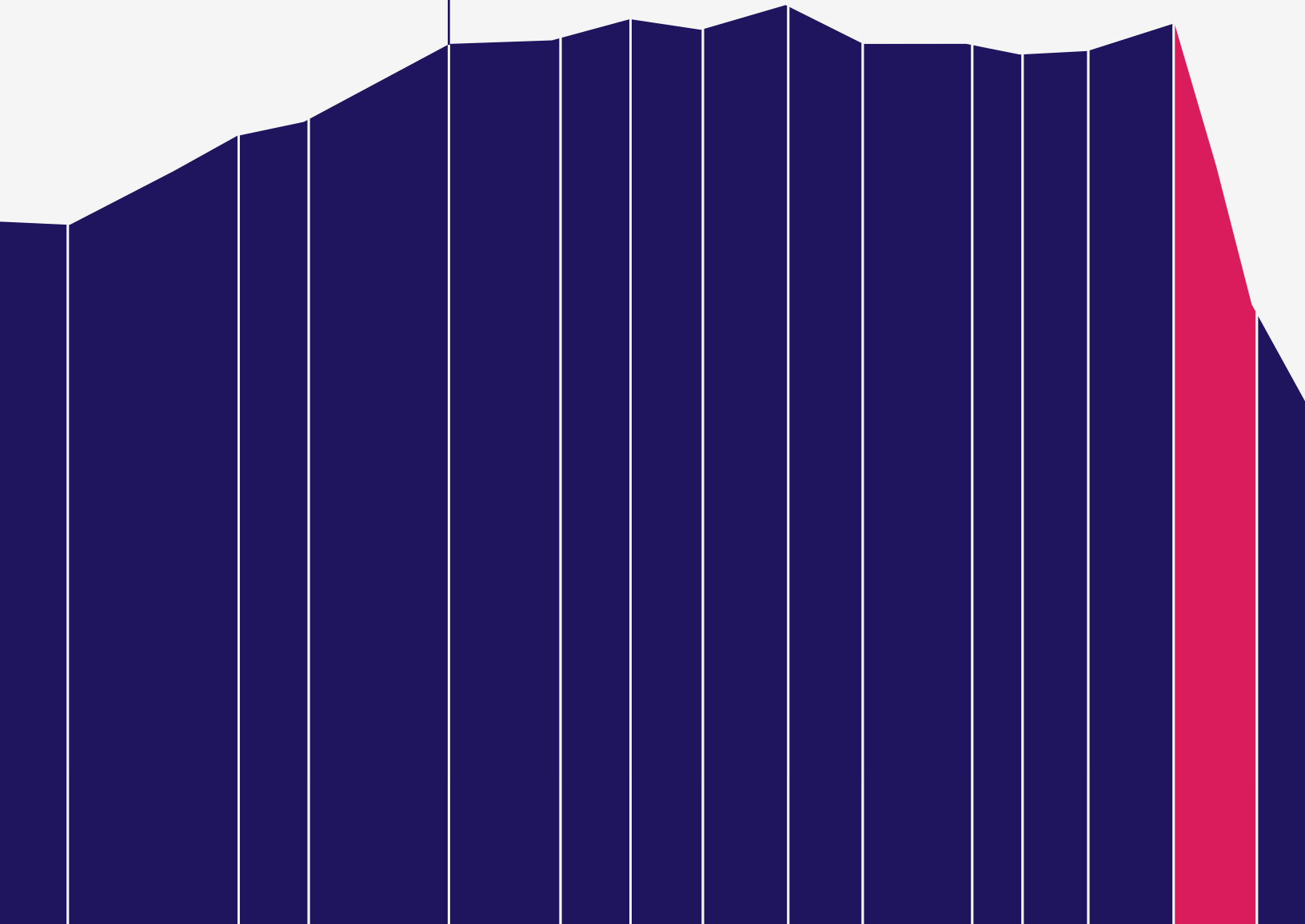


# REVERSING THE DECLINE

10 IDEAS TO IMPROVE LIFE EXPECTANCY

Report and Recommendations from the Bloomberg American Health Initiative



# Table of Contents

## The Decline of U.S. Life Expectancy

### 10 Ideas for Reversing the Decline

#### Saving Lives From COVID-19

**Idea 1:** Congress should pass the administration's full request for additional funding for public health outreach, COVID-19 vaccination, treatments, and research. — *Joshua M. Sharfstein, MD*

