

Smiles for Life: Ensuring Oral Health Across the Lifespan

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President**

**This Chapter Lecture Series is supported by a
grant from the National Interprofessional
Initiative on Oral Health**

Program Objectives

At the conclusion of the program, participants will be able to:

1. Discuss the importance of oral health care as an integral component of PA practice.
2. Demonstrate knowledge of oral disease and prevention.
3. Discuss routine counseling for dental problems across the lifespan.
4. Discuss interventions that prevent and treat oral disease.
5. Describe reimbursement policies for oral health services.
6. Implement the Smiles for Life curriculum to improve oral health care for patients.

Faculty Disclosure Information

It is the policy of the American Academy of Physician Assistants to require the disclosure of the existence of any significant financial interest or any other relationship a faculty member has with the commercial interest of any commercial product discussed in an educational presentation. The participating faculty reported the following:

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Disclaimer: The opinions and comments expressed by faculty and other experts, whose input is included in this program, are their own.

Pre-test

1. What is the most common chronic disease of childhood?

- Asthma
- Ear infections
- Dental caries
- Depression

Pre-test

2. During a well-child visit, you tell a child's parent that to do an adequate job, children should have help brushing their teeth until what age?

- Three
- Four
- Five
- Six

Pre-test

3. What is the function of the periodontal ligament?

- Attach the tooth to the alveolar bone
- Carry blood to the root of the tooth
- Bond the enamel of the tooth to the dentin
- Bond the pulp of the tooth to the dentin



Pre-test

4. What part of the oral cavity is considered an area that is at risk for oral cancer yet is often neglected during an examination?

- Roof of the mouth
- Surface of the tongue
- Lateral aspect of the tongue
- Anterior gums

Pre-test

5. Which chronic condition can be made particularly worse by dental disease?

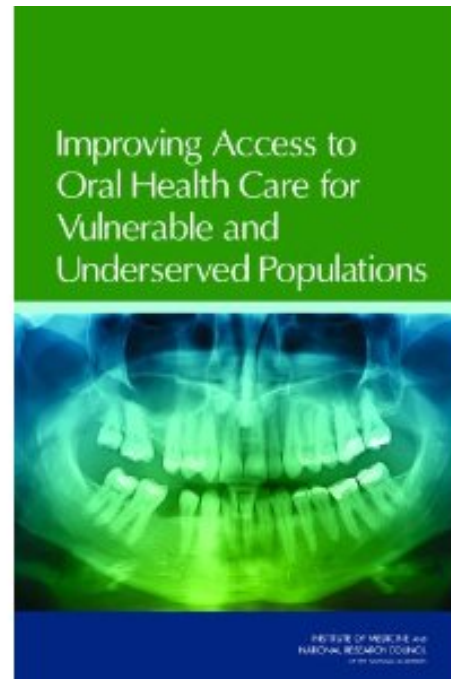
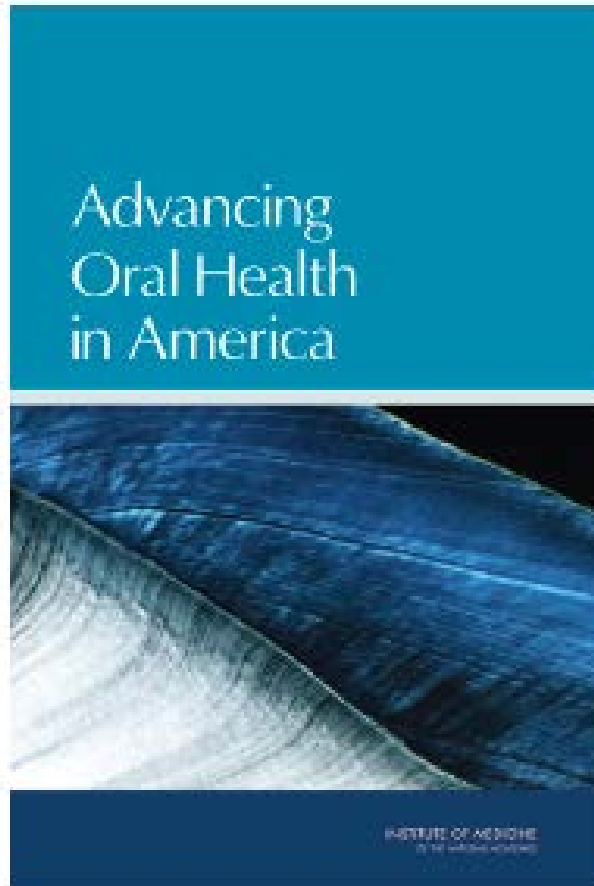
- Hypertension
- Diabetes
- Hypercholesterolemia
- Asthma

