

# Recentering (alcohol) policy research in a post-pandemic world

Sandro Galea

**1. Why should the pandemic change anything?**

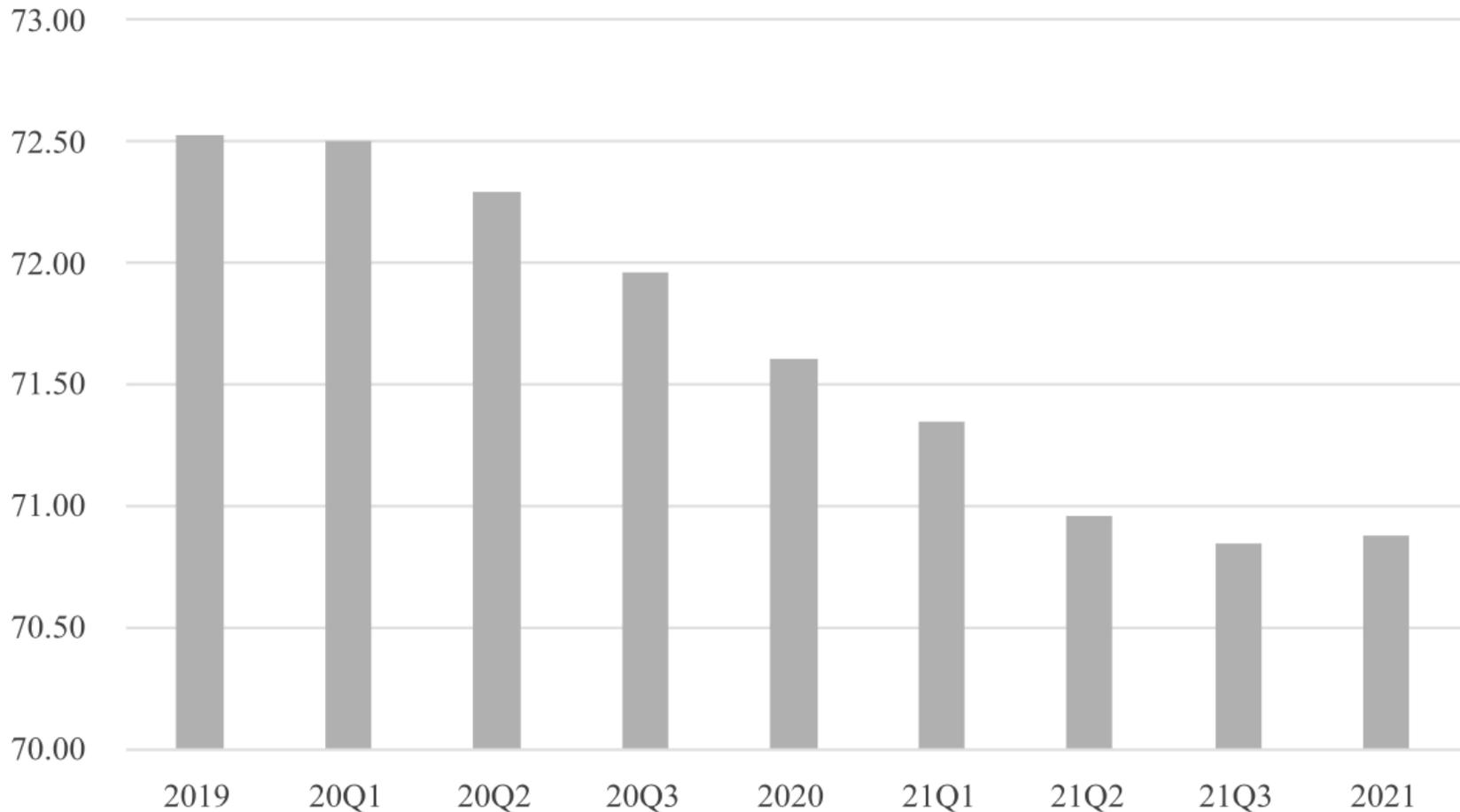
Direct consequences of COVID-19

Indirect consequences of COVID-19

Direct consequences of COVID-19

Indirect consequences of COVID-19

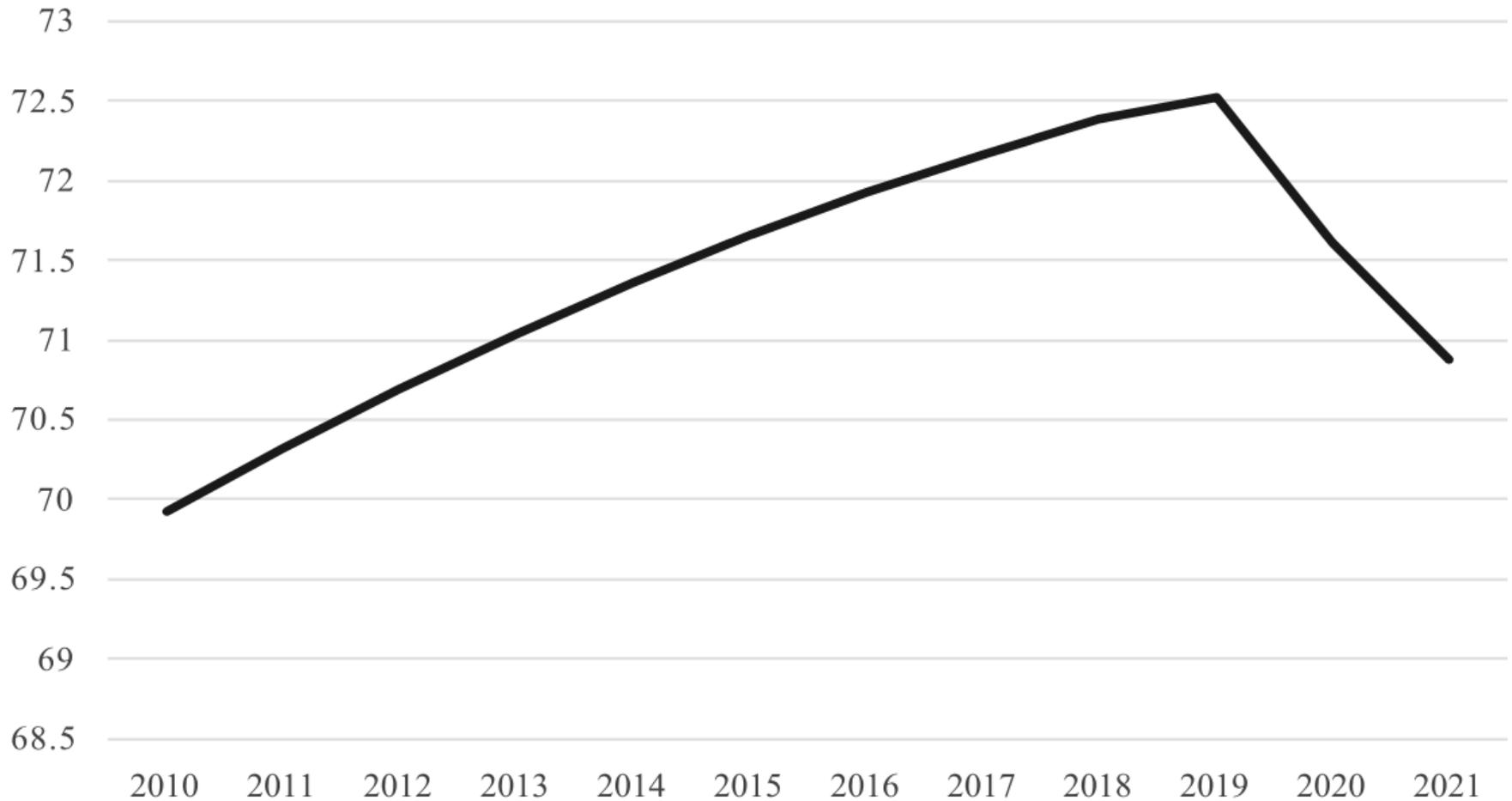
**FIGURE 3 Global life expectancy, by 12-month period ending in each quarter of 2020 and 2021 (both sexes, in years)**



NOTE: YQn refers to the 12-month period ending at the end of the nth quarter of the year 2000 + Y (e.g., 20Q1 is the period including the last three quarters of 2019 and the first quarter of 2020).

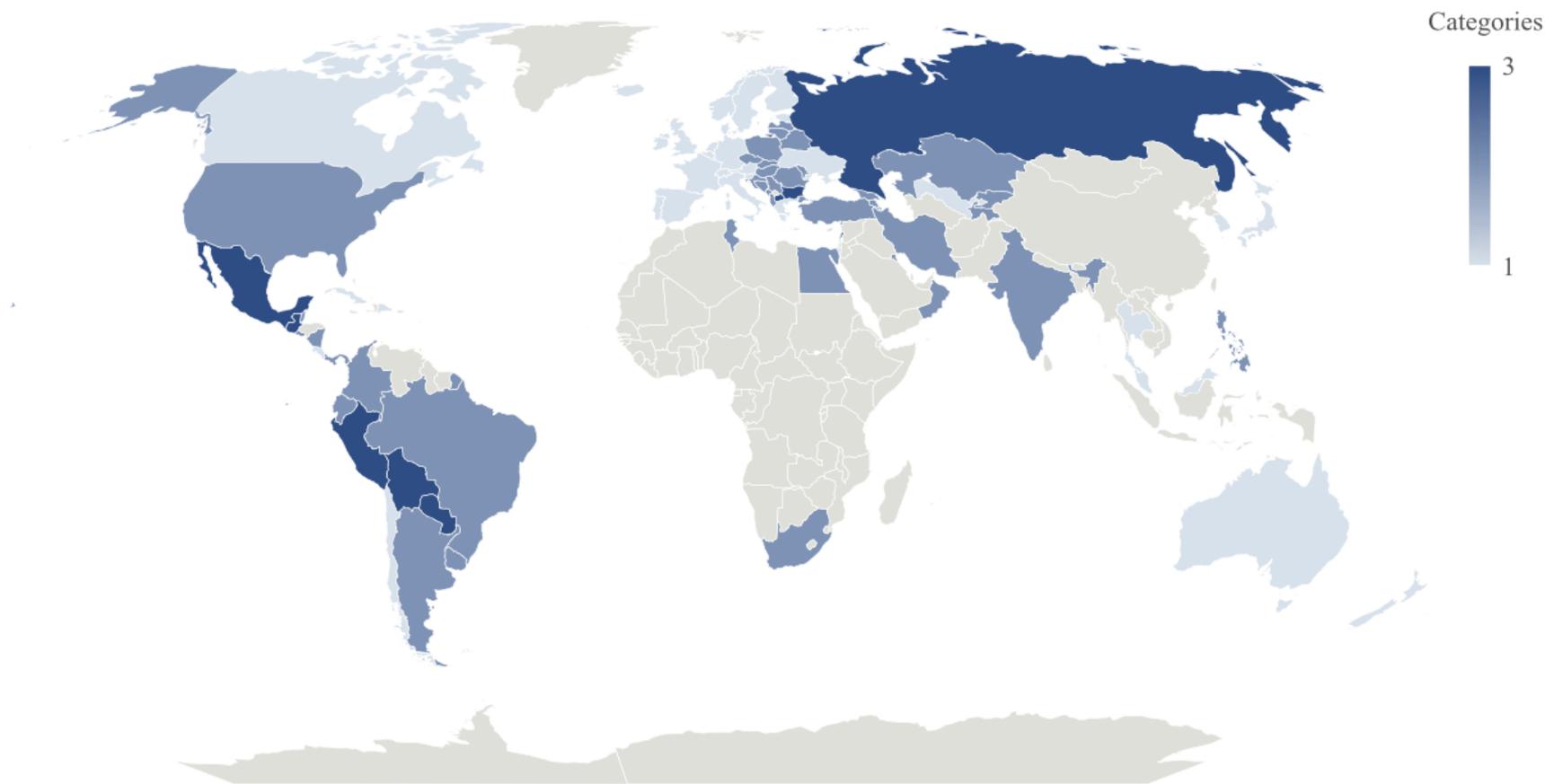
SOURCE: 2019, United Nations (2019); 2010–2021, author’s calculations (see the Appendix for details)

**FIGURE 2 Global life expectancy, 2010–2021 (both sexes, in years)**



**SOURCE:** 2010–2019, United Nations (2019); 2010–2021, author’s calculations (see the Appendix for details)

**FIGURE 4 Annual change in life expectancy, 2019–2021 (both sexes, in year)**



NOTES: Categories:

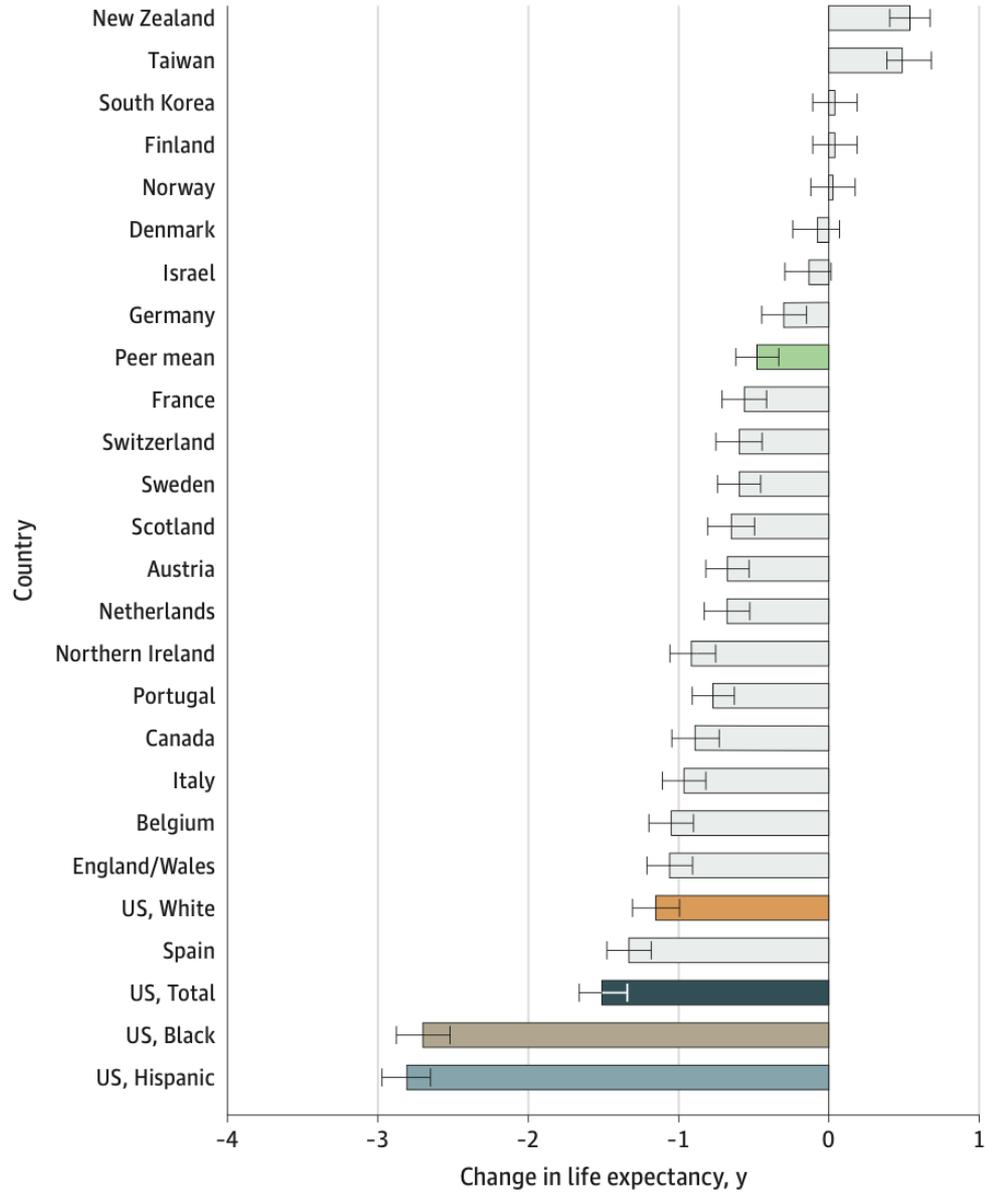
1: Maximum annual decline < 2 years

2: Maximum annual decline > 2 years, average annual decline < 2 years

3: Average annual decline > 2 years

SOURCES: Author's calculations (see supplementary files for details).

Figure 1. Changes in Female Life Expectancy in the US and 21 Other High-Income Countries Between 2019 and 2020

