An argument for a liberal public health

Reflections on a discipline in flux after Covid-19

Sandro Galea



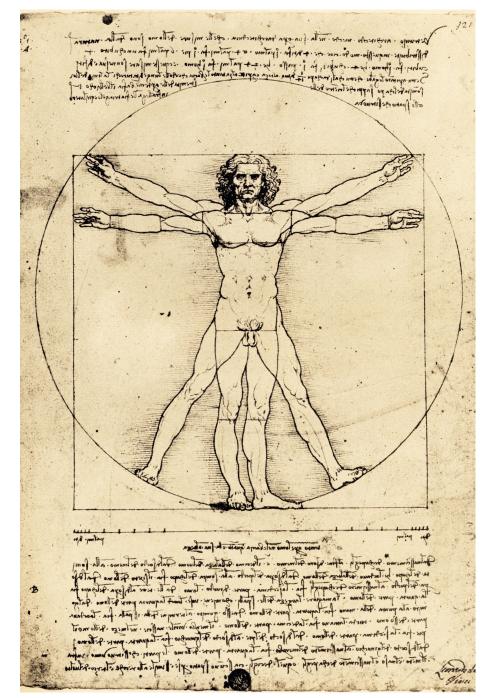
1. The roots of liberal thinking











AN

CONCERNING

Human Understanding.

In FOUR BOOKS.

Written by FOHN LOCKE, Gent.

the Tenth Edition, with large Additions.

VOLUME I.

ECCLES. XI. 5.

As thou knowest not what is the Way of the Spirit, nor how the Bones do grow in the Womb of her that is with Child: Even so thou knowest not the Works of God, who maketh all Things.

Quam bellum est velle confiteri potius nescire quod nescias, quam ista effutientem nauseare, atque ipsum sibi displicere!

Cic. de Natur. Deor. l. 1.

LONDON:

Printed for EDMUND PARKER, at the Bible and Crown over against the New Church in Lombard Street. M.DCC.XXXI.

ENCYCLOPEDIE

INDICATION

S S A Y CTIONNAIRE RAISONI

OF THE

DES SCIENCES, GHTS OF WOMAN:

S ARTS ET DES MÉTIE

PAR UNE SOCIÈTE DE GENS DE LETTRES

WITH

ON

ordre & publié par M. DIDEROT, de l'Académie Royale des Sciences & de T es de Prusse; & quant à la PARTIE MATHÉMATIQUE, par M. D'ALEM Académie Royale des Sciences de Paris, de celle de Pruffe, & de la Société

> Tantum series juncturaque pollet, Tantim de medio fumptis accedit honoris! HORAT.

TOME PREMIER.



A PARIS,

BRIASSON, rue Saine Jacques, à la Science. DAVID l'ainé, rue Saint Jacques, à la Plume d'or. Chez LEBRETON, Imprimeur ordinaire du Roy, rue de la Harpe. DURAND, rue Saint Jacques, à Saint Landry, & au Griffon.

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PRINTED AT BOSTON, TER EDES FOR THOMAS AND ANDREWS, FAUST's Statue, No. 45, Newbury-Street, MDCCXCII.

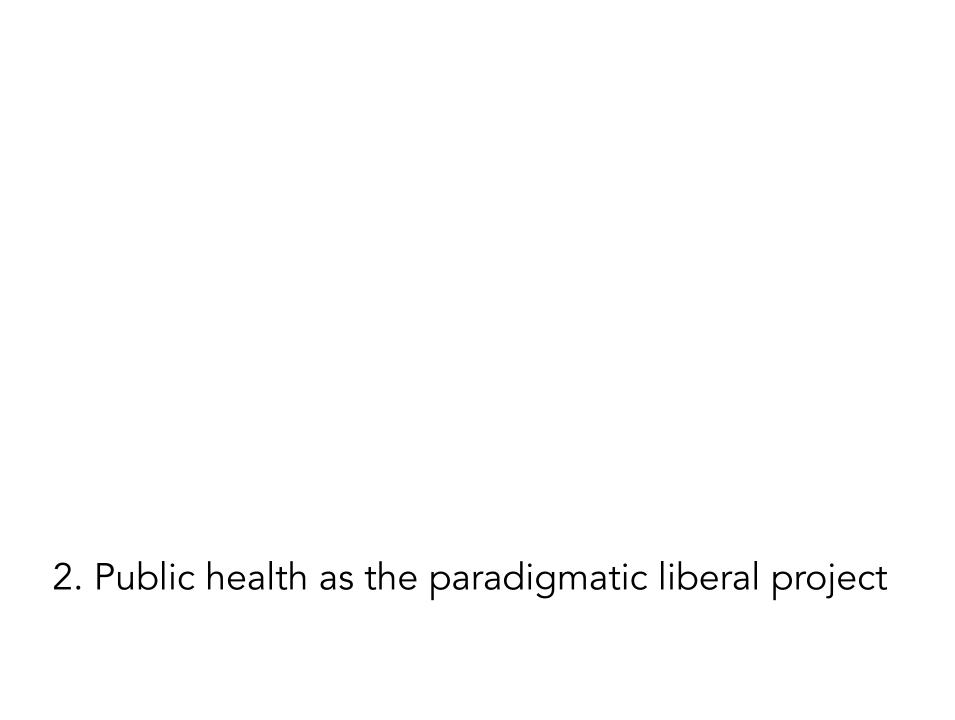
The principles of Enlightenment thinking

