Office of the National Drug Control Policy, Indian Affairs, and Corporation for National and Community Service.⁴⁶
- ✓ The establishment of the "*Prevention and Public Health Fund*" with appropriations of \$500 million in FY2010 increasing to \$2 billion by 2015 for programs in prevention, wellness, and public health activities that include prevention research and health screenings.
- ✓ The institution of an "*Education and Outreach Campaign*" by DHHS that engages a national public-private partnership to raise public awareness of health improvement across the lifespan. The Secretary is required by March 2011 to establish a national science-based media campaign engaging TV, radio, and the web on nutrition, exercise, smoking, obesity and five leading diseases (heart, cancer, stroke, lower respiratory, and diabetes⁴⁷).

- ✓ Funding opportunities for States, localities, and national networks of community based organizations for “*Community Transformation Grants*” to implement, evaluate, and disseminate community preventive activities that reduce chronic disease rates, limit disease progression, reduce health disparities, and build evidence for prevention’s effectiveness. Grants are designed to promote age-specific healthy living through improved physical and social environments, food options, and lifestyles for all, including those with special needs.
- ✓ Pilot grants to develop and demonstrate health improvements for Americans ages 55-64 through “*Healthy Aging, Living Well Grants*” that improve nutrition, reduce tobacco use, and promote healthy lifestyles.
- ✓ The newly announced “*Maternal, Infant, and Early Childhood Home Visiting Program*,” managed by HRSA in close collaboration with the Administration on Children and Families, that will “foster effective, well-coordinated home visiting programs for at-risk families...to promote early childhood health and development and, ultimately, to improve outcomes and opportunities for children and families.”⁴⁸

Moving the Agenda on Oral Health

These many provisions provide the greatest opportunity in history for a coordinated approach to improving the public’s oral health. Congress has explicitly prioritized oral health by thoughtfully instituting a systematic approach to prevention, health promotion, and disease management. The many provisions described above together create a unique opportunity for all concerned with the public’s oral health to be proactive and effective, if only these provisions are fully funded and appropriately implemented. Ongoing concerted collaborative efforts by federal and state Legislatures and Agencies, advocates, the Institute of Medicine, professional associations, public health officials, safety net organizations, educators and philanthropic organizations are now needed to create the conditions for continued improvements in the public’s oral health.

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- ¹ Dye BA, Tan S, Smith V, Lewis BG, Barker LK, Thornton-Evans G, et al. Trends in oral health status: United States, 1988–1994 and 1999–2004. National Center for Health Statistics. Vital Health Stat 11(248). 2007.
- ² 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 Institutes of Health, National Institute of Dental and Craniofacial Research, 2000. NIH publication 00–4713.
- ³ Hearing on the comprehensive health reform discussion draft: Hearings before the Subcommittee on Health of the Committee on Energy and Commerce, 111th Cong., 1st Sess. (2009) (Written statement of marian Wright Edelman).
- ⁴ Children’s Health Insurance Program Reauthorization Act of 2009, P.L. 111-3.
- ⁵ Edelstein BL, Samad F, Mullin L, Booth M. Oral health provisions in US Healthcare reform. J Am Dent Assoc 2010 (in press).
- ⁶ Glick M. The mouth is a mirror of the body. J Okla Dent Assoc. 2000 Winter;90(3):8.
- ⁷ U.S. Surgeon General’s Call to Action to Improve Oral Health. Available at <http://www.nidcr.nih.gov/sgr/calltoaction/index.asp.pdf> accessed 7-29-10.
- ⁸ Dye op. cit.
- ⁹ Iida H, Auinger P, Billings RJ, Weitzman M. Association between infant breastfeeding and early childhood caries in the United States. Pediatr 2007;120:3844-e952.
- ¹⁰ Dye op. cit.
- ¹¹ Dye op. cit.
- ¹² US Department of Health and Human Services Centers for Disease Control and Prevention. Healthy People 2010 Midcourse Review. Available at <http://www.healthypeople.gov/Data/midcourse/html/focusareas/FA21ProgressHP.htm> accessed 7-29-10.
- ¹³ Albert DA, Edelstein BL, Klaus RJ, Papapanou PN, Shea S. A medical-dental dialogue: Periodontal disease and systemic health. (2008, March) Presented by Columbia University College of Dental Medicine, Columbia University College of Physicians and Surgeons, national Periodontal Disease Coalition, New York Academy of Sciences.
- ¹⁴ US Department of Health and Human Services National Institute for Dental and Craniofacial Research and CDC Division of Oral Health. Data Inquiry System. Available at http://drc.hhs.gov/create_query.htm accessed 7-29-10.
- ¹⁵ Edelstein BL. Dental care considerations for young children. Spec Care Dentist 2002;22(3 Suppl):11S-25S.
- ¹⁶ SGR op. cit.
- ¹⁷ Dye op. cit.
- ¹⁸ Dietrich T, Culler C, Garcia RI, Henshaw MM. Racial and ethnic disparities in children’s oral health: the National Survey of Children’s Health. J Am Dent Assoc 2008;139:1507-1517.
- ¹⁹ Newacheck PW, Hughes DC, Hung Y-Y, Wong S, Stoddard JJ. The unmet health needs of America’s children. Pediatr 2000;105:989-997.
- ²⁰ Casamassimo PS, Thikkurissy S, Edelstein BL, Maiorini E. Beyond the dmft: the human and economic cost of early childhood caries. J Am Dent Assoc 2009;140:650-657.
- ²¹ Bienstock, Chinn, Edelstein.
- ²² Kumar J. Correspondence with the author 8/3/2010 regarding “trends in emergency room and ambulatory surgery visits for oral diseases.”
- ²³ Kumar op. cit.
- ²⁴ Edelstein BL, Vargas CM, Candelaria D, Vemuri M. Experience and policy implications of children presenting with dental emergencies to US pediatric dentistry training programs. Pediatr Dent 2006;28:431-437.
- ²⁵ VanLandeghem K. Strategies for sustaining and enhancing prevention of childhood tooth decay during challenging times. National Maternal and Child Oral Health Policy Center. April 2010.
- ²⁶ Improving pediatric health: Biobehavioral approaches to childhood disease management: The system – access, financing, coordination. New York Academy of Sciences. 2009.
- ²⁷ Glied S, Neidell M. The Economic Value of Teeth. J Human Resources 2010;45(2)468-496
- ²⁸ Edelstein BL, Williams S. Analyses of the Commonwealth Fund 2001, 2003, and 2005 biennial health insurance surveys. 2010. Columbia University College of Dental Medicine Section of Social and Behavioral Sciences. New York, NY.