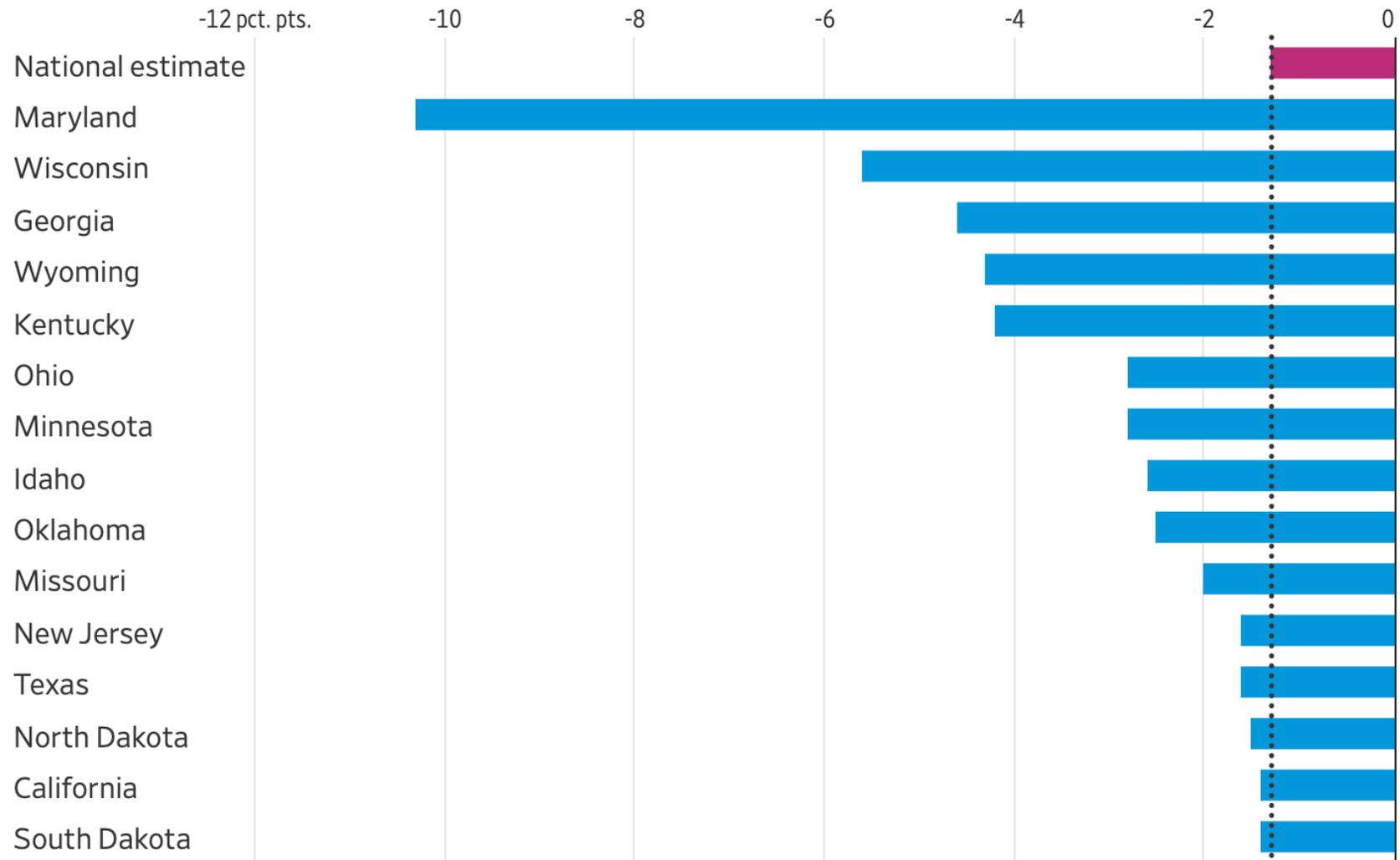


Direct consequences of COVID-19

Indirect consequences of COVID-19

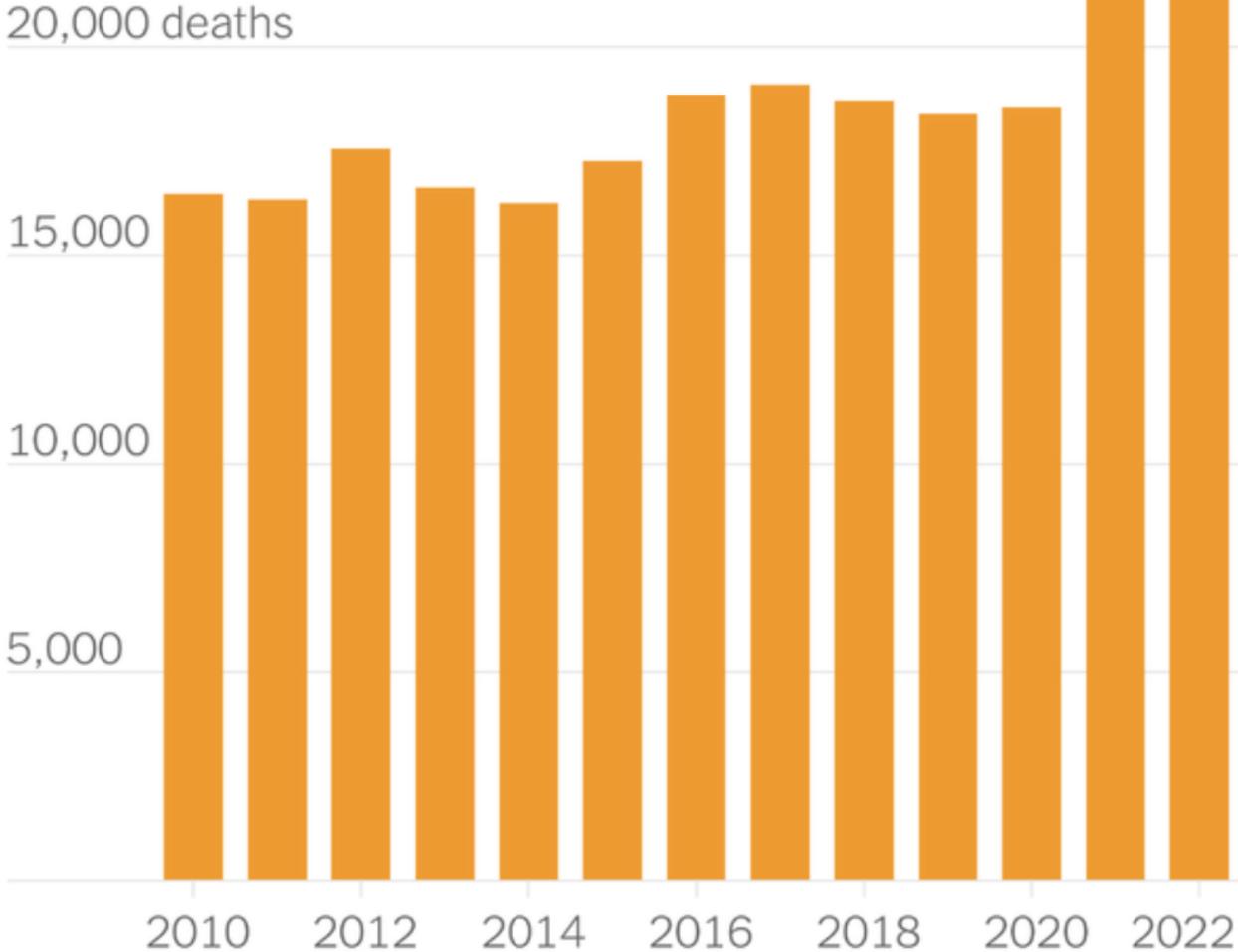
# Childhood Vaccination Rates

## Largest declines in kindergarten vaccination rates for measles, mumps and rubella, 2020-21



Source: Centers for Disease Control and Prevention

# U.S. vehicle deaths from January to June each year

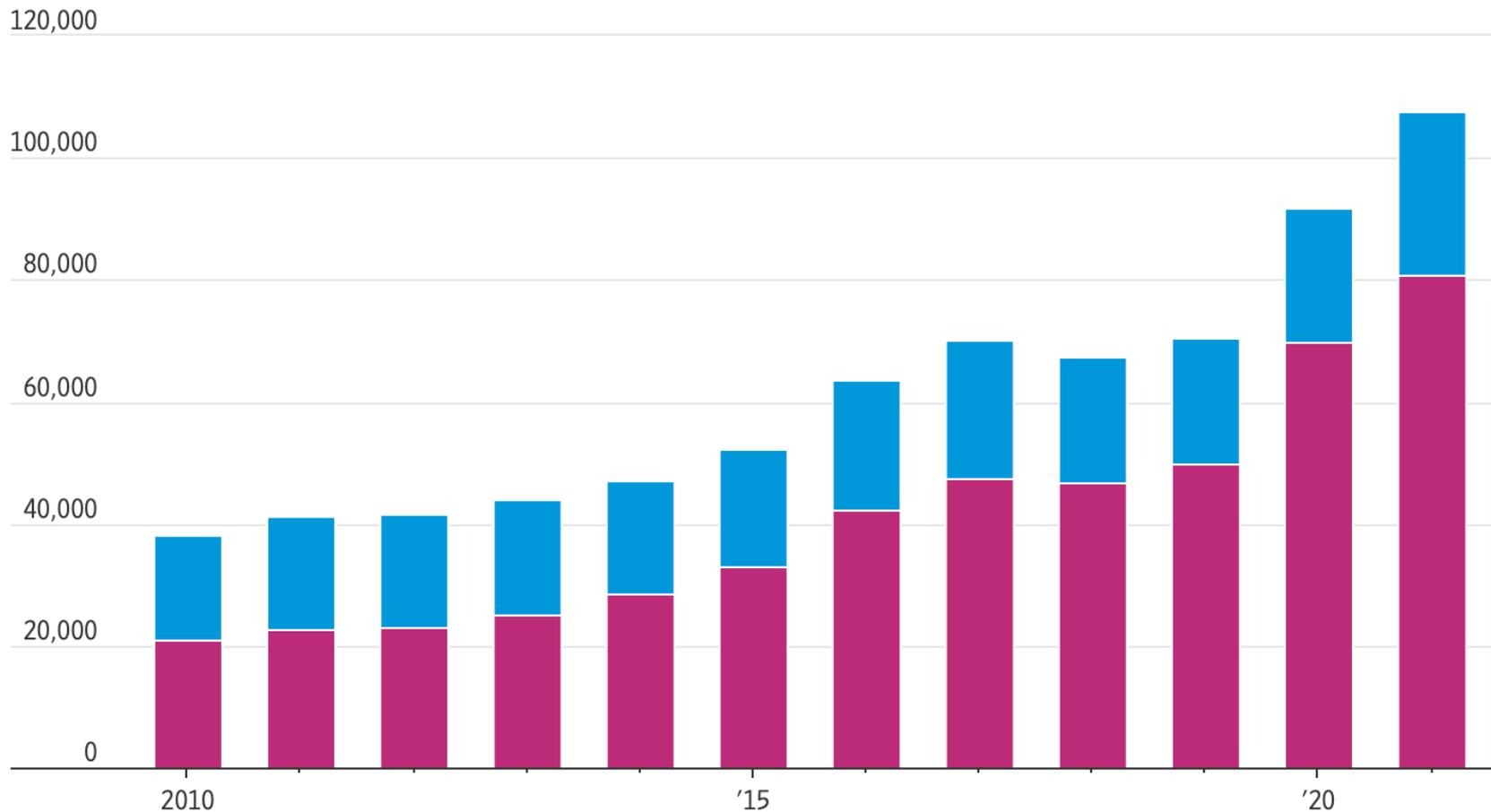


Source: National Safety Council

# Drug and Alcohol Use

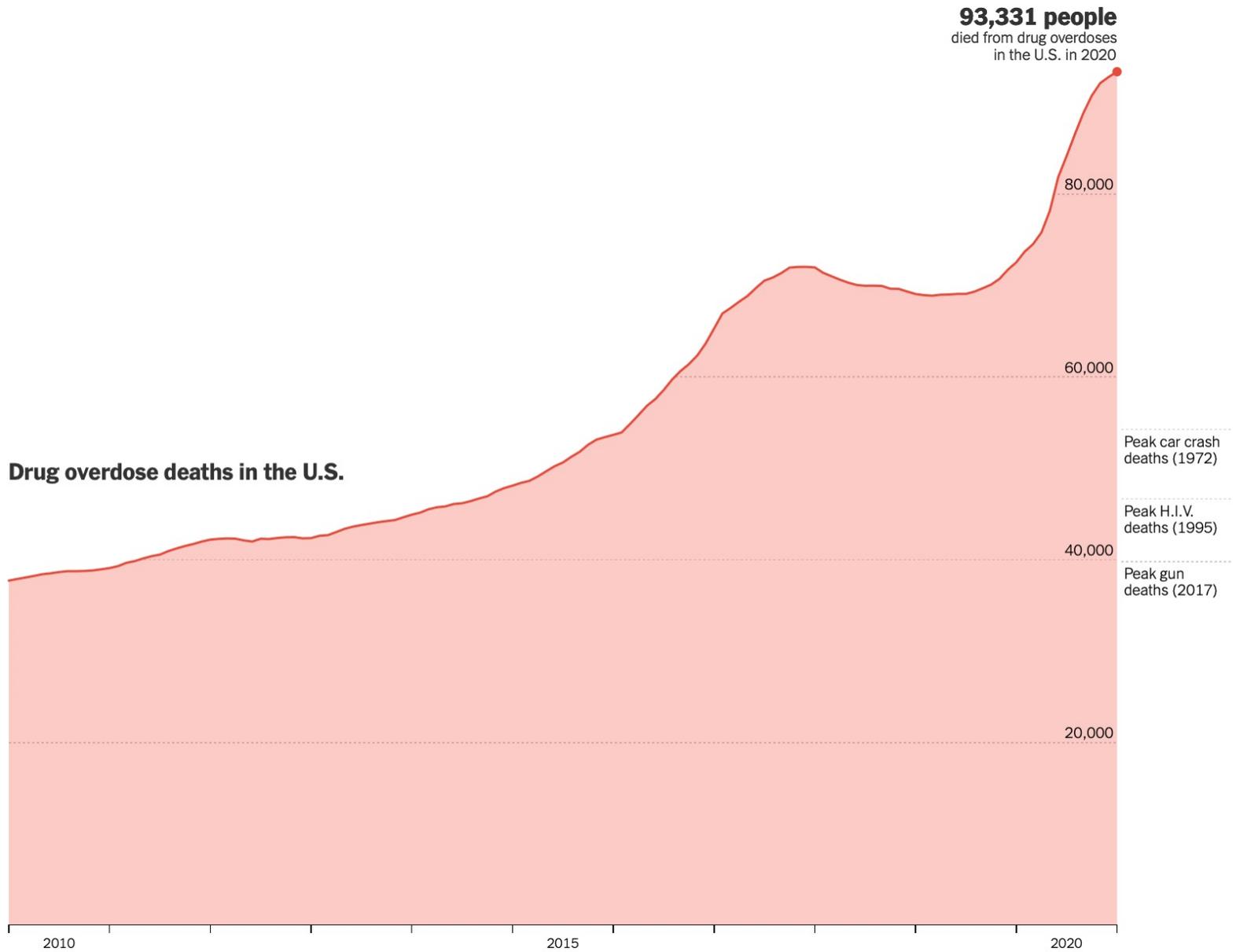
## Drug-overdose deaths in the U.S.

■ Opioid-related deaths ■ Non-opioid deaths



Note: 2021 data is provisional.

Source: Centers for Disease Control and Prevention

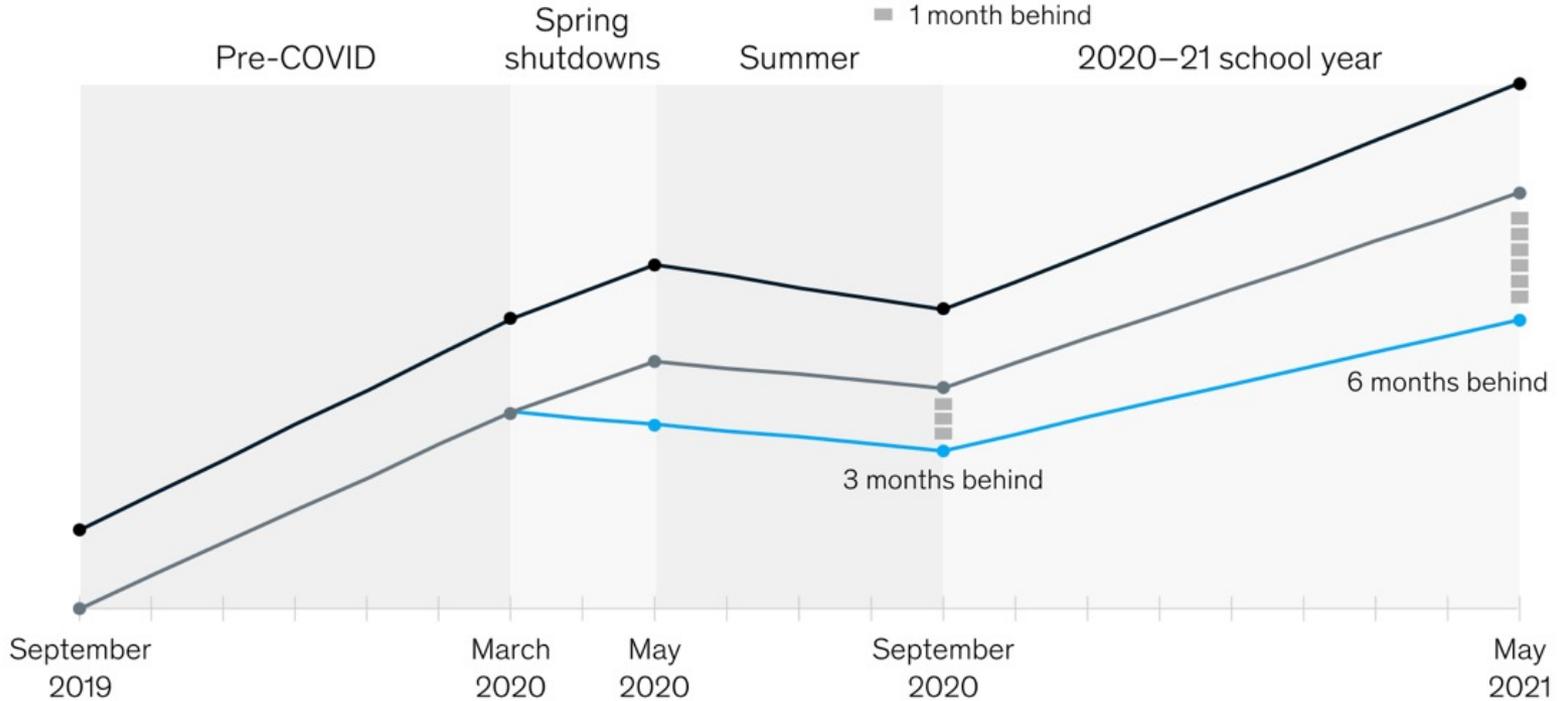


Source: Centers for Disease Control and Prevention

# Unfinished learning through the pandemic exacerbates historical inequities, especially for Black students.

**Average learning, grades 1 through 6,**  
Curriculum Associates points, translated into  
months of learning

- Overall historical average
- Students in majority-Black schools, historical average
- Students in majority-Black schools during COVID-19<sup>1</sup>
- 1 month behind



<sup>1</sup>Average fall 2020 achievement and learning loss represents schools with students who are >50% Black, Indigenous, and people of color because there were not enough majority-Black schools that had in-school assessments; average spring 2020 achievement and learning loss represents schools with >50% Black enrollment.

Source: Curriculum Associates i-Ready assessment data



**2. What caused the problems of the pandemic?**

Pandemic-specific failures

Pre-pandemic failures

Pandemic-specific failures

Pre-pandemic failures

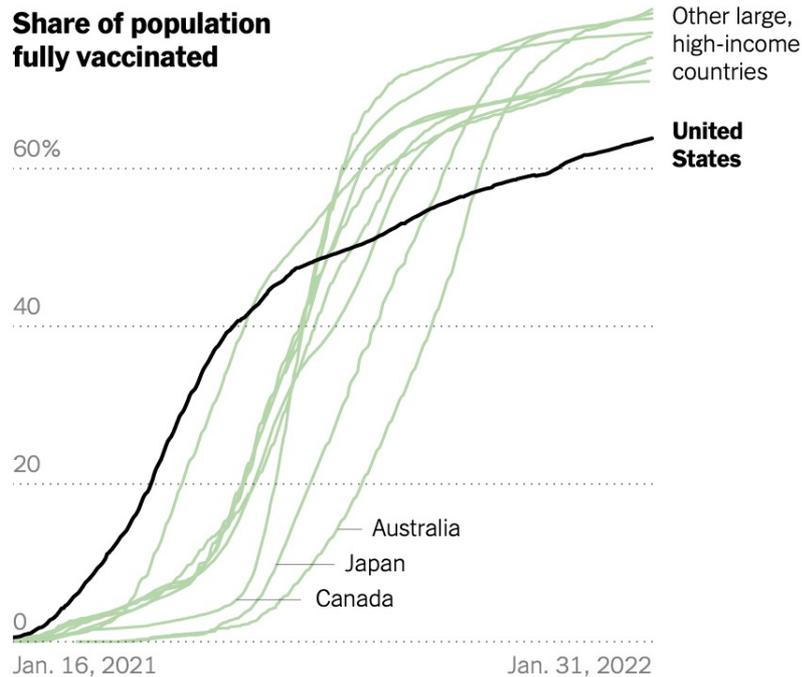
Physical sciences: testing, treatment

Social sciences: communication, coordination

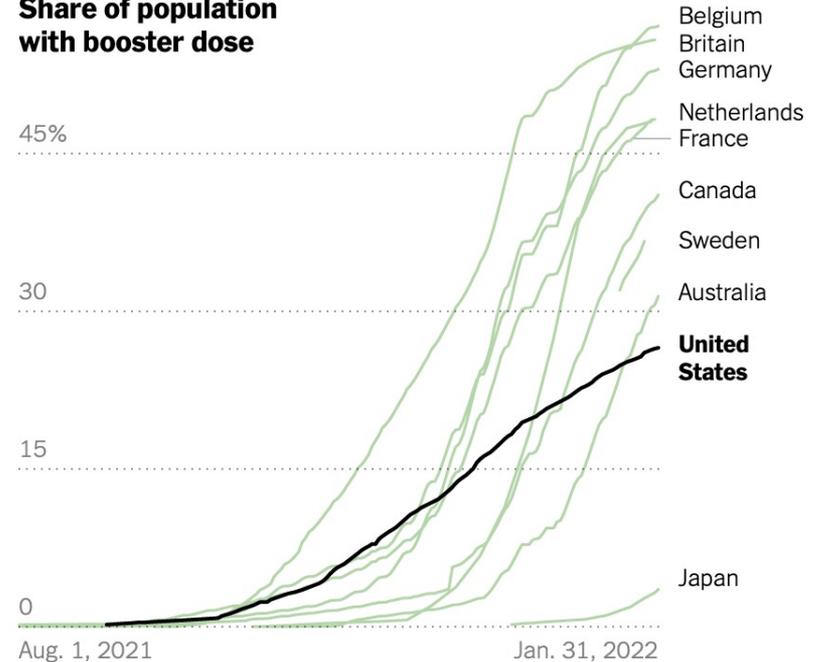
## U.S. vaccinations lag behind other large, high-income countries

Despite beginning Covid-19 vaccinations months earlier than countries like Japan and Australia, a smaller share of people in the United States are now fully vaccinated.

### Share of population fully vaccinated



### Share of population with booster dose

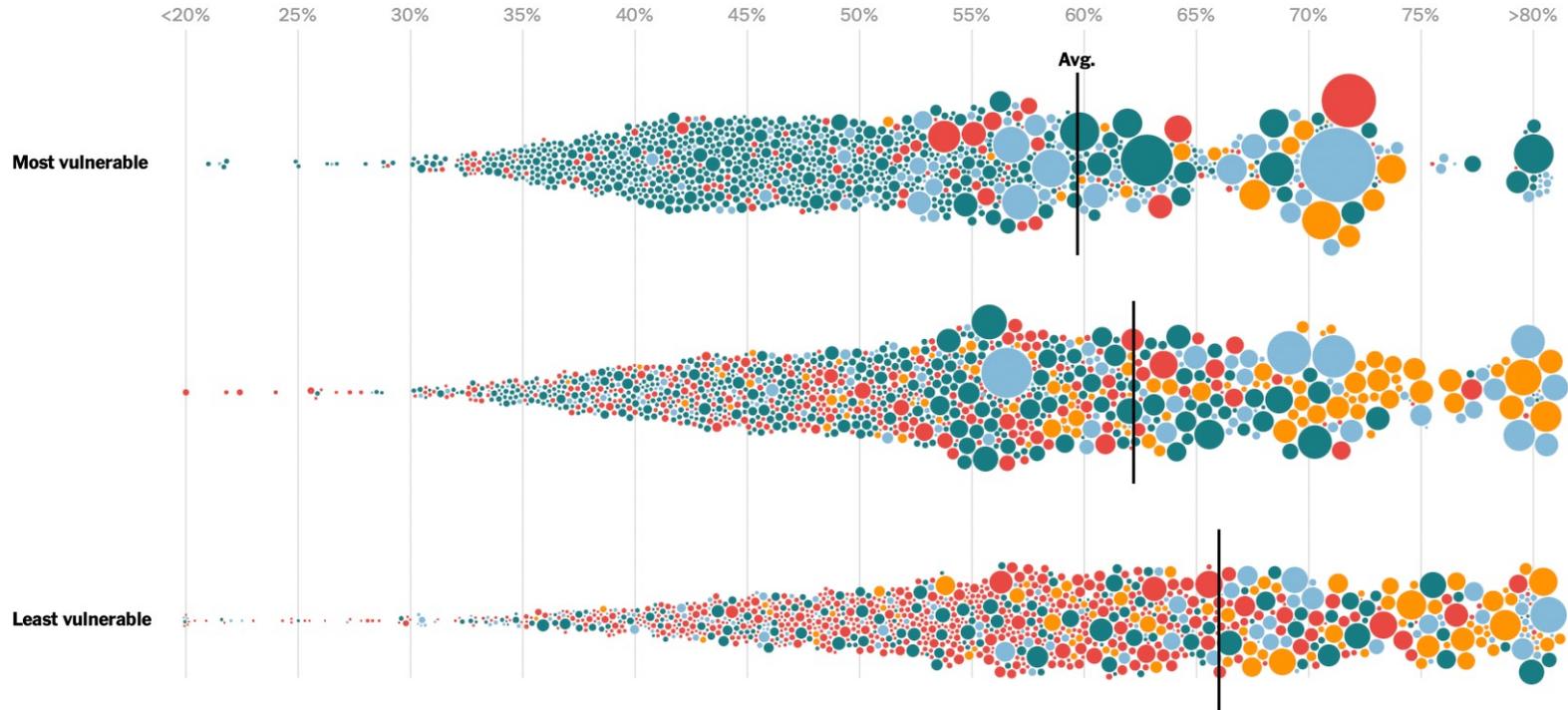


Sources: Our World in Data (world vaccinations); Centers for Disease Control and Prevention (U.S. vaccinations) • Note: Vaccination and booster data in some countries are available infrequently. Sweden data for booster doses is available only from Jan. 20, 2022.

### Vaccination rates by county social vulnerability

Percentage of fully-vaccinated residents. Circles sized by county population.

Region ● Midwest ● Northeast ● South ● West



Sources: [Centers for Disease Control and Prevention](#); [Massachusetts Department of Public Health](#); U.S. Census Bureau | Note: No C.D.C. data available for some counties. Vermont was excluded because more than a quarter of data is missing.



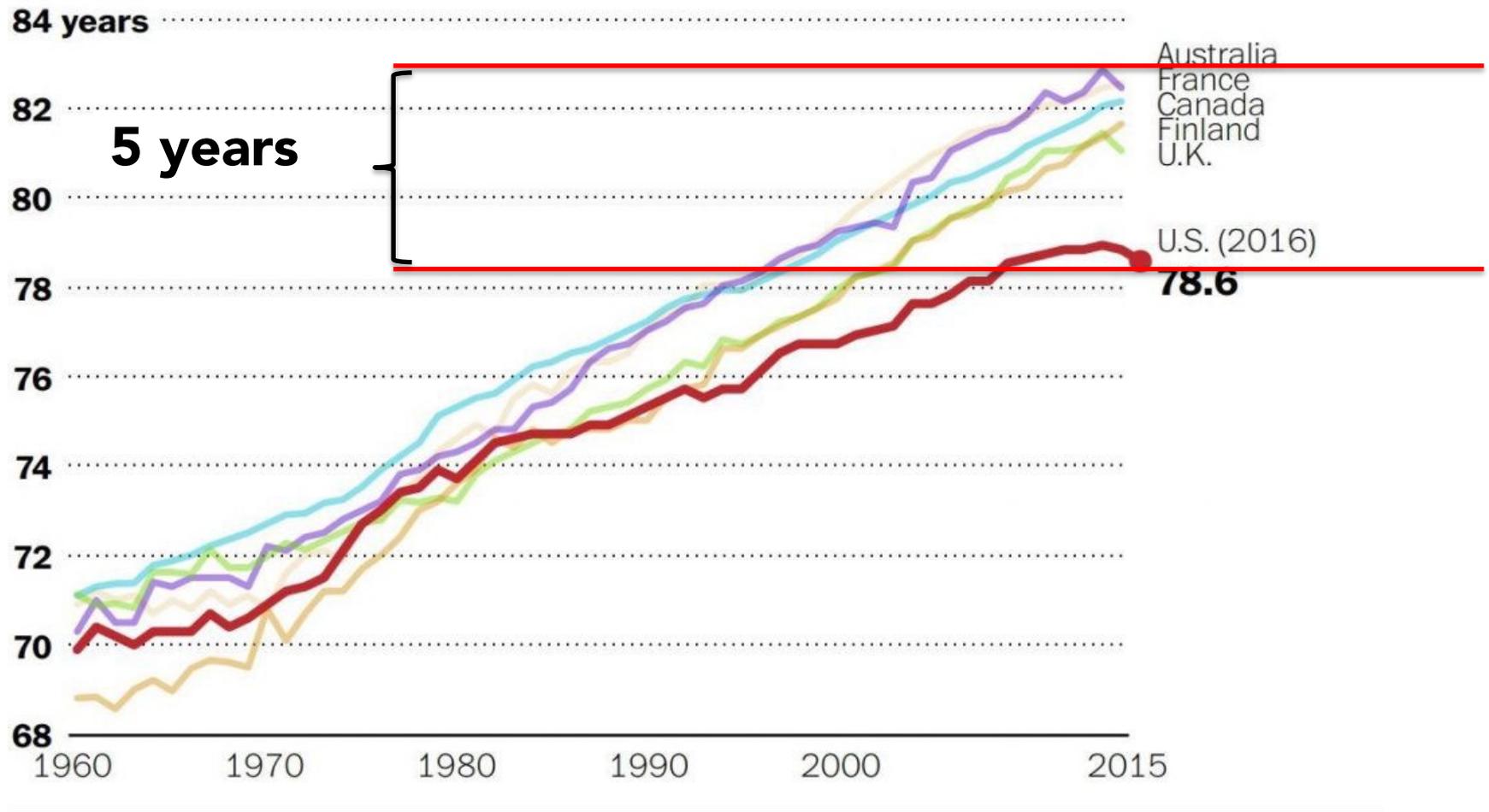
<https://www.nbcnews.com/politics/donald-trump/timeline-trump-administration-s-response-coronavirus-n1162206>  
<https://chicagocrusader.com/chicago/rising-omicron-cases-cdc-guidance-threatens-businesses>

