

HEALTH

The Stanford Center on Poverty and Inequality

BY RUCKER C. JOHNSON

"Of all the forms of inequality, injustice in health care is the most shocking and inhumane."

—Martin Luther King Jr., speaking at the Medical Committee for Human Rights in 1966.

Racial and ethnic minorities experience higher-than-average rates of illness, have higher age-specific death rates throughout the life course, and are more likely to suffer from early onset of illnesses and more severe diseases than whites.^{1,2} In this article, I examine these and other differences in health outcomes for whites and blacks in the United States and show that black-white health disparities are large and appear to widen over the life cycle.^{3,4} I also discuss several policy changes that served to narrow racial health disparities in the past and consider how future policies might help ameliorate racial inequities in health.

Health Disparities and Their Causes

The starting point for this article is the simple but stark finding that, across a broad range of health outcomes, blacks experience much poorer health than whites. For example, hypertension and diabetes are two to three times more common among blacks than whites, which partly explains the greater burden of cardiovascular disease among blacks. Deaths from heart disease are almost twice as common for black men compared with white men and almost three times higher for black women than for white women. Every seven minutes a black person dies prematurely in the United States; this translates to more than 200 black people dying daily who would not have died if the health of blacks and whites were equalized.⁵ At age 25, there is a five-year life expectancy gap between blacks and whites.⁶ More than half of this racial disparity in longevity is due to the higher prevalence among blacks of risk factors related to cardiovascular disease.⁷

While these health inequities have been well documented, they are not the product of our genes but the

KEY FINDINGS

- Racial disparities in health remain profoundly large. For example, hypertension and diabetes rates are two to three times higher among blacks than whites, which partly explains blacks' higher burden of cardiovascular disease (the leading cause of death).
- These disparities emerge because of racial differences in childhood conditions, such as parental income, access to health care, neighborhood poverty rates, and other childhood family and neighborhood factors. It follows that public policies addressing these childhood differences can reduce health disparities.

consequences of our policies and history. In particular, racial differences in adult health can be largely accounted for by childhood family and neighborhood factors.⁸ Figures 1 and 2 show the cumulative likelihood by race of the onset of hypertension, and of stroke, heart attack, or heart disease, respectively. The results show large black-white differences in the onset of these serious health conditions in adulthood. However, after accounting for childhood family and neighborhood factors (e.g., parental income, birth weight, health insurance access, child neighborhood poverty rate), these large disparities nearly disappear. In other words, adult health differences are small when black and white children are exposed to similar family and neighborhood environments. Contemporary adult socioeconomic factors, such as education and income, account for relatively little of these gaps.^{9,10}

In fact, the early-life origins of adult disease may begin in the womb. When a fetus receives limited nutrition, its metabolic and physiological makeup fundamentally changes. While the consequences may not be evident at birth, or even in early childhood, they can appear much

later in life. This phenomenon is known as the “fetal origins hypothesis,” developed by epidemiologist David Barker.¹¹ Recent research shows that, from conception to age five, children are extremely sensitive to stressful environmental conditions. This period is the most opportune time to positively alter developmental health trajectories, when the growth rate is the highest, and health care needs are the greatest.¹² Furthermore, health investments in the first 20 years of life are the most advantageous and have long-run benefits, as cog-

nitive and noncognitive skills and health capabilities at one stage in childhood cross-fertilize the productivity of investment at later stages.¹³

Looking Back to Point the Way Forward

How do we unlock healthy development and promote health equity? The answer lies in the historical evidence on the long-run effects of some of the key policy interventions of our time. The greatest black-white convergence in various

