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Trends in U.S. Population Health: The Central Role of Policies, Politics, and Profits

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Abstract

Recent trends in U.S. health have been mixed, with improvements among some groups and geographic areas alongside declines among others. Medical sociologists have contributed to our understanding of those disparate trends, although important questions remain. In this article, we review trends since the 1980s in key indicators of U.S. health and weigh evidence from the last decade on their causes. To better understand contemporary trends in health, we propose that commonly used conceptual frameworks, such as social determinants of health, should be strengthened by prominently incorporating commercial, political-economic, and legal determinants. We illustrate how these structural determinants can provide new insights into health trends, using disparate health trajectories across U.S. states as an example. We conclude with suggestions for future research: focusing on structural causes of health trends and inequalities, expanding interdisciplinary perspectives, and integrating methods better equipped to handle the complexity of causal processes driving health trends and inequalities.

Keywords

trends; inequalities; political; commercial; legal

Recent trends in U.S. health have been mixed, with improvements among some groups and places alongside declines among others. Medical sociology has contributed to our understanding of those disparate trends, although many important questions remain unanswered. In this article, we assert that a stronger focus on structural causes of the trends is crucial for advancing the field and improving population health. In particular, we propose that focusing on policies, politics, and private industry's pursuit of profits is essential. The first section sets the stage by describing trends in key measures of health by gender, race-ethnicity, socioeconomic status (SES), and place. Section 2 discusses frameworks and methods used in recent decades to explain the trends. It weighs the evidence for various

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explanations and highlights gaps. Section 3 proposes a twenty-first century framework for closing those gaps. Similar to the infusion of social epidemiology into medical sociology decades ago, we propose integrating perspectives from the commercial, political-economic, and legal determinants of health. As an illustration of this integration, Section 4 highlights emerging research on how U.S. state policies and political contexts affect health and how those contexts are shaped by commercial influences. Section 5 recommends future directions and new frontiers for advancing the field. These include focusing on the structural causes of U.S. health trends, expanding interdisciplinary research beyond the sociology-biology interface, and integrating methods that can better account for the complex, layered causes of population health.

1. RECENT TRENDS IN POPULATION HEALTH

Mortality and Life Expectancy

Our focus on structural factors to understand trends is rooted in two publications by the National Research Council and Institute of Medicine, hereafter NRC (2011; 2013). Their aim was to better understand mortality trends in the United States compared with other high-income countries. One main finding was that mortality improvements for Americans have increasingly lagged behind peer countries. We illustrate this worrisome trend in Figure 1. From 1980 to 2018, life expectancy in high-income countries improved dramatically except in the United States where it increased slowly after 1980, plateaued around 2010, and declined after 2014. Two characteristics of the U.S. trend suggest that macro-level forces may be culpable. First, the trends for U.S. men and women are relatively similar despite known gender differences in health behaviors and exposures. Second, the U.S. life expectancy divergence continues unabated for almost 40 years, suggesting a sustained influence. Collectively, these patterns point to fundamental structural factors that have had a negative impact on U.S. mortality trends.

Another important U.S. trend emerged at about the same time as the divergence in U.S. life expectancy from other high-income countries: growing inequalities in life expectancy by SES (Cutler et al. 2011; Hayward, Hummer, and Sasson 2015; Montez et al. 2011). Figure 2 illustrates this trend for U.S. black and white men and women, with educational attainment as the measure of inequality. The estimates of life expectancy at age 25 are derived from Vital Statistics data and Sasson and Hayward (2019). For all four race-sex groups, differences in life expectancy across education levels have grown since 1990. Between 1990 and 2017, the gap in life expectancy between adults with a college degree and those with at most a high school credential widened from 2.1 to 5.6 years among black women, 1.4 to 7.3 years among white women, 5.0 to 9.4 years among black men, and 3.9 to 9.6 years among white men. Losses in life expectancy were initially observed in the 1990s among adults without a high school credential. Later, adults with a high school credential experienced such losses, and since 2010 life expectancy declined even among those with some college but no degree. It seems that gains in life expectancy are now reserved for college graduates, suggesting that the quality of life for all but the most highly educated has worsened.

Mortality trends have also been uneven across geographic areas within the United States. Trends since the mid-1960s have been least favorable in the Central South region (comprising Alabama, Kentucky, Mississippi, and Tennessee), which is partly tied to smoking patterns, creating a significant Southern mortality disadvantage (Fenelon 2013). Additionally, across the country, mortality trends have been more favorable in big cities and metropolitan areas compared with small cities and rural areas. Life expectancy rose in all big cities from 1990 to 2015. The increase ranged from 3.1 years in Indianapolis to 13.7 years in San Francisco (Fenelon and Boudreaux 2019). This sizable increase, however, stands in contrast to the stagnation or even declines, in recent years, in rural and small metropolitan areas (Elo et al. 2019).

Figure 3 illustrates the growing geographic disparities by focusing on U.S. states. Disparities in life expectancy across states narrowed during the 1960s and 1970s but began expanding in the early 1980s (Montez et al. 2020). The range in life expectancy across states was narrowest in 1984 at 4.9 years. By 2017, it had grown to 7.0 years. States also exhibit vastly different trajectories over the period, as illustrated for Connecticut and Oklahoma. In the 1960s, these states had similar life expectancies. By 1970, they began to diverge although both states continued to improve. However, since the mid-1980s, Oklahoma's life expectancy has plateaued while Connecticut's has continued to rise.

Given the growing importance of state of residence and educational attainment on mortality, recent research looks at the intersection of these two factors and examines how state contexts affect educational disparities in mortality. A recent analysis found that the mortality of high-educated adults has declined over time and become more similar across states, but the mortality of less-educated adults became more dissimilar, with some states showing rising rates over time, others with stable rates, and still others with declining rates (Montez et al. 2019b). These patterns suggest that the life chances for persons with the fewest resources are increasingly tied to their place of residence. At the same time, life chances for highly educated persons became less dependent on context and more contingent on personal resources and opportunities associated with higher education. That is, education has become a "personal firewall" (Montez, Zajacova, and Hayward 2017). The takeaway is that geographic contexts seem to increasingly matter for mortality trends, especially among less-educated adults.

Morbidity and Physical Functioning

Although this article focuses on mortality and life expectancy, this section highlights trends in a few other outcomes to give a more comprehensive picture. Morbidity trends have been mixed, as might be expected for a complex multidimensional construct that encompasses dimensions ranging from biological risk to acute and chronic conditions. Some dimensions have improved over recent decades, such as self-assessments of health (Schellekens and Ziv 2020). The prevalence of cardiovascular disease and the incidence of leading types of cancer have steadily declined over three decades (Singh et al. 2015; Weir et al. 2015). Further declines are projected for cancer for at least a few more decades (Ma et al. 2019), suggesting systemic changes behind the improvements.

