



# Children's Oral Health & Dental Care

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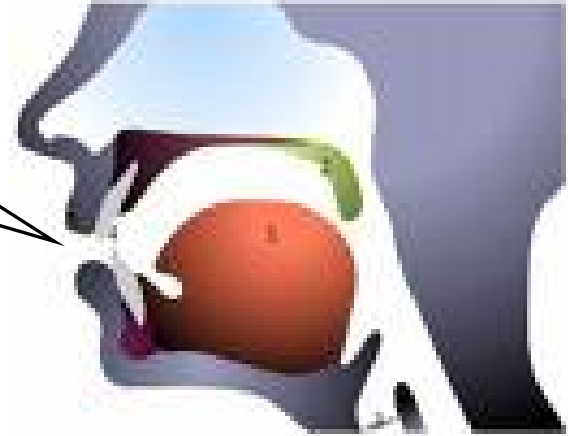
# Messages

1. The mouth is an integral & unique body part important to human function and existence.
2. Determinants of oral health are multiple - extending to genetics, environment and behaviors as well as healthcare.
3. Oral disease burden in US children is high and marked by profound disparities.
4. The majority of oral diseases are overwhelmingly preventable.
5. Pediatric oral disease – particularly tooth decay – is consequential to children's lives and function.
6. The dental and medical delivery systems are profoundly different.
7. Fixes to coverage, safety net, workforce, and prevention are all within reach.

# The Mouth: An Essential Body Part

An organ of

- Digestion
- Respiration
- Communication
- Protection
- Sex



Home to unique structures

- Teeth
- Gums
- Tongue
- TMJ
- Salivary glands

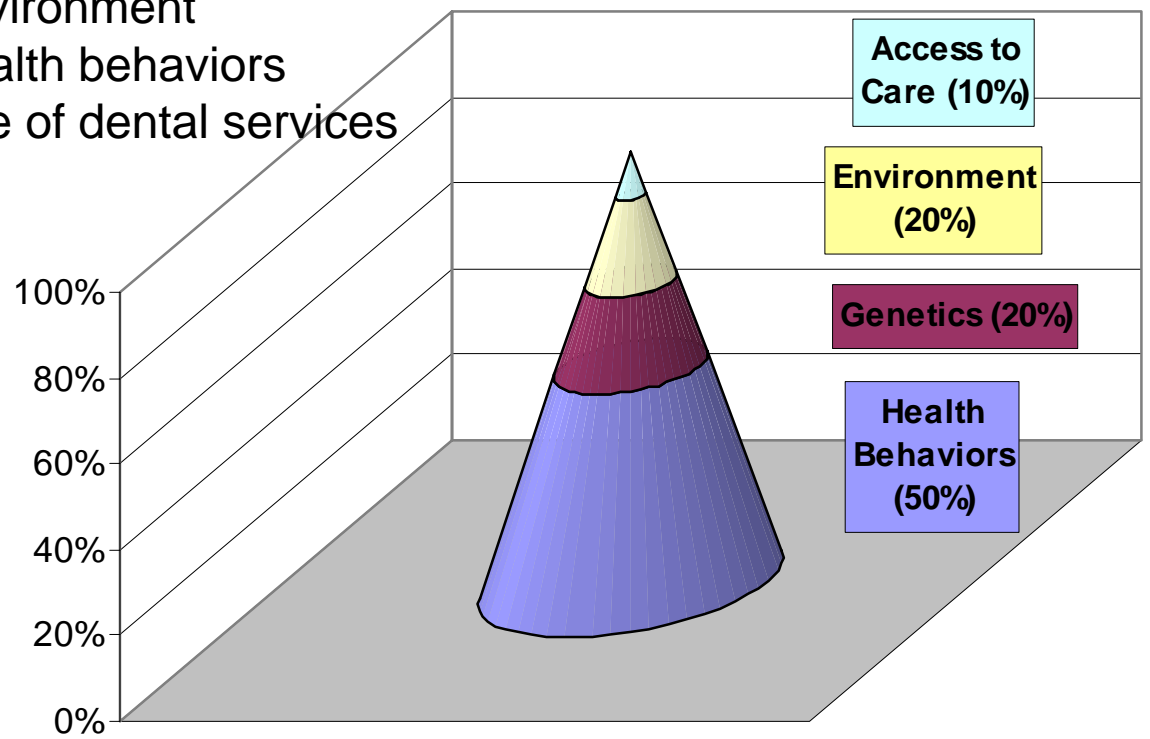
Oral-systemic health connection through contiguous and distant connections (circulatory, neurologic, lymphatic etc)



