



Center on the Developing Child
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Translating the Biology of Adversity Into More Effective Policy and Practice

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Early Life Experiences Are Built Into Our Bodies (For Better or For Worse)

Research on the biology of stress illustrates how increases in heart rate, blood pressure, serum glucose, stress hormones, and inflammatory cytokines fuel the “fight or flight response” to deal with acute threat...

...but excessive or prolonged activation of stress response systems can lead to long-term disruptions in brain architecture, immune status, metabolic systems, cardiovascular function, and gene expression.

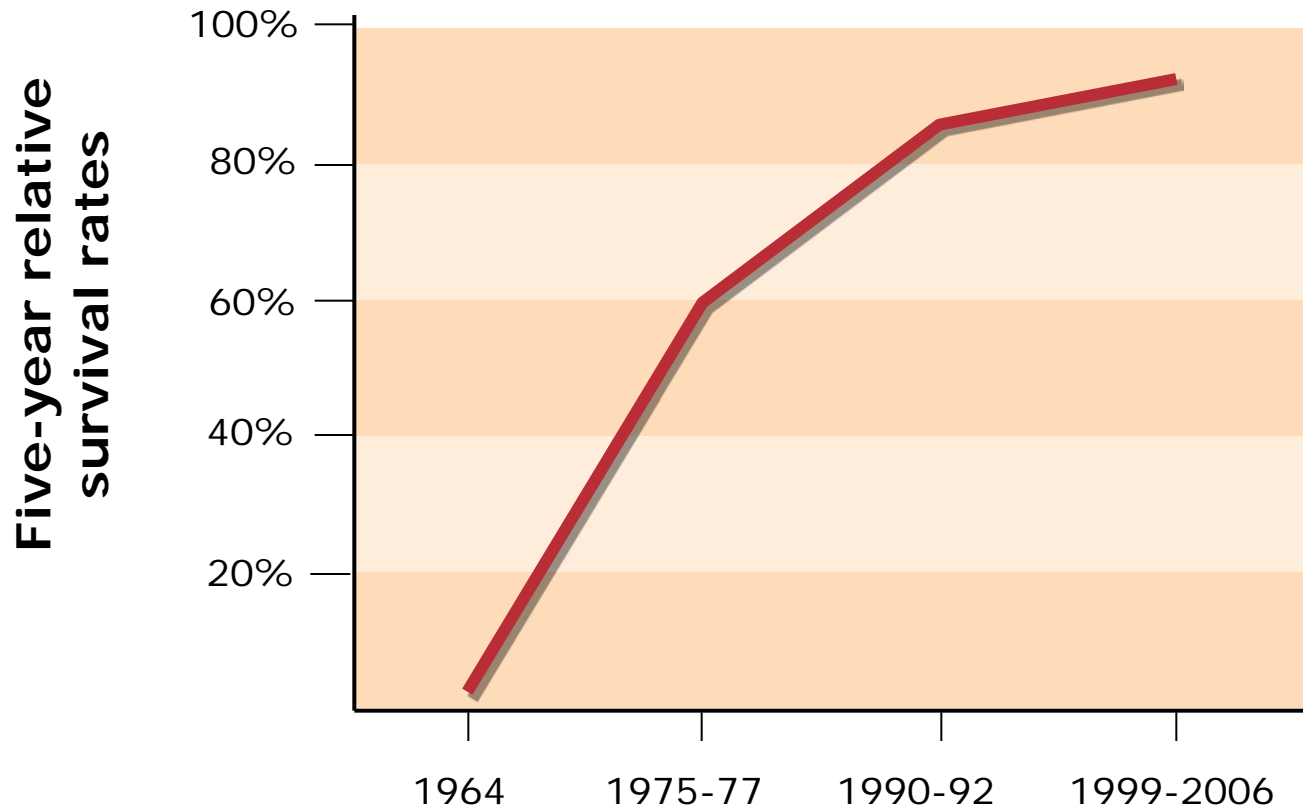
Decades of Early Childhood Investment Underscore the Need for New Ideas

Predominant focus on school readiness and primary health care, with limited development of new intervention approaches to address the biological embedding of significant adversity.

Dramatic advances in biomedical research and treatment of complex diseases such as cancer, cystic fibrosis, and HIV/AIDS, among others.