FIGURE 1. Cumulative Hazard of Onset of Hypertension by Race

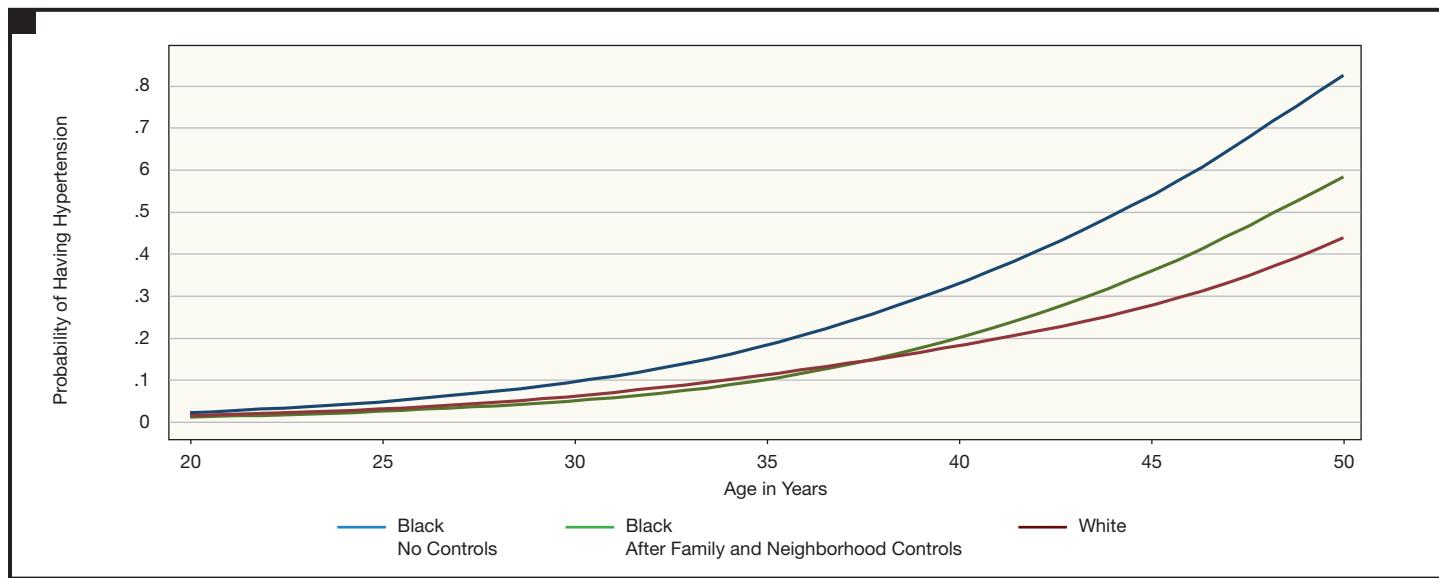
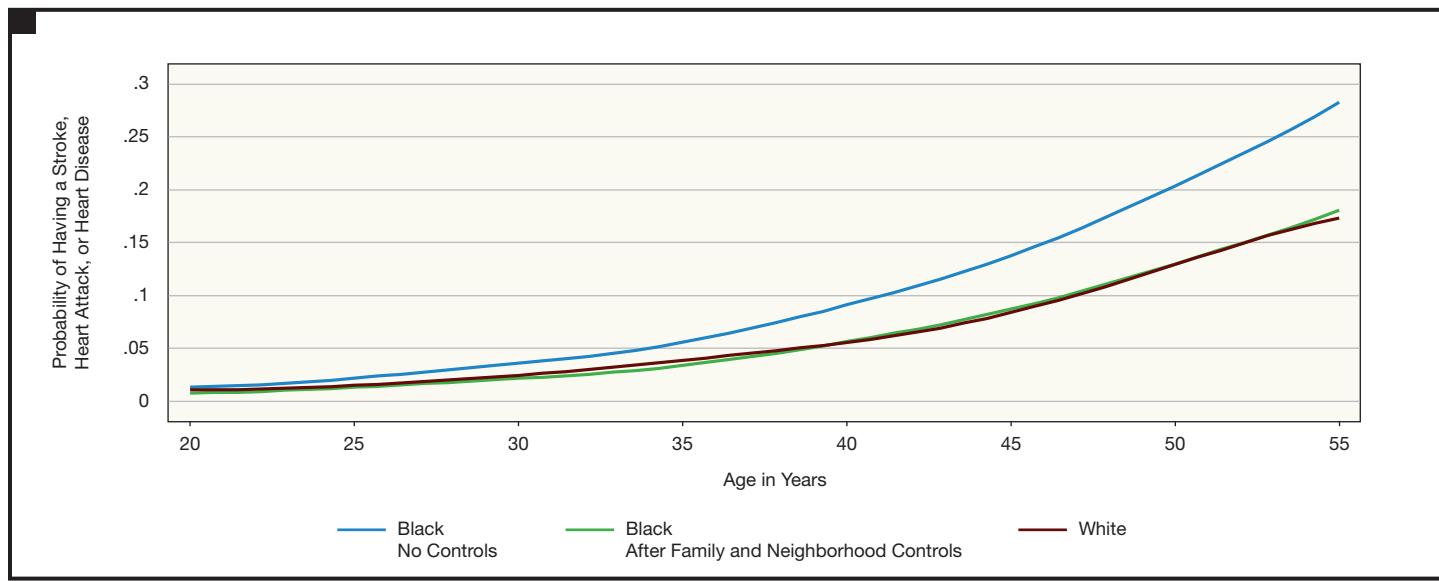