#### Saving Lives From Overdose

**Idea 2:** The federal government, states, and localities should make the use of medications that treat opioid use disorder the standard of care. — *Brendan Saloner, PhD*

**Idea 3:** Health agencies should expand harm reduction services. — *Javier Cepeda, PhD, and Sean Travis Allen, DrPH*

#### Saving Lives From Gun Violence

**Idea 4:** States should adopt popular policies that reduce gun-related homicide and suicide, including extreme risk protection orders and permits for gun purchase.

— *Shannon Frattaroli, PhD; Joshua Horwitz, JD; Cassandra Crifasi, PhD; and Daniel Webster, ScD*

**Idea 5:** Cities should strengthen and expand community violence intervention programs. — *Daniel Webster, ScD, and Cassandra Crifasi, PhD*

#### Saving Lives From Teen Suicide

**Idea 6:** Schools should invest in easily accessible, confidential, and comprehensive adolescent health care in schools. — *Maria Trent, MD, MPH*

#### Saving Lives From Motor Vehicle Crashes

**Idea 7:** Regulators and automakers should embrace the implementation of driver impairment detection technology. — *Johnathon Ehsani, PhD*

#### Saving Lives From Heart Disease, Stroke, and Diabetes

**Idea 8:** The U.S. Food and Drug Administration should release long-term, mandatory industry targets for sodium reduction in the U.S. processed food supply. — *Sonia Angell, MD, MPH*

**Idea 9:** Local governments should invest in the development of local and regional food infrastructures. — *Yeeli Mui, PhD, MPH*

#### Saving Lives From Heat and Other Weather-Related Emergencies

**Idea 10:** Communities should implement heat action plans. — *Jaime Madrigano, ScD*

## Conclusion

## Acknowledgments



# The Decline of U.S. Life Expectancy

The Centers for Disease Control and Prevention (CDC) recently [reported](#) life expectancy in 2021 to be 76.1 years—down 2.8 years from its peak.

This erases all life expectancy gains since 1996. U.S. life expectancy at birth [increased steadily](#) to a peak of 78.9 years in 2014, before plateauing from 2015 to 2019, and then [falling precipitously](#) during the pandemic.

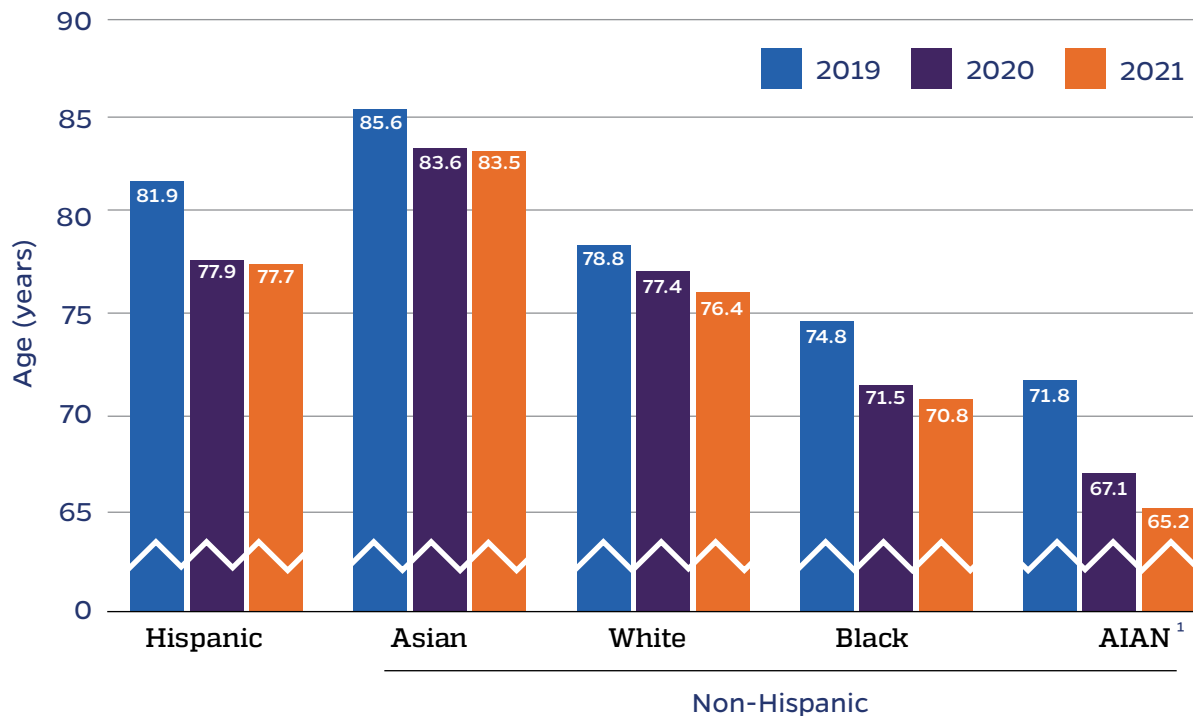
A decline in life expectancy of this magnitude has not been seen in the U.S. in more than a century, since the time of World War I and the Great Influenza. Looking at data from 2019, the World Health Organization [found](#) that 39 countries have greater life expectancies than the U.S., a number that is likely to grow as more recent data are analyzed.

