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ANALYSIS

Principles And Policies To Strengthen Child And Adolescent Health And Well-Being

ABSTRACT Four recent reports from the National Academies of Sciences, Engineering, and Medicine framed around the issues of poverty; mental, emotional, and behavioral health; adolescence; and young family health and education build on extensive recent evidence of what can be done to improve the health and well-being of children, youth, and families. We describe the process of generating the reports, briefly summarize each report's content, and identify crosscutting themes and recommendations. We also note how the coronavirus disease 2019 (COVID-19) pandemic highlights major disparities and systemic problems addressed in the reports and heightens the relevance of their policy recommendations. The reports issue a unified, urgent call for measures with the potential to change the trajectory and outcomes for children and youth. Among these are basic income supports, other family supports, universal health care structured to meet family needs, and a broad national policy that prioritizes children and youth.

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Expanding knowledge of brain and child development, along with growing evidence regarding effective interventions to improve outcomes for children, youth, and families, led the National Academies of Sciences, Engineering, and Medicine (NASEM) and their sponsors to create four reports on strengthening child and adolescent health and well-being. Issued in 2019, each report explores the subject through a different frame: poverty; mental, emotional, and behavioral health; adolescence; and young family health and education.

These reports respond directly to the state of child and adolescent health in the US. Children and youth in the US lag well behind their counterparts in almost all other advanced economies on most indicators of well-being.¹ When compared with most Organization for Economic Cooperation and Development countries, the

US has much higher rates of infant and child mortality, poverty, hunger and obesity, death from gun violence, incarceration, and mortality among youth ages 15–24, as well as a lower rate of secondary school graduation. Poor health and well-being persist into adulthood; thus, these child and youth statistics foretell major burdens in limiting workforce participation and worsening physical and emotional health later in life. Disparities in deaths from the coronavirus disease 2019 (COVID-19) pandemic underscore long-standing racial and income inequalities in US society. These deaths arise, in part, not only from increased exposure to infection among low-income communities and workers but also from lifelong effects of poor health and adverse experiences among minority and disenfranchised groups that elevate risks once infected.

We describe here the methods underlying the NASEM reports and indicate crosscutting

themes found in all four reports. This article then continues with a brief overview of each report and concludes with a summary of the main recommendations, focusing on basic income support, family support and resiliency, universal health care structured to meet family needs, and a broad national policy that prioritizes children and youth. Together, the reports provide strong, evidence-based guidance to end persistent disadvantage among a large proportion of US children and youth. They recommend national and state policies to address health disparities and redirect current trajectories toward health, wellness, and participation for youth in the US—a goal made even more pressing by evidence that the COVID-19 pandemic has disproportionate effects on morbidity and mortality throughout the population.²

The NASEM Report Process

Concern over the health and developmental status of children and youth in the US prompted the generation of the four NASEM reports, all issued in 2019. Although each report addresses the root causes of problems and develops potential solutions from a different perspective, and each was produced independently, the generation of all four reports followed the same process.

Initial collaboration among NASEM staff, leadership, and sponsors leads to a statement of task, outlining specific study questions and scope. The task statement helps determine needed committee expertise and perspectives. Committee members serve without compensation as individual experts, not representing organizations or interest groups.

Committees gather information through public meetings with testimony by experts, information submitted by outside parties, reviews of the scientific literature, and original investigations by the committee members and staff. Committee meetings are closed in order to draft findings and recommendations free from outside influences. All reports undergo a rigorous, independent external review by experts, who provide comments anonymously to the committee. The committee considers and responds to all review comments in preparing the final report. After all committee members, the review leader, and other NASEM officials have signed off on the final report, it is transmitted to the committee sponsors and released to the public. Sponsors do not have the opportunity to suggest changes in reports.

Key Crosscutting Report Themes

The four NASEM reports on strengthening child and adolescent health and well-being address

different ages, goals, or evidence; approach the same broad questions through different lenses; and do not represent an integrated effort. Nevertheless, they build from several common sources of evidence. The similarity of findings, conclusions about the state of US child health, and recommendations for change across reports suggests notable agreement among a broad range of experts.