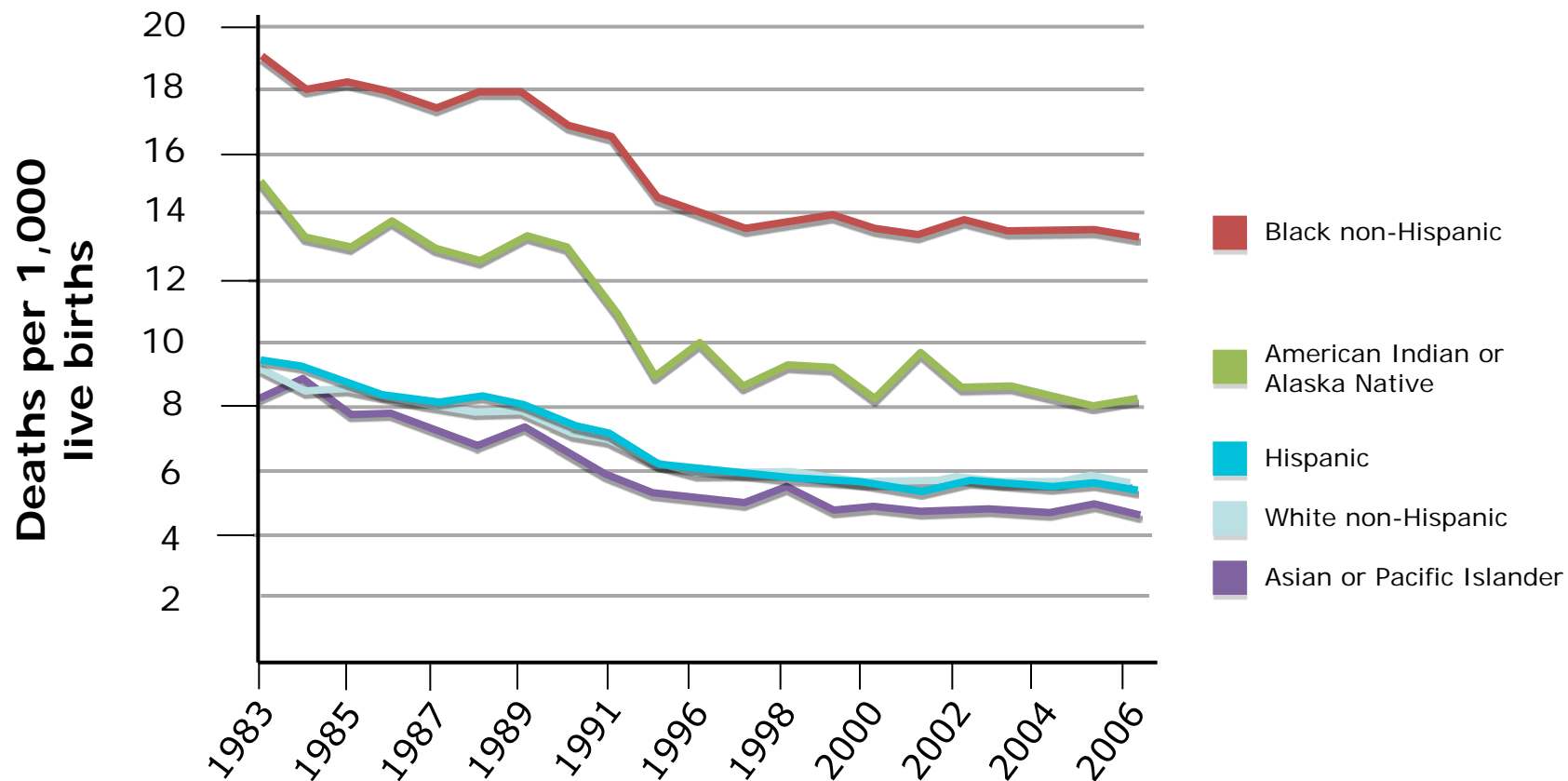
No significant reductions in social class or racial disparities in health outcomes.

Survival Rates for Acute Lymphocytic Leukemia Under Age 15 Have Increased Exponentially