In contrast, other dimensions of health have worsened. Among chronic conditions, diabetes incidence and prevalence began climbing sharply in the 1990s (Geiss et al. 2014). In large part, this trend is correlated with increases in obesity (An 2015), which are projected to keep increasing for at least the next decade (Wang et al. 2020). The diabetes and obesity trends contributed to increases in multimorbidity among most population groups since 1990s (King, Xiang, and Pilkerton 2018). Additionally, recent studies find an increasing prevalence of self-reported pain (e.g., Zajacova, Zimmer, and Grol-Prokopczyk 2020) and painful diagnosed health conditions (Nahin et al. 2019). Finally, while disability trends were favorable across all population groups through the 1980s and 1990s (Martin, Schoeni, and Andreski 2010), these trends reversed course in the past two decades for adults below 65 years of age as they have begun experiencing a rise in disability (Martin and Schoeni 2014).

Throughout the literature on U.S. health trends, one finding is consistent: educational disparities widened. For outcomes that are improving for the population as a whole, improvements are mainly occurring among higher-educated adults, whether for self-rated health (Schellekens and Ziv 2020) or conditions such as cancer (Singh and Jemal 2017) and cardiovascular disease (Singh et al. 2015). For health problems with increasing prevalence, the increases have been steeper for less-educated persons. This exacerbation of inequalities exists across numerous outcomes, including obesity (An 2015), diabetes (Geiss et al. 2014), disability (Cantu et al. 2021), and chronic pain (Zajacova et al. 2020).

2. FRAMEWORKS, METHODS AND EVIDENCE, AND GAPS

The seminal 2013 NRC report mentioned above used a socioecological framework (Dahlgren and Whitehead 2007) to develop hypotheses about the worrisome U.S. health trends and growing U.S. disadvantage in international context. A central tenet of the framework is that health behaviors and outcomes are shaped by multiple layers of causes. These include macro, meso, and micro layers, which represent institutional, interactional, and individual factors, respectively (Homan 2019). The macro layer captures overarching institutions, policies, cultures, and systems such as political and economic systems. The meso layer includes intermediary settings such as workplaces, interrelations such as families, as well as physical and social environments and inequalities that shape interactions. The micro layer includes individuals' health behaviors and characteristics such as SES, race-ethnicity, and gender. A corollary tenet is that efforts to improve behaviors and outcomes should address multiple layers to be most effective. This is key because the layers are interdependent. For instance, efforts to encourage individuals to be physically active may fail if people do not have access to safe outdoor recreational spaces or affordable indoor facilities.

In this section, we highlight recent evidence on the causes of the U.S. health trends since 1980, organized around micro, meso, and macro layers. Although the evidence provided is not exhaustive (due to space considerations), it encapsulates the main findings and disagreements from the last decade. We focus on studies of health *trends* but incorporate some cross-sectional studies to round out the discussion.

Methods and Evidence

Much of the evidence on the causes of the U.S. trends accumulated during the last decade comes from research focused on mortality and life expectancy. This research has mainly used population-based vital statistics data or individual-level survey data linked to death records, and often applied demographic methods such as cause-of-death decompositions. Another characteristic of this body of evidence is its international-comparative approach, contrasting U.S. health trends to those in other high-income countries. More recently, studies have focused on explaining diverging trends across geographic areas within the United States. In addition to those demographically oriented studies, the last decade has produced rich qualitative scholarship that has shed light on the macro forces and lived experiences of people most affected by the trends. Taken together, this research has yielded important evidence about factors at the micro, meso, and macro levels that have shaped U.S. health trends.

Micro layers.—Trends in U.S. population health since 1980 may partly reflect health behaviors. On the positive side, cigarette smoking fell from 33.2% to 13.7% between 1980 and 2018 (American Lung Association 2020) and per capita alcohol consumption declined by 15% between 1981 and 2016 (Haughwout and Slater 2018). However, average daily caloric consumption increased, along with intakes of total fat, carbohydrates, and high-fructose corn syrup (National Research Council 2013). In addition, misuse of opioids has skyrocketed (National Academies of Sciences 2017).

The combined effects of those behaviors on health trends differ by age, period, and cohort. For life expectancy, trends in smoking have been particularly consequential for older adults and cohorts (National Research Council 2011), while trends in opioid misuse have been more consequential for young and midlife adults in more recent cohorts (Geronimus et al. 2019). Nevertheless, as several scholars note, trends in behaviors are, on their own, an inadequate explanation for health trends as they neglect to explain *why* many Americans engage in such behaviors (Avendano and Kawachi 2014; Bambra, Smith and Pearce 2019; Freudenberg 2014).

Numerous studies have sought to understand U.S. mortality trends by examining their heterogeneity across SES (mainly education level) and further stratifying by gender and race-ethnicity (e.g., Geronimus et al. 2019; Masters, Hummer, and Powers 2012; Meara, Richards, and Cutler 2008; Montez et al. 2011; Sasson 2016; Sasson and Hayward 2019). Interestingly, the rising mortality among less educated adults does not appear to be simply an artifact of them becoming a smaller and “inherently” disadvantaged group over time. Attempts to account for such compositional changes find smaller but still meaningful increases in mortality (Bound et al. 2015; Hendi 2015; Meara et al. 2008). The fact that, in the most recent decade, mortality has risen for all adults except college graduates indicates that something more pervasive and structural is at play.

Health behaviors may play some role in the disparate trends by SES. Interestingly, a study of the last few decades of the twentieth century found that behaviors had little role and that the important factor was that the mortality consequences of behaviors became more severe for less educated persons (Cutler et al. 2011). Education effects on mortality trends also became

stronger for preventable causes of death (Masters, Link, and Phelan 2015), pointing to the growing importance of human agency at higher levels of education in shaping mortality. In an environment that increasingly requires advanced education to garner salubrious resources, less educated people may be at a competitive disadvantage. Finally, researchers note that external causes of death including drug poisoning deaths have disproportionately influenced longevity trends among less educated persons in recent years (Ho 2017; Sasson 2016; Sasson and Hayward 2019). Taken together, these studies point to changes in broader conditions that have allowed higher-educated persons to improve life chances while limiting those for less educated persons.