Pandemic-specific failures

Pre-pandemic failures

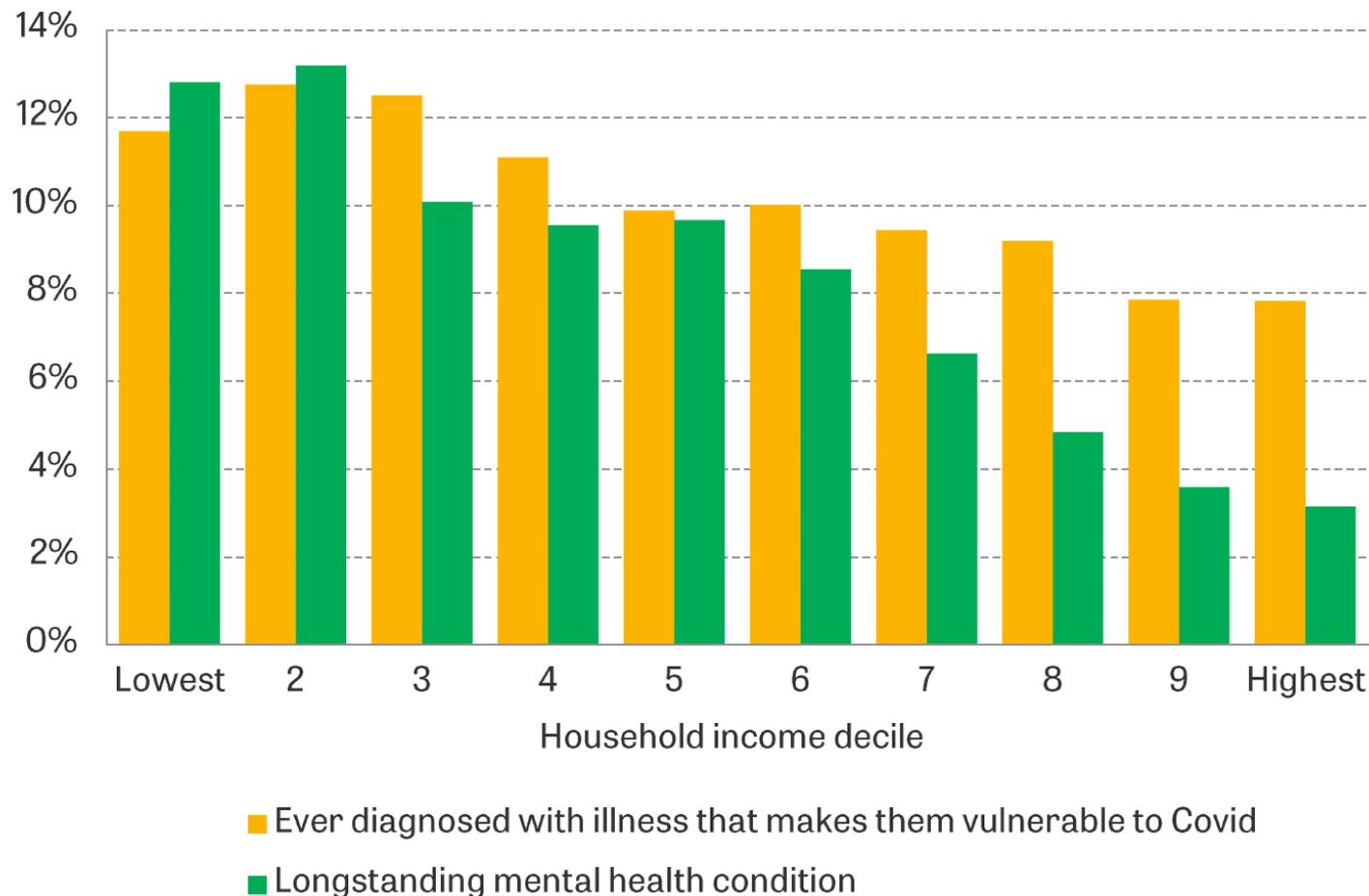
# American exceptionalism

Life expectancy at birth, selected OECD countries



Source: OECD, U.S. Census Bureau

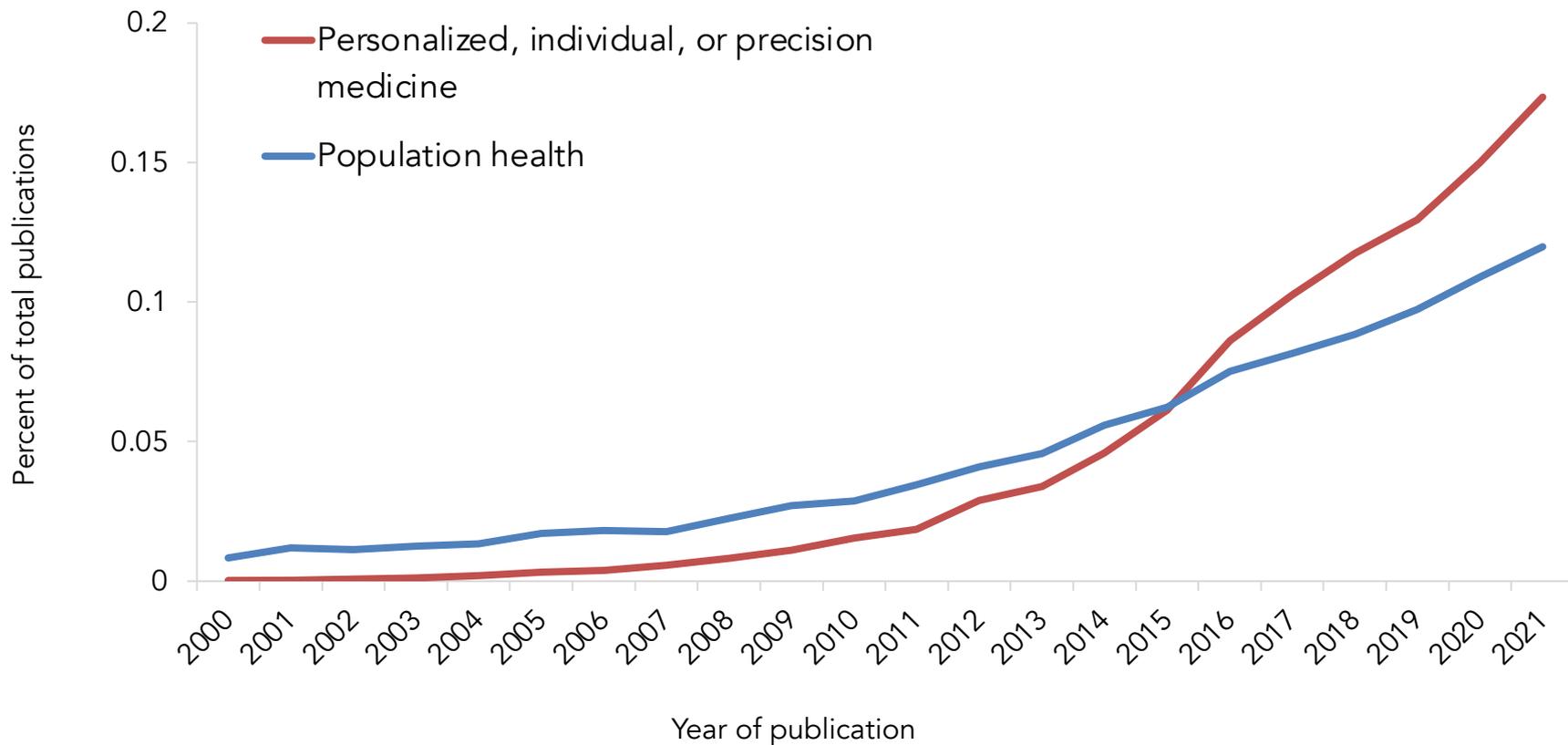
**Figure 16. Medical vulnerability to COVID-19 or the effects of social isolation, by income**



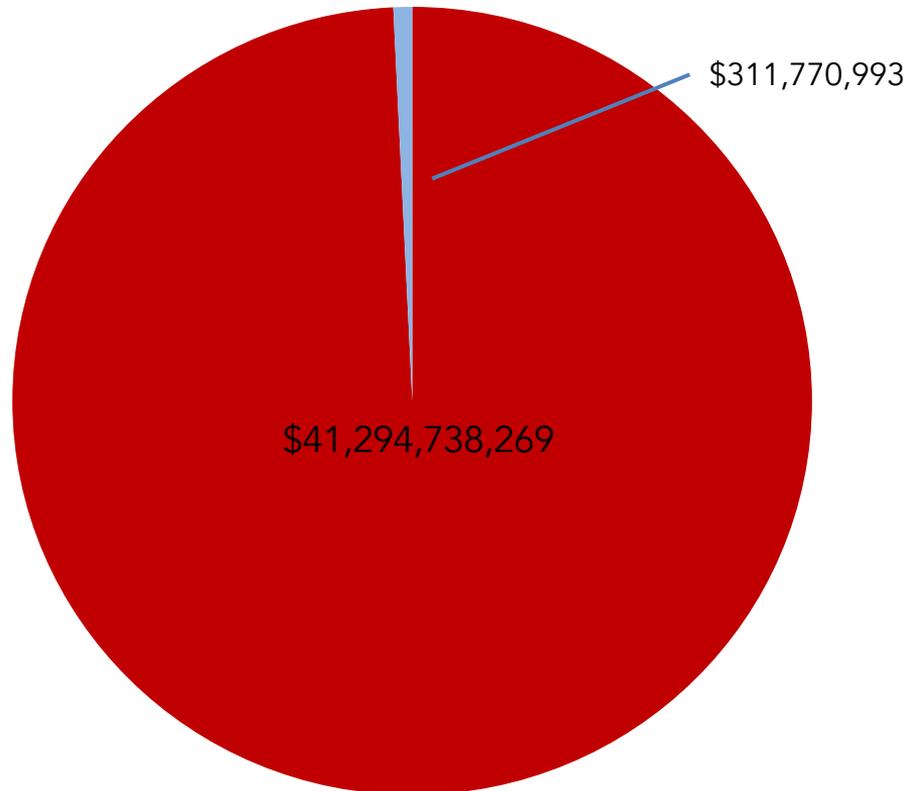
Note: Diagnoses include asthma, congestive heart failure, coronary heart disease, emphysema, chronic bronchitis, cancer or malignancy, diabetes and high blood pressure. Mental health based on self-reported mental health condition lasting or expected to last over 12 months. Deciles based on equivalised net household incomes, using modified OECD equivalence scale.

Source: Authors' calculations using UK Household Longitudinal Survey wave 9 (ever diagnosed) and Family Resources Survey 2018–19 (mental health).

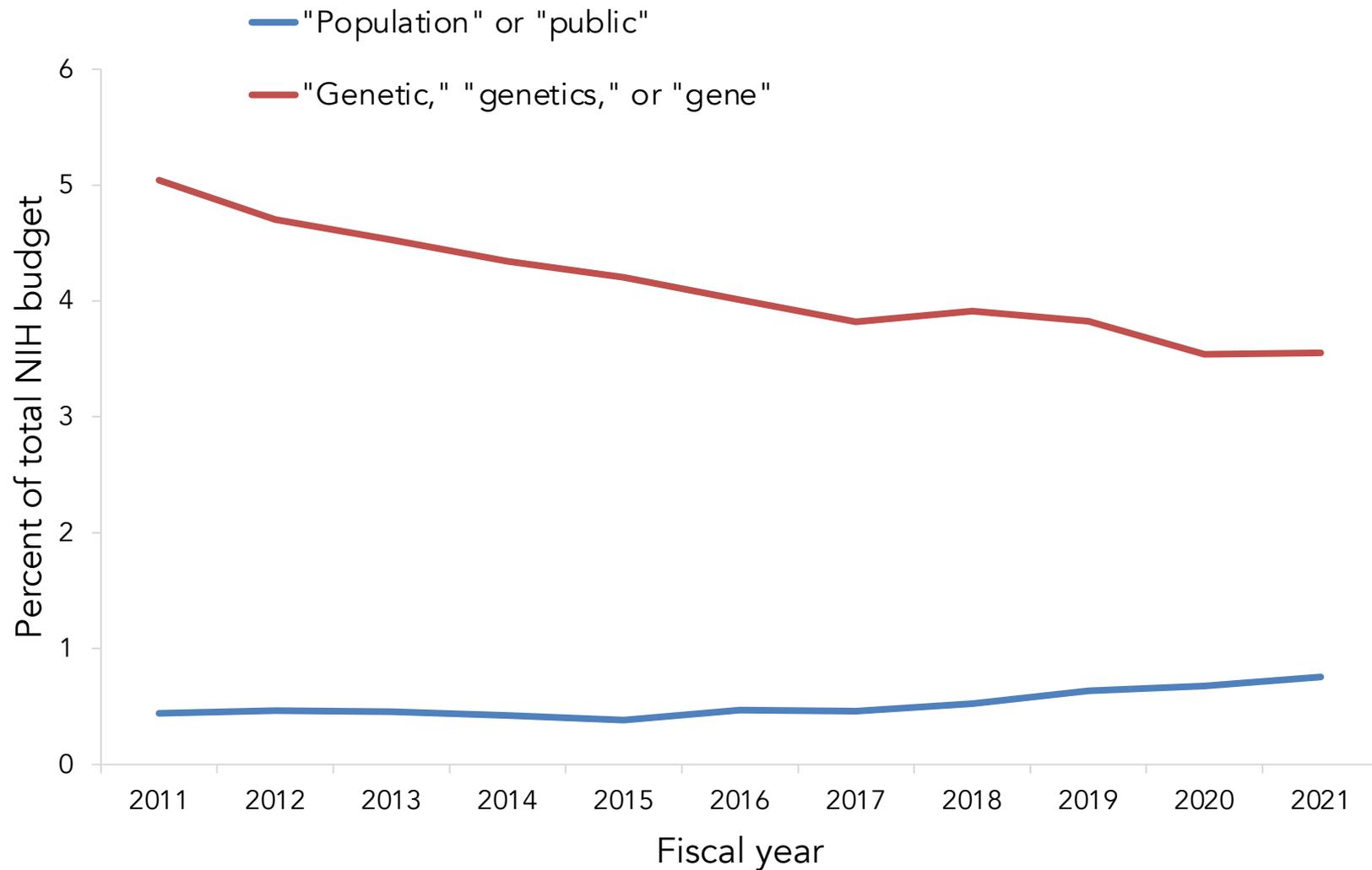
# Proportion of papers indexed in PubMed, 2000-2021

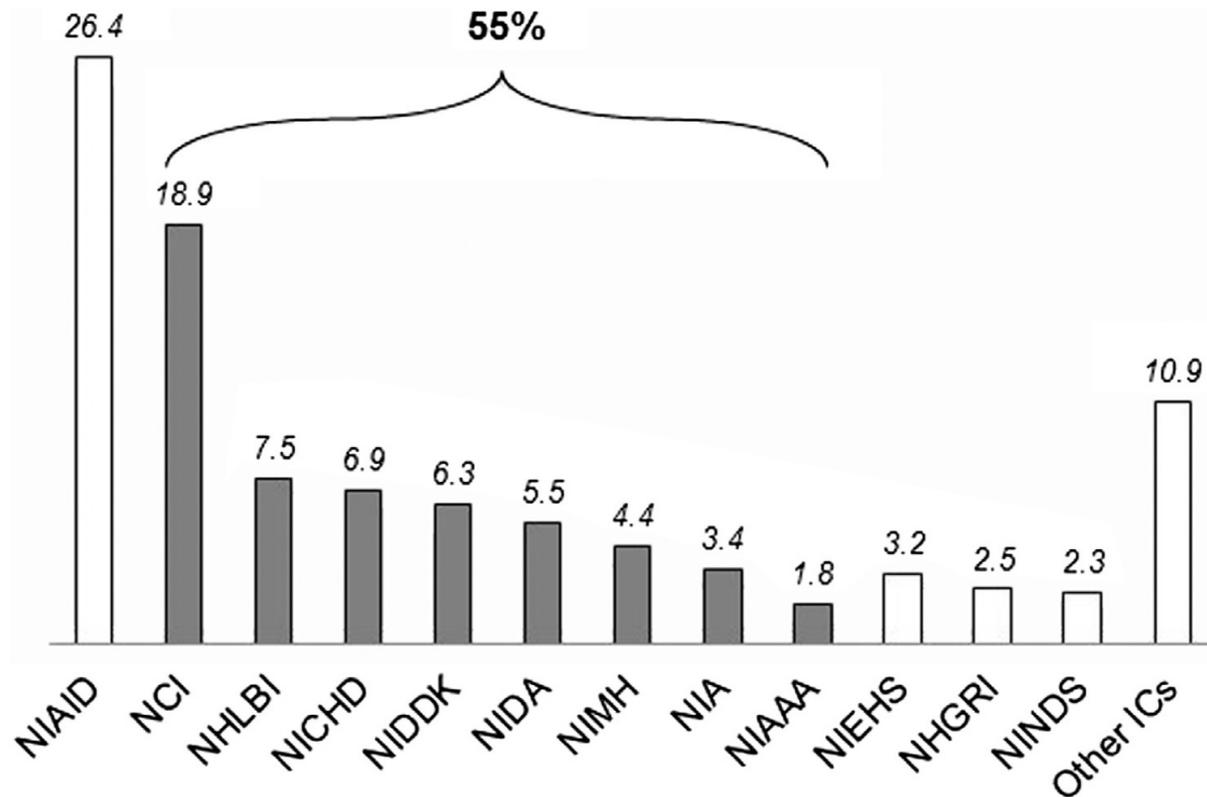


Among NIH funding for 2021, only 0.75% was awarded to projects with the terms "population" or "public" in the title



## Proportion of NIH funding awarded to projects, 2011-2021





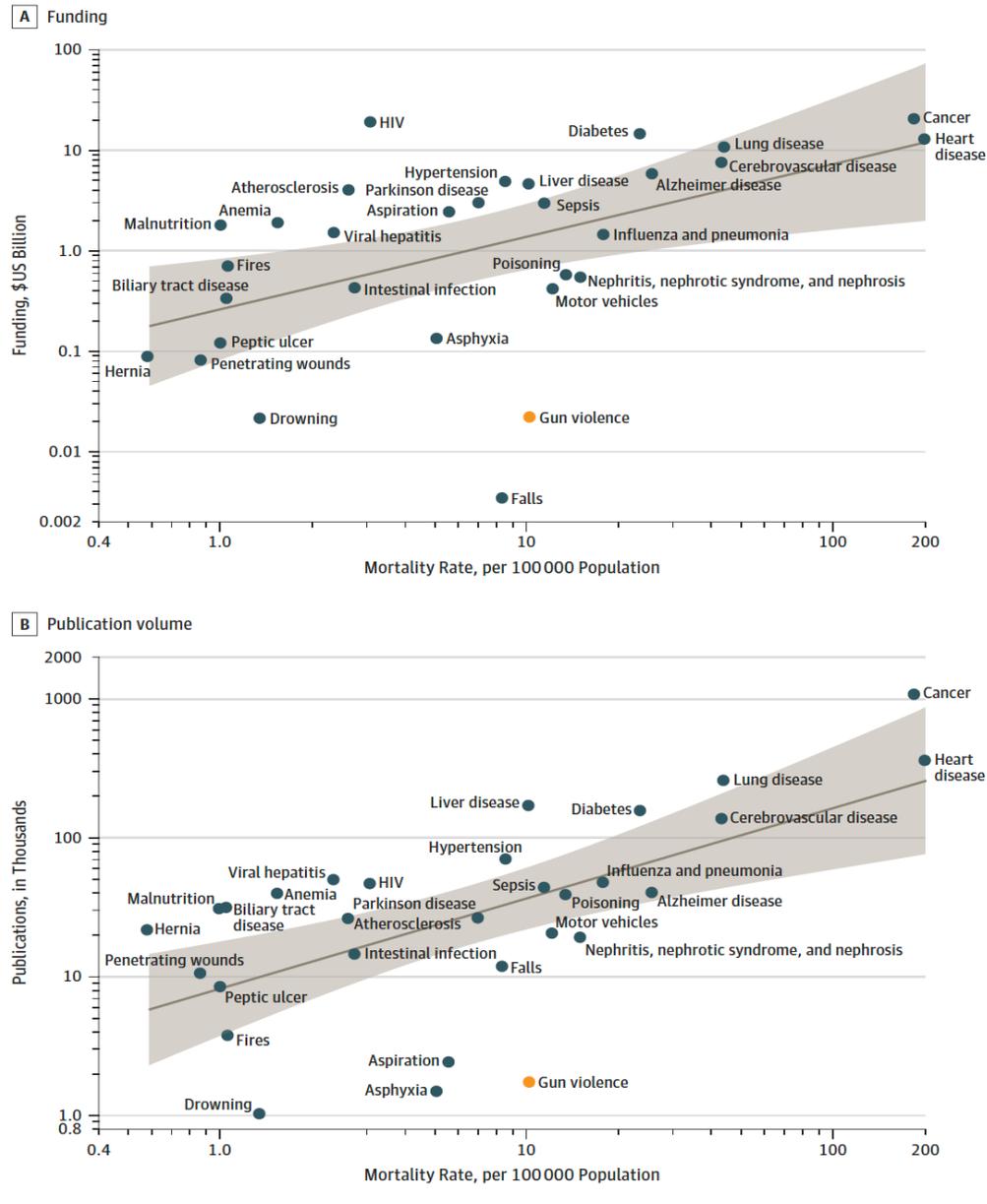
**Figure 1.** Average annual NIH funding for prevention (FY2010–FY2012).

Source: [report.nih.gov/categorical\\_spending.aspx](http://report.nih.gov/categorical_spending.aspx); authors' analysis.

Note: Percentages based on grants coded as Prevention by Research Condition and Disease Categorization (RCDC) algorithm. Mean proportion based on annual spending, not number of grants. Other ICs include the remaining 13 Institutes and Centers.

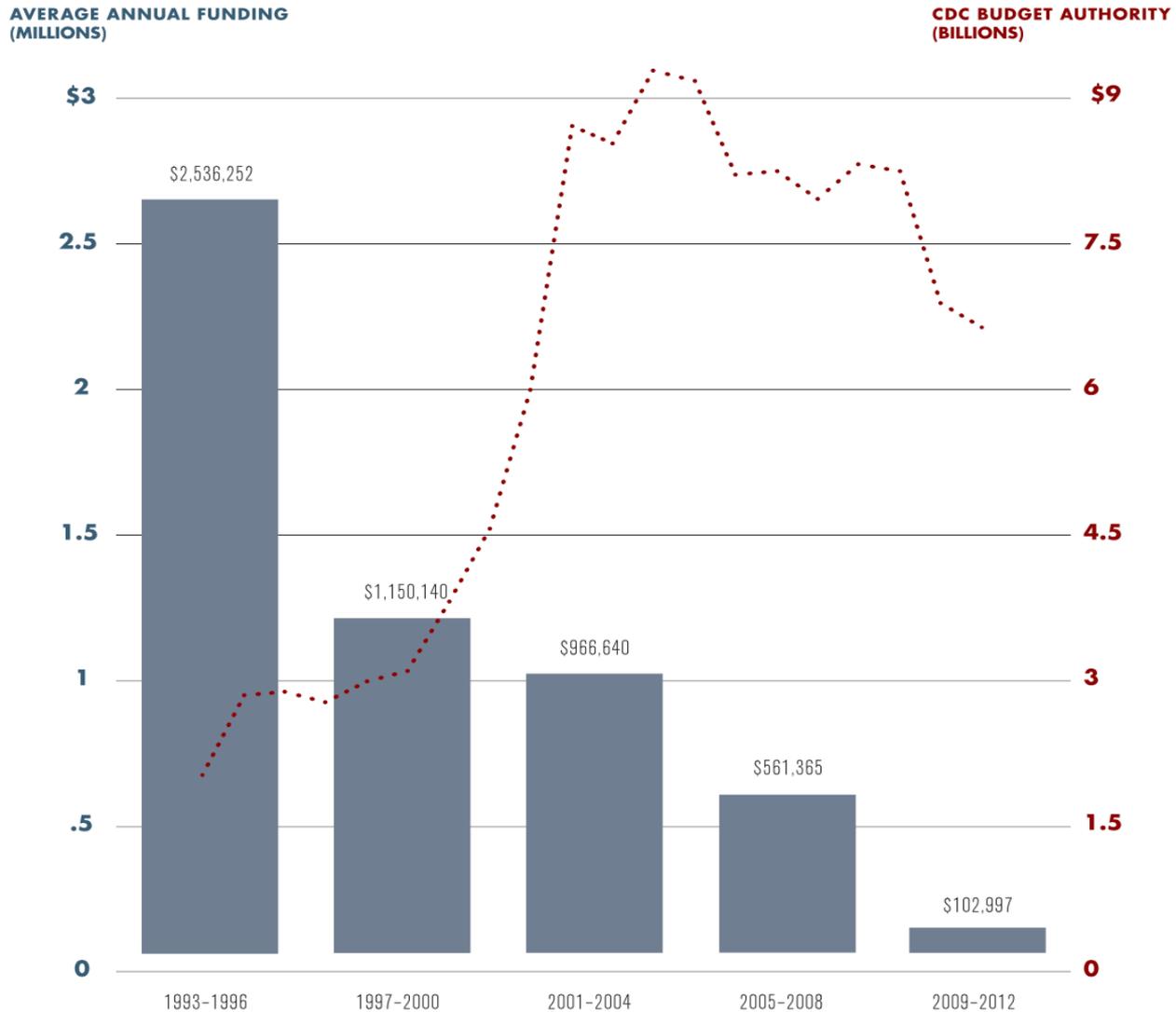
FY, financial year; IC, institutes and centers; NCI, National Cancer Institute; NHGRI, National Human Genome Research Institute; NHLBI, National Heart Lung and Blood Institute; NIA, National Institute on Aging; NIAAA, National Institute on Alcohol Abuse and Alcoholism; NIAID, National Institute of Allergy & Infectious Diseases; NICHD, National Institute of Child Health Development; NIDA, National Institute on Drug Abuse; NIDDK, National Institute of Diabetes and Digestive and Kidney Diseases; NIEHS, National Institute of Environmental Health Services; NIMH, National Institute of Mental Health; NINDS, National Institute of Neurological Disorders and Stroke.