Law-like order in the natural world

The power of human reason

The natural rights of individuals

The progressive improvement of society



Thesis

Public health is a paradigmatic project of the ideas that informed the Enlightenment

liberal

See synonyms for liberal

Translate liberal into Spanish

ADJECTIVE

1 Willing to respect or accept behavior or opinions different from one's own; open to new ideas.

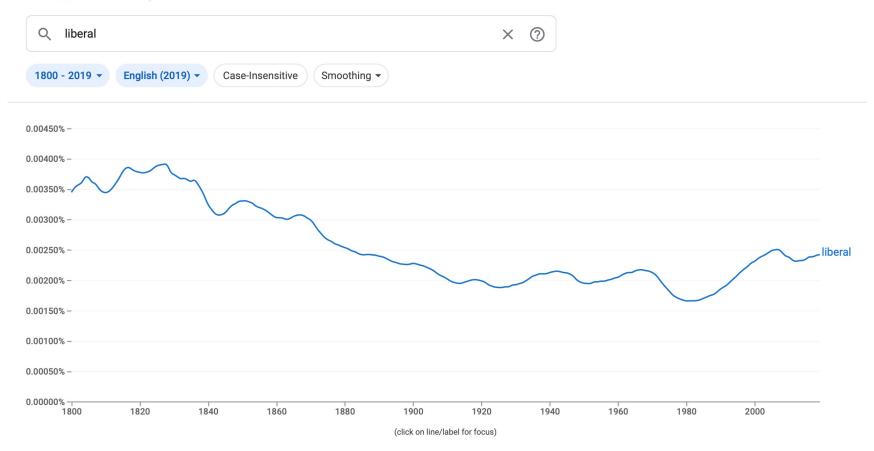
'they have more liberal views toward marriage and divorce than some people'

1.1 (in a political context) favoring policies that are socially progressive and promote social welfare.

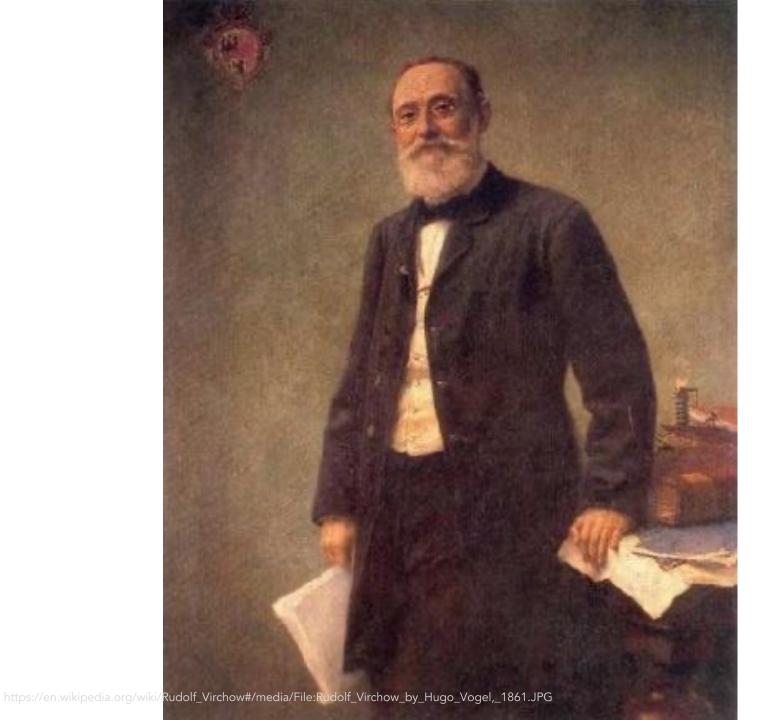
Often contrasted with **conservative** (sense 2 of the adjective)

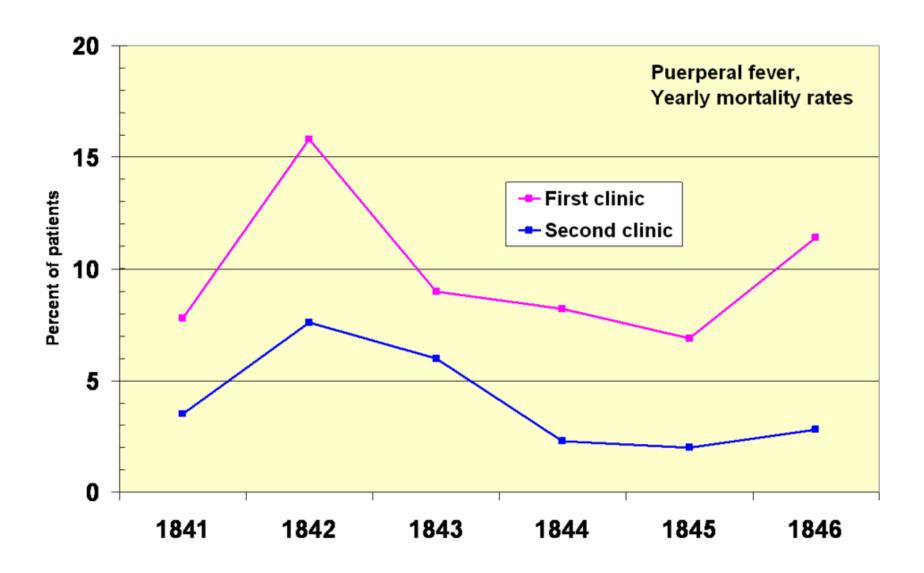
'they favor liberal ideologies over conservative ones'