Meso layers.—Some studies have examined the role of physical and social environments, medical care systems, and work-family dynamics. One key feature of physical and social environments is the degree of income inequality. In fact, Wilkinson and Pickett (2009) point to income inequality as a key factor behind the U.S. health disadvantage given the negative correlation between income inequality and population health. Indeed, U.S. income inequality started rising in the early 1970s and is now the highest among G7 nations (Schaeffer 2020).

Regarding medical care, researchers such as Avendano and Kawachi (2014) question its contribution to health trends because the United States spends more on medical care than any other country; the major causes of death contributing to the trends are not directly amenable to medical care; and shortfalls in care explain just 10-15% of preventable mortality (McGinnis, Williams-Russo, and Knickman 2002). Recently, Case and Deaton (2020) argued that the U.S. medical care system is, in fact, a key explanation for the deteriorating health of many Americans, but its importance mainly lies in its widespread damage to employment and the economy. They describe how the rising costs of the U.S. system has consumed federal and state budgets to fund Medicare and Medicaid, led to higher taxes to cover those costs, diverted tax revenue away from things like infrastructure and education, caused employers to reduce wages and eliminate jobs so they can provide coverage to employees, and hurt insured people through high deductibles and copays.

Another domain concerns work and family. A comparative US-Finland study, for instance, found some evidence that the growing mortality disadvantage for U.S. women partly reflects changes in work-family life in the last half-century in the context of paltry U.S. supports like paid leave for employed parents (Montez et al. 2015). Similarly, a U.S. study of the widening educational gap in mortality among white women found that disparate trends in employment across education levels were an important contributor to the growing gap (Montez and Zajacova 2013).

Macro layers.—Relatively few studies have examined how U.S. policy and political contexts help explain health trends. However, their results lend strong support to the impact of such factors. Beckfield and Bambra (2016) examined temporal variation in welfare state generosity from 1971 to 2010 in the United States and 17 other OECD countries. They estimated that U.S. life expectancy would be 3.8 years longer if it had the average welfare state generosity of those countries. Another study (Montez et al 2020) examined trends in U.S. state policy contexts, an important focus given that the policy contexts in which

Americans live is increasingly defined by their state of residence (Grumbach 2018). The study used data on 18 state-level policy domains across 1970–2014 and found that state policies suppressed gains in U.S. life expectancy during the 1980s and after 2010 (Montez et al. 2020). After 2010, the U.S. longevity trend would have been an estimated 25% steeper among women and 13% steeper among men if state policies had not changed how they did. Changes related to labor, tobacco, environment, immigration, and civil rights were important for women and men, in addition to abortion and gun policies for women, with more liberal versions of each policy predicting increases in life expectancy. The authors estimated that U.S. life expectancy would be 2.8 years longer for women and 2.1 years longer for men—putting the United States on par with other high-income countries—if all U.S. states enjoyed the longevity advantage of states with more liberal policies.

Gaps

Studies from the last decade provide crucial insights on when, where, and for whom the health trends have been (un)favorable. However, other pieces of the puzzle have been undertheorized and understudied. Here, we highlight four critical gaps.

There has been little attention to the actions of *advantaged* populations in generating health trends and disparities (Link and García n.d.; McCartney, Collins and Mackenzie 2013; Montez 2020). Instead of interrogating the actions of advantaged groups, studies overwhelmingly seek answers in the behaviors, traits, genes, and other characteristics of disadvantaged groups, thereby contributing to the disappointing progress in reducing disparities (Link and García n.d.). Focusing on advantaged populations would align studies of health trends with the core principle of fundamental cause theory, that “a superior collection of flexible resources held by *higher SES* individuals and the collectivities to which they belong allow those of *higher SES* to avoid disease and death in widely divergent circumstances” (Phelan, Link, and Tehranifar 2010:34 italics added). This focus may also help reorient public health efforts toward inequality-generating processes rather than the manifestations of those processes.

Second, while it is not uncommon for researchers to speculate that macro-level forces may underlie health trends, it is uncommon for those forces to be the subject of empirical analysis of *trends* (c.f. Bambra and Beckfield 2016; Montez et al. 2020). For instance, relatively few studies have investigated the potential contribution of the dynamic changes in overarching policy and political contexts. We posit that this gap partly reflects the continued trajectory in medical sociology “toward identifying risk factors that are increasingly proximate to disease” (Link and Phelan 1995:84). It may also reflect barriers such as disciplinary silos and significant data constraints. Specifically, studying macro factors requires knowledge of historical changes in policies, politics, law, and the political economy, as well as longitudinal data on those factors.

The third gap is, in some ways, a synthesis of the first two. It pertains to the divergent health trends across education levels. More attention is needed on the causal role of both agency and context, especially the possibility that agency is disproportionately relevant for explaining trends among more educated adults while context is so for their less educated counterparts. The resources acquired as a result of schooling act as a personal firewall,

allowing high-educated adults to enhance their health across disparate contexts; lacking such firewall, less-educated adults' health is highly contingent on the contexts in which they reside. Studies of education-specific mortality trends across U.S. states, described in Section I, support this hypothesis (Montez et al. 2019b). In sum, explanations for the disparate health trends across education levels would be strengthened by considering potentially distinct explanations for each level.

Fourth, more integration is needed across quantitative and qualitative work on health trends. We believe that major progress toward understanding U.S. trends requires that quantitative work be informed by the rich qualitative scholarship and journalism over the last decade (e.g., Alexander 2017; Hochschild 2016; Kristof and WuDunn 2020; Metzl 2019; Quinones 2015). Interestingly, it is that work which has more clearly exposed macro explanations, such as deindustrialization, corporations putting profits over people, racism, and the hollowing out of small towns, leaving behind crumbling infrastructure, social dislocation, and hopelessness. Insights from this scholarship could also help reconcile current debates within quantitative work, such as the relative contribution of supply and demand in the rise of opioid-related deaths, and the extent to which the concept of despair can be captured by simple measures such as unemployment. Integrating qualitative and quantitative scholarship could also enhance the latter by ensuring that it asks the right questions and correctly interprets the findings. It would also bridge insights from quantitative work on how people die with insights from qualitative work on how they live, providing important context for understanding the former (see Parsons 2014).

3. POPULATION HEALTH FRAMEWORKS FOR THE 21ST CENTURY

Over the last decade, several voices have called for a radical refocusing of population health science. They advocate an updated framework of population health that goes beyond social determinants and distinguishes them from structural processes that generate their distribution and salience. Burris (2011:26) urged health researchers to "start including legal variables and hypotheses on an equal footing with other social and attitudinal factors." Hastings (2012:3) claimed the "focus on the social determinants of ill health needs to be matched with an equal concern for the commercial determinants of ill health." Kickbusch (2012:428) then added the need to focus on "the political determinants of health—and above all the interface between these determinants." In the next section, we explain why this framework expansion is needed to better understand the core drivers of population health. We propose that the framework should prominently feature commercial, political-economic, and legal determinants of health.

