

Promoting Child Health and School Readiness in Early Life; life course perspective

Secretary's Advisory Committee on Head Start

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September 22, 2011

Summary

- Health during pregnancy and early years has implications for health throughout life.
- The “foundations” of health in early life are formed in all settings, including Head Start
- Policies should strengthen family and community “capacities” to promote child health
- Early health is component of school readiness, linked to success in school

Defining “Health” in Early Life

- Period of most rapid bio- & devel- change
- Underlying physical & mental state
 - Reflects state of body’s systems: CNS, inflammatory, musculo-skeletal, etc.
- Elements of fulfilling potential, adaptation to adversity, resilience, enabling developmental trajectory
- Congenital impairments; genetic; chronic
- More than # diseases or services
 - Hard to measure

Background (1)

- Early experiences, environment, and biology interact to shape health through influences on body's systems
 - Preconception, pregnancy, preschool
 - Brain architecture shaped early
 - Endocrine, immune, inflammatory
 - Early exposure to toxic stress has life long consequences and costs
 - Epigenetic processes and health disparities

Background (2)

- Current (non)system: disconnected, fragmented; focused on program silos
 - Separates “medical” from educational
 - Often miss the role of parents & families
- Programs & policy makers searching for programs that “work” “Evidence-based”
- Early investments yield benefits and economic productivity
 - Direct medical, indirect costs
 - “Pay now or pay late”

Some Basic Assumptions

- Focus on health promotion (1^o prevention)
- Universality- applies to all SES groups
 - And accounts for disparities
- Centrality of families
- Focus on positive health- not deficit model
- Guide “intentional” action- avoid unintentional consequences

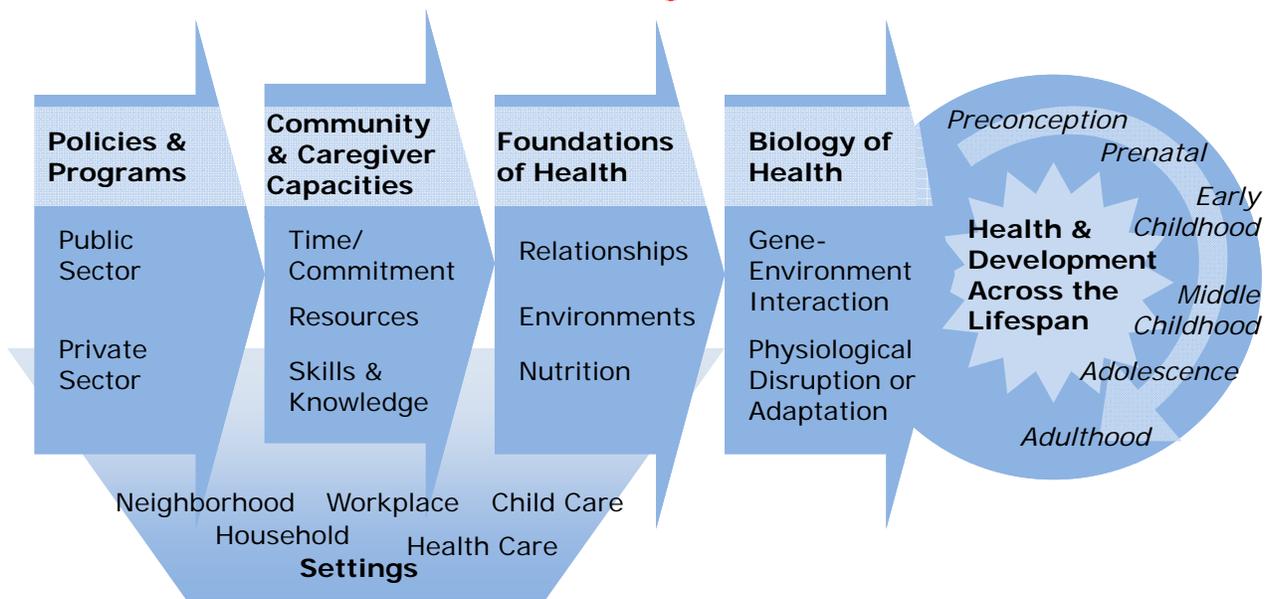
NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD
NATIONAL FORUM ON EARLY CHILDHOOD POLICY AND PROGRAMS

