

Oral Health: Opportunities for Prevention and Intervention

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Goals and Objectives

- Emphasize the impact of oral health on the overall well-being of children
- Highlight the prevalence of oral disease, risk factors, and prevention methods
- Review oral health and fluoride varnish guidelines and recommendations for guidance and referral
- Discuss factors that may impede a child's access to dental care
- Review available oral health resources

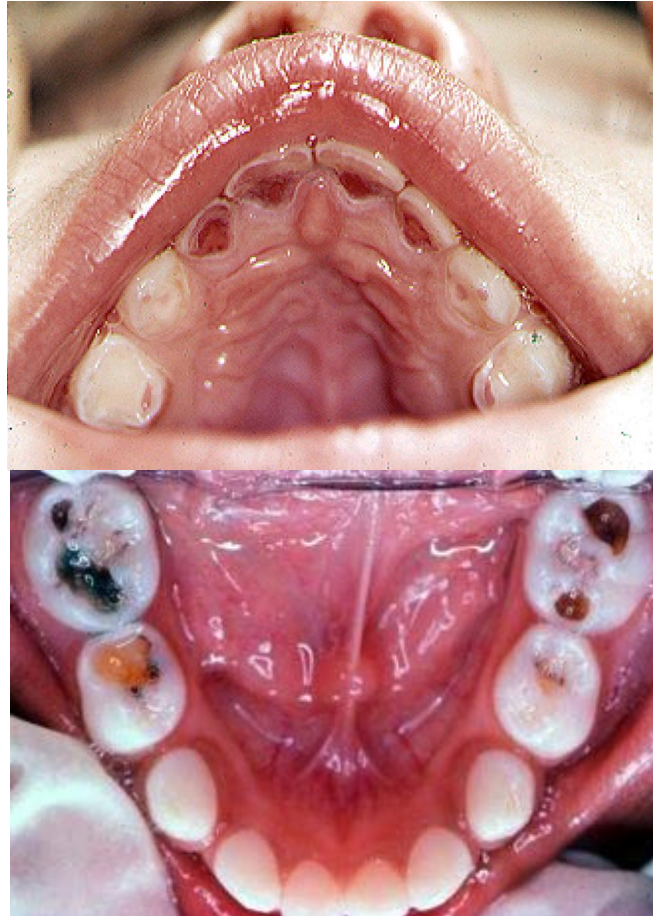
Why Oral Health?

- Surgeon General's report on oral health
 - "Silent Epidemic"
 - Most common unmet health need
 - Effects of oral disease on health
 - Access to care
 - Cost
 - Oral health disease is largely preventable

Dental care is the most common unmet health need in the U.S.

Tooth decay is the most common chronic childhood disease

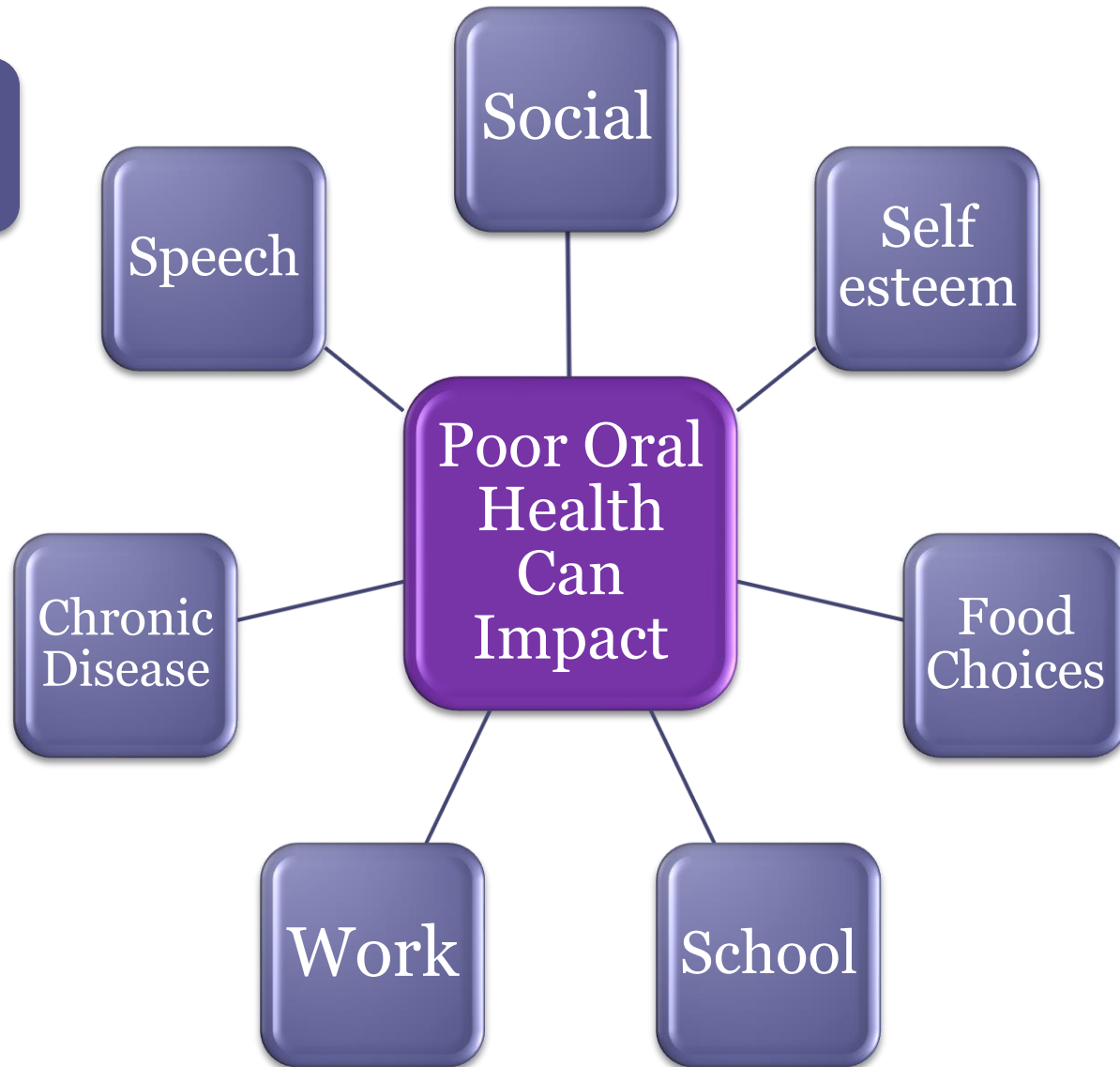
4-5X more common than asthma!



~26% of adults have untreated tooth decay

~17% of adults 60 years and older no longer have natural teeth

Gateway to the Body



Periodontal Disease and Heart Health

Brushing and flossing may actually save your life.

By R. Morgan Griffin
WebMD Feature
Reviewed by Louise Chang, MD





The Journal of the American Dental Association
Volume 139, Supplement 5, October 2008, Pages 19S-24S



The Relationship Between Oral Health and Diabetes Mellitus

Hospitalizations And Medical Care Costs In Diabetics Reduced By Periodontal Therapy



Beyond tooth decay: why good dental hygiene is important

Published: Wednesday 8 October 2014 at 8am PST

- Dentistry
- Alzheimer's / Dementia
- Pancreatic Cancer
- Heart Disease

Most of us are aware that poor dental hygiene can lead to tooth decay, gum disease and bad breath - but not brushing your teeth could also have consequences for more serious illnesses.

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New initiative focuses on oral health clinicians in prevention and early detection of heart disease

The American Heart Association's Healthy Smiles, Healthy Hearts™ initiative, developed in collaboration with Delta Dental, will expand care settings that deliver equitable, high-quality and integrated care



DALLAS, JANUARY 16, 2024 — A patient's oral health can be an indicator of overall health and well-being. Research shows that chronic gum inflammation may be associated with other chronic diseases including coronary artery disease and diabetes.^[1] In addition, certain bacteria that live in the mouth can travel through the bloodstream to other parts of the body, including the heart and lungs. Oral bacteria, including viridans group streptococcal (VGS), can cause infective endocarditis, an infection of the inner lining of the heart or heart valves.^[2] The American Heart Association's new Healthy Smiles, Healthy Hearts™ initiative, developed in collaboration with Delta Dental, aims to improve the total health of patients nationwide by expanding access to equitable, integrated health care, and educating patients and clinicians on the connection between heart health and oral health.