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- ²⁹ Chaffin MA, Marburger T, Fretwell D. Dental class 3 intercept clinic: a model for treating dental class 3 soldiers. *Mil Med.* 2003 Jul;168(7):548-52
- ³⁰ Murray CK, Reynolds JC, Schroeder JM, Harrison MB, Evans OM, Hospenhal DR. Spectrum of care provided at an echelon II Medical Unit during Operation Iraqi Freedom. *Mil Med.* 2005 Jun;170(6):516-20.
- ³¹ Chaffin J, Brooks S, Kahue P. Dental cost of deploying a National Guard unit to Bosnia. *Mil Med* 2002;167:474-7.
- ³² Center for Chronic Disease Control and Prevention, Communication Campaigns. Available at <http://www.cdc.gov/chronicdisease/resources/campaigns.htm>. Accessed 8-17-10.
- ³³ Edelstein, B. The dental safety net, its workforce, and policy recommendations for its enhancement. *J Pub Health Dentistry* 2010; 70:S32-39.
- ³⁴ Strozer J, Juszczak L, and Ammerman A. 2007-2008 National School-Based Health Care Census. Washington, DC: National Assembly on School-Based Health Care. 2010.
- ³⁵ Institute of Medicine. 2009. The U.S. oral health workforce in the coming decade: Workshop summary. Washington DC: The National Academies Press pages 44-45.
- ³⁶ US Department of Health and Human Services, Health Resources and Services Administration. Selected Diagnoses and Services Rendered, National Summary for 2008. Available at http://www.hrsa.gov/data-statistics/health-center-data/NationalData/2008/2008_national_diagnosesservices.html. Accessed 1-15-10.
- ³⁷ Task Force on Community Preventive Services. Recommendations on selected interventions to prevent dental caries, oral and pharyngeal cancers, and sports-related craniofacial injuries. *Am J Prev Med* 2002;23(1S):16-20.
- ³⁸ Sinclair, S, Edelstein, B. Cost effectiveness of preventive dental Services. Children's Dental Health Project. 2005.
- ³⁹ Kumar JV, Adekugbe O, Melnik TA. Geographic variation in Medicaid claims for dental procedures in New York State: role of fluoridation under contemporary conditions. *Pub Health Rep* 2010;125:647-654.
- ⁴⁰ Gooch BF, Griffin SO, Kolavic-Gray S, Kohn WG, Rozier G, Siegal M, Fontana M, Brunson D, Carter N, Curtis DK, Donly KJ, Haering H, Hill LF, Hinson HP, Kumar J, Lampiris L, Mallatt M, Meyer DM, Miller WR, Sanzi-Schaedel SM, Simonsen R, Truman BI, Zero DT. Preventing Dental Caries Through School-Based Sealant Programs: Updated recommendations and reviews of evidence. *J Am Dent Assoc* 2009;140:1356-1365.
- ⁴¹ Griffin SO. Sealant program improves health outcomes and reduces state health expenditures in 2007/2008. CDC Division of Oral Health. Available at http://www.cdc.gov/OralHealth/state_programs/pdf/sample_one_pager.pdf. Accessed 8-6-10.
- ⁴² Weintraub JA, Stearns SC, Burt BA, Beltran ED, Eklund SA (1993). A retrospective analysis of the cost-effectiveness of dental sealants in a children's health center. *Soc Sci Med* 36:1483-1493.
- ⁴³ Healthy People 2010 Midcourse Review, Chapter 21 Oral Health. Progress toward Healthy People 2010 Targets. Available at <http://www.healthypeople.gov/data/midcourse/html/focusareas/FA21ProgressHP.htm>. Accessed 8-6-10
- ⁴⁴ USDHHS, CDC Center on Chronic Disease Prevention and Health Promotion, Division of Oral Health. National Oral Health Surveillance System. Available at <http://www.cdc.gov/nohss/>. Accessed 8-6-10.
- ⁴⁵ Many of these programs are summarized by the Kansas Department of Health at https://www.ksinsurance.org/consumers/healthreform/PPACA_preventive_wellness.pdf. Accessed 8-6-10.
- ⁴⁶ The White House. Executive Order Establishing the National Prevention, Health Promotion, and Public Health Council. June 10, 2010. Available at <http://www.whitehouse.gov/the-press-office/executive-order-establishing-national-prevention-health-promotion-and-public-health>. Accessed 8-6-10.
- ⁴⁷ CDC Burden of Chronic Diseases as Causes of Death. Available at <http://www.cdc.gov/nccdphp/burdenbook2004/section01/tables.htm>. Accessed 8-6-10.
- ⁴⁸ DHHS announcement of the Home Visiting Program. Available at <http://www.amchp.org/Advocacy/health-reform/Documents/Microsoft%20Word%20-%20Maternal%20Infant%20and%20Early%20Childhood%20Home%20Visiting%20Program.pdf>. Accessed 8-6-10.