Why Do Americans Have Shorter Life Expectancy and Worse Health Than Do People in Other High-Income Countries?

Mauricio Avendano[1,2] and Ichiro Kawachi[2]

[1]Department of Social Policy, LSE Health and Social Care, London School of Economics and Political Science, London, WC2A 2AE, United Kingdom; email: M.Avendano-Pabon@lse.ac.uk, mavendan@hsph.harvard.edu

[2]School of Public Health, Department of Social and Behavioral Sciences, Harvard University, Boston, Massachusetts 02115; email: ikawachi@hsph.harvard.edu

Annu. Rev. Public Health 2014. 35:307–25

First published online as a Review in Advance on January 9, 2014

The *Annual Review of Public Health* is online at publhealth.annualreviews.org

This article's doi: 10.1146/annurev-publhealth-032013-182411

Keywords

United States, mortality, morbidity, internationality, public policy

Abstract

Americans lead shorter and less healthy lives than do people in other high-income countries. We review the evidence and explanations for these variations in longevity and health. Our overview suggests that the US health disadvantage applies to multiple mortality and morbidity outcomes. The American health disadvantage begins at birth and extends across the life course, and it is particularly marked for American women and for regions in the US South and Midwest. Proposed explanations include differences in health care, individual behaviors, socioeconomic inequalities, and the built physical environment. Although these factors may contribute to poorer health in America, a focus on proximal causes fails to adequately account for the ubiquity of the US health disadvantage across the life course. We discuss the role of specific public policies and conclude that while multiple causes are implicated, crucial differences in social policy might underlie an important part of the US health disadvantage.

INTRODUCTION

OECD: Organization for Economic Cooperation and Development

During the past several decades, life expectancy gains in the United States have not kept pace with gains in other high-income countries. In 2012, life expectancy in the United States ranked 32nd worldwide, below most other industrialized nations. Recent reports (5, 10, 12, 62, 20, 21, 104, 94) suggest that Americans also experience higher rates of disease, injury, and health-damaging behaviors than do men and women in other high-income countries. Initial reports noted a US health disadvantage for ages 50 and above (5, 10, 12, 94), but recent reports suggest that American men and women from all ages up to age 75 have worse health and higher mortality compared with their counterparts in 13 other wealthy nations in Western Europe, Japan, Australia, and Canada (40, 62, 104). Life expectancy among European countries has also diverged and converged at several points, partly coinciding with major wars and economic hardship episodes in European history (59). In contrast, the US health disadvantage emerged during the second half of the twentieth century and has steadily grown, which is remarkable given that this coincided with a period of unprecedented economic growth and stability in the United States. This discrepancy raises questions about specific aspects of postwar America that may be responsible for the US health disadvantage.

In this article, we review current evidence and theories for the US lag in health and life expectancy. After characterizing the US health disadvantage, we critically discuss common explanations in light of recent studies. Proposed theories so far provide a partial account, falling short of explaining why the US health disadvantage is pervasive across the life course. We discuss alternative hypotheses and propose a program of future research on the role of public policies.

THE US HEALTH DISADVANTAGE

Earlier reports have summarized differences in health and life expectancy between the United States and other high-income countries (13, 20, 21, 104). This section draws on this literature to illustrate four key features of the US health disadvantage: First, Americans have both higher mortality and higher morbidity than do men and women in other high-income countries. Second, the US health disadvantage begins at birth and extends across the life course. Third, the lag in US life expectancy is particularly large for American women. Finally, the US health disadvantage is most pronounced for the Midwest and southeast regions of the United States.

Mortality and Life Expectancy

Figure 1 shows that the past 50 years have witnessed remarkable gains in life expectancy in the United States and 16 other country members of the Organization for Economic Cooperation and Development (OECD). However, improvements have occurred at different paces across nations (41, 20, 21, 104, 73). Between 1960 and 2008, total gains in life expectancy at birth ranged from 15.9 years in Japan to only 6.6 years in Denmark among women; and from 15.1 years in Portugal to 6.1 years in Denmark among men. US gains in life expectancy (7.5 years for women and 9 years for men) have been substantial but are only about half of those reported in the best-performing country. Next to the United States, Denmark, the Netherlands, and Norway have had comparatively modest gains in life expectancy, whereas women in Japan and Southern Europe (Portugal, Spain, and Italy) have enjoyed the largest gains. As a result, in 2008, the United States had the shortest life expectancy for both women (80.6) and men (75.6), whereas life expectancy among women was longest in Japan (86.1) and among men was longest in Switzerland (79.8).

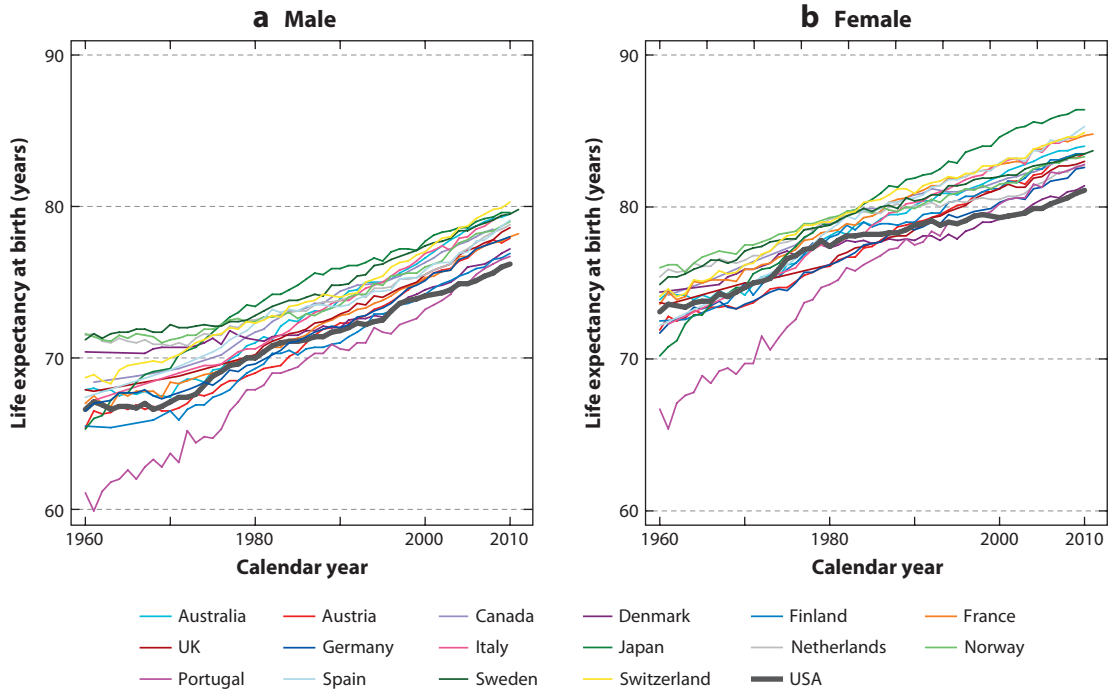

Figure 1

Life expectancy at birth in the United States and in 16 other OECD countries, 1960–2010. Source: OECD Health Data, OECD Health Statistics (Database) (73).

Cross-national variations in life expectancy at ages 40, 60, and 80 years are smaller than differences in life expectancy at birth (**Supplemental Figure 1**. Follow the **Supplemental Material link** from the Annual Reviews home page at **http://www.annualreviews.org**), suggesting that excess deaths before age 40 substantially contribute to life-expectancy variations between the United States and other countries. Nevertheless, with the exception of Denmark, female life expectancy at ages 40 and 60 is lowest in the United States compared with that in any other high-income country. Among men, life expectancy at ages 40 and 60 is similar or better in the United States than in Portugal, Denmark, and Finland but shorter than in other high-income countries. Beyond age 80, life expectancy in the United States is around average or better than in other high-income countries (41, 60).