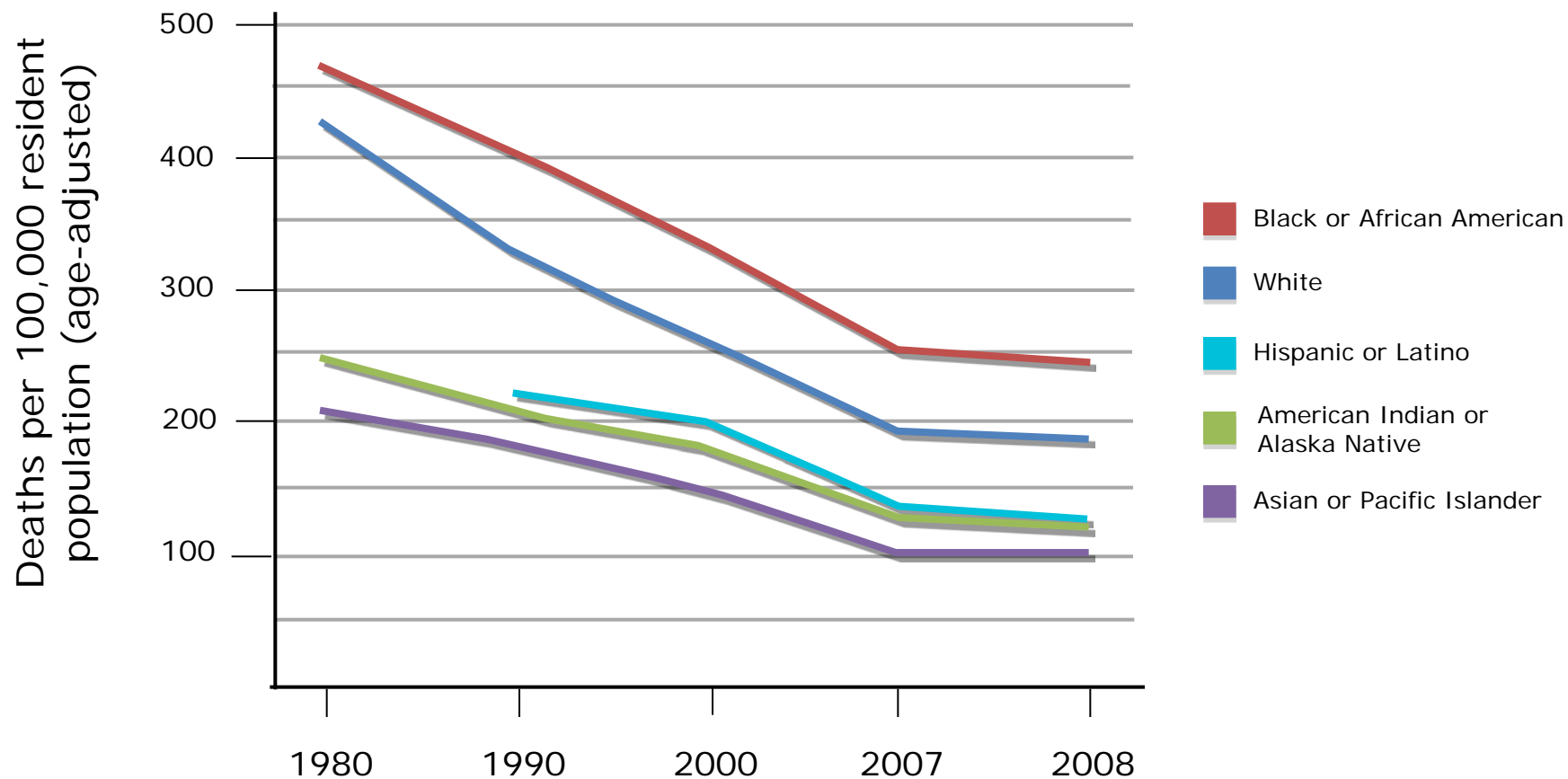
Source: Hunger, Lu, Devidas (2012)

Racial/Ethnic Disparities in Infant Mortality Remain a Significant Challenge



Source: National Center for Health Statistics, America's Children: Key National Indicators of Well-Being (2011)

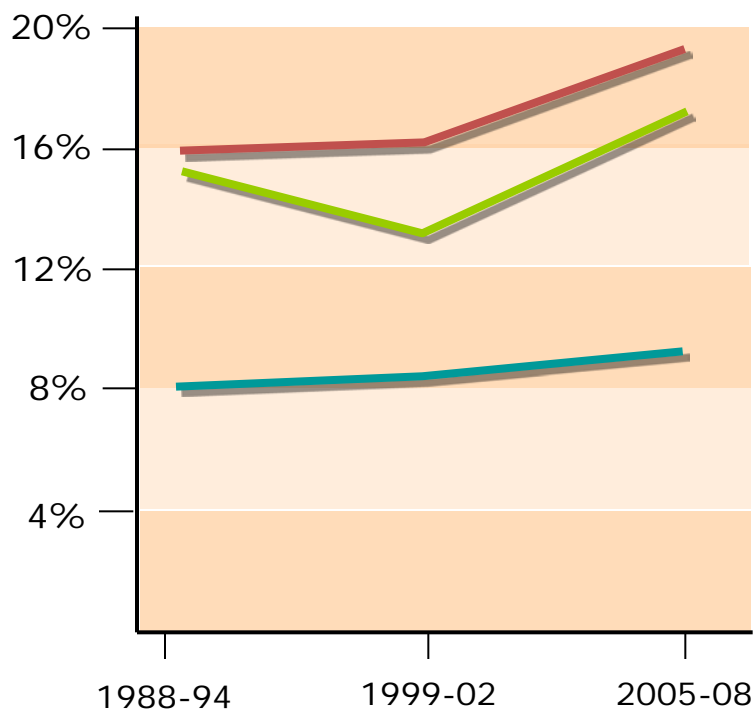
Disparities in Mortality Rates for Heart Disease Are Persistent But Improving