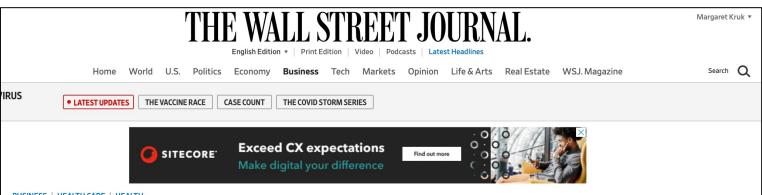
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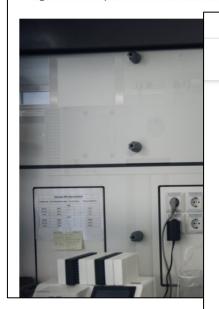




BUSINESS | HEALTH CARE | HEALTH

Pfizer's Covid-19 Vaccine Proves 90% Effective in Latest Trials

Drugmaker and partner BioNTech could seek FDA authorization by end of November



The New Hork Times

The Road to a Coronavirus Vaccine

Vaccine Tracker

FAO: Pfizer's Vaccine After the First Vaccine

Understanding Long-Term Safety

Early Data Show Moderna's Coronavirus Vaccine Is 94.5% Effective

Moderna is the second company to report preliminary results from a large trial testing a vaccine. But there are still months to go before it will be widely available to the public.



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Developing mRNA-vaccine technologies

Thomas Schlake,* Andreas Thess, Mariola Fotin-Mleczek and Karl-Josef Kallen

CureVac GmbH; Tübingen, Germany

Keywords: mRNA, adjuvant, vaccine, mRNA production, mRNA design, mRNA uptake, formulation, protein expression

Abbreviations: ARCA, anti-reverse cap analog; cDNA, complementary DNA; CTL, cytotoxic T cell; dsRNA, double-stranded RNA; EMCV, encephalomyocarditis virus; GMP, good manufacturing practice; HPLC, high performance liquid chromatography; IRES, internal ribosome entry site; mRNA, messenger RNA; MHC, major histocompatibility complex; miRNA, microRNA; ORF, open reading frame; pAPC, professional antigen presenting cell; pDNA, plasmid DNA; PEG, polyethylenglycol; siRNA, small interfering RNA; tRNA, transfer RNA; TLR, toll-like receptor; UTR, untranslated region

mRNA presents a promising vector that may well become the basis of a game-changing vaccine technology platform...

need to adjust the production process, mRNA vaccines also offer maximum flexibility with respect to development. Taken together, mRNA presents a promising vector that may well become the basis of a game-changing vaccine technology platform. Here, we outline the current knowledge regarding different aspects that should be considered when developing an mRNA-based vaccine technology.

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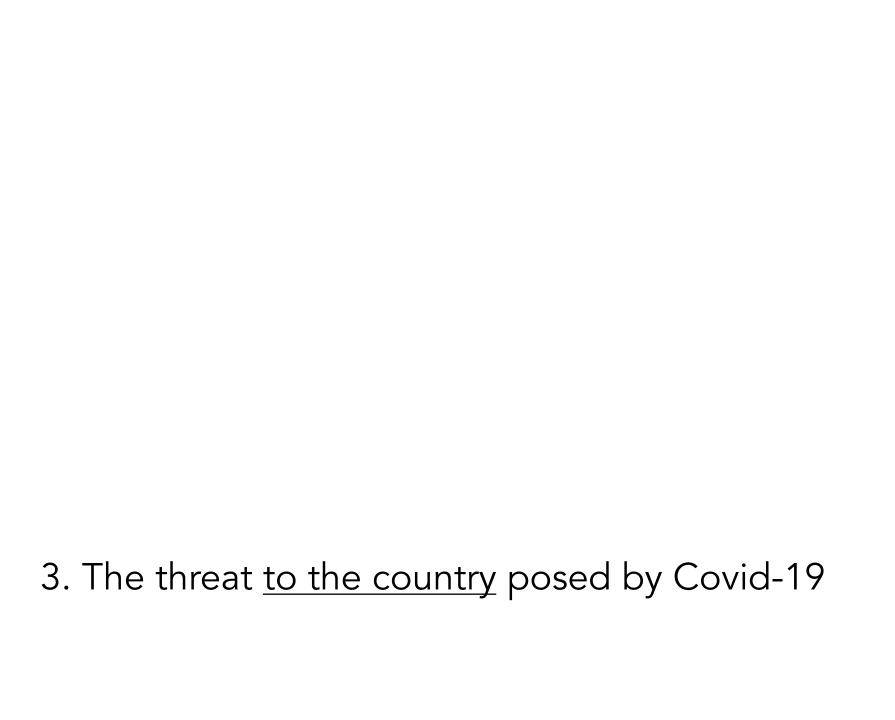
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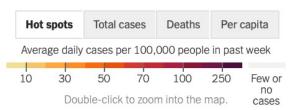
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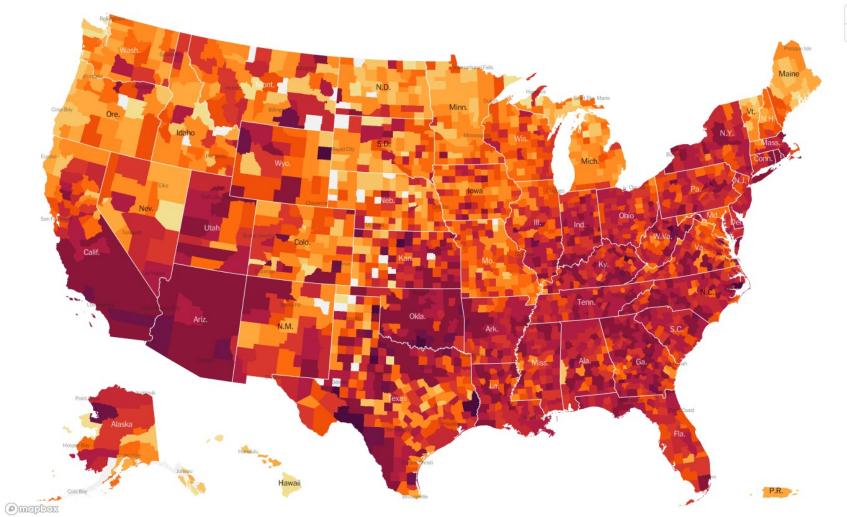
Beca

