PEDS 21
Child Health Disparities: Data and Trends

Tina L. Cheng, MD, MPH, FAAP
October 2012
Faculty Disclosure Information

In the past 12 months, I have no relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in this CME activity.

I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.
Learning Objectives

• Define health disparities and causes
• Summarize demographic changes in the child and adolescent population
• Summarize existing health disparities
• Assess community health and child health disparities in one’s state and county
Outline

• Define Disparities
• Demographics
• Disparities in Health
• Do Something
Institute of Medicine Report

- Conducted literature review by experts
- Found evidence of disparities & discrimination in care
- Offered broad range of recommendations
- Only 5 out of 103 studies addressed child health
Child Health Disparities

- Invitational conference 2008 developed a research action agenda
- Need for research on biologic, environmental and psychosocial factors
- Need for intervention to reduce disparities

*Pediatrics.* 2009;124:S161-331
Who Has the Health Disparity?

“Disparities are often described in relation to socioeconomic position, ethnicity, race, geography, gender, and age or in the context of a combination of these and other factors.”

What is a “Disparity”? 

“Disparities should be defined not simply as a difference but as an inequitable difference that is potentially systematic and avoidable.”
What Disparity?

- Health care
- Health outcome

“Health disparities research should involve consideration of life chances, opportunity and risk, and quality of life...as well as more traditional attention to health status and the provision of health care.”
Levels at Which Disparities are Produced

Health Outcome

Quality Of Health Care

Access to Health Care

Environmental Exposures and Opportunities

Health Care

Jones Camara P. *Phylon* 2002;50:7-22
Potential Sources of Disparities in Health Care

Patient
- Patient preferences
- Refusal of treatment
- Adherence
- Biological differences
- Health literacy

Clinician
- Poor communication
- Stereotyping
- Bias, Discrimination

Health system factors
- Access, Financing, Structure of care
- Cultural and linguistic barriers

Health system factors
- Access, Financing, Structure of care
- Cultural and linguistic barriers
When or Where
Did the Disparity Occur?

National Research Council/IOM Model of Children’s Health and Its Influences

How did the Disparity Occur?

Determinants of Health: Early Deaths

- Genetics: 30%
- Social Circumstance: 15%
- Environment Exposures: 5%
- Behavior: 40%
- Medical Care: 10%

How did the Disparity Occur?

Allostatic Load

McEwen B. NEJM. 1998
How did the Disparity Occur?

The Impacts of Racism on Health

Racial climate

Institutionalized

Health behaviors

Internalized

SES

Access to health care

Differential treatment

Stress

Health outcomes

How did the Disparity Occur?
Implicit Bias

Implicit Bias among Physicians and its Prediction of Thrombolysis Decisions for Black and White Patients

Alexander R. Green, MD, MPH\textsuperscript{1}, Dana R. Carney, PhD\textsuperscript{2}, Daniel J. Pallin, MD, MPH\textsuperscript{3}, Long H. Ngo, PhD\textsuperscript{4}, Kristal L. Raymond, MPH\textsuperscript{5}, Lisa I. Iezzoni, MD, MSc\textsuperscript{6}, and Mahzarin R. Banaji, PhD\textsuperscript{2}

J Gen Intern Med. 2007; 22(9): 1231–1238.

Implicit Association Test (IAT)
https://implicit.harvard.edu/implicit
How did the Disparity Occur?

Pediatrician participation defined by patient load, new patient acceptance AND plan-level participation

Medicaid (2011/12)
- Non-participants (No patient [0%] covered by source)
- Limited-Receptive Participant (Takes some plans/some new patients, does not have preference for new patients with different coverage)
- Limited Participants not currently accepting any new Medicaid, CHIP or private patients
- Full Participant (Takes all plans and all new patients)

Private (2011/12)
- Limited-Restrictive Participant (Takes some plans/some new patients but prefers other new patients with different coverage)
- 68.3%

Source: 2011/12 AAP Survey of Pediatrician Participation in Medicaid, CHIP and VFC
The Evolution of Health Disparities Knowledge

1st Era: Poverty as Threshold
2nd Era: Gradients
3rd Era: Mechanisms: Stress, Discrimination, Access
4th Era: Multiple Levels of Influence
5th Era: Interactions, Systems, Causality
6th Era: ?? Intervention and Translation to Practice & Policy