Related Images

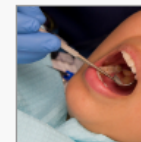
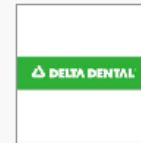


← HA Healthy Smiles, Healthy Hearts →

American Heart Association Healthy Smiles, Healthy Hearts™ logo

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Download (68.8 kB)



The Big Picture

**“You are not healthy
without a healthy
mouth...”**

David Satcher, Surgeon General 2000

Oral Health in America:
A Report of the
Surgeon General

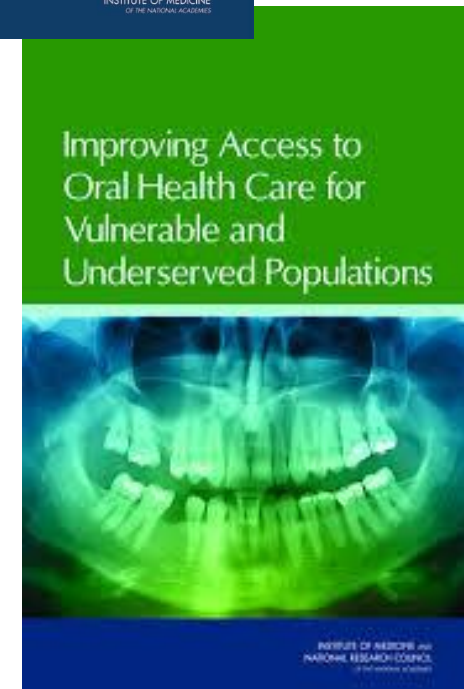
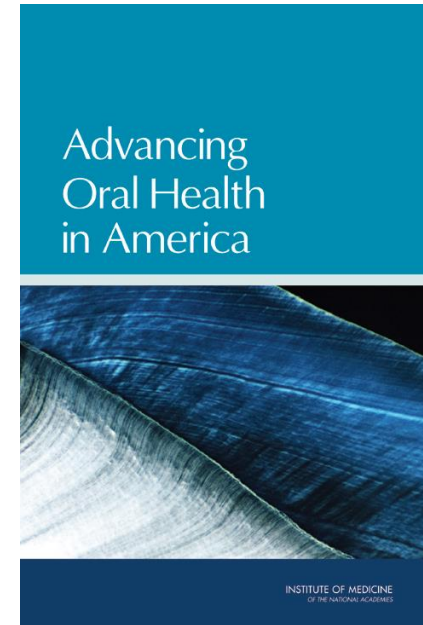


Department of Health and Human Services

Call to Action

“All care providers can and should contribute to enhancing oral health”

- Echoed by the Institute of Medicine reports in 2010
- Affirmed by the Health Resources and Services Administration in 2014



Barriers to Maintaining Oral Health

- **Financial**
 - 68.5 million Americans do not have dental insurance
- **Structural**
 - Lack of knowledge about importance of oral health
 - Dental fear, transportation, childcare, work leave issues
- **Cultural**
 - May affect diet choices, oral hygiene, perceptions of the seriousness of tooth decay and importance of baby teeth
- **Access to Care**
 - Nearly 70% of older Americans have no dental insurance
 - Children 2.5x more likely to have dental coverage

Why is a systems shift necessary?

Fragmented Delivery Systems

112.2 Million

People visit a medical provider
but not a dental provider



28.2 Million

Visit a dental provider but
not a medical provider

Health Professional Shortage Areas



45
million Americans live in
dental health professional
shortage areas



the population of the
West Coast

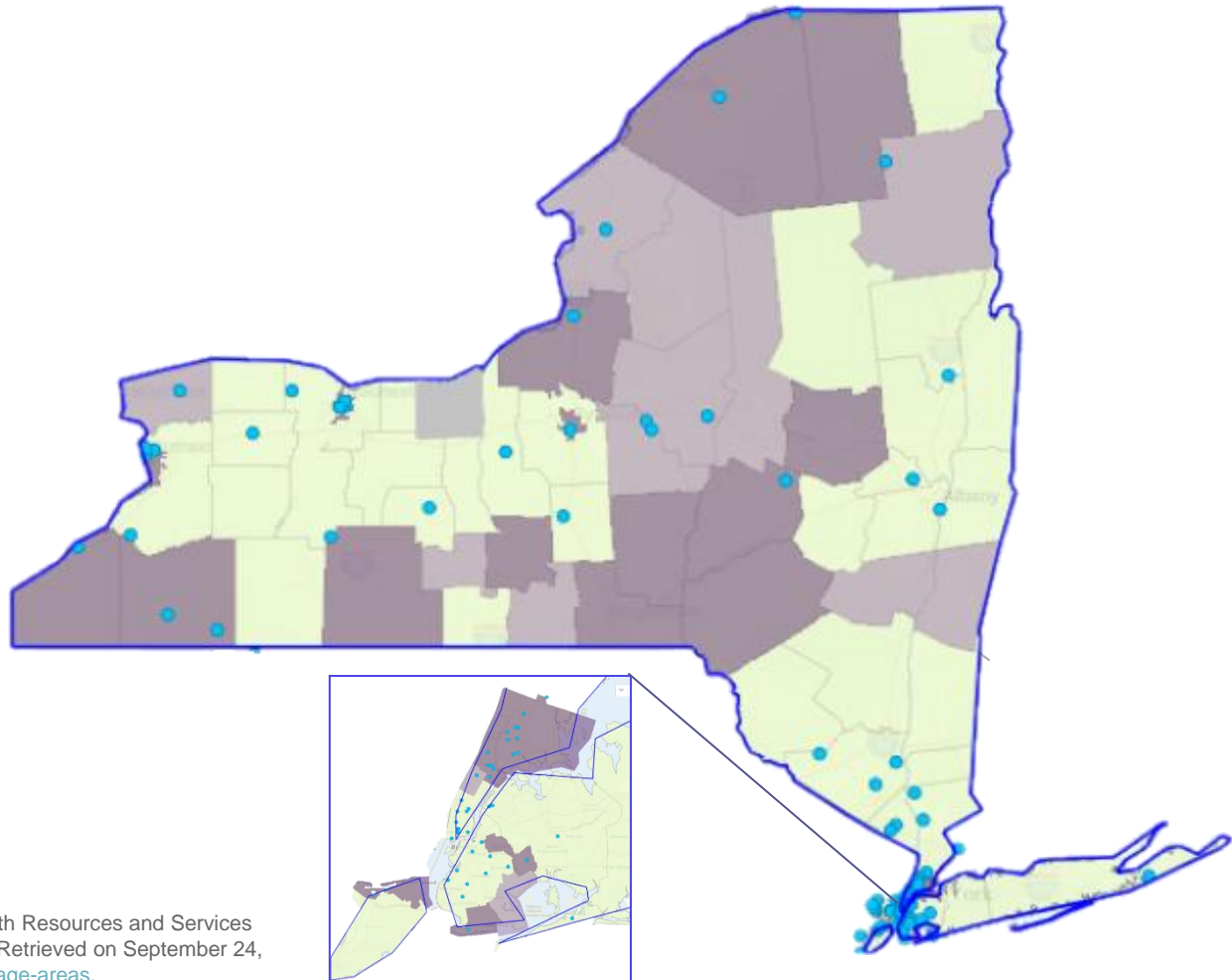
NY State Dental Health Professional Shortage Areas

Dental Health Areas (D-HPSA Score)