In this report, faculty associated with the Bloomberg American Health Initiative at the Johns Hopkins Bloomberg School of Public Health recommends specific ideas, based on evidence, for reversing these devastating trends. [The Bloomberg American Health Initiative](#) aims to bring the tools of public health—through education, research, and practice—to address critical threats to life and health in the U.S..

The decline in U.S. life expectancy has not been uniform. It reveals large gaps between communities in the U.S. (See Figure 1, reprinted from CDC). Non-Hispanic Black Americans have a life expectancy of 70.8 years, down four years during the pandemic. Indigenous Americans (American Indians and Alaska Natives) have the lowest life expectancy, 65.2 years, down 6.6 years during the pandemic.

# The Decline of U.S. Life Expectancy

Figure 1: Life Expectancy at Birth, by Race and Ethnicity, U.S., 2019-2021



<sup>1</sup> American Indian or Alaska Native

NOTES: Estimates are based on provisional data for 2021. Provisional data are subject to change as additional data are received. Estimates for 2019 and 2020 are based on final data. Life tables by race and Hispanic-origin are based on death rates that have been adjusted for race and Hispanic-origin misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

The roots of declining life expectancy in the U.S. are many and [deep](#). [Longstanding inequities](#) and [structural racism](#) drive many threats to health. The nation's weak public health infrastructure [makes it difficult](#) to monitor key threats and mobilize the programmatic and policy response to counter them.

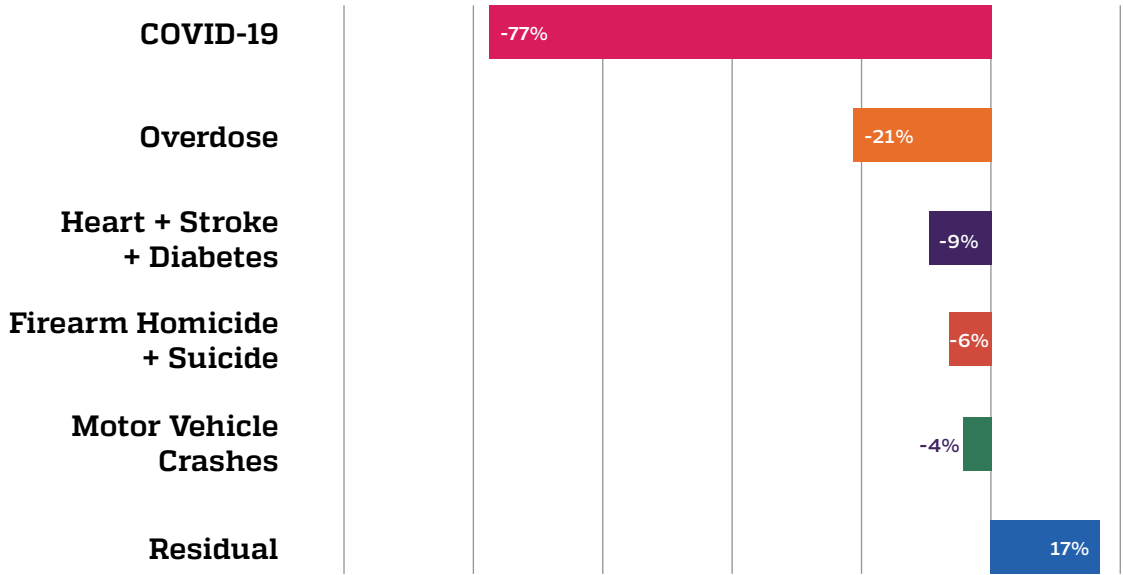
Yet progress is possible. This report sets out practical steps to address COVID-19 and five causes of declining U.S. life expectancy (overdose, gun-related homicide and suicide, teen suicide, and motor vehicle fatalities, and heart disease/stroke/diabetes). These five additional causes, taken together, account for 40% of the decline in life expectancy from 2014 to 2021, in addition to COVID-19 (Figure 2). Also included is the looming threat to life expectancy over the next decade and beyond from heat and other weather-related events.