The Foundations of Lifelong Health Are Built in Early Childhood



Center on the Developing Child  HARVARD UNIVERSITY

A Framework for Establishing Lifelong Health in Early Childhood



Source: Center on the Developing Child (2009)

Walk-through Framework (1)

- Programs/policies increase the “capacity” of parents & communities to promote the health of young children
- “Capacities” are time, money, skills, human capital, institutional resources, etc.
- Enhancing capacities enables families and communities to build the foundations for health in early life

Walk-through Framework (2)

- The four foundations of early health
 - Responsive caregiving
 - Positive health-related learning
 - Safe environments
 - Good nutrition
- Health is shaped in multiple setting
 - Home, neighborhood, medical, Head Start
- Biology links foundations to better early health and health across the lifespan

Science of Responsive Caregiving

- Stable and responsive caregiving environments in early life associated with fewer behavior problems and better health outcomes [Schweinhart LJ et al., 2005; Belsky J et al., 2007; Mantymaa M et al., 2003; Waylen A et al., 2008]
- Responsive caregiving plays a key role in the maturation of the neuroendocrine and immune systems [Coe CL et al., 1992; Hanson L et al., 2001; McGowan PO et al., 2009]
 - Regulates psychological and behavioral response to stress [Caldji C et al., 1998]
 - Better equips immune system to deal with initial exposure to infections [Shirtcliff EA et al., 2009]

Science of Health Learning

- Positive health-related learning in early life sets up patterns for important health behaviors and practices [Burnham MM et al., 2002; Heraghty JL et al., 2008; Tinsley B et al., 2003]
- Quality, early experiences that are repeated create complex neural sequences and pathways that activate the brain and body systems [Burnham MM et al., 2002; Spruyt K et al., 2008; Rosen LA et al., 2008]
 - Sleep routines establish physiologic mechanisms that organize sleep-wake patterns and self-soothing

Science of Safe Environments

- Safe and supportive environments in early life affect risk of disease, educational attainment and future earnings [Haas JS et al., 1999]
- Environmental exposures
 - Early chemical exposure can prompt changes in organ development, increasing susceptibility to disease [Grandjean P et al., 2008]
- Physical (“Built”) environments
 - Availability of sidewalks and safe playgrounds increases physical activity and social interaction [Cohen DA et al., 2007]

Science of Good Nutrition

- Good nutrition for mothers and children in early life is a key predictor of later health outcomes

[Barker DJ et al., 1990; Barker DJ et al., 2004;Gluckman P et al., 2006]

- Maternal nutritional intake significantly impacts the development of the fetal and infant systems

[Dubowitz H et al., 2007;Gluckman P et al., 2006; Cutfield WS et al., 2006; Langley-Evans SC et al., 2006]

- Establishes metabolic axes which regulate insulin
- Promotes development of the thymus gland and T cell production, impacting immune competence