FIGURE 2. Cumulative Hazard of Onset of Stroke, Heart Attack, or Heart Disease by Race



Note: Childhood family and neighborhood factors include parental education and occupational status, parental income, mother's marital status at birth, birth weight, child health insurance coverage, child neighborhood poverty rate, child neighborhood median education, racial segregation, urbanicity, and gender.

Source: Figures 1 and 2 use data from the Panel Study of Income Dynamics (PSID geocode, 1968–2007), matched with childhood neighborhood characteristics. Analysis includes nationally representative sample of PSID individuals born between 1950 and 1975 who have been followed into adulthood.

dimensions of health over the life course occurred for cohorts born between 1965 and 1980. This period coincided with the rollout of Medicaid, hospital and school desegregation, and the introduction of Head Start. Each of these policies substantially improved early-life health and led to educational investments that in turn narrowed opportunity gaps for minority and poor children. These policies remain very important today. For example, Medicaid and the Children's Health Insurance Program currently provide low-cost health coverage to nearly 44 million children, covering one-half of all low-income children.¹⁴

How can we be sure that these policies had truly causal effects on health? The staggered introduction of Medicaid across states (1966–1982) and cross-state variation in Medicaid eligibility allow us to isolate the causal effects of childhood health insurance access and the long-run returns to childhood Medicaid spending.¹⁵ In recent research, I have compared otherwise-similar children (born since 1950) exposed to a differing number of childhood years in which they were eligible for Medicaid, with the objective of comparing their subsequent life trajectories through adulthood. For child cohorts born after Medicaid implementation, childhood health care utilization increased. These increases in children's insurance access led to reductions in the likelihood of low birth weight, increases in educational attainment and the likelihood of graduating from high school, reductions in poverty and increases in earnings in adulthood, and reductions in adult mortality and the incidence of health problems. The latter changes were even more pronounced among children from high-Medicaid-eligibility states, particularly poor and minority children. We also see larger improvements in adult outcomes among cohorts for whom the increases in county Medicaid spending and health care access occurred at younger ages.¹⁶

Analyses of hospital desegregation reveal similarly compelling evidence of the long-run effects of early-childhood access to health care. This access improved black infant health and reduced racial disparities in infant mortality resulting from illnesses like diarrhea and pneumonia.¹⁷ In related research, it

has been shown that a declining black-white gap in early-life health and hospital access led to a significant narrowing of the racial test score gap.¹⁸

Finally, when considering the role of policy in narrowing health disparities, it is important to consider the interrelationship and synergies between early-childhood investments in health and public school spending.¹⁹ When these two types of investments occur together, the combined effect can be substantial, and larger than the sum of the two investments in isolation. For example, successive cohorts of black children born from the early 1960s to the early 1970s (a) were exposed to desegregated schools and hospitals and (b) enjoyed access to better-quality schools. These cohorts saw substantial improvements in intergenerational mobility.²⁰ Such gains likely would have been much smaller without the interactive policy effects.

Conclusion

Racial gaps in health are large and persistent. But they are not immutable. The health improvements that resulted from Medicaid expansions and hospital desegregation demonstrate that policy can play an important role in narrowing these gaps. Improving infant and child health has the potential to deliver long-term educational, health, and economic benefits, a fact that policymakers would be well advised to consider as they work to implement and recast the Affordable Care Act or to roll back safety net programs.²¹

Although the evidence suggests that past policy has narrowed gaps, this does not mean that we have identified *the best ways* to reduce disparities. It should be a high priority to better understand the relationship between childhood conditions and health outcomes over the life course and develop even more cost-effective ways to improve overall population health and eliminate health disparities related to race, ethnicity, and socioeconomic status. ■