and therapeutic vaccines fighting diseases as diverse as infections and cancer as well as protein replacement therapies. Since changes of the encoded protein just alter the sequence of the RNA molecule, leaving its physico-chemical characteristics largely unaffected, diverse products can be manufactured using the same established production process without any adjustment, saving time and reducing cost compared with other vaccine platforms. In terms of efficacy, mRNA-based therapeutics profit from the fact that they do not need to cross the nuclear envelope as

excluded Finally this lack of genomic integration in combina-







Sources: State and local health agencies. Population and demographic data from Census Bureau.

▶ About this data

Overall rates of COVID-19 mortality for Black and white Americans

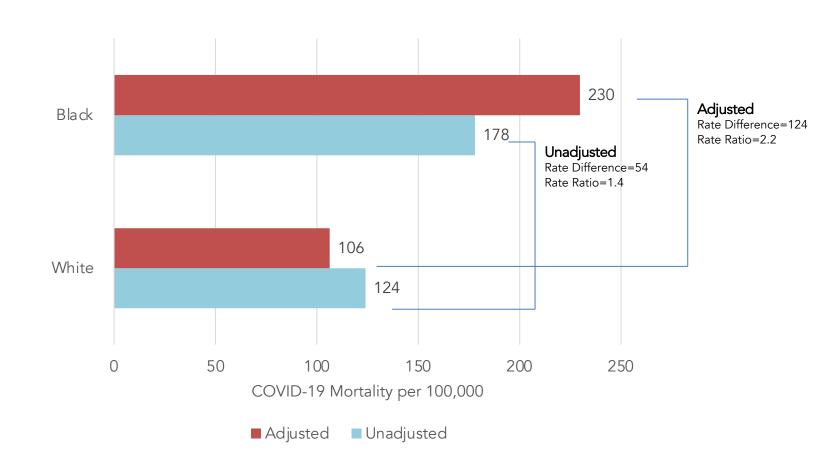
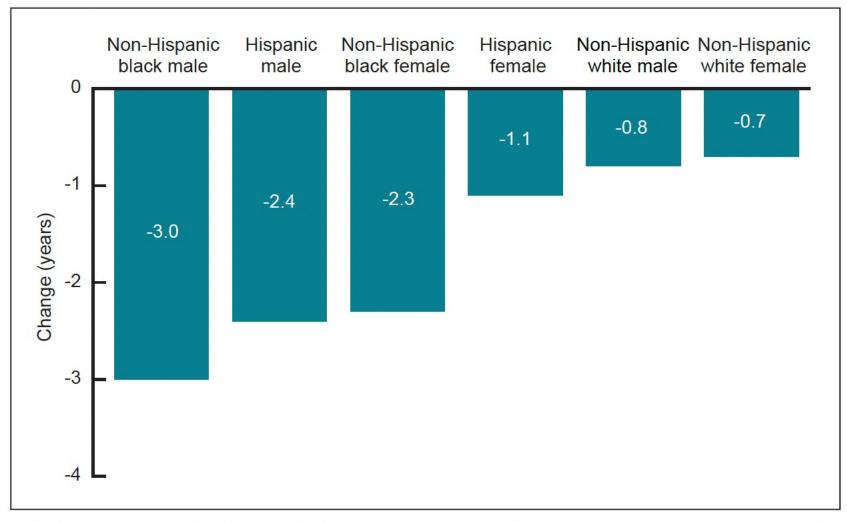


Figure 4. Change in life expectancy at birth, by Hispanic origin and race and sex: United States, 2019 and 2020



NOTES: Life expectancies for 2019 by Hispanic origin and race are not final estimates; see Technical Notes. Estimates are based on provisional data from January 2020 through June 2020.