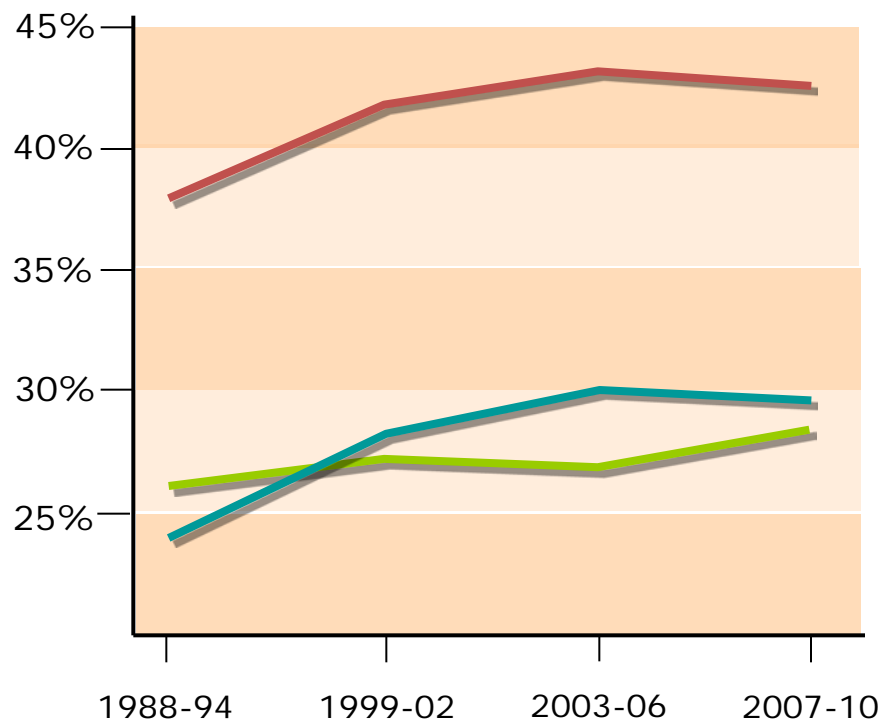
Source: National Center for Health Statistics (2011)

