

A series of brief summaries of essential findings from recent scientific publications and presentations by the Center on the Developing Child at Harvard University.

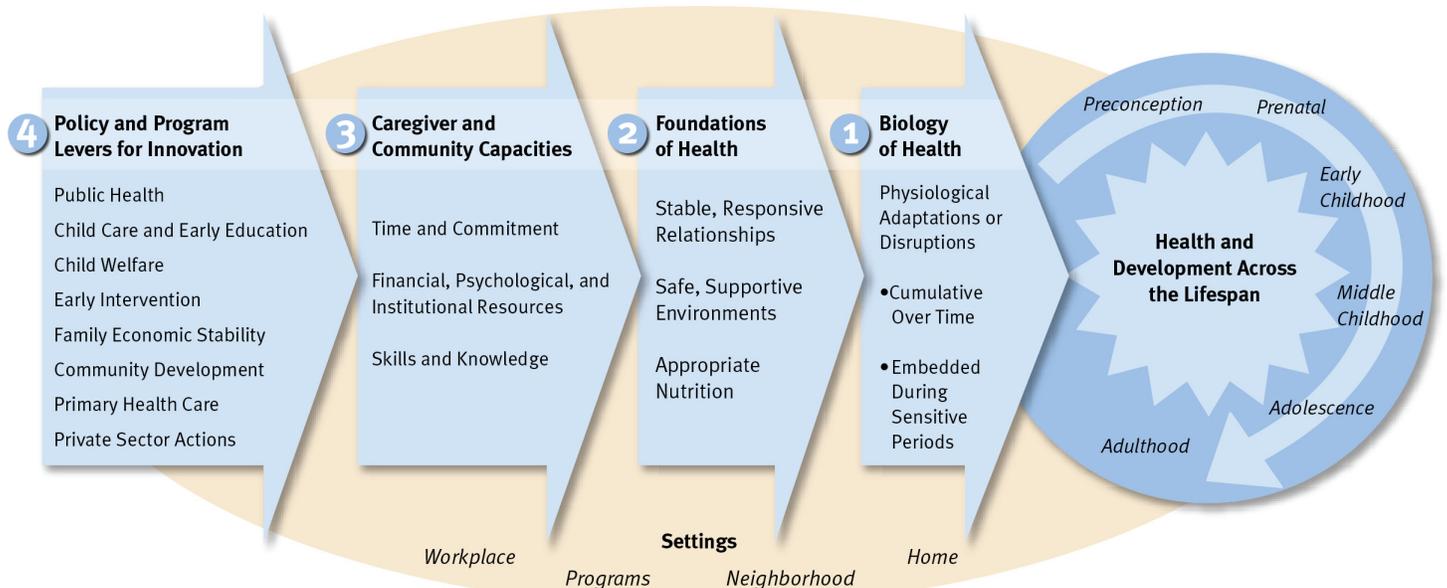
**A vital and productive society with a prosperous and sustainable future is built on a foundation of healthy child development.** Positive early experiences provide a foundation for sturdy brain architecture and a broad range of skills and learning capacities. Health in the earliest years—beginning with the future mother’s well-being before she becomes pregnant—strengthens developing biological systems that enable children to thrive and grow up to be healthy adults. The science of child development now helps us to see healthy development as a causal chain—policies and programs across the public and private sectors affect the capacities of caregivers and communities to strengthen three foundations of healthy development: stable, responsive relationships; safe, supportive environments; and appropriate nutrition. These foundations, in turn, trigger physiological adaptations or disruptions that influence lifelong outcomes in health, learning, and behavior. Understanding how each link in this chain affects the others can provide a science-based framework for decisions about policies, systems, and practices that support the healthy development of all young children and their families.

**1 The biology of health** explains how experiences and environmental influences “get under the skin” and interact with genetic predispositions, which then result in physiological adaptations or disruptions that affect lifelong outcomes in learning, behavior, and both physical and mental well-being. Advances in neuroscience, molecular biology, and genomics have converged on three compelling conclusions:

- Early experiences are built into our bodies, creating biological “memories” that shape development, for better or for worse.