Commercial Determinants

A twenty-first century framework must include the growing influence of transnational corporations and other commercial interests on population health. Such corporations and their products are major drivers of non-communicable diseases (NCD), responsible for over 70 percent of deaths worldwide (Moodie et al. 2013). Some scholars have even suggested that efforts to reduce NCDs globally have been stymied by the power of corporations to shape government policy to protect profits, alongside an under-appreciation among the

public health community of that power (Knai et al. 2018). The so-called "pathological pursuit" of profits by corporations over last 40 or so years has had heavy and far-reaching consequences for democracy, human well-being, and the planet (Bakan 2004; Freudenberg 2014). Some of the ways in which corporations affect health are obvious. They manufacture products that harm health and the environment such as tobacco, sugar, opioids, artificial trans fats, pesticides, and greenhouse gasses; and they hire product defense firms to mislead the public about their harms (Freudenberg 2014; Michaels 2020). Over 40 years ago, McKinlay (1975) recognized the immense power of corporations on health by calling them the "manufacturers of illness." Corporations and other commercial interests influence government regulations, laws, and policies that affect everyone's well-being. They shape regulations on minimum wage, paid leave, unionization, air and water quality, consumer protections, incomes, income inequality, medical care, and much more.

Over the last half century, the global influence of transnational corporations on the population and planet has risen to unprecedented levels. As Freudenberg (2014:35) asserts, "Never before in human history has any single social institution been able to influence so many of the determinants of health for so many of the world's people." Yet, standard frameworks of population health largely overlook the commercial determinants (see review in Maani et al. 2020). This omission applies to medical sociology as well. By our count, 1.1% of abstracts in this journal from 1967 through 2019 include the words commercial, corporation, company, or profit.

Political-Economic Determinants

The role of the political economy on health has long been recognized, yet interest in it as a framework for explaining health trends and patterns has ebbed and flowed (Doyal and Pennell 1979; Krieger 2001). A political economy perspective argues that political and economic systems shape the welfare state and its policies, politics, market economy, and organization of labor; all of which, in turn, affects people's health and the social determinants of health (Bambra et al. 2019).

Political-economic determinants must be integral to a twenty-first century framework. Mounting evidence finds positive associations between overall health and low health inequalities with politically liberal and egalitarian traditions, social democratic welfare state regimes, and higher public spending, while globalization and neoliberalism are associated with worse health and greater inequalities (see reviews in Beckfield and Krieger 2009; Muntaner et al. 2011). Despite evidence for a causal effect of political factors on health, there has been scant work testing how the U.S. political context has affected *trends* in health since circa 1980. There are many reasons to expect a causal link. A few examples include the rise of partisan polarization, changes in the balance of policymaking authority across federal, state, and local governments, and the growing influence of corporations, their lobbying groups, and the wealthy on political processes (Grumbach 2018; Hertel-Fernandez 2019; Phillips-Fein 2010).

Legal Determinants

Legal determinants of health are also profoundly important. In fact, each item on the CDC's list of great public health achievements partly resulted from legal interventions (Burris et al. 2016). Some legal determinants are obvious, such as laws on tobacco, firearms, abortion, and automobile safety. In reality, however, laws structure nearly every aspect of daily life in ways that directly or indirectly impact health, such as tax systems (Newman and O'Brien 2011) and discrimination (Homan 2019). In recent years, the field of legal epidemiology has emerged to investigate law as a central factor in the development, distribution, and prevention of morbidity, disability, and death (Burris et al. 2016). It is a promising perspective for understanding how legal factors may help explain health trends.[1]

Integrating perspectives from legal epidemiology into medical sociology could potentially be as transformative as integrating social epidemiology was decades ago. The latter elevated attention on disease etiology, biological mechanisms, genetics, and how social factors "get under the skin" (Link 2008). Integrating legal epidemiology could draw attention "upwards" to the centrality of law for population health. It could ignite a focus on legal trends like the gradual movement toward restrictive abortion laws and toward industry deregulation; legal events like the 2010 Citizens United case; and the merging of legal data into population-based surveys.

A Heuristic for the 21st Century

Figure 4 is a heuristic of the major determinants of population health discussed above. It depicts commercial, political-economic, and legal determinants as core structural factors. The overlap of the circles reflects the close interrelations between these factors. As an example, U.S. politics influences the selection of judicial nominees who then define laws that regulate commercial practices of corporations (MacLean 2017); in turn, corporations and their lobbyists draft legislation that, in turn, drives policies and politics (Hertel-Fernandez 2019).

Other key determinants of health—environmental, social, behavioral, and biological—are listed within the overlap to symbolize that their distribution in a society and salience for health are molded by the three structural forces. For instance, educational attainment becomes a social determinant when it is unequally distributed in a society that places a premium on it (Hayward et al. 2015). Other social determinants such as gender- and race- based systems are also key. Over the past decade, emerging work on the health effects of structural sexism, racism, and other forms of structural discrimination reveals how those systems operate on multiple levels and are connected to and reinforced by political-economic, legal, and commercial factors (Krieger 2020). For example, a U.S. study found that macro-level sexism (e.g., high percentage of state legislature seats held by men) and meso-level sexism (e.g., high husband-wife earnings ratio) harmed women's health; however, only macro-level sexism was harmful for men (Homan 2019). Another study showed that indicators of structural racism at the state level, such as political

[1]Use of the terms "legal" and "law" instead of "policy" reflects a subtle distinction. As Burris (2017) explains, laws are related to but not synonymous with policies, as the former are specific and observable manifestations of the latter. For instance, the generic term "U.S. tobacco policy" consists of specific laws such as clean air and minimum age for sale laws.

participation, employment, and judicial treatment predicted an elevated risk of myocardial infarction among blacks but not whites (Lukachko, Hatzenbuehler and Keyes 2014). In sum, commercial, political-economic, and legal determinants shape the distribution of health-related resources and risks across the population, often in ways that advantage some and disadvantage others.

4. APPLYING A 21ST CENTURY FRAMEWORK TO US HEALTH TRENDS

What new insights about U.S. health trends in the post 1980 era could be drawn using the heuristic in Figure 4? Here, we illustrate how it helps redirect questions and hypotheses toward core commercial, political-economic, and legal determinants that drive so many meso- and micro- layer risk factors such as employment, economic circumstances, and behaviors. We start with a brief history of how those three determinants became so powerful and intertwined.