Pre-test

6. What potential complication of pregnancy is associated with dental disease?

- Postpartum hemorrhage
- Macrosomia
- Preterm Delivery
- Perinatal infection

Why Now?



Institute of Medicine Reports 2011

Medical-Dental Collaboration

- ❑ Oral health training for medical providers will increase referral to dentists
- ❑ Expanded medical knowledge for dental providers will increase referral to medical providers

The Need: Colorado Example

- ❑ 9 counties with no dentist
- ❑ 24 counties with no dentist accepting Medicaid
- ❑ < 12% of CO dentists are Medicaid providers
- ❑ No adult Medicaid or Medicare dental benefits (except for Medicaid in pregnancy)
- ❑ 2.3 million Colorado adults have no dental insurance
- ❑ Only 30% of Medicaid-eligible Colorado children receive any dental services

Misperceptions of the General Public

- “They’re just baby teeth”
- “Bring him in when he’s 4 years old and can sit still”
- “My 3-year old brushes his own teeth”
- “Fluoride is dangerous”
- “You lose a tooth for each pregnancy”
- “Dentures are just a part of getting old”



The Smiles For Life Curriculum

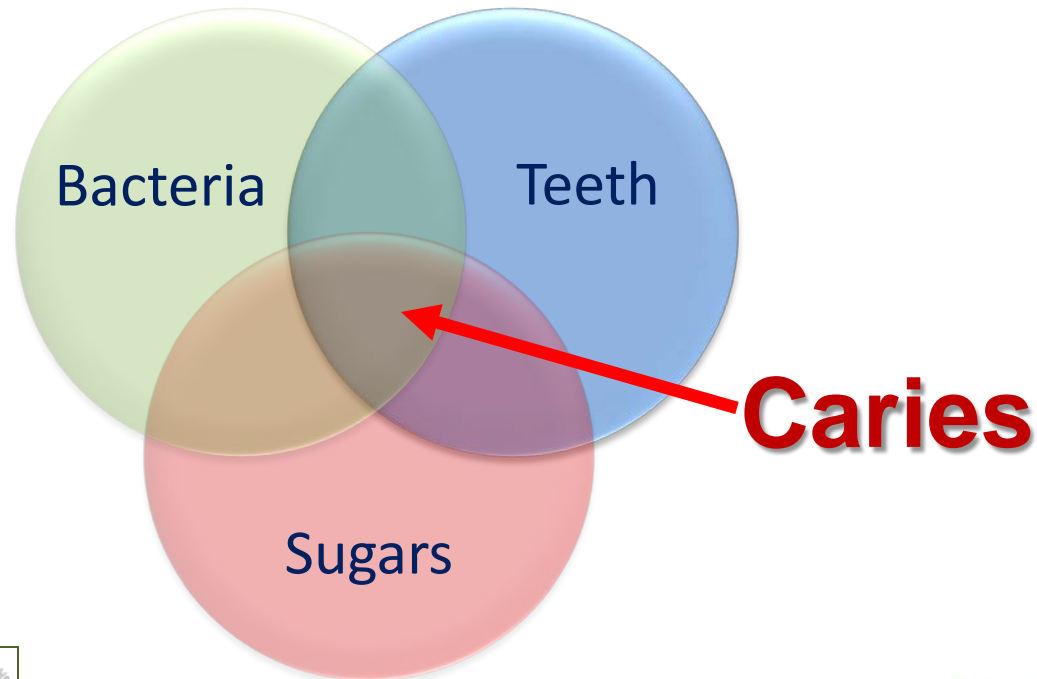
Course Quick Links	
	Course 1: The Relationship of Oral to Systemic Health
	Course 2: Child Oral Health
	Course 3: Adult Oral Health
	Course 4: Acute Dental Problems
	Course 5: Oral Health & the Pregnant Patient
	Course 6: Fluoride Varnish
	Course 7: The Oral Examination
	Course 8: Geriatric Oral Health

