Healthy People 2020: Who’s Leading the Leading Health Indicators?
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Deputy Director, Office of Disease Prevention and Health Promotion,
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Who’s Leading the Leading Health Indicators?

• **Leading Health Indicators are:**
  - Critical health issues that, if addressed appropriately, will dramatically reduce the leading causes of preventable deaths and illnesses
  - Linked to specific Healthy People objectives
  - Intended to motivate action to improve the health of the entire population

1200 Healthy People objectives

LHIs are a subset of Healthy People objectives
Who’s Leading the Leading Health Indicators?

Featured Speakers:

• **Don Wright, MD, MPH** – Director, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services

• **Gina Thornton-Evans, DDS, MPH** - Dental Officer, Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention

• **Timothy L. Ricks, DMD, MPH** - Deputy Director, Division of Oral Health, Office of Clinical and Preventive Services, Indian Health Service
Don Wright, MD, MPH
Director, Office of Disease Prevention and Health Promotion,
U.S. Department of Health and Human Services
Importance of Oral Health

• Oral health is essential to overall health.

• Millions of Americans experience unnecessary pain and disability each year due to oral diseases.

• Oral health has been linked with an assortment of other chronic diseases, including diabetes and heart disease.

• It is also linked with risk behaviors such as using tobacco and maintaining a poor diet, specifically consuming foods and beverages high in sugar.
Outcomes of Poor Oral Health

• Cavities, also known as caries, are one of the most common chronic conditions of childhood in the United States.

• Cavities are also a problem for adults. A majority of adults experience at least one cavity throughout their lifetime.

• Periodontal (gum) disease and mouth and throat cancers are other major consequences of poor oral health.
Oral Health
Leading Health Indicator

- Children, adolescents, and adults who visited the dentist in the past year (OH-7)
Dental Visit in the Past 12 Months, 2007-2015

NOTES: Data are for persons aged 2 years and over who reported a dental visit in the past 12 months. Data are age-adjusted to the 2000 standard population.
SOURCE: Medical Expenditure Panel Survey (MEPS), Agency for Healthcare Research and Quality (AHRQ).
Dental Visit in the Past 12 Months by Age, 2015

NOTES: I = 95% confidence interval. Data are for persons aged 2 years and over who reported a dental visit in the past 12 months.
SOURCE: Medical Expenditure Panel Survey (MEPS), Agency for Healthcare Research and Quality (AHRQ).
Dental Visit in the Past 12 Months by Race/Ethnicity, 2015

NOTES: I = 95% confidence interval. Data are for persons aged 2 years and over who reported a dental visit in the past 12 months. Black and white exclude persons of Hispanic origin. Persons of Hispanic origin may be any race. Respondents were asked to select one or more races. Data for the single race categories shown are for persons who reported only one racial group. Data are age adjusted to the 2000 standard population.

SOURCE: Medical Expenditure Panel Survey (MEPS), Agency for Healthcare Research and Quality (AHRQ).
Preventive Best Practices

• Things you can do:
  o Schedule regular dentist visits
  o Brush your teeth regularly with fluoride toothpaste
  o Floss daily
  o Limit tobacco and alcohol use
  o Maintain a healthy diet

• Community-level interventions:
  o Community water fluoridation
  o School-based dental sealant programs
Gina Thornton-Evans, DDS, MPH
Dental Officer, Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention
• **Mission**
  
  - To prevent and control oral diseases and conditions by building knowledge, tools, and networks that promote health behavior and effective public health practices and programs.
• **Key Activities**
  o Currently fund 21 state oral health programs.
    ▪ Two New Funding opportunities
  o Monitoring national and state surveillance indicators, like those contained in *HP2020* and *BRFSS*.
  o Promoting evidence based interventions, such as Community Water Fluoridation and Dental Sealant Programs.
Resources for Dental Sealant Programs

Estimating the cost of school sealant programs with minimal data
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Abstract
Objective: Develop methodology to estimate the annual cost of resources used by school sealant programs (SSPs) and demonstrate its use.
Methods: We used existing literature and expert opinion to identify SSP cost components and the most appropriate costs for their measurement (e.g., per operator and collector frequency, labor costs, and equipment and disposable instruments). We estimated the annual cost of sealant programs using minimal data.
Results: We estimate SSP annual costs to be $75 to $175 per student.

