Pediatries in The Age of the New Morbidities

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Department of Pediatrics and Child Health
Howard University College of Medicine
Washington, DC

The 11th Dr. Melvin E. Jenkins, Jr. Lectureship
Honors and Oath Week
May 5, 2016
In Memoriam

Trailblazer Dr. Melvin Jenkins chaired pediatrics at Howard University

Melvin E. Jenkins Jr., M.D., FAAP, of Silver Spring, Md., longtime chair of the Department of Pediatrics and Child Health at Howard University, died Oct. 3 at age 93.

An endocrinologist, Dr. Jenkins was a trailblazer known for his leadership, mentorship and devotion to child health. He researched sickle cell disease; won numerous teaching awards; and contributed to sections and advisory panels of the National Institutes of Health and other federal groups.

He was the first black member elected to the board of the American Board of Pediatrics (1983) and also served as a vice president and oral examiner during his long association with the organization.

Dr. Jenkins earned his medical and undergraduate degrees from the University of Kansas in Lawrence, which houses his papers. He completed an internship at what now is Howard University Hospital in Washington, D.C., and a fellowship in pediatric endocrinology at Johns Hopkins University.

At Howard, Dr. Jenkins was chief of the Division of Endocrinology and Metabolism and vice chair of the Department of Pediatrics before relocating to University of Nebraska for several years to develop its endocrinology program.

Dr. Jenkins returned to Howard to chair the pediatrics department, serving in that role from 1973–86 and bringing national recognition to the program. One of his protégés was former AAP President Renée R. Jenkins, M.D., FAAP (2007–08, no relation) who chaired the same department at Howard (1994-2007); she continues as chair emeritus and professor.

Dr. Jenkins was involved in many professional and community organizations and had a significant international influence as well. He was a health consultant to various Caribbean islands.

Dr. Jenkins is survived by his wife, Maria, four daughters, 11 grandchildren and six great-grandchildren. His first wife, Elizabeth, died in 1974.

Donations can be made to the Melvin E. Jenkins Jr. Lectureship Fund, Howard University Department of Pediatrics and Child Health, 2041 Georgia Ave., N.W., Room 6B02, Washington, D.C., 20060 or online at www.howard.edu/advancement/forms/givenow.htm.

Read an oral history of Dr. Jenkins at http://bit.ly/1R71cY

— Alyson Sulaski Wycoff
In the past 12 months, I have not had a significant financial interest or other relationship with the manufacturer(s) of the products or provider(s) of the services that will be discussed in my presentation.

This presentation will not include discussion of pharmaceuticals or devices that have not been approved by the FDA.
The only NIH center focused exclusively on health disparities in children, adolescents and young adults.
Definition

• **Disparities** should be defined not simply as a difference but as an inequitable difference that is potentially systematic and avoidable.

Disparities: A Life Course Perspective

Model of Children’s Health and Its Influences

POVERTY AND CHILD HEALTH DISPARITIES

Introduction: State-of-the-Art on Child Health Disparities

Tina L. Cheng, MD, MPH, Rachel Moon, MD, Ivor Horn, MD, MPH, Renee Jenkins, MD, on behalf of the DC-Baltimore Research Center on Child Health Disparities

Thirteen years ago, the Institute of Medicine issued a report entitled “Crossing the Quality Chasm.” This report highlighted gaps in quality health care and recommended that health care be safe, effective, patient-centered, timely, efficient, conference, entitled “Starting Early: A Life Course Perspective on Child Health Disparities,” included researchers, policy makers, and funders and published a research action agenda in a 2009 supplement to Pediatrics. The research action
Learning Objectives and Outline

• At the end of this exercise, the learner will be able to:

  ➢ Define the principal contributors to healthcare outcomes in the 21st century

  ➢ Describe the evolving state-of-the science of the neurobiology in child development

  ➢ Recognize the role of the medical professional in advocating for the health and well-being of children