Modules:

1. Oral-Systemic Connection
2. Child Oral Health
3. Adult Oral Health
4. Acute Dental Problems
5. Oral Health in Pregnancy
6. Fluoride Varnish
7. The Oral Examination
8. Geriatric Oral Health (2011)

Caries Etiology Triad

Oral **bacteria** (*mutans strep*) break down dietary **sugars** into acids which break down the **tooth**



Caries Transmission

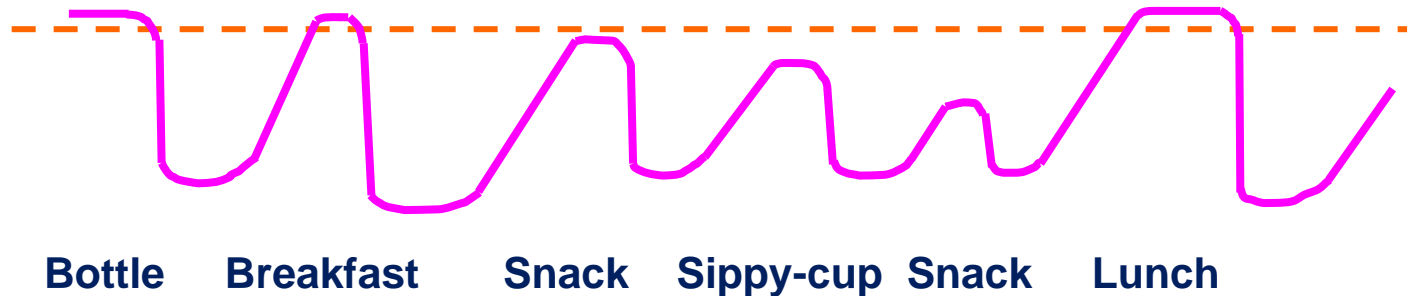
- ❑ *S. mutans* is vertically transmitted from the primary caregiver, often the mother
- ❑ Caregivers with high bacteria levels usually have:
 - A high frequency of sugar intake
 - Poor oral hygiene
 - High levels of decay
- ❑ Caregivers pass bacteria, dietary habits and oral care habits to the child

Dietary Influences

- ❑ Oral bacteria ferment sugars, producing acids that persist for 20-40 minutes after sugar ingestion
- ❑ Oral acids demineralize tooth enamel
- ❑ Remineralization occurs when acid is buffered
- ❑ How often sugars are ingested is more important than how much sugar is ingested

Safe zone

Danger zone



Cariogenicity of Foods

- ❑ Highly cariogenic:
 - Sweet sticky foods



- ❑ Less or minimally cariogenic:
 - Whole grain or non-carbohydrates (meat, nuts)



Oral-Systemic Connection

- ❑ Good evidence for oral/systemic link
 - Infective endocarditis (8% of cases)
 - Prosthetic device infection
 - Diabetes
- ❑ Emerging evidence for oral/systemic link
 - Obesity
 - Coronary artery disease
 - Lower respiratory disease
 - Adverse pregnancy outcome
 - Preterm birth and low birth weight
 - Preeclampsia

Common Oral Diseases Across the Lifespan

- Early childhood caries (ECC)
- Adult caries
- Gingivitis
- Periodontal disease
- Pregnancy complications

Prevalence of Early Childhood Caries (ECC)

- ❑ ECC is a public health crisis!
- ❑ Prevalence:
 - 5% of all U.S. children
 - 30-50% of low income children
- ❑ 80% of decay occurs in 20% of children
- ❑ Most common chronic disease in children
 - 5 times more common than asthma

Early Childhood Caries (ECC)

- ❑ Leads to tooth loss and/or infection
- ❑ Can be vertically transmitted
- ❑ Sequelae:
 - Pain: Impaired chewing and nutrition; school/work absences
 - Infection
 - Increased caries in permanent dentition
 - Extensive and expensive dental work

Is Preventable!