- 18-26
- 14-17
- 1-13
- No shortage

Dental Health Facilities

1/9/19



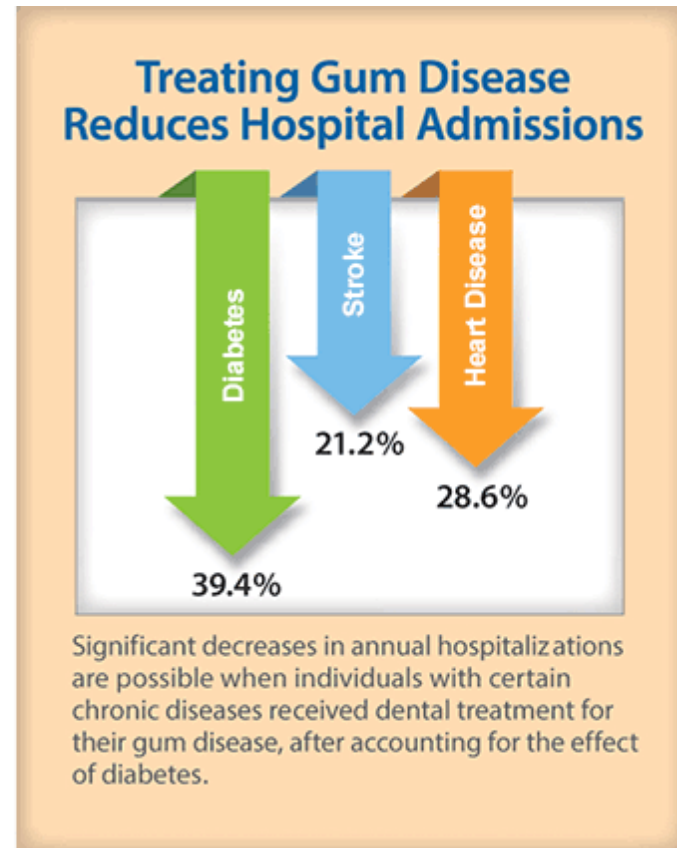
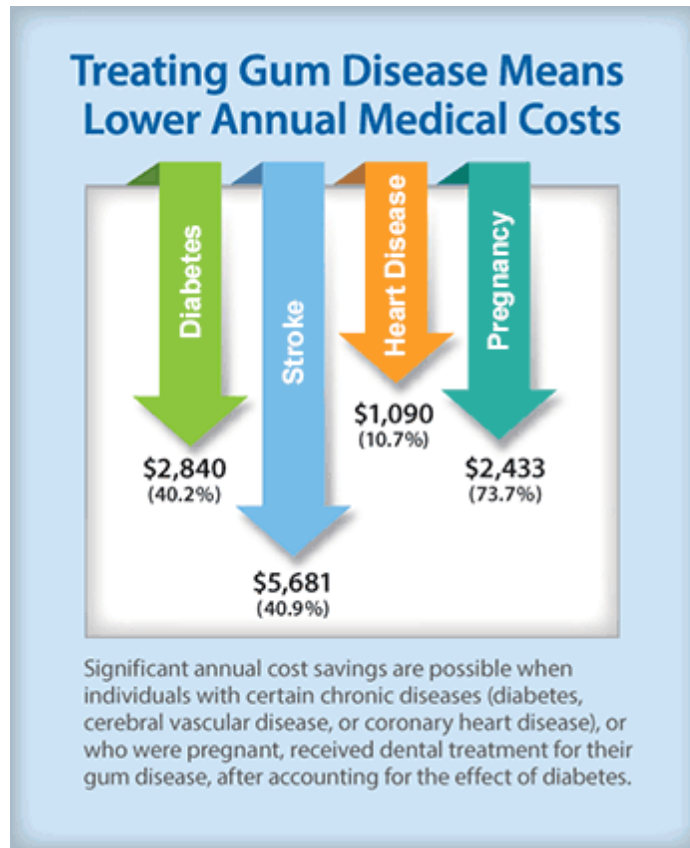
ERs: A Costly Dental Destination

- Preventable (NT) dental conditions account for over 2 million ED annually
 - Cost \$1.5-2 billion
- Children account for 10% of visits
- >33% Uninsured patients
- 40% Medicaid enrolled
- 90% of dental-related ED visits result in prescription Rx for pain or infection



Reducing per capita costs of health care

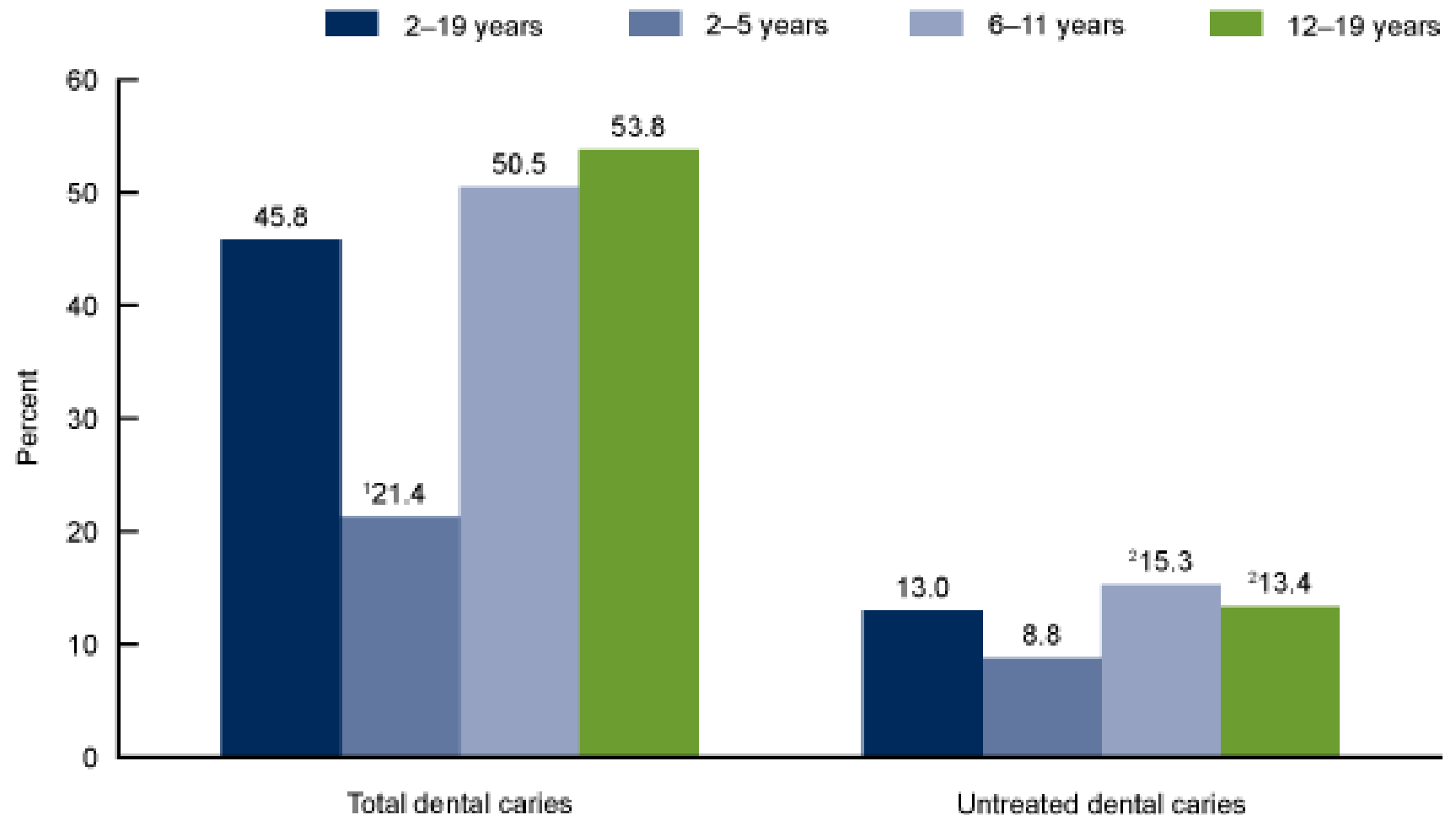
United Concordia



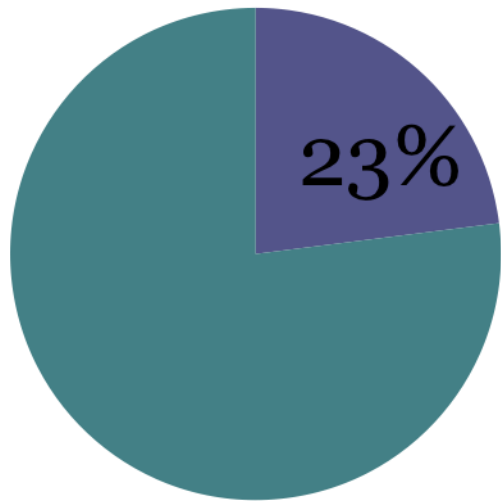
Caries Rates

- ~ 50% of 6-11 year olds
- 54% of 12-19 year-olds
- 85% of adults
- Most common chronic disease of childhood
 - 5x more common than asthma