Robert J. Haggerty, MD

ABSTRACT. Pediatric practice in the next millennium will require greater knowledge of new morbidities, such as acquired immunodeficiency syndrome and social and behavioral disorders, reemergent old disorders, such as tuberculosis, and disorders rarely seen of late in the United States but now being brought here by recent immigrants, such as malaria and other parasitic diseases. Diversity in ethnic and cultural backgrounds and beliefs will continue to increase, and it will need to be understood to prevent and treat diseases of children effectively. Although the current antagonism toward immigrants may lead to a decrease in this particular source of diversity, changes in family structure—such as divorce, gay and lesbian couples as parents, and corporate pressure on families—will continue, requiring pediatricians to understand and to accept this diversity if they are to be who have chronic illnesses. Pediatricians will need to be partners with others in the exciting new fields of risk assessment and prevention of psychosocial disorders. Pediatrics 1995;96:804–812.

ABBREVIATIONS. AIDS, acquired immunodeficiency syndrome; HIV, human immunodeficiency virus.

U.S. pediatricians must acknowledge the needs of children all over the world. Some pediatricians will participate in child health services abroad; most will need to prepare children in their practices for travel abroad. Just as the world is becoming a global marketplace, it is becoming one world of health needs.
Healthcare in the 21st Century: Age of the New Morbidities

Components of Health

- Community & Environment
- Clinical Care
- Public & Health Policy
- Behaviors

Health Outcomes
“Violaceous Hue”

• **Childhood cancers:**
  - Acute Lymphocytic Leukemia (ALL)

• **Injury prevention:**
  - Burns
  - Child Passenger Safety
Deaths per 100,000 for Motor Vehicles and Gun Violence

Source: CDC/Garen Wintemute.
Why the CDC still isn’t researching gun violence, despite the ban being lifted two years ago

Fear and funding shortfalls remain at the CDC, even though the agency was ordered to resume firearm studies after Newtown shooting.

By Todd C. Frankel  January 14, 2015

Two years ago this week, President Obama ordered the U.S. Centers for Disease Control and Prevention to get back to studying “the causes of gun violence.”

The CDC had not touched firearm research since 1996 — when the NRA accused the agency of promoting gun control and Congress threatened to strip the agency’s funding. The CDC’s self-imposed ban dried up a powerful
With more than 4,000 children killed by guns every year in the US, we think it would be a crime not to ask.

Government interference in the patient-family-physician relationship is bad medicine.

Legislation Restricting Physician Counseling/Medical Record Notations on Firearm Safety

- Legislation introduced—but not enacted—restricting physician counseling (since 2011).
- Enacted law in 2011. Petition to full 11th Circuit Court of Appeals pending. Injunction in place; law currently not enforceable.
Environmental Threats

• Laundry Detergent Pods
Environmental Threats

• Liquid Nicotine
Environmental Injustice

LEAD IN THE WATER
Environmental Injustice in Flint, Michigan

MEDICARE EXPANSION: Money, Politics and Morality
MONITORING PRIVILEGE AND DEPRIVATION: A New Index
CONTRACEPTION AFTER OBAMACARE: Unmet Needs and Costs

Unless we are explicitly at the table, we cannot realistically expect that the needs of children will be implicitly addressed.
Asthma in the District of Columbia: Tale of Two Cities

Teach et al. Pediatrics 2006;117:S78
Place Matters:
Life Expectancy by County

- Robert Wood Johnson Foundation (RWJF)
Social Determinants of Health

- Conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels and are mostly responsible for health inequities.