White Spots: The Early Stage of Caries



Photos: Joanna Douglass BDS DDS

White Spots, then Brown Cavitations



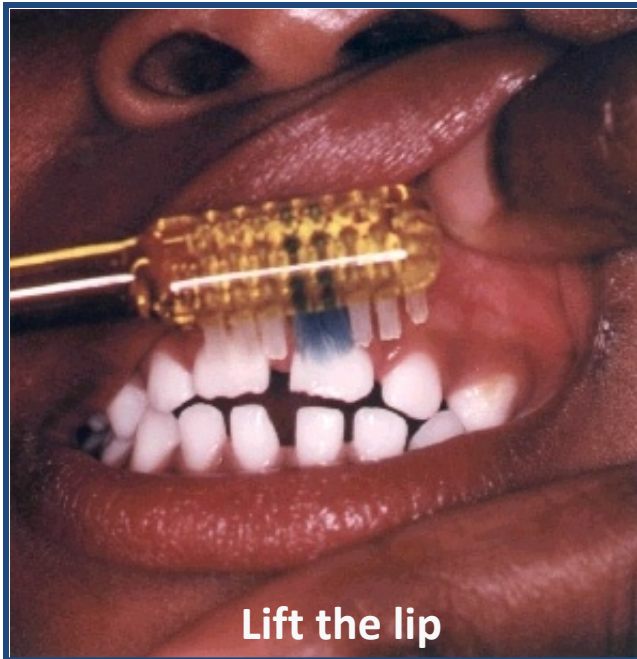
Photos: Joanna Douglass BDS DDS

Advanced Caries



Photos: Joanna Douglass BDS DDS

Brushing Techniques (kids need help until age 6)



Lift the lip



Brush behind teeth

Photos: Joanna Douglass BDS DDS

Fluoride Mechanism of Action

❑ Topical (greater effect)

- Inhibits demineralization
- Promotes remineralization
- Produces anti-bacterial activity
- Also effective in older adults

❑ Systemic (lesser effect)

- Reduces enamel solubility by incorporation into its structure

Well-child Visit Frequency

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19-23 months	2-3 years	4-6 years
Hepatitis B ¹	HepB		HepB				HepB					
Rotavirus ²				RV	RV	RV ²						
Diphtheria, Tetanus, Pertussis ³				DTaP	DTaP	DTaP	<i>see footnote³</i>	DTaP				DTaP
<i>Haemophilus influenzae</i> type b ⁴				Hib	Hib	Hib ⁴	Hib					
Pneumococcal ⁵				PCV	PCV	PCV	PCV				PPSV	
Inactivated Poliovirus ⁶				IPV	IPV	IPV					IPV	
Influenza ⁷						Influenza (Yearly)						
Measles, Mumps, Rubella ⁸							MMR		<i>see footnote⁸</i>			MMR
Varicella ⁹							Varicella		<i>see footnote⁹</i>			Varicella
Hepatitis A ¹⁰							HepA (2 doses)				HepA Series	
Meningococcal ¹¹												MCV

Oral Disease in Adults - Gingivitis

- ❑ Mildest form of gum disease
 - Mild gum swelling, tenderness, erythema
 - Gums bleed during brushing
 - Can occur acutely with foreign body
 - Reversible