Twenty years ago a landmark NASEM report summarized strong emerging evidence that children's social and physical environments, especially in the early years, interact in complex ways with their genetic endowment to shape brains, behaviors, and emotions.³ Scientific advances in neuroscience, child development, life-course health science, social sciences, and health policy and services have radically improved understanding of the factors that determine and improve child health and well-being.⁴ The high rates of adversity that US children face in the first years of life affect the long-term health and wellness of adults.⁵ For example, recent striking increases in US mortality rates among people ages 15–60 reflect in part limited access to preventive health care throughout the life course, along with the persistent effects of poverty among young families.^{6,7}

Recent work documents critical windows for specific aspects of brain development, indicates times when developmental steps mainly occur and whether later experiences can compensate for early adverse effects, and describes how adversity in earlier generations affects children's brains.^{8,9}

Evidence also documents the critical importance of families, communities, and neighborhoods in these early childhood experiences, including documenting the link between low family income and major child health and educational inequities.¹⁰ Family well-being is crucial for improving the lives and experiences of young children. Homeless families or families facing difficulties feeding their members are much less likely to be able to provide the kind of warm, nurturing, and supportive relationships that enable their children to develop and mature successfully. Yet US children have high rates of food and housing insecurity and homelessness.

The US has persistently high rates of poverty among children and youth, as well as disparities in health status, development, and other social determinants. Low-income children have more mental and behavioral health conditions and higher severity of these conditions than children of other socioeconomic status.¹¹ Black, Hispanic, and low-income children have much higher rates of adverse child experiences compared with White children.¹² Black children also have higher

The reports make clear that many evidence-based solutions allowing changes to current trajectories and outcomes already exist.

rates of infant mortality and asthma prevalence and severity than children of other races/ethnicities.^{13,14} These disparities arise in part from inequities in support for young households, children, and youth, including health care access, and they help explain the continuing higher burden that low-income families and children of color experience in childhood and later.

Thus, addressing poverty, homelessness, housing insecurity, and hunger and malnutrition is key to improving the lives of US children and youth. Importantly, the reports make clear that many evidence-based solutions allowing changes to current trajectories and outcomes already exist. Policies designed to reduce poverty by rewarding work or providing safety-net benefits directly benefit children. For example, the emerging availability of food stamps in the 1960s and 1970s and expansions of the Earned Income Tax Credit program in the 1990s have been linked to improvements in health (in the case of food stamps) and achievement (in the case of the Earned Income Tax Credit).^{15,16} Expansions of public health insurance for pregnant women, infants, and children have led to substantial improvements in child and adult health, educational attainment, employment, and earnings.¹⁷

Main Findings From The Four NASEM Reports

Here, we briefly summarize the major evidence and main recommendations in each NASEM report.

A ROADMAP TO REDUCING CHILD POVERTY

► REVIEWING EVIDENCE AND PROGRAMS:

Building on its reviews of the literature linking poverty and child well-being and of the antipov-

erty effectiveness of current safety-net programs, the heart of *A Roadmap to Reducing Child Poverty* (February 2019) is a set of recommendations and strategies to cut US child poverty in half over the course of ten years.¹⁸ After casting a wide net for input, the committee developed twenty policy and program ideas that ranged from expanding the generosity of existing programs such as the Earned Income Tax Credit and housing vouchers to restructuring child and child care tax credits, expanding promising career development programs, and expanding program eligibility to include previously ineligible immigrant children.

In its work, the committee reviewed evidence showing that the annual costs of not addressing the poverty gap among US children were in the range of \$800 billion–\$1.1 trillion.¹⁹ These costs reflect decreases in adult productivity, increased costs of crime, and increased health expenditures for adults who grew up in poor families.

► HOW TO ACHIEVE POVERTY REDUCTION:

Noting that none of the twenty program and policy ideas developed by the committee individually achieved the target level of reducing poverty by 50 percent, the report then considered the impacts and costs of four program packages. Its work-oriented package attempted to capitalize on the fact that steady employment is among the strongest correlates of escaping poverty. But although that package was estimated to add a million low-income workers to the labor force, its estimated reduction in child poverty was less than half of what is needed to meet the 50 percent reduction goal. A second package mixed two work-oriented program ideas in the first package (expanding the Earned Income Tax Credit and concentrating the benefits of the Child and Dependent Care Tax Credit on low-income working families) with a \$2,000 per year child allowance. This package would add more than half a million low-income workers and reduce child poverty by about one-third.

