

population.” America 8 includes 7.5 million high-risk urban blacks, living in counties with an average per capita income of \$14,800, a high-school completion rate of 72 percent, and a probability of homicide death between the ages of 15 and 74 greater than 1.0 percent.

The mid-ranking groups reveal some unexpected disparities. Low-income rural whites living in the northern plains and Dakotas (America 2), for instance, live slightly longer than “Middle America”

whites (America 3), who make up the large majority of the population and have the highest average per capita income. Native Americans fare worse when they live in or around reservations in the West (America 5), but rank on a par with mainstream whites when they live elsewhere. Meanwhile, low-income rural whites in Appalachia and the Mississippi valley (America 4) have a life expectancy comparable to that of Mexico and Panama.

The data confirm the importance of

place in determining longevity. “It’s not so much the physical environment or the climate that makes a difference, but the social and cultural things that change with place,” Murray says. “Culture largely defines what you eat and whether you exercise, and this has to do with how you were brought up and what your peers do. Once you adopt habits, you tend to keep them.”

Mortality disparities across the eight Americas are most concentrated among young and middle-aged adults and result from a number of chronic diseases and ailments attributable to well-known risk factors, such as using alcohol and tobacco, being overweight or obese, or having elevated blood pressure or problems with cholesterol and glucose. Even in the worst-off urban areas, drugs and violence account for only a small portion of the excess early mortalities. “If you take away deaths from homicide and HIV,” Murray points out, “Baltimore still has one of the worst life expectancies.” The major killers are heart disease, lung disease, diabetes, cirrhosis of the liver, and cancers.

The study’s findings challenge the assumption that universal health insurance alone would significantly reduce the nation’s glaring health inequalities. Variations in health-plan coverage across the eight Americas are in fact small relative to the steep gradient in health outcomes. Education campaigns aimed at altering behaviors are also insufficient, Murray argues. “The exhortation for people to change their lifestyle simply doesn’t work, except among the highly educated and well-to-do,” he says.

The authors call instead for proactive interventions that target the major physiological risks in communities with high mortality. “If I had my influence on policy,” Murray says, “I would put a huge effort into tackling blood pressure, cholesterol, and blood sugar, for which we have effective pharmacological strategies.” America’s longevity gap is unlikely to diminish, he concludes, until “there’s a broader engagement of people living in communities with really poor health, and that gets translated into the political arena.” ~ASHLEY PETTUS

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#### FRUITFUL ARCHAEOLOGY

## Figs Were First

**N**ew archaeobotanical evidence pushes the dawn of agriculture back to 11,400 years ago, when humans living in a village eight miles north of ancient Jericho began propagating seedless figs. Ofer Bar-Yosef, professor of anthropology and curator of Paleolithic archaeology at Harvard’s Peabody Museum, published the findings recently in the journal *Science*, along with

coauthors Mordechai E. Kislev and Anat Hartmann of Bar-Ilan University in Israel.

The figs, nine still whole among more than 300 smaller pieces, were found in the ruins of a burned house at Gilgal I. The fire permitted reliable dating of the site, and had the further desirable effect—from an archaeologist’s perspective—of carbonizing and preserving the fruits. The figs proved to be a variety that grows only on sterile female trees, which occur occasionally in the wild as a result of genetic mutation. They bear soft, sweet, edible fruit, but cannot reproduce except from shoots, making them an evolutionary dead end. With human intervention, however, stems cut from fig trees and planted in soil will root fairly easily.

Another cache of figs, found 1.5 kilometers away at the Netiv Hagdud site, proved to be the same mutant variety. “Humans must have recognized that the fruits do not produce new trees, and fig-tree cultivation became a

common practice,” says Bar-Yosef. Previously, the domestication of grains and legumes a thousand years later had been considered the earliest evidence of the momentous shift in human history from hunting and gathering to a more sedentary lifestyle.

Because they produce three crops a year, figs made an ideal staple food. They have been found at numerous Neolithic sites in the Jordan Valley, along with acorns and wild varieties of wheat, barley, and oats, says Bar-Yosef, indicating that “the subsistence strategy of these early farmers was a mixed exploitation of wild plants and initial fig domestication.” He and his colleagues suggest that ease of planting, along with an improved taste resulting from minor mutations, may explain why figs were domesticated 5,000 years before grapes, olives, or dates.

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