Supplemental Material

That mortality at relatively young ages accounts for much of the US life expectancy disadvantage was highlighted in a recent analysis examining mortality under age 50 across countries (40, 104). Results from this study indicate that mortality differences below age 50 account for two-thirds of the gap in life expectancy at birth between men in the United States and an average of 17 other OECD countries, and 40% of this difference among women. These findings underscore the point that the US life expectancy disadvantage originates at an early age and extends across the life course.

Causes of Death

Age-standardized rates of mortality from selected causes occurring disproportionately at young and middle ages are presented in **Figure 2** for women and in **Supplemental Figure 2** for men.

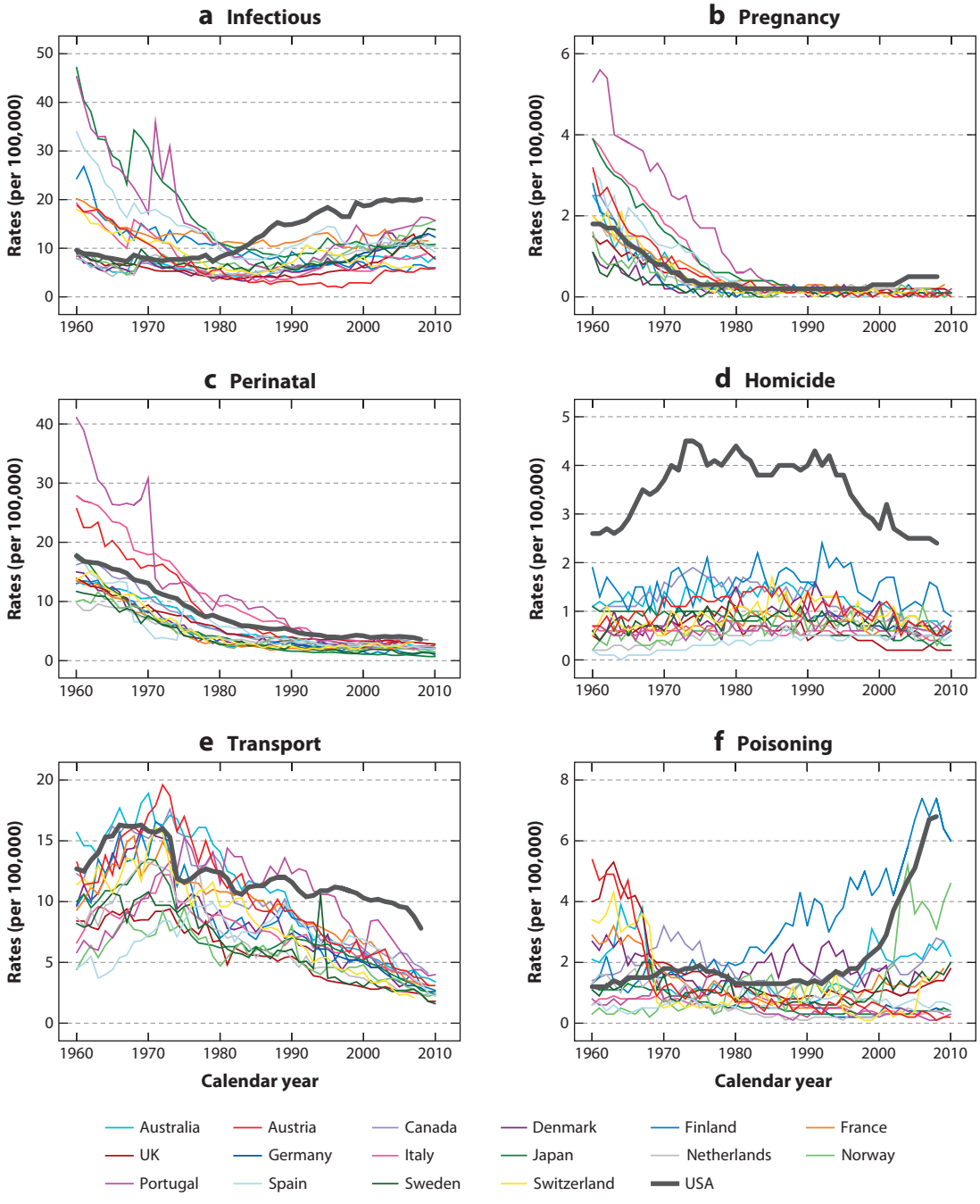

Figure 2

Mortality from external causes, maternal conditions, and infections in the United States and other high-income countries, 1960–2010, women. Source: OECD Health Data, OECD Health Statistics (Database) (73).

Mortality rates from infectious diseases; complications of pregnancy, childbirth and the puerperium; and conditions originating in the perinatal period are higher in the United States than in nearly all other OECD countries. Differences in some causes emerged around 1980; for example, the gap in transport accidents and accidental poisoning became stark in recent decades owing to larger declines in other countries paired with increasing or stagnant trends in the United States. In contrast, homicide mortality has consistently been higher in the United States for several decades, which is consistent with prior evidence of substantially higher US rates of firearm-related deaths (48). Recent evidence indicates that the major causes of death contributing to years of life lost below age 50 in the United States as compared with an average of 17 other OECD countries among women were noncommunicable diseases, perinatal conditions, transport injuries, and nontransport injuries (40, 104). Among men, homicide mortality was the largest contributor, followed by transport injuries, nontransport injuries, and perinatal conditions (40, 104).

The contrast between the United States and other high-income countries is less stark for mortality from noncommunicable diseases that disproportionately affect older populations (**Figure 3** for women and **Supplemental Figure 3** for men). However, mortality from ischemic heart disease, diabetes, nervous system diseases, and respiratory diseases (women only) is higher in the United States than it is in most other high-income countries (32, 40). Stroke mortality is lower in the United States, although larger declines in other countries have led to a smaller US advantage in recent years (32). Although mortality from these causes is driven by mortality at older ages, a recent study concluded that mortality from noncommunicable diseases also contributes to excess premature mortality, explaining 29% of years of life lost in women, and 18% among men, below age 50 in the United States compared with other OECD countries (40). US cancer mortality is relatively low for males and around average for females.

Supplemental Material

Differences in Health and Morbidity

The US health disadvantage is not limited to mortality but extends to many other nonfatal health outcomes beginning at birth and extending across youth, midlife, and old age (5, 7, 10, 34, 21, 104). **Supplemental Figure 4** provides an example for selected morbidity outcomes. Compared with most other countries, Americans have higher prevalence of low birth weight, traffic injuries, and HIV incidence. Paradoxically, Americans are more likely to rate their own health as good than are men and women in other high-income countries, but this pattern appears to be driven by cross-national differences in the style of reporting (12, 19, 45). A recent review shows that Americans also have higher prevalence of preterm births and poor maternal health; adolescent pregnancy and sexually transmitted infections; and overweight, obesity, and diabetes during childhood and middle age (104).

Figure 4 shows that older Americans report a higher prevalence of heart disease, stroke, hypertension, diabetes, obesity, lung disease, and limitations with basic instrumental activities of daily living than do their European counterparts at ages 50 and above. Similar patterns have been reported for ages 50–74 (5, 10, 12, 19, 94). Although US adults are also more likely to report a cancer diagnosis, excess prevalence is likely to reflect more aggressive screening and possibly better cancer survival rates in the United States (5, 10, 18, 19, 31, 77, 80). Differences between the United States and Europe are also evident for biologically assessed outcomes such as blood pressure, blood cholesterol, fasting glucose levels, and C-reactive protein (10, 19, 62).

