

# Population & Societies

## The decrease in life expectancy in the United States since 2014

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Magali Barbieri\*

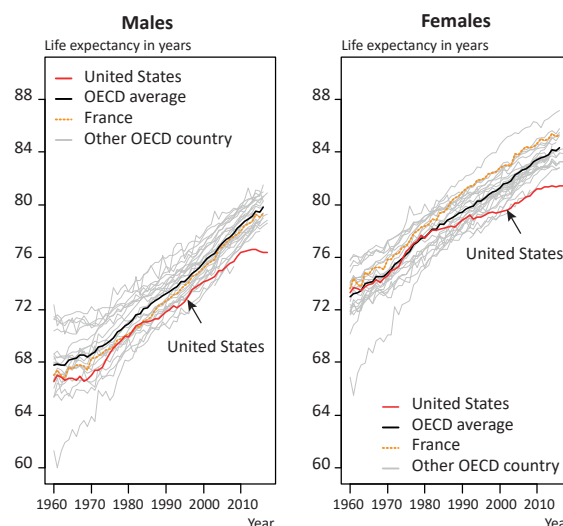
Why has life expectancy recently fallen in the United States, and why is US life expectancy falling ever further behind that of other developed countries? In this detailed look at mortality by age and cause of death, Magali Barbieri quantifies the role played by the opioid overdose epidemic that has accompanied the stagnation or slowdown in progress for other causes of death, such as cardiovascular diseases.

In 2010, life expectancy at birth in the United States stopped increasing, and since 2014 it has even begun to fall for men. The country's position has declined relative to the other OECD countries, where life expectancy has continued to increase (Figure 1). The United States started to fall behind around 1980, and its position has progressively deteriorated since then. Not only is US life expectancy lagging further and further behind the OECD average (excluding Eastern Europe), but since 2005–2006, it has even dropped below that of the lowest-ranking OECD countries (Portugal for men and Denmark for women). The gap between the United States and Japan, the leading OECD country in terms of life expectancy, is now 4.5 years for men and 5.6 years for women. With respect to France, the difference is 3 and 4 years, respectively.

### Trends that vary by age

Not all age groups are affected in the same way. Since 2014, the year in which life expectancy at birth started to fall in the United States, mortality has increased at all ages between 20 and 60 years, with a loss of 0.20 years of life at these ages for both sexes combined (0.30 years for men and 0.06 for women). The

Figure 1. Life expectancy at birth, 1960–2017. United States and other OECD countries (excluding Eastern Europe)