# Complex Determinants of Oral Health

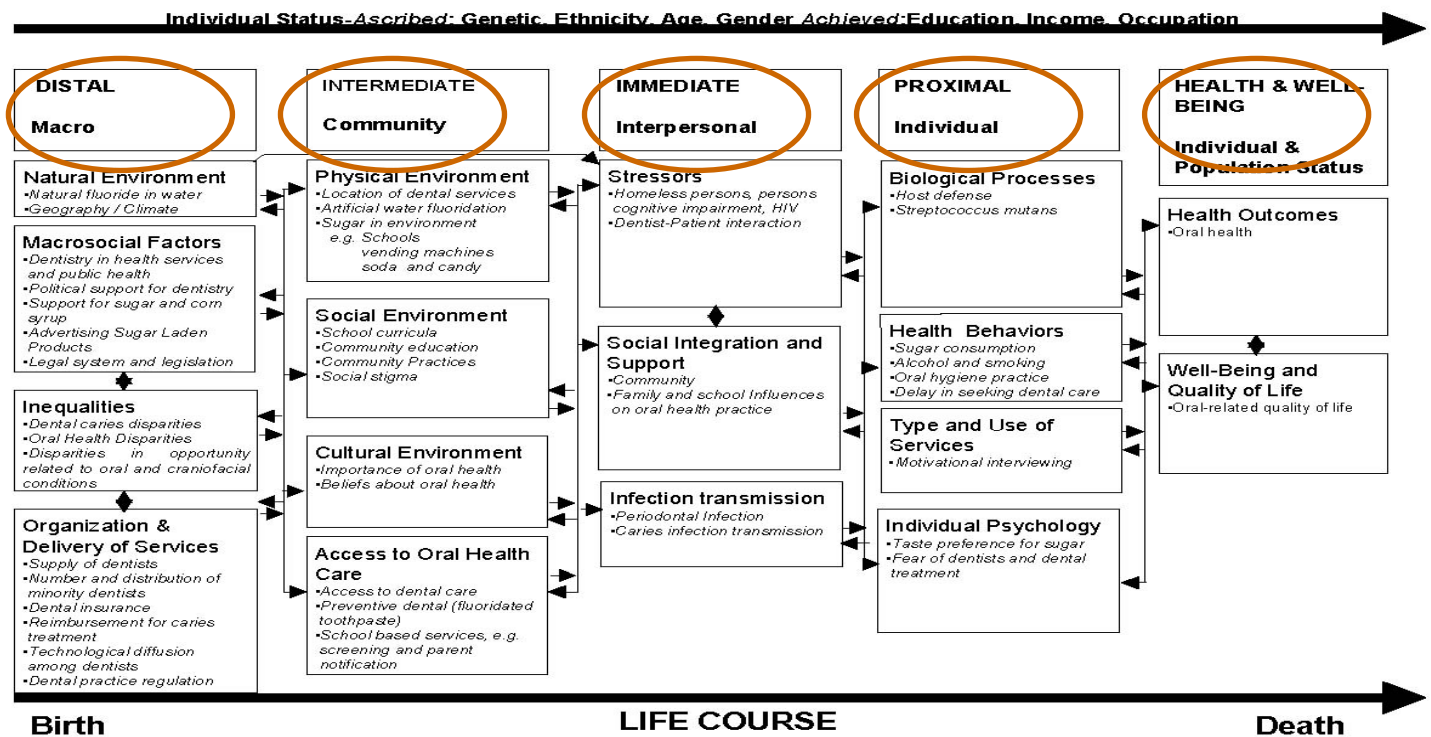
## Explanatory Causation Model

- Genetics
- Environment
- Health behaviors
- Use of dental services



# Determinants of Oral Health

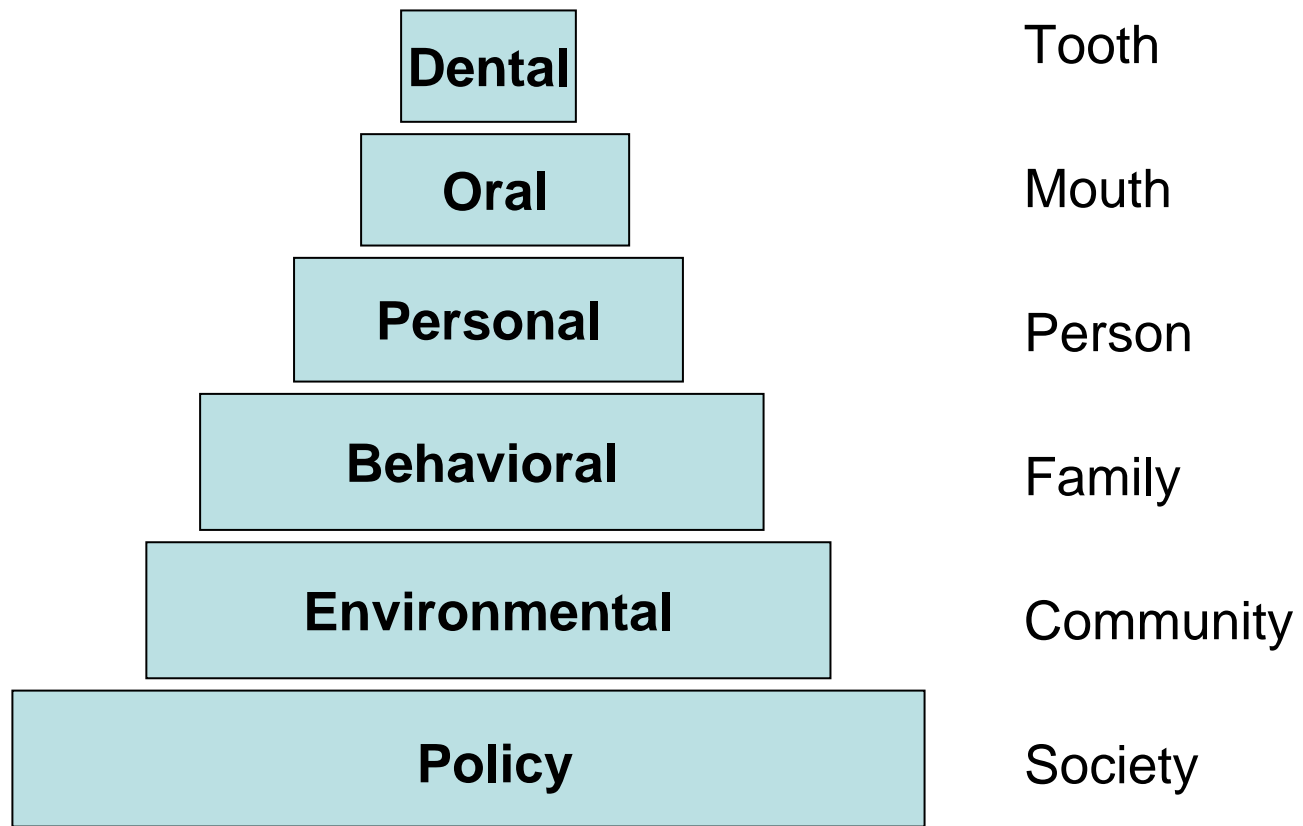
## INFLUENCES ON ORAL HEALTH AND ORAL HEALTH DISPARITIES<sup>1,2</sup>



<sup>1</sup>Based on Patrick and Erickson, 1993 and Schulz and Northridge, 2004 <sup>2</sup> Boxes contain only selected examples of influences in *italics*; readers are suggested to think of additional examples.