Figure 1. Mortality Rate vs Funding and Publication Volume for 30 Leading Causes of Death in the United States



**AVERAGE ANNUAL FUNDING FOR FIREARM INJURY PREVENTION ACTIVITIES AT THE NATIONAL CENTER FOR INJURY PREVENTION AND CONTROL AT THE CDC**

(2012 DOLLARS)

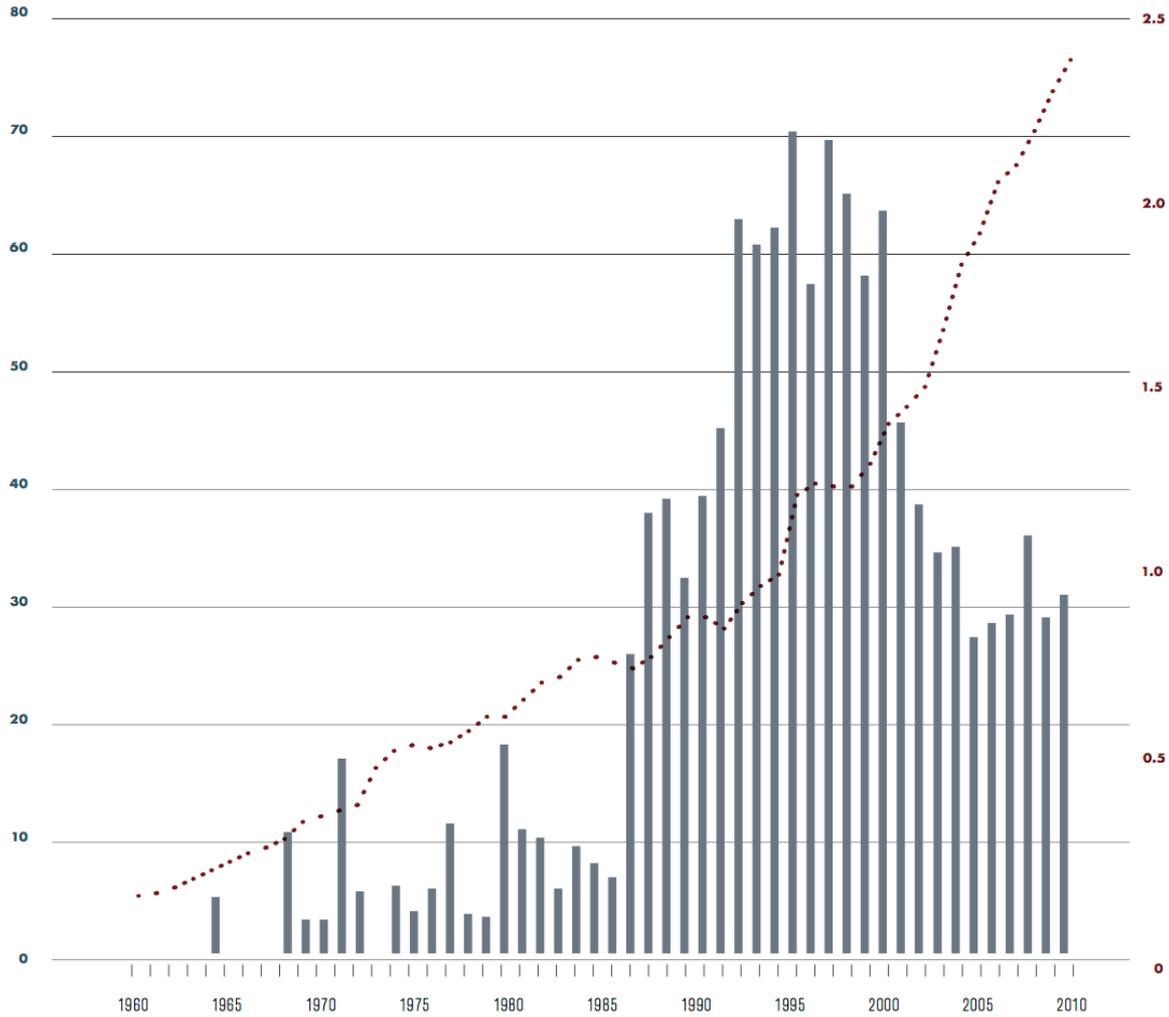


SOURCE: CDC

# ACADEMIC PUBLICATIONS ON FIREARMS AND VIOLENCE

**PUBLICATIONS ABOUT FIREARMS AND VIOLENCE  
(PER MILLION PUBLICATIONS)**

**TOTAL ACADEMIC PUBLICATIONS  
(MILLIONS)**



FOR METHODOLOGY, SEE APPENDIX 2

### **3. Research roadmaps post-COVID-19**



# UN Research Roadmap for the COVID-19 Recovery

Leveraging the  
Power of Science  
for a More Equitable,  
Resilient and  
Sustainable Future



## Panel A

### Ten key research priorities for an equitable, resilient and sustainable future

#### 1. How can COVID-19 socio-economic recovery efforts be purposefully designed to stimulate equity, resilience, sustainability and progress towards the SDGs?



#### Equity



##### QUICK-WIN

2. What are the best approaches to integrating actively anti-discriminatory policies into emergency recovery responses? [RP5.3.2]



##### BEST-BUY

3. Which health system mechanisms can be leveraged to promote access to sexual and reproductive health services, gender equity and women's empowerment in society? [RP1.2.5]



##### GAME-CHANGER

4. How can international trade and finance be improved to ensure that all countries are included in the global economy in a fair and sustainable manner? [RP4.2.2]

The references in square brackets throughout this Roadmap link to research priorities and sub-priorities identified in Chapter 2.

#### Resilience



##### QUICK-WIN

5. How can safe access to high-quality education in schools be ensured during emergencies? [RP2.3.4]



##### BEST-BUY

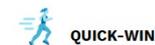
6. How can international financial institutions most effectively contribute to financial stability during global emergencies and prevent sovereign debt crises? [RP4.3.3]



##### GAME-CHANGER

7. What are the best strategies for ensuring safe workplaces and decent work, in particular for those workers who face greater risks? [RP3.1.2]

#### Sustainability



##### QUICK-WIN

8. How can stimulus programs promote decent work and support the transition to greener and more sustainable economies? [RP3.2.1]



##### BEST-BUY

9. What mechanisms can enable different parts of government to work together on critical "One Health" challenges that cross human, animal and environmental health, such as antimicrobial resistance, extreme weather, food insecurity, habitat destruction and water degradation? [RP1.3.4]



##### GAME-CHANGER

10. How can approaches for preventing environmental degradation and preserving natural resources be better integrated into multilateral collaborations across economic areas? [RP4.5.1]

## Table 1. Opportunities and future challenges for generating and applying health research evidence to policy and practice

<b>Novel vs existing techniques</b>	<ul style="list-style-type: none"><li>&gt; Use of non-traditional data sources (search queries, Twitter sentiment, smartphone mobility or wearables).</li><li>&gt; Predictive, preventive, personalised and participatory (P4) precision medicine.</li><li>&gt; Digital contact tracing.</li></ul>
<b>Centralised vs local decision making</b>	<ul style="list-style-type: none"><li>&gt; Coordination challenges among research groups.</li><li>&gt; Incentives, mechanisms and structures for largescale open data sharing.</li><li>&gt; Knowledge management and preprints.</li></ul>
<b>Cooperation across disciplines, sectors, and borders</b>	<ul style="list-style-type: none"><li>&gt; Ad hoc interdisciplinary research collaborations (eg COVID19 Dispersed Volunteer Research Network).</li><li>&gt; Rapid funding mechanisms.</li><li>&gt; Data journalism, public communication and transparency.</li><li>&gt; Government science advisory committees.</li><li>&gt; Realtime evaluation and collaboration among hard scientists, ethicists and economists to inform human challenge trial debate; UK Human Challenge Consortium.</li></ul>

1. A holistic approach to understanding mechanisms
2. Focusing on solutions
3. Focus on vulnerable populations, including racial and ethnic minorities
4. Mobilizing data from multiple sources
5. Involving people with lived experience
6. Strengthening inter-disciplinary collaboration

1. Pandemic preparedness
2. Structural and systemic inequities
3. Resilience of health care delivery systems
4. Communication, coordination, accountability

1. Innovation in the clinical and laboratory sciences
2. Engagement of social and economic sciences

## **4. Key elements of policy relevant research going forward**



# House Adopts Prohibition Amendment by 282 to 128



Measure Goes to Conference—Period for Ratification Is Only Difference

Parties Evenly Divided on Vote

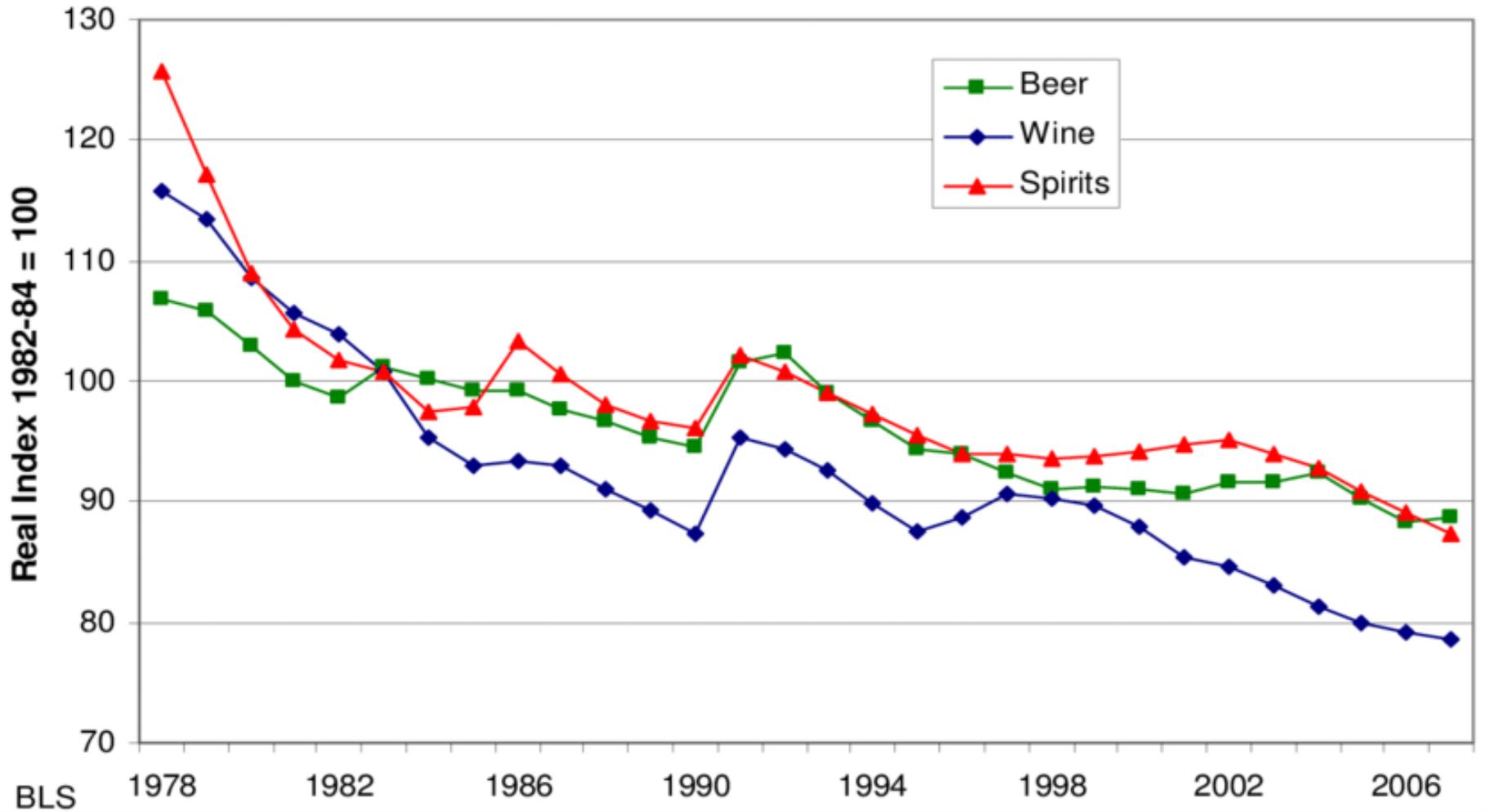
141 Democrats and 137 Republicans Join Independents to Vote "Yes"

WASHINGTON, Dec. 17.—Nation-wide prohibition won in the House today, and only the adjustment of a slight difference in resolutions between the House and Senate now stands in the way of submitting to state legislatures an amendment to the Federal Constitution forbidding the manufacture, sale or importation of intoxicating liquor for beverage purposes in the United States or its territories.

The vote in the House, taken after a day of debate before crowded galleries, was 282 to 128, with the parties dividing almost evenly.

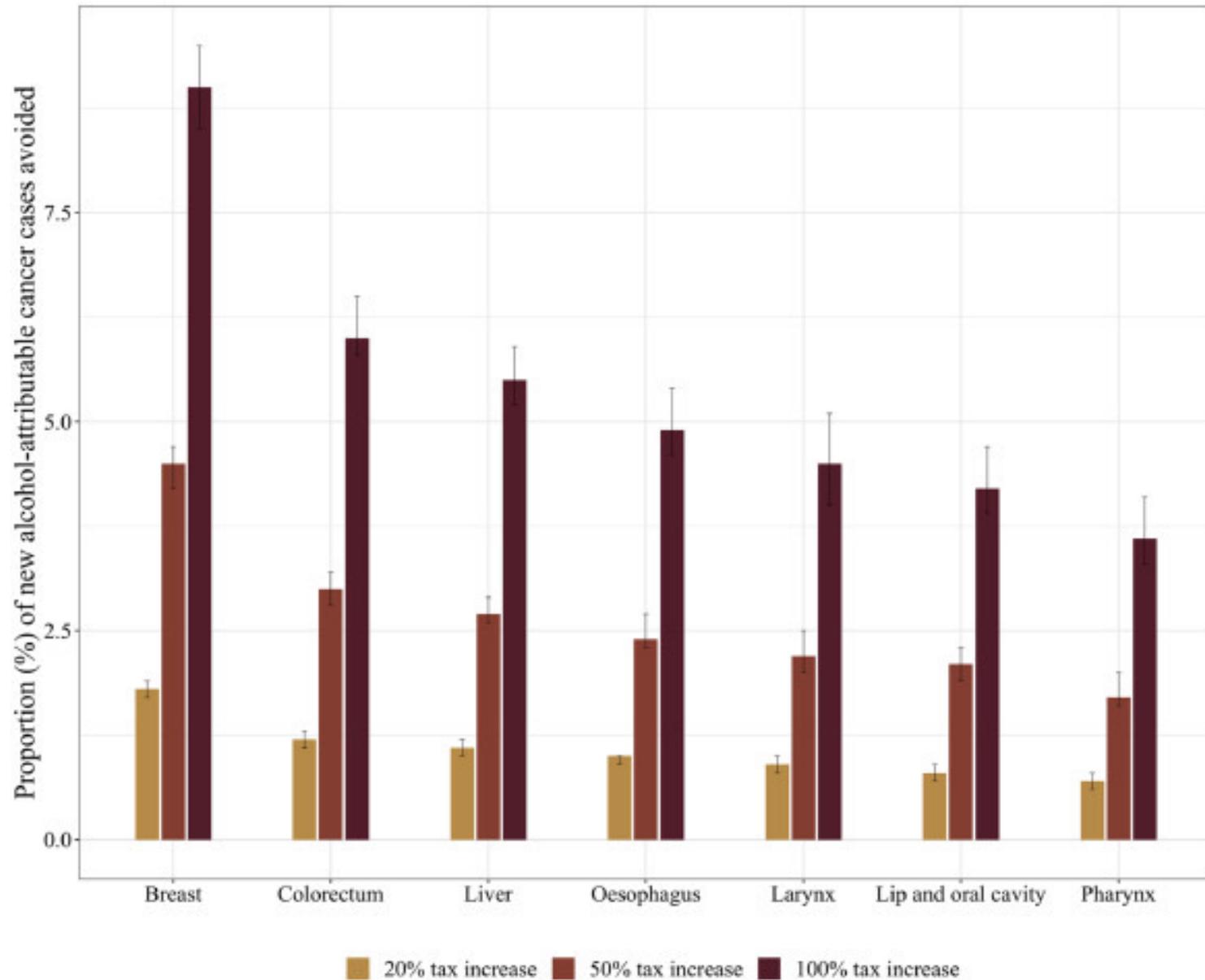
The margin for prohibition was just eight votes more than the necessary two-thirds of the membership of the House required for adoption and twenty-six more than two-thirds of those voting.

# US Alcohol Prices

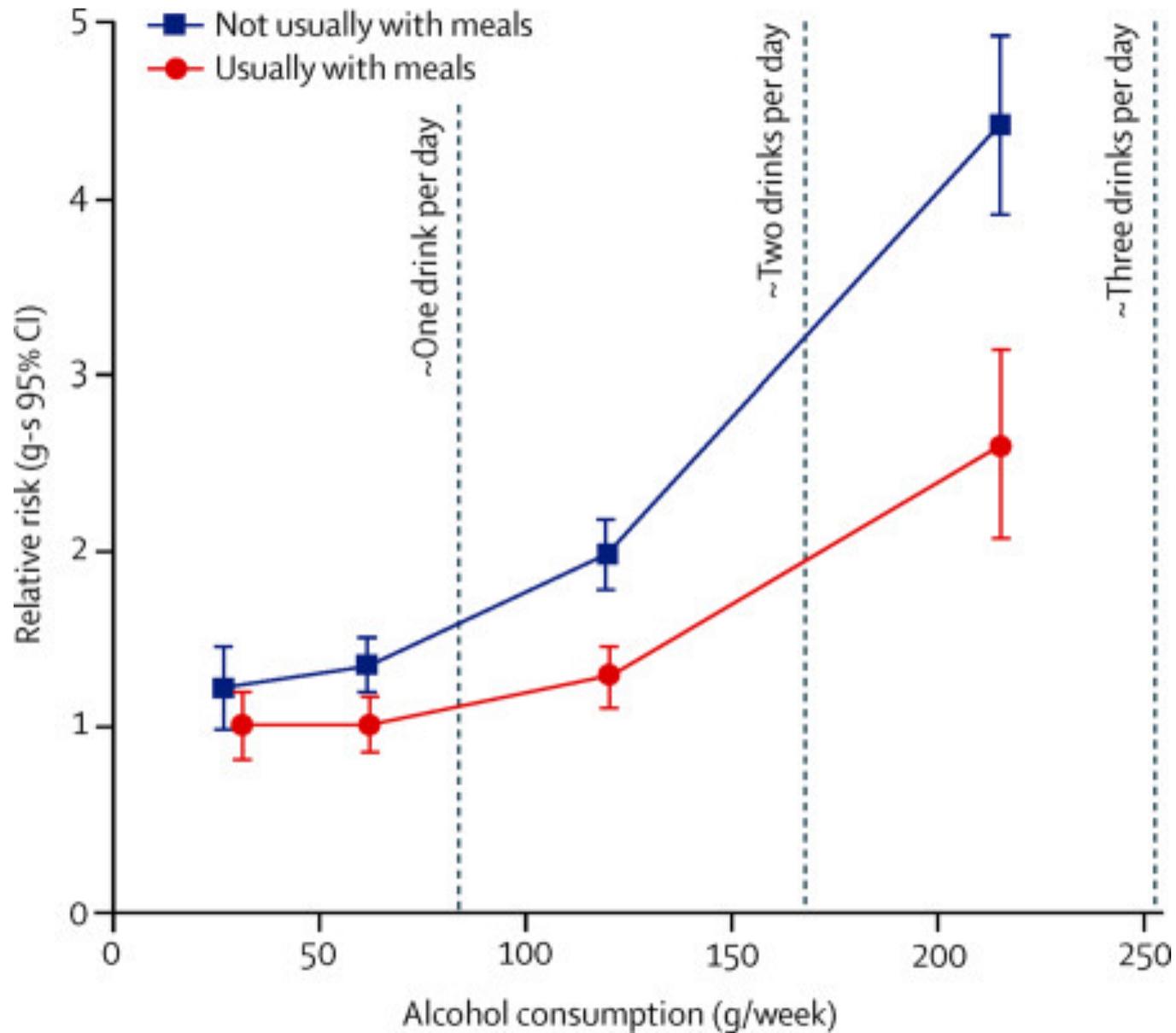


BLS

# Modelling the impact of increased alcohol taxation on alcohol-attributed cancers



# Alcohol drinking patterns and liver cirrhosis risk



Policy-relevant research to guide decision-making

Centering equity

Reckoning with biases

Informing decision-making with data

Policy-relevant research to guide decision-making

Centering equity

Reckoning with biases

Informing decision-making with data

“ ..the problems of any of us are the problems of all of us...”

# What is 'good evidence for policy'?

Evidence may be constructed in ways more or less useful for policy goals

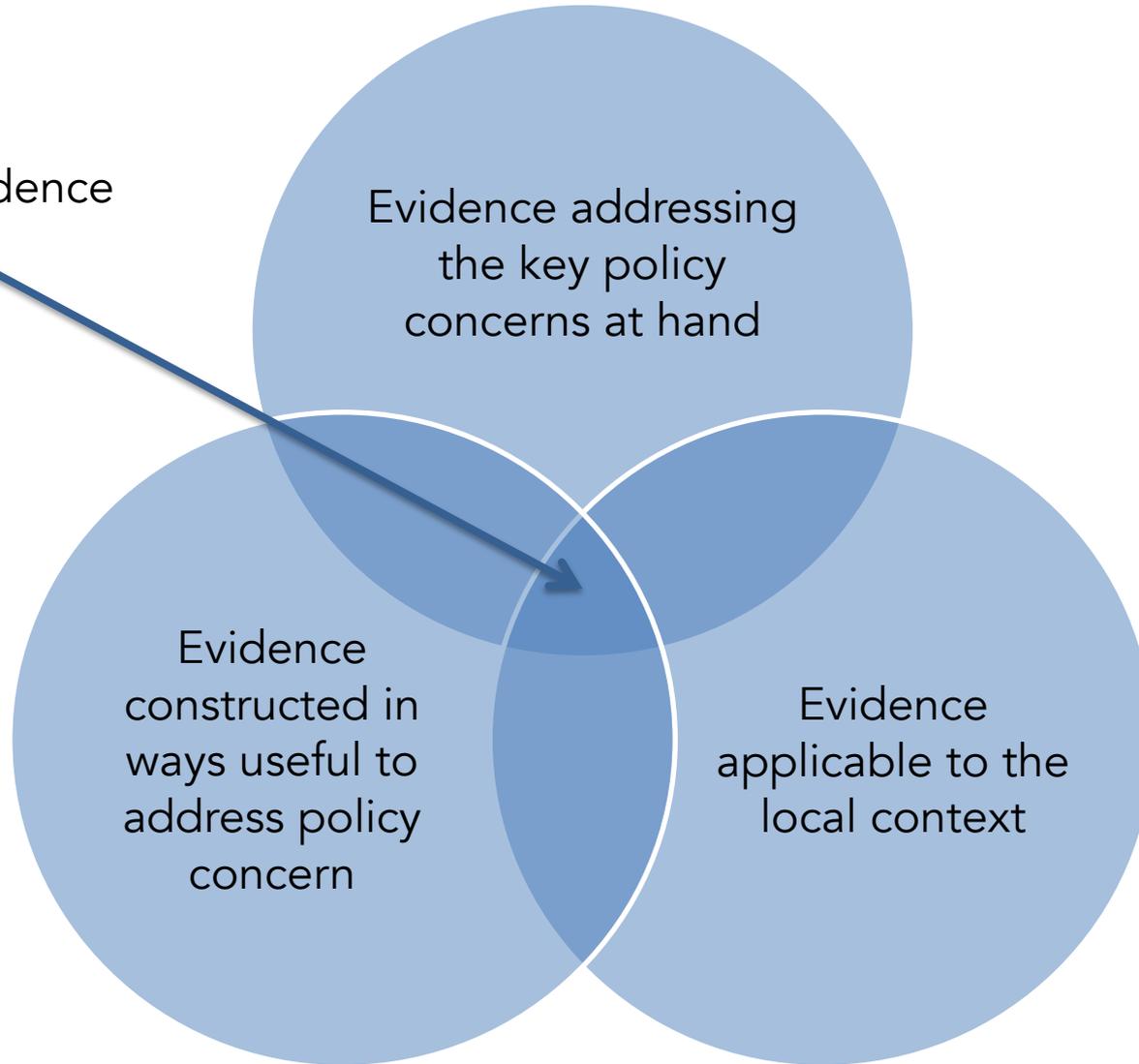


Evidence may be more or less applicable in the local policy context



# Appropriate evidence for the policy context

Appropriate evidence  
for policy



# ***Follow the Science?***

If only it were so easy.