Two packages did meet the 50 percent reduction goal at an annual cost estimated at \$90–\$111 billion. Both included expansions of the Earned Income Tax Credit and the Child and Dependent Care Tax Credit. One package also included expansions of the Supplemental Nutrition Assistance Program (SNAP, formerly food stamps) and the housing voucher program and was estimated to add about 400,000 workers to the economy. The second package was designed to enhance income security and stability while rewarding work and promoting social inclusion, adding a child allowance, a child support assurance program (\$100 per month per child), an increase in the minimum wage, and elimination of immigrant eligibility restrictions for legal im-

migrants. This package added more than half a million workers to the economy.

The diverse committee did not reach consensus on the single best policy or package approach to reducing child poverty. Instead, it viewed its job as offering a menu of policy and program options for policy makers and the public to consider to achieve a major reduction in child poverty.

FOSTERING HEALTHY MENTAL, EMOTIONAL, AND BEHAVIORAL DEVELOPMENT IN CHILDREN AND YOUTH: A NATIONAL AGENDA This September 2019 report²⁰ builds from previous reports on child mental, emotional, and behavioral health and prevention of disorders, recognizing major developments in prevention science and systems biology.^{21,22}

► **INFLUENCES ON CHILD DEVELOPMENT:** This new report goes far beyond the earlier ones in extending the range of influences on child development to include neighborhoods, culture, discrimination, and income inequality, with newly summarized evidence tying these broad factors to child development.²³ Moreover, the report calls on researchers to focus less on single risk factors and more on the constellation of risk and protective environmental and genetic factors that influence development.

Equally important, the report documents the fact that although many successful prevention and promotion trials document interventions and policies that enhance child development, almost none have been implemented in scalable and sustainable ways. Thus, few of these strategies have reached the children who need them.

► **RECOMMENDATIONS:** The novel recommendations emerging from these findings focus on the need to be effective not just with programs to support individuals but also programs to train parents, the public, and large systems such as health care and education to support socioemotional learning for children, using new interventions that foster mental, emotional, and behavioral health and a strong array of policies that protect children from harmful influences and promote well-being. Policies and strategies should address multiple generations of families. Examples include parent training, screening for maternal depression, elimination of child-targeted advertising of harmful products, and nutrition support programs.

To jump-start a broader effort, the report calls for an aspirational public health campaign to foster healthy mental, emotional, and behavioral development in children, similar to the anti-tobacco efforts of the 1990s, led by federal, state, and community officials but comprising all sectors of society in a public/private partnership. Such a dramatic public health campaign should

educate the public on why children should be the priority as part of its bid to ensure appropriate resources, according to the report. The report proposes a Decade of the Child to include the following: specific national child development goals, objectives, and coordination across all sectors of society including business, health care, and education; new and expanded policies and programs that foster mental, emotional, and behavioral health including supportive financing, training, guidance, and regulatory support for child health in all policies; cross-sector and -agency data sharing and innovative contracting with shared savings and resources for coordination and evaluation; a tiered local, state, and national monitoring system to assess the mental, emotional, and behavioral health of children and adolescents and their access to effective policies and programs for mental, emotional, and behavioral health, as well as the quality of such policies and programs, and to assess the need for new data on emerging threats and opportunities; and a wide-ranging engagement strategy such that all communities and families understand the important roles that all sectors play in producing healthy children and that mobilizes people from all walks of life who interact with children toward the care of children as the nation's greatest asset.

THE PROMISE OF ADOLESCENCE: REALIZING OPPORTUNITY FOR ALL YOUTH This May 2019 report examines the neurobiological and socio-behavioral science of adolescent development and outlines how institutions and systems can apply this knowledge to promote adolescent well-being, resilience, and development, as well as to rectify structural barriers and inequalities in opportunity and access.²⁴

► **DEVELOPMENT IN ADOLESCENCE:** Adolescent brains are uniquely fit to prepare adolescents to meet new life challenges. During adolescence, connections between brain regions become stronger and more efficient, with unused connections pruned away.²⁵ The tremendous brain maturation in adolescence leads to the adaptability, plasticity, and heterogeneity of this life stage, allowing young people to explore new environments, learn and adapt to changes, and build new relationships with the world and people around them. Young people also learn how to make decisions and take responsibility for their lives.

