Understanding Oral Health Disparities: Prevention, Policies and Personal Responsibility

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Personal vs. Social Responsibility
Nuffield Council on Bioethics, 2007

- "Whose job is it to ensure that we lead a healthy life? Who should help us not to eat or drink too much, to take exercise, and to protect our children and ourselves against disease?
- Is it entirely up to us as individuals to choose how to lead our lives, or does the state also have a role to play?
- Two typical, and contradictory, responses are "We don't want the nanny state interfering with our lives" and "The Government should do more to curb drunkenness amongst young people".
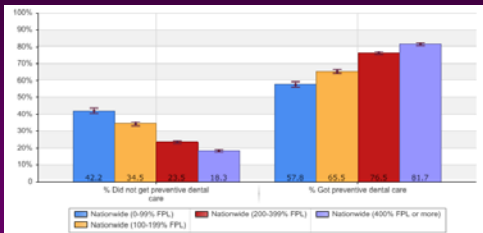
- http://www.nuffieldbioethics.org/fileLibrary/pdf/Public_health_-_ethical_issues.pdf

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- People living in poverty,
  or from low SES backgrounds,
  are more likely to have unhealthy behaviors
  and poorer health, than those better off.

- Are these behaviors really freely chosen?

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1-17 year-olds who Received Routine Preventive Dental Care during the Past Year, by Federal Poverty Level (FPL)
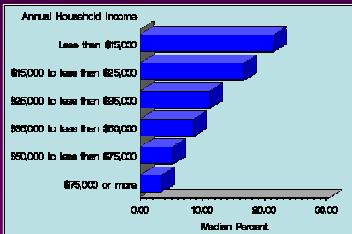U.S., NSCH 2003

Children from lower SES families, less likely to get preventive dental care.

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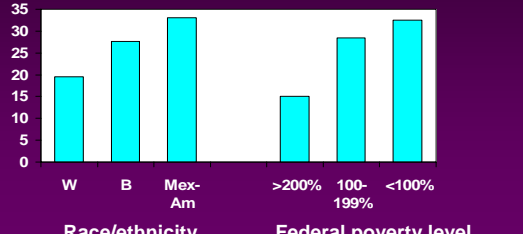**Median Percent of Dentate Adults Who Had Their Teeth Cleaned by a DDS or RDH ≥ 5 Years Ago or Never, by Income**
BRFSS, 2002

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U.S. Prevalence of Untreated Caries in Primary Teeth among 2-11 year olds by Race/ethnicity and Poverty Status
U.S., NHANES,1999-2004

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Differences, Disparities, and Discrimination: Populations with Equal Access to Health Care

Populations with equal access to health care

Source: Gomes and McGuire, 2001, In IOM report, Unequal Treatment, March 2002.

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Determinants of Health

1. Factors not under our personal control, non-modifiable factors
2. Factors under our personal control, theoretically modifiable factors

   (assumes equal distribution of resources, knowledge, shared values)
3. Factors under societal control, theoretically modifiable

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Personal vs. Social Responsibility One Framework

- Individual and family factors =
- **Personal responsibility** and freedom of choice
- Community and environmental factors = **Societal responsibility**

- But not so straightforward.
- Individual's behaviors may impact others.
- Complex interactions among health determinants, often not single disease agent
- Living conditions affect health (air, water, food safety)
- Gene-environment interactions
- Social environment (dilapidated housing, crime) can alter stress hormone response and affect health

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Keyes: Multifactorial Model for Dental Caries, 1962

Focus on individual

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Biology, Behavior or Both?
Henry Klein, 1946

Relation between DMFT levels of sons and daughters, aged 15-19 years, and DMFT levels of fathers and mothers.

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CONCEPTUAL MODEL OF CHILDREN'S ORAL HEALTH
Child, family, and community influences on oral health outcomes of children

Fisher-Owens, S. A. et al. Pediatrics 2007;120:e510-e520
RO3 DE 016571

PEDIATRICS

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Determinants of Health
1. Non-Modifiable Personal Factors

Some individual health determinants are not (easily) modifiable:
- Demographic factors (age, race/ethnicity, socioeconomic status)
- Geography (place of birth)
- Genetic factors

- Disparities in health often attributable to these factors – but need deeper understanding of context.

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Determinants of Health
2. Modifiable Personal Factors:
Individual and Family Level

- Health knowledge, attitudes, and behaviors (i.e., parents' KAB related to children's oral health)
  – Importance of primary teeth
  – Caries etiology
  – Bottle feeding, sugar consumption
  – Oral hygiene
  – Use of dental services

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Knowledge of Oral Disease and Preventive Measures, by Race
Example: *Racial Disparities in Knowledge*

Gift, Corbin and Nowjack-Raymer, 1994; from 1990 NHIS

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Need to Understand Context

- Children's poor oral health is often blamed on their parents . . . "Blame-the-victim". . . without consideration of context, lack of knowledge, other barriers and social inequalities in health care.
- Tension between personal and social responsibility
- Next examples from
  UCSF "CAN DO" Center to Address Disparities in Children's Oral Health
  NIH/NIDCR U54 DE14251

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Oral Health Knowledge

Misunderstanding:

Caregivers of young children in many cultures do not recognize importance of "baby teeth."