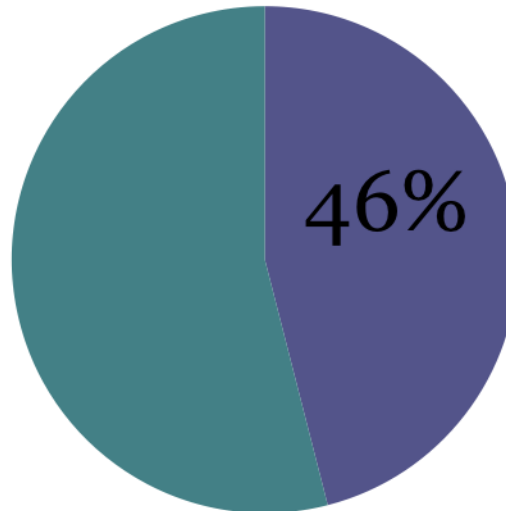
Caries Prevalence (NHANES, 2018)



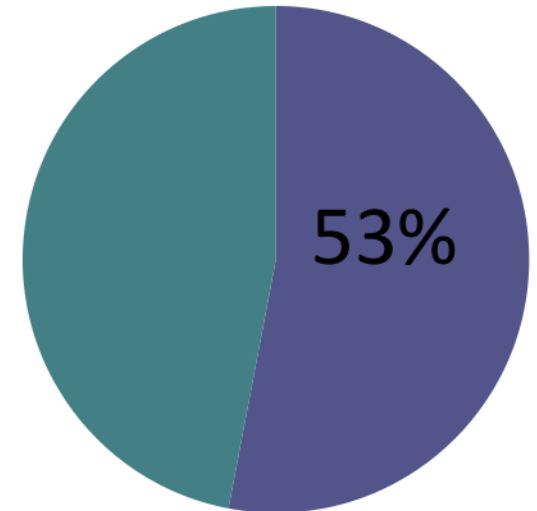
% of U.S. children who reach age 5 without a cavity:



Native American



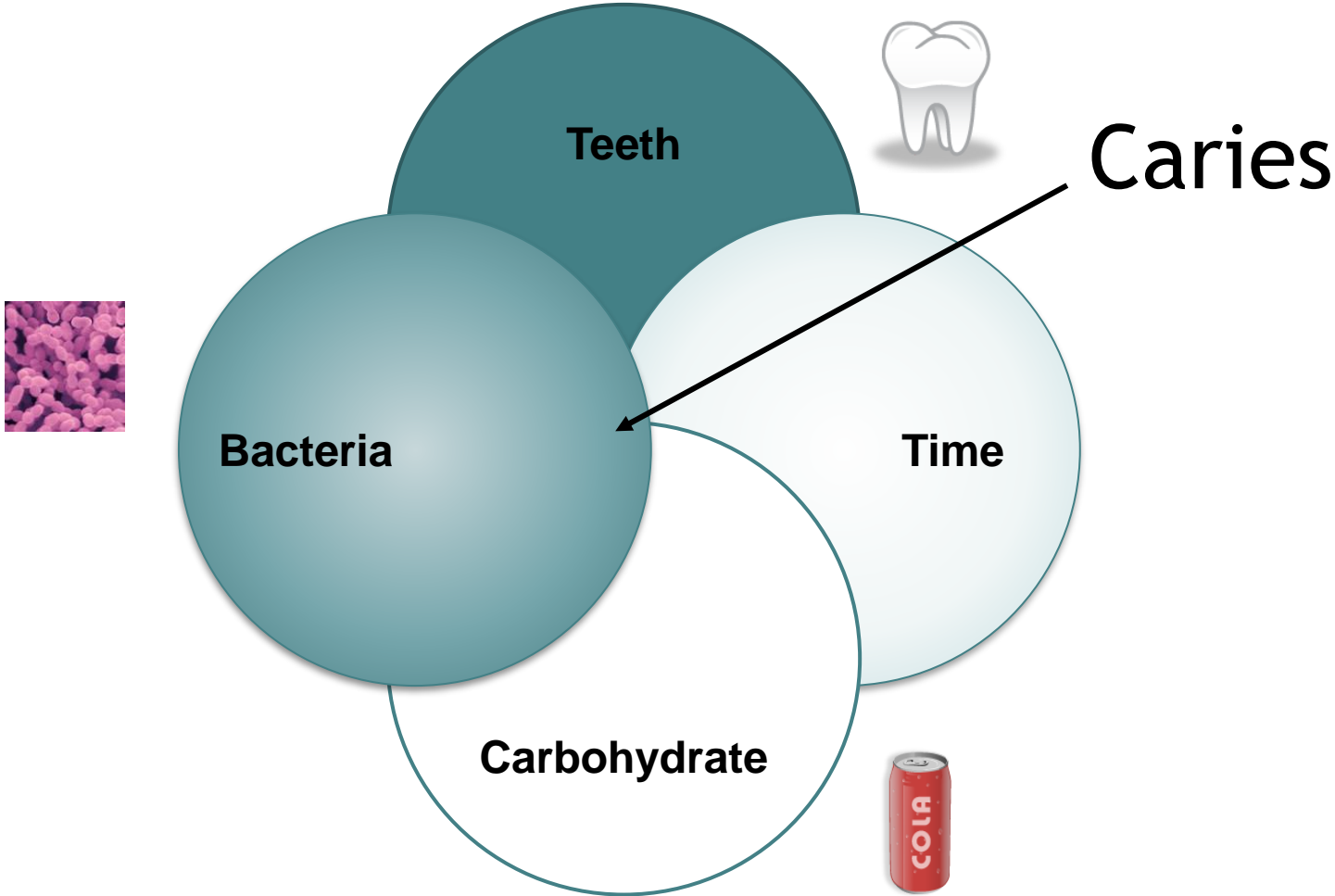
Hispanic



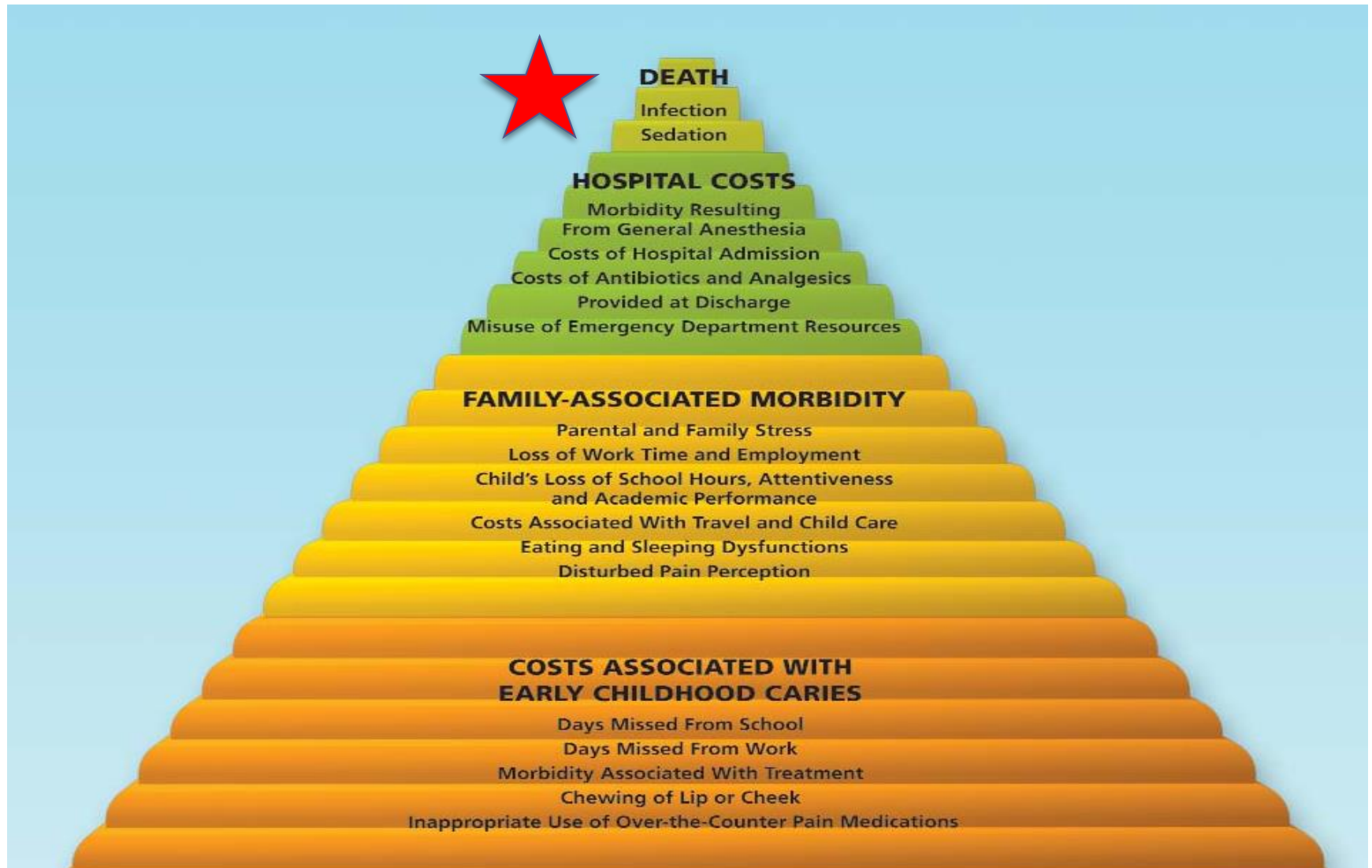
African American

Video: *Joining the Fight for Oral Health: Promoting Health Equity*

Pathogenesis of Caries



Human and Economic Costs



Consequences of ECC

- Pain
- Tooth loss
- Impaired chewing and nutrition
- Below average weight gain
- Infection
- Poor self esteem
- Difficulty sleeping
- Increased caries in permanent dentition
- Future dental work
 - Pain and \$\$\$
- School/work absences:
 - 51 million school hours per year
 - Missed learning opportunities

Poor Performance

Miss
School



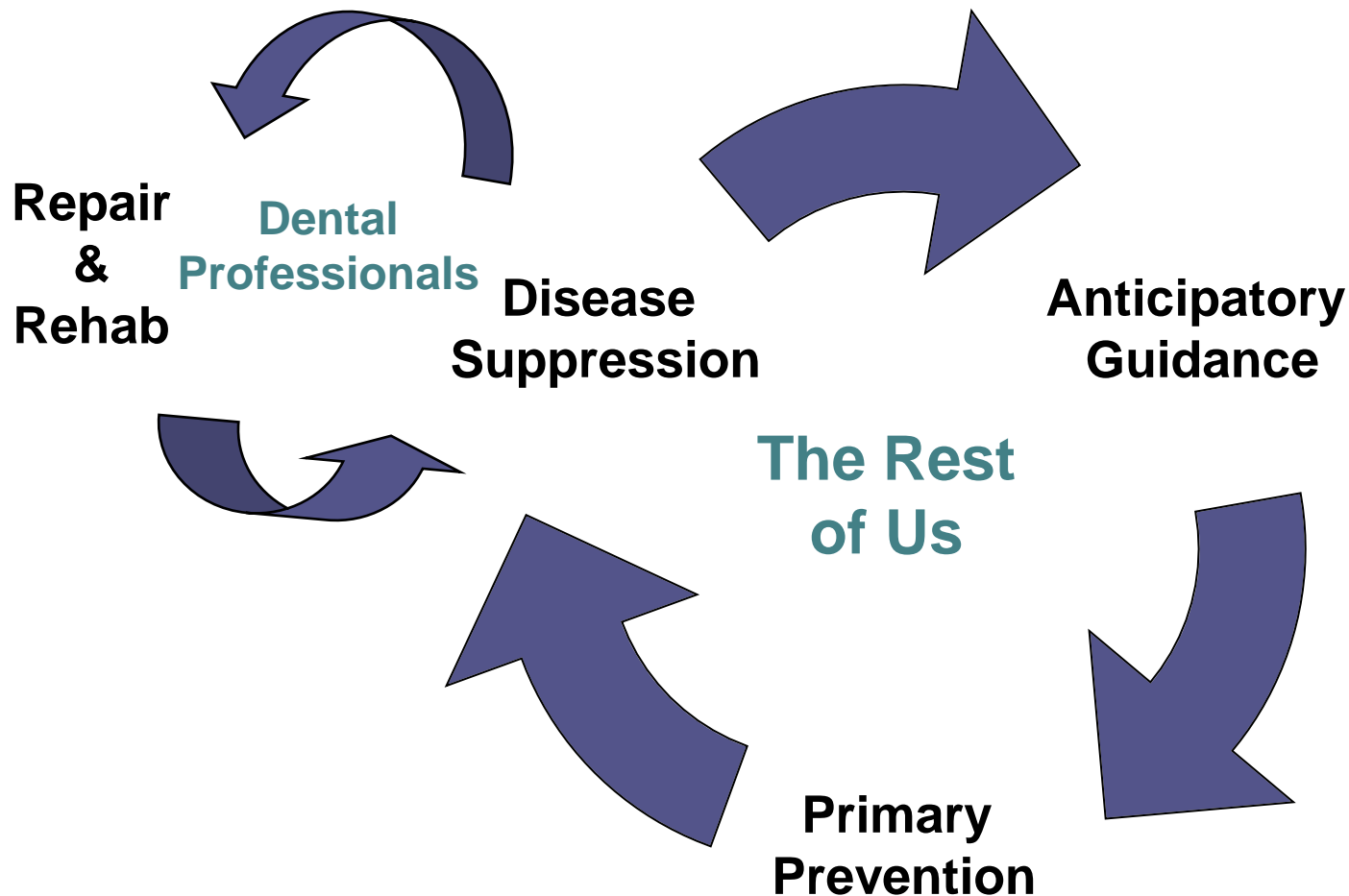
Jackson SL, Vann WF Jr, Kotch JB, Pahel BT, Lee JY. Am J Public Health. 2011 Feb 17.
Impact of Poor Oral Health on Children's School Attendance and Performance.

Caries Prevention



- Tooth hygiene - brushing and flossing
- Dietary counseling
- Delay colonization
- Fluoride
- Professional consultation/referral

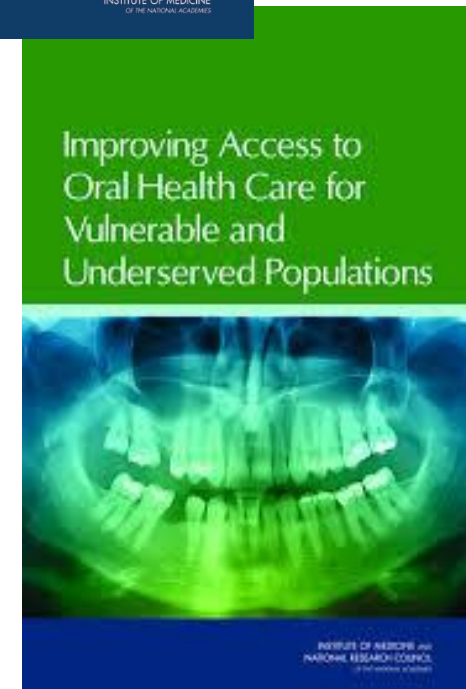
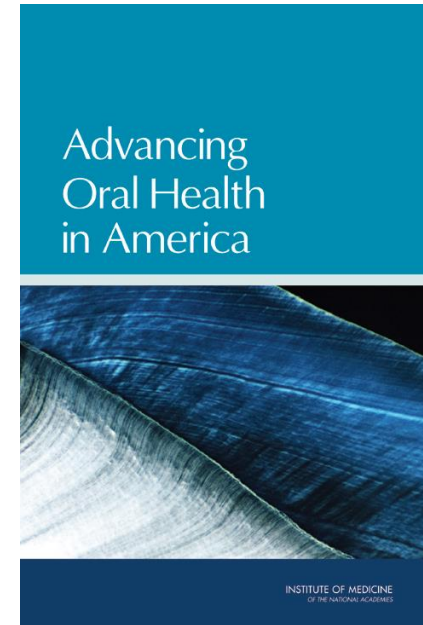
Prevention Paradigm