POLICY & ETHICS | OPINION

# What Science Can and Cannot Do in a Time of Pandemic

It can inform policy, but it can't dictate how to weigh the moral and political nature of policy makers' decisions



By Nason Maani, Sandro Galea on February 2, 2021



# Science, Competing Values, and Trade-offs in Public Health — The Example of Covid-19 and Masking

Sarah C. Dupont, M.D., M.P.H., and Sandro Galea, M.D., Dr.P.H.

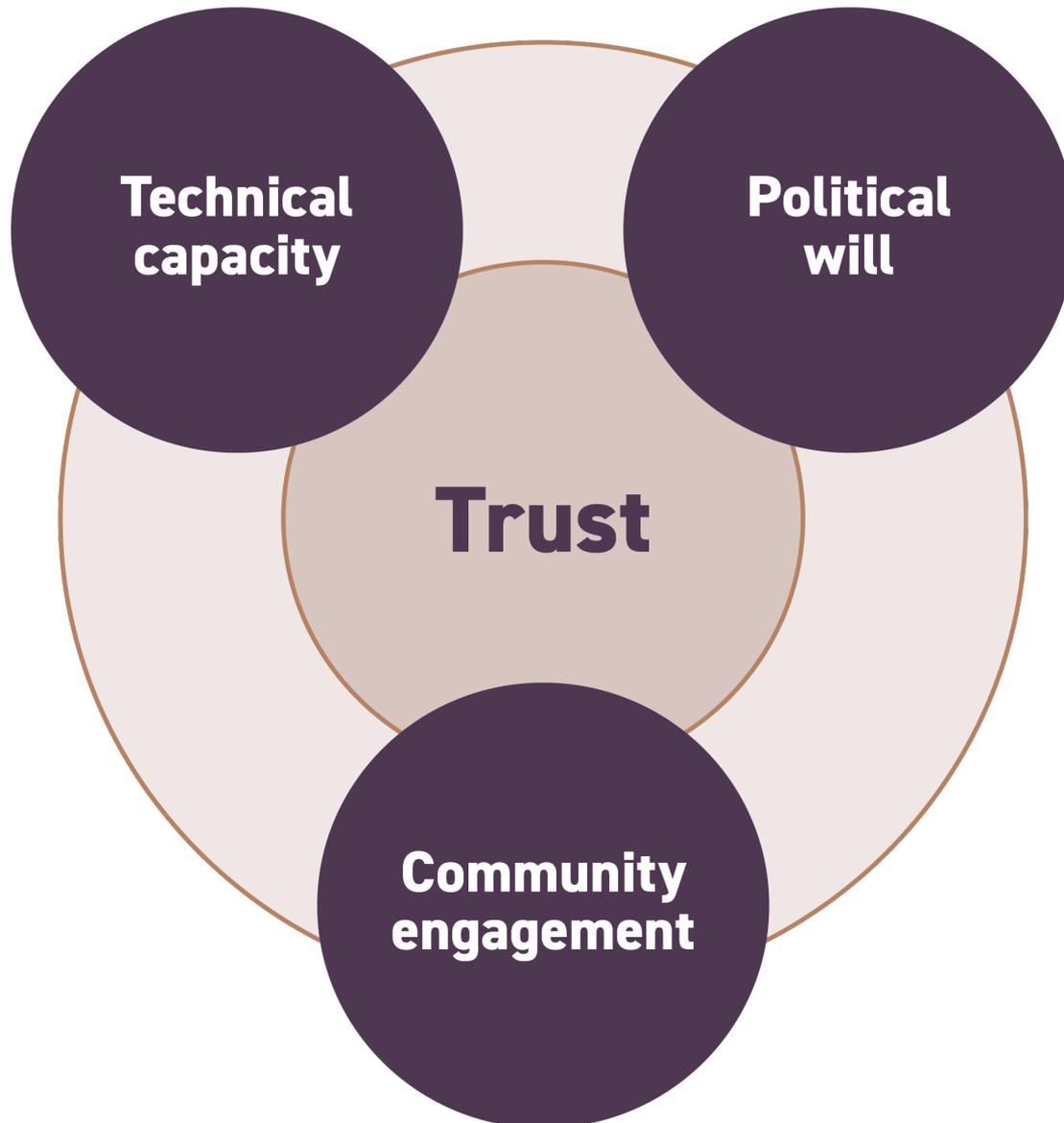
Public health institutions have long walked the difficult line between respecting individual freedoms and protecting society from disease threats — which has sometimes involved restricting those freedoms. This balancing act has often been met with contentious public debate and legal challenges. In perhaps the

most famous example, the state's police power to protect public health was affirmed by the U.S. Supreme Court in its 1905 decision in *Jacobson v. Massachusetts*. The Court determined that a state may compel vaccination, as a result compromising people's right to bodily autonomy, for the purpose of promoting public health

— thereby upholding the community's competing right to protect itself from deadly disease.

During the Covid-19 pandemic, negotiating such trade-offs became substantially more complex, given a rapidly changing environment and an evolving body of knowledge about SARS-CoV-2. Particularly early in the pandem-

# Key elements for actionable and impactful decision making



Policy-relevant research to guide decision-making

Centering equity

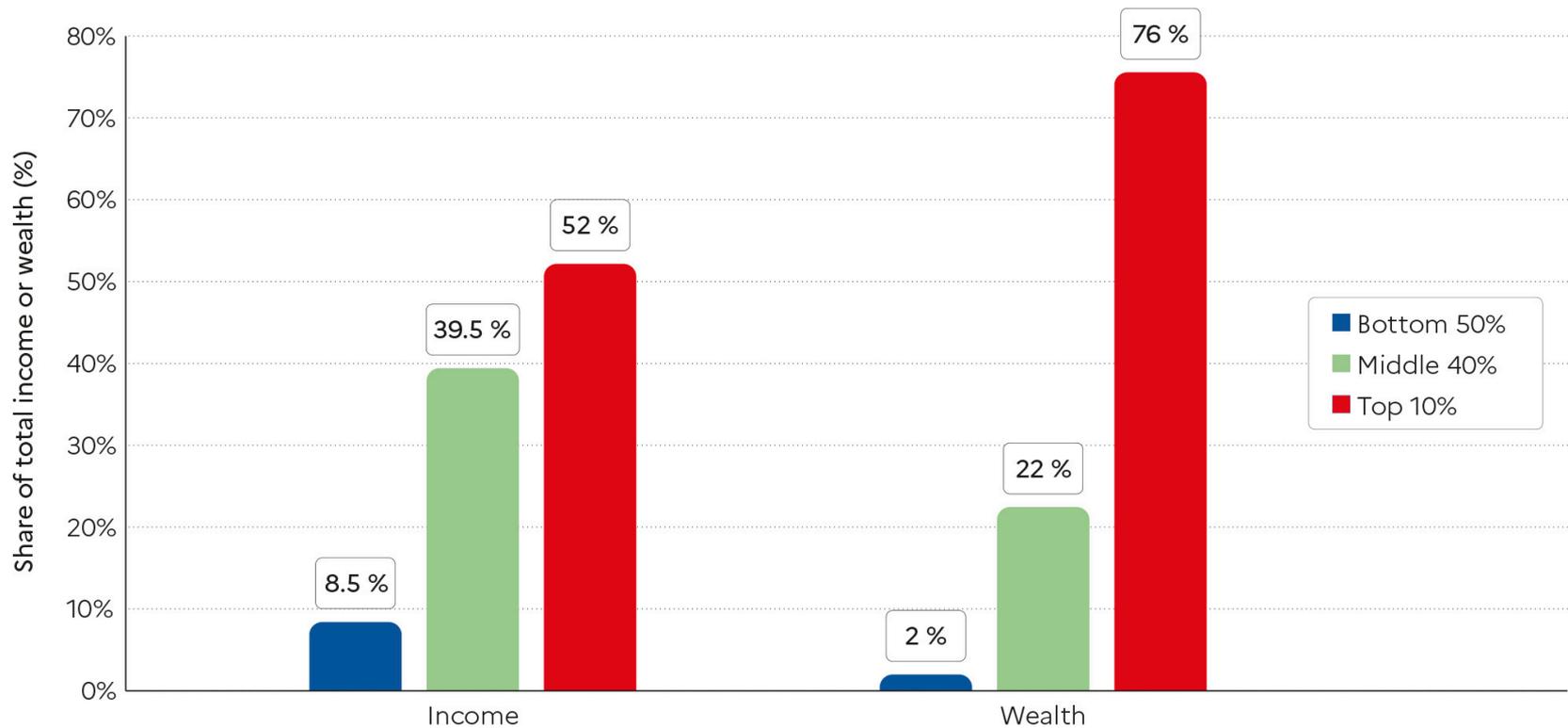
Reckoning with biases

Informing decision-making with data

**Global health equity** would mean a world where health is equitably distributed between and within countries

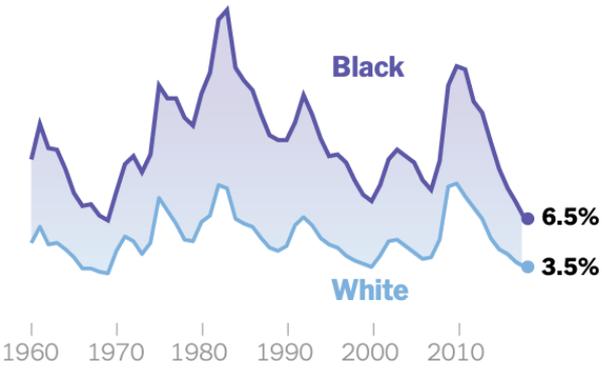
“ Equity describes the just and fair allocation of resources according to need. It describes the absence of avoidable differences among different groups of people, whether we define them by their geographic location, rurality, economic status or social standing. In the context of health, it refers to the allocation of resources according to need, in a way that preventable differences in health outcomes are minimized, and access is fair. ”

**Figure 1** Global income and wealth inequality, 2021

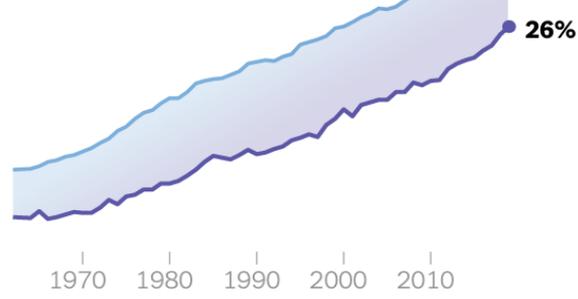


**Interpretation:** The global 50% captures 8% of total income measured at Purchasing Power Parity (PPP). The global bottom 50% owns 2% of wealth (at Purchasing Power Parity). The global top 10% owns 76% of total Household wealth and captures 52% of total income in 2021. Note that top wealth holders are not necessarily top income holders. Incomes are measured after the operation of pension and unemployment systems and before taxes and transfers. **Sources and series:** [wir2022.wid.world/methodology](https://wir2022.wid.world/methodology).

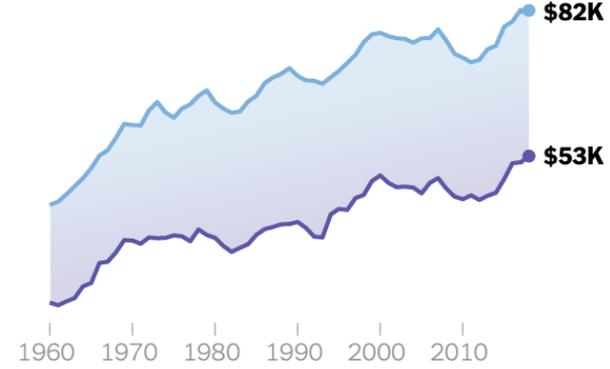
**Unemployment rate, age 16 years and over**



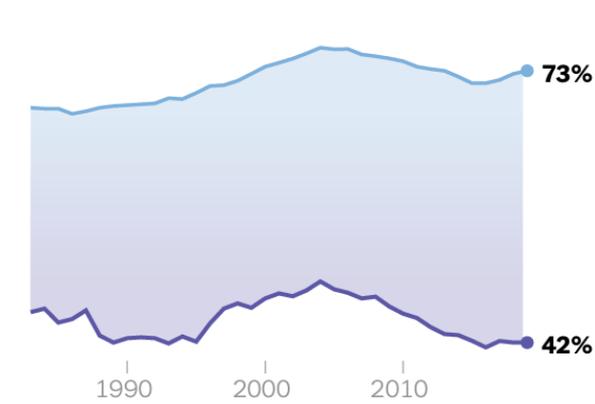
**Share of people 25 years and over who completed four years of college or more**



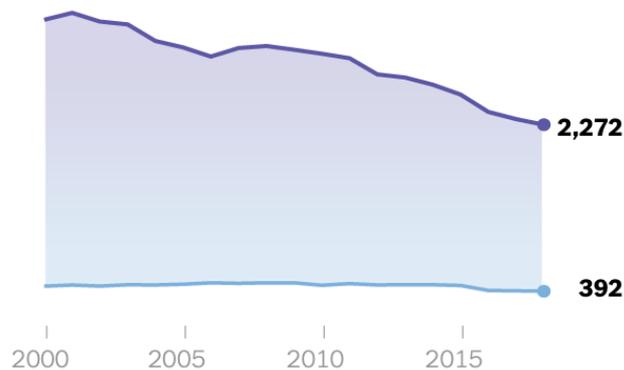
**Median household income**



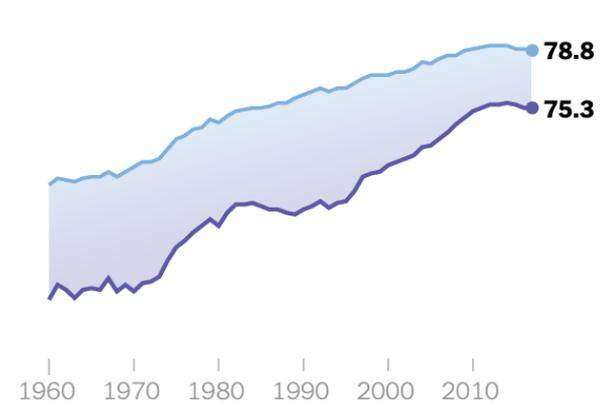
**Homeownership rate**



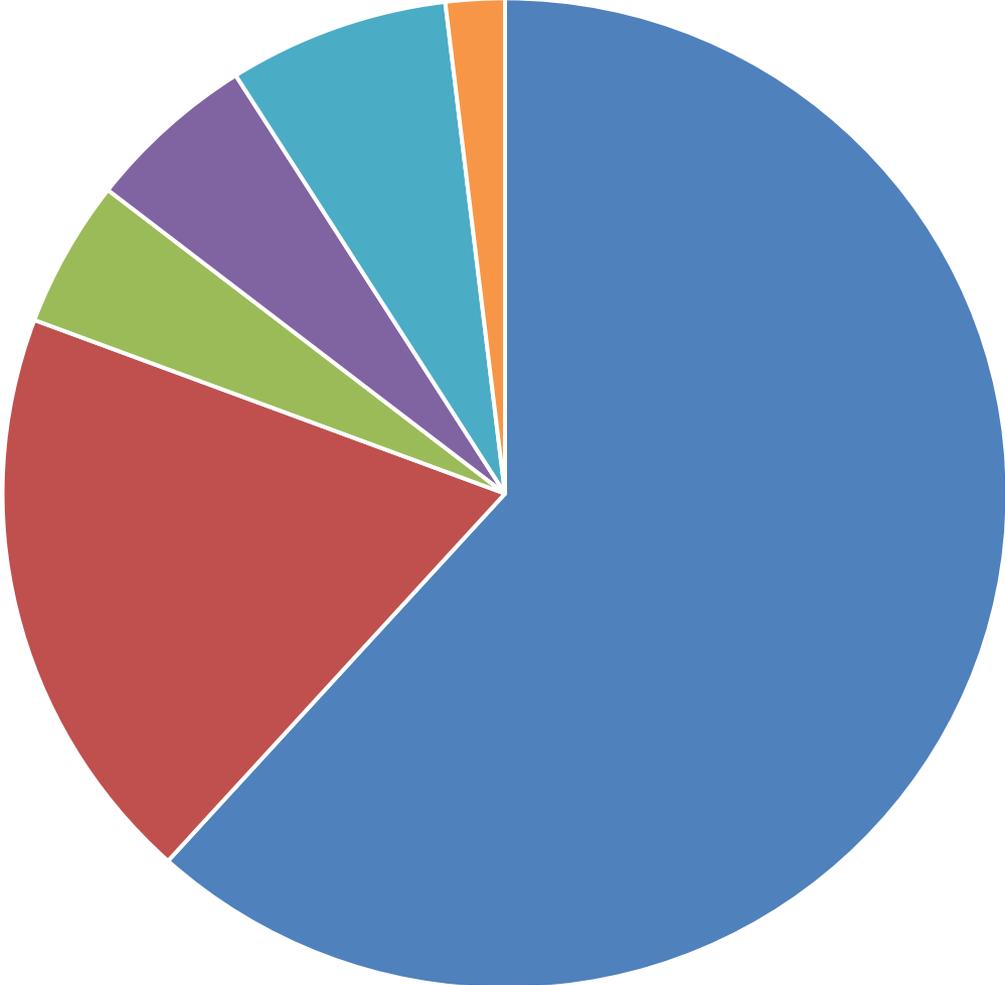
**Sentenced male prisoners per 100,000 residents of the corresponding group**



**Life expectancy at birth**



# Epidemiologists today



■ White ■ Asian/South Asian ■ No response ■ Hispanic ■ Black/AA ■ Other

Courtesy of Enrique Schisterman. DeVilbiss et al, Under review

	Number of publication outputs (% of world total)*	Number of publication outputs with authors from LMICs (% of country total)
UK	63 759 (5.75%)	2452 (3.85%)
France	48 895 (4.41%)	1868 (3.82%)
Australia	32 789 (2.95%)	1228 (3.75%)
Canada	43 936 (3.96%)	1462 (3.33%)
Germany	69 990 (6.31%)	1915 (2.74%)
USA	317 950 (28.65%)	7806 (2.46%)
Spain	32 622 (2.94%)	766 (2.35%)
Italy	66 464 (5.99%)	1289 (1.94%)
China	254 171 (22.90%)	1884 (0.74%)
Top nine country total	773 975 (69.74%)	14 805 (1.91%)
World total	1 109 800	68 893 (6.21%)

Data are n (%) or n. LMICs=low-income and middle-income countries. \*The outputs of the nine individual countries sum to 83.86%, but the combined total is only 69.74% because of double counting of collaborative papers.

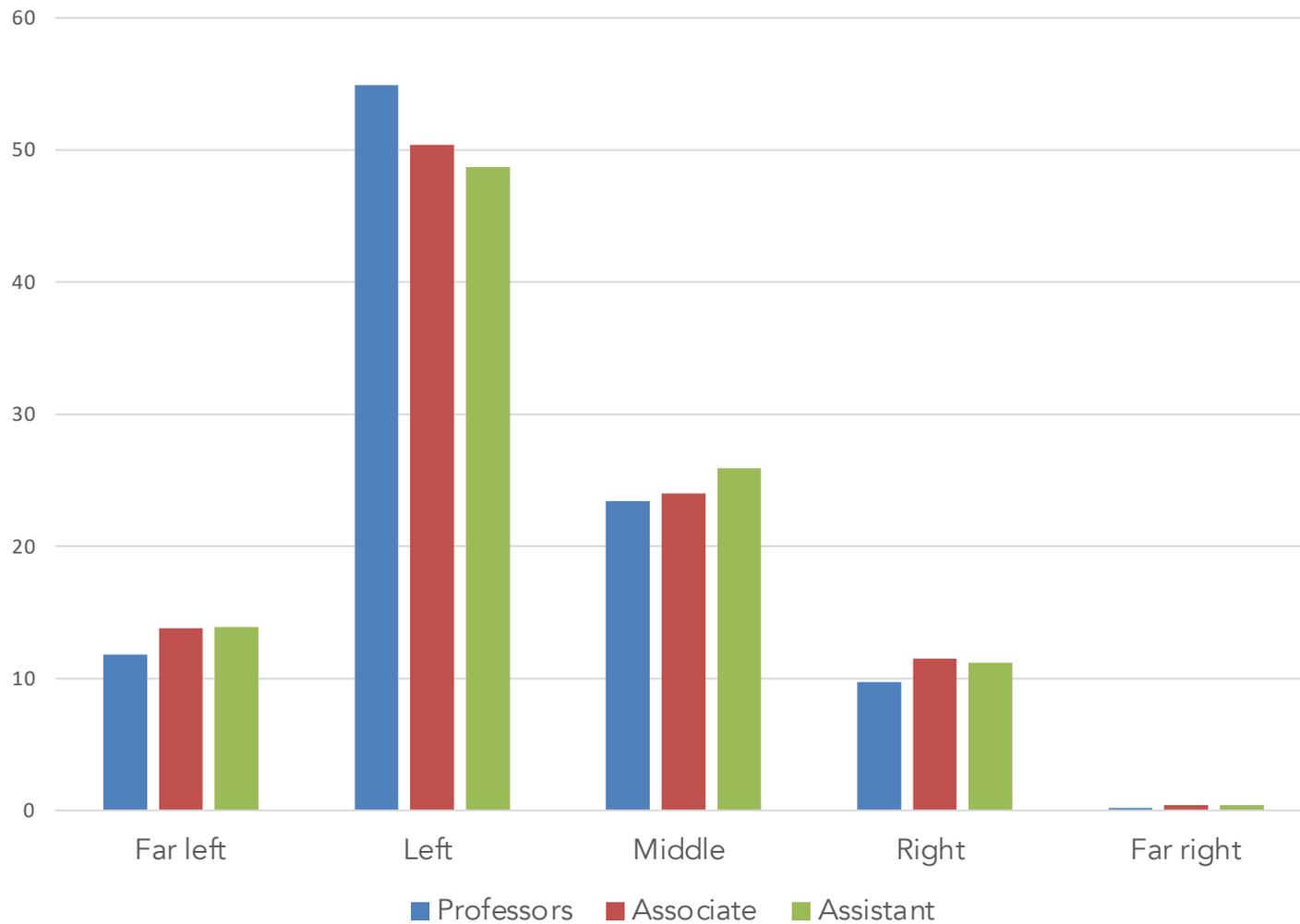
**Table: Total global cancer research publication outputs in the 10 years before the COVID-19 pandemic (February, 2010, to February, 2020) from the top nine output countries, as a percentage of world total cancer research publications and percentage of publications with coauthors from LMICs**