Historical Highlights

In 1971, Lewis Powell, a lawyer and board member for several corporations, wrote a now-infamous memorandum to the U.S. Chamber of Commerce (Phillips-Fein 2010). It was a widely circulated call to American businesses to regain control of economic, political, and judicial processes—by whatever means—to squash perceived attacks on the American business enterprise from the public, politicians, academics, and anti-business activists. Two years later, Powell was nominated to the U.S. Supreme Court. Shortly thereafter, the American Legislative Exchange Council (ALEC) was formed. ALEC is a coalition of mainly conservative politicians, businesses, big donors, and activists that writes model bills that are beneficial to its members and persuades policymakers to enact them (Hertel-Fernandez 2019). The late 1970s also brought a wave of federal laws deregulating industries, such as airlines, trucking, and railways, giving them greater power to set prices and conduct business. As Hendrik Smith (2012) agues, the late 1970s was a pivotal transformation of the U.S. political economy to one driven by commercial interests.

Many of these structural changes intentionally occurred at the state level. Organizations like ALEC focus on states instead of the federal government because of gridlock in the latter and because the public pays less attention to state policymaking activity (Hertel-Fernandez 2019). By the mid-1980s, ALEC began succeeding in changing the political-economic context, “one state capital at a time” (Hertel-Fernandez 2019:xiv). The state policies championed by ALEC have dismantled labor rights (e.g., Right to Work Laws), protected commercial profits (e.g., Stand Your Ground Laws backed by gun and ammunition manufacturers), and appeased conservative activists and donors (e.g., Voter ID Laws).

In addition, since the 1980s, two policy movements—devolution and preemption—shifted the balance of policymaking authority across federal, state, and local governments. Devolution pushed certain authorities down from federal to state governments. It is often linked to the Reagan administration but became a “revolution” after the 1994 midterm elections. The newly controlled Republican Congress aimed to shrink the social safety net by placing greater fiscal and regulatory responsibility on the states. Consequently, states designed markedly different safety nets, with the most restrictive ones in states with

higher proportions of black and Hispanic residents (Soss et al. 2001). The preemption movement, meanwhile, removed certain legislative authorities from local governments and up to the states. State preemption laws often appease commercial interests by removing local authority on labor-related issues, such as raising minimum wage, and appease political interests by removing authority of blue cities in red states. The 2010 midterm elections ushered in a tidal wave of state preemption laws and other ALEC-drafted legislation in conservative states (Hertel-Fernandez 2019).

A major consequence of devolution, preemption, and groups like ALEC is that states made vastly different policy choices and their policy contexts hyperpolarized (Grumbach 2018). Some Americans now reside in states that promote well-being across the life span while many others reside in states that do the opposite. New York, for instance, invests in residents' human capital ($22,231 per pupil expenditure for primary and secondary education), provides an economic floor for working adults (e.g., minimum wage is $12.50 in most of the state), discourages risky behaviors (e.g., $4.35 state excise tax on cigarettes and 75 state laws aimed at preventing firearm injury), and does not preempt its localities from legislating on issues that may improve population health such as raising the minimum wage (Montez 2020). On the other hand, Mississippi spends just $8,692 per pupil, does not set a state minimum wage, levies a meager $0.68 excise tax on cigarettes, has just five laws aimed at preventing firearm injury, and preempts localities from legislating on numerous domains that could improve health. Recalling the classic parable in medical sociology about people drowning in a river (McKinlay 1975), New York helps prevent people from falling into the river, while Mississippi appears to push them in and yell "swim harder."

Can this Framework Help Explain U.S. Health Trends?

If the dynamic changes in the commercial, political-economic, and legal determinants of health have meaningfully contributed to the worrisome health trends, we would expect those trends to exhibit five features. First, health trends should shift around the timing of key commercial, political, and legal turning points reviewed above. Second, health disparities across states should widen shortly after their policy contexts began to polarize. Third, health trends should be more favorable in states like New York that enacted liberal policy contexts than in states like Mississippi. Fourth, we would expect that policy domains which have been the target of ALEC such as labor, environment, and guns to be the same policies with the greatest impact on health. And fifth, given the salience of those policies for economically marginalized individuals, the trends should be most troublesome for less-educated adults in states that moved in a conservative direction. Empirical evidence supports each of these expectations (Montez et al. 2020; Montez, Hayward, and Zajacova 2019a; Montez et al. 2019b).

In sum, this section underscores the need to refocus efforts to explain U.S. health trends on the structural forces that fuel them. Thirteen years since the first report that life expectancy was declining among low-educated women (Meara et al. 2008), we still lack a satisfactory explanation. And without an explanation that can inform an effective strategy to reverse the worrisome trends, a greater proportion of the population—at present this includes adults without a college degree—is experiencing stagnating or declining life expectancy.

Real progress requires shifting attention toward commercial, political-economic, and legal determinants of health.

5. FUTURE DIRECTIONS AND NEW FRONTIERS

In this section, we offer three suggestions for advancing the field into promising directions and frontiers. We foreshadowed these suggestions above. They include focusing on structural causes of health trends, expanding interdisciplinary research beyond the sociology-biology interface, and integrating methods that can better account for the complex, layered causes of population health.

Elevating the Focus on Structure

First, we urge scholars to "scale up" (Bambra et al. 2019) and identify the structural drivers of health trends. This means heeding the decades-long calls from scholars to move away from an exclusive risk factor approach, as it promotes a biomedical model of health and channels scientific efforts into producing more precise estimates of risk factors whose importance is already established (Keyes and Galea 2017). Some scholars have been especially critical of population health science that does not prioritize structural causes, provocatively calling it a matter of scientific clarity and intellectual honesty (McCartney et al. 2013). Others admonish that by not doing so, scientists have created a health inequalities industry, which has become a career for the affluent (Heath 2007). We assert that identifying major drivers of population health requires a sharper focus on the commercial, political-economic, and legal determinants of health, and their changes over the last 40–50 years. Likewise, a focus is needed on the role of advantaged populations and institutions. To be clear, we are not advocating a neglect of micro and meso factors, only that macro factors be given an elevated level of scientific attention commensurate with their importance in the empirical world (see also Cockerham 2005).