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

"All the News That's Fit to Print"

The New York Times

VOL.CLXIX No. 58,711

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MONDAY, JUNE 1, 2020

TWIN CRISES AND SURGING ANGER CONVULSE U.S.

Pandemic Leaves Nation's Nerves on the Edge

By JACK HEALY and DIONNE SEARCEY

They are parallel plagues ravaging America: The coronavirus. And police killings of black men and women.

Jimmy Mills's life has been upended by both. His barbershop in Midtown Minneapolis was one of many small, black-owned businesses that have struggled to survive the pandemic. But Mr. Mills was hopeful because, after two months shut down, he was due to reopen next week.

Then early on Friday, the working-class neighborhood where Mr. Mills has cut hair for 12 years went up in flames as chaotic protests over the death of George Floyd and police killings of African-Americans engulfed Minneapolis and cities across the coun-

"To have corona, and then this
—it's like a gut shot," Mr. Mills, 56,

The upheaval set off by a video capturing Mr. Floyd's agonizing last minutes as a white police officer kneels on his neck is pulsing through an America already ragged with anger and anxiety. Emotions are raw over the toll of a pandemic that has killed more than 100,000 people across the country

and cost millions of jobs.

Minneapolis residents said outrage and protests in the aftermath of the killing of George Floyd were



CHANG W. LEE/THE NEW YORK TIMES



Videos From Protests Deepen Scrutiny of Aggressive Police Tactics

By SHAILA DEWAN and MIKE BAKER

Demonstrations continued across the United States on Sunday as the nation braced for another grueling night of unrest over police shootings and the death of George Floyd, amid growing concern that aggressive law enforcement tactics intended to impose order were instead inflaming tensions.

Videos showed police officers in recent nights using batons, tear gas and rubber bullets on protesters, bystanders and journalists, often without warning or seemingly unprovoked. The footage, which has been shared widely online, highlighted the very complaints over police behavior that have drawn protests in at least 75 cities across the United States.

In Salt Lake City, officers in riot gear trying to clear onlookers shoved a man with a cane to the ground.

In Brooklyn, two police S.U.V.s plowed into protesters.

And in Minneapolis, where there have been six consecutive nights of protests and clashes, a video appeared to show officers yelling at people on their stoops to get inside and firing paint canisters at them. "Light them up," one officer said.

As crowds began gathering again in cities on Sunday, President Trump resisted calls to address the tensions roiling the country. Instead he used Twitter to criticize local Democratic lead-

the protests.

Mayors and police chiefs spent the day explaining, defending and promising full investigations into the actions of officers seen on the disturbing videos.

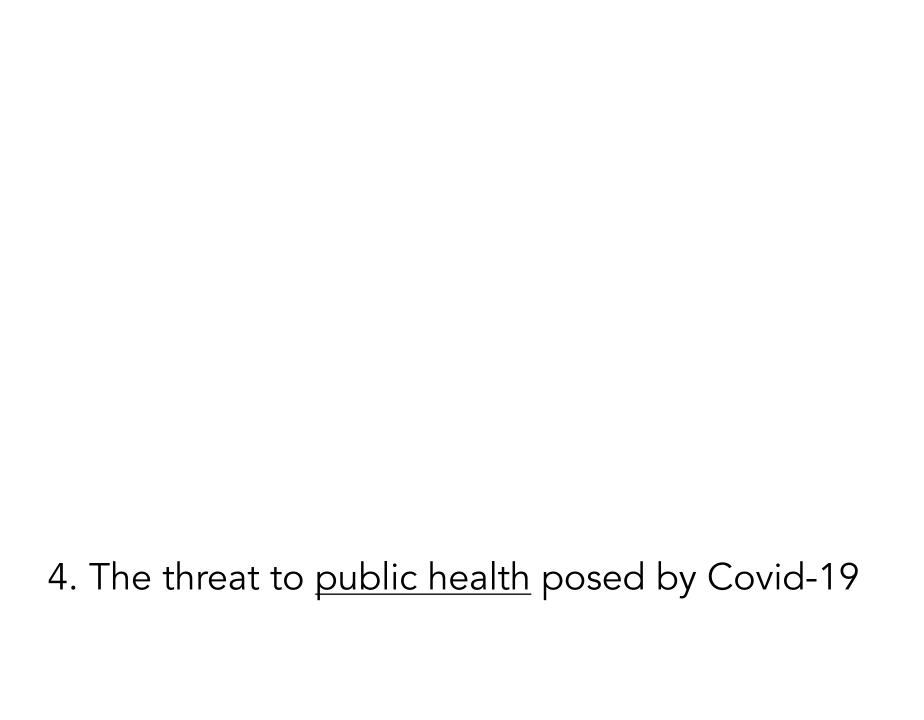
"I didn't like what I saw one bit. I did not want to ever see something like that," said Mayor Bill de Blasio of New York, who also complimented the city's police officers for generally showing a "tremendous amount of restraint."