Disparities in Prevalence of Diabetes and Hypertension Present a Complex Picture

Adult population with diabetes



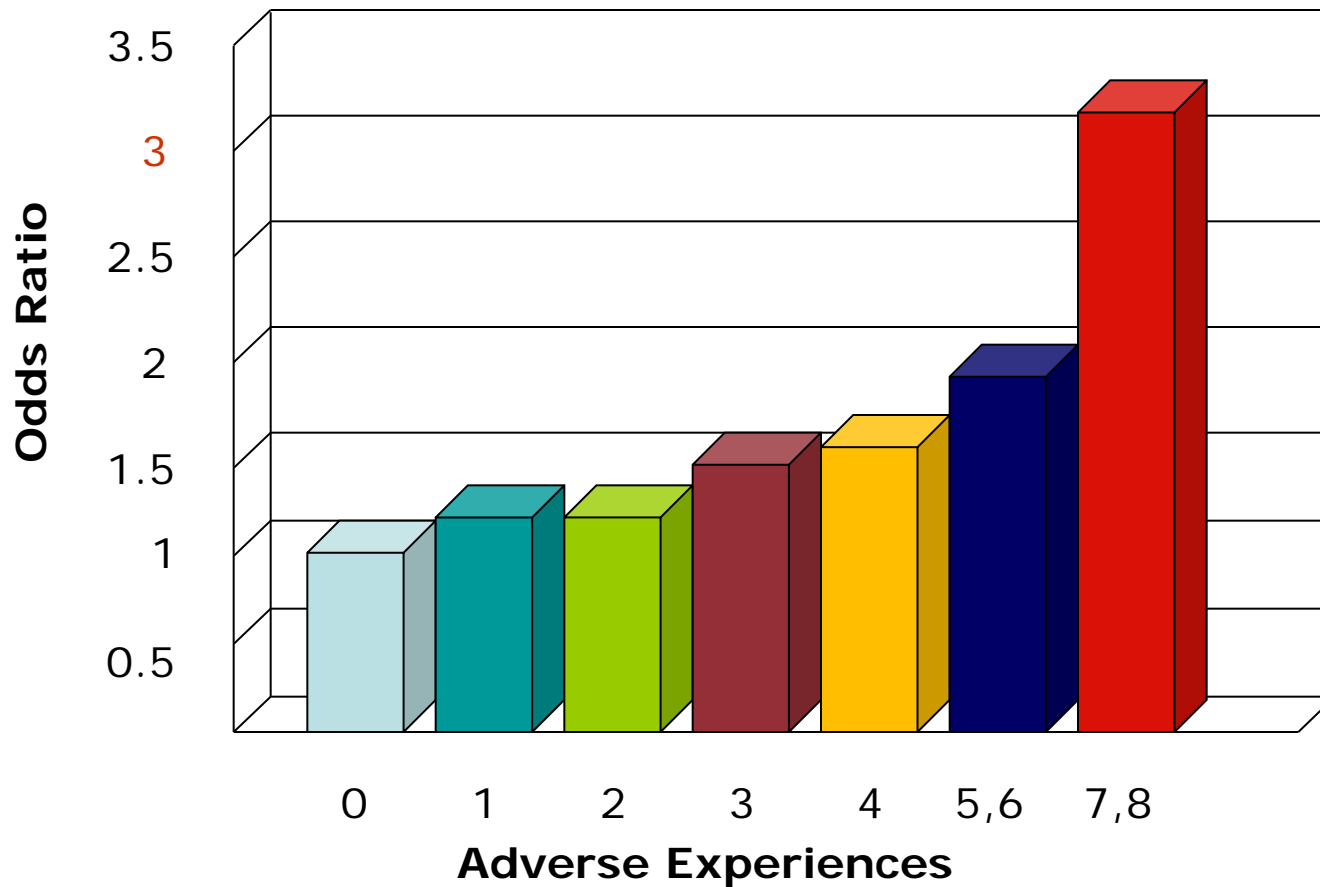
Adult population with hypertension



White Mexican Black or African American