Key words: oral health, school-based sealant programs, costs, minimal data

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Summary of Evidence and Task Force Finding

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Background. School-based sealant programs are an evidence-based prevention strategy that provides a wide range of health benefits to children and adolescents. School-based sealant programs have been found to reduce dental caries and associated costs in a cost-effective manner. They have also been shown to increase access to dental care and decrease the number of children with untreated caries.

The purpose of this review is to provide a comprehensive overview of the evidence supporting school-based sealant programs and to summarize the key findings of the Task Force on Community Preventive Services.

In 2008, the Task Force on Community Preventive Services published a systematic review of published scientific studies demonstrating strong evidence that school-based sealant programs are effective in reducing the incidence of tooth decay. The Task Force’s report, "Sealants for Children: A Review of the Evidence," provides a comprehensive review of the literature on the effectiveness of school-based sealant programs.

Introduction
In the United States, approximately 20 percent of children, aged 6-17 years, have untreated caries. The cost of treating these caries can be significant, both in terms of lost productivity and reduced quality of life. School-based sealant programs provide a cost-effective way to reduce the incidence of tooth decay and associated costs.

The cost of providing sealant programs is relatively low compared to the potential savings in terms of reduced health care costs and increased productivity.封存剂program costs are determined largely by the number of children served, the number of sealants placed, and the cost of sealant materials.

The cost-effectiveness of these programs is further enhanced by the fact that nearly all communities with sealant programs have the necessary resources and infrastructure in place to manage and deliver the program.

Preventing dental caries through school-based sealant programs

Updated recommendations and reviews of evidence


CDC, Atlanta, Georgia

August 2017

Resources for Dental Sealant Programs

Office of Disease Prevention and Health Promotion

Improving Oral Health: School-Based Dental Sealant Delivery Programs

Summary of Community Preventive Services Task Force Recommendation

The Community Preventive Services Task Force (CPSTF) recommends school-based sealant programs to deliver dental sealants and prevent dental caries. The Committee's recommendations apply to all settings in which children and adolescents receive oral health care services, including schools, community health centers, and dental offices.

Major Findings

- Implementing a sealant delivery program led to a significant increase in the number of students who received sealants. Greater gains were seen among students from low-income families.
- Students who received dental sealants had a median of 1.9 fewer caries at the four-year follow-up compared to students who did not receive sealants.

What are School-Based Dental Sealant Delivery Programs?

Dental sealants are a clear plastic or white material applied to the chewing surfaces of the back teeth to prevent dental caries in the area. This review is based on recent school-based sealant programs implemented in schools in the United States. Additional information on sealant delivery may be found in a 2008 report on the cost-effectiveness of school-based sealant programs.

The objective of this review is to estimate the annual cost of resources used by school sealant programs (SSPs) and demonstrate its use. We used existing literature and expert opinion to identify SSP cost components and the most appropriate costs for their measurement (e.g., per operator and collector frequency, labor costs, and equipment and disposable instruments). We estimated the annual cost of sealant programs using minimal data.

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CDC, Atlanta, Georgia

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• **Mission**
  
  - To improve the health of the nation’s underserved communities and vulnerable populations by assuring access to comprehensive, culturally competent, quality primary health care services.
• **Key Activities**
  - Health Center Program (dental visits and oral health services)
  - Federal Office of Rural Health Policy
    - Rural Health Care Services Outreach Program
    - Rural Health Network Development Program
    - Telehealth Network Grant Program
  - Ryan White HIV/AIDS Dental Programs
    - $3.1 million in Community Based Dental Partnership to provide direct dental services to nearly 5,000 people living with HIV/AIDS.
    - $8.7 million in the Dental Reimbursement Program to provide oral health services to >36,450 people.
HRSA Resources

ORAL HEALTH
Across the Agency

HOW DO WE IMPROVE ORAL HEALTH?
HRSA provides funding, technical assistance and subject matter expertise for multiple oral health programs, activities, and initiatives to increase access to quality oral health care in underserved communities across the country.