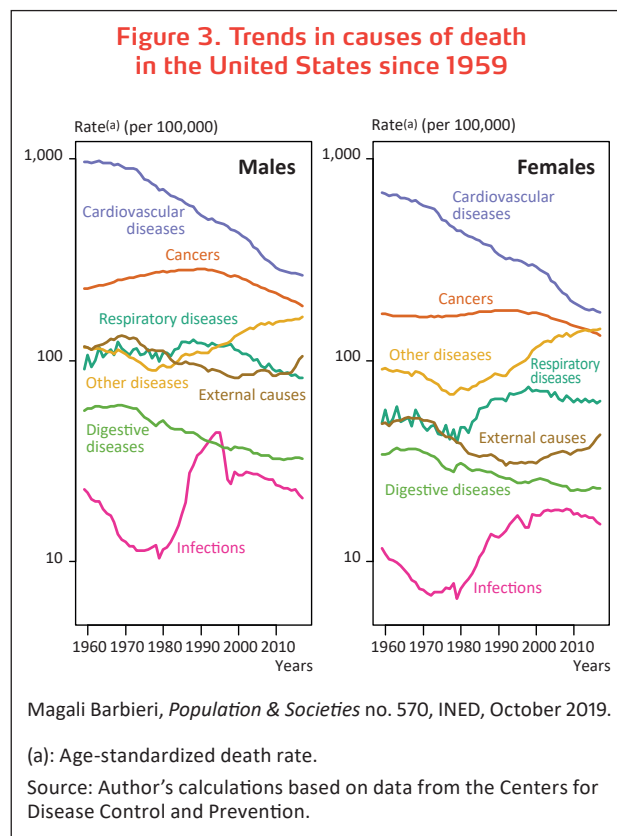
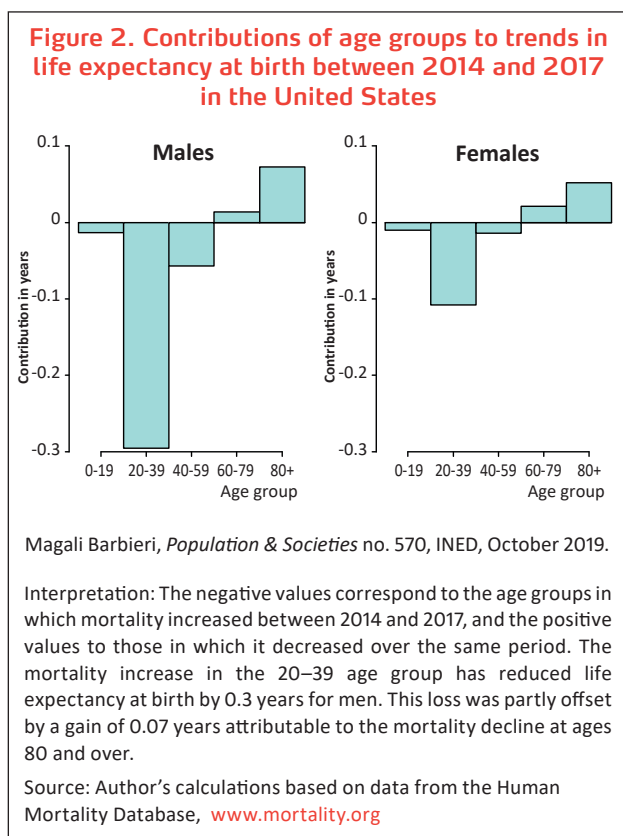


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Interpretation: Each line represents trends in life expectancy at birth in an OECD country (apart from Mexico and Turkey due to lack of data, and excluding Eastern Europe) compared to the United States (thick red line).

Source: Author's calculations based on data from the Human Mortality Database, [www.mortality.org](http://www.mortality.org)

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mortality increase mainly concerns men aged 20–40 and, to a lesser extent, men aged 40–60 (Figure 2). Women aged 20–40 have also been affected, but much less severely. Mortality has continued to decline among young children and adults aged over 60 (mainly those aged 80 and above), but life expectancy gains at these ages have been too small to fully offset the losses observed at other ages.

**Which causes of death have contributed to this trend reversal?**

Mortality from cardiovascular diseases and cancer, the two leading causes of death, has fallen over the last decade, as have deaths from infectious diseases (Figure 3). The decrease in cancer mortality reflects the decline in smoking, which occurred earlier in the United States than elsewhere [1]. Cancer is the only major cause of death for which mortality is lower in the United States than in several European countries, including France [2]. Progress in combating cardiovascular diseases, the main factor behind the increase in life expectancy in the 1970s and 1980s, has slowed down in the United States since the turn of the 21st century, however, due notably to the increasing prevalence of obesity and diabetes [3].

It is respiratory diseases (primarily among men aged over 60) and, above all, deaths from external causes