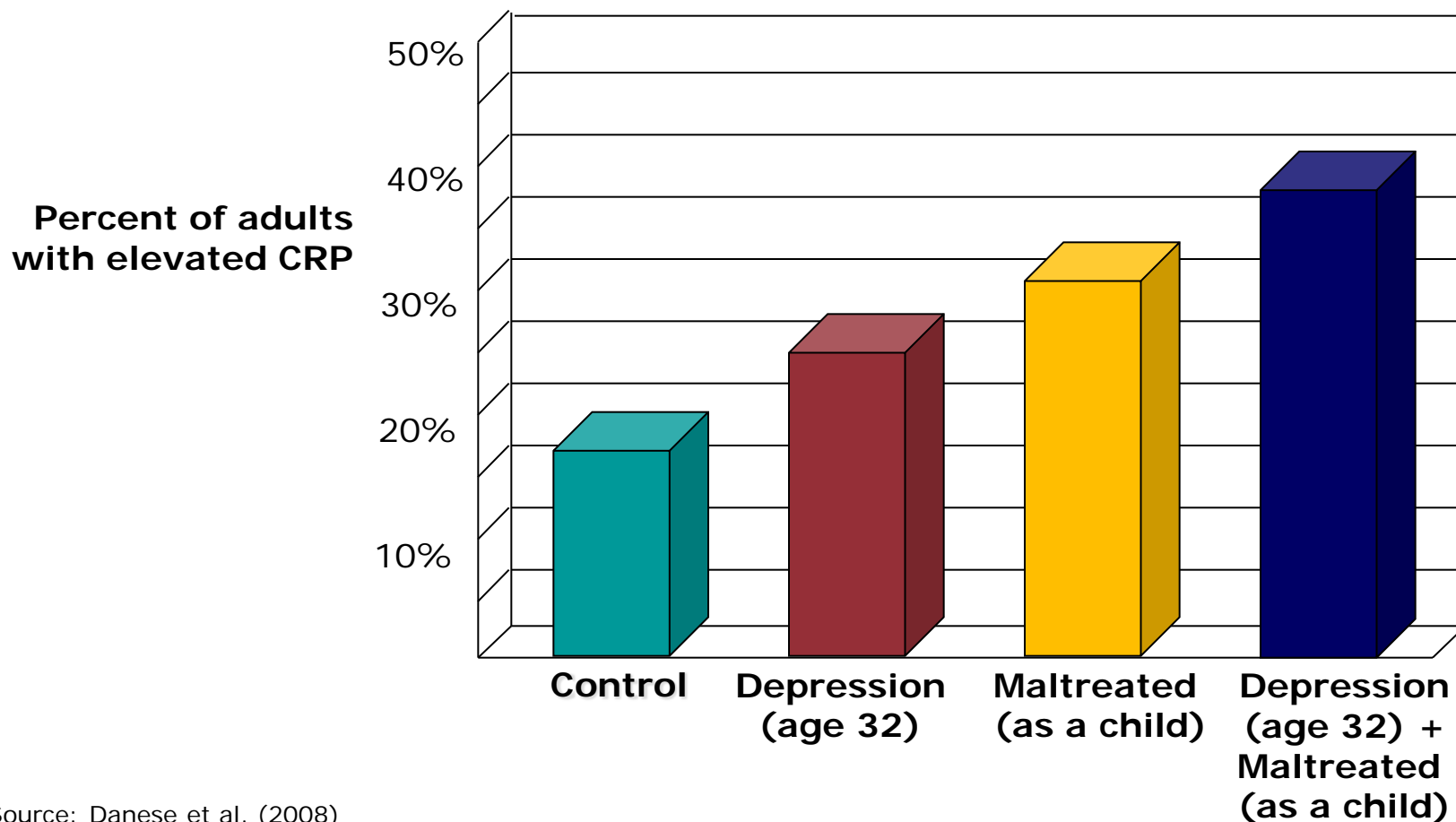
Source: National Center for Health Statistics (2011)

Risk for Adult Heart Disease is Embedded in Adverse Childhood Experiences



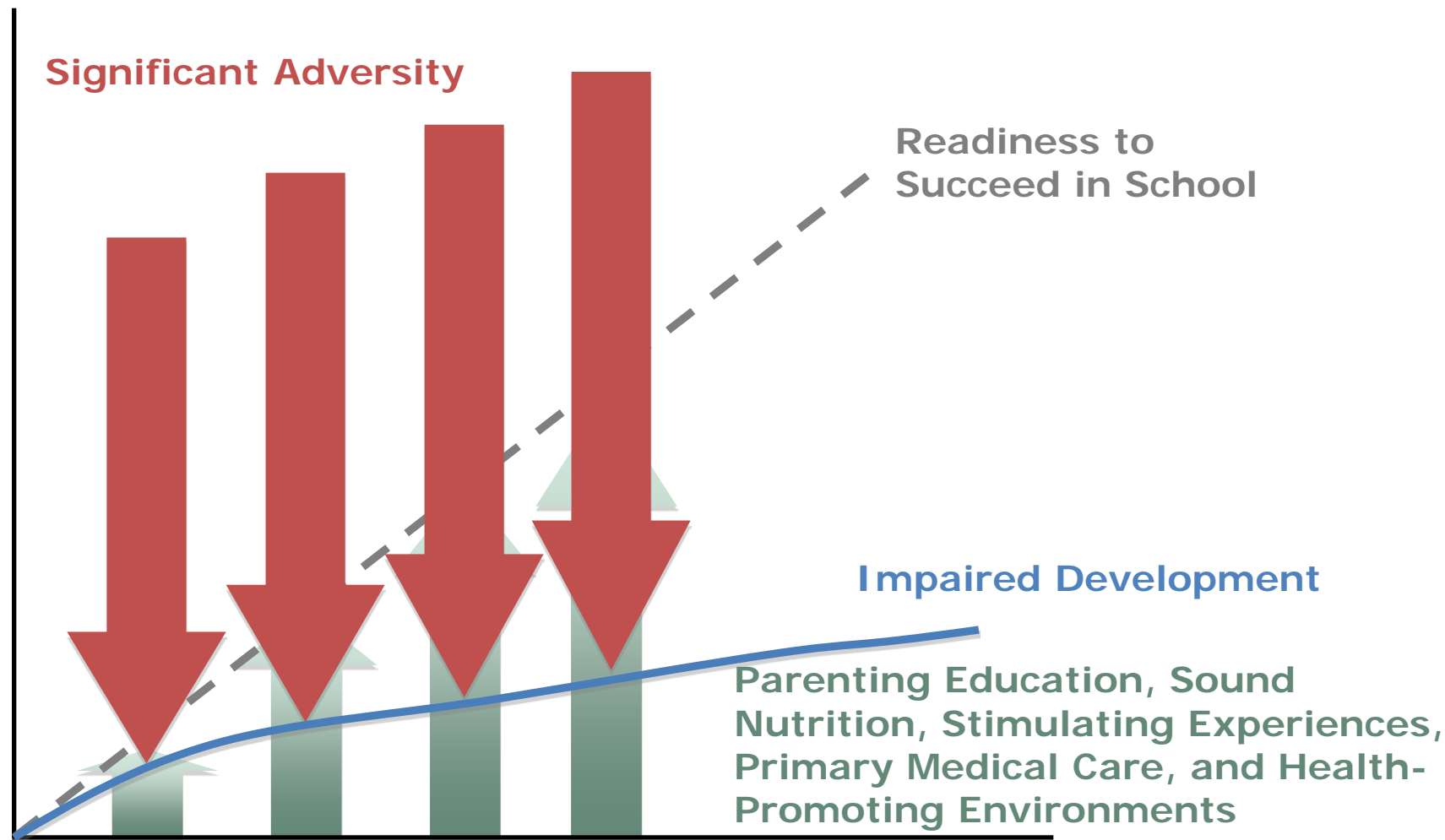
Source: Dong, et al. (2004)