Some Americans Are at Greater Health Disadvantage

In a series of studies, Murray and colleagues subdivided the United States into eight race–county combinations, referred to as the "Eight Americas," and found large differences in life expectancy

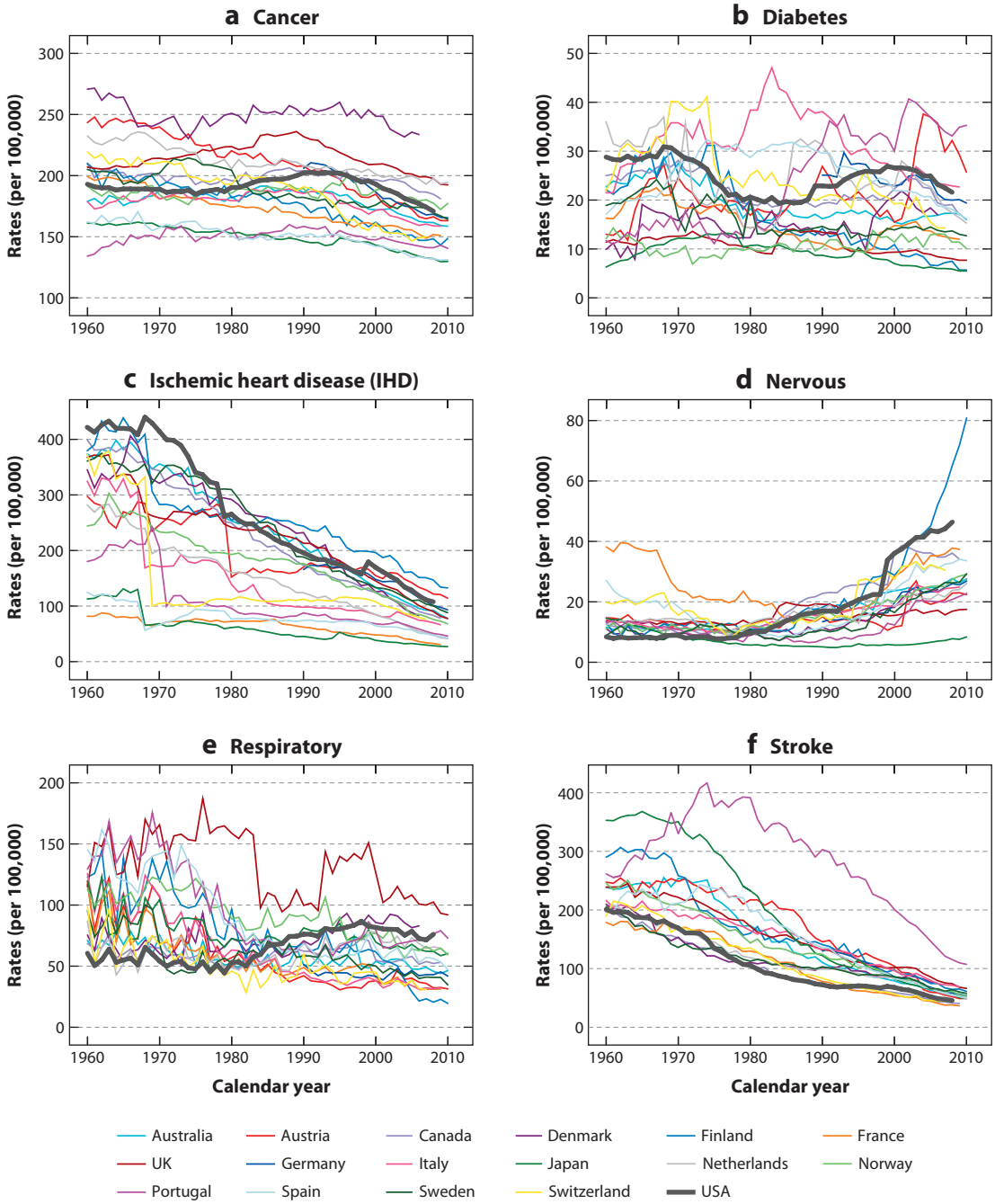

Figure 3

Mortality from noncommunicable diseases in the United States and other high-income countries, 1960–2010, women. Source: OECD Health Data, OECD Health Statistics (Database) (73).

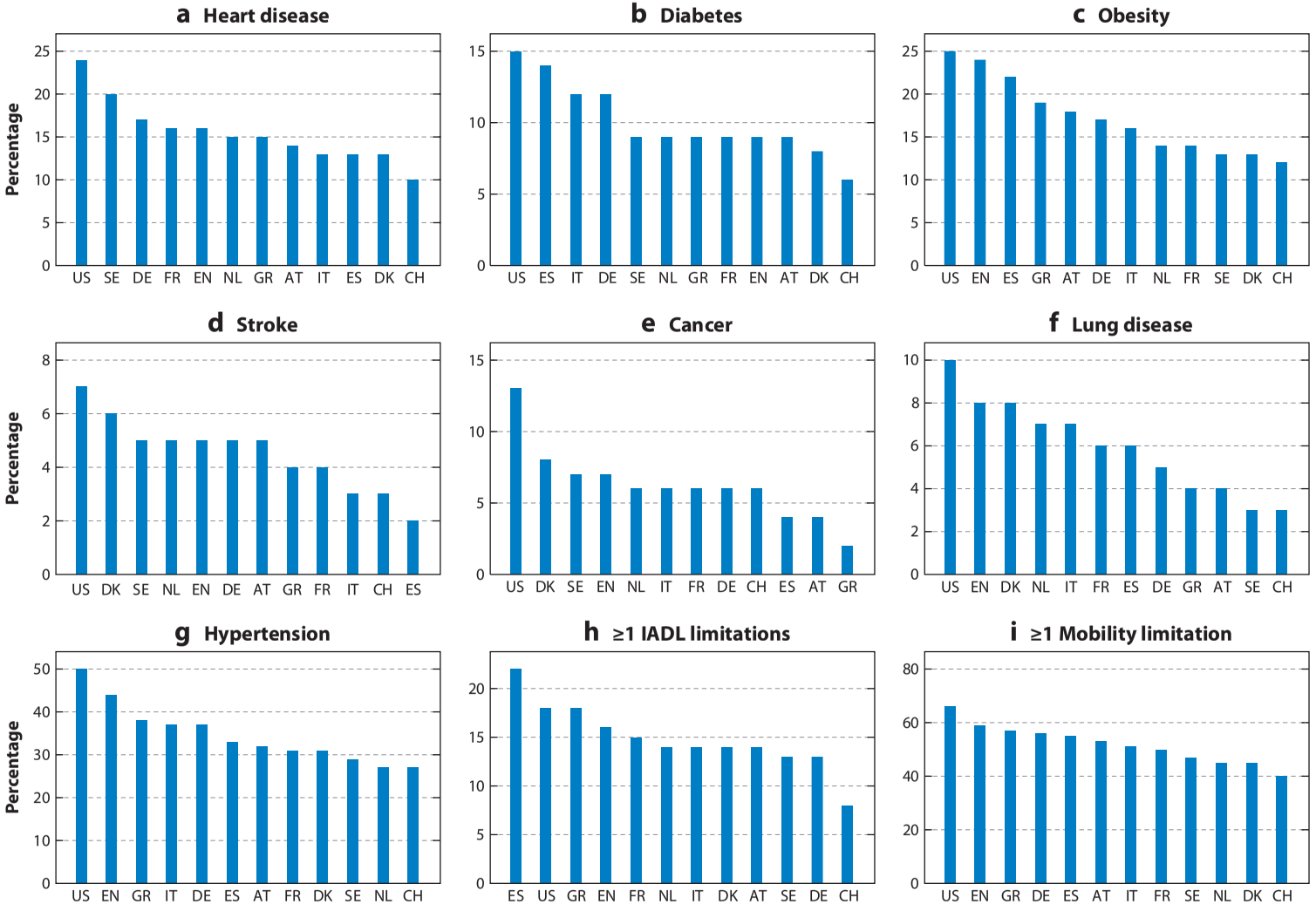

Figure 4

Prevalence of chronic disease and disability among men and women ages 50 years and older in the United States, England, and Europe: HRS, United States, 2004; English Longitudinal Study of Ageing (ELSA), England, 2004; and SHARE, Europe, 2004. Abbreviations: AT, Austria; CH, Switzerland; DE, Germany; DK, Denmark; EN, England; ES, Spain; FR, France; GR, Greece; IADL, instrumental activities of daily living; IT, Italy; NL, the Netherlands; SE, Sweden; US, United States.

among these groups (64, 65). For example, life expectancy for black males living in high-risk urban environments is 21 years lower than life expectancy for Asian females throughout the United States. For young and middle-aged males and females, mortality in the disadvantaged Americas is up to two times worse than that in the worst OECD country (64, 65). Disparities across US regions have grown since the 1980s, a factor that has contributed to the overall US lag in life expectancy (49, 99).

