Reducing Childhood Disparities: The Intersection between Pediatrics and Public Health
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“Exploration and Intervention for Health Equality...”

Designated a “National Center of Excellence” by the National Institutes of Health, National Institute on Minority Health and Health Disparities
Reducing Childhood Disparities: The Intersection between Pediatrics and Public Health

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Background/Why this Webinar

The Pediatric and Public Health Group of Maryland (PPHGM) was born out of the desire of three public health practitioners to address and eliminate childhood health disparities and collaborate with colleagues, organizations and stakeholders seeking to improve the health of children in Maryland.
Purpose/Objectives

- Provide an overview of child health disparities and its impact
- Present data over the lifespan from birth to adolescence
- Discuss “How healthy are Maryland’s children?”
- Identify stakeholders addressing the challenges of childhood disparities
The Lifespan
Focus on the Lifespan

• Poor health in childhood impacts adult health
• Children experience health disparities from infancy to adolescence
• Social determinants, i.e. poverty, education, health insurance, impact health and wellbeing of all children

Source:
Focus on Data

- Today’s webinar focused on the health data of Maryland’s children
- Data helps to determine current status of children’s health and future threats
- Data helps to determine where to focus resources
- Data helps to determine gaps in current research
“The future health and well-being of America is linked to how successfully we manage the health and well-being of today's children.”

HEALTH DISPARITIES
History of Health Disparities

- Health disparities (HD): differences in health outcomes that are closely linked with social, economic, and environmental disadvantage
- 1st legislation on HD created the National Center for Minority Health and Health Disparities within the NIH (www.nimhd.nih.gov)
Health Disparities Now

- Office of Minority Health leads HHS in the health disparities action plan for the nation to address racial and ethnic disparities

- The *National Healthcare Disparities Report* (NHDR) focuses on “prevailing racial and socioeconomic disparities in health care delivery in priority populations”

Reducing disparities in health will give everyone a chance to live a healthy life and improve the quality of life of all Americans.

- National Prevention Strategy
Lifespan & Health Disparities

- Most health disparity reports focus on adult populations
- CDC 2011 report measures that included children:
  - Infant mortality/ Pre-term birth
  - Asthma prevalence
  - Adolescent pregnancy and childbirth
- Many factors, especially SES, impact the health of children (e.g. education, health status, healthcare access and healthcare utilization)
Poverty is not an accident. Like slavery and apartheid, it is man-made and can be removed by the actions of human beings.

- Nelson Mandela
The Pediatric and Public Health Group of Maryland (PPHGM)

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Reducing Childhood Disparities: The Intersection Between Pediatrics and Public Health

Diana Fertsch, MD, PhD
Dundalk Pediatric Associates, Pediatrician
Maryland American Academy of Pediatric, Treasurer/Secretary
Dundalk Pediatrics

• 45 year presence in Dundalk
• 15,000 patient served from diverse ethnic and socio-economic backgrounds
• 70% Medicaid insured patients
• 30% private health insurance
• 5 pediatricians, 3 pediatric nurse practitioners, 1 physician’s assistant
• Electronic Health Record (2004)
• Care Coordinator (2005)
• Nurse Educator (2012)
Dundalk Pediatrics

- Early identification of prenatal and postnatal risk factor (nutritional, psychological/emotional, toxic exposures, preterm births, genetics syndromes)
  - SCREENING
  - Early referral
    - Infant and Toddler (DHMH)
    - Genetics (other subspecialties)
    - KKI
      - Center for Development and Learning
      - Center for Autism and Related Disorders

- Enrichment and Support
  - Reach Out and Read
  - Parent Support Group for ADHD
AAP 2013-2014 Agenda: Poverty and Child Health
Patient Seth, 16 yr old AA male

• Follow-up for CONCUSSION
• 2 days prior to visit witnesses reported that he was “jumped and slammed to the ground by 4 unknown teens near his home
• Loss of consciousness for 20 minutes. Transported via ambulance to JHBayview ED
• PE revealed an alert and oriented teen with incomplete memory of events prior to and involving the assault. Significant bruising above right eye and left ear with palpable hematoma posterior scalp. CT scan normal and vision 20/20.
• Admitted overnight for observation
Seth

• Birth history:
  • born prematurely at 34 week gestation and being small for gestational age (3 lb)
  • maternal exposure (heroin and cocaine) with neonatal drug withdrawal symptoms for first 2 weeks of life.
  • treated for possible neonatal syphilis.
  • hospitalized for 4 week until able to feed and gain weight
Seth