# The Decline of U.S. Life Expectancy

This report is intended to be illustrative, not comprehensive. For each cause of death, a selection of important disparities are cited. The report does not cover other major health conditions—among them cancer, HIV, hepatitis C, and chronic lung disease—where major progress today is also urgently needed.

The report demonstrates that reversing the decline is within the nation’s grasp. What’s needed is a sense of urgency to seize opportunities for health.

**Figure 2: Contributions of Selected Causes to Decline in Life Expectancy from 2014 to 2021**



Analysis by Dr. Alison Gemmill, Johns Hopkins Bloomberg School of Public Health.  
The residual reflects the net contribution of other causes of death not mentioned above.

## 10 Ideas for Reversing the Decline

# Saving Lives From COVID-19

Since the new SARS-CoV-2 virus emerged in late 2019, COVID-19 has killed more than 1 million Americans and is [now](#) the third leading cause of death in the U.S.

Since the start of the pandemic, as of November 2022, the rate of death in the U.S. due to COVID-19 has [exceeded](#) that of all nations in the world except for Peru and Hungary. Substantial disparities in COVID-19 mortality also exist by [race and ethnicity](#), [rurality](#), and [political affiliation](#).



**IDEA 1:** Congress should pass the administration’s full request for additional funding for public health outreach, COVID-19 vaccination, treatments, and research.

— *Joshua M. Sharfstein, MD*

The Biden administration has [sought](#) up to \$22.4 billion in COVID-19 funding to purchase more vaccines and treatments, make testing widely available, support outreach efforts, especially to historically marginalized communities and populations, and invest in the next generation of medical countermeasures. These investments would reduce the heavy burden of COVID-19 this winter and beyond.

The administration’s proposal is a vital down payment on needed investments in biosecurity against all manner of infectious agents, and in the nation’s public health infrastructure, including efforts to rebuild public trust, as recommended by the [National Biodefense Strategy](#) and the [Commonwealth Fund Commission on a National Public Health System](#).

# Saving Lives From Overdose

02

The rate of fatal drug overdose more than doubled in the U.S. from 2014 to 2021. Overdose is now responsible for more than 100,000 deaths each year, the vast majority related to the synthetic opioid fentanyl. During the pandemic, the high rate of overdose among White Americans has been exceeded by the rates among Black Americans and Indigenous Americans, with the largest increase among Black people between the ages of 15 and 24.



**IDEA 2:** The federal government, states, and localities should make the use of medications that treat opioid use disorder the standard of care.

— Brendan Saloner, PhD

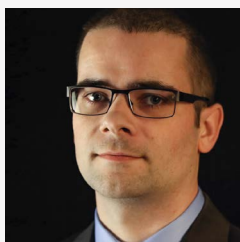
The use of medications like buprenorphine and methadone cuts opioid overdose risk by more than half compared to non-medication treatments, and by two thirds or more compared to no treatment at all. While the use of medications has been increasing over time, fewer than one in five patients who can benefit receive them. Most patients do not use medications in the weeks after an opioid-related hospital visit. Similarly, most prisons still do not offer comprehensive medication treatment programs despite the very high risk of overdose in the days after release.