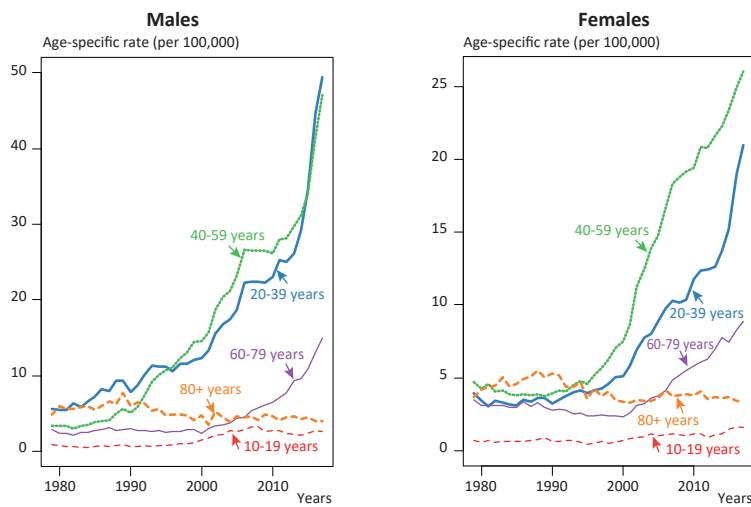
(for both sexes) and the residual category of other causes of death,<sup>(1)</sup> that are driving the decline in life expectancy at birth in the United States. Most deaths from external causes are drug overdoses (classified as ‘poisoning’) and, to a lesser extent, suicide. These overdose deaths alone, referred to in the American media as an ‘overdose epidemic’, account for half of all the years of life lost in the general population between 2014 and 2017 (more than 60% among men aged 20–40).

**The specific contribution of overdoses**

Overdose mortality has increased steadily since around 1980, when the death rate from this cause was around 4 per 100,000. By 2017, the rate had increased to 22 per 100,000, accounting for almost one-third of all deaths from external causes (which also include accidents, suicides, and homicides). In the 1990s and 2000s, the pharmaceutical industry launched aggressive sales campaigns encouraging physicians to prescribe opiate painkillers to their patients. Following the upsurge in unwarranted prescriptions, millions of Americans became addicted.

(1) These ‘other diseases’ include endocrine, nutritional, and metabolic disorders; mental and behavioural disorders; complications of pregnancy and childbirth; and diseases of the nervous system. All these diseases have contributed to the increase in mortality since the 1980s, although no particular category stands out from the others.

**Figure 4. Overdose mortality rate by sex and age group, 1980–2017**



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Source: Author's calculations based on data from the Centers for Disease Control and Prevention.

Adults aged 20 to 60, and especially White low-educated men (those without a high school diploma) have been most severely affected by the epidemic (Figure 4). In 2017, overdoses accounted for 25%–30% of all male deaths at ages 20–40, 20% at ages 40–50, and slightly below 10% at ages 50–60. Overdose mortality at ages 60–80 has also increased, perhaps due to the ageing of the birth cohorts affected by the upsurge in opiate addiction in the 1990s. However, as the contribution of other causes—mainly cancers and cardiovascular diseases—also increases steadily after age 60, the share of overdose deaths in overall mortality is very small at advanced ages (below 2%).

When the US government responded to this crisis in the early 2010s by restricting access to prescription opioids, addicts turned to the black market, which has been inundated since 2013 by new-generation drugs such as fentanyl, an extremely potent synthetic molecule, much cheaper to produce than heroin or cocaine. Consequently, illicit consumption of all these opioids skyrocketed, leading to a new upsurge in overdose deaths, which doubled over the period 2010–2017. The death toll from opioid abuse reached 70,000 in 2017, more than that of traffic accidents, suicides, homicides, and HIV-AIDS combined. The epidemic has now spread to all American states.