• Past medical history
  • Asthma and seafood allergy diagnosed age 3 yr
    • Well controlled on maintenance medication with rare acute flare or Emergency Room visits
  • ADHD diagnosed age 5 yr
    • well controlled on medication in elementary school
    • Issues with medication non-adherence since starting in late middle school
    • diagnosed with Oppositional Defiant Disorder
    • Disciplinary issues (suspensions) for aggressive behavior towards other students
    • Issues with truancy
Seth

- Past medical history (cont)
  - Assault charges age 15 yr and placement in alternative school
  - Ankle bracelet to monitor compliance with court ordered home detention

- Social history
  - Lives with MaGM (guardian) and MaAunt since the age 18 months due to mother’s continued drug addiction issues.
  - Mother sporadically in household until age 5 yr
  - Father incarcerated for selling drugs
  - Sexually active (total of 3 partners). No condom use.
  - Denies illicit drug use. Smokes 3 – 5 cigarettes per day
  - 11th grade “bright BUT unmotivated”.
Health Disparities Defined

• “Significant disparities in health, health care, or developmental outcomes, particularly among racial and ethnic groups”
  • an inequitable difference that is potentially systematic and avoidable
  • Involve consideration of life chances, opportunity and risk that includes psychosocial and socioeconomic perspective
  • Investigate the complex interactions of biologic, environmental, and psychosocial exposures
  • Examination of disparities among groups may inform the identification of resiliency factors

A Life Course Perspective on Child Health Disparities

• Focus on understanding how early-life experiences can shape health across an entire lifetime (potentially across generations)
  • How early-life experiences related to economic adversity and social disadvantages shape adult health (particularly adult chronic disease)
  • Critical periods during which exposures can alter particular organ structures and functions (fetal programming)
  • Risks accumulate over time (through environmental, socioeconomic, and behavioral exposures) and cause long term damage


Adult Health Outcomes Associated with Low Birth Weight

- “All-cause” mortality
- “Cause-specific” mortality
  - Cardiovascular disease
  - Respiratory disease
- Cardiovascular disease
  - Hypertension
  - Coronary artery disease
- Metabolic Disease
  - Type 2 Diabetes
  - Metabolic Syndrome
- Other health outcomes
  - Depression
  - Hypothyroidism
  - Chronic kidney disease

Adult Health Outcomes Associated with Childhood Socioeconomic Conditions

- All cause mortality
- Cause-specific mortality
  - Alcoholic cirrhosis
  - Smoking-related cancer
  - Stomach cancer
  - Cardiovascular disease (CAD, stroke, and MI)
  - Diabetes
  - Respiratory disease
- Behavioral Outcomes
  - Alcohol
  - Substance abuse
  - Smoking
- Other conditions
  - Depression
  - Periodontal disease
  - Self-rated health
  - Functional limitations

Patient: Seth, 16 yr old AA

- Prenatal environment
  - Maternal nutrition and access to health care (???)
  - Drug exposure
  - Poverty/STRESS
- Postnatal environment (childhood → adolescent)
  - Poverty
    - Prematurity
      - Developmental problems
      - Chronic lung disease/asthma risk
    - Poor nutrition/food insecurity
    - Poorer educational outcomes
      - Lower academic achievement
      - Lower rates of graduation
    - Less positive social/emotional development
      - Increased mental health disorders (ADHD, ODD, SUD)
      - Increased criminal behavior
      - Lower productivity
      - Increased rates of sexually transmitted diseases/teenage pregnancy
- Protective Factors
  - Nurturing extended family
  - Academically bright
What Can We ALL Do?

• Understand the community where children live, learn, and play
• Screen for and identify health disparities
  • POVERTY, food insecurity, domestic violence, toxic exposures
• Identify unmet needs and barriers to meeting those needs
  • Physical, social, emotional, and cultural
• Identify partners and resources in the community
  • Schools, hospitals, early intervention and other social services, advocacy affiliates, financial institutions, elected officials, rec centers/sports leagues, churches, food pantries, mentorships
• Promote nurturing strategies
  • Practice acceptance and empathy, and provide support and guidance
  • Examine your own biases (https://implicit.harvard.edu/implicit)
REDUCING CHILDHOOD DISPARITIES: THE INTERSECTION BETWEEN PEDIATRICS AND PUBLIC HEALTH
ADVOCATES FOR CHILDREN & YOUTH

- Is an independent, state-wide, child advocacy organization seeking to create a better life for each of Maryland’s children through policy, practice, and advocacy.