- Toxic stress caused by significant adversity can produce physiological disruptions that undermine the development of the body’s stress response systems and affect the architecture of the developing brain, the cardiovascular system, the immune system, and metabolic regulatory controls.
- These physiological disruptions can persist far into adulthood and lead to lifelong impairments in both physical and mental health.

**A Framework for Reconceptualizing Early Childhood Policies and Programs to Strengthen Lifelong Health**



- 2 The foundations of health** establish a context within which the early roots of physical and mental well-being are nourished. These include
- *A stable and responsive environment of relationships*, which provides young children with consistent, nurturing, and protective interactions with adults that enhance their learning and help them develop adaptive capacities that promote well-regulated stress response systems;
  - *Safe and supportive physical, chemical, and built environments*, which provide places for children that are free from toxins and fear, allow active, safe exploration, and offer families raising young children opportunities to exercise and make social connections; and
  - *Sound and appropriate nutrition*, which includes health-promoting food intake and eating habits, beginning with the future mother's pre-conception nutritional status.

- 3 Caregiver and community capacities to promote health and prevent disease and disability** refers to the ability of family members, early childhood program staff, neighborhoods, voluntary associations, and the parents' workplaces to support and strengthen the foundations of child health. These capacities can be grouped into three categories:
- *Time and commitment*, which includes the nature and quality of time caregivers spend with children and on their behalf, as well as how communities assign and accept responsibility for monitoring child health and developmental outcomes and pass and enforce legislation and regulations that affect child well-being;
  - *Financial, psychological, and institutional resources*,

- which includes caregivers' ability to purchase goods and services, their physical and mental health, and their child-rearing skills, as well as the availability of community services and organizations that promote children's healthy development and supportive structures, such as parks, child care facilities, schools, and after-school programs; and
- *Skills and knowledge*, which includes caregivers' education, training, interactions with child-related professionals, and personal experiences, plus the political and organizational capabilities of communities to build systems that work for children and families.

**4 Public and private sector policies and programs** can strengthen the foundations of health by enhancing the capacities of caregivers and communities in the multiple settings in which children develop. Relevant policies include legislative and administrative actions that affect public health, child care and early education, child welfare, early intervention, family economic stability, community development, housing, environmental protection, and primary health care. In short, nearly any policy that touches the lives of children and families can be seen as an opportunity to improve lifelong health outcomes in our communities and states. The private sector can also play an important role in strengthening the capacities of families to raise healthy and competent children, particularly through supportive workplace policies.

For more information, see "The Foundations of Lifelong Health Are Built in Early Childhood" and the Working Paper series from the Center on the Developing Child at Harvard University.  
[www.developingchild.harvard.edu/library/](http://www.developingchild.harvard.edu/library/)

## POLICY IMPLICATIONS

- Current health promotion and disease prevention policies focused on adults would be more effective if evidence-based investments were also made to strengthen the foundations of health in the prenatal and early childhood periods. For example, obesity-reduction measures focused on changing adult and adolescent behaviors would be more successful if they were coordinated with programs supporting appropriate nutrition and better access to nutritious foods for pregnant mothers, infants, and toddlers.
- Significant reductions in chronic disease could be achieved across the life course by decreasing the number and severity of adverse experiences that threaten the well-being of young children and by strengthening the protective relationships that help mitigate the harmful effects of toxic stress.
- Effective health promotion and disease prevention depend on more than access to high-quality medical care. A wide range of service systems could improve outcomes significantly by applying a unified scientific understanding of the early childhood origins of health, learning, and behavior across multiple sectors. In other words, child welfare agencies could help prevent adult physical and mental health impairments, not just provide immediate child protection. Zoning and land-development policies could facilitate improved population health (and reduced health care costs), not just generate commercial profit. High-quality early care and education programs that buffer young children from excessive stress could promote health and prevent disease, not just prepare the children to succeed in school.

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