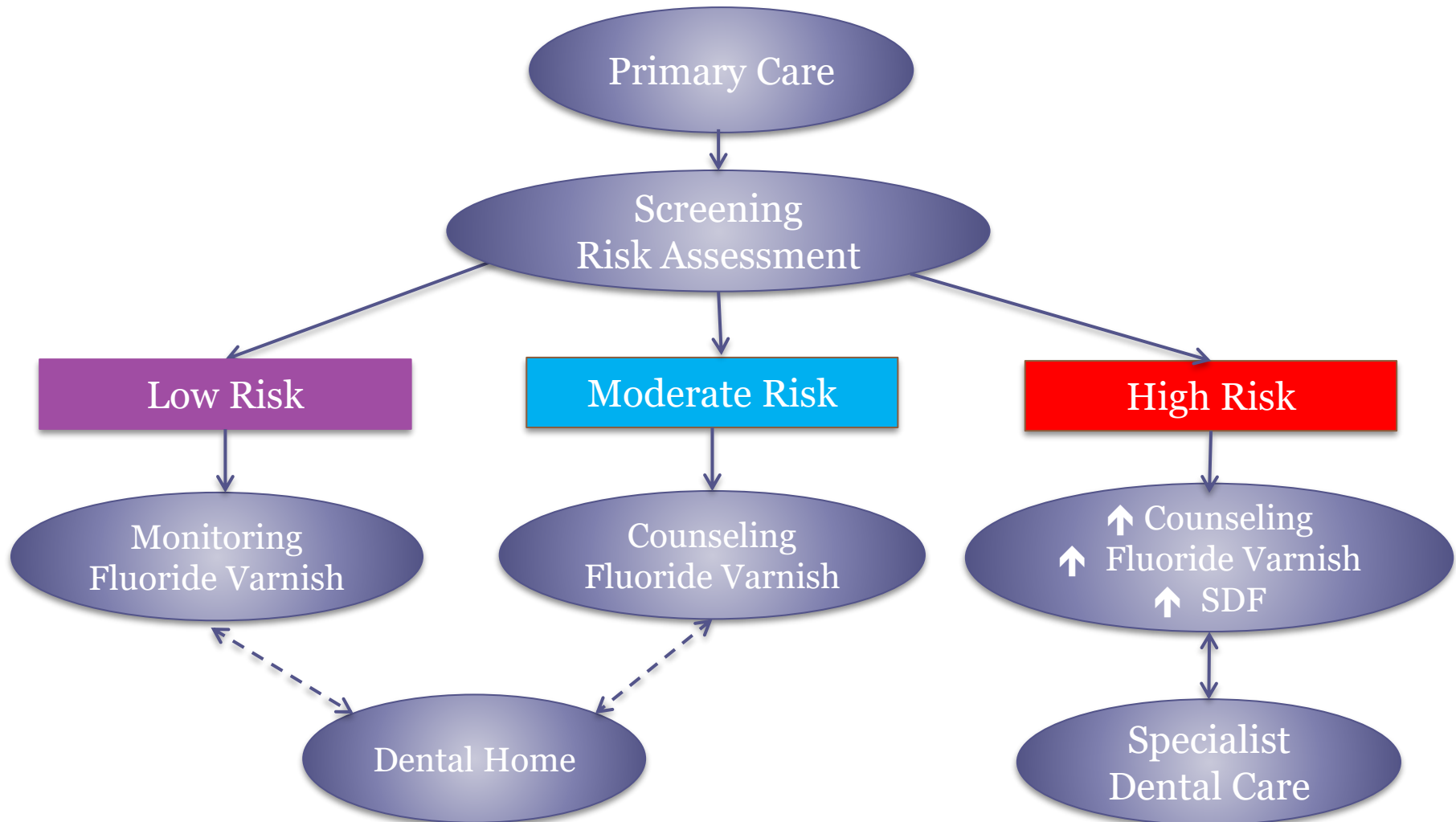
Call to Action

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Limited Access = Expand the Workforce



Oral Health & Primary Care



- Primary Prevention - all of our goal
 - ECC is a preventable disease
- Access
 - Contact with a PCP 13 times in first 36 months
- Familiar with implementation of risk-based care
- Expertise in education and counseling (nutrition, hygiene)
- Prevention (varnish) and initial treatment (SDF)
- Engaged in overall health of the child
- US Department of Health and Human Services oral health strategic framework recommends the primary oral health care approach to address health care delivery segmentation

Opportunity



Cavity-free smile



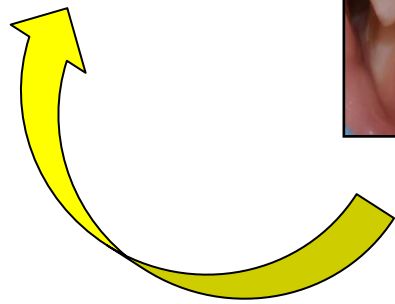
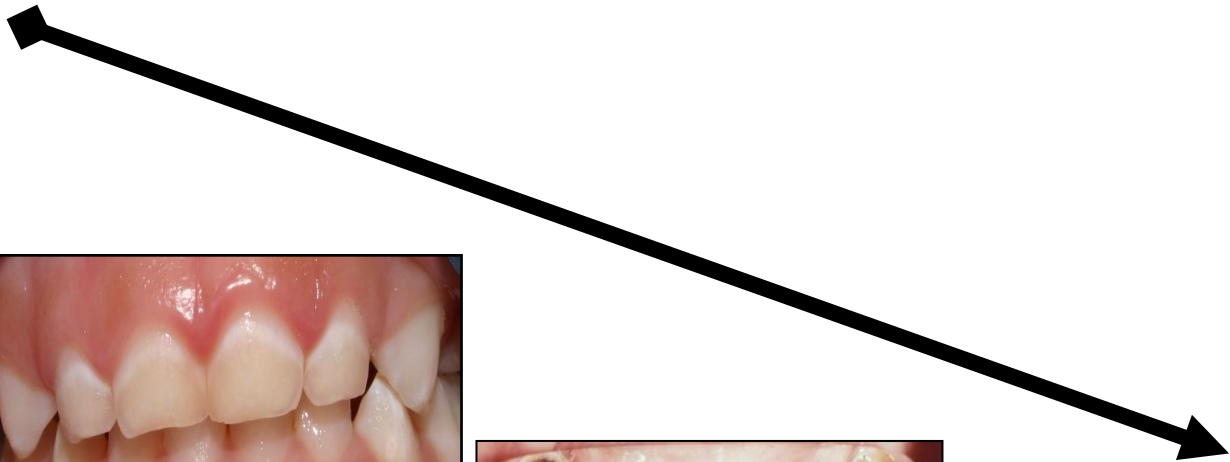
White spots