Biomarker Links Maltreatment in Childhood to Greater Risk for Adult Heart Disease

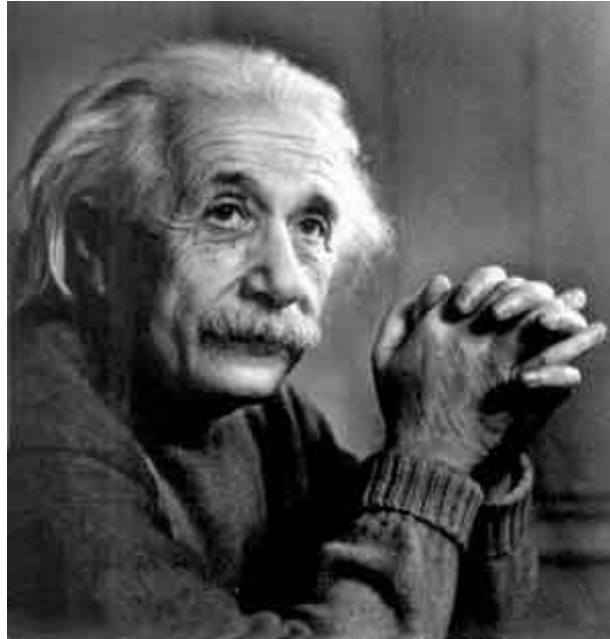


Source: Danese et al. (2008)

Current Conceptual Framework Guiding Early Childhood Services for Vulnerable Children