# Levels of Possible Interventions





# Oral Diseases

Oral diseases relate to unique tissues:

- |          |                     |                 |
|----------|---------------------|-----------------|
| – Teeth  | Tooth Decay         | Early Childhood |
|          | Malocclusion        | Late Childhood  |
| – Gums   | Periodontal Disease | Adolescent      |
| – TMJ    | Joint Dysfunction   | Adult           |
| – Mucosa | Oral Cancer         | Older adult     |
| – All    | Injury              | Any age         |

All oral diseases are:

- Common
- Progressive
- Cumulative
- Consequential





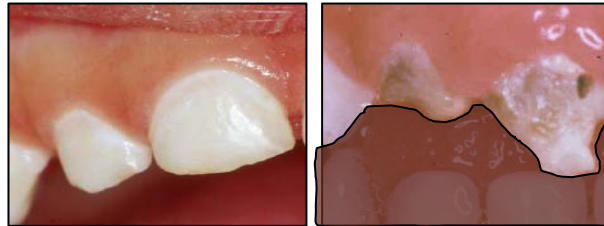
# Adolescent Oral Health Risk Factors

- Risk Factors for poor oral health
  - Risk behaviors (drugs, alcohol, driving, firearms, pick-up sports etc)
    - oral trauma
  - Tobacco – periodontal disease, cancer
  - Poor eating patterns and food choices – dental caries
  - Oral sex – STDs
  - Pregnancy – risk factor for periodontal disease
  - Lip and tongue piercing – risk for tissue damage & infection

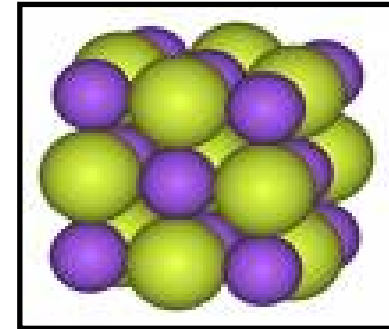


# Early Childhood Oral Health Risk Factors

- Risk Factors for Early Childhood Caries
  - Early infection with “cariogenic” bacteria
  - High frequency carbohydrate ingestion
  - Lack of exposure to fluorides



Maria's upper (maxillary) teeth, with severe early childhood tooth decay





# Cavity Prevalence is Extreme (NHANES III)



28% of US 2-5 Year Olds Have Cavities in “Baby Teeth”

70% of children with cavities need repair



50% of US 12-15 Yr Olds Have Cavities in Permanent Teeth

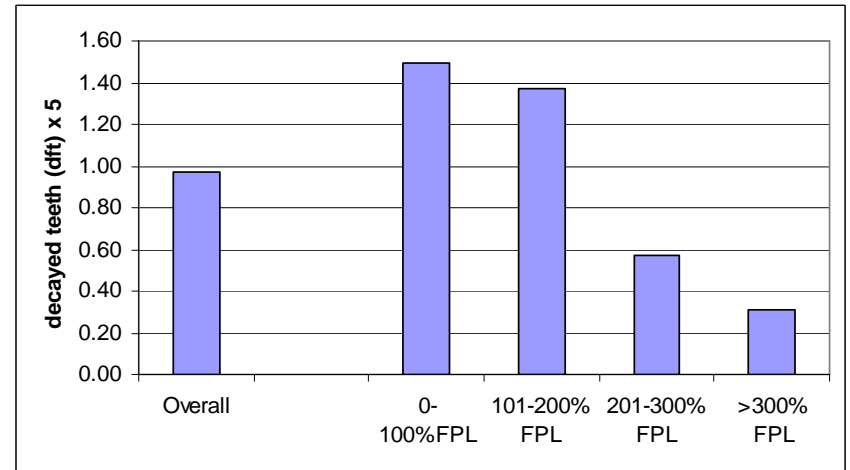
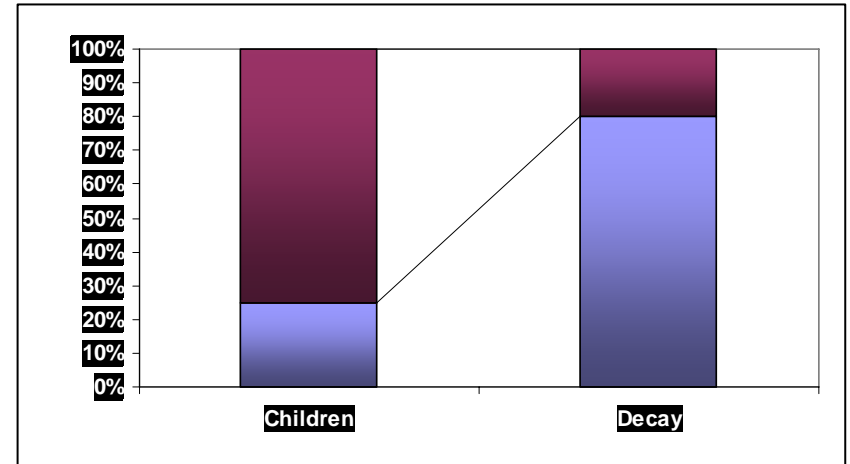
33% of children with cavities need repair;