Resilience of individuals and equity within the population are pivotal for adolescent well-being. Heightened neuroplasticity during adolescence provides opportunities for resilient responses to trauma and stress and for remediating maladaptation in brain structure and behavior that accumulated from earlier developmental periods. This malleability also makes adolescent brains

responsive to negative environmental influences, meaning that inequities can “get under the skin” and negatively affect developmental trajectories. Interventions during adolescence can improve young people’s overall well-being and help them lead meaningful, healthy, and successful lives.

► **PRINCIPLES TO STRENGTHEN ADOLESCENCE:** The report identifies six crosscutting principles informed by developmental science to guide policy and practice across youth-serving systems. First, policies and practices should create incentives for discovery and innovation, instead of focusing narrowly on containing risks. Second, youth-serving systems should view adolescents as respected partners in decision making. Third, youth-serving systems must be culturally sensitive and attuned to the integrated needs of each adolescent. Fourth, investing in youth requires also investing in the adult caregivers who support them. Fifth, programs and interventions that capitalize on brain plasticity during adolescence can promote beneficial changes in developmental trajectories for youth who may have faced adverse experiences earlier in life or face them now. Finally, disparities in resources, discriminatory interactions with key social systems, and resulting inequalities curtail the promise of adolescence for many youth. An effective strategy to reduce inequities must address the main sources of these disparities.

► **RECOMMENDATIONS:** These principles lead to recommendations for the education, health, child welfare, and justice systems. Health-sector recommendations aim to increase opportunities to optimize adolescent development and improve equity; strengthen the financing of health care services for adolescents, including insurance coverage for uninsured or underinsured populations; improve access to comprehensive, integrated, coordinated health services for adolescents; increase access to behavioral health care and treatment services; improve the training, distribution, and numbers of adolescent health care providers; and improve federal and state data collection on adolescent health and well-being and conduct adolescent-specific health services research and disseminate the findings.

A national effort should prioritize health and well-being of adolescents, with clear goals for both public and private sectors and for incorporating neurobiological and sociobehavioral research into the development of effective health policy, programs, and practices.

VIBRANT AND HEALTHY KIDS: ALIGNING SCIENCE, PRACTICE, AND POLICY TO ADVANCE HEALTH EQUITY This July 2019 report also builds on understanding of early brain and child devel-

opment and documents the critical nature of safe, stable, and nurturing relationships with primary caregivers.⁷ Its recommended actions span four main areas, with an emphasis on intervening early in each area.

► **INCOME SUPPORTS:** Similar to *A Roadmap to Reducing Child Poverty*, the *Vibrant and Healthy Kids* report emphasizes universal paid parental leave and universal family income.

► **PARENT/FAMILY SUPPORT:** Ways to create supportive, stable early living conditions include expanding participation in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) program and SNAP for all eligible households without requiring parental employment; developing a comprehensive plan to ensure families’ access to stable, affordable, and safe housing; and supporting and enforcing efforts to prevent and mitigate the impact of environmental toxicants.

► **HEALTH CARE:** Health care affects development at all points in a child’s lifespan, from preconception to prenatal to pediatric care. The report recommends ensuring access to health care services throughout the life course, along with transformation in its design, content, and services for preconception, prenatal, postpartum, and pediatric care. The Department of Health and Human Services should convene an expert panel to reconceptualize the content and delivery of preconception, prenatal, postpartum, and pediatric care; identify specific changes needed; develop a blueprint for transformation; and institute a plan to monitor and revise the blueprint over time.

Health care should be family centered, provided along with culturally and linguistically appropriate outreach, services, and coordination. Medicaid programs that provide preconception and interconception coverage show promise in improving pregnancy outcomes—in the current health care system, limited and poorly timed preconception care misses nearly half of all pregnancies. Pediatric care should include screening for social determinants and early adversity, emphasize team care to attend to the broader health and mental health needs of families with young children, and build strong and effective relationships with other community programs supporting children and young families. Health care payment reform should incentivize these structures.

Medicaid and other private and public payers should innovate with new programs and financing arrangements that focus on prevention, family support, and the structural changes noted here. Several states, including Oregon, New York, and North Carolina, are already testing systems to connect children, youth, and

families with needed resources to address the social, economic, and environmental barriers to their health.

► **EARLY CHILDHOOD EDUCATION:** Maximizing the potential of early childhood education to promote improved health outcomes can come from a comprehensive approach to school readiness that explicitly incorporates health outcomes, developing and strengthening curricula that focus on key competencies of educators, improving the quality of early childhood education programs, and expanding access to comprehensive, high-quality, and affordable programs.