Policy-relevant research to guide decision-making

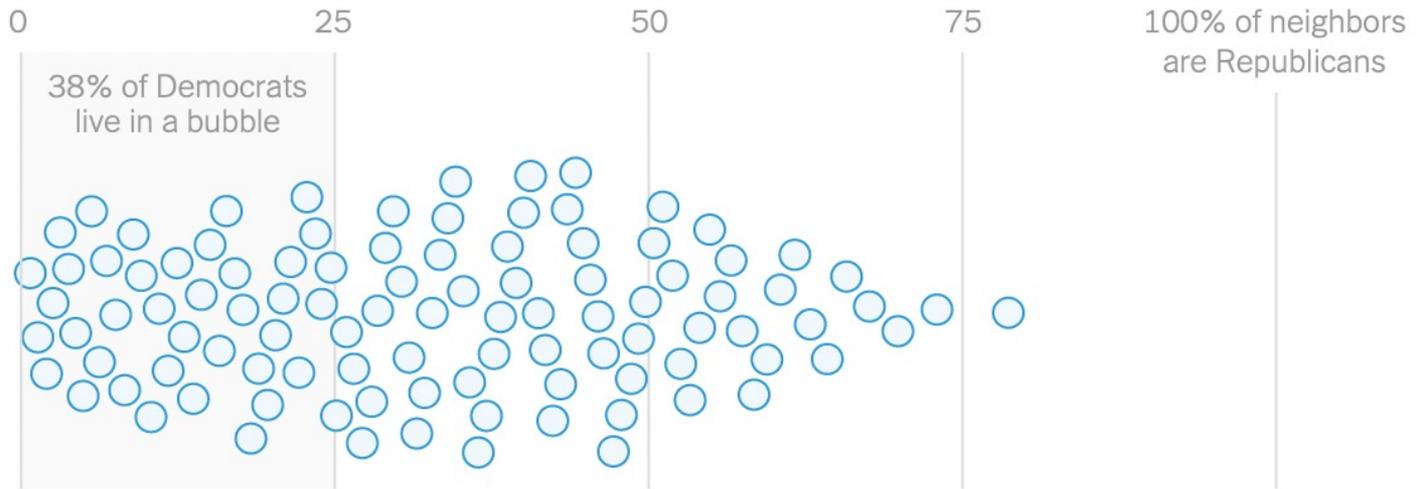
Centering equity

Reckoning with biases

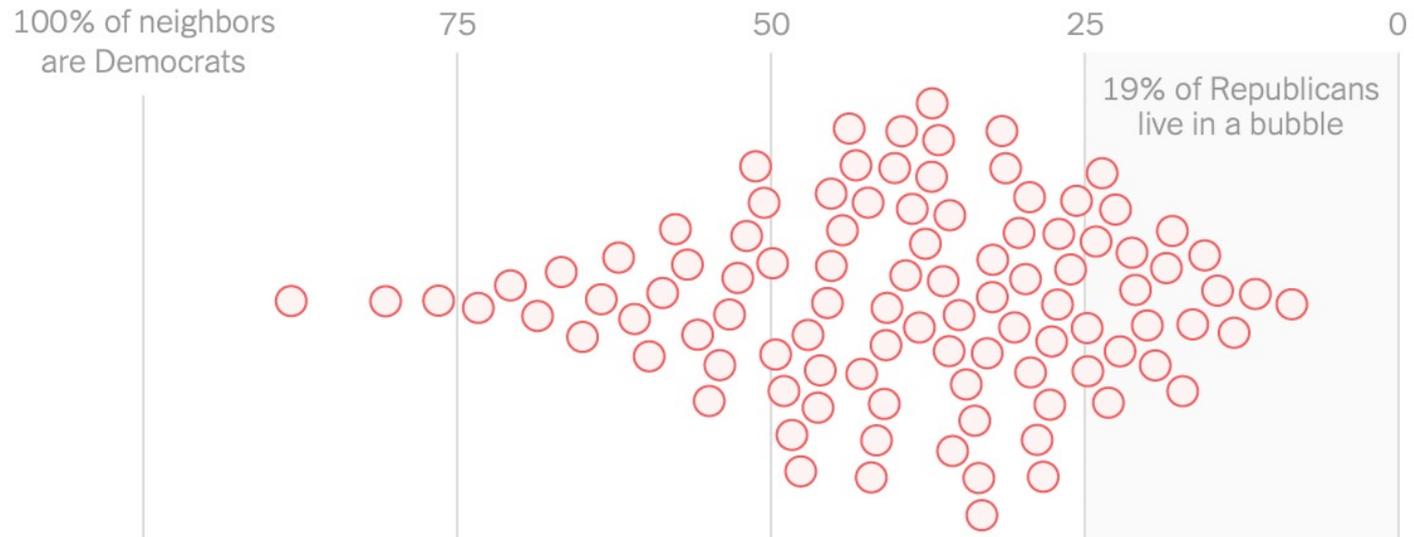
Informing decision-making with data



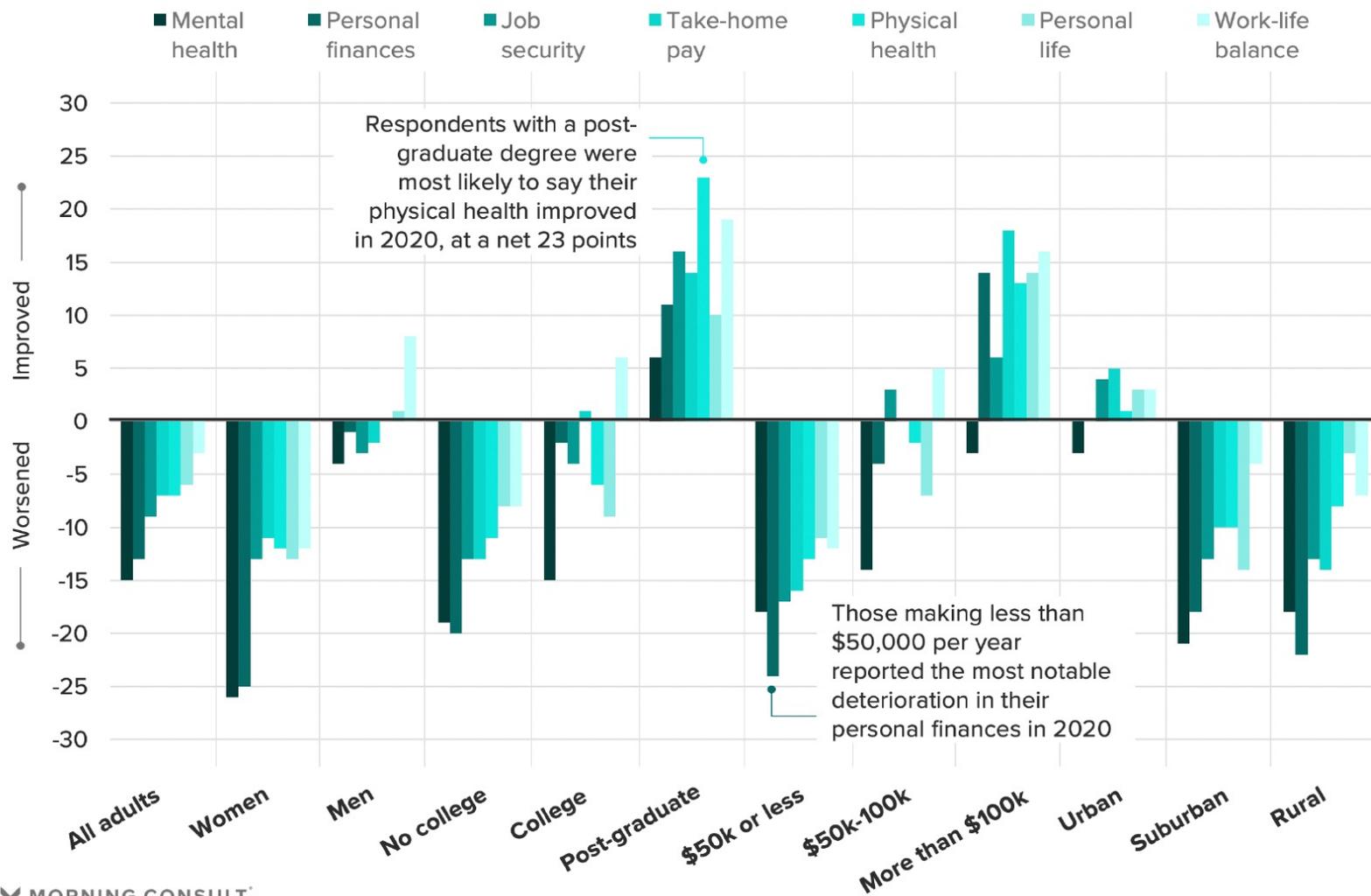
Each ○ represents one out of 100 Democrats



Each ○ represents one out of 100 Republicans



## Share who said the following factors improved for them in 2020 minus the share who said those factors have worsened:



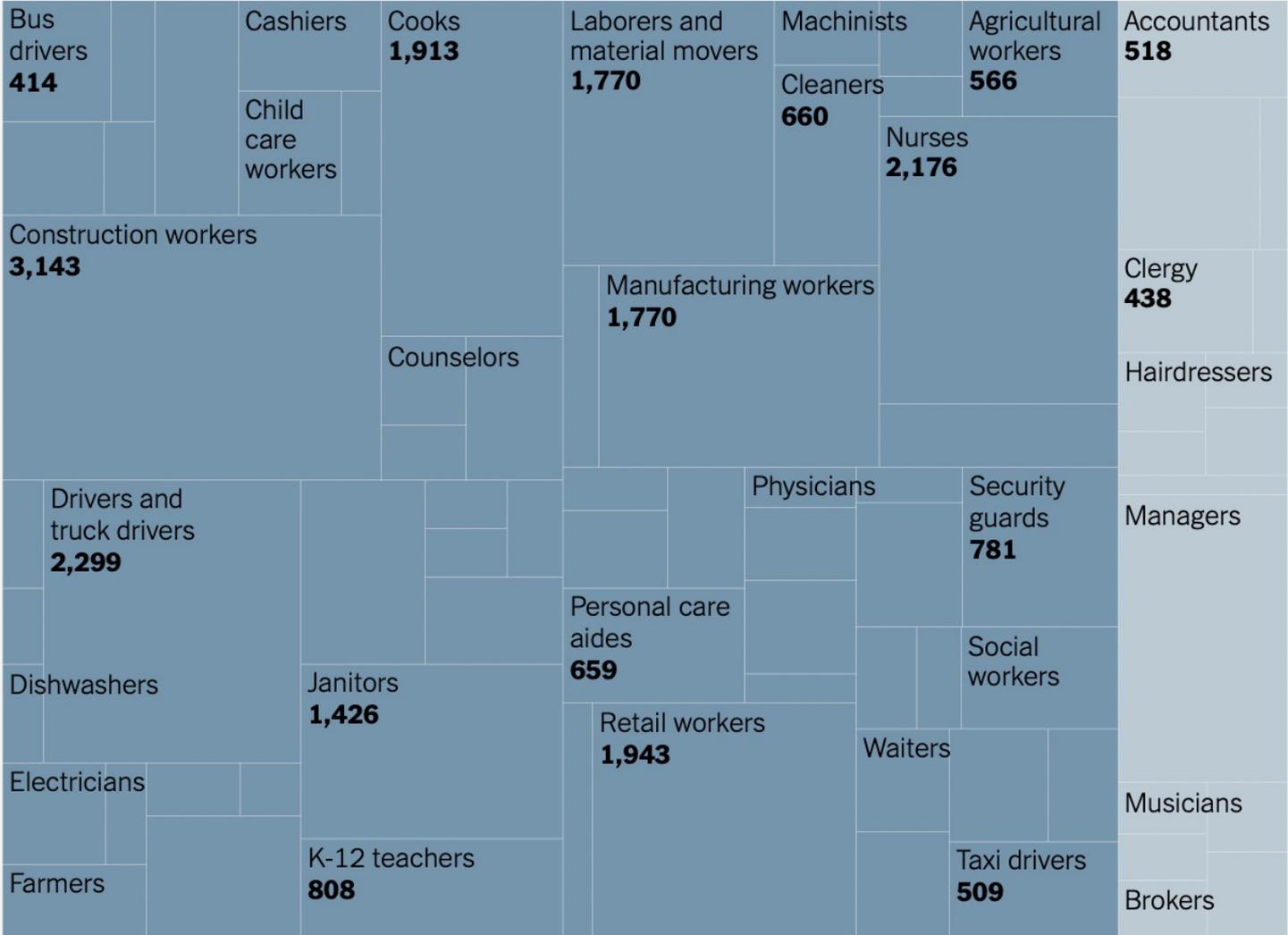
MORNING CONSULT

Poll conducted Dec. 17-20, 2020, among 2,200 U.S. adults, with a margin of error of +/-2%.

# Covid-19 deaths by occupation in 2020

## Essential workers

## Other workers



Note: Chart shows 37,905 deaths among workers age 64 and under in 46 states. Some similar occupational categories have been collapsed into larger representative categories. In some cases, similar occupations from different industries are grouped together. Not all occupations are labeled. | Source: Yea-Hung Chen et al., [preprint via medRxiv](#)



## Invited Commentary

# Invited Commentary: Reckoning With Our Biases in Epidemiology

**Sandro Galea\***

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*Ini*

1. Be clear about our biases
2. Ensure diversity and inclusion in science
3. Lean on peer-review for all presentations and publications

presenters in the field's pre-eminent scientific meeting than men. The scientific and moral arguments for promoting diversity of engagement by persons of all identities in the field are abundantly clear, calling for efforts to mitigate the effect of these in-group biases. I offer 3 suggestions for how we can achieve better diversity in our field: 1) increase our discussions of the importance of diversity and raise consciousness about the issue consistently; 2) ensure that only blinded, peer-reviewed presentations are advanced at professional meeting; and 3) publish only blinded, peer-reviewed papers in leading journals in the field. These steps—together with broader system-wide efforts to address diversity in our field—will help us to move from a field that has been dominated by men to a field that is more inclusive and diverse.

Policy-relevant research to guide decision-making

Centering equity

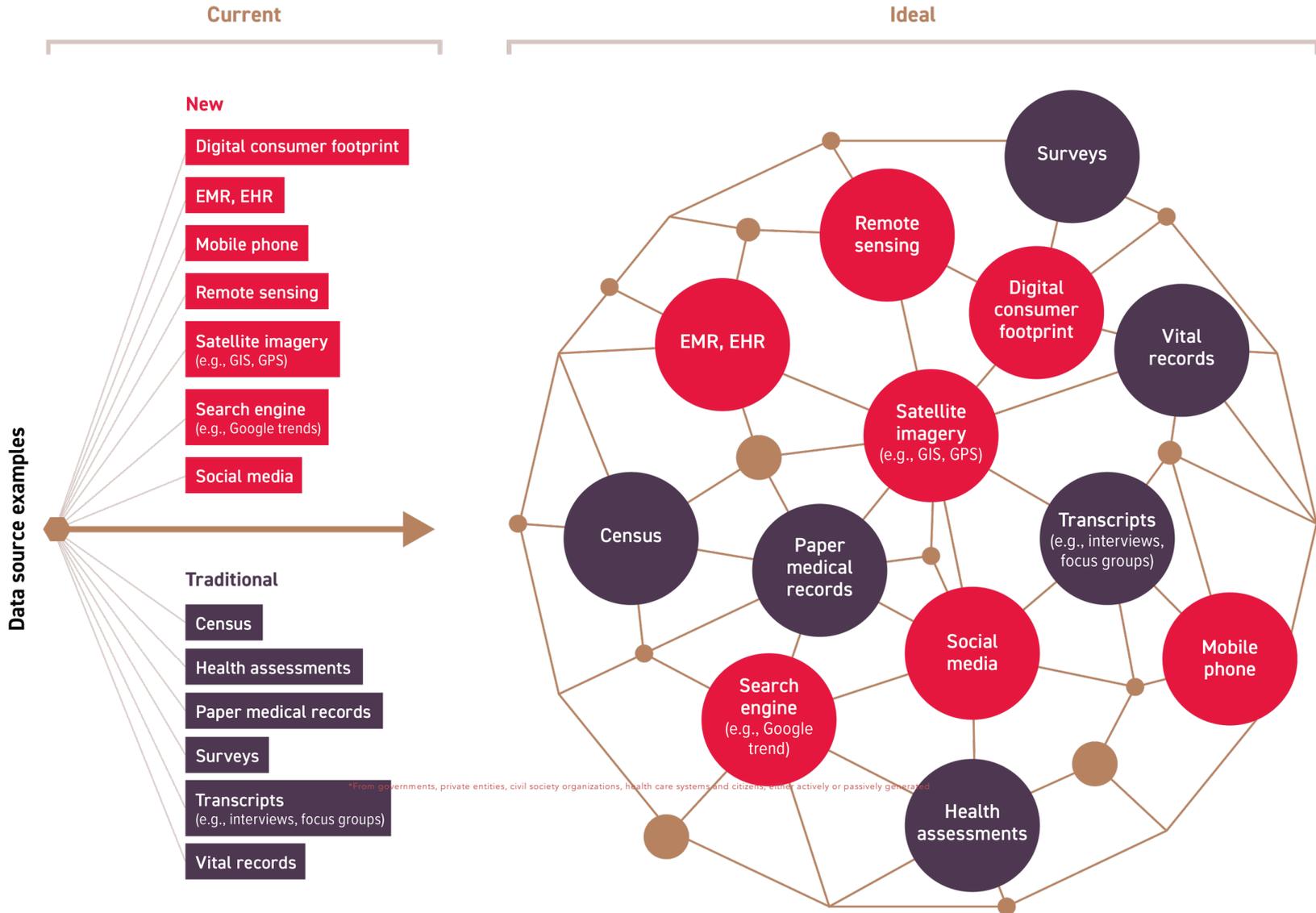
Reckoning with biases

Informing decision-making with data

The report of the 3-D Commission

# Data, social determinants, and better decision-making for health

# Better approaches to data to promote health equity



# Determinants, data, and decision-making for health

Current decision-making process

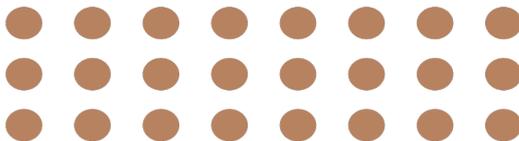
## COMPETING PRIORITIES



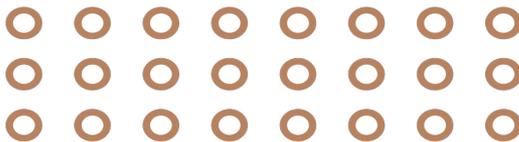
## SDoH



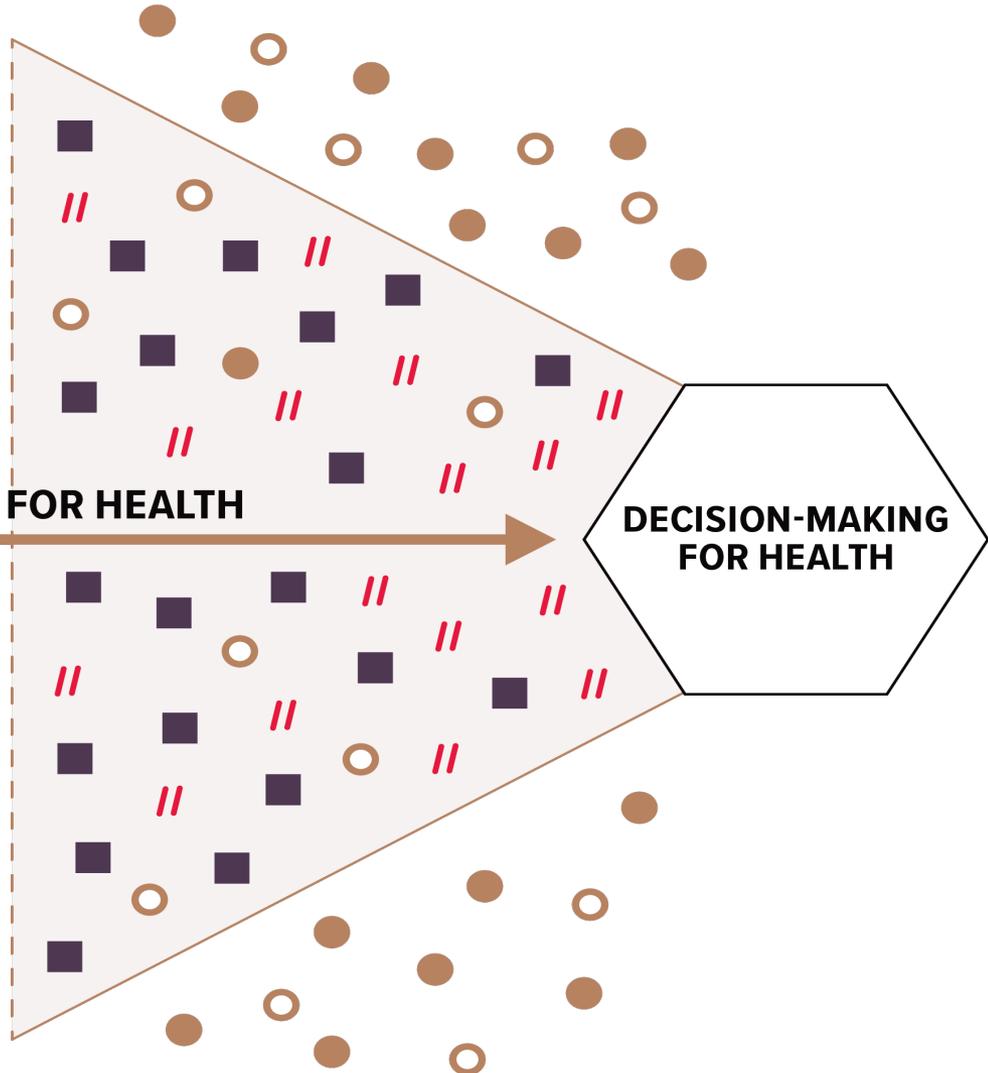
## DECISION-MAKING PROCESS FOR HEALTH



## NEW DATA SOURCES



## TRADITIONAL DATA SOURCES



# Determinants, data, and decision-making for health

## Ideal decision-making process



# 3-D Commission principles

## PRINCIPLE 1

Evidence-informed decision-making to promote healthy societies needs to go beyond health care and incorporate data on the broader determinants of health.



## PRINCIPLE 2

All decisions about investments in any sector need to be made with health as a consideration.



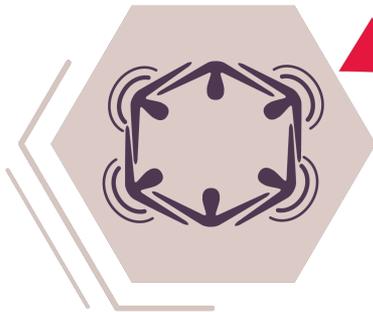
## PRINCIPLE 3

Decision-making that affects the health of populations needs to embrace health equity, while also acknowledging potential trade-offs between short- and long-term costs and benefits.



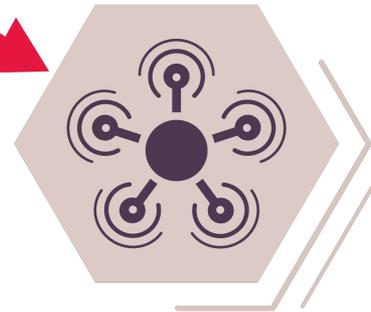
## PRINCIPLE 6

Evidence-informed decision-making to promote healthy societies needs to be participatory and inclusive of multiple and diverse perspectives.



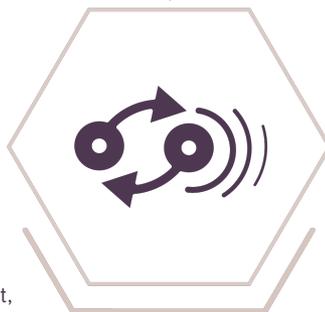
## PRINCIPLE 4

All available data resources on the determinants of health should be used to inform decision-making about health.



## PRINCIPLE 5

Data on the social determinants of health should contribute to better, more transparent, and more accountable governance.



## 3-D Commission recommendations

1. Relevant international, regional, national, and local entities, including funders, should systematically collect and make available, in real time, quality data characterizing the full range of determinants of health—including for example, education, housing, economics—to decision-makers and communities locally and nationally.
2. National governments should develop transparent systems that collect data about the social determinants of health, and explicitly use these data in decision-making processes.
3. Relevant international, regional, national, and local entities, including funders, should embed follow-through monitoring processes to ensure accountability for data-informed decision-making around health.
4. Relevant international, regional, national, and local entities, including funders, should center community engagement in acquisition and interpretation of data and make such data widely available to relevant communities.