Bureau of Primary Health Care (BPHC)
In 2016, BPHC provided an additional $100 M to 420 grantees as part of the HRSA Oral Health Service Expansion Supplement. HRSA’s Health Center Program provided more than 44 million dental visits in 2016, an increase of more than 1,263,000 visits from the prior year.

Bureau of Health Workforce (BHWF)
- Oral Health Workforce Development Program; support states and training institutions to help build and train the oral health workforce that improves access to quality oral health care for those who need it.
- HRSA’s National Health Service Corps (NHSC) program offers loan repayments and scholarships for health care professionals, including dentists and dental hygienists that practice in Health Professional Shortage Areas. In FY17, nearly 1,300 dentists and registered dental hygienists received loan repayment through the NHSC Loan Repayment Program and more than 120 NHSC dental scholarships were awarded.
- In addition, nearly 63 million in scholarships for disadvantaged students were dispersed to dental students in FY17.

Office of Planning, Analysis, and Evaluation (OPAE)
OPAE provides the HRSA-wide oral health leadership for cross-agency initiatives and departmental priorities. Working across the agency, HRSA develops an essential set of oral health care clinical competencies for primary care clinicians in efforts to improve access for early detection and preventive interventions leading to improved health. OPAE also administers the National Organizations for State and Local Offfices (NOSLO) cooperative agreement program which funds activities that address oral health.

Maternal and Child Health Bureau (MCHB)
Oral health is one of 15 Title V mandated performance priority areas that states can track to demonstrate improvement in the percent of women who had a dental visit during pregnancy and the percent of children who had a preventive dental visit in the last year. MCHB has funded the Preventative and Initial Oral Health Quality Improvement Initiative to target pregnant women and infants at high risk for dental disease through community-based approaches for integrating oral health care into statewide health care systems.

Ryann White HIV/AIDS Bureau (HAB)
In FY17, HAB provided around $5.7 million for the Part F Dental Reimbursement Program that defrays costs for educational institutions that provide oral health care to PLWH, and $3.1 million for the Community-Based Dental Partnership Program that provides hands-on learning opportunities for future oral health professionals.

Federal Office of Rural Health Policy (FORHP)
FORHP administers community-based and telehealth programs. In FY17, through the Rural Health Care Services Outreach Program, nearly $2.3 million was invested in rural communities to focus on outreach and education on oral health issues as a focus area. The Rural Health Network Development Program provides funding to mature rural healthcare networks that are working to collaboratively address the healthcare needs of their community. The program currently awards approximately $3 million of funding across five programs that utilize a network approach to provide innovative solutions to oral healthcare needs. Both programs support innovative approaches that include the use of telehealth, school-based clinics, and mobile dental clinics to increase access to and quality of oral health services. Through the TeleHealth Network Grant Program, HRSA awarded more than $2 million to eleven telehealth networks that are focusing on oral health. The purpose of the 4-year grant program is to demonstrate how telehealth networks can improve access to health care services and support health care providers in rural and underserved communities.

Revised April 2018

https://www.hrsa.gov/oral-health
• Mission
  o To improve dental, oral, and craniofacial health through the funding and support of:
    ▪ basic, translational, and clinical research;
    ▪ research training;
    ▪ research-related activities within the research community; and
    ▪ dissemination of knowledge gained from research.
• Key Activities
  o Funding for several Health Disparities Consortium Projects
  o National Dental Practice-Based Research Network
  o Salivary Diagnostics
NIDCR Portfolio

Caries
Head and Neck cancers
Craniofacial disorders
HIV/AIDS
Oral complications of systemic diseases
Orofacial pain
Periodontal disease
Rare diseases

Special Initiatives & Programs

Salivary Biology
Neuroscience
Mineralized Tissue Biology
Microbiology & Immunology
Practice Based Research
Epidemiology
Biomaterials
Cell & Molecular Biology
Developmental Biology