Expanding the "Inter" in Interdisciplinary

We also foreshadowed our second suggestion, which is to expand interdisciplinary research on health trends beyond the sociology-biology interface. As we discussed above, health trends are a manifestation of historical, multi-faceted, structural processes and events. The underlying causes are too complex for any single discipline to elucidate. We encourage medical sociologists who study health trends to collaborate with historians, legal scholars, political scientists, and others who can provide fresh perspectives on the myriad forces driving the trends. Although relatively rare, such collaborations over the past decade helped shed light on how the U.S. political economy has shaped life expectancy trends (Beckfield and Bambra 2016), how trends in tax policy affected population health (Newman and O'Brien 2011), and how the rise of state preemption laws may have exacerbated race/ethnic health disparities (Carr et al. 2020).

These collaborations can also promote awareness of and access to data needed to examine political-economic, commercial, and legal determinants of health. This type of data is difficult to find and time-consuming to collect and harmonize, thus creating a formidable obstacle to studying these determinants of health. But such efforts are well underway.

For example, political scientists have compiled and made available data on political and economic characteristics of U.S. states through the Correlates of State Policy Project (Jordan and Grossmann 2020). Legal scholars have harmonized and made available data on state and city laws through the Center for Public Health Law Research (CPHLR n.d.). In addition, interdisciplinary networks have recently developed repositories of existing data on U.S. state and local areas for health researchers (NLCHDD n.d.).

Integrating Methods for Complex Causal Processes

Our third suggestion is that the next generation of studies on health trends and inequalities adopt methodological approaches that explicitly conceptualize and incorporate the dynamics and complexities of factors at different levels, from micro to macro. The quest to strengthen conceptual frameworks and identify root causes has been increasingly overshadowed by one for sophisticated yet reductionist statistical modeling of proximal risk factors (Keyes and Galea 2017; Krieger 1994). Effectively, we propose that bold ideas be investigated by methods that advance the field in new and innovative ways that standard statistical methods might not allow. As we mentioned earlier, one suggestion is to better integrate insights on health trends and inequalities from qualitative studies into the design and interpretation of those using demographic and statistical methods. This would help ensure, for instance, that quantitative studies ask the right questions and are grounded in the everyday reality of the populations such studies seek to understand.

Another example is a case study approach, used widely in industry and public policy but relatively rare in medical sociology. Case studies allow researchers to appreciate the complex array of factors that come into play in real-life settings (Crowe et al. 2011). They may be especially helpful in developing a stronger understanding of key actors, policies, and institutions that shape long-term trends in health. Such an approach would be ideal, for instance, to better understand the divergent life expectancy trends noted above for Oklahoma and Connecticut. A great example is the mixed-methods case study in *Dying of Whiteness* (Metzl 2019). Aiming to understand how three policy issues have affected population health in recent decades, it focused on three U.S. states that each made a major shift in one of those policies: loosening gun control in Missouri, resisting Medicaid expansion in Tennessee, and major tax cuts in Kansas.

Medical sociologists might also look to industrial approaches to complex problem solving. Aviation, petrochemical, and other industries routinely solve complex problems as a part of daily operations and following industrial accidents. They often employ straightforward, logic-heavy methods such as Root Cause Analysis (RCA) (Fiorentini and Marmo 2019). An RCA brings together experts, often from different fields, to systematically identify each layer of a complex problem until the final “root” layer is revealed. An RCA can provide compelling answers to complex problems, even when some layers along the chain have yet to be studied. As a simplified example, an RCA of the rise of opioid-related deaths would start by identifying the first layer of possible, immediate causes (perhaps, “rise in supply” and “rise in demand”). After rating the strength of available evidence for each of those possible causes, the team creates a second layer that identifies possible causes of each of the

two elements of the first layer, and again rates existing evidence. The process continues until it converges on a root set of causes.

Finally, we echo calls in epidemiology for the development of complex systems dynamic models—a "causal architecture" (Keyes and Galea 2017)—that would allow researchers to account for the causes of health that stem from interacting contexts over time operating at different levels (Galea, Riddle, and Kaplan 2009; Orr, Kaplan and Galea 2016). Based on counterfactual thinking, this approach is gaining traction in epidemiology as a way of clarifying complex causal processes, such as those advanced above, regarding the ways in which commercial, political-economic, and legal factors influence health trends and inequalities. For instance, to estimate how various policies and their configurations might reduce the black-white gap in BMI, Orr and colleagues (2016) used agent-based model simulations that incorporated complexities, such as residential mobility and intergenerational effects, that standard methods often do not allow. Another example is from Cerdá and colleagues (2014) who compared the benefits of population health strategies focused on direct interventions versus those that tackle structural conditions. They examined hypothetical strategies for reducing overall rates of and racial disparities in violent victimization, finding that interventions could reduce overall rates but structural changes (specifically, reducing neighborhood racial segregation) were needed to reduce disparities.

Conclusions

Over the last decade, medical sociologists have documented mixed trends in U.S. population health and identified some of the myriad and complex causes. The trends have been favorable for higher educated adults, big cities, states with an increasingly liberal policy context, and regions of the country that contain those adults, cities, and states. In contrast, the trends have been increasingly unfavorable for lower educated adults, small cities and rural areas, and states with an increasingly conservative policy context. Research from the last decade finds that several factors operating at multiple levels have contributed to those disparate trends, but there is little consensus on the primary drivers and how to best address them. In this article, we argued that moving the needle on understanding health trends and improving population health requires a stronger focus on the commercial, political-economic, and legal determinants of health; interdisciplinary research beyond the sociology-biology interface; and methods well-suited to understand complex causal processes, such as case studies, RCA, and complex systems dynamic models.