Supplemental Material

Supplemental Figure 5 shows that American women in the five census divisions located in the South and the Midwest have higher mortality than do women in most other OECD countries, but even the best US divisions, the US Pacific and New England, have higher mortality than do 11 other OECD countries. Earlier reports indicate that even in the healthiest US regions, female life expectancy lags behind that in the least healthy regions of countries such as Japan and France (99). Among men, most divisions in the South and Midwest perform poorly compared with most other OECD countries, whereas the Pacific and New England divisions have relatively low mortality. Both men and women in the East South Central US divisions have the highest rates.

EXPLAINING THE US HEALTH DISADVANTAGE

Table 1 presents an overview of proposed explanations for the US health disadvantage, some of which have been empirically examined (20, 21, 104). The evidence reviewed here and elsewhere (13, 20, 21, 104) suggests that multiple factors are likely to be responsible for poorer health in the United States compared with other high-income countries. In this section, we critically discuss the rationale and evidence for each of these explanations.

Medical Care and Public Health Systems

The United States spends more on health care than does any other OECD country (73), yet medical care is often proposed as an explanation for the US health disadvantage (13, 20, 21, 104). A recent

Table 1 Overview of explanations for differences in life expectancy and health between the United States and other high-income countries

Broad mechanism	Specific factors
Medical care and public health	Access to health care insurance
	Quality of medical care
	Quality of public health system
Individual behaviors	Tobacco use
	Obesity
	Diet
	Physical inactivity
	Alcohol and other substance use
	Sexual practices
	Violence (especially firearm suicide and homicide)
	Automobile reliance
Social/demographic factors	Socioeconomic inequality and poverty
	Racial disparities and residential segregation
	Social integration and social interactions
Physical environmental factors	Built environment (urban design, transport infrastructure, land-use mix, urban planning, and design)
	Food environment

report reviewed evidence of differences in medical care and public health system, the quality of health care, access to health care services and medical care, timing of care, and the prevalence of medical errors, among others (104). These and other comparisons provide a mixed picture and do not systematically point toward worse quality of care in the United States compared with other OECD countries (104, 77, 101). Although researchers have debated whether insurance coverage is causally linked to health status (82), the lack of universal coverage may be an exacerbating factor (104). Nonetheless, both insured and uninsured Americans experience poorer health than do their European counterparts, suggesting that health insurance might not be the only explanation (10, 104).

Overall, health care provides at best a partial explanation. For example, excess deaths from violent causes (homicides, suicides, accidents) are hardly due to lack of health care; indeed, if it were not for advances in emergency medical care, thousands more homicides would be recorded in the United States each year (36). In addition, US survival rates for several chronic conditions that contribute to the US health disadvantage, such as heart disease, ischemic stroke, and cancer, might be better in the United States than in other high-income countries, suggesting that care for these conditions might not be worse in the United States than in other OECD countries (18, 31, 104, 77). Macinko, Starfield, and Shi (54) have linked the weaker primary health care system in the United States to higher premature mortality. Nevertheless, regardless of cross-national differences in access to quality medical care, the fact remains that the overwhelming contributors to the incidence of disease (e.g., poor health behaviors) operate largely outside the influence of medical care.

Individual Behaviors

Differences in tobacco use, diet, physical inactivity, obesity, alcohol and other drug use, sexual practices, and harmful behavior have been proposed as potential explanations of the US health disadvantage (**Table 1**). A recent report released by the National Academy of Sciences concluded that smoking was likely the most important factor explaining the lag in US life expectancy at older ages, particularly among women (20, 21). Even though the United States enjoys currently lower smoking prevalence than do most other high-income countries, the smoking epidemic started earlier and reached a higher peak in the United States than in other countries, particularly among women (22, 20, 21, 76). Due to the long lag between smoking and lung cancer, current mortality rates reflect smoking trends two to three decades earlier. A recent study concluded that smoking explained two-fifths of the difference in male life expectancy between the United States and other high-income countries, and more than three-quarters of the difference in female life expectancy (21, 78).

Assessing the role of other individual behaviors has proved challenging given limited comparable data on risk factors across decades and countries. Yet, data suggest that the United States is among the highest in total caloric intake and has the highest sugar intake among all OECD countries (104, 72). The United States also ranks high in total fat intake and total protein intake, whereas vegetable and fruit consumption in the United States is similar to that in several other OECD countries (72). A poor diet, in combination with relatively low levels of physical activity (35, 91), may explain the high US obesity rates. Recent estimates based on macrolevel data suggest that obesity may explain as much as two-thirds of the US shortfall in male life expectancy and two-fifths of the US female life-expectancy disadvantage (79). However, these data contrast with another report showing that increasing trends in obesity are not specific to the United States and might not explain current differences in life expectancy (2). In support of this view, cohort studies suggest that even after adjusting for obesity and other risk factors, differences in morbidity across countries remain (4, 5, 10, 62).

Although smoking and other unhealthy behaviors undeniably contribute to the poorer health of Americans, smoking does not explain why Americans have poorer health and worse trends in mortality below age 50 (6, 40, 104). It is unlikely that parental smoking alone could account for the higher rate of infant mortality, poorer childbirth outcomes, injuries, and homicides in the United States compared with other high-income countries. Because mortality below age 50 from these and other causes explains two-thirds of the difference in male life expectancy at birth between the United States and other countries and two-fifths of the difference among women (40, 104), smoking is at best only one among several factors explaining the US health disadvantage.

Although understanding the contribution of individual behaviors is crucial, an approach that focuses solely on behavioral differences is impoverished by its focus on "proximal" individual choices. The earlier adoption of smoking among US females, for example, may reflect features of the US environment that encouraged American women to smoke more than women in other countries. The fact that Americans behave poorly only raises the follow-up question of why Americans more often than adults in other countries make choices that are detrimental to their health.

Social and Demographic Explanations

The United States is characterized by pronounced racial, ethnic, and socioeconomic disparities in health, which may contribute to the overall US health disadvantage. For example, although life expectancy for the United States as a whole improved during the past three decades, Ezzati et al. (26) documented declining or stagnant life expectancy between 1983 and 1999 for women in 963 out of 2,068 counties, and 59 counties for men. The history of the United States also diverges from that of other OECD countries in terms of its legacy of three centuries of slavery followed by postabolition Jim Crow laws (1876–1965), which shaped racial segregation, and the cumulative influences of which are still felt in present day. For example, Williams & Collins (98) argue that the persistent residential segregation of African Americans shapes their educational opportunities and labor market success and contributes to their unequal exposures to environmental pollutants, violence, and other health threats.

Although poor and black Americans are, in fact, at an increased health disadvantage, studies also suggest that white, middle-class Americans have poorer health than do their European counterparts (5, 7, 10). For example, in a widely cited cross-national comparison of the health of American and English people, Banks et al. (10) found that Americans in the top one-third of the income distribution (97% of whom already have access to health insurance) had rates of hypertension and diabetes comparable to those in the bottom one-third of income earners in England. The comparison was all the more striking because it was restricted to whites in both countries.