Adler & Stewart. *Ann NY Acad Sci* 2010;1186:5-23

Glenn Flores, MD, THE COMMITTEE ON PEDIATRIC RESEARCH

KEY WORDS
health care disparities, ethnic groups, Hispanic Americans, African Americans, Asian Americans, Indians, North American

ABBREVIATIONS
CDC—Centers for Disease Control and Prevention

abstract

OBJECTIVE: This technical report reviews and synthesizes the published literature on racial/ethnic disparities in children’s health and health care.
Outline

- Define Disparities
- Demographics
- Disparities in Health
- Do Something
U.S. Demographic Trends for Children and Adolescents

- They are more Diverse
- They are Poorer
- Health Disparities Persist
US Census Bureau “Tipping Point”

The Census Bureau confirmed that minority births in the United States outnumbered white births for the first time in the year that ended July 2011.

US Census Bureau
NON-WHITE BABIES NOW OUTNUMBER WHITE BABIES IN AMERICA FOR THE FIRST TIME.

SECOND.
Children in Immigrant Families
US overall: 23%
2000: 13.8 million, 2010: 17.4 million
U.S. Poverty Status by Age Group, 1980-2010

Poverty Level in 2010:
$22,000 family of 4

Current Population Survey, U.S. Census
One out of five children (22 percent) lived below poverty in the United States in 2010.

More than two out of five (44 percent) children lived in low-income families in the United States in 2010.
The US had the highest poverty rate compared to other developed countries.
Fig. 11 Spending on families and children

- cash transfers
- tax breaks towards families
- services
<table>
<thead>
<tr>
<th>Race/Origin</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Average</td>
<td>22%</td>
</tr>
<tr>
<td>African American</td>
<td>38%</td>
</tr>
<tr>
<td>American Indian</td>
<td>35%</td>
</tr>
<tr>
<td>Asian and Pacific Islander</td>
<td>14%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>32%</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>13%</td>
</tr>
</tbody>
</table>

**Source:** U.S. Census Bureau, 2010 American Community Survey.
Global Health Disparities
Outline

- Define Disparities
- Demographics
- Disparities in Health
- Do Something
Infant Mortality

Immunizations

Children ages 19-35 mos who received the 4:3:1:3:3:1:4 vaccine series, by race, 2007-2009

Source: Centers for Disease Control and Prevention, National Center for Health Statistics and National Center for Immunization and Respiratory Diseases, National Immunization Survey, 2007-2009.

Denominator: U.S. civilian noninstitutionalized population ages 19-35 months.

Note: White, Black, Asian, and more than one race are non-Hispanic groups; Hispanic includes all races.
Asthma

Rate of emergency department visits for asthma per 10,000, ages 2-19 years, by race/ethnicity, 2005-2007

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Ambulatory Care Survey-Emergency Department, 2005-2007.

Note: For this measure, lower rates are better. White and Black groups are non-Hispanic; Hispanic includes all races.
Oral Health

Children 2-17 with a dental visit in the calendar year by race/ethnicity and income, 2002-2008

Denominator: U.S. civilian noninstitutionalized population ages 2-17.

AHRQ Disparities Report 2011
LGBT Health Disparities

Health Disparity #8: LGB youth are more likely to be threatened or injured with a weapon in school.\textsuperscript{12}

% of youth threatened or injured with a weapon

\begin{itemize}
\item Blue: 5%
\item Red: 19%
\end{itemize}

Health Disparity #9: LGB youth are more likely to be in physical fights that require medical treatment.\textsuperscript{13}

% of youth in a physical fight requiring medical treatment

\begin{itemize}
\item Blue: 4%
\item Red: 13%
\end{itemize}

Health Disparity #10: LGB youth are more likely to be overweight.\textsuperscript{14}

% of youth who are overweight

\begin{itemize}
\item Blue: 6%
\item Red: 12%
\end{itemize}

Health Disparity #14: LGB youth are much more likely to attempt suicide.\textsuperscript{18}

% of youth reporting suicide attempts

\begin{itemize}
\item Blue: 10%
\item Red: 35%
\end{itemize}
## Selected Studies Linking Childhood SES to Chronic Disease in Adulthood