A Road Map For Change

On the basis of our work as members of the authoring groups for each of the reports, we have integrated the leading report findings in a comprehensive road map for dramatically improving the lives and outcomes of children and youth in the United States.

The reports provide much evidence regarding child and brain development, the influences of poverty and discrimination on child development and well-being, and multiple public programs and policies that work. The life-course impacts of early adversity, reinforced by inequities in mortality and morbidity seen in the current COVID-19 pandemic, can also be seen in the growing mortality in the US starting at age fifteen. All four reports note the importance of community and societal influences on healthy development, including the striking differences

in child outcomes by neighborhood in many US cities that were reported recently.²⁶

DRIVING POLICIES The online appendix proposes a road map built from the four reports' recommendations, which should drive policies to change the development and outcomes for children and youth.²⁷ Here, we highlight the main principles, priorities, and policies (see exhibit 1). Key principles are to put children first, engage all parts of society, recognize the power of prevention, emphasize equity over the life course, and commit to supporting implementation.

As priorities, we propose young families, poverty reduction, cross-sector collaboration across all child-serving systems, innovative financing to achieve positive outcomes, and a coordinated national agenda to achieve the best outcomes for children and youth. Decades of prevention science studies document positive outcomes, but bringing these to scale requires political will and social buy-in leading to an implementation system that includes financing, training, measurement, and leadership.

Policies should cover income support; building family resiliency; the health of communities; the transformation of health care toward team care, integration with community services, coverage expansion, and use of new technologies; collaboration between education and health; setting cross-sector goals and collaboration; and equity with the goal of reducing disparities. Current US policies, which sharply divide case management and resources across the education, child welfare, and health care sectors, serve families poorly.

WHY THE NATION SHOULD ACT NOW In this time of COVID-19, the importance of these reports and their recommendations only grows. The pandemic has already created a strong economic recession, and recessions particularly affect children adversely, increasing mental disorders, disability, child abuse, and homelessness. The pandemic also has highlighted critical disparities in health status and access to care, much of which arise from systemic racism and the persistent effects of poverty and early adversity that these reports document. The policies and programs described in the reports represent the best options for preventing the negative consequences of profound increases in poverty and associated sequelae after the epidemic, as well as solutions for continuing challenges in US child health. The federal government, working with the states, should act now to follow this road map and align policies and programs with it.

EXHIBIT 1

A road map to health for children and youth: principles, priorities, and policies

Dimensions	Elements
Principles	Children first Engagement of all parts of society Power of prevention Life-course equity Implementation support
Priorities	Young families Poverty reduction Cross-sector collaboration across all child-serving systems Innovative financing Coordinated, national agenda
Policies	Income support Family resiliency Healthy communities Transformation of health care Collaboration between education and health Cross-sector goals and collaboration Equity

SOURCE Authors' synthesis of recommendations from four National Academies of Sciences, Engineering, and Medicine reports (see notes 7, 17, 18, and 24 in text).

Conclusion

The NASEM reports are clear that the US has abundant opportunities to improve the lives and outcomes of children and youth across the country through the fundamental steps brought together in our road map for change. To fail to build systems that support all children and youth is to waste human capital, reduce future economic growth, and exacerbate rising income inequality. Failure to implement what works will perpet-

uate the cycle of a large number of young people growing up with high rates of chronic physical and mental health conditions and disabilities, unable to participate effectively in the US workforce, and burdening society with major costs. Individually and collectively, the four NASEM reports make a compelling case that we know what is wrong or missing, and we know how to fix it, but what we need now is a national agenda and the political will to address it. ■

This article represents a synthesis of four separate National Academies of Sciences, Engineering, and Medicine reports, each one of which has had public presentation and distribution.