Nevertheless, the largest share of the American health disadvantage is likely to be borne by the poor and least educated, who have much higher rates of disease and death than do their counterparts in Europe (5, 7, 10, 61). The role of socioeconomic status may be particularly salient for mortality under age 50. For example, US mortality from homicide is nine times higher among young men in the bottom decile of socioeconomic deprivation compared with young men in the affluent top decile (88, 90). Strikingly, US girls in the bottom decile are 14 times more likely to die from HIV/AIDS than are US girls in the top affluent decile (88, 90). Similar differences by socioeconomic deprivation exist in childhood mortality (89, 90).

Turning to the role of social integration, a recent paper concluded that social participation and integration did not explain the US health disadvantage relative to other European countries (8). Limited evidence on the extent of variations across countries makes it difficult to assess whether these variations contribute to the US lag in life expectancy (34, 20, 21).

The Built Physical Environment

A separate line of explanations argues that aspects of the built physical environment, such as access to recreational facilities, land-use mix, transportation infrastructure, urban planning and design, and access to fast-food outlets and stores that sell fresh fruit and vegetables, might underlie cross-national variations in healthy behavior and associated health outcomes (104). For example, the built physical environment in most of the United States provides limited opportunities for physical activity with few alternatives other than driving. Americans' reliance on automobiles as their primary mode of transport is well documented (47). Interestingly, the US fatality rate per 100 million vehicle kilometers traveled is similar to that in a set of 15 other high-income countries, but the annual number of kilometers driven in the United States far exceeds that in other countries (40, 96). Thus, Americans die more from car crashes than do their counterparts in other countries because they drive more.

There is an extensive literature on the relationship between the built environment and health-related behavior (28), but there are no systematic investigations of the contribution of the built environment to the US health disadvantage. Although it is difficult to draw firm conclusions, explanations based on the physical environment beg the follow-up question of why the US has fewer health-promoting built environments as compared with other countries.

FUTURE DIRECTIONS: UPSTREAM POLICIES AND THE US HEALTH DISADVANTAGE

Explanations discussed above do not explain why Americans of all ages behave poorly, why they live in physical environments that are not conducive to health, and why their health suffers more from socioeconomic deprivation than does the health of populations in other high-income countries. This knowledge gap raises the question of whether upstream policies underlie some of these health variations (104). **Table 2** summarizes specific areas of social policy that differ dramatically across the United States and other high-income countries and social policies that have been shown to potentially influence health and mortality. This section speculates on how these policies might offer promising avenues for future research on the upstream causes of the US health disadvantage.

Child Care and Early Childhood Education Policies

Early childhood education in the United States is less well established than it is in Europe, where formal and subsidized preprimary education is often the norm. The typical starting age for early childhood education in the United States is four years old, compared with age three or younger in 21 other OECD countries (68). Whereas regulations in most of Europe require that a qualified teacher delivers a formal curriculum, this practice is less well regulated in the United States (70). The overall enrollment rate in early education programs is 69% in the United States compared with rates above the OECD average of 80% in most European countries. Eighty-four percent of children in the OECD attend public or government-funded private institutions, yet only 55% of early childhood pupils in the United States attend public schools (68). In addition, as a percentage of GDP, the United States spends far less on child care support for families than does almost any other OECD country (70).

Early childhood interventions appear to bring important health benefits, especially among disadvantaged children (39, 46). Studies indicate that early education programs not only improve educational outcomes but also lead to higher immunization rates and height-for-age and reduce

Table 2 Public policies that may contribute to differences in health and life expectancy between the United States and other high-income countries

Public policy domain	Specific programs
Child care and early childhood education policies	Policies determining the availability, cost, and quality of child care and early childhood education programs
Education policies	The proportion of public versus private education systems
	Compulsory schooling laws
	Spending and distribution of resources for education
	Access to higher education
Labor and employment-protection policies	Labor laws that affect job security, work conditions, working hours, worker's benefits, and work flexibility Parental leave Minimum wage laws Trade union membership laws Work incentives and worker's compensation Retirement policies Unemployment insurance policy Active labor market programs
Income support and family and child support policies	Child poverty alleviation and income tax credits Family allowance programs
	Child support maintenance systems Child-related leave
Housing policies	Incentives for homeownership Access to public housing Policies to improve housing conditions
Income inequality	Tax and redistribution policies

child mortality at ages 5–9 (39, 46). More comprehensive child care and early education programs for children in Europe may thus partly contribute to their better health as compared with the health of American children.

Education Policies

Important differences in education policy exist between the United States and other high-income countries. Even though the United States spends more on public school education than do most other OECD countries (66), American students perform around or below the OECD average (66). Moreover there are substantial disparities in the quality of public schooling (e.g., reflected by student–teacher ratios) across US communities; these disparities are driven partly by residential segregation and by the financing of the public school system using local property taxes (66). Although educational attainment is relatively high in the United States (71), inequalities in spending may lead to substantial disinvestment among socially disadvantaged groups most at risk of poor health.

Evidence from across the United States (33, 53, 52) and Europe (11, 97) suggests that education policies such as compulsory schooling laws have had long-run effects on health and mortality. Other policies, such as education grant aid programs, have increased schooling completion and college attendance (24). The health benefits of these and other policies to expand access to and improve quality of education remain poorly understood.

Labor and Employment-Protection Policies

The United States is notable for its weaker employment-protection laws (euphemistically referred to as "labor flexibility") compared with other OECD countries. US workers face comparatively high risks of job displacement, as employers bear relatively low costs associated with collective dismissals or contract termination (67, 74). In addition, social policies to protect workers who become ill or displaced, as well as maternity leave policies, are modest in the United States as compared with most European countries (67). For example, net wage-replacement rates for long-term unemployment insurance for a single-earner married couple with two children in 2010 were 45% in the United States, compared with 66% in France, 86% in Sweden, and 90% in Japan (71). Programs to support working parents are also substantially less comprehensive in the United States. In 2011–2012, the duration of fully paid maternity and parental leave was 45 weeks in France, 46 weeks in Sweden, and 21 weeks in the Netherlands, compared with none in the United States (70). It may be as a result of these policies that Americans work longer hours (81), spend less time cooking and eating meals at home (15), drive more as opposed to investing time in healthy transportation alternatives (40, 96), and spend less time overall in nonmarket activities that might be conducive to health.

Some employment-protection policies have been shown to improve health. For example, extending weeks of job-protected paid maternity leave significantly decreases infant mortality rates and improves child health (83), with large effects on postneonatal mortality (84, 93). Longer maternity leave may also improve maternal mental health during the postpartum period (16) and increase mothers' labor market attachment (14, 85), leading to long-run benefits for mothers and children (85). Statutory retirement age laws may also influence health and mortality (17). Less is known about the health impact of unemployment insurance and other employment-protection laws. However, the negative effects of unemployment on workers' subsequent earnings are mitigated through generous unemployment benefit systems or strict labor market regulation (29, 30). More evidence is needed to assess whether differences in these policies contribute to the US health disadvantage.

Income Support Policies

After taxes and transfers, poverty rates are considerably higher in the United States than in other OECD countries, particularly among children. In 2010, 21% of children in the United States lived in poverty, compared with 11% in France, 10% in the United Kingdom, and 8% in Sweden (69). In 2006, educational deprivation—a measure of whether children have the necessary items for school—was 5% in the United States, as opposed to 1% in France and 2% in Sweden and the United Kingdom. These differences partly reflect the fact that cash minimum-income benefits are considerably lower in the United States than in most other OECD countries (75).

Some evidence now indicates that income-transfer programs have important health effects on low-income mothers and their children. Expansions of the Earned Income Tax Credit may have led to increased birth weight and reduced maternal smoking (92). Similarly, pregnancies in women exposed to the Food Stamps program had better birth outcomes than did pregnancies in women who were not exposed to this program, particularly among African American mothers (3). Income-transfer programs may also improve the health of older Americans. For example, a study suggests that an increase in state maximum Supplemental Security Income benefits may reduce disability among older Americans (38). Comparable programs in Europe are far more comprehensive than those in the United States (1, 67), which may contribute to the poorer health of Americans (5, 7).