*World Health Organization*
Social-Ecological Model for Health Promotion
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  ➢ Recognize the role of the medical professional in advocating for the health and well-being of children
Adverse Childhood Experiences Study

- Published by CDC/Kaiser in 1998
- Surveyed 17,000 policy holders
- Understand relationship between childhood adversity & adult health outcomes
  
  Felitti et al, 1998

<table>
<thead>
<tr>
<th>Childhood Exposure</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abuse</td>
<td>Psychological</td>
</tr>
<tr>
<td></td>
<td>Physical</td>
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<tr>
<td></td>
<td>Sexual</td>
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<td>Household dysfunction</td>
<td>Substance abuse</td>
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<td></td>
<td>Mental illness</td>
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<td></td>
<td>Intimate partner violence</td>
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<td></td>
<td>Criminal behavior</td>
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<td>Divorce</td>
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<td>Neglect</td>
<td>Emotional</td>
</tr>
<tr>
<td></td>
<td>Physical</td>
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</tbody>
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Risk for **Cardiovascular Disease** is Embedded in Adverse Childhood Experiences

![Diagram showing the relationship between Adverse Childhood Experiences and Odds Ratio.](source: Dong et al, 2004)
Adverse Childhood Experiences

Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan
Significant Adversity Impairs Development

Source: Barth et al. (2008)
Neural Connections for Different Functions Develop Sequentially

- Sensory Pathways (Vision, Hearing)
- Language
- Higher Cognitive Function

FIRST YEAR

Birth (Months) | (Years)
---|---
-8 -7 -6 -5 -4 -3 -2 -1 | 1 2 3 4 5 6 7 8 9 10 11

Childhood Developmental Trajectories

Significant Adversity

Supportive Relationships, Stimulating Experiences, Health-Promoting Environments

Healthy Developmental Trajectory

Impaired Health and Development

Adapted from Harvard Univ. Center on the Developing Child
Levels of Stress

**POSITIVE**
Brief increases in heart rate, mild elevations in stress hormone levels.

**TOLERABLE**
Serious, temporary stress responses, buffered by supportive relationships.

**TOXIC**
Prolonged activation of stress response systems in the absence of protective relationships.
Toxic Stress Alters Normal Cortisol Response
<table>
<thead>
<tr>
<th>Cortisol Actions</th>
<th>Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impair Immune Cell Function</td>
<td>Infections/Cancer</td>
</tr>
<tr>
<td>Change Fat Metabolism</td>
<td>Obesity</td>
</tr>
<tr>
<td>Hyperglycemia</td>
<td>Diabetes</td>
</tr>
<tr>
<td>Increased Blood Pressure</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Decrease Bone Formation</td>
<td>Osteoporosis/Fractures</td>
</tr>
<tr>
<td><strong>Toxic to Brain</strong></td>
<td>Depression/Anxiety/Decreased Brain Volumes</td>
</tr>
</tbody>
</table>
Early Experiences Shape Brain Architecture

36 weeks gestation

Newborn  3 months  6 months  2 years  4 years  6 years

Synapse formation

Synapse pruning
Key Areas of Brain Impacted by Toxic Stress

- **Prefrontal Cortex**
  - Center of executive functioning
  - Regulates thoughts, emotions, and actions

- **Hippocampus**
  - Center of short term memory
  - Connects emotion to fear

- **Amygdala**
  - Triggers emotional responses
Persistent Stress Changes Brain Architecture

Normal

Typical neuron—many connections

Toxic stress

Damaged neuron—fewer connections

Prefrontal Cortex and Hippocampus
The Environment and Epigenetics

Adverse Childhood Experiences

Neuro-developmental and Behavioral Health Impact

Toxic Stress
Adapted from the Harvard Center on the Developing Child
Plasticity and Resilience
Executive Function
Laddering of Executive Function Skills into Early Adulthood
Poverty's Most Insidious Damage
The Developing Brain

Joan L. Luby, MD

Because the brain is the organ from which all cognition and emotion originates, healthy human brain development represents the foundation of our civilization. Accordingly, there is perhaps nothing more important that a society must do than foster and protect the brain development of our children. Building on a well-established body of behavioral data and a smaller but expanding body of neuroimaging data, Hair et al provide even more powerful evidence of the tangible detrimental effects of growing up in poverty on brain development and related academic outcomes in childhood. Using data from the National Institutes of Health Mag-
Building Resilience
Protective Interventions: Building Resilience

New Protective Interventions

Healthy Developmental Trajectory

Supportive Relationships, Stimulating Experiences, Health-Promoting Environments

Significant Adversity

Adapted from Harvard Univ. Center on the Developing Child
Brain Malleability
“It is easier to build strong children than to repair broken men.”