"Baby teeth are not important. They will fall out anyway."

Hilton et al., CDOE, 2007
Butani et al, BMC Oral Health, 2008

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Caries Etiology, Bottle feeding and Sugar consumption

Misunderstood:

- Not aware that dental caries is infectious, bacterial disease.
- Not all realized that juice, soda, or night-time bottle feeding with milk were bad for teeth, especially among non-US born caregivers
- Some thought bottle's nipple rather than its fluid content was damaging to child's teeth.

Horton & Barker JPHD, 2008; Horton & Barker Community Dent Health, In press 18

Oral Hygiene

Misunderstandings about tooth brushing

- Time to start brushing child's teeth is when child has all his/her teeth or is eating adult food.
- Mean age children started tooth brushing was 1.8 years; only 13% at recommended 12 months
- "Supervising" tooth brushing usually means "reminding" children to brush their teeth

Hoeft, Barker & Masterson, Ped. Dent. In press.

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Whose responsibility is it?

- To educate?
- To reinforce positive behaviors?
- To motivate behavior change?
- To empower?

- Attitudes and behaviors, often acquired at a young age, are difficult to change.

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Use of Dental Services

Parents seek dental care for their child:

- When child complains of pain
- When there is a noticeable problem - teeth described as dark in color and structurally damaged
- Tooth discolorations or "stains" interpreted as need for dental cleaning rather than dental problem.

Horton and Barker, 2008, Masterson et al. submitted.

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Intersection of Personal Responsibility, Dental Care System and Environment

Children with publicly funded dental insurance:

- Scarcity of dentists who accept Medicaid and treat children under age four.
- More with extensive needs likely to be referred, resulting in delays for needed care.
- Transportation and follow-up care can be problematic if referral is to distant location
- Treatment delays can result in prolonged pain, lack of self-esteem and stigmatization.

Barker and Horton, 2008

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Interaction at the Dental Office

- Communication can be difficult
  - Few dentists speak Spanish
  - Rely on busy bilingual staff or family members to convey information and educate caregivers
  - Professional translation and interpretation services rarely available
    - → frequent miscommunication
    - → missed opportunity for education

Barker & Horton 2008

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Intersection of Personal Responsibility vs. Societal Health Care Policies e.g., Family Dental Insurance Issues

- Undocumented farm worker parents are hesitant to apply for Medicaid and other benefits, even if some children are US born and eligible.

- "A public health policy that differentiates between citizen and non-citizen family members may have adverse effects on both."
  - *S. Horton, PhD, anthropologist*

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- Many "modifiable" individual and family level factors require some societal intervention for disadvantaged populations to increase health equity.
- Societal interventions need to be balanced with potential erosion of individual freedom, economic costs and benefits.
- **"Ladder of intervention options"** ranges from individual freedom and responsibility to restrictive societal interventions.
  Public health and ethical issues, Nuffield Council, 2007

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Intervention Ladder

- Most restrictive, eliminate choice (quarantine for infectious diseases)
- Restrict choices (remove unhealthy foods from menus, school vending machines)
- Guide choices thru incentives or disincentives (insurance benefits, dental school accreditation requirements, tobacco taxes)
- Enable choices (stop smoking programs, time off work for dental visits)
- Provide information (to consumers and providers)
- Least restrictive – do nothing

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**Determinants of Health
3. Modifiable Societal Factors**

- **Physical environment**
  – fluoridation, grocery stores selling fresh produce
- **Dietary choices**
  – school menus, vending machines, restaurants
- **Industry**
  – advertising, social marketing
- **Dental Education System**
  – Improve provider diversity, cross-cultural knowledge
  – More training to treat young children, special populations

- **Medical and dental care delivery system and health policies**
  – Health care reform including oral health
  – Inter-professional collaboration
  – Translation and interpretation services
- **Education of Consumers**
  – Improve oral health literacy and parenting skills
  – Involve schools and social service agencies

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Some Consumers Need Resources to Foster Personal Responsibility & Capability

- Need knowledge, patient education
  – What to expect
  – How to ask questions
  – Participate in health care decision processes
  – Access to understandable information, health care providers, ways to improve parenting skills
- Need to overcome mistrust, misunderstanding of instructions
- Need an amenable context, community environment, resources

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Societal and Public Health Responsibilities

- Provide appropriate information and resources (low rung on ladder)
- Move up the intervention ladder, weighing risks and benefits.
- Promote policies that positively affect societal health determinants.
- Goal is to improve individual and *population* health.

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Challenge

- Research has shown that there are many determinants of oral health and complex interactions among determinants.
- Who is responsible?
- What interventions are appropriate?
- Public health approach:
  Not us vs. them but our shared/collective responsibility to improve individual and population health.

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