- We work across four issue areas: Education, child welfare, juvenile justice and health. In addition, all our work looks through a racial equity and economic sustainability lens.

Our health priorities include:

- Evaluating children and families’ access to health coverage under the State’s new eligibility and enrollment system.

- Monitoring network adequacy for primary and pediatric specialty services including pediatric dental care.

- Monitoring enrollment and access to health services for former foster youth who are now eligible for Medicaid to age 26.

- Identifying appropriate integrative care models, such as health homes, to improve the health status of vulnerable children and youth.

- Collaborating across silos to address social determinants of public health.
Percent of children under 18 by race/ethnicity (2012)

CHILDREN IN POVERTY (PERCENT) - 2012

UNINSURED CHILDREN (PERCENT) - 2011
Infant Mortality Rate per 1,000 Live Births (2012)

<table>
<thead>
<tr>
<th>Region</th>
<th>Rate</th>
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<tbody>
<tr>
<td>Maryland</td>
<td>6.3</td>
</tr>
<tr>
<td>Allegany</td>
<td>9.7</td>
</tr>
<tr>
<td>Baltimore City</td>
<td>5.3</td>
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<tr>
<td>Baltimore County</td>
<td>4.4</td>
</tr>
<tr>
<td>Frederick</td>
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<tr>
<td>Harford</td>
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<tr>
<td>Howard</td>
<td>5.1</td>
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<tr>
<td>Montgomery</td>
<td>LNE</td>
</tr>
<tr>
<td>Prince George's</td>
<td>8.6</td>
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<tr>
<td>Somerset</td>
<td>LNE</td>
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</tbody>
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LNE= Low Number Event (less than 5 births)

CHILD DEATH - 2012

TEEN DEATH - 2012
Maryland Medicaid Recipients with Inpatient, Outpatient and Professional Services for ADHD & ADD Ages 6-13 (2011)

(2011) Maryland Medicaid eHealth Statistics
Maryland Medicaid Recipients with Inpatient, Outpatient and Professional Services for Substance Abuse Ages 14-20 (2011)

(2011) Maryland Medicaid eHealth Statistics
Maryland Medicaid Recipients with Inpatient, Outpatient and Professional Services for Tobacco Abuse Ages 14-20 (2011)
Maryland Medicaid Recipients with Inpatient, Outpatient and Professional Services for Depression Ages 14-20 (2011)

(2011) Maryland Medicaid eHealth Statistics
Maryland Medicaid Recipients with Inpatient, Outpatient and Professional Services for Asthma Ages 6-13 (2011)

- Maryland: 28.2%
- Allegany: 19.1%
- Baltimore City: 27.1%
- Baltimore County: 31.2%
- Frederick: 27.3%
- Harford: 30.6%
- Howard: 31.5%
- Montgomery: 34.9%
- Prince George’s: 32.6%
- Somerset: 27.1%

(2011) Maryland Medicaid eHealth Statistics
Percentage of children tested who have blood lead level > 10 µg/dL (age 0-72 months) (2009)

Source: Maryland Department of Health and Mental Hygiene. (2009) SHIP Measures
Rate of children who are maltreated: Per 1k under age 18 (2011)

Source: Maryland Department of Health and Mental Hygiene (2011) SHIP Measures
Percentage of students who graduate high school in four years (Class of 2013)

- Maryland: 83.6%
- Allegany: 89.8%
- Baltimore City: 66.5%
- Baltimore County: 83.8%
- Frederick: 92.8%
- Harford: 88.4%
- Howard: 90.4%
- Montgomery: 87.4%
- Prince George’s: 72.9%
- Somerset: 83.6%

Source: 2013 Maryland State Report Card
Percent of children receiving dental care (2011)

Source: Maryland Department of Health and Mental Hygiene (2011) SHIP Measures
PERCENT OF OBESITY IN LOW INCOME PRESCHOOLERS VS. ADULTS IN MARYLAND

Source: Maryland PedNSS. Prepared by the Office of Chronic Disease Prevention, Family Health Administration, DHMH Updated: May 2008-2010
Source: Maryland BRFSS, Prepared by the Office of Chronic Disease Prevention, Family Health