Some states have laid the groundwork for expanded medication treatment through the use of federal grants and Medicaid funding. Restitution funds from litigation against the opioid industry may provide further resources to invest equitably in medication treatment, a strategy that is integral to the Johns Hopkins litigation settlement principles. Promising practices – backed by research – include making medication treatment the standard of care in hospital emergency departments and correctional facilities.

With deaths from alcohol and non-opioid drugs also rising, it is important to tackle conditions beyond opioid use disorder. Deaths from alcohol-related liver disease have increased more than 63% from 2014 to 2021, and a recent CDC study found that excess alcohol consumption caused about one in eight deaths of adults between 20 and 64 years from 2015 to 2019. Yet, politics has held back public health responses to alcohol, and medications for alcohol use disorder, which are known to be effective, are rarely used in treatment. Similarly, deaths from overdose of stimulants like methamphetamine and cocaine are rising, but it is difficult to access effective treatments, such as contingency management.

# Saving Lives From Overdose

03



**IDEA 3:** Health agencies should expand harm reduction services.

— Javier Cepeda, PhD, and Sean Travis Allen, DrPH

[Harm reduction](#) is an evidence-based public health strategy that focuses on positive change and working with people without judgment, coercion, discrimination, or requiring that people stop using drugs as a precondition of support. Evidence-based strategies grounded in harm reduction [reduce the risk](#) of overdose and transmission of infectious diseases including HIV and hepatitis C. These strategies include providing access to [naloxone](#), [fentanyl testing](#), and [sterile syringes](#).

The federal government—alongside states, localities, tribes, and territories—should support emerging models of harm reduction with evidence of reduction on fatal overdoses, including [public health vending machines](#) and [overdose prevention sites](#). [Training police](#) on the public health importance of harm reduction is necessary to reduce harassment and arrest of participants outside harm reduction centers. These efforts should be part of a [broader shift away](#) from criminalizing drug use, particularly in communities of color, and towards a robust response from the public health system.



# Saving Lives From Gun Violence

04

Gun-related homicide and suicide [increased 44%](#) from 2014 to 2021; in 2021, more than [47,000 Americans](#) died from these causes. Since 2017, gun-related injuries have [surpassed](#) motor vehicle crashes as the leading cause of death among children, adolescents, and young adults. In 2021, the rate of homicide related to guns for Black Americans and Hispanic Americans was [13.7 and 2.4 times greater](#), respectively, than for White Americans – the largest gap in more than 10 years. Guns are a [major reason](#) why suicides are more common in rural areas.



**IDEA 4:** States should adopt popular policies that reduce gun-related homicide and suicide, including extreme risk protection orders and permits for gun purchase. — Shannon Frattaroli, PhD; Joshua Horwitz, JD; Cassandra Crifasi, PhD; and Daniel Webster, ScD

[Extreme Risk Protection Order](#) laws authorize law enforcement and others to seek a court order to temporarily prohibit gun purchase and possession when someone is behaving dangerously and at risk of committing violence. The [best available evidence](#) on the impact of these laws suggests that for every 10-20 orders issued, one death by suicide is prevented. Legislatures in 19 states and the District of Columbia have [passed](#) Extreme Risk Protection Order bills into law – almost all within the past 10 years. But to maximize their life saving potential they must be implemented fully and equitably. [Recent federal legislation](#) provides \$750 million in federal support for implementation of these initiatives and other crisis intervention initiatives.

[Permit-to-purchase](#) laws require prospective gun purchasers to first apply for and obtain a license before buying a gun. These laws complement and strengthen existing state and federal background check systems. [These laws](#) require a more thorough background check, often facilitated by fingerprinting, by accessing more records and providing more time to complete the check. All sellers, both licensed and private, can only sell a gun to someone with a valid license. These laws are associated with [reductions](#) in the diversion of guns for use in crime and substantial population-wide reductions in [homicides](#), [fatal mass shootings](#), and [suicides](#). Permit to purchase laws are [supported](#) by more than 70% of U.S. adults, including more than 60% of gun owners. In states where these laws are already in place, the policies are [supported](#) by more than 75% of gun owners.