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NOTES

1. Williams, David, and Chiquita Collins. 1995. "U.S. Socioeconomic and Racial Differences in Health: Patterns and Explanations." *Annual Review of Sociology* 21, 349–386; Johnson, Rucker C. 2012. "Health Dynamics and the Evolution of Health Inequality over the Life Course: The Importance of Neighborhood and Family Background." *B.E. Journal of Economic Analysis & Policy* 11(3); Meara, Ellen R., Seth Richards, and David M. Cutler. 2008. "The Gap Gets Bigger: Changes in Mortality and Life Expectancy by Education, 1981–2000." *Health Affairs* 27(2), 350–360; Chetty, Raj, Michael Stepner, Sarah Abraham, Shelby Lin, Benjamin Scuderi, Nicholas Turner, Augustin Bergeron, and David Cutler. 2016. "The Association Between Income and Life Expectancy in the United States, 2001–2014." *JAMA* 315(16), 1750–1766.
2. The "Hispanic paradox," which refers to the finding that Hispanic Americans have relatively good health outcomes, especially lower mortality risk, is a main exception to this general finding. For a recent review, see Markides, Kyriakos S., and Karl Eschbach. 2011. "Hispanic Paradox in Adult Mortality in the United States." In *International Handbook of Adult Mortality*. Springer Netherlands, 227–240.
3. I wish to thank the Panel Study of Income Dynamics (PSID) staff for access to the confidential, restricted-use PSID geocode data. I am grateful to Andrew Goodman-Bacon for sharing data on the timing of Medicaid implementation and pre-Medicaid state health insurance and welfare eligibility rates. This research was supported by the National Institutes of Health.
4. I focus in this report on black-white differences primarily because data limitations in the PSID reduce the sample sizes of other racial or ethnic groups that have been followed from birth to adulthood.
5. Williams, David. 2005. "Social Sources of Racial Disparities in Health." *Health Affairs* 24(2), 325–334.
6. Braveman, Paula A., Catherine Cubbin, Susan Egerter, David Williams, and Elsie Pamuk. 2010. "Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us." *American Journal of Public Health* 100(Suppl 1), S186–S196.
7. Barghaus, Katherine M., David M. Cutler, Roland G. Fryer Jr., and Edward L. Glaeser. 2008. "An Empirical Examination of Racial Differences in Health." Retrieved from <http://isites.harvard.edu/fs/docs/icb.topic709943.files/salt%20final.pdf>; Johnson, Rucker C. 2010. "The Place of Race in Health Disparities: How Family Background and Neighborhood Conditions in Childhood Impact Later-Life Health." In *Neighborhood and Life Chances: How Place Matters in Modern America*, eds. Harriet Newburger, Eugenie L. Birch, and Susan M. Wachter. Philadelphia: University of Pennsylvania Press.
8. Childhood residential segregation influences access to high-quality schools and medical care, exposure to crime and violence, housing and neighborhood conditions, and future employment opportunities. Black children are substantially more likely than white children to both grow up in concentrated poverty neighborhoods and attend high-poverty schools. For example, 45 percent of black students attend schools in which more than three-fourths of students are poor, while only 8 percent of white students attend such schools. Likewise, 30 percent of white students attend low-poverty schools (<25% poor), while only 8 percent of black students attend such schools.
9. In fact, white high school graduates who did not attend college live longer than blacks with a college degree or more education (see Braveman et al., 2010).
10. Johnson, 2012.
11. Barker, D. J. P. 1998. *Mothers, Babies and Health in Later Life*. Edinburgh: Churchill Livingstone.
12. Johnson, Rucker C., and Robert F. Schoeni. 2011. "The Influence of Early-Life Events on Human Capital, Health Status, and Labor Market Outcomes Over the Life Course." *B.E. Journal of Economic Analysis & Policy: Advances*, 11(3); Lynch, John, and George Davey Smith. 2005. "A Life Course Approach to Chronic Disease Epidemiology." *Annual Review of Public Health* 26, 1–35; Heckman, James J. 2007. "The Economics, Technology, and Neuroscience of Human Capability Formation." *Proceedings of the National Academy of Sciences* 104(33), 13250–13255.
13. Heckman, 2007.
14. Council of Economic Advisers. 2016. "Economic Report of the President."
15. This recent research, which I describe briefly here, extends the related finding that Medicaid reduced black infant and child mortality by 20 percent in the 1960s and 1970s (see Goodman-Bacon, Andrew. Forthcoming. "Public Insurance and Mortality: Evidence from Medicaid Implementation." *Journal of Political Economy*).
16. Studies using quasi-experimental methods find that legislative expansions of Medicaid eligibility since 1980 led to large reductions in mortality for infants, children, and adults (see Currie, Janet, and Jonathan Gruber. 1996a. "Health Insurance Eligibility, Utilization of Medical Care, and Child Health." *Quarterly Journal of Economics* 111(2), 431–466; Currie, Janet, and Jonathan Gruber. 1996b. "Saving Babies: The Efficacy and Cost of Recent Changes in the Medicaid Eligibility of Pregnant Women." *Journal of Political Economy* 104(6), 1263–1296; Sommers, Benjamin D., Katherine Baicker, and Arnold M. Epstein. 2012. "Mortality and Access to Care Among Adults After State Medicaid Expansions." *New England Journal of Medicine* 367, 1025–1034; Wherry, Laura R., and Bruce D. Meyer. 2016. "Saving Teens: Using a Policy Discontinuity to Estimate the Effects of Medicaid Eligibility." *Journal of Human Resources*, 51(3), 556–588). However, because the corresponding increases in insurance coverage are relatively small during this later period, the mechanism for