NOTES

- 1 Organization for Economic Cooperation and Development. OECD child well-being data portal. Paris: OECD; 2019.
- 2 Centers for Disease Control and Prevention. COVID-19 in racial and ethnic minority groups. Atlanta (GA): CDC; 2020.
- 3 Institute of Medicine, National Research Council. From neurons to neighborhoods: the science of early child development. Washington (DC): National Academies Press; 2000.
- 4 Morris G, Berk M, Maes M, Carvalho AF, Puri BK. Socioeconomic deprivation, adverse childhood experiences, and medical disorders in adulthood: mechanisms and associations. *Mol Neurobiol*. 2019;56(8):5866–90.
- 5 Halfon N, Hochstein M. Life course health development: an integrated framework for developing health, policy, and research. *Milbank Q*. 2002;80(3):433–79. iii. iii.
- 6 Woolf SH, Schoomaker H. Life expectancy and mortality rates in the United States, 1959–2017. *JAMA*. 2019;322(20):1996–2016.
- 7 DeVoe JE, Geller A, Negussie Y. Vibrant and healthy kids: aligning science, practice, and policy to advance health equity. Washington (DC): National Academies Press; 2019.
- 8 Bateson P, Barker D, Clutton-Brock T, Deb D, D’Udine B, Foley RA, et al. Developmental plasticity and human health. *Nature*. 2004;430(6998):419–21.
- 9 Dahl RE, Allen NB, Wilbrecht L, Suleiman AB. Importance of investing in adolescence from a developmental science perspective. *Nature*. 2018;554(7693):441–50.
- 10 Hughes K, Bellis MA, Hardcastle KA, Sethi D, Butchart A, Mikton C, et al. The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *Lancet Public Health*. 2017;2(8):e356–66.
- 11 Houtrow AJ, Larson K, Olson LM, Newacheck PW, Halfon N. Changing trends of childhood disability, 2001–2011. *Pediatrics*. 2014;134(3):530–8.
- 12 Slopen N, Shonkoff JP, Albert MA, Yoshikawa H, Jacobs A, Stoltz R, et al. Racial disparities in child adversity in the U.S.: interactions with family immigration history and income. *Am J Prev Med*. 2016;50(1):47–56.
- 13 Ely DM, Driscoll AK. Infant mortality in the United States, 2017: data from the Period Linked Birth/Infant Death File. *Natl Vital Stat Rep*. 2019;68(10):1–20.
- 14 Zahran HS, Bailey CM, Damon SA, Garbe PL, Breyse PN. Vital signs: asthma in children—United States, 2001–2016. *MMWR Morb Mortal Wkly Rep*. 2018;67(5):149–55.
- 15 Dahl GB, Lochner L. The impact of family income on child achievement: evidence from the Earned Income Tax Credit. *Am Econ Rev*. 2012;102(5):1927–56.
- 16 Hoynes H, Schanzenbach DW, Almond D. Long run impacts of childhood access to the safety net. *Am Econ Rev*. 2016;106(4):903–34.
- 17 Currie J, Decker S, Lin W. Has public insurance for older children reduced disparities in access to care and health outcomes? Cambridge (MA): National Bureau of Economic Research; 2008. (NBER Working Paper No. 14173)
- 18 National Academies of Sciences, Engineering, and Medicine. A road map to reducing child poverty. Washington (DC): National Academies Press; 2019.
- 19 McLaughlin M, Rank MR. Estimating the economic cost of childhood poverty in the United States. *Soc Work Res*. 2018;42(2):73–83.
- 20 National Academies of Science, Engineering, and Medicine. Fostering healthy mental, emotional, and behavioral development in children and youth: a national agenda. Washington (DC): National Academies Press; 2019.
- 21 Institute of Medicine. Reducing risks for mental disorders: frontiers for preventive intervention research. Washington (DC): National Academies Press; 1994.
- 22 Institute of Medicine, National Research Council. Preventing mental, emotional, and behavioral disorders among young people: progress and possibilities. Washington (DC): National Academies Press; 2009.
- 23 Almond D, Currie J, Duque V. Childhood circumstances and adult outcomes, Act II. *J Econ Lit*. 2018;56(4):1360–446.
- 24 National Academies of Sciences, Engineering, and Medicine. The promise of adolescence: realizing opportunity for all youth. Washington (DC): National Academies Press; 2019.
- 25 Vijayakumar N, Op de Macks Z, Shirtcliff EA, Pfeifer JH. Puberty and the human brain: insights into adolescent development. *Neurosci Biobehav Rev*. 2018;92:417–36.
- 26 Chetty R, Friedman JN, Hendren N, Jones MR, Porter SR. The Opportunity Atlas: mapping the childhood roots of social mobility. Cambridge (MA): National Bureau of Economic Research; 2018. NBER Working Paper No. 25147.
- 27 To access the appendix, click on the Details tab of the article online.