# Saving Lives From Gun Violence



**IDEA 5:** Cities should strengthen and expand community violence intervention programs.

— Daniel Webster, ScD, and Cassandra Crifasi, PhD

Led by individuals considered to be credible messengers based on their own life experiences, [community violence intervention programs](#) reach those who are at greatest risk for involvement in gun violence. Experienced staff build trust with those at highest risk, help to mediate disputes that could potentially lead to shootings, promote nonviolent norms for settling disputes, and facilitate access to needed services and employment opportunities.

[Research](#) has shown that community violence interventions can significantly reduce homicides and nonfatal shootings in communities that have struggled with extremely high rates of violence and disinvestment. Public and private investments in violence intervention programs have [increased](#) dramatically in recent years. The most promising programs offer training and support for workers and provide educational and employment resources to individuals at risk.

Community-based approaches are also vital for addressing intimate partner violence. For example, the work of Bloomberg Assistant Professor of American Health Dr. Tiara Willie has [demonstrated](#) that providing housing to survivors of intimate partner violence is particularly important in reducing their ongoing risk of further injury.

# Saving Lives From Teen Suicide

Teen suicide has increased by more than 25% since 2014 to a total of [2,764 deaths](#) in 2021, with about a quarter of high school teens [reporting](#) that they have seriously contemplated killing themselves. Rates of suicide attempts are [three times greater](#) among teens who identify as gay, lesbian, bisexual, trans, or as other sexual minorities. [Indigenous youth](#) have the [highest rates of suicide](#) compared to their peers, with Black and Asian/Pacific Islander teens [experiencing](#) substantial increases.



**IDEA 6:** Schools should invest in easily accessible, confidential, and comprehensive adolescent health care in schools.

— Maria Trent, MD, MPH

School-based health centers provide a home for students who would not otherwise have access to care. The use of mental health services in these settings [reduces](#) episodes of depression and suicide risk. In addition, health center use is [associated](#) with improved academic outcomes, including grade point average, attendance, promotion, college preparation, and reduced suspensions from school. Investing in these services is a critical piece of a more comprehensive agenda to improve youth connections at home, in the community, and at school to reduce risk and adversity among youth.

Moreover, embedding school-based suicide prevention programming as part of mental health curricula in health education class for all students could increase identification of risk, reduce stigma, and facilitate treatment seeking. Several states have [legislation](#) requiring elementary, middle, and high schools to include mental health as part of health education.

Other promising approaches, [developed](#) in collaboration with Indigenous communities and Dr. Emily Haroz and colleagues at Johns Hopkins, include identifying young people at the highest risk and building intentional systems of care across school, health, and home settings to support their physical and mental health.

A [comprehensive approach](#) to teen suicide would also include [efforts](#) to reduce maltreatment and other adverse childhood experiences, support training of youth and adults, and strengthen the mental health workforce. As noted by Bloomberg Assistant Professor of American Health Dr. Kiara Alvarez, closing equity gaps [requires attention](#) to the structural racism that leads youth of color to be more likely to receive punishment instead of support and care.

# Saving Lives From Motor Vehicle Crashes

In 2021, more than 42,000 Americans [died](#) in motor vehicle-related fatalities, the highest number in 15 years, with the highest year-over-year increase in the history of the traffic fatality reporting system. Rates of death from motor vehicle crashes [increased by 30%](#) from 2014 to 2021. There are racial and ethnic disparities in motor vehicle-related deaths, which are substantially [more common](#) among non-Hispanic Black Americans.



**IDEA 7:** Regulators and automakers should embrace the implementation of driver impairment detection technology.

— *Johnathon Ehsani, PhD*

Driver intoxication is associated with over [one-quarter of all motor vehicle fatalities](#) in the U.S. and while a broad range of substances can impair driving ability, the prevalence of alcohol use and the [strength of evidence regarding its involvement in crash deaths](#) demand a high priority for policy. The Insurance Institute for Highway Safety estimates that impairment detection systems could save [more than 9,000 lives per year](#). Distinct from alcohol ignition locks, vehicle impairment detection technology can automatically detect whether a driver is beyond the legal blood alcohol limit and prevent a drunk driver from operating the vehicle.