Military vehicles in recent nights have moved down city streets as phalanxes of officers in full riot gear fired clouds of noxious gas. Yet the show of force showed little sign that it would bring calm.

Instead, some people said, it was escalating tensions, and breaking the cycle would now be more difficult.

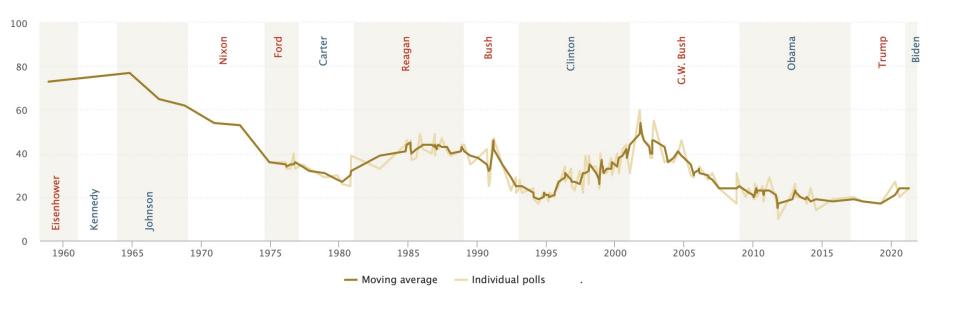
Mass demonstrations are among the most difficult situations that the police have to manage. They must balance constitutional liberties with the safety of officers and the public. Crowds are unpredictable and, in recent days, sometimes hostile. Too much force can escalate the situation — but so can too little.

Not all protests have erupted in violence, with some police forces showing a more positive relationship with their communities. In Petersburg, Va., Chief Kenneth Miller and a handful of police officers appeared alongside protesters to show solidarity. In

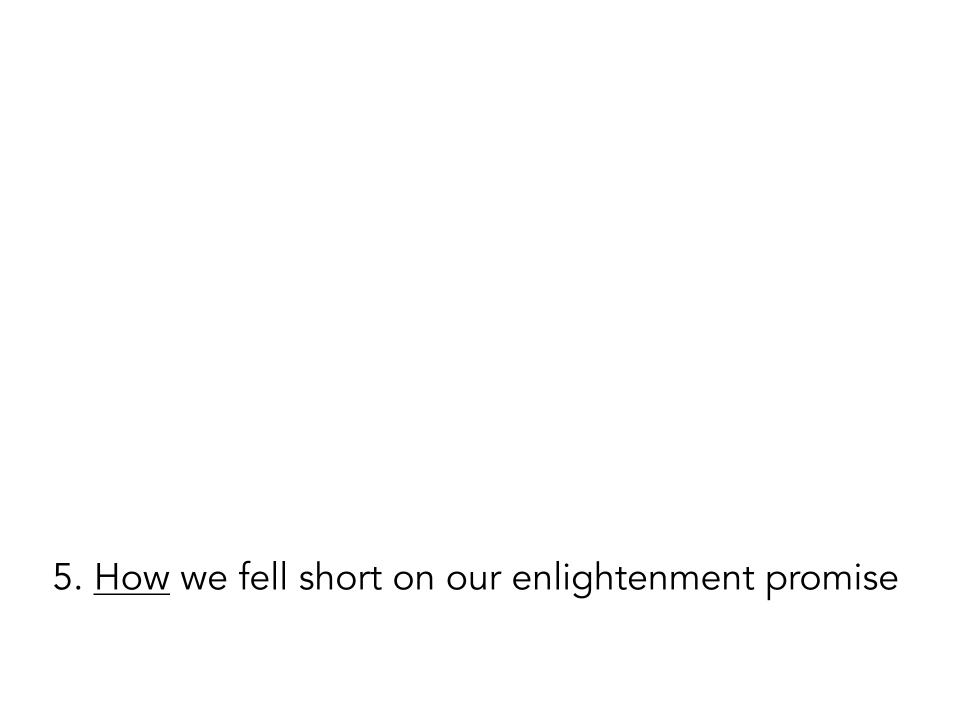


Thesis

Covid-19 has posed an enormous threat to the liberal public health project





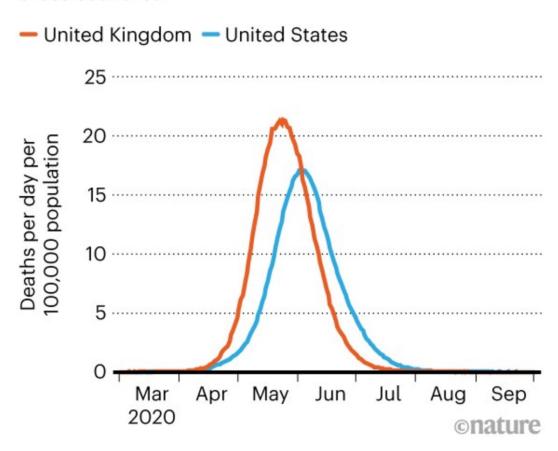


- 1. False certitude
- 2. Contradiction without acknowledgement
- 3. Intolerance of disagreement

- 1. False certitude
- 2. Contradiction without acknowledgement
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SIMULATION SHOCK

A model by Imperial College London in mid-March predicted a total of more than 500,000 UK deaths from COVID-19, and more than 2.2 million in the United States if no action was taken to stop the virus spreading in those countries.