Workforce Tools & Technologies Data Science & ‘Omics Health Disparities
NIDCR 2030 – Vision for Future Research

- Oral health fully integrated into overall health.
- Precision health based on unique variations and determinants.
- Autotherapies aimed at the body’s ability to regenerate and repair.
- Oral biodevices that use the mouth for real time health monitoring and assessment.
- Research workforce with a diversity of disciplines, professions, and people.
• **Mission**
  - To raise the physical, mental, social and spiritual health of American Indians and Alaska natives (AI/AN) to the highest level.
Key Activities

- Electronic Dental Record implementation in 237 sites.
- Ongoing oral health surveillance matching Healthy People target groups (3-5, 6-9, 13-15, 35+).
- Continuing emphasis on disease prevention through an early childhood caries collaborative, oral health literacy campaign, fluoridation campaign, and use of silver ion antimicrobials.
Prevention of Early Childhood Caries in American Indian/Alaska Native Preschool Children

**Presenter:**
Timothy L. Ricks, DMD, MPH
Captain, U.S. Public Health Service
Deputy Director, Division of Oral Health
Office of Clinical and Preventive Services, Indian Health Service

**With Contributions by:**
Stephanie Lovell, RDH, BSDH, MBA
Lieutenant Commander, U.S. Public Health Service
Anadarko Indian Health Center

Lawton Service Unit, Oklahoma City Indian Health Service
Background

• The Indian Health Service (IHS) provides healthcare to 2.2 million American Indians/Alaska Natives (AI/AN) from 567 federally recognized Tribes in the U.S.

• The mission of the IHS is to raise the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level.

• AI/AN preschool children suffer disproportionately from dental disease:
  
  ➢ 2-5 year-old AI/AN children have 4x the number of decayed and filled teeth as U.S. white children and 2x that of the next highest minority group, U.S. Hispanic children

  ➢ 2 of every 5 (43%) of 3-5 year-old AI/AN children have untreated decay, compared to just 11% of U.S. white children

Phipps KR and Ricks TL, 2015
**Background**

- From 2010 to 2017, the IHS conducted a national initiative, the IHS Early Childhood Caries Collaborative

- Many, but not all, IHS and tribally-operated dental programs throughout the country implemented some or all of the Early Childhood Collaborative goals.

  - Goal 1: Increase access to care in 1-5 year-olds by 25% from 2010 to 2014
  - Goal 2: Increase the number of dental sealants in 1-5 year-olds by 25% from 2010 to 2014
  - Goal 3: Increase the proportion of 1-5 year-olds receiving topical fluoride by 25% from 2010 to 2014
  - Goal 4: Increase the number of interim therapeutic restorations in 1-5 year-olds by 50% from 2010 to 2014
Lawton Service Unit consists of:

- Lawton Indian Hospital in Lawton, Oklahoma (26 beds, 30 full-time providers, and dental facility)
- Anadarko Indian Health Center in Anadarko, Oklahoma (ambulatory care center 40 miles from Lawton with a dental facility)

Early childhood caries preventive efforts have been ongoing for many years, even prior to the national Early Childhood Caries Collaborative.

In 2010:

- 71.9% of 3-5 year-olds had early childhood caries
- 51.9% of 3-5 year-olds had untreated decay
Background: Lawton/Anadarko Demographics

• Lawton, Oklahoma
  o County seat of Comanche County
  o Located next to Fort Sill Military Reservation (major economic source)
  o Population: 96,867 (4.7% Native American)
  o Median household income: $41,566, 19% below poverty level

• Anadarko, Oklahoma
  o County seat of Caddo County
  o Located 50 miles southwest of Oklahoma City (see blue circle)
  o Named after the Nadarko Tribe, a branch of the Caddo Nation
  o Self-titled “Indian Capital of the Nation”
  o Population: 6,762 (41.26% Native American)
  o Median household income: $24,035, 28.5% below poverty level
Collaborative Efforts

- Collaborations occurred in varying degrees at the local IHS or tribal clinic level
  - Physicians
  - Mid-level medical providers
  - Clinic nurses
  - Public/community health nurses
  - Community health representatives
  - Pharmacists
  - Head Start and Early Head Start teachers
  - Tribal councils
  - Women, Infants, and Children’s (WIC) programs
Collaborative Efforts: Lawton

• Many children do not access dental care until they have experienced caries. Consequently, the Lawton and Anadarko dental programs have advocated “first tooth, first exam” throughout the system, to collaborative partners, in public service announcements, etc.