Frederick Douglass

1817-1895
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POVERTY AND CHILD HEALTH DISPARITIES

Child Health Disparities: What Can a Clinician Do?

Tina L. Cheng, MD, MPH, Mickey A. Emmanuel, BS, Daniel J. Levy, MD, Renee R. Jenkins, MD

Pediatric primary and specialty practice has changed, with more to do, more regulation, and more family needs than in the past. Similarly, the needs of patients have changed, with more demographic diversity, family stress, and continued health disparities by race, ethnicity, and socioeconomic status. How can clinicians continue their dedicated service to children and ensure health

COMMENTARY

Reframing the Disparities Agenda: A Time to Rethink, a Time to Focus

Ivor B. Horn, MD, MPH; Fernando S. Mendoza, MD, MPH

- Local, “high touch” community participatory efforts not-withstanding, at the macro level, little measurable change has occurred.

- Leveraging the ACA to focus efforts on eliminating systemic inequities in quality of care.

Academic Pediatrics 2014;14:115
Population Health: A Public Health/Prevention Approach

1°  
2°  
3°  
4°  

Clinical/Academic Enterprise

“UPSTREAM” INTERVENTION
The Patient Protection and Affordable Care Act of 2010 (PPACA) is exerting a transformative effect on how health care is delivered, managed and financed.

- Heightened emphasis placed on the responsibility of tax-exempt hospitals to provide specified benefit to the communities that they serve.
Definition

- **Community Benefit** – programs or activities that provide treatment or promote health and healing as a response to identified community needs and meets at least one of the following objectives: improving access to health services, enhancing public health, advancing generalizable knowledge and relief of government burden to improve health.
Community Benefit 101: The Triple Aim
Advocacy: A Core Skill Set in the Age of the New Morbidities

- "....It is not enough, however, to work at an individual bedside in a hospital. In the near or dim future, the pediatrician is to sit in and control school boards, health departments, and legislatures. He is a legitimate advisor to the judge and jury, and a seat for the physician in the republic is what the people have a right to demand”.

  - Abraham Jacobi, MD, 1904
Elevated Blood Lead Levels in Children Associated With the Flint Drinking Water Crisis: A Spatial Analysis of Risk and Public Health Response

Mona Hanna-Attisha, MD, MPH, Jenny LaChance, MS, Richard Casey Sadler, PhD, and Allison Champney Schnepp, MD
Child Advocacy: Broad Definition

- Engagement in activities that seek to compensate for the fundamental vulnerability of children.
Advocacy: Action Definition

• “To speak up, to plead or to champion for a cause while applying professional expertise and leadership to support efforts on *individual* (patient or family), *community*, and *legislative/policy levels*, which result in the improved quality of life for individuals, families and communities.”

*Ambulatory Pediatrics* 2005;5:165
Building An Advocacy Skill Set

• “Advocacy is not a spectator sport, but rather a discipline that demands involvement, excellence, commitment and learning from others”.  

- Jackie Noyes, Emeritus Executive Director, AAP Washington Office
Skill Set Development: The Three A’s of Advocacy

• Awareness
  – Political process and procedures

• Advancement
  – Coalition and relationship building

• Action
  – Communication and message delivery
Awareness: Learning the Political Landscape

"Among the vital issues I'm stressing is my reflection."
Advancement: Coalition and Relationship Building

- Establishing credibility
- Grassroots leadership
- Building partnerships
Action: Communications and Message Delivery

- Clear, concise, “sound bites”
- Limit to 2-3 most important points
- Avoid acronyms
Elevator Speech: The “SEER” Format

- **Summarize** (1 sentence)
- **Elaborate** (1-2 details)
- **Example** (engaging anecdote)
- **Restatement of summary** (1 sentence)
Learning Objectives and Outline: Review

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Thank You!!