Source: Ref. 1



May 18th, 2020 4 min read

POLITICS 10/06/2020 22:43 BST | Updated 11/06/2020 08:34 BST

Should 'Professor Lockdown' Share The Blame For The UK's Slow Response To Covid?

Neil Ferguson's own Imperial College model got the doubling rate "drastically wrong"



By Paul Waugh

66

With a lot at stake, it is wise to be humble when faced with fundamental limitations. Dynamic models are usable as long as they take into account the uncertainty of the assumptions on which they are based and the data they are led by. If this is not the case, the results are on a par with assumptions or guesses.

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The effects of communicating uncertainty on public trust in facts and numbers

Anne Marthe van der Bles^{a,b,c,1}©, Sander van der Linden^{a,b,d,1}©, Alexandra L. J. Freeman^{a,b}©, and David J. Spiegelhalter^{a,b}©

^aWinton Centre for Risk and Evidence Communication, University of Cambridge, Cambridge CB3 0WA, United Kingdom; ^bDepartment of Pure Mathematics and Mathematical Statistics, University of Cambridge, Cambridge CB3 0WA, United Kingdom; ⁵Department of Social Psychology, University of Groningen, 19712 TS Groningen, The Netherlands; and ^dCambridge Social Decision-Making Lab, Department of Psychology, University of Cambridge, Cambridge CB2 3RQ, United Kingdom

Edited by Arild Underdal, University of Oslo, Oslo, Norway, and approved February 20, 2020 (received for review August 7, 2019)

Uncertainty is inherent to our knowledge about the state of the world yet often not communicated alongside scientific facts and numbers. In the "posttruth" era where facts are increasingly contested, a common assumption is that communicating uncertainty will reduce public trust. However, a lack of systematic research

the general sense of honesty evoked [by uncertainty] ... this did not seem to offset concerns about the agency's competence" (p. 491). In fact, partly for these reasons, Fischhoff (1) notes that scientists may be reluctant to discuss the uncertainties of their work. This hesitation spans across domains: For example, journalists find it difficult

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openness about uncertainty: It has been suggested that we are living in a "posttruth" era in which facts, evidence, and experts are deeply mistrusted (2). Cross-national survey studies suggest that in many countries, trust in institutions and governments is in decline (3-5). Although the underlying causes of changes in trust are likely to be complex and varied, it has been suggested that one way to potentially repair and restore public trust in science, evidence, and official statistics is to be more open and transparent about scientific uncertainty (2). However, it is often assumed that communicating uncertainty transparently will invite criticism, can signal incompetence, or even decrease public trust in science (1, 6-8). In fact, as summarized by the National Academies of Sciences, Engineering, and Medicine report on science communication, "as a rule, people dislike uncertainty [...] people may attribute uncertainty to poor science [... and] in some cases, communicating uncertainty can diminish perceived scientific authority" (ref. 7, pp. 27-28). For example, research by Johnson and Slovic (9) found that for some respondents, uncertainty "evoked doubt about agency trustworthiness" (p. 490), and that "despite to the uncertainty being communicated. Communicating uncertainty numerically only exerted a minor effect on trust. Knowing this should allow academics and science communicators to be more transparent about the limits of human knowledge.

Author contributions: A.M.v.d.B., S.v.d.L., A.L.J.F., and D.J.S. designed research; A.M.v.d.B., S.v.d.L., and A.L.J.F. performed research; A.M.v.d.B. and S.v.d.L. analyzed data; and A.M.v.d.B., S.v.d.L. A.L.J.F., and D.J.S. wrote the paper.

The authors declare no competing interest.

This article is a PNAS Direct Submission

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Data deposition: The datasets collected and analyzed in this paper are available on the Open Science Framework (https://doi.org/10.17605/OSF.IO/MT6S7).

¹To whom correspondence may be addressed. Email: a.m.van.der.bles@rug.nl or sander.vanderlinden@psychol.cam.ac.uk.

This article contains supporting information online at https://www.pnas.org/lookup/suppl/doi:10.1073/pnas.1913678117//DCSupplemental.

First published March 23, 2020.

- 1. False certitude
- 2. Contradiction without acknowledgement
- 3. Intolerance of disagreement





You do not need a mask to avoid coronavirus.

Masks are only useful if you already have a respiratory infection and want to avoid spreading it to others.

Source: CDC



We've deleted two tweets from March about maskwearing. Though we replied with an update when CDC guidance changed to recommend masks, recent replies suggest the time frame of the update was unclear.

To ensure current public health guidance is clear, we deleted the tweets.

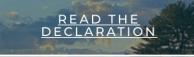
3:18 PM · Dec 21, 2020 · TweetDeck

34 Retweets 149 Quote Tweets 300 Likes

- 1. False certitude
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Great Barrington Declaration

As infectious disease epidemiologists and public health scientists we have grave concerns about the damaging physical and mental health impacts of the prevailing COVID-19 policies, and recommend an approach we call Focused Protection.