# Disease Disparities are Profound

80% of cavities occur in only 25% of children – primarily low income children

Poor and low income children have more than twice the number of cavities

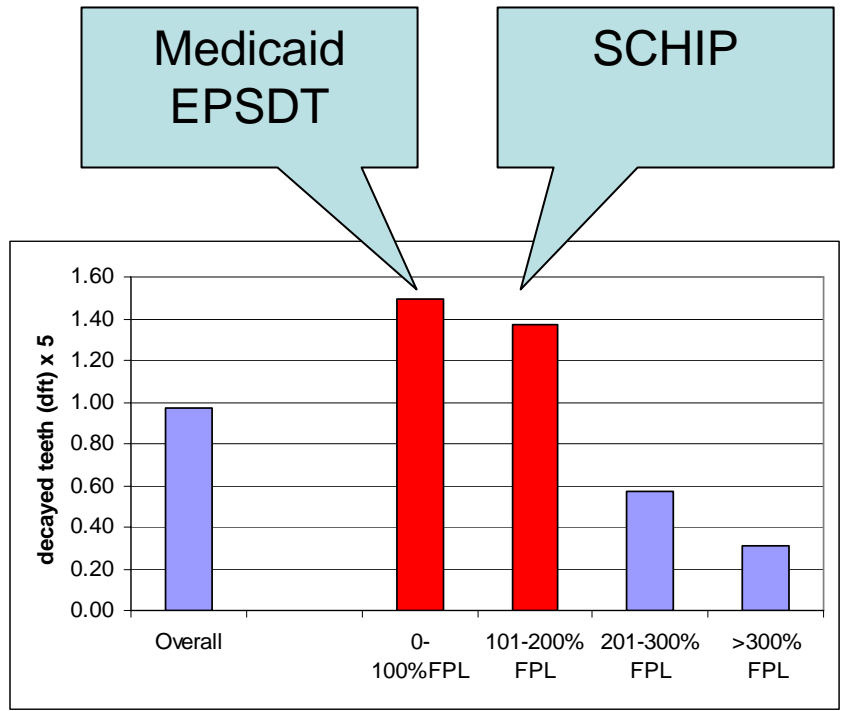




# Disease Disparities are Profound

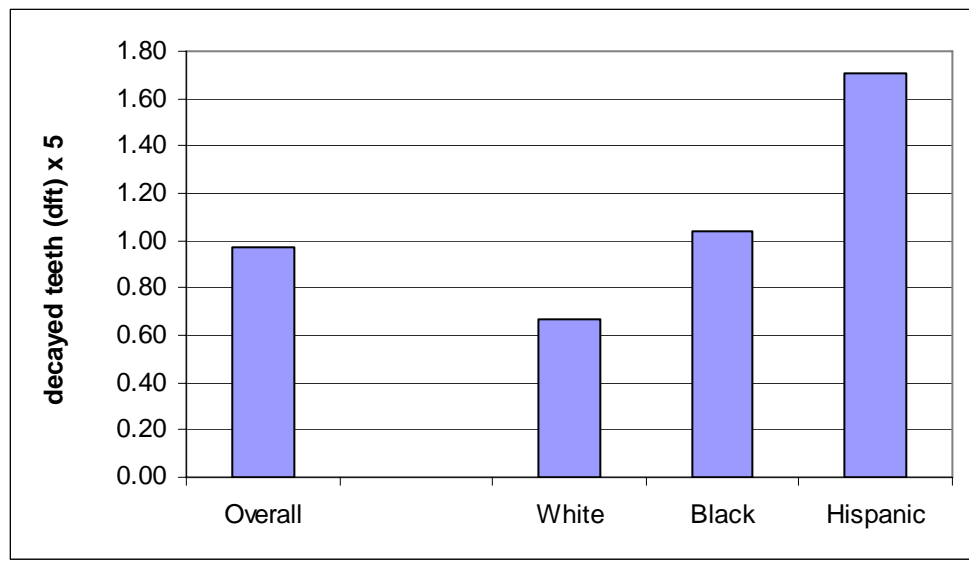
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Poor and low income children have more than twice the number of cavities





# Cavity Disparities by Race/Ethnicity



- Children of color have more early childhood caries experience even after adjusting for income
- Early cavities predict future cavities
- Cavities prevalence in young children is increasing portending future increases in disease burden



# Particularly Vulnerable Children

- Native Americans
- Special needs
- Immigrant
- Migrant
- Homeless
- Rural & frontier