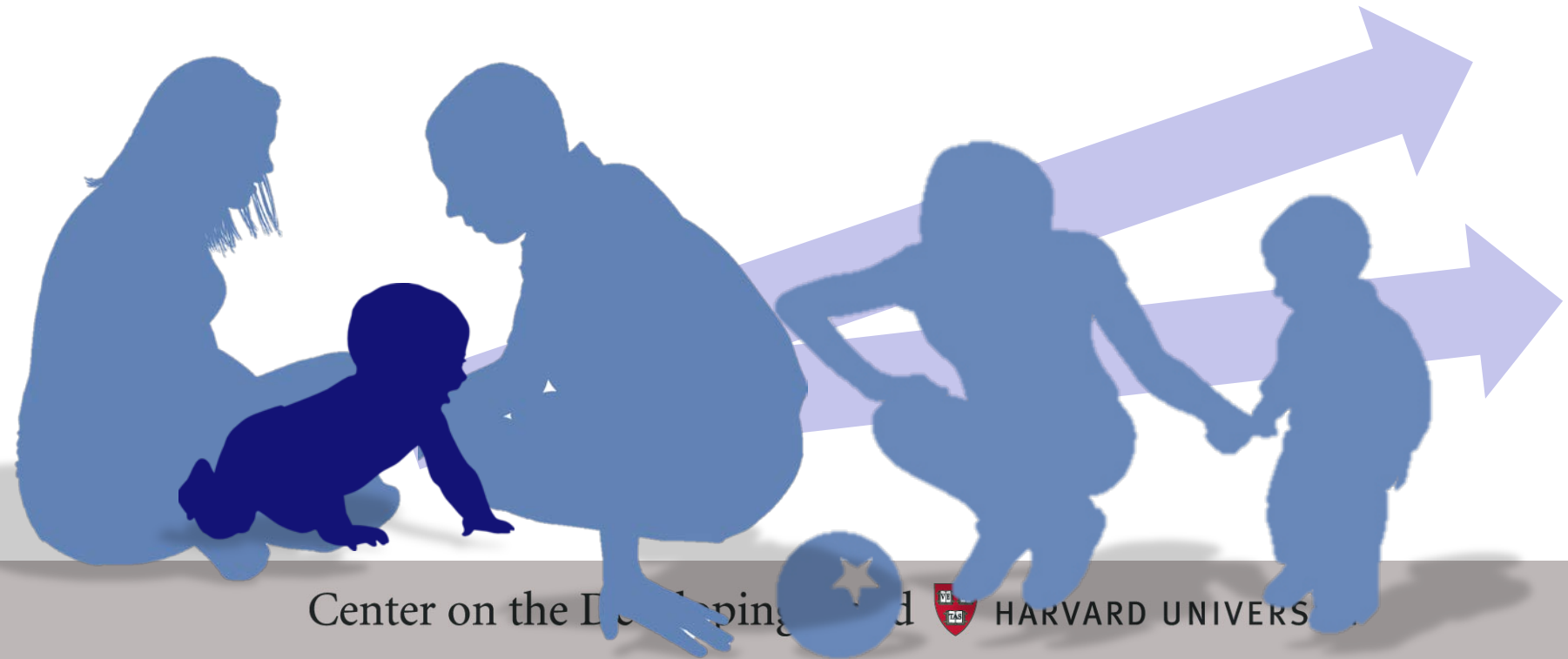
Albert Einstein Nailed the Problem



“If you always do what you always did,
you will always get what you always got.”

Creating a New Paradigm for Early Childhood Policy and Practice

Early experiences affect lifelong health *and* learning
Healthy development requires protection *and* enrichment



Generating Hypotheses to Guide New Intervention Strategies

Early experiences affect lifelong health *and* learning

Healthy development requires protection *and* enrichment



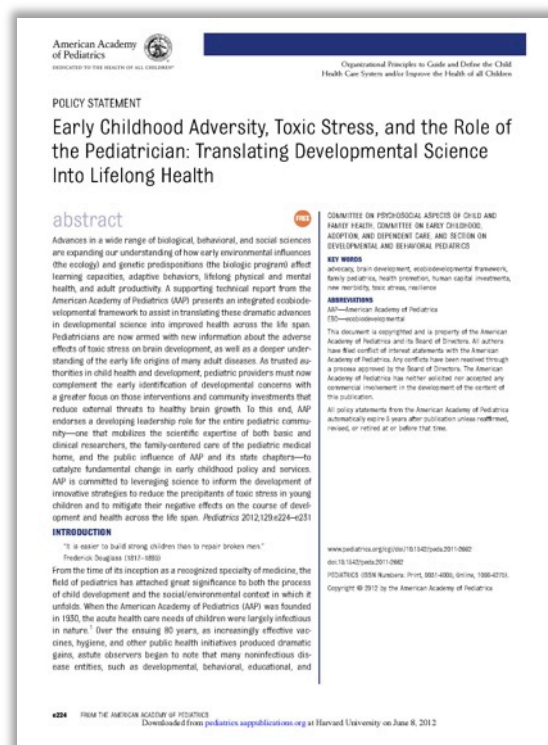
① Protection and enrichment for young children require capacity-building for adults

② Improved parenting skills also enhance employability and economic stability

③ Strong communities reduce the burdens of adversity



AAP Policy Statement (2012) Calls for Fundamental Change in Early Childhood Policy and Services



A New Frontier for Pediatrics at the Interface of Science, Practice, and Policy

Elucidating causal links between significant adversity in childhood and lifelong impairments in both physical and mental health.

Designing and testing new intervention strategies to reduce or mitigate the biological disruptions associated with toxic stress in the early years.

Formulating new, population-based approaches to health promotion and disease prevention that address social determinants early in the life course.

Special Thanks for the Collective Knowledge and Contributions of the Following Remarkable Groups

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD

NATIONAL FORUM ON EARLY CHILDHOOD POLICY AND PROGRAMS