Cavities

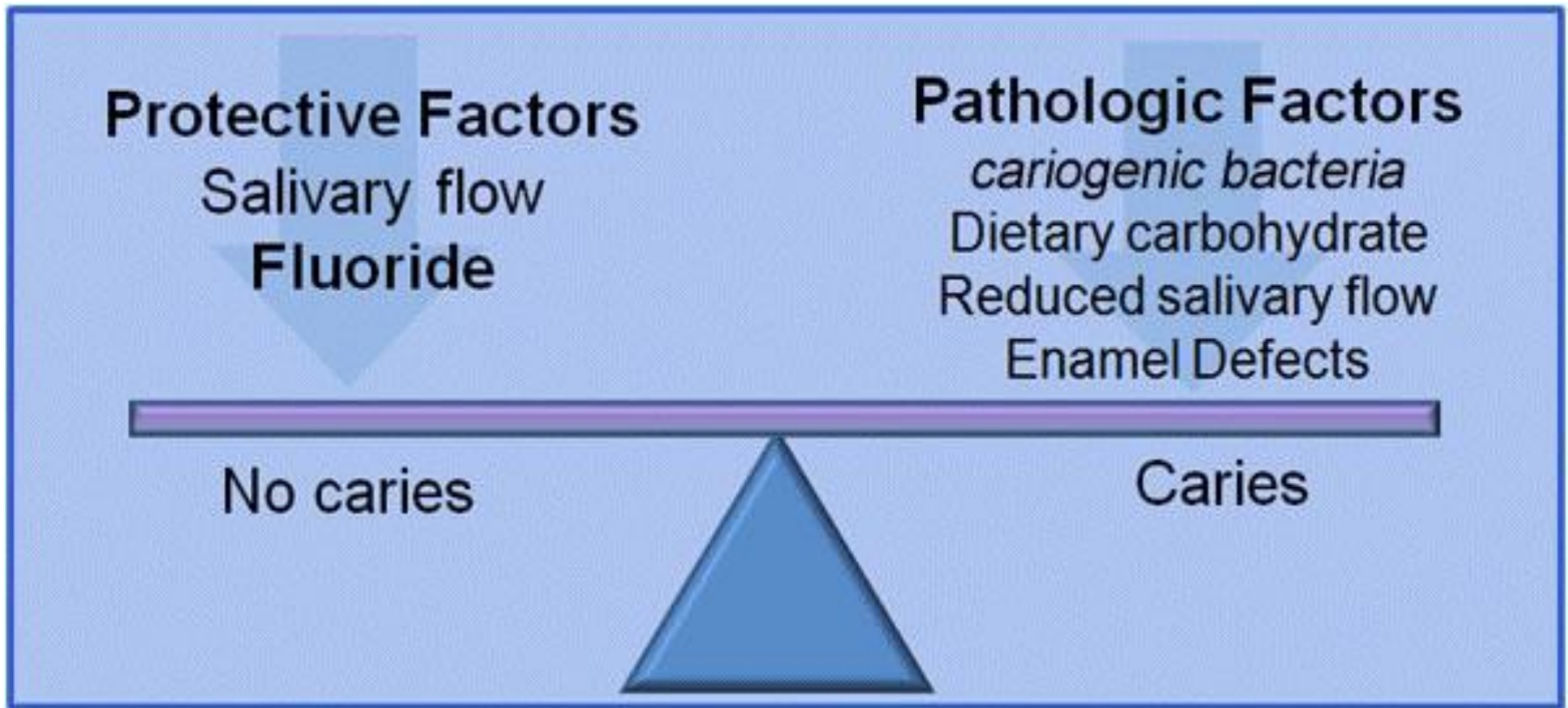


Abscess



Caries Progression

Balancing Act



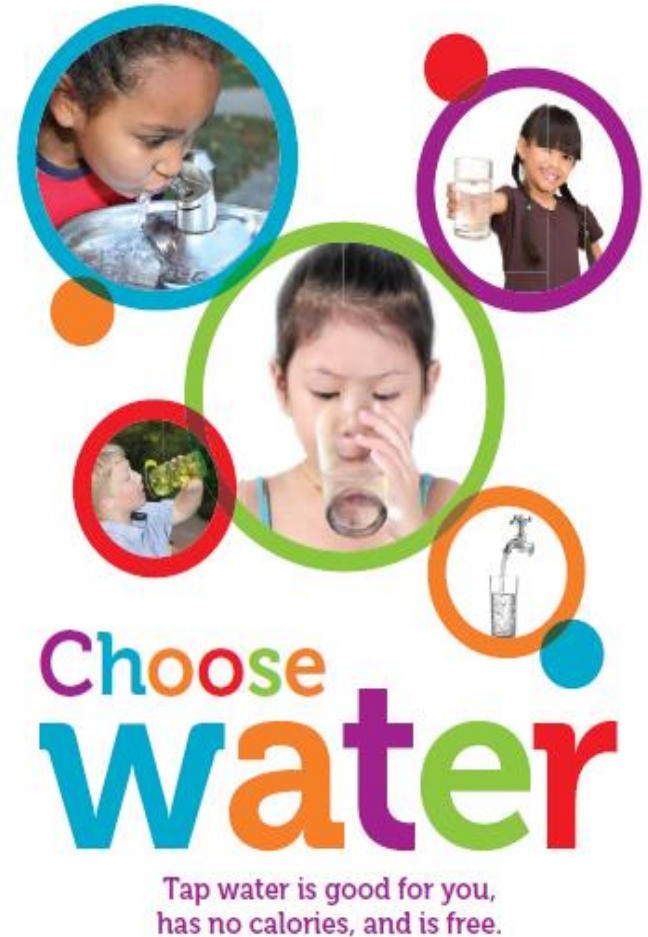
Brushing

- Brush twice daily; bedtime most critical
- Brush all surfaces:
 - Lift the lip to brush along gumline
 - Brush behind the teeth
- Caregiver should brush child's teeth until age 6 or 7
- Spit, don't rinse
- No food or drink after brushing
- Floss: 1x/day once teeth touch



Nutrition

- Promote breast feeding
 - Breast fed children less likely to develop caries
 - AAP: exclusive breastfeeding for the first 6 months of life - continue until at least age 12 months
- No bottle to bed
 - Teeth at highest risk overnight when saliva levels are low
- Low or no juice
 - Toddlers: 4 oz/day or less
 - Children 4-6 years: 4 to 6 oz/day
 - Children 7-18 years: 8 oz a day



Dietary Counseling



Eating Pattern	Examples
Frequent snacking: ≥ 2 times between meals	Candy, sipping juice or soft drink, graham crackers, pretzels, breakfast cereals
Sticky snacks, slowly dissolving carbohydrates	Raisins, dried fruits, fruit rolls, caramels, candies, peanut butter/jelly sandwich
Time of day eating occurs	Juice or milk before bed

Fluoride

- Systemic and topical mechanisms of action
 - Topical effect most important
- Inhibits demineralization
- Enhances remineralization*
- Inhibits bacterial metabolism
 - Decreases bacterial acid production



White Spot
Lesions
Disease in
Progress

Fluoride... like sodium

- too little topical fluoride = caries risk
- too much ingested fluoride = fluorosis risk



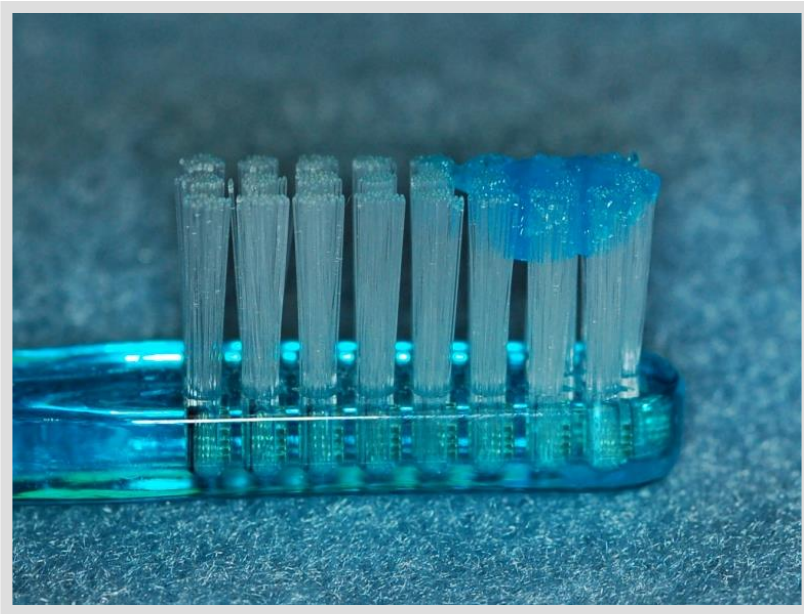
Fluoride Sources

- Community water fluoridation
- Systemic supplements
- Fluoridated Toothpaste
 - Effective, inexpensive, high compliance
- Topical: Rinses, varnishes, gels
 - Mouthrinses: 10 mL for 60 seconds
 - 0.05% sodium fluoride for daily home use (OTC)
 - 0.2% for weekly use (prescription, public programs)
 - Not for children less than 6 years of age
 - Gels, foams
 - Varnish

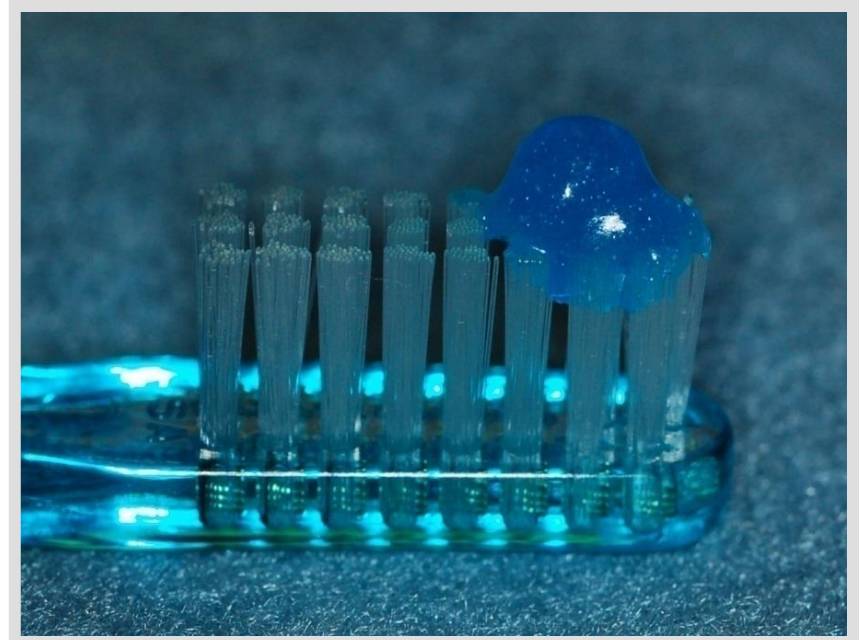


Amount of Fluoride Toothpaste

“Smear” – under 3 yrs.