Housing Policies

Large differences exist in policies to promote access to public housing and home ownership across the OECD. Many European countries offer generous cash housing benefits for rental accommodation for families in need (67). By contrast, there is no US federal program for housing assistance; only some states deliver programs targeted to very-low-income households (75). Life-cycle housing wealth accumulation patterns also differ across the United States and Europe. Compared with US adults, British adults move into home ownership at younger ages, and a larger portion of their wealth is concentrated in housing (9), whereas Americans hold a larger portion of their wealth in financial assets. Policies promoting home ownership in some European countries may have contributed to these differences. For example, the "right-to-buy" program, introduced in 1980, granted UK households living in government housing for a minimum duration the right to buy their home with large discounts, which may have contributed to their larger housing wealth compared with US households (9).

The health impact of housing policies is poorly understood, but evidence suggests that housing itself is important to health. Results from the Moving to Opportunity (MTO) project, a randomized experiment in which families in poor neighborhoods were offered vouchers and assistance to move to low-poverty neighborhoods, showed improvements in mental health, behavior, and educational achievements for young girls (51) and adults (86) (albeit it may have led to poorer outcomes among boys). A recent study in Chicago showed similar benefits to female child mortality of a program randomly offering housing vouchers (44). Recent trials and policy evaluations also suggest that improvements in housing conditions, such as insulation and ventilation, effectively reduce hospitalizations and improve child health outcomes (42, 43). Homeowner occupiers have better health (23, 25, 37, 55–57, 63, 100) and lower mortality (27, 50) than renters do, although whether this is due to selection or actual health benefits of home ownership is not yet known. Although more research is needed, differences in housing policy may contribute to differences in child and adult health between the United States and other OECD countries.

Tax Policies, Redistribution, and Income Inequality

European countries have more progressive tax systems that are designed to protect the poor to a larger extent than is the US tax system. As a result, not only are social policy programs more comprehensive in Europe (1, 75), but income and wealth inequalities are also smaller than in the United States (102, 103). A potential hypothesis is that Americans have poorer health because they have larger inequalities in income and wealth. Evidence on the causal impact of income inequality on population health across high-income countries is as yet inconclusive (34, 58). However, some evidence suggests that income inequality may have a causal effect on causes of death that contribute to excess US mortality below age 50. A recent study using panel data from 21 developed countries found that income inequality increases mortality up to age 15 for females and up to age 50 for males (95). Studies on the role of income inequality in explaining differences in years of life lost below age 50 between the United States and other OECD countries offers a potential avenue for future research.

CONCLUSION

Our review leaves little doubt that the United States has poorer health and shorter life expectancy than do other high-income countries. We find that the US health disadvantage begins at birth, extends across the life course, and is more pervasive for Americans living in the US South and Midwest. Differences in health care, individual behavior, socioeconomic inequalities, and the

physical environment are all likely to contribute to the explanation, yet they offer only a partial account of the pervasiveness of the US health disadvantage across the life course and for many different outcomes. We hypothesize that much of the US health disadvantage is due to variations in nonmedical determinants of health, some of which result from dramatic differences in public policies across the United States and other OECD countries.

Ample evidence indicates that social policies and programs affecting Americans across the entire life course are less comprehensive in the United States than in other OECD countries. This includes policies affecting outcomes in early childhood (through less-comprehensive early education and child care programs), at early adulthood and middle age (through more unequal access to high-quality education and less-comprehensive employment-protection and support programs), and at older ages (through less-comprehensive housing and income-transfer programs affecting older individuals). Although the impact of many of these policies on social outcomes is well documented, the extent to which they influence health and contribute to differences in longevity among high-income countries is yet to be established. Disentangling the role of public policies is crucial to unravel why the most prosperous economy in the second half of the twentieth century continues to lag behind other high-income countries in life expectancy.

DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

ACKNOWLEDGMENTS

M.A. is supported by the National Institute on Aging (grants R01AG040248 and R01AG037398), a Starting Researcher grant from the European Research Council (ERC grant 263684), and the MacArthur Foundation Research Network on an Aging Society.

The Health and Retirement Study is sponsored by the National Institute on Aging (grant number NIA U01AG009740) and is conducted by the University of Michigan. Funding for the English Longitudinal Study of Ageing is provided by the National Institute of Aging (grants 2RO1AG7644-01A1 and 2RO1AG017644) and a consortium of UK government departments coordinated by the Office for National Statistics. This article uses data from Survey of Health, Ageing and Retirement in Europe (SHARE) wave 4 release 1.1.1, as of March 28, 2013, or SHARE wave 1 and 2 release 2.5.0, as of May 24, 2011, or SHARELIFE release 1, as of November 24, 2010. The SHARE data collection has been primarily funded by the European Commission through the fifth Framework Program (project QLK6-CT-2001-00360 in the thematic program Quality of Life), through the sixth Framework Program (projects SHARE-I3, RII-CT-2006-062193, COMPARE, CIT5-CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the seventh Framework Program (SHARE-PREP, N° 211909, SHARE-LEAP, N° 227822 and SHARE M4, N° 261982). Additional funding from the US National Institute on Aging (U01 AG09740-13S2, P01 AG005842, P01 AG08291, P30 AG12815, R21 AG025169, Y1-AG-4553-01, IAG BSR06-11, and OGHA 04-064) and the German Ministry of Education and Research as well as from various national sources is gratefully acknowledged (see **http://www.share-project.org** for a full list of funding institutions).

LITERATURE CITED

1. Alesina A, Glaeser E, Sacerdote B. 2001. Why doesn't the United States have a European-style welfare state? *Brookings Pap. Econ. Act.* 2:187–277