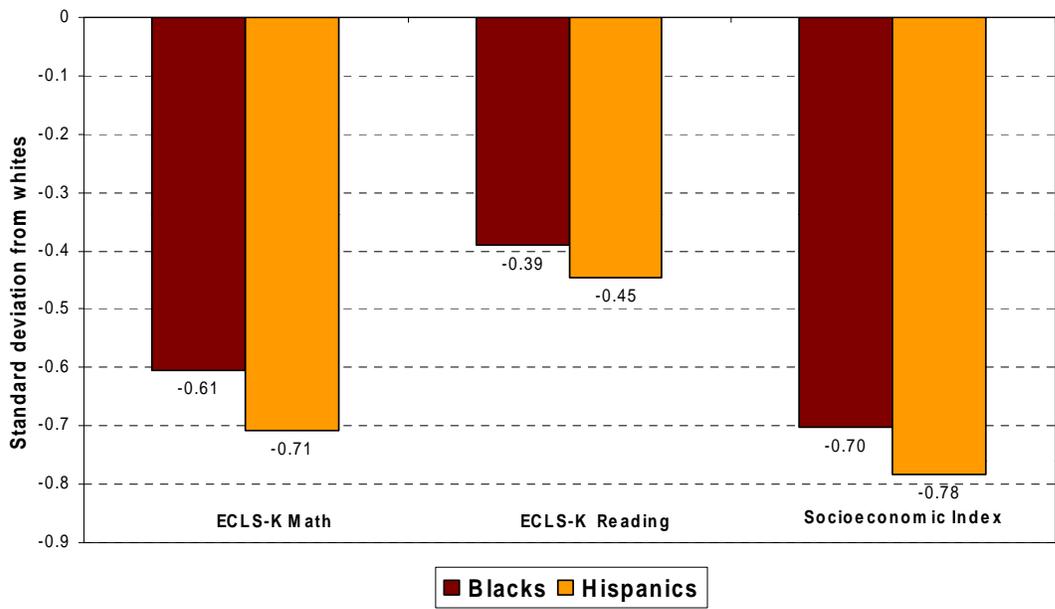
Caregiver & Community Capacities

- Bridge between & policies/programs & foundations; not just about poor families.
- Caregiver Capacities: resources (time, money, psychological, human capital) that parents bring to the tasks of raising young children [Brooks-Gunn J et al., 1995]
- Community Capacities: combined influence of a community's social organization and institutional resources to promote children's health [Leventhal, 2000]
 - “Community efficacy”
- Example: UK: Sure Start Children's Centers

Policies and Programs

- “Intentional” public policy builds capacities
- Multiple settings
 - Neighborhood- the “built” environment
 - Workplace- breastfeeding
 - Child Care- quality standards
 - Household- home & car safety, safe sleep
- Invest in early life- reverse historic trend
 - Federal deficits and child investment budget
- Private sector initiatives
 - Examples: Community recreation centers- “Y”;
Starbucks; “Isis Maternity”

Racial/ethnic gaps in selected test scores for kindergartners



National Center for Children and Families (NCCF) - Teachers College, Columbia University
<http://nccf.tc.columbia.edu/>

Contributions of health conditions to racial gaps

- Racial disparities in health conditions
Low birth weight; Asthma; Lead; Iron deficiency and anemia; Attention deficit hyperactivity disorder (ADHD)
- How much of the racial gap is 'explained' by each circumstance?
- What policies might reduce the racial gaps in circumstances?

Reductions in test gaps if health similar across racial groups

Health Condition	Gaps in prevalence?	Effects on school readiness?	Contribution to black-white gap
Low birth weight	Yes	Yes	~2% to 4%
Asthma	Yes	Yes	~2% to 3% on behavior scales
ADHD	Yes	Yes	~1% to 2%
Iron deficiency	Yes	Not clear	None
Lead	Yes	Yes	~2% to 3%

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Programs likely to reduce gaps modestly

- High quality early education programs
- Parenting component focusing on literacy and reading for low-literate mothers
- Parenting component for mothers of children with moderate behavior problems
- Enrollment in health programs
- WIC nutrition programs

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Personal Recommendations

- Take “broad view” of health in early life
- Focus on building family and community capacities to provide strong “foundations”
- Strengthen integration of health & education policy in first 5 years
- Prepare young women (& men) for healthy pregnancies and parenting
- Address social/racial inequalities and health disparities; research and policy
- New ways to measure “health” in early life

Acknowledgements

- Funding: Zanyvl & Isabelle Krieger Fund, Harvard Center for Developing Child,
– Jack Shonkoff, Al Race
- Colleagues: Kamila Mistry, Anne Riley, Sara Johnson, Lisa Dubay, Cynthia Minkovitz, Holly Grason, Sai Ma, Kevin Frick, Deborah Perry
- School readiness: Jeanne Brooks-Gunn