• Community outreach efforts have included:
  - Screenings by dental staff at daycares, Early Head Start, Head Start, schools, and health fairs
  - Fluoride varnish applications 3-4 times per year by dental staff at daycares, Early Head Start, Head Start, etc.
  - Training of pediatricians and nursing staff to conduct oral health assessments and apply fluoride varnish in young children, and to refer children with caries to the dental program
Results

- Nationally, from 2010 to 2014, a downward trend in ECC was seen across 1-5 year-old AI/AN children
Results: Lawton

Healthy People 2020 Target:

Lawton Service Unit Result:
- 30% improvement

Caries Experience, 3-5 year-old Al/AN: 72% (2010) vs. 42% (2014)

Untreated Decay, 3-5 year-old Al/AN: 52% (2010) vs. 26% (2014)

Sealants, 3-5 year-old Al/AN: 15% (2010) vs. 45% (2014)

Healthy People 2020 Target:

Lawton Service Unit Result:
- 26% improvement

Healthy People 2020 Target:

Lawton Service Unit Result:
- 30% improvement

Phipps KR and Ricks TL, 2015
Barriers & Challenges

- **Access to care** across the system continues to be one of the major barriers to reducing caries in young AI/AN children.

- **Competing priorities** in the provision of dental care make it difficult to pour all resources into preventing early childhood caries.

- **Factors outside the control of dental providers:**
  - Socio-economic
  - Behavioral
  - Diet

### Key Disparities in AI/AN Oral Health

<table>
<thead>
<tr>
<th>Condition</th>
<th>AI/AN</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated caries, 6-9 year-olds</td>
<td>40%</td>
<td>20%</td>
</tr>
<tr>
<td>Untreated caries, 13-15 year-olds</td>
<td>53%</td>
<td>11%</td>
</tr>
<tr>
<td>Untreated caries, 35-49 year-olds</td>
<td>64%</td>
<td>27%</td>
</tr>
<tr>
<td>Severe periodontal disease</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>Missing teeth, 40-64 year-olds</td>
<td>83%</td>
<td>66%</td>
</tr>
</tbody>
</table>
Lessons Learned

• Early access to dental care should be encouraged by all providers.
  
  ➢ “Two is too late” (By age 2, 2 of out every 5 AI/AN children already have early childhood caries)

• Prevention of early childhood caries is possible.

• “It takes a village”
  
  ➢ Who sees young children? Those are our collaborators!
  
  ➢ Anyone can be a “champion” of ECC prevention
  
  ➢ Education must be continuing and be at the community, provider, and patient levels
  
  ➢ All prevention/treatment regimens should be considered (fluoride varnish, interim therapeutic restorations, silver ion antimicrobials, etc.)
Next Steps

• The IHS will conduct a new survey beginning in July 2018 on 1-5 year-old American Indian/Alaska Native preschool children to follow up on the 2010 and 2014 surveys
  o All IHS surveillance data briefs are available at www.ihs.gov/doh (no login required)

• The IHS will continue to promote emerging and promising primary and secondary preventive practices
  o Silver ion antimicrobials
  o Silver-modified atraumatic restorative technique (SMART)

• Continued promotion of evidenced-based practices
  o Early access to dental care utilizing a collaborative, multi-disciplinary approach
  o Promotion of water fluoridation, fluoride varnish, sealants, etc.
Contact Information

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Roundtable Discussion
A library of stories highlight ways organizations across the country are implementing Healthy People 2020.

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