2. Alley DE, LLoyd J, Shardell M. 2010. Can obesity account for cross-national differences in life-expectancy trends? See Ref. 21, pp. 164–92
3. Almond D, Hoynes HW, Schanzenbach DW. 2011. Inside the war on poverty: the impact of Food Stamps on birth outcomes. *Rev. Econ. Stat.* 93:387–403
4. Avendano M, Glymour M. 2008. Obesity doesn't explain U.S.–Europe disparities. *Health Aff.* (*Millwood*) 27:298
5. Avendano M, Glymour MM, Banks J, Mackenbach JP. 2009. Health disadvantage in US adults aged 50 to 74 years: a comparison of the health of rich and poor Americans with that of Europeans. *Am. J. Public Health* 99:540–48
6. Avendano M, Kawachi I. 2011. Invited commentary: the search for explanations of the American health disadvantage relative to the English. *Am. J. Epidemiol.* 173:866–69
7. Avendano M, Kok R, Glymour M, Berkman L, Kawachi I, et al. 2010. Do Americans have higher mortality than Europeans at all levels of the education distribution?: A comparison of the United States and 14 European countries. See Ref. 21, pp. 313–32
8. Banks J, Berkman LF, Smith JP, Avendano M, Glymour MM. 2010. Do cross-country variations in social integration and social interactions explain differences in life expectancy in industrialized countries? See Ref. 21, pp. 217–58
9. Banks J, Blundell R, Smith JP. 2003. Understanding differences in household financial wealth between the United States and Great Britain. *J. Hum. Resour.* 38:241–79
10. Banks J, Marmot M, Oldfield Z, Smith JP. 2006. Disease and disadvantage in the United States and in England. *JAMA* 295:2037–45
11. Banks J, Mazzonna F. 2012. The effect of education on old age cognitive abilities: evidence from a regression discontinuity design. *Econ. J.* 122:418–48
12. Banks J, Muriel A, Smith JP. 2010. Disease prevalence, disease incidence, and mortality in the United States and in England. *Demography* 47(Suppl.):S211–31
13. Bezruchka S. 2012. The hurrider I go the behinder I get: the deteriorating international ranking of U.S. health status. *Annu. Rev. Public Health* 33:157–73
14. Brugiavini A, Pasini G, Trevisan E. 2013. The direct impact of maternity benefits on leave taking: evidence from complete fertility histories. *Adv. Life Course Res.* 18:46–67
15. Brunello G, Michaud P-C, Sanz-de-Galdeano A. 2008. *The rise of obesity across the Atlantic: an economic perspective.* Rep. 1468–0327, RAND, Santa Monica, CA
16. Chatterji P, Markowitz S. 2012. Family leave after childbirth and the mental health of new mothers. *J. Ment. Health Policy Econ.* 15:61–76
17. Coe NB, Zamarro G. 2011. Retirement effects on health in Europe. *J. Health Econ.* 30:77–86
18. Coleman MP, Quaresma M, Berrino F, Lutz JM, De Angelis R, et al. 2008. Cancer survival in five continents: a worldwide population-based study (CONCORD). *Lancet Oncol.* 9:730–56
19. Crimmins EM, Garcia K, Kim JK. 2010. Are international differences in health similar to international differences in life expectancy? See Ref. 21, pp. 68–101
20. Crimmins EM, Preston SH, Cohen B, Panel on Understanding Divergent Trends in Longevity in High-Income Countries, eds. 2010. *Explaining Divergent Levels of Longevity in High-Income Countries.* Washington, DC: Natl. Acad. Sci. **http://www.ncbi.nlm.nih.gov/books/NBK62369/pdf/TOC.pdf**
21. Crimmins EM, Preston SH, Cohen B, Panel on Understanding Divergent Trends in Longevity in High-Income Countries, eds. 2010. *International Differences in Mortality at Older Ages: Dimensions and Sources.* Washington, DC: Natl. Acad. Sci.
22. Cutler DM, Glaeser EL. 2006. *Why Do Europeans Smoke More than Americans?* Cambridge, MA: Natl. Bur. Econ. Res.
23. Dalstra JA, Kunst AE, Mackenbach JP. 2006. A comparative appraisal of the relationship of education, income and housing tenure with less than good health among the elderly in Europe. *Soc. Sci. Med.* 62:2046–60
24. Dynarski S. 2003. Does aid matter? Measuring the effect of student aid on college attendance and completion. *Am. Econ. Rev.* 93:279–88
25. Ellaway A, Macintyre S. 1998. Does housing tenure predict health in the UK because it exposes people to different levels of housing related hazards in the home or its surroundings? *Health Place* 4:141–50

26. Ezzati M, Friedman AB, Kulkarni SC, Murray CJL. 2008. The reversal of fortunes: trends in county mortality and cross-county mortality disparities in the United States. *PLoS Med.* 5:e66
27. Filakti H, Fox J. 1995. Differences in mortality by housing tenure and by car access from the OPCS Longitudinal Study. *Popul. Trends* (81):27–30
28. French SA, Story M, Jeffery RW. 2001. Environmental influences on eating and physical activity. *Annu. Rev. Public Health* 22:309–35
29. Gangl M. 2004. Welfare states and the scar effects of unemployment: a comparative analysis of the United States and West Germany. *Am. J. Sociol.* 109:1319–64
30. Gangl M. 2006. Scar effects of unemployment: an assessment of institutional complementarities. *Am. Sociol. Rev.* 71:986–1013
31. Gatta G, Capocaccia R, Coleman MP, Gloeckler Ries LA, Hakulinen T, et al. 2000. Toward a comparison of survival in American and European cancer patients. *Cancer* 89:893–900
32. Glei DA, Meslé F, Vallin J. 2010. Diverging trends in life expectancy at age 50: a look at causes of death. See Ref. 21, pp. 17–67
33. Glymour MM, Kawachi I, Jencks CS, Berkman LF. 2008. Does childhood schooling affect old age memory or mental status? Using state schooling laws as natural experiments. *J. Epidemiol. Community Health* 62:532–37
34. Granados JA. 2013. Health at advanced age: social inequality and other factors potentially impacting longevity in nine high-income countries. *Maturitas* 74:137–47
35. Hallal PC, Andersen LB, Bull FC, Guthold R, Haskell W, Ekelund U. 2012. Global physical activity levels: surveillance progress, pitfalls, and prospects. *Lancet* 380:247–57
36. Harris AR, Thomas SH, Fisher GA, Hirsch DJ. 2002. Murder and medicine: the lethality of criminal assault 1960–1999. *Homicide Stud.* 6:128–66
37. Hartig T, Fransson U. 2006. Housing tenure and early retirement for health reasons in Sweden. *Scand. J. Public Health* 34:472–79
38. Herd P, Schoeni RF, House JS. 2008. Upstream solutions: Does the Supplemental Security Income program reduce disability in the elderly? *Milbank Q.* 86:5–45
39. Heymann J, Earle A, McNeill K. 2013. The impact of labor policies on the health of young children in the context of economic globalization. *Annu. Rev. Public Health* 34:355–72
40. Ho JY. 2013. Mortality under age 50 accounts for much of the fact that US life expectancy lags that of other high-income countries. *Health Aff.* (*Millwood*) 32:459–67
41. Ho JY, Preston SH. 2010. US mortality in an international context: age variations. *Popul. Dev. Rev.* 36:749–73
42. Howden-Chapman P, Matheson A, Crane J, Viggers H, Cunningham M, et al. 2007. Effect of insulating existing houses on health inequality: cluster randomised study in the community. *BMJ* 334:460
43. Jackson G, Thornley S, Woolston J, Papa D, Bernacchi A, Moore T. 2011. Reduced acute hospitalisation with the healthy housing programme. *J. Epidemiol. Community Health* 65:588–93
44. Jacob BA, Ludwig J, Miller DL. 2013. The effects of housing and neighborhood conditions on child mortality. *J. Health Econ.* 32:195–206
45. Kapteyn A, Smith JP, van Soest A. 2007. Vignettes and self-reports of work disability in the United States and the Netherlands. *Am. Econ. Rev.* 97:461–73
46. Keating D, Simonton S. 2008. Health effects of human development policies. See Ref. 87, pp. 61–94
47. Kjellstrom T, Hinde S. 2007. Car culture, transport policy, and public health. In *Globalization and Health*, ed. I Kawachi, S Wamala, pp. 98–121. New York: Oxford Univ. Press
48. Krug EG, Powell KE, Dahlberg LL. 1998. Firearm-related deaths in the United States and 35 other high- and upper-middle-income countries. *Int. J. Epidemiol.* 27:214–21
49. Kulkarni SC, Levin-Rector A, Ezzati M, Murray CJ. 2011. Falling behind: life expectancy in US counties from 2000 to 2007 in an international context. *Popul. Health Metr.* 9:16
50. Laaksonen M, Martikainen P, Nihtilä E, Rahkonen O, Lahelma E. 2008. Home ownership and mortality: a register-based follow-up study of 300,000 Finns. *J. Epidemiol. Community Health* 62:293–97
51. Leventhal T, Dupere V. 2011. Moving to opportunity: Does long-term exposure to 'low-poverty' neighborhoods make a difference for adolescents? *Soc. Sci. Med.* 73:737–43