## **5. The future, inevitable policy intersections**

Living in cities

Global climate change

Rise in infectious disease pandemics

Increase in mental and behavioral health concerns

Aging populations

Migration

Living in cities

Global climate change

Rise in infectious disease pandemics

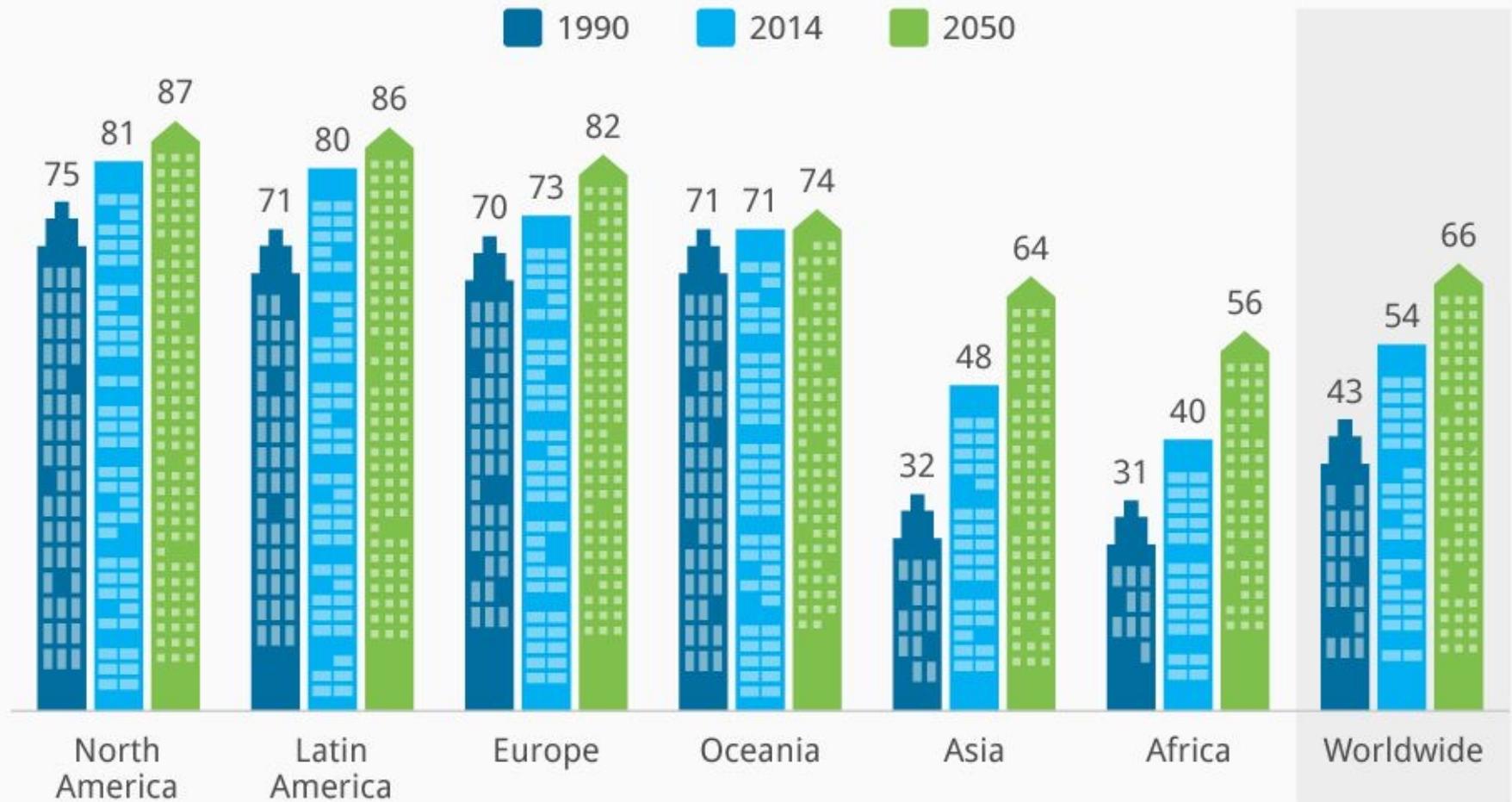
Increase in mental and behavioral health concerns

Aging populations

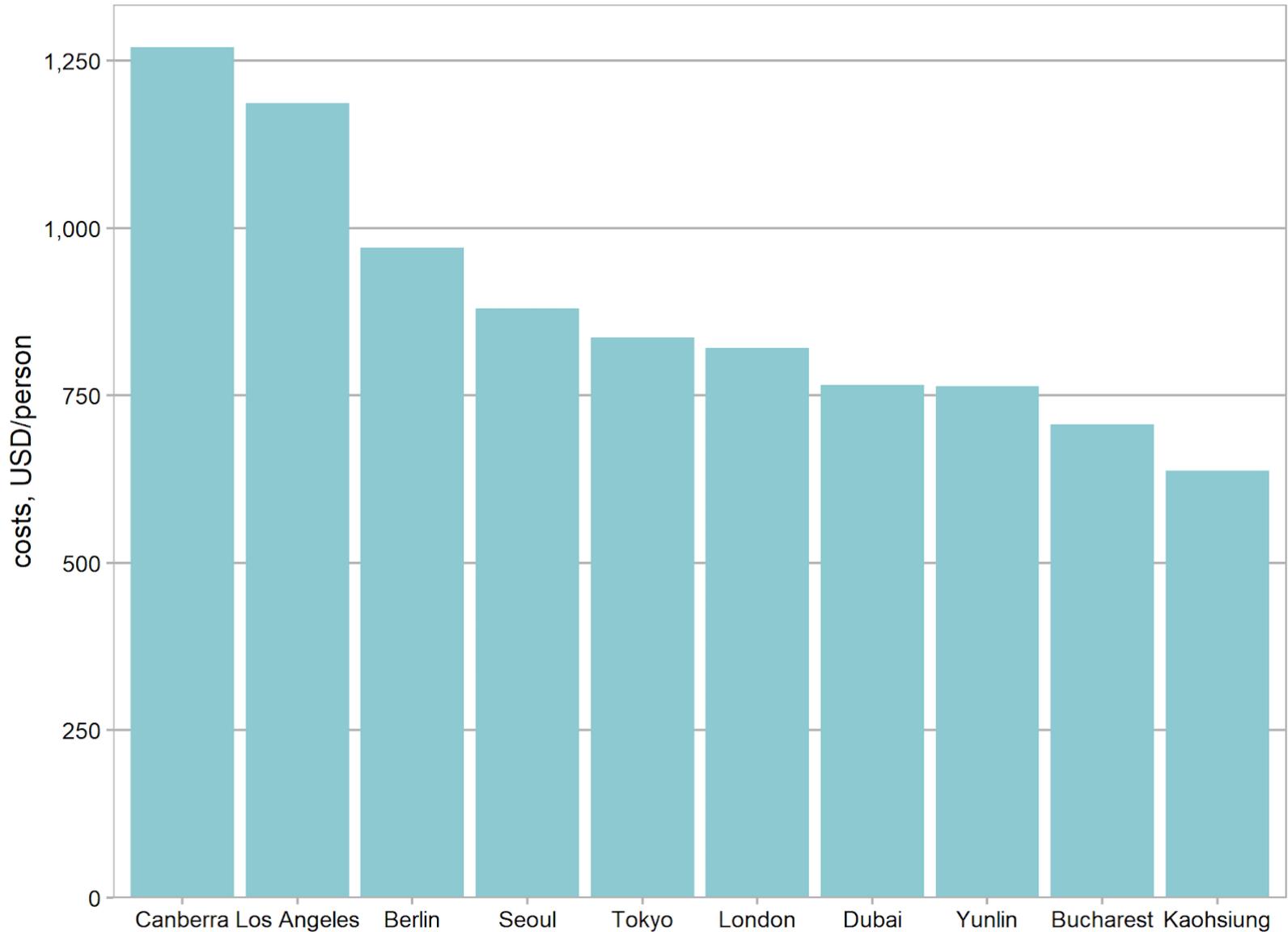
Migration

# 54% of the World's Population Now Lives in Cities

% of the population living in urban areas

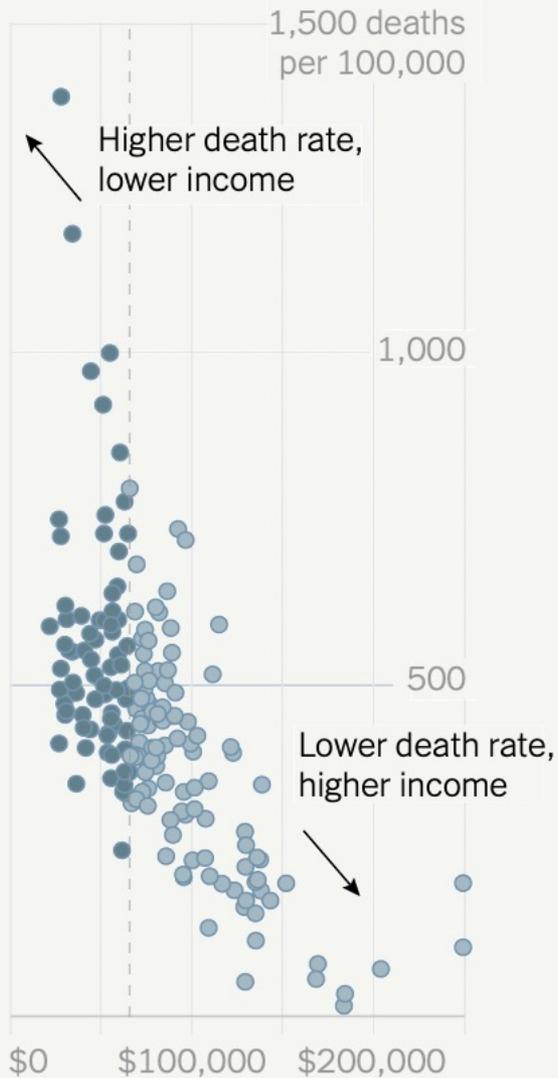


# Costs of air pollution in world's cities

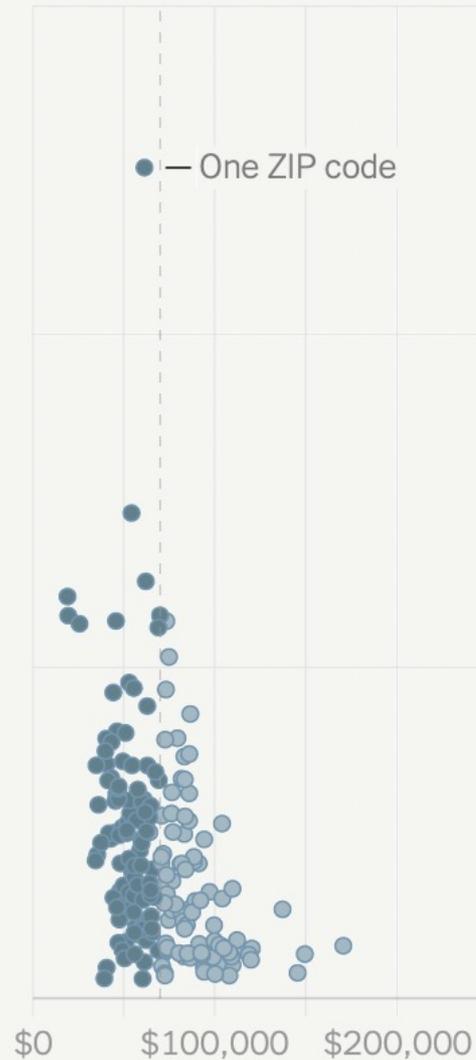


# Covid-19 deaths by income in major cities

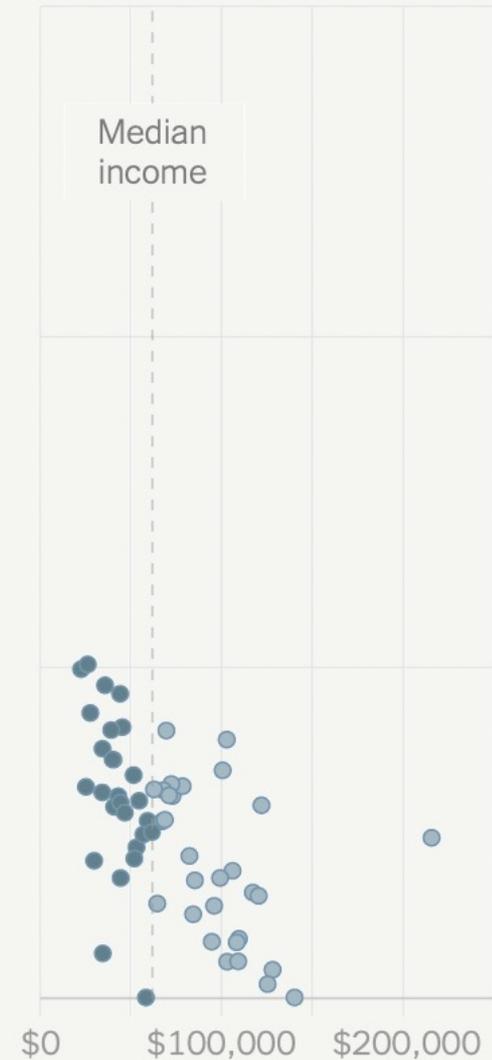
## New York City



## Los Angeles County



## Chicago



Note: Each dot shows deaths and income for one ZIP code. | Sources: Census Bureau, N.Y.C. Department of Health and Mental Hygiene, California Department of Public Health, City of Chicago

Living in cities

**Global climate change**

Rise in infectious disease pandemics

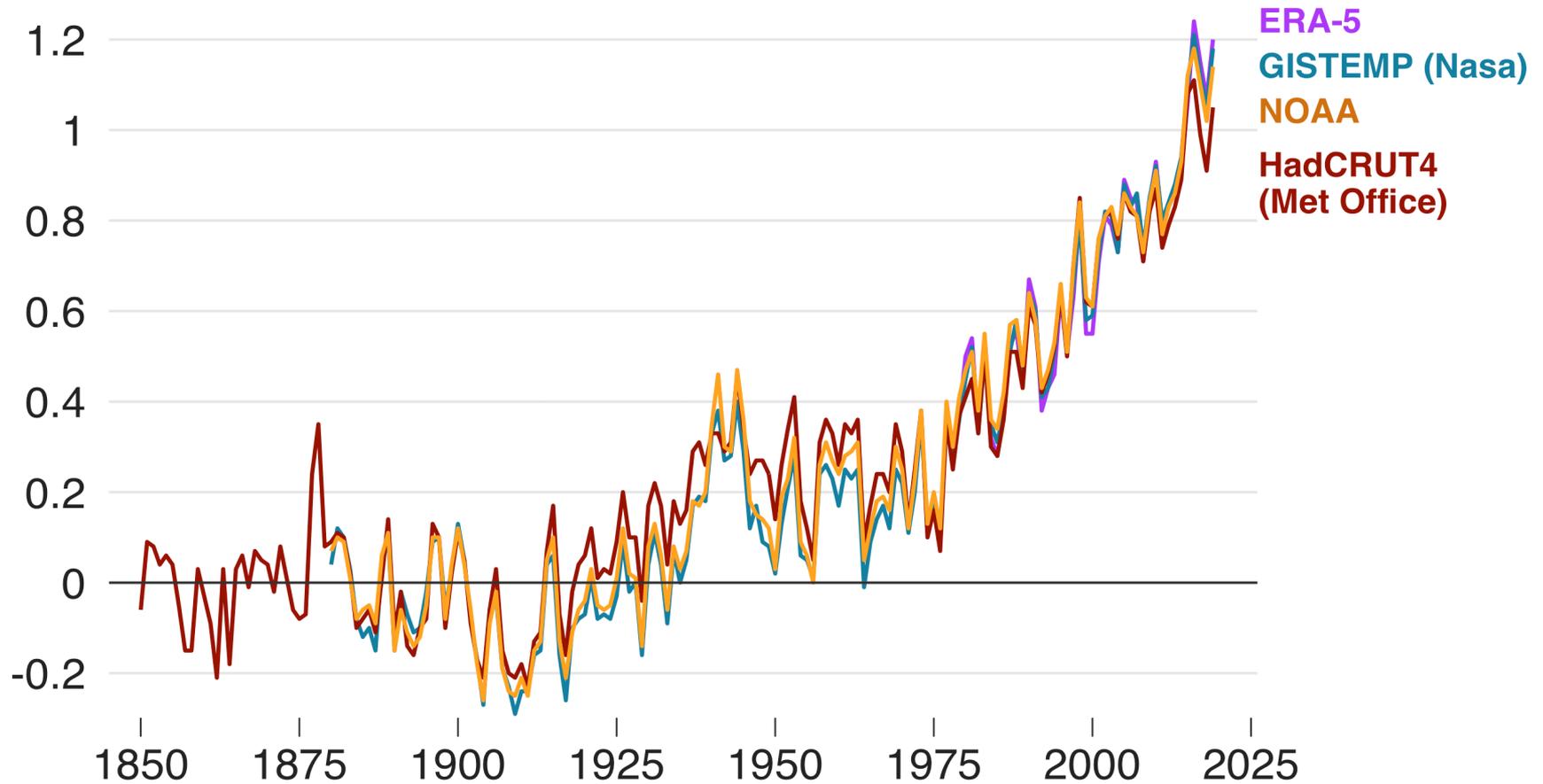
Increase in mental and behavioral health concerns

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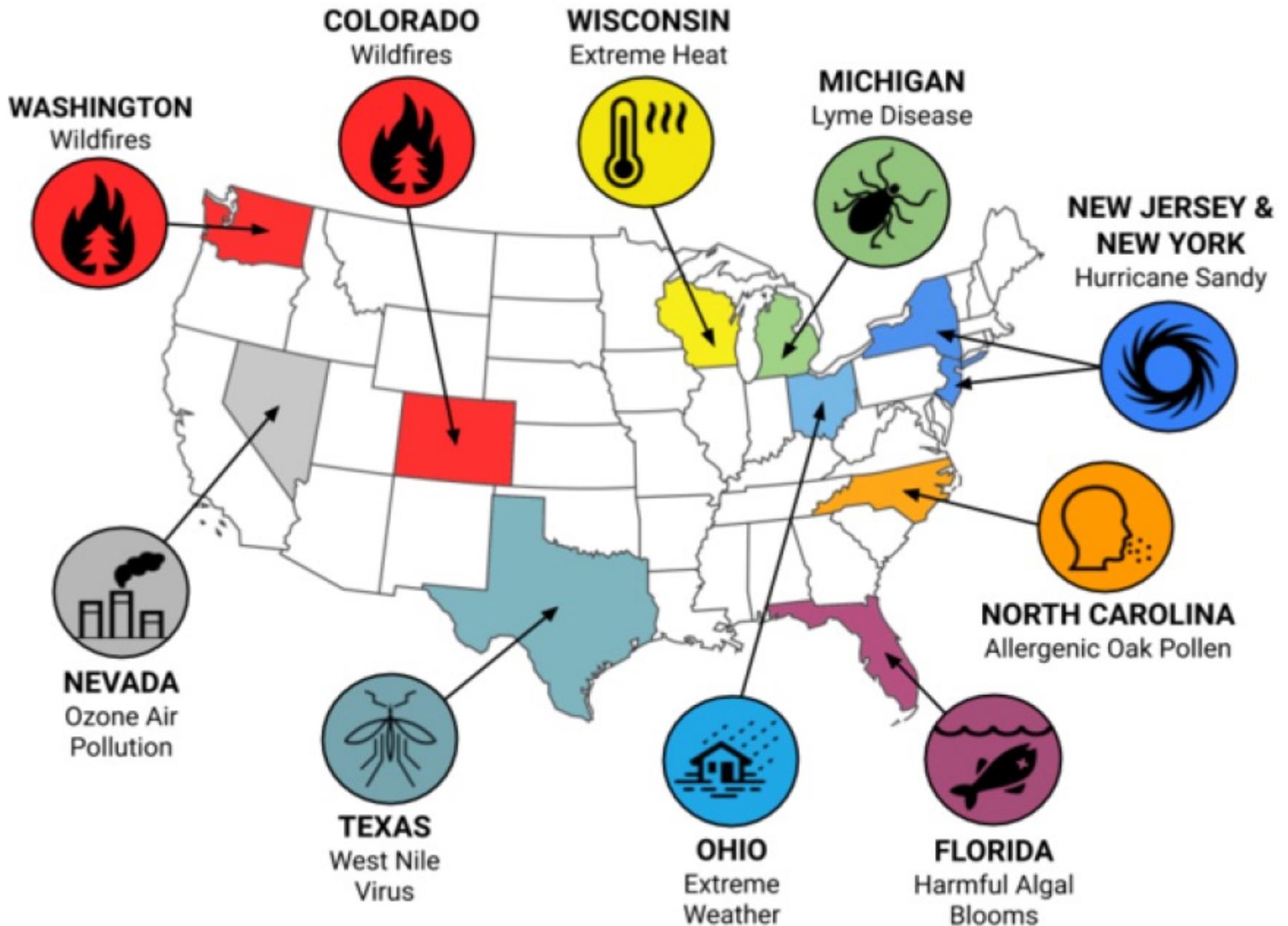
# Temperature rise since 1850

Global mean temperature change from pre-industrial levels, °C

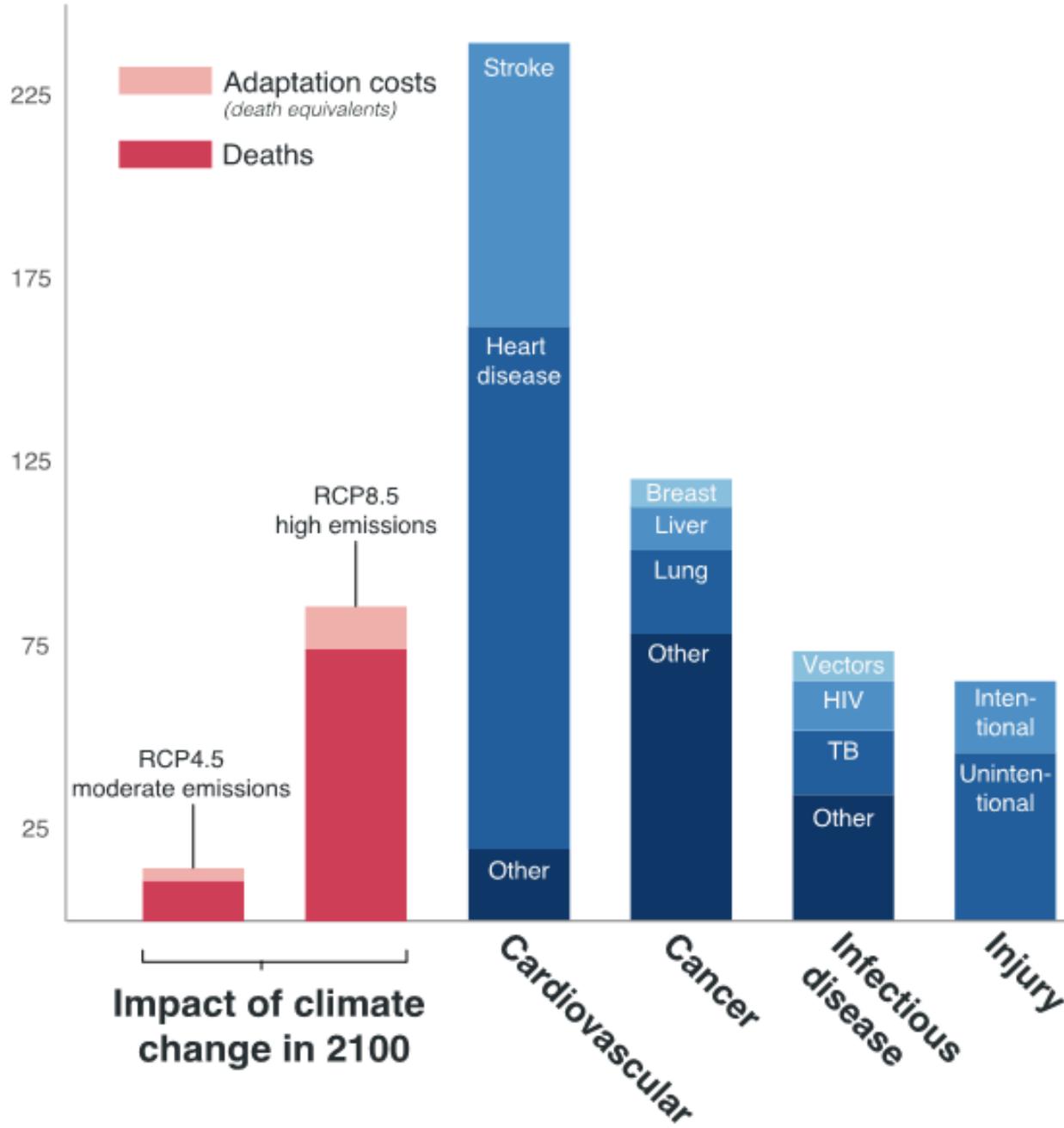


Source: Met Office





# Deaths per 100,000 population



Living in cities

Global climate change

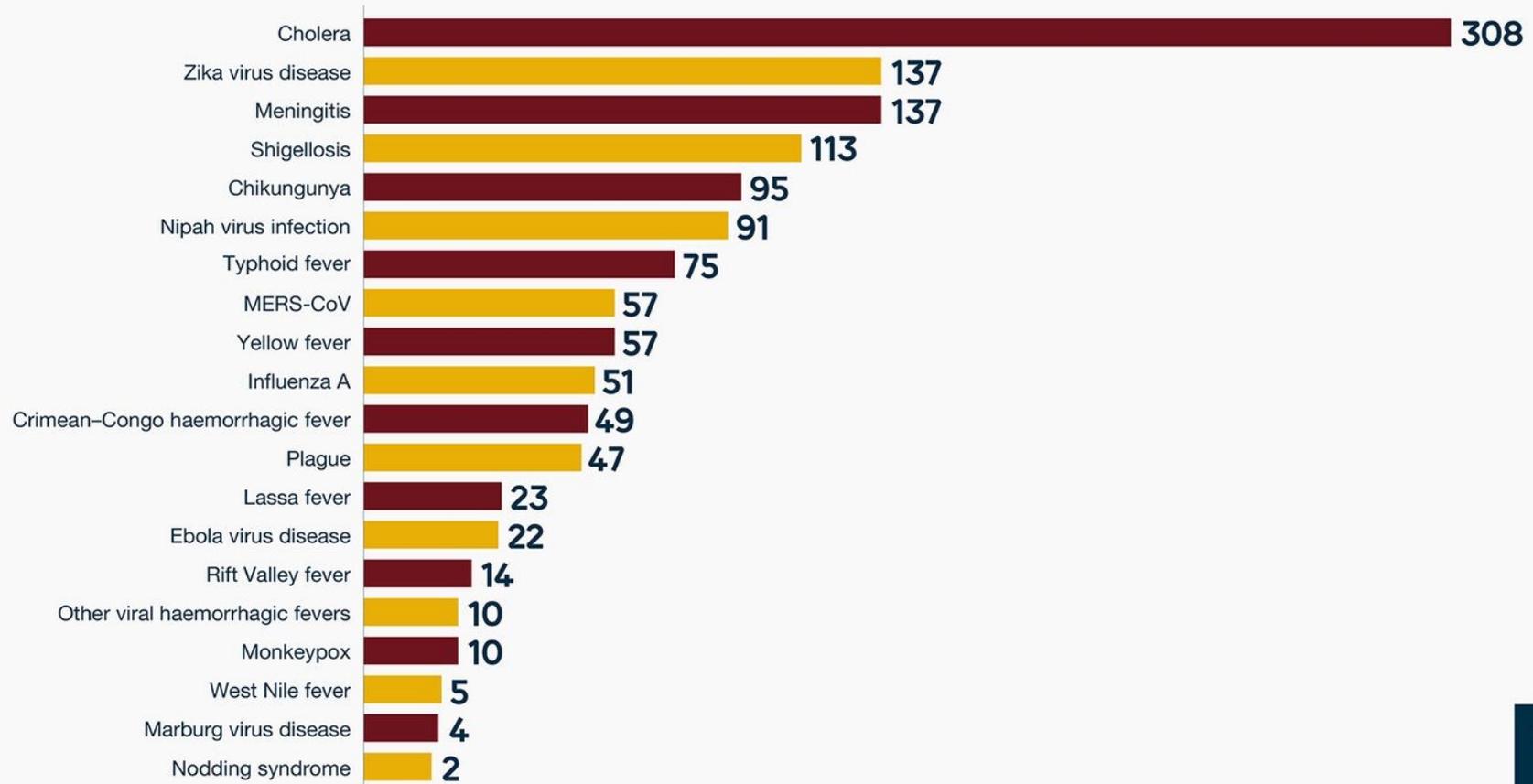
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# 1,307 epidemic events happened between 2011 and 2017