- ❑ Etiologies
 - Plaque
 - Pregnancy
 - Disease
 - Trauma



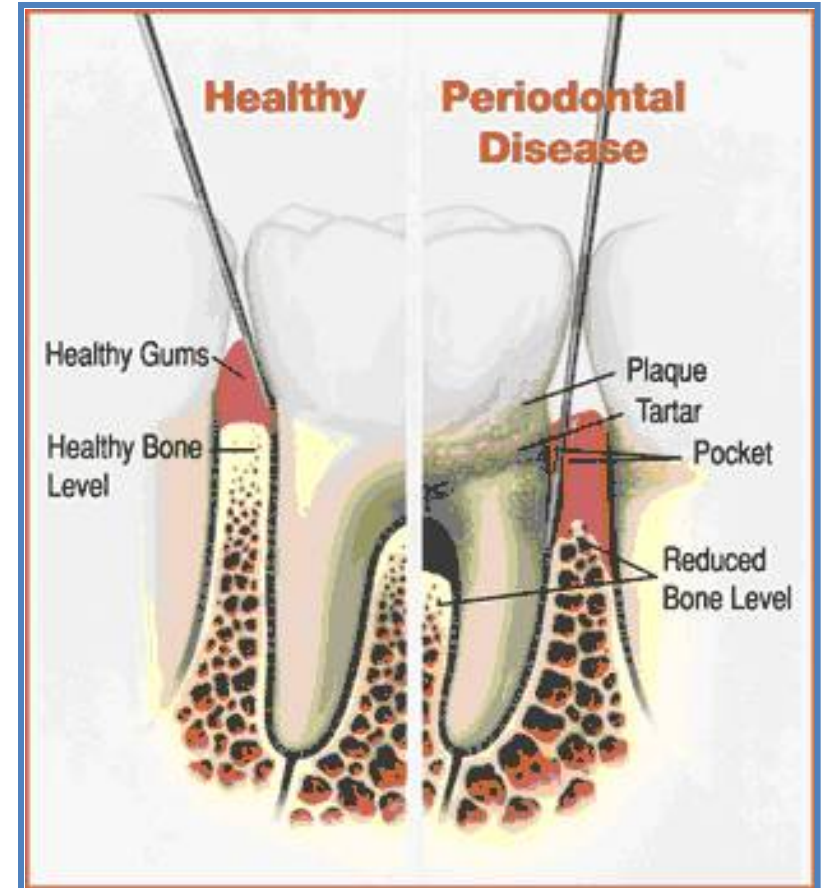
Oral Disease in Adults - Periodontitis

- ❑ More severe than gingivitis
- ❑ Infection and inflammation induce loss of bone and tooth attachment
- ❑ Periodontal ligament is attacked



Periodontitis - continued

- ❑ Can start in teen years
- ❑ Present in 50% of adults
- ❑ Smoking is a major risk
- ❑ Prevention:
 - good oral hygiene
 - brushing *and* flossing
 - avoid tobacco



Oral Health in Pregnancy

- ❑ Gingivitis is common in pregnancy
- ❑ Periodontal disease is associated with adverse pregnancy outcomes
- ❑ Treatment during pregnancy is safe, but both medical and dental providers may be reluctant to treat
- ❑ The best way to improve infant oral health is to improve maternal oral health:
 - *S. mutans* vertically transmitted
 - Mother's oral health practices and diet influence child practices

PAAs Should Know...

- ❑ Many women neglect oral health during pregnancy
- ❑ Many patients take medications that may affect oral health
- ❑ Patients with ill fitting dentures and poor dental hygiene can suffer from a lack of food intake, poor nutrition, and weight loss

Geriatric Considerations

- ❑ The geriatric population is growing and has increasing oral health needs
- ❑ 70% of seniors lack dental insurance
- ❑ Dental health is often neglected
- ❑ Oral health behaviors are associated with longevity
- ❑ Mortality increases linearly with tooth loss
- ❑ Medications may have negative oral consequences which should be monitored and minimized whenever possible
- ❑ Quality of life and chronic disease management of elders are improved with attention to their oral health

Changes of Normal Aging

- ❑ Plaque and gingivitis develop more rapidly in older adults than younger cohorts
- ❑ Common medical conditions may interfere with ability to cleanse teeth and oral cavity
 - Dementia
 - Osteoarthritis
 - Visual impairment
 - Stroke
- ❑ Tendency to xerostomia even without medications

Iatrogenic Xerostomia

- ❑ Decreased saliva promotes periodontal disease
- ❑ Many medications reduce salivary flow:
 - steroids
 - antihistamines
 - diuretics
 - antihypertensives
 - anticholinergics
 - antidepressants



Dentures

- Good fit essential but may be difficult to achieve and maintain
- Monitor for damage to plates and rough areas
- Should be removed for oral cavity exam at least 1/yr or when dental problems suspected
- Must be removed, brushed with denture cleanser (not toothpaste) and placed in water overnight