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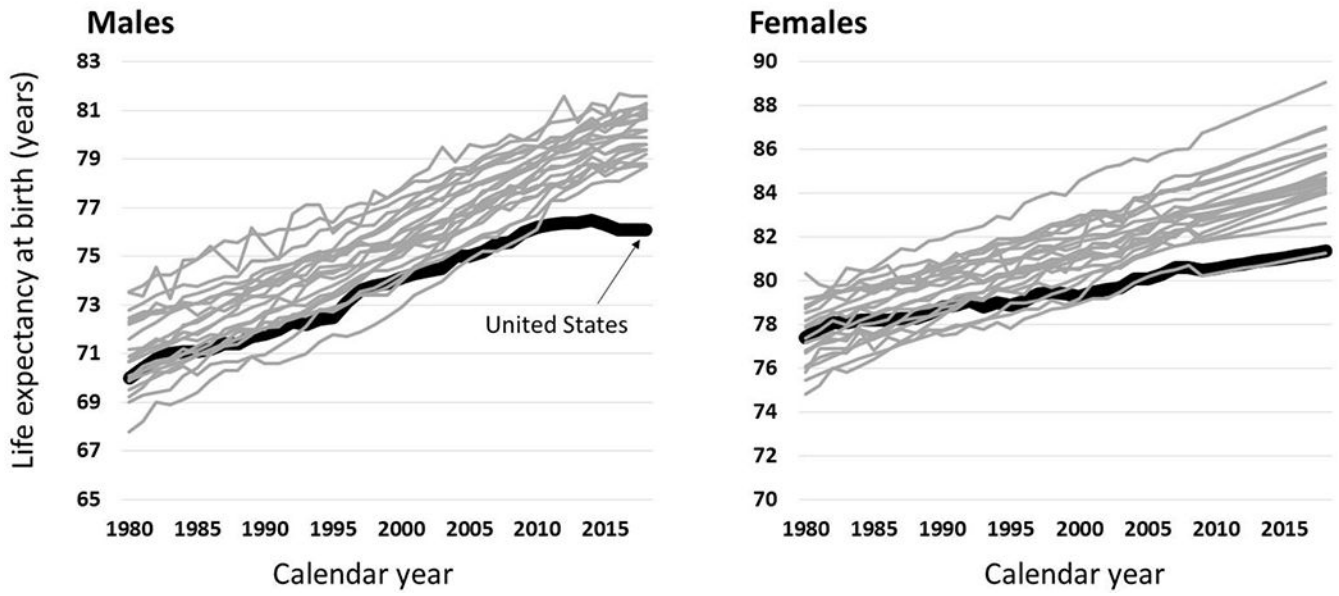

Figure 1.

Life Expectancy at Birth for Select High-Income Countries by Sex, 1980–2018.

Note: Countries include Switzerland, Norway, Japan, Sweden, Iceland, Ireland, Italy, Australia, Spain, New Zealand, Netherland, Canada, France, Great Britain, Belgium, Austria, Denmark, Finland, Greece, Germany, Portugal, and United States. Data from Human Mortality Database.

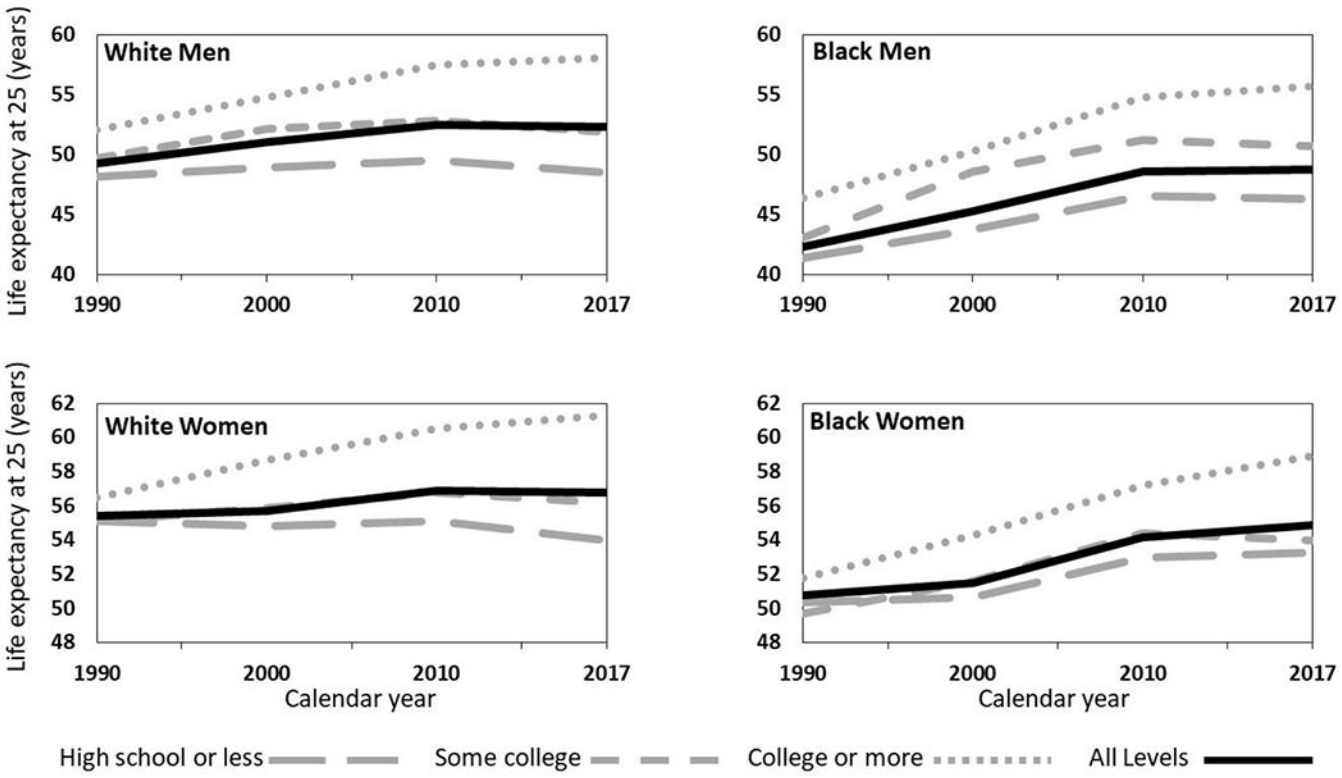

Figure 2.

U.S. life Expectancy at Age 25 by Race, Sex, and Educational Attainment, 1990–2017.

Note: Estimates are from Sasson and Hayward (2019) and authors' calculations.