The Infrastructure Investment and Jobs Act of 2021 [required](#) the U.S. Department of Transportation to establish a standard for impairment detection systems within three years, to be implemented for all new cars over the subsequent three years. This effort is part of a larger approach to using [novel technology](#) and [incentives](#) to reduce motor vehicle crashes.

Communities can also reduce crash frequency and severity through better land use policies, which can support safer walking and biking. As noted by Bloomberg Assistant Professor of American Health Dr. Shima Hamidi and colleagues, evidence [indicates](#) that urban sprawl is associated, both directly and indirectly, with motor vehicle crashes.

# Saving Lives From Heart Disease, Stroke, and Diabetes

Together, heart disease, stroke, and diabetes represent the most common cause of death in the U.S., so that the [4% increase](#) from 2014 to 2021 amounts to thousands of lives. These conditions are also responsible for disparities in mortality by race and ethnicity. For example, Black Americans [experience](#) the highest death rates from heart disease, and Indigenous Americans, Black Americans, and Hispanic Americans have the [highest death rates](#) from diabetes.



**IDEA 8:** The U.S. Food and Drug Administration should release long-term, mandatory, industry targets for sodium reduction in the U.S. processed food supply.

— Sonia Angell, MD, MPH

Most Americans [consume](#) over the recommended limit of sodium each day. This excess isn't added at the table or while cooking at home. In fact, two-thirds of the sodium we eat every day is [already](#) in the foods when we purchase them. Excess sodium in the diet in the form of salt increases the risk for [hypertension](#), a leading risk factor for heart attack, stroke, and death, and a key driver of [health inequities](#). Reducing sodium in processed and prepared foods makes it possible for millions of Americans to consume less salt each day. The number of deaths attributed to high blood pressure is increasing [substantially](#) in the U.S.

According to the U.S. Food and Drug Administration, a national effort to reduce sodium intake by 40% over a decade could [save](#) more than 50,000 lives. It could be paired with community collaborations to identify untreated hypertension, such as with [barbershops and beauty salons](#), and enhanced efforts to promote [equitable access to health care](#).

# Saving Lives From Heart Disease, Stroke, and Diabetes



**IDEA 9:** Local governments should invest in the development of local and regional food infrastructures.

— Yeeli Mui, PhD, MPH

[Poor diet](#) is the leading cause of mortality in the U.S, contributing to multiple adverse health outcomes, [including](#) obesity, heart disease, stroke, diabetes, and poor mental health. One in 10 households in the U.S., representing 34 million people, experienced [food insecurity](#), living without consistent access to enough food for an active, healthy life. These challenges affected [many during the pandemic](#). Food insecurity coexists with obesity, which affects an [estimated 42%](#) of American adults and [20% of American children](#).

Local and regional governments can improve access to health and nutritious food access by [establishing](#) local and regional food systems. Increasing access to land for farming, especially among growers of color, can [improve access](#) to fresh fruits and vegetables. The often-overlooked “middle infrastructure” (wholesale, processing, distribution of food) can be [strengthened](#) to establish supply chain networks between growers and food retailers. Government agencies can also adopt [food procurement policies](#) to increase the availability of healthier foods in hospitals, schools, and universities. Coalitions, such as [food policy councils](#) and [tribal movements for food sovereignty](#), can catalyze, advocate for, and lead these changes.

# Saving Lives From Heat and Other Weather-Related Emergencies

Extreme heat, hurricanes, and floods are all increasing because of climate change, creating a growing risk for U.S. life expectancy. Even as the global community works to reduce the extent of global warming, the coming rise in temperatures requires a public health response. Over the last 30 years, the National Weather Service [attributed](#) more deaths to heat than any other type of weather-related event. [Estimates](#) of heat related deaths are as high as 12,000 per year and could grow to 100,000 per year by the end of the century.



## **IDEA 10:** Communities should implement heat action plans.

— Jaime Madrigano, ScD

[Heat action plans](#) are comprehensive efforts to avoid unnecessary illness and loss of life from extreme heat. Key provisions include the establishment of heat monitoring, advisory, and warning systems; mobilization of healthcare professionals; and information campaigns targeted to individuals and communities at high risk as identified by vulnerability analyses.