Source: WHO/IHM, 2018



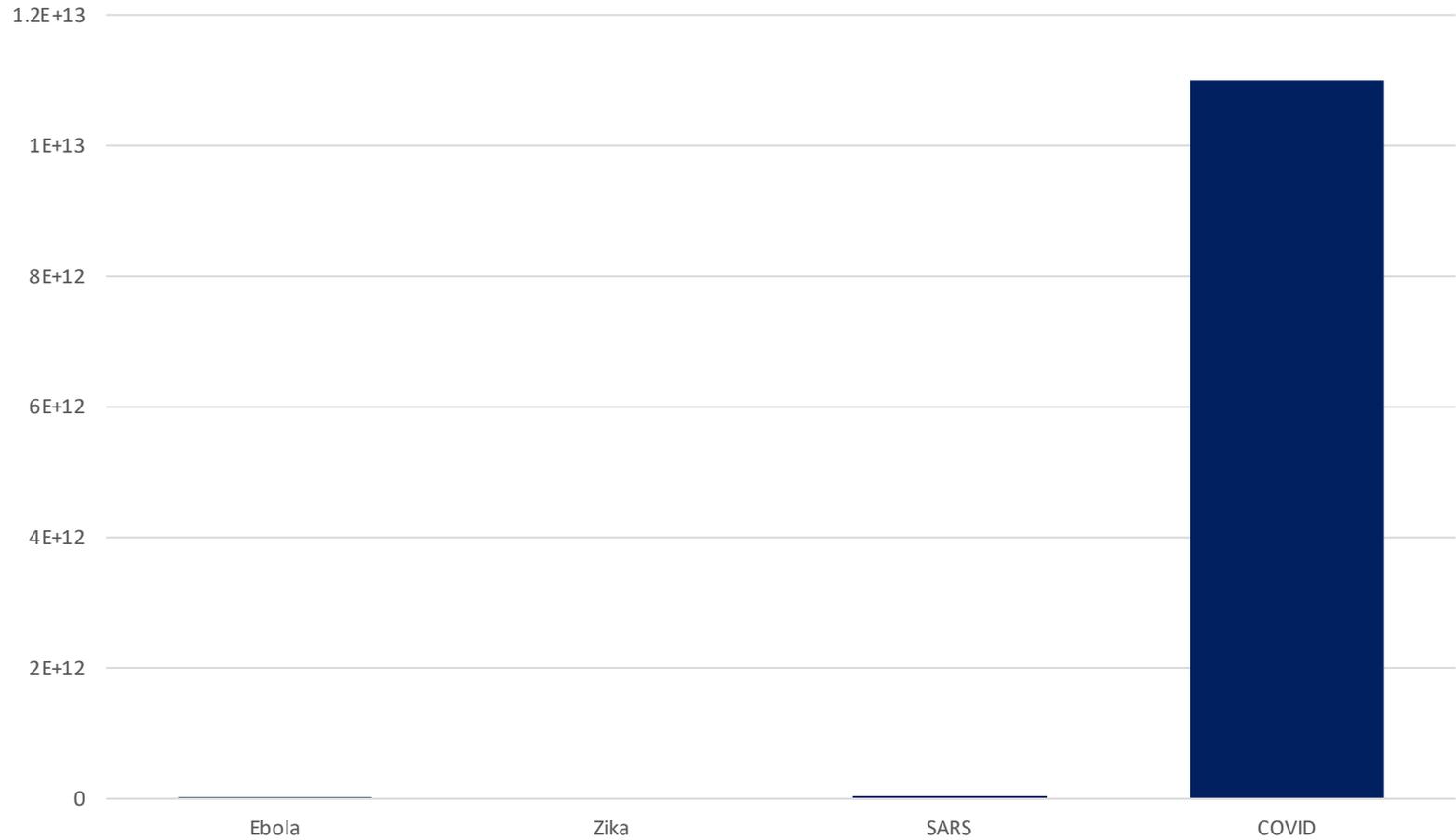
## The economic impact of epidemics



Source: The World Bank, 2014 and 2016, Learning from SARS: Preparing for the Next Disease Outbreak: Workshop Summary, 2014



# The economic impact of recent epidemics



Living in cities

Global climate change

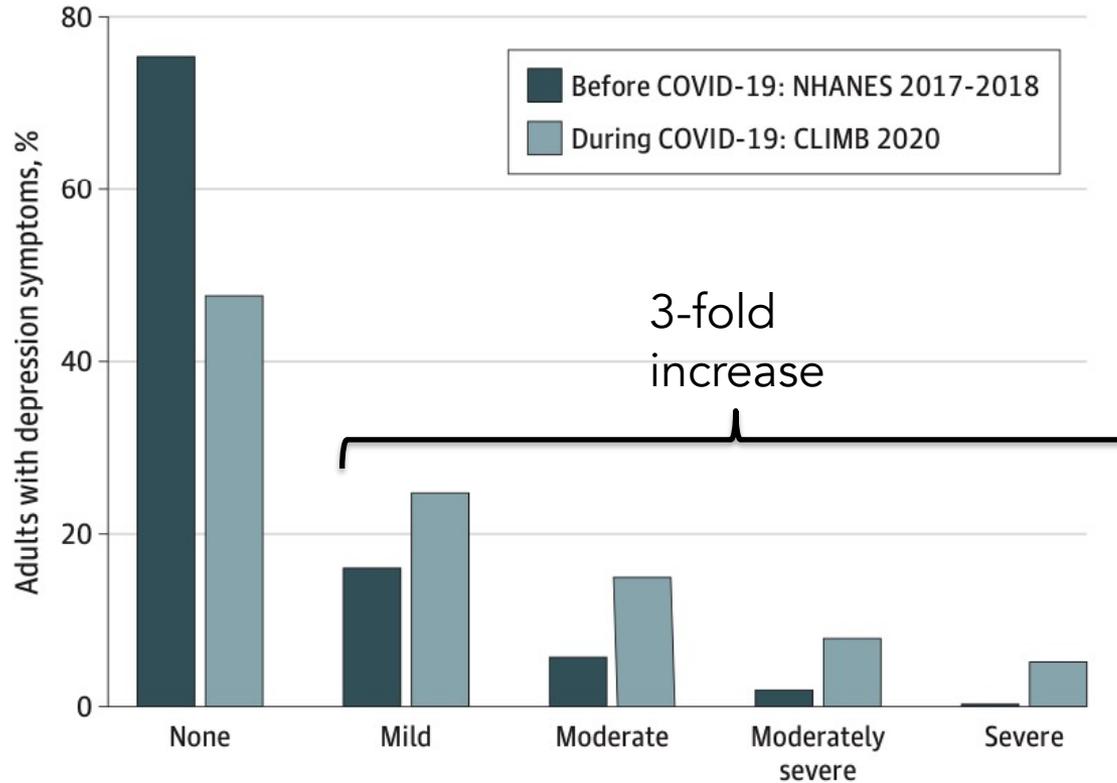
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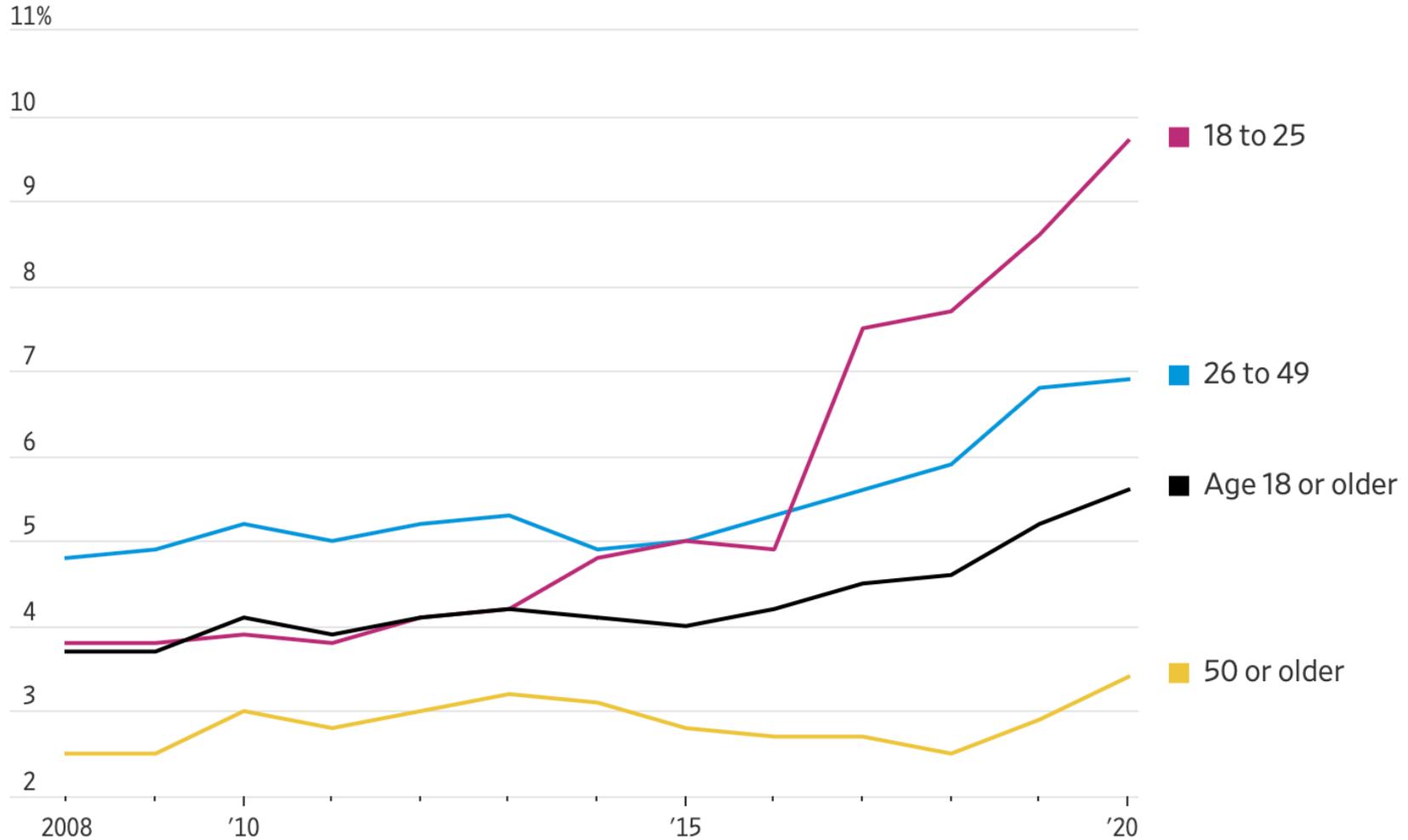
**Figure. Depression Symptoms in US Adults Before and During the Coronavirus Disease 2019 (COVID-19) Pandemic**



Before COVID-19 estimates from the National Health and Nutrition Examination Survey (NHANES) from 2017-2018. During COVID-19 estimates from the COVID-19 and Life Stressors Impact on Mental Health and Well-being (CLIMB) study collected from March 31 to April 13, 2020. Depression symptoms categories calculated using the Patient Health Questionnaire-9: none (0-4), mild (5-9), moderate (10-14), moderately severe (15-19), and severe ( $\geq 20$ ). Percentages weighted to the population of noninstitutionalized US adults aged 18 years or older.

# Mental Health

## Serious mental illness in the past year among U.S. adults



Note: Because of methodological changes in 2020, caution should be used when comparing that estimate to prior years.

Source: Substance Abuse and Mental Health Services Administration

# THE ANNUAL COST OF UNTREATED MENTAL ILLNESS



## EMERGENCY ROOM CARE

**\$38.5** billion<sup>1</sup>



## INCARCERATION

**\$37** billion<sup>2,3</sup>



## MEDICAL COMORBIDITIES

**\$132.6 - \$351** billion, est.<sup>4</sup>



## LOST PRODUCTIVITY

**\$193.2** billion<sup>5</sup>

Living in cities

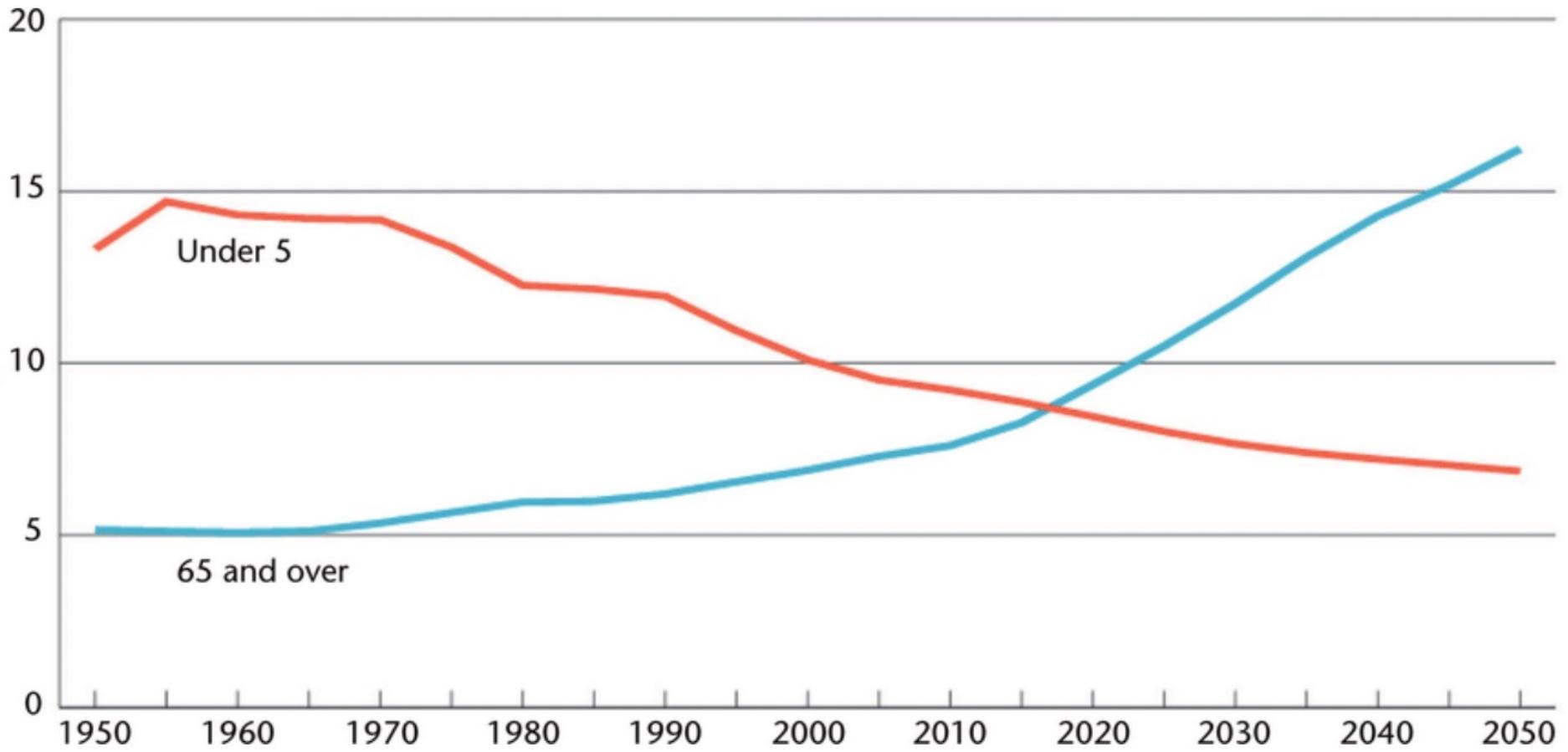
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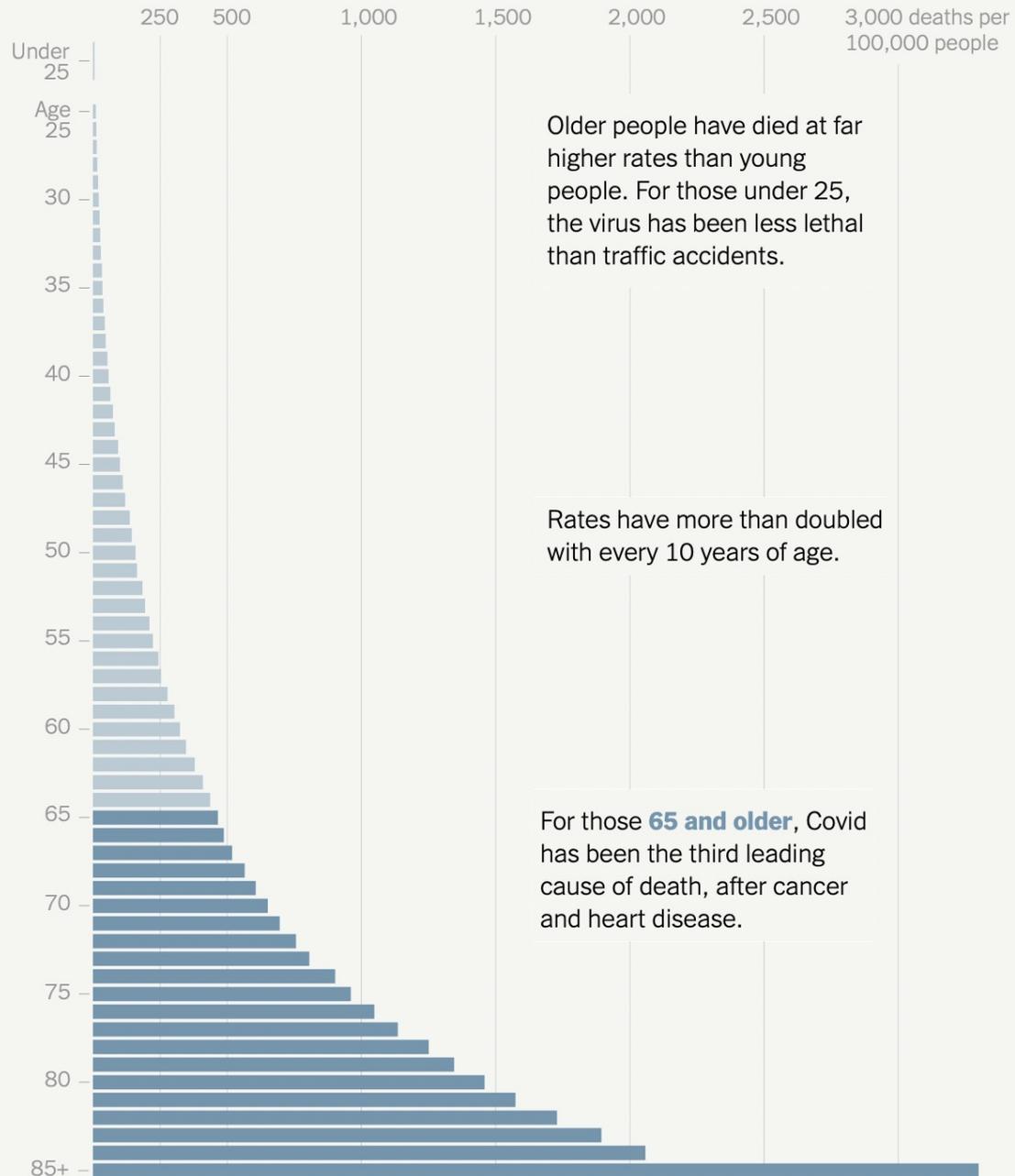
**Aging populations**

Migration



Percentage of world population under age 5 years and aged 65 years and over: 1950 to 2050. Data are based on the medium fertility variant of United Nations population estimates and projections. Available at: <https://www.census.gov/content/dam/Census/library/publications/2014/demo/p23-212.pdf>.

# Covid-19 death rates by age



Living in cities

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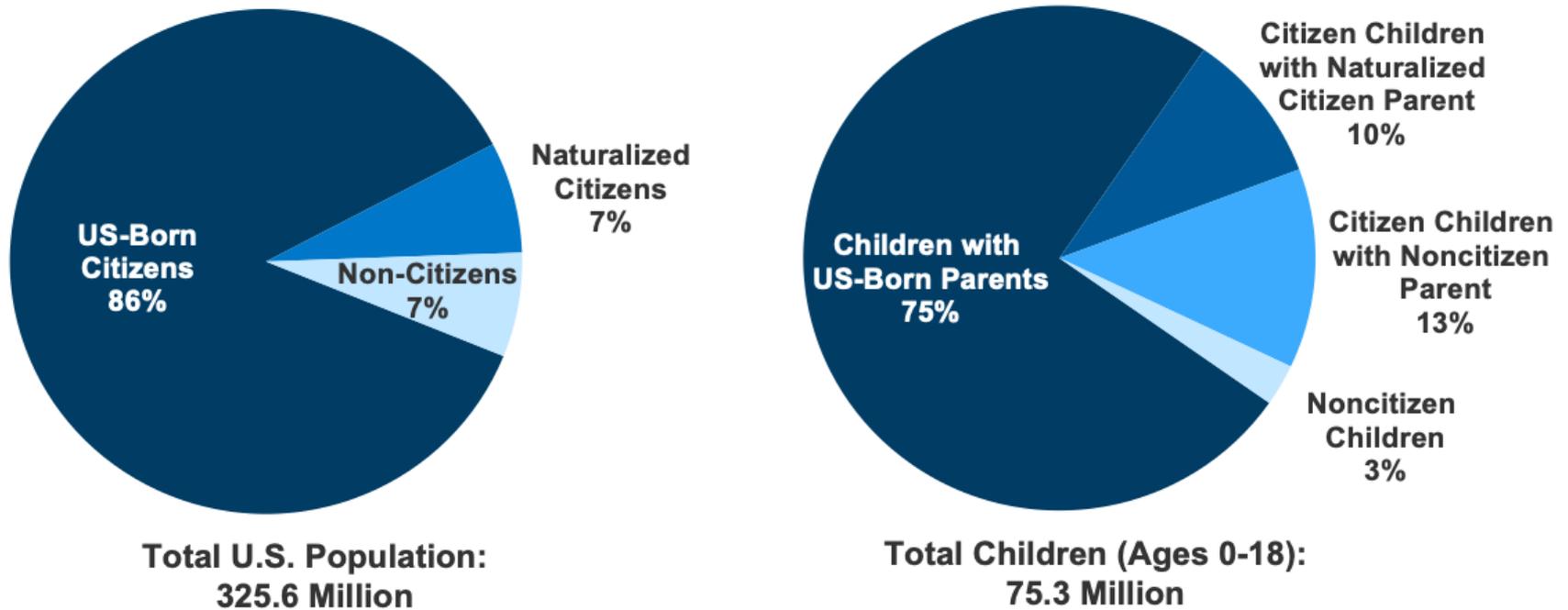
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Figure 1

# Immigrants and Children of Immigrants as a Share of the Total U.S. Population, 2020



Note: Totals may not sum to 100% due to rounding.

Source: KFF analysis of 2021 Current population Survey Annual Social and Economic Supplement (CPS ASEC).



An illustration featuring a person with a teal head and white body, seen from behind, sitting at a grey desk. A red rectangular sign with the text 'EARLY CAREER RESEARCHERS' is positioned above the desk. The background is a light yellow gradient with a large, flowing blue shape that resembles a river or a path, curving around the sign and desk.

**EARLY CAREER RESEARCHERS**

## **6. The future, support for early-career researchers**

1. Funders, opportunities for historically excluded groups
2. Universities, flexibility
3. Mentorship, mental health, lifecycle
4. Public initiatives, making science a priority

# THE CHRONICLE OF HIGHER EDUCATION

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## Overzealous Covid Measures Are Hurting Education

Progressives who insist on inflexible rules are playing into the GOP's hands.

[sandrogalea.org](http://sandrogalea.org)