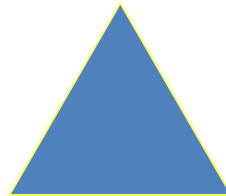
Oral Health Balance

Protective Factors

Diet
Brushing/flossing
Salivary flow
Fluoride



No caries
Healthy gums
Cancer-free



Pathologic Factors

mutans strep
Carbohydrates
Reduced salivary flow
Plaque
Meds: xerostomia
Tobacco



Caries
Periodontal disease
Oral cancer



The Opportunity

- ❑ Most children have access to primary care
 - 89% of poor children have a usual source of medical care
 - Primary care providers have regular, consistent contact with children for checkups and immunizations
- ❑ Adults with many chronic diseases see medical providers frequently
- ❑ Principles of risk assessment, screening and behavior change counseling are fundamental to primary care clinicians

Medical Setting Opportunities

	Infants & Children	Pregnancy	Adults
Risk assessment	Diet Oral hygiene Family oral health	Diet Oral hygiene	Diet Oral hygiene Tobacco EtOH / Drugs
Screening and counseling	Caries Parental care	Periodontal Dz Self-care	Periodontal Dz Oral cancer Medications Self-care
Treatment and referral	Fluoride Dental visit	Rinses Xylitol Dental visit	Rinses Xylitol Biopsy Dental visit

Oral Health Provider Education

- ❑ Awareness of the oral-systemic connection
- ❑ Importance of anticipatory guidance
re: diet and oral hygiene
- ❑ Risk assessment
 - Diet
 - Oral hygiene
 - Oral cancer
 - *S. mutans*
 - Xerostomia



Education - continued

□ Identification of:

- periodontal disease and referral
- oral cancers including sites often neglected by medical providers
- acute problem/trauma
- need for referral

