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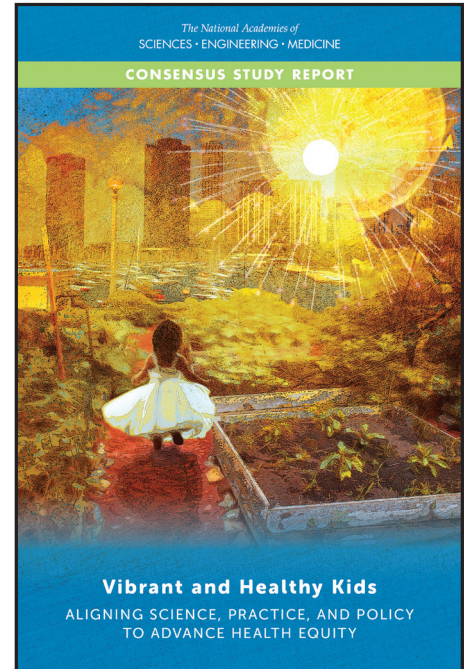
## Vibrant and Healthy Kids: Aligning Science, Practice, and Policy to Advance Health Equity

Early experiences and life circumstances shape prenatal and early childhood development, with powerful impacts on the developing brain and body that shape health outcomes across the life course and can span generations. Thus, the preconception, prenatal, and early childhood periods are critical phases of development that help set the odds for lifelong health and well-being.

All children deserve the opportunity to meet their full health potential and lead a fulfilling life. Yet health inequities in the United States prevent many kids from meeting their full potential. Long-standing and persistent inequities exist in most health outcomes by race, ethnicity, socioeconomic status (SES), geography, and other important demographic characteristics. The factors that drive these inequities are complex, interconnected, and systemic.

Importantly, the odds of positive or negative health for any given child are never set in stone. Research shows that prevention and early intervention are effective for children living in circumstances that put them at risk (such as living in poverty or being exposed to chronic adversity). Practice, policy, and systems-level changes informed by science can reduce the odds of adverse exposures, narrow health disparities, and advance health equity.

With support from the Robert Wood Johnson Foundation, the National Academies of Sciences, Engineering, and Medicine convened a committee to apply the science of prenatal and early childhood development to policy, program, and systems changes. The resulting report, *Vibrant and Healthy Kids: Aligning Science, Practice, and Policy to Advance Health Equity*, outlines steps needed to move children who are at risk for negative outcomes toward positive health trajectories, reducing health disparities.



**“The single most important factor in promoting positive psychosocial, emotional, and behavioral well-being in children is having safe, stable, and nurturing relationships with their mother, father, or other primary caregivers.”**

## THE SCIENCE OF EARLY DEVELOPMENT

A number of critical systems develop in the prenatal through early childhood periods. During these stages, neurobiological development is extremely responsive to environmental influences.

A large body of recent research illuminates the ways that early adversity in the lives of young children and their families can impact development of the brain and other organ systems. New studies have found that responses to early life stress can alter molecular and cellular development and affect the assembly of neural circuits during key periods of development. Research has also clarified that altered nutrition, exposure to environmental toxicants, and chronic stress during specific times of development can lead to biological changes that make people more likely to experience diseases and/or altered physical, socio-emotional, and cognitive functions later in life.

## APPLYING THE SCIENCE OF EARLY DEVELOPMENT TO INFORM ACTION

The committee recommends a range of short- and long-term changes to practice, policy, and systems and a suite of strategies crucial to advancing health equity:

- **Intervene early.** In most cases, early intervention programs are easier to implement, more effective, and less costly.
- **Support caregivers.** This includes both primary caregivers and caregivers in systems who frequently interact with children and their families.
- **Reform health care system services to promote healthy development.** Redesign the content of preconception, prenatal, postpartum, and pediatric care while ensuring ongoing access, quality, and coordination.