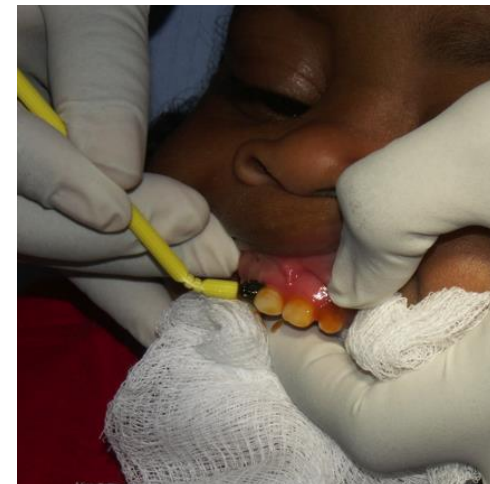


“Pea-sized” >3 yrs.



Fluoride Varnish: A Proven Intervention

- Most extensive literature of PCP based preventive strategies
- Nearly all studies include oral health education
- Majority of studies emanate from “Into the Mouth of Babes” in NC





Prevention of Dental Caries in Children From Birth Through Age 5 Years: US Preventive Services Task Force Recommendation Statement

AUTHORS: Virginia A. Moyer, MD, MPH, on behalf of the US Preventive Services Task Force

KEY WORDS
dentistry/oral health, preventive medicine

ABBREVIATIONS
AAP—American Academy of Pediatrics
ADA—American Dental Association
NHANES—National Health and Nutrition Examination Survey
USPSTF—US Preventive Services Task Force

Recommendations made by the US Preventive Services Task Force are independent of the US government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the US Department of Health and Human Services.

The US Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific preventive care services for patients without related signs or symptoms.

It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.

The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.

abstract

DESCRIPTION: Update of the 2004 US Preventive Services Task Force (USPSTF) recommendation on prevention of dental caries in preschool-aged children.

METHODS: The USPSTF reviewed the evidence on prevention of dental caries by primary care clinicians in children 5 years and younger, focusing on screening for caries, assessment of risk for future caries, and the effectiveness of various interventions that have possible benefits in preventing caries.

POPULATION: This recommendation applies to children age 5 years and younger.

RECOMMENDATION: The USPSTF recommends that primary care clinicians prescribe oral fluoride supplementation starting at age 6 months for children whose water supply is deficient in fluoride. (B recommendation) The USPSTF recommends that primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption. (B recommendation) The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of routine screening examinations for dental caries performed by primary care clinicians in children from birth to age 5 years. (I Statement) *Pediatrics* 2014;133:1–10

Primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at primary tooth eruption (B rec).



CLINICAL REPORT

Fluoride Use in Caries Prevention in the Primary Care Setting

abstract

FREE

Dental caries remains the most common chronic disease of childhood in the United States. Caries is a largely preventable condition, and fluoride has proven effectiveness in the prevention of caries. The goals of this clinical report are to clarify the use of available fluoride modalities for caries prevention in the primary care setting and to assist pediatricians in using fluoride to achieve maximum protection against dental caries while minimizing the likelihood of enamel fluorosis. *Pediatrics* 2014;134:626–633

Dental caries (ie, tooth decay) is an infectious disease in which acid produced by bacteria dissolves tooth enamel. If not halted, this process will continue through the tooth and into the pulp, resulting in pain and tooth loss. This activity can further progress to local infections (ie, dental alveolar abscess or facial cellulitis), systemic infection, and, in rare cases, death. Dental caries in the United States is responsible for many of the 51 million school hours lost per year as a result of dental-

Melinda B. Clark, MD, FAAP, Rebecca L. Slayton, DDS, PhD,
and SECTION ON ORAL HEALTH|

KEY WORDS

enamel fluorosis, fluoride, fluoride varnish, formula mixing, systemic fluoride supplements, toothpaste, water fluoridation

ABBREVIATIONS

AAP—American Academy of Pediatrics

ADA—American Dental Association

CDC—Centers for Disease Control and Prevention

EPA—Environmental Protection Agency

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The guidance in this report does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.



Bright Futures™

prevention and health promotion for infants,
children, adolescents, and their families™

- Fluoride Varnish added to Periodicity Schedule Sept 2015
 - www.aap.org/en-us/professional-resources/practice-support/Periodicity/Periodicity%20Schedule_FINAL.pdf
- Patient Protection and Affordable Care Act provision ensures children enrolled in all health care plans receive gold standard preventive care
 - Insurance plans must cover all Bright Futures preventive screenings/services recommended by the AAP/Bright Futures
 - No cost-sharing

Fluoride Varnish

- Topical 5% sodium fluoride lacquer professionally applied to tooth surfaces
- Matrix releases fluoride over 1 to 7 days (versus 10-15 min for gels/foams)
- Helps prevent new cavities and halts cavities that have started
- Strengthens teeth and reduces decay average 40%
 - Caries reduction range 30-63.2%
 - Dose responsive, effectiveness enhanced by counseling
 - Greatest effect when applied before onset of caries
 - Slows progression of shallow carious lesion
- Very Safe

Fluoride Varnish



- ADA recommends every 3-6 months
- AAPD every 3-6 months
- USPSTF 2014 Recommendations
- AAP 2-4 times per year
- Minimum 6 month intervals, 3 months for high-risk children

Silver Diamine Fluoride

- Colorless liquid with silver particles
 - Antibacterial properties
 - Acts as a physical barrier
 - Fluoride strengthens enamel
- **Effective:** Caries arrest ~70%
 - Biannual application better than annual
- **Disadvantage:** Treated area permanently stained black



Photo by Rocio Quinonez, DMD

Dental Home

- Ongoing relationship between the dental provider and child for oral health care
- All children should establish a dental home by age 1
- Referral process is weak or nonexistent



Image: Thinkstock.com

Conclusions

- Oral health matters
 - Overall health
 - Quality of life/Productivity
 - Cost containment
- Oral health is all of our responsibility
- Oral health/fluoride varnish in the primary care setting can:
 - Be successfully incorporated
 - Be cost-effective
 - Improve oral health outcomes

Policy and Advocacy Wins

- Dental Health Certificates
- Oral health services in primary care
- School-based dental clinics
- School-based sealant programs
- Teledentistry
- WIC Smiles Oral Health
- Community water fluoridation

Promote Oral Health

- Pregnant women, infants/children, special needs, elderly
- Anticipatory guidance on nutrition, oral hygiene
- Identify high risk children
- Formal referral to dental care
- Education and training to increase oral health delivery in primary care
- Align dental homes and oral health services for children
- Advance interprofessional collaborative practice, medical-dental integration
- Address lack of interoperability between medical and dental records
- Limited dental providers who accept Medicaid and other public dental insurance, hard to find and how to encourage participation
- Assist individuals and families in establishing a dental home, transportation
- Integrate oral health messages and evidence-based prevention strategies within community-based programs serving women, infants, and children.

Resources



AAP Oral Health Home and SOOH

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As a young
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one is interested in
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A national oral health curriculum



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

Smiles For Life produces educational resources to ensure the integration of oral health and primary care



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TEACH CURRICULUM

Answering the Call: Joining the...



Answering the Call: Joining the Fight for Oral Health

Watch this informative and inspiring video which outlines both the challenge and progress in improving oral health as a vital component of effective primary care. Click the full screen icon in the bottom right hand corner of the video thumbnail to view it full-sized. This video is approximately seven minutes in length.

An [extended version](#) (21 minutes) of this documentary is also available.

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Questions?



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Special Care Needs Considerations

- Prepare for dental visits: child, parent, dentist
 - Often see a pediatric dentist
 - May need more frequent dental visits (q3 months)
- Require more intense oral hygiene care
- May be defensive or averse to oral care or exams



CPT Code

- 2015 = 99188 code approved by CMS, but value not published in the code set
- 2017 = CMS published 2018 RBRVS (0.20 Work RVUs)
- Payers reimbursement denial due to unpublished code value is resolved
- All private payers should pay for FV application as a preventive service with no co-pay
 - Variation persists - signals need for continued advocacy