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Journal</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidfeldt, J. et al.</td>
<td>2007</td>
<td>American Journal of Epidemiology</td>
<td>Type 2 diabetes</td>
</tr>
<tr>
<td>James, S.A. et al.</td>
<td>2006</td>
<td>American Journal of Public Health</td>
<td>Obesity</td>
</tr>
<tr>
<td>Lawlor, D.A. et al.</td>
<td>2006</td>
<td>American Journal of Epidemiology</td>
<td>Mortality from cardiovascular disease, diabetes, respiratory disease, smoking-related cancers, and stomach cancer</td>
</tr>
<tr>
<td>Claussen, B. et al.</td>
<td>2003</td>
<td>Journal of Epidemiology and Community Health</td>
<td>Cardiovascular disease mortality</td>
</tr>
<tr>
<td>Langenberg, C. et al.</td>
<td>2003</td>
<td>Journal of Epidemiology and Community Health</td>
<td>Obesity</td>
</tr>
<tr>
<td>Poulton, R. et al.</td>
<td>2002</td>
<td>Lancet</td>
<td>Cardiovascular and dental health at age 26</td>
</tr>
<tr>
<td>Frankel, S. et al.</td>
<td>1999</td>
<td>American Journal of Epidemiology</td>
<td>Stroke mortality</td>
</tr>
<tr>
<td>Glikson, M.D. et al.</td>
<td>1995</td>
<td>Journal of Epidemiology and Community Health</td>
<td>Coronary heart disease</td>
</tr>
</tbody>
</table>
# Selected Studies Linking Low Birth Weight to Chronic Disease in Adulthood

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Journal</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al Salmi, I. et al.</td>
<td>2008</td>
<td>Diabetes Care</td>
<td>Impaired glucose tolerance and Type 2 diabetes</td>
</tr>
<tr>
<td>Li, S. et al.</td>
<td>2008</td>
<td>Kidney International</td>
<td>Chronic kidney disease</td>
</tr>
<tr>
<td>Kajantie, E. et al.</td>
<td>2006</td>
<td>Journal of Clinical endocrinology and Metabolism</td>
<td>Spontaneous hypothyroidism</td>
</tr>
<tr>
<td>Kajantie et al.</td>
<td>2005</td>
<td>International Journal of Epidemiology</td>
<td>Cardiovascular and all-cause mortality</td>
</tr>
<tr>
<td>Barker, D.J. et al.</td>
<td>2002</td>
<td>Journal of Hypertension</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Eriksson, J. et al.</td>
<td>2000</td>
<td>Hypertension</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Forsen, T. et al.</td>
<td>2000</td>
<td>Annals of Internal Medicine</td>
<td>Type 2 diabetes</td>
</tr>
<tr>
<td>Frankel, S. et al.</td>
<td>1996</td>
<td>Lancet</td>
<td>Coronary heart disease</td>
</tr>
</tbody>
</table>
Adverse Childhood Experience

ACE Study: CDC and Kaiser Permanente

- Examined the link between childhood stressors and adult health
- N=17,000 surveyed on past history of abuse, neglect, family dysfunction and current behavior and health
- As the number of ACE increases, the risk for poor health outcomes increase: substance use, COPD, depression, fetal death, heart disease, liver disease, IPV, STIs, suicide attempts, unintended pregnancies

Middlebrooks & Audage, CDC 2008
Childhood Experiences Underlie Chronic Depression

http://www.cdc.gov/ace/about.htm
How the first nine months shape the rest of your life

The new science of fetal origins

BY ANNIE MURPHY PAUL
Outline

• Define Disparities
• Demographics
• Disparities in Health
• Do Something
Addressing Health Disparities in Practice

1. Learn more about community health and health disparities in your area by reviewing state and county health data
Kids Count
http://datacenter.kidscount.org/databook/2012/
Annie E. Casey Foundation
Look up your state
County Health Rankings
www.countyhealthrankings.org
Robert Wood Johnson Foundation & UWisconsin Population Health Institute
2. Use individual clinical encounters as opportunities to screen and address the social, economic, educational, environmental, and person-capital needs of the children and families (AAP Policy on Health Equity)
3. Be aware of your unconscious biases. Take the Implicit Association Test
https://implicit.harvard.edu/implicit
4 Stages of Learning: Cultural Competence

Unconscious Incompetence

Conscious Incompetence

Conscious Competence

Unconscious Competence

TIME
4. Ensure equitable access to health services for children in the community
5. Support global child health efforts
Children are the message we send to the future.
AAP Disparities Reports


References

Race, Ethnicity and Socioeconomic Status Disparities

- Implicit Association Test http://implicit.harvard.edu/
- PEW Hispanic Center, http://www.pewhispanic.org/
Lesbian, Gay, Bisexual, Transgender Disparities