- **Create supportive and stable early living conditions:**
  - **Reduce child poverty and address economic and food security,**
  - **Provide stable and safe housing, and**
  - **Eliminate exposure to environmental toxicants.**
- **Maximize the potential of early care and education to promote health outcomes.**
- **Implement initiatives across systems to support children, families, other caregivers, and communities.** Ensure trauma-informed systems, build a diverse and supported workforce, and align strategies that work across sectors.
- **Integrate and coordinate resources across the education, social services, and health care systems, and make them available to translate science to action.**

For more details, see “A Roadmap to Apply the Science of Early Development” at [nationalacademies.org/VibrantHealthyKids](https://www.nationalacademies.org/VibrantHealthyKids).

The following expands on several aspects of the roadmap.

### Support Caregivers

There are many opportunities to apply the science of early development to advance health equity in the pre-conception through early childhood periods. For example, the single most important factor in promoting positive psychosocial, emotional, and behavioral well-being in children is having safe, stable, and nurturing relationships with their mother, father, or other primary caregivers. For this and other reasons, some of the committee’s recommendations focus on supporting caregivers. These include implementing paid parental leave, strengthening and expanding home visiting programs, and creating and implementing programs that ensure families have access to community-based resources that support the psychosocial well-being of primary caregivers.

**“Reducing health disparities by addressing their systemic root causes, including poverty and racism, is foundational to advance health equity.”**

### **Reform Health Care System Services to Promote Healthy Development**

Recognizing the prenatal and early childhood phases as sensitive and important life periods to optimize health outcomes, health care during these periods needs to become more continuous, equitable, integrative, and comprehensive. The committee recommends transforming services to apply a life course perspective and address the social, economic, cultural, and environmental determinants of health and well-being.

### **Create Supportive and Stable Early Living Conditions**

Addressing the primary needs of families and children is critical to giving caregivers the capacity, supports, and resources to care for their children and serve as buffers against adversity. Recommendations for creating supportive, stable early living conditions include reducing barriers to participation in the Women, Infants, and Children program and the Special Supplemental Nutrition Program; improving economic security through increases in resources available to families to meet their basic needs: increasing the supply of high-quality affordable housing, including the development of a comprehensive plan to ensure access to stable, affordable, and safe housing; and supporting and enforcing efforts to prevent and mitigate the impact of environmental toxicants.

### **Maximize the Potential of Early Care and Education**

Research shows that early care and education (ECE) affects children’s physical, emotional, and mental health. To maximize the potential of ECE to promote improved health outcomes, the committee recommends a comprehensive approach to school readiness that explicitly incorporates health outcomes, developing and strengthening curricula that focus on key competencies of educators, and improving the quality of ECE programs and expanding access to comprehensive high-quality and affordable ECE programs.

### **Implement Initiatives Across Systems**

No single sector can mitigate the early-life drivers of health inequities. The complex, interconnected root causes of health disparities call for coordination across multiple sectors and a systems approach. For this reason, the committee provides recommendations for sectors to collaborate and align their work. Child- and family-serving sectors specifically should enhance detection of early-life adversity, improve response systems, and develop trauma-informed approaches, among other systems level efforts outlined in the report.

### **Improve Research**

Although enough is known about the science of early development to act now, the committee also provides guidance on charting the course for research to better meet the needs of the nation’s children in the future. This includes research on ways to address discrimination and structural racism, trauma-informed care, and development of culturally tailored interventions that meet the needs of children known to be in at-risk circumstances.

To read the full text of the committee’s recommendations, visit [nationalacademies.org/VibrantHealthyKids](https://www.nationalacademies.org/VibrantHealthyKids).

### **CONCLUSION**

Implementing programs aimed at people in crisis alone will not advance health equity—those programs are important for addressing immediate needs, but until the systemic roots of inequity are addressed, there will likely be another set of crises around the corner. Reducing health disparities by addressing their systemic root causes, including poverty and racism, is foundational to advance health equity. The science-driven recommendations provided in this report lay out practice, policy, and systems changes needed to close the health equity gap and nurture vibrant and healthy children.

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**Committee on Applying Neurobiological and  
Socio-behavioral Sciences from Prenatal through Early  
Childhood Development: A Health Equity Approach**

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**Study Sponsor**

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To read the full report, please visit  
[nationalacademies.org/VibrantHealthyKids](https://nationalacademies.org/VibrantHealthyKids)

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