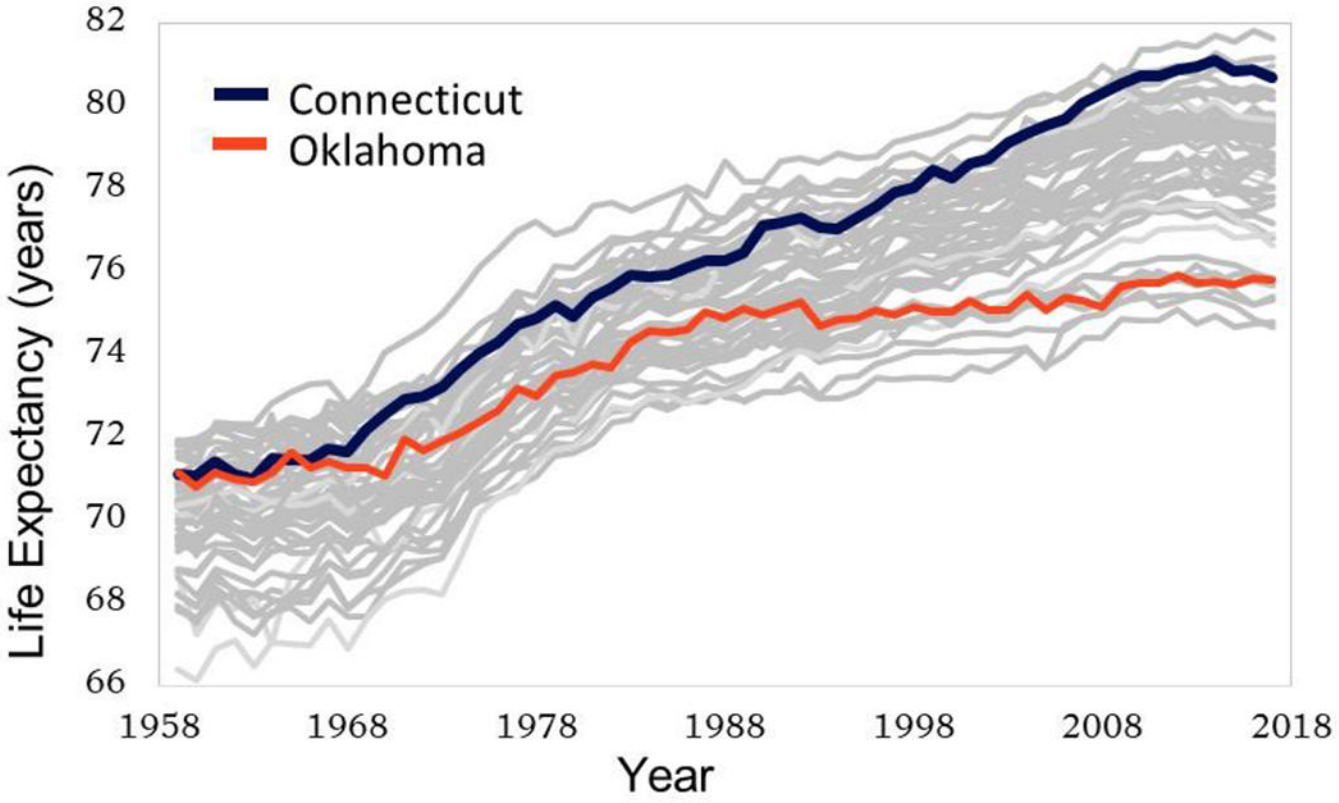

Figure 3.
Trends in Life Expectancy at Birth by U.S. State, 1959–2017.

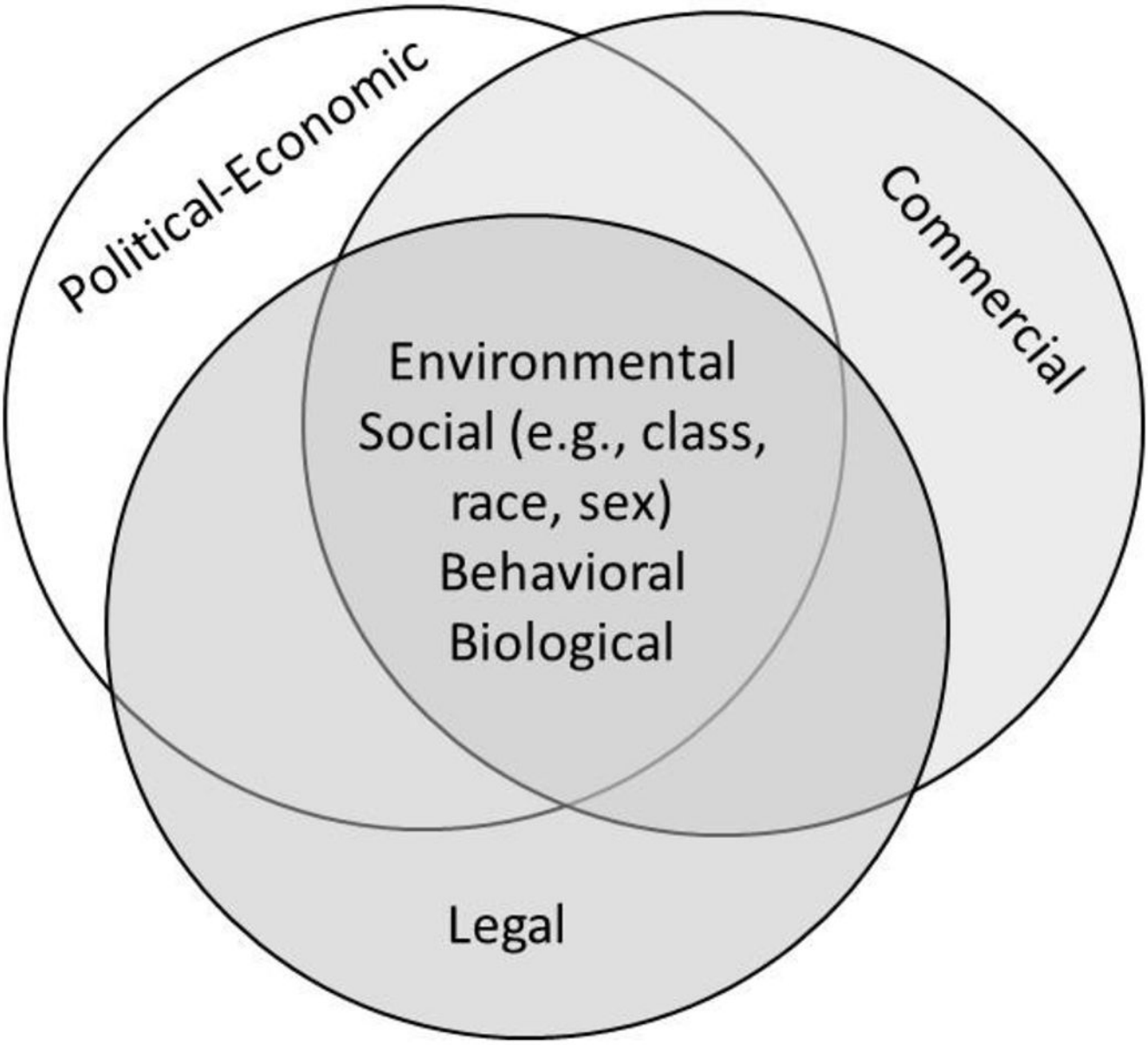

Figure 4.
A Population Health Determinants Heuristic for the Twenty-first Century.