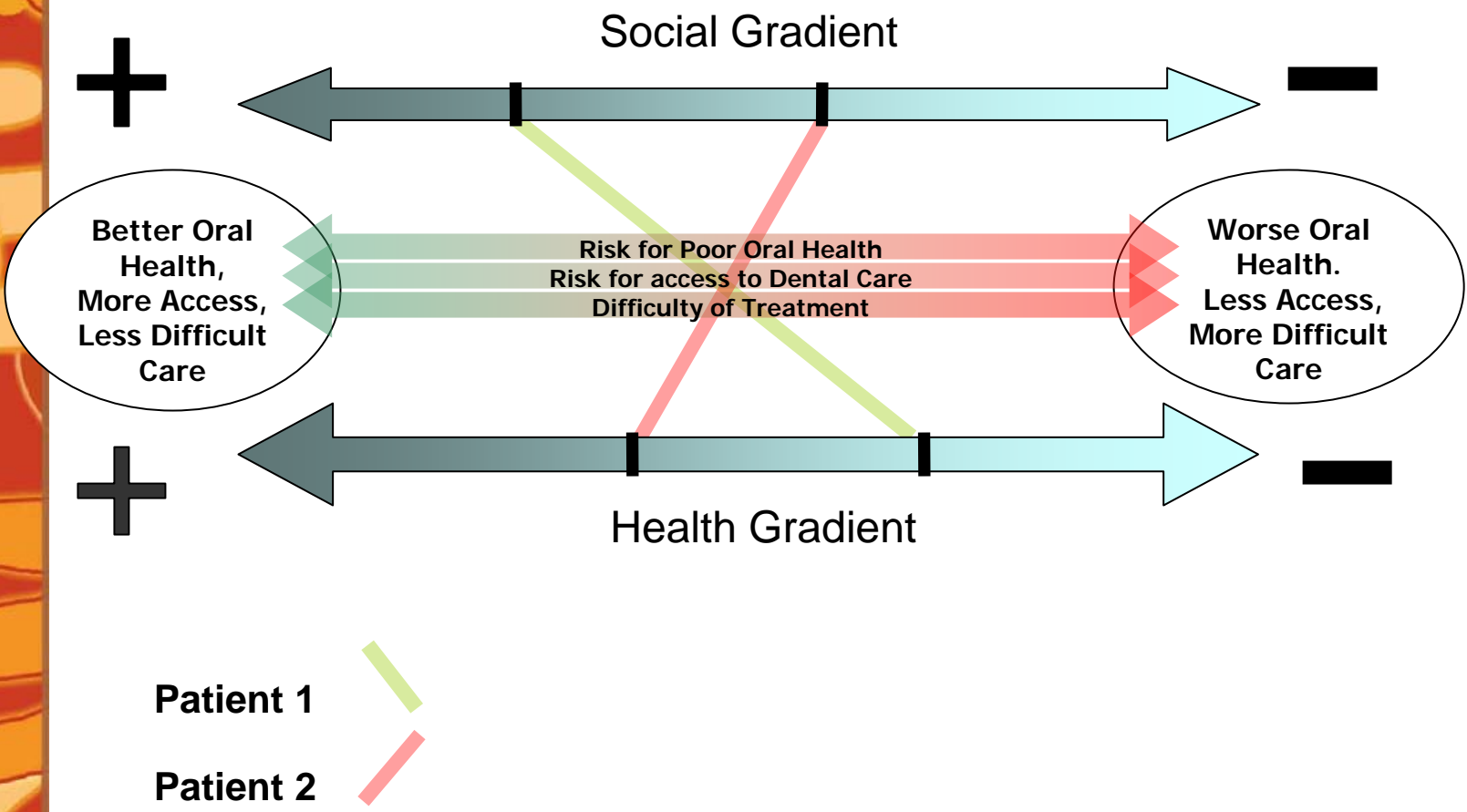
Higher  
Disease Rates

Less Care

More  
Government  
role

All receive higher levels of medical than  
dental care

# Who is special to dental systems?





# Early Childhood Caries Overview

Poor and low-income preschoolers are:

- 5 times more likely to have cavities
- have 3 times more cavities
- 2 times more likely to seek care for pain
- yet only half as likely to obtain a dental visit

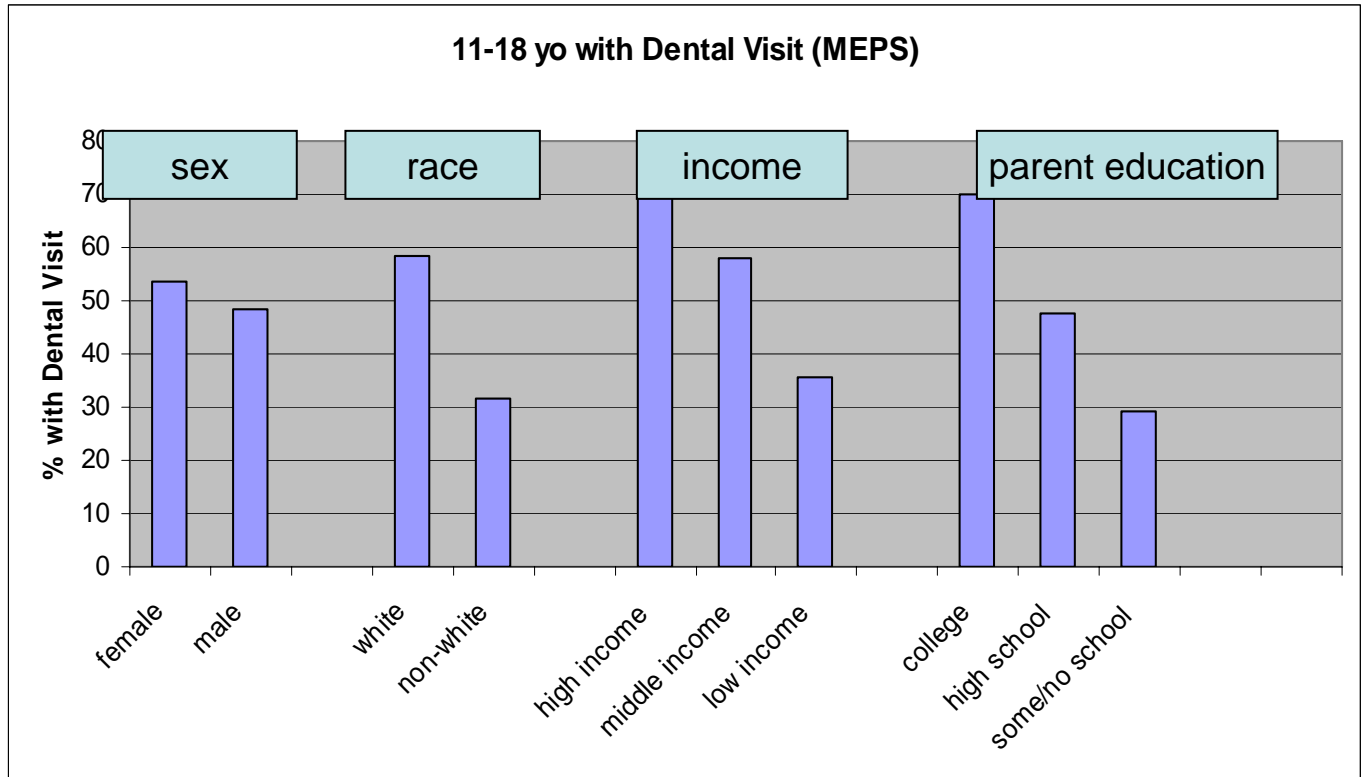


System is upside down:

- Kids with most needs get least care
- Kids with least needs get most care

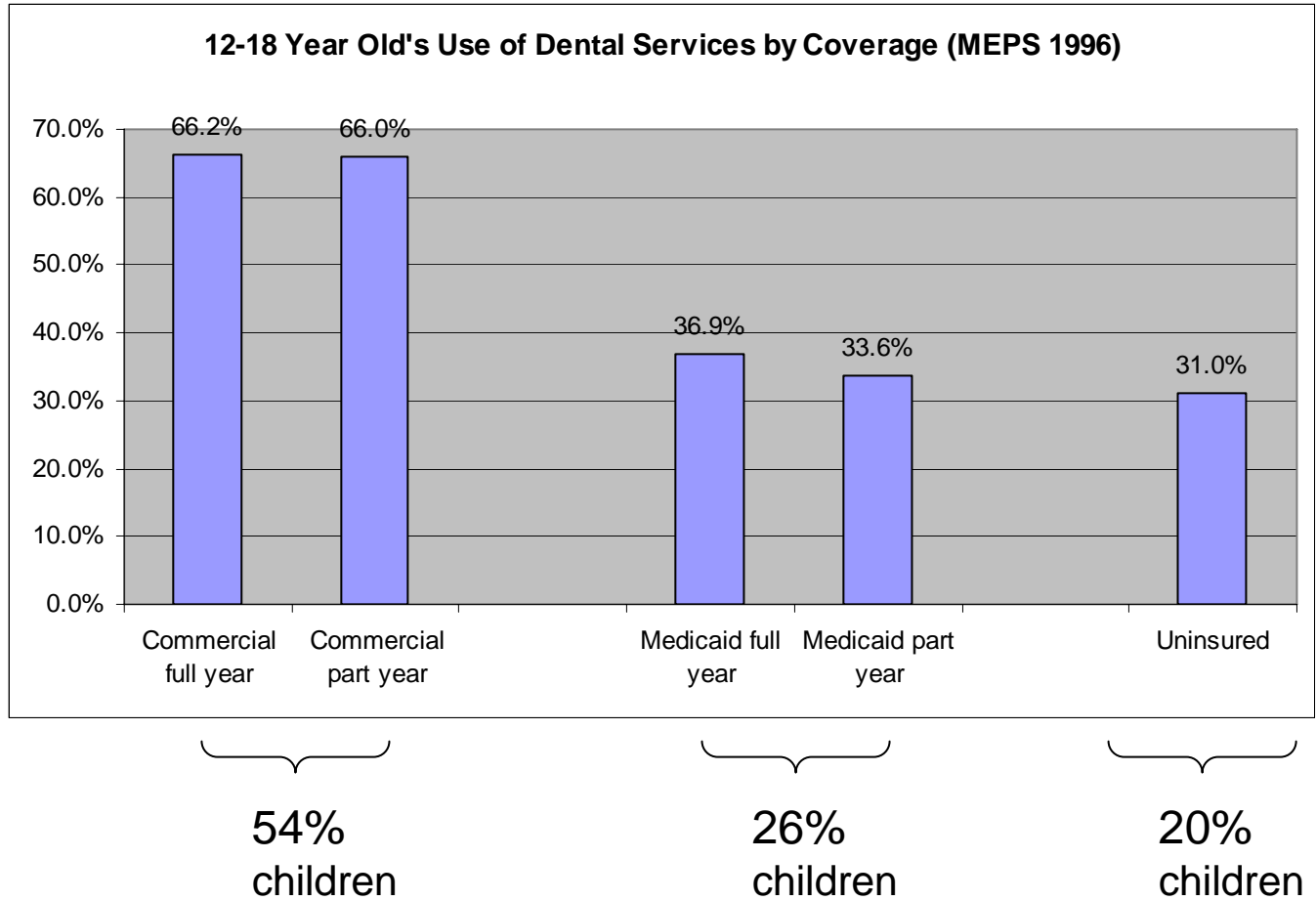


# Disparities in Dental Care



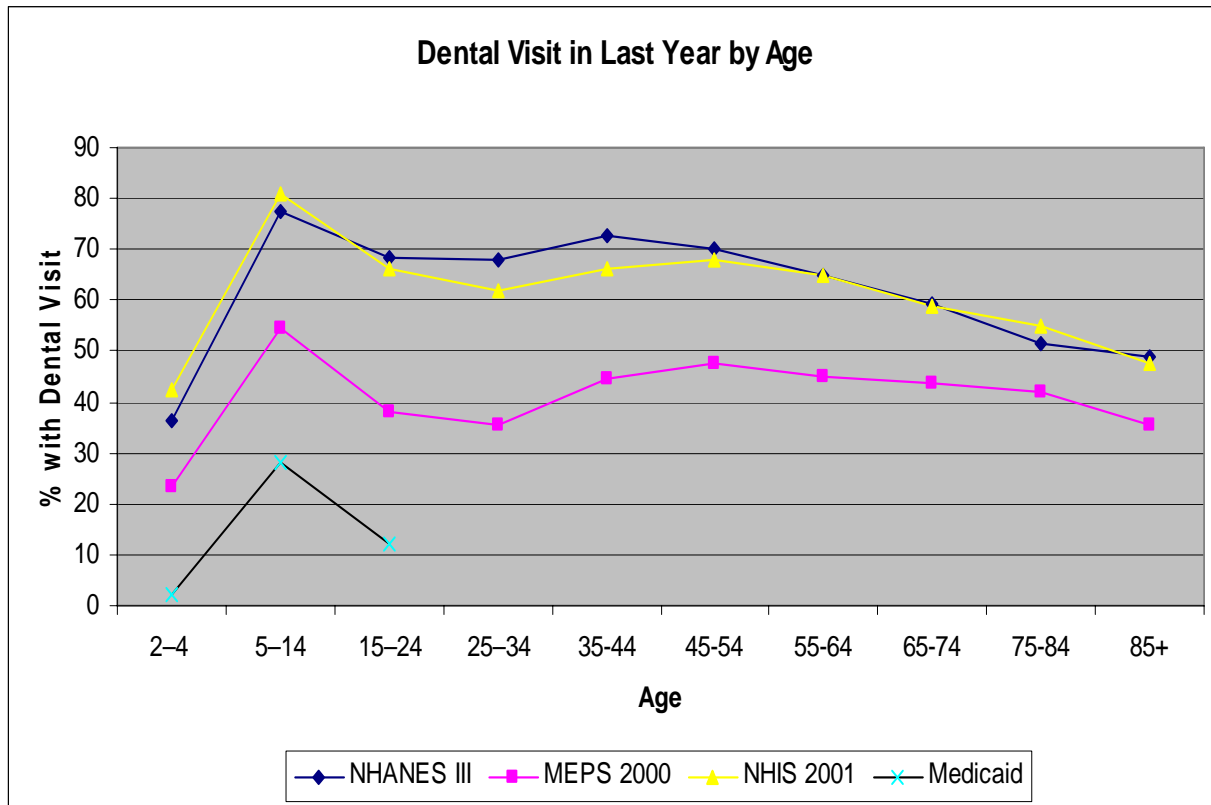


# Coverage Matters



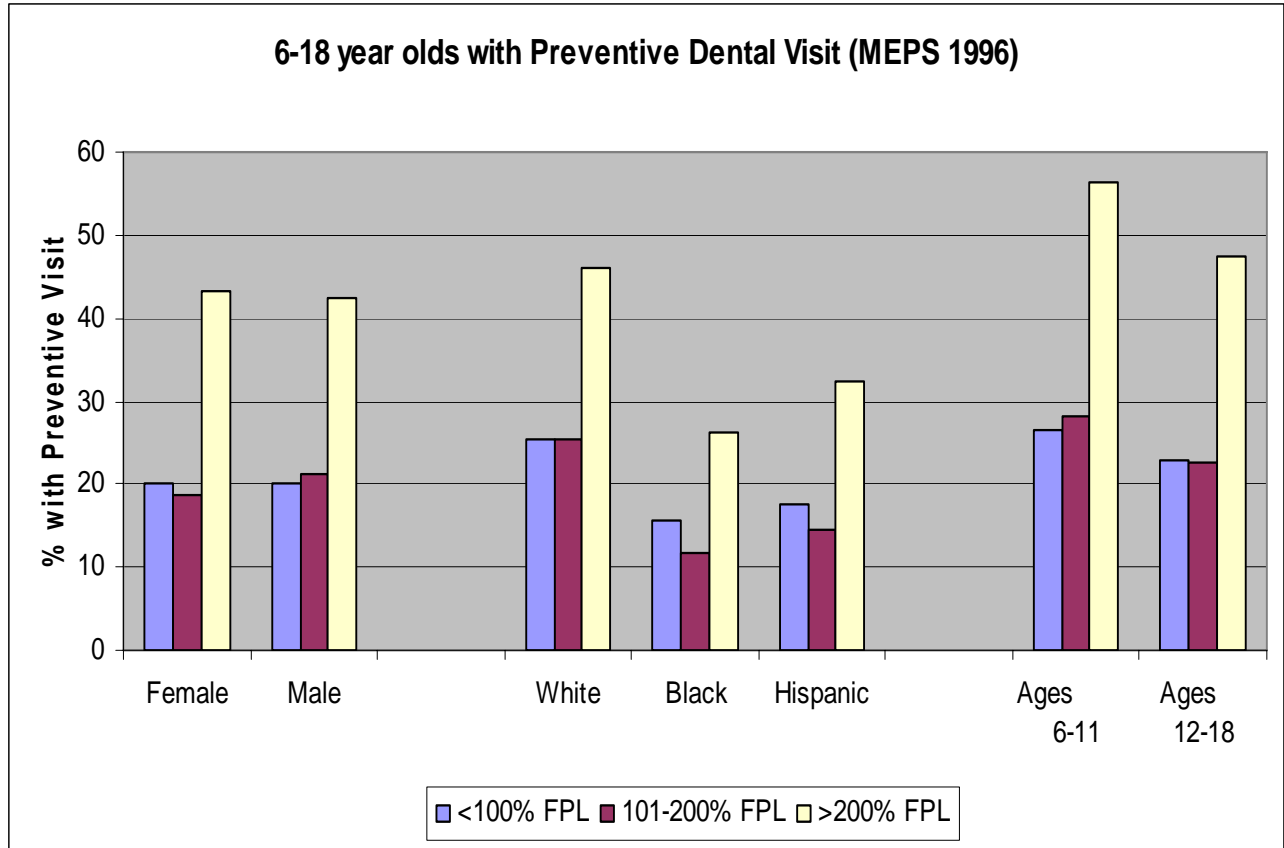


# Use of Dental Services





# Preventive Dental Visits (PreSCHIP)



Children 100-200%FPL have had remarkable increase in dental care and preventive services since SCHIP

# Tooth Decay in Children is Consequential



- Disturbed eating
- Disturbed sleeping
- Disturbed speaking
- Disturbed behavior
- Disturbed learning



**If it pains you to look at this picture, imagine how the child feels.**

An estimated 2,500 Rhode Island children between the ages of six months to four-years-old suffer from Early Childhood Tooth Decay.\* But not a single one of them has to. That's because Early Childhood Tooth Decay is preventable. It occurs when children's teeth are harmed by frequently drinking from bottles or sippy cups that contain sweetened milk, juice, soda or other sugary liquids. So if your child needs comforting, try a bottle of water, a pacifier, a favorite blanket or toy. Be the best parent you can be and help prevent Early Childhood Tooth Decay. It will make you and your child feel a lot better.

\*Source: Rhode Island Department of Health, Oral Health Program, January, 2001.

**DELTA DENTAL**  
Delta Dental of Rhode Island

In partnership with:



Rhode Island Department of Health

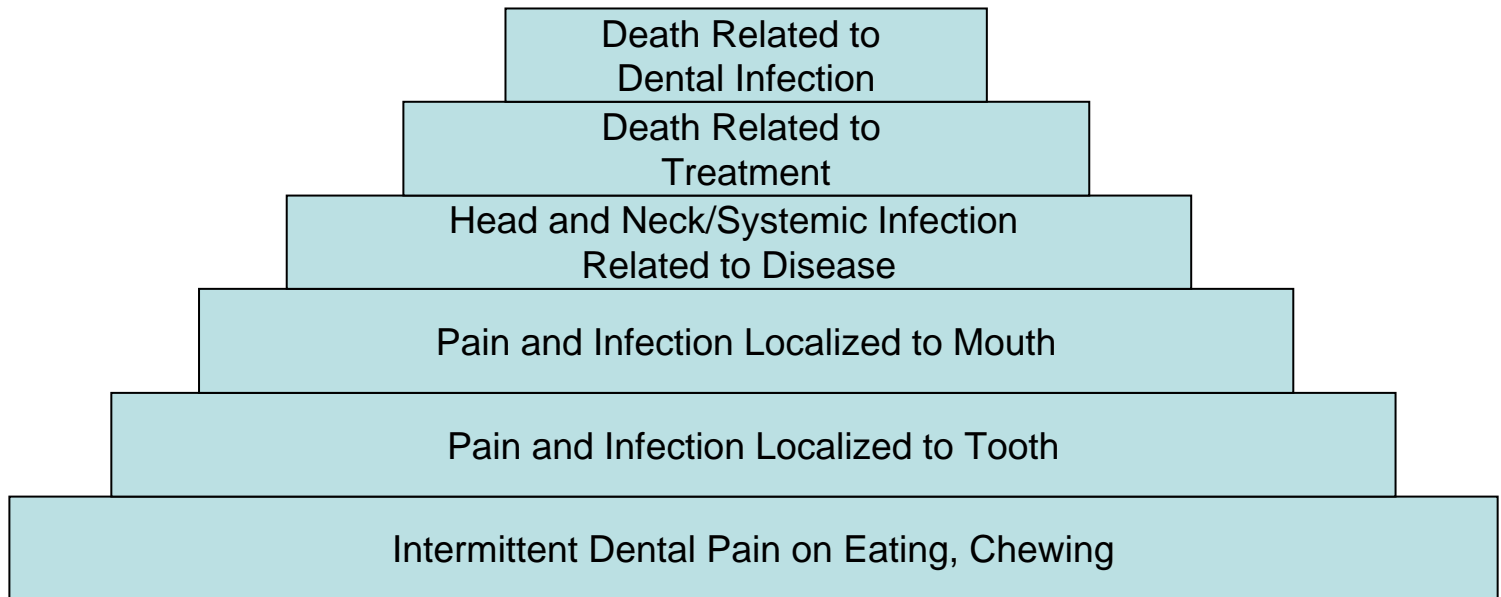


*Every child deserves a healthy smile.*

# Cavities are Consequential



## Morbidity/Mortality Model





# Yet Tooth Decay is Preventable

## Effective prevention must

- start before the disease is established
  - AAPD, AAP Age One Dental Visit Policy
  - AAPD/Bright Futures: Dental Home
- be tailored to level of risk
- involve all who deal with young children
- intervene at multiple levels from tooth to policy
- involve community based health promotion, education, sealants (30% of 6-11 year olds currently), community water fluoridation

Early intervention & prevention are cost effective and cost saving



# Dental Delivery & Finance System

## Workforce Size

- ~5 to 1 physicians to dentists but dental care is suggested at high frequency;
- ~10 to 1 pediatric dentists to pediatricians

## Organization

- Overwhelmingly solo private practice

## Safety net

- ER: medical “backbone” not available for dental
- Health Centers: limited dental, adult focus, swamped
- Training programs: few & swamped despite recent expansions

## Coverage

- 2.6X fewer children have dental than medical
- Medicaid no better than no coverage despite EPSDT guarantees but with very notable exceptions
- SCHIP dental benefit variable, insecure, optional

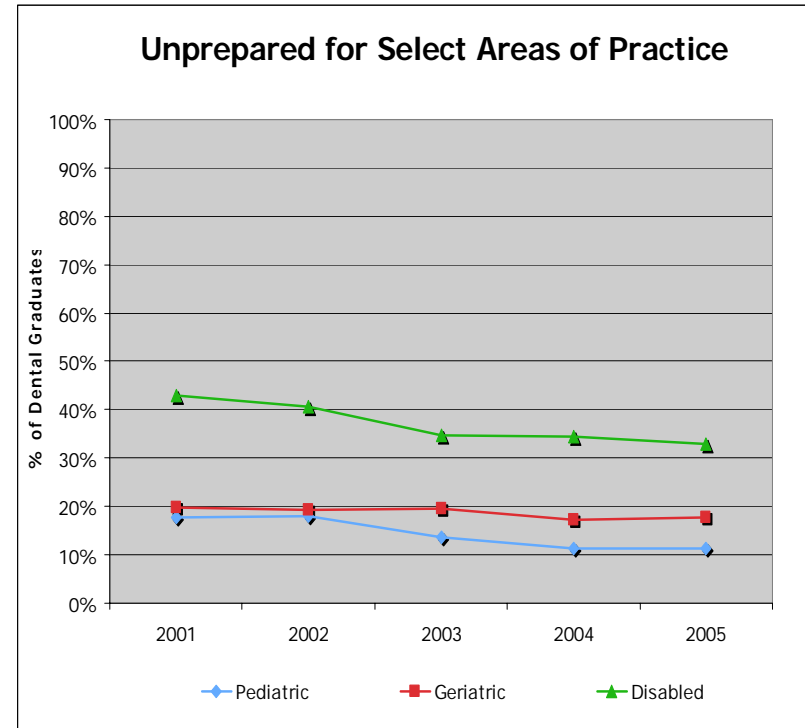
## Financing

- Child dental care consumes ~25% of child healthcare spending
- Child dental care consumes <5% of Medicaid child healthcare spending



# Provider Interest & Competencies

- Provider preferences in location & population served
- Crowd out from demand for esthetic dentistry
- Low Medicaid fees
- Logistics with Medicaid patients: language, transportation, appointment keeping
- Lack of training in young child care
- High use by low-needs children





# Quality Considerations

- Effectiveness
  - Minimal objective evidence beyond water fluoridation and sealants
- Efficiency
  - High cost to benefit ratio for low-risk adolescents
  - Care for at-risk adolescents is insufficient with high return on minimal costs for few utilizers
- Timeliness
  - Frequency is better than sufficient for most utilizers; less than sufficient for at-risk and high-needs populations
- Safety
  - Well established
- Patient Centeredness
  - Variable – tends to be “one-size-fits-all”
  - Adolescents report being treated as “objects” rather than participants
- Equity
  - Profound inequities in care and health status by income, race/ethnicity, parent education, and rurality



“It is essential  
to develop  
a habit  
of observation  
and reflection”





# Personal Reflections

- As clinician
  - Children suffer too much, too often, and too needlessly. To see a child in pain and relieve that pain is hugely satisfying for the dentist but too often short lived for the child
- As analyst
  - Dental concerns represent the worst case of prevalence, day-to-day consequence, Medicaid performance, workforce/ financing/safety net shortcomings but is uniquely solvable at low cost
- As advocate
  - America offers children promise but not success. Failing their oral health needs fails the future.