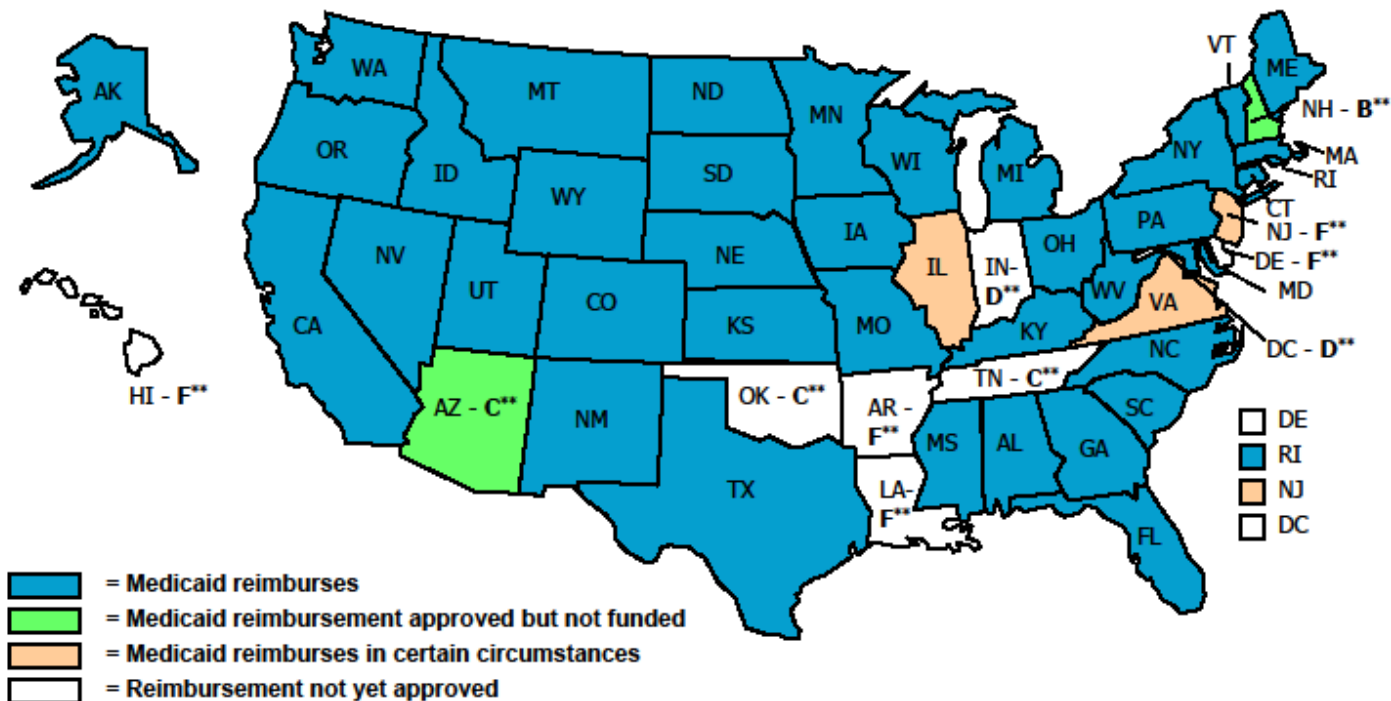
Reimbursement

- ❑ Medicaid in most states now pays medical providers for child oral health services
 - Exam, risk assessment and guidance
 - Fluoride varnish application
 - Must be combined with well-child exam in CO
- ❑ Next steps:
 - Oral health benefits for private medical insurance?
 - Medical benefits for private dental insurance?
 - Adult oral health benefits for Medicaid?

Reimbursement by State

Revised: 10/10

States With and Without MEDICAID Reimbursement for Primary Care Medical Providers to Perform Caries Prevention Services



** Indicates state grade from *The Cost of Delay: State Dental Policies Fail One in Five Children*, Pew Children's Dental Campaign

<http://www.aap.org/oralhealth/pdf/Caries-Prevention-Map.pdf>



Smiles for Life: A National Oral Health Curriculum 3rd edition

Smiles for Life is the nation's only comprehensive oral health curriculum. Developed by the Society of Teachers of Family Medicine Group on Oral Health and now in its third edition, this curriculum is designed to enhance the role of primary care clinicians in the promotion of oral health for all age groups through the development and dissemination of high-quality educational resources.

For Individual Clinicians



We've made it easy for individual physicians, physician assistants, nurse practitioners, students, and other clinicians to access the curriculum and learn on their own time and at their own pace. Each of the courses is available online. Free CME credit is available.

For Educators



The curriculum is available in a presentation format easily implemented in an academic setting. Included is a comprehensive set of educational objectives based on the Accreditation Council for Graduate Medical Education (ACGME) competencies, test questions, resources for further learning, oral health web links, an implementation guide, and detailed outlines of the modules.

Course Quick Links

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A Product of: [Endorsed by:](#)



AAFP American Academy of Family Physicians

AAPA American Academy of Physician Assistants

PAEA Physician Assistant Education Association

AFNP Association of Faculties of Pediatric Nurse Practitioners

NAPNAP National Association of Pediatric Nurse Practitioners

NIIOH National Interprofessional Initiative on Oral Health

AAP American Academy of Pediatrics

STFM Society of Teachers of Family Medicine

www.Smilesforlifeoralhealth.org

Modules

- Each designed to take about 45 minutes
- Can be completed online and followed by a test
- Certificate of completion issued
- Free CME
- Can also be downloaded
- Speaker notes

Other Resources

- Videos
 - Knee-to-knee exam
 - Fluoride varnish
 - Brushing a child's teeth
- Posters
- Pocket cards
- Learning objectives
- Curriculum implementation guide
- Test questions

Take Home Points

- ❑ Early childhood caries is an infectious, vertically-transmitted, preventable disease.
- ❑ Oral health and systemic health are related across the lifespan.
- ❑ Primary care providers are well-positioned to help patients improve their oral health through guidance, screening and referral.
- ❑ The Smiles for Life National Oral Health Curriculum can improve knowledge and skills in oral health.

National *Interprofessional Initiative*
on Oral Health

Initiative activities are made possible as a result of funding from the DentaQuest Foundation, the Washington Dental Service Foundation, and the Connecticut Health Foundation.

Mission

Engage primary care clinicians to be:

Alert to their patient's **oral health** needs

Ready and willing to deliver **oral health** preventive services

Effective at partnering with dental specialists and other primary care providers to promote **oral health** through patient-centered collaborative care

Post-test

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