52. Lleras-Muney A. 2005. The relationship between education and adult mortality in the United States. *Rev. Econ. Stud.* 72:189–221
53. Lleras-Muney A, Cutler DM. 2008. Education and health: evaluating theories and evidence. See Ref. 87, pp. 29–60
54. Macinko J, Starfield B, Shi L. 2003. The contribution of primary care systems to health outcomes within Organization for Economic Cooperation and Development (OECD) countries, 1970–1998. *Health Serv. Res.* 38:831–65
55. Macintyre S, Ellaway A, Der G, Ford G, Hunt K. 1998. Do housing tenure and car access predict health because they are simply markers of income or self esteem? A Scottish study. *J. Epidemiol. Community Health* 52:657–64
56. Macintyre S, Ellaway A, Hiscock R, Kearns A, Der G, McKay L. 2003. What features of the home and the area might help to explain observed relationships between housing tenure and health? Evidence from the west of Scotland. *Health Place* 9:207–18
57. Macintyre S, Hiscock R, Kearns A, Ellaway A. 2001. Housing tenure and car access: further exploration of the nature of their relations with health in a UK setting. *J. Epidemiol. Community Health* 55:330–31
58. Mackenbach JP. 2002. Income inequality and population health. *BMJ* 324:1–2
59. Mackenbach JP. 2013. Convergence and divergence of life expectancy in Europe: a centennial view. *Eur. J. Epidemiol.* 28:229–40
60. Manton KG, Vaupel JW. 1995. Survival after the age of 80 in the United States, Sweden, France, England, and Japan. *N. Engl. J. Med.* 333:1232–35
61. Martinson ML. 2012. Income inequality in health at all ages: a comparison of the United States and England. *Am. J. Public Health* 102:2049–56
62. Martinson ML, Teitler JO, Reichman NE. 2011. Health across the life span in the United States and England. *Am. J. Epidemiol.* 173:858–65
63. McCann M, Grundy E, O'Reilly D. 2012. Why is housing tenure associated with a lower risk of admission to a nursing or residential home? Wealth, health and the incentive to keep 'my home'. *J. Epidemiol. Community Health* 66:166–69
64. Murray CJ, Kulkarni S, Ezzati M. 2005. Eight Americas: new perspectives on U.S. health disparities. *Am. J. Prev. Med.* 29:4–10
65. Murray CJL, Kulkarni SC, Michaud C, Tomijima N, Bulzacchelli MT, et al. 2006. Eight Americas: investigating mortality disparities across races, counties, and race-counties in the United States. *PLoS Med.* 3:e260
66. OECD. 2011. *Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States*. Paris: OECD. **http://www.oecd.org/pisa/46623978.pdf**
67. OECD. 2012. *Benefits and wages: statistics*. Updated March. **http://www.oecd.org/els/soc/**
68. OECD. 2012. *Education at a Glance 2012: OECD Indicators*. Paris: OECD. **http://www.oecd.org/edu/EAG%202012_e-book_EN_200912.pdf**
69. OECD. 2012. *Income distribution: Poverty*. Updated April 24. Retrieved May 17, 2013. **http://stats.oecd.org/Index.aspx?DataSetCode=IDD**
70. OECD. 2012. *OECD family database*. Retrieved on May 17, 2013. **http://www.oecd.org/social/family/database**
71. OECD. 2012. *OECD stat.* (*database*). Updated April 24. Retrieved on May 17, 2013. doi: 10.1787/data-00285-en
72. OECD. 2013. *OECD health data: non-medical determinants of health* (*database*). Updated October. Retrieved on May 27. doi: 10.1787/health-data-en
73. OECD. 2013. *OECD health data, OECD health statistics* (*database*). Retrieved on May 9. doi: 10.1787/data-00546-en
74. OECD. 2013. *OECD indicators of employment protection*. Updated January 1. Retrieved April 2. **http://www.oecd.org/employment/protection**
75. OECD. 2013. *OECD tax and benefits* (*database*). Retrieved on May 17. doi: 10.1787/tax-data-en
76. Pampel F. 2010. Divergent patterns of smoking across high-income nations. See Ref. 21, pp. 132–63
77. Preston S, Ho J. 2010. Low life expectancy in the United States: Is the health care system at fault? See Ref. 21, pp. 259–98

78. Preston SH, Glei DA, Wilmoth JR. 2010. A new method for estimating smoking-attributable mortality in high-income countries. *Int. J. Epidemiol.* 39:430–38
79. Preston SH, Stokes A. 2011. Contribution of obesity to international differences in life expectancy. *Am. J. Public Health* 101:2137–43
80. Pritchard C, Galvin K. 2006. A comparison of UK and US mortality outcomes. *Nurs. Times* 102:33–34
81. Rogerson R. 2006. Understanding differences in hours worked. *Rev. Econ. Dyn.* 9:365–409
82. Ross CE, Mirowsky J. 2000. Does medical insurance contribute to socioeconomic differentials in health? *Milbank Q.* 78:291–321, 151–52
83. Rossin M. 2011. The effects of maternity leave on children's birth and infant health outcomes in the United States. *J. Health Econ.* 30:221–39
84. Ruhm CJ. 2000. Parental leave and child health. *J. Health Econ.* 19:931–60
85. Ruhm CJ. 2011. Policies to assist parents with young children. *Future Child* 21:37–68
86. Sanbonmatsu L, Marvokov J, Potter N, Yang F, Adam E, et al. 2012. The long-term effects of moving to opportunity on adult health and economic self-sufficiency. *Cityscape: J. Policy Dev. Res.* 14:109–36
87. Schoeni RF, House JS, Kaplan GA, Pollack H, eds. 2008. *Making Americans Healthier: Social and Economic Policy as Health Policy*. New York: Russell Sage Found.
88. Singh GK, Azuine RE, Siahpush M, Kogan MD. 2013. All-cause and cause-specific mortality among US youth: socioeconomic and rural-urban disparities and international patterns. *J. Urban Health* 90:388–405
89. Singh GK, Kogan MD. 2007. Persistent socioeconomic disparities in infant, neonatal, and postneonatal mortality rates in the United States, 1969–2001. *Pediatrics* 119:e928–39
90. Singh GK, Kogan MD. 2007. Widening socioeconomic disparities in US childhood mortality, 1969–2000. *Am. J. Public Health* 97:1658–65
91. Steptoe A, Wikman A. 2010. The contribution of physical activity to divergent trends in longevity. See Ref. 21 pp. 193–216
92. Strully KW, Rehkopf DH, Xuan Z. 2010. Effects of prenatal poverty on infant health: state earned income tax credits and birth weight. *Am. Sociol. Rev.* 75:534–62
93. Tanaka S. 2005. Parental leave and child health across OECD countries. *Econ. J.* 115:F7–28
94. Thorpe KE, Howard DH, Galactionova K. 2007. Differences in disease prevalence as a source of the U.S.-European health care spending gap. *Health Aff.* (*Milkwood*) 26:w678–86
95. Torre R, Myrskylä M. 2013. Income inequality and population health: a panel data analysis on 21 developed countries. *Popul. Stud.* In press
96. Transp. Res. Board. 2010. *Achieving traffic safety goals in the United States: lessons from other nations.* Spec. Rep. No. 300. Washington, DC: Transp. Res. Board. **http://onlinepubs.trb.org/onlinepubs/sr/sr300.pdf**
97. van Kippersluis H, O'Donnell O, van Doorslaer E. 2009. Long run returns to education: Does schooling lead to an extended old age? *J. Hum. Resour.* 46:695–721
98. Williams DR, Collins C. 2001. Racial residential segregation: a fundamental cause of racial disparities in health. *Public Health Rep.* 116:404–16
99. Wilmoth JR, Boe C, Barbieri M. 2010. Geographic differences in life expectancy at age 50 in the United States compared with other high-income countries. See Ref. 21, pp. 333–68
100. Windle GS, Burholt V, Edwards RT. 2006. Housing related difficulties, housing tenure and variations in health status: evidence from older people in Wales. *Health Place* 12:267–78
101. Wolf-Maier K, Cooper RS, Kramer H, Banegas JR, Giampaoli S, et al. 2004. Hypertension treatment and control in five European countries, Canada, and the United States. *Hypertension* 43:10–17
102. Wolff EN. 1996. International comparisons of wealth inequality. *Rev. Income Wealth* 42:433–51
103. Wolff EN. 1998. Recent trends in the size distribution of household wealth. *J. Econ. Perspect.* 12:131–50
104. Woolf SH, Aron L, Panel on Understanding Cross-National Health Differences Among High-Income Countries, eds. 2013. *U.S. Health in International Perspective: Shorter Lives, Poorer Health.* Washington, DC: Natl. Acad. Press