### Geographical disparities in mortality

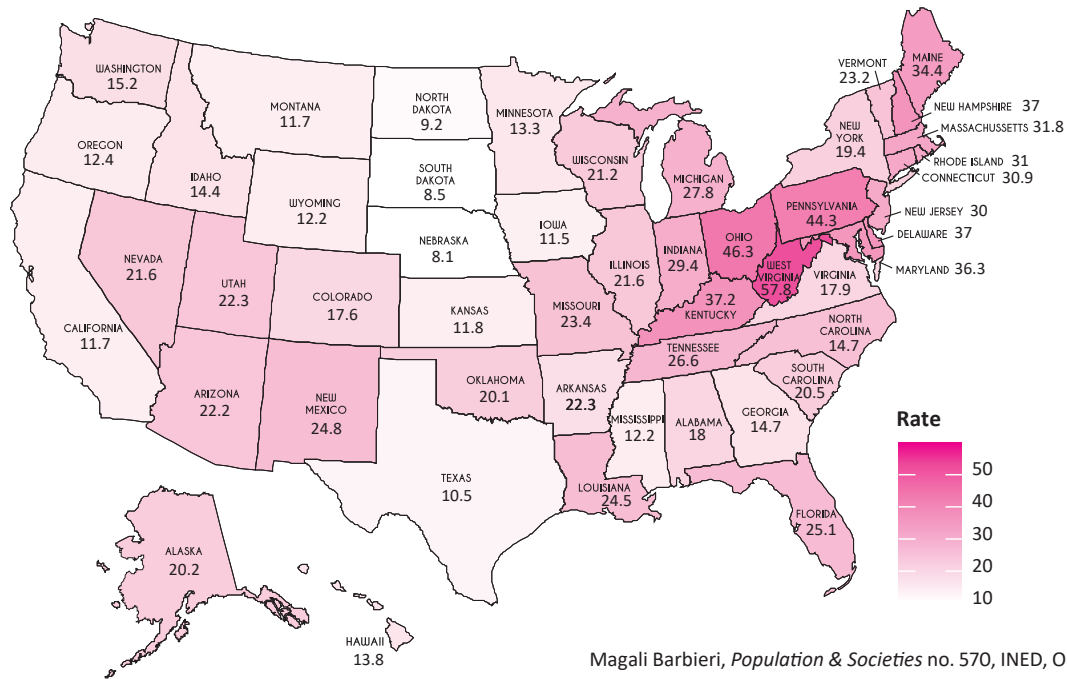
The overdose epidemic began among economically disadvantaged populations where the proportion of people in poor self-rated health and reporting chronic pain has increased steadily in surveys since

the 1990s [4]. These populations are concentrated in the south-west of the country, but also, and above all, in its former industrial heartlands to the south and east of the Great Lakes. It is in these regions ravaged by the recession of the late 2000s that the pharmaceutical companies focused their marketing campaigns [5]. The epidemic then spread across the entire country, affecting life expectancy everywhere. Between 2014 and 2016, there were only four US states in which life expectancy at birth continued to increase for both sexes: Louisiana, Texas, Washington, and Wyoming.

In all others, it fell for men, for women, or for both sexes. The life expectancy downturn was especially pronounced in the north-east of the United States and in Alaska. The rapid rise in overdose mortality was independent of the initial mortality level, affecting states such as New Hampshire, which topped the ranking for life expectancy at birth in 2010 (the year when progress halted at national level), as well as those at the bottom, such as West Virginia, where overdose mortality is at its highest (Figure 5).

Conscious of the gravity of the situation, the US authorities have implemented a whole series of measures designed to contain and curb the epidemic. They include programmes to stop the most toxic products from entering the country (across the borders or through the mail), to promote the use of naloxone, an effective fentanyl antidote, to increase the number of rehabilitation centres for addicts, and to facilitate access to treatment [6]. It is still too soon to assess their impact on overdose mortality. Even if successful, they are unlikely to produce a rapid improvement in life expectancy at birth, given the weak public policy response to the other factors underlying the current lack of progress (e.g. poor eating habits). In a context of increasing mortality from causes other than those linked to drug abuse, and of a slower decrease in mortality from cardiovascular diseases, there is little chance that the United States will catch up with the countries of Western and Northern Europe or Japan over the short term [2].

Figure 5. Age-standardized overdose mortality rate, both sexes combined, 2017



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Source: Map produced by the author based on data from the Centers for Disease Control and Prevention.

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Abstract

Life expectancy at birth in the United States stopped increasing in 2010 and has even been declining for men since 2014. The United States started to fall behind other countries around 1980, and its ranking has fallen steadily since then. Progress in combating cardiovascular diseases, the main factor behind the increase in life expectancy in the 1970s and 1980s, has slowed since 2000, due notably to the increase in obesity and diabetes. The drug overdose epidemic accounts for half of the years of life lost between 2014 and 2017. Overdose mortality increased more than fivefold between 1980 and 2017.

Keywords

life expectancy, mortality, causes of death, opioids, overdose, United States, OECD countries.



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