Evidence from the [U.S.](#) and [elsewhere](#) indicates that implementation of such plans can reduce heat-related mortality. Communities that adopt such plans should work with technical and grassroots experts to ensure that appropriate heat thresholds are used and that community concerns are accounted for. For example, in New York, community-based organizations have worked with the Department of Health and Mental Hygiene and the Mayor's Office to [reach residents](#) in neighborhoods at the highest risk of heat-related deaths.

Heat action plans are just an initial step towards more systematic policy changes and infrastructure improvements to adapt to climate change. At the local level, [tree planting](#) and [cool roofs](#) can advance equity by targeting historically marginalized and disinvested communities. Efforts to shift to clean energy can reduce the health impact of [air pollution](#). States can also adopt [policies](#) to lessen the impact of climate change on human health.



# Conclusion

The devastating decline in life expectancy demands both immediate action and systemic change. Early results can generate momentum for more fundamental reforms. This report sets out 10 feasible ideas for reversing the decline and setting the nation on a path of greater equity and health. These actions will reduce severe COVID-19 infections, prevent overdoses, counter against gun violence, stop teen suicides, reduce heart attacks and strokes, avoid motor vehicle crashes, and reduce the threat posed by extreme weather.

Far too many Americans die before their time. Embracing public health solutions will help millions of people live happier, healthier, and longer lives.

# Acknowledgments

This report was developed by the [Bloomberg American Health Initiative](#), with support from Joshua M. Sharfstein, Michelle Spencer, Thomas Higdon, GinaMarie Davis, Akola Francis, and Shannon Jones. Contributors include:

**Sean Travis Allen, DrPH**

Bloomberg Assistant Professor in American Health, Department of Health, Behavior and Society

**Kiara Alvarez, PhD**

Bloomberg Assistant Professor of American Health, Department of Health, Behavior and Society

**Sonia Angell, MD, MPH**

Professor of the Practice, Department of Epidemiology

**Alison Gemmill, PhD**

Assistant Professor, Department of Population, Family, and Reproductive Health

**Javier Cepeda, PhD**

Bloomberg Assistant Professor in American Health, Department of Epidemiology

**Cassandra Crifasi, PhD**

Associate Professor, Department of Health Policy and Management

**Aisha Dickerson, PhD**

Bloomberg Assistant Professor of American Health, Department of Epidemiology

**Johnathon P. Ehsani, PhD**

Associate Professor, Department of Health Policy and Management

**Shannon Frattaroli, PhD**

Professor, Department of Health Policy and Management

**Shima Hamidi, PhD**

Bloomberg Assistant Professor of American Health, Department of Environmental Health and Engineering

**Joshua Horwitz, JD**

Professor of the Practice, Department of Health Policy and Management

**Jaime Madrigano, ScD**

Department of Environmental Health and Engineering

**Yeeli Mui, PhD, MPH**

Bloomberg Assistant Professor of American Health, Department of International Health

**Keshia Pollack Porter, PhD**

Bloomberg Centennial Professor and Chair, Department of Health Policy and Management

**Terrinieka Powell, PhD**

Bloomberg Associate Professor of American Health, Department of Population, Family, and Reproductive Health

**Brendan Saloner, PhD**

Bloomberg Associate Professor of American Health, Department of Health Policy and Management

**Joshua M. Sharfstein, MD**

Bloomberg Professor of the Practice in American Health, Department of Health Policy and Management

**Michelle Spencer, MS**

Associate Scientist, Department of Health Policy and Management

**Maria Trent, MD, MPH**

Bloomberg Professor of American Health, Department of Pediatrics

**Melissa Walls, PhD**

Bloomberg Associate Professor of American Health, Center for Indigenous Health, Department of International Health

**Daniel Webster, ScD**

Bloomberg Professor of American Health, Department of Health Policy and Management

**Holly Wilcox, PhD**

Professor, Department of Mental Health

**Tiara Willie, PhD**

Bloomberg Assistant Professor of American Health, Department of Mental Health



To download this report and be able to click to see the sources, visit [americanhealth.jhu.edu/reversing-the-decline](https://americanhealth.jhu.edu/reversing-the-decline)