these effects is unclear (see Card, David, and Lara D. Shore-Sheppard. 2004. "Using Discontinuous Eligibility Rules to Identify the Effects of the Federal Medicaid Expansions on Low-Income Children." *Review of Economics and Statistics* 86(3), 752–766). The Oregon Health Insurance Experiment, while providing the strongest research design to tease out health insurance coverage effects, is limited to short-run health outcomes (see Finkelstein, Amy, Sarah Taubman, Bill Wright, Mira Bernstein, Jonathan Gruber, Joseph P. Newhouse, Heidi Allen, Katherine Baicker, and Oregon Health Study Group. 2012. "The Oregon Health Insurance Experiment: Evidence from the First Year." *Quarterly Journal of Economics* 127(3), 1057–1106). Recent studies find these Medicaid expansions (since 1980) led to improvements in poor children's academic outcomes (see Cohodes, Sarah R., Daniel S. Grossman, Samuel A. Kleiner, and Michael F. Lovenheim. 2016. "The Effect of Child Health Insurance Access on Schooling: Evidence from Public Insurance Expansions." *Journal of Human Resources* 51(3), 727–759; Levine, Philip B., and Diane Schanzenbach. 2009. "The Impact of Children's Public Health Insurance Expansions on Educational Outcomes." *Forum for Health Economics & Policy* 12(1), 1–26).

17. There was a 40 percent reduction in black infant mortality between 1964 and 1972. In the early 1960s, black infant mortality rates were significantly higher in states (and the District of Columbia) with de jure segregation than in non-Jim Crow Northern states. By the late 1960s, these North-South differences in black infant mortality rates had disappeared (see Krieger, Nancy, Jarvis T. Chen, Brent Coull, Pamela D. Waterman, and Jason Beckfield. 2013. "The Unique Impact of Abolition of Jim Crow Laws on Reducing Inequities in Infant Death Rates and Implications for Choice of Comparison Groups in Analyzing Societal Determinants of Health." *American Journal of Public Health* 103(12), 2234–2244).

18. Chay, Kenneth Y., Jonathan Guryan, and Bhashkar Mazumder. 2009. "Birth Cohort and the Black-White Achievement Gap: The Roles of Access and Health Soon After Birth." NBER Working Paper 15078.
19. Johnson, Rucker, and Kirabo Jackson. Forthcoming. "Reducing Inequality Through Dynamic Complementarity: Evidence from Head Start and Public School Spending." NBER Working Paper.
20. Johnson, Rucker. 2016. "Can Schools Level the Intergenerational Playing Field? Lessons from Equal Educational Opportunity Policies." *Economic Mobility: Research and Ideas on Strengthening Families, Communities and the Economy*. St. Louis: Federal Reserve Bank of St. Louis, 289–323.
21. ACA's broad Medicaid expansion to poor families was effectively turned into a state opt-in, and seven of the 10 states with the highest black populations chose not to expand Medicaid. Consequently, more than half of the people without affordable health care coverage are minorities; 30 percent of them are black.