SIGN THE DECLARATION

CURRENT SIGNATURE COUNT

FRANÇAIS	PORTUGUÊS	ESPAÑOL	ITALIANO
DEUTSCH	SVENSKA	<u>РУССКИЙ</u>	עברית
POLSKI	DANSK	<u>EAAHNIKA</u>	MAGYAR
اللغة العربية	ČEŠTINA	HRVATSKI	ROMÂNĂ
简体字	TÜRKÇE	NEDERLANDS	ÍSLENSKA
<u>УКРАЇНСЬКИЙ</u>	<u>CATALÀ</u>	한국어	BAHASA INDONESIA
СРПСКИ	БЪЛГАРСКИ	SUOMI	FØROYSKT

[BLOG] UNION OF CONCERNED SCIENTISTS



Herding People to Slaughter: The Dangerous Fringe Theory behind the Great Barrington Declaration and Push toward Herd Immunity

DERRICK Z. JACKSON, FELLOW | OCTOBER 23, 2020, 5:19 PM EDT



Officials at the highest levels are discussing the possibility of caving in on controlling the coronavirus and instead letting it run rampant



Adopting measures to protect the vulnerable should be the central aim of public health responses to COVID-19. By way of example, nursing homes should use staff with acquired immunity and perform frequent testing of other staff and all visitors. Staff rotation should be minimized. Retired people living at home should have groceries and other essentials delivered to their home. When possible, they should meet family members outside rather than inside. A comprehensive and detailed list of measures, including approaches to multigenerational households, can be implemented, and is well within the scope and capability of public health professionals.

Education

Philly's school reopening plan is put on hold after an outcry: 'We should not have to teach students to death'

Principals, teachers, parents, and students blasted the plan developed by Superintendent William R. Hite Jr., so would neither keep children and staff safe nor offer a robust educational experience.





Superintendent WIlliam Hite Jr. wants Philly schools to open two days a week to most students. Hite, shown in this file photo, heard an earful about his school reopening plan at a school board r... **Read more**

6. Why we fell short on our promise

- 1. The complexity of systems
- 2. Our biases and privileged perspectives
- 3. Group think and absolutism

- 1. The complexity of systems
- 2. Our biases and privileged perspectives
- 3. Group think and absolutism



Christina Pagan, 7, does her schoolwork at a remote learning location hosted by the Olivet Boys and Girls Club in Reading, PA. Credit: Ben Hasty *Getty Images*

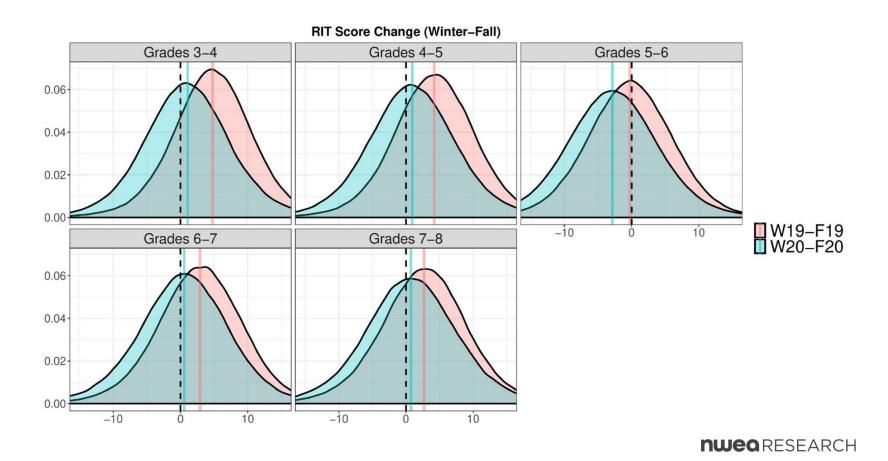
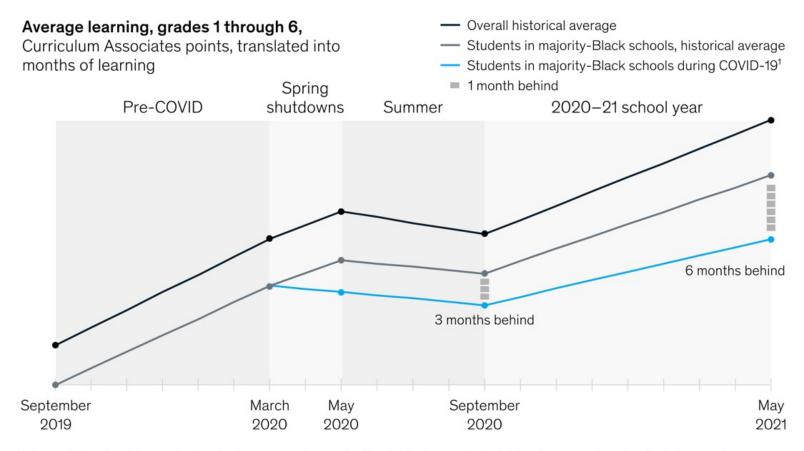


Figure 3: Distribution of within-student change from winter 2019-fall 2019 vs. winter 2020-fall 2020 in math. Note: The vertical red and blue lines display the median growth estimate for winter 2019-fall 2019 and winter 2020-fall 2020 respectively. The black dashed line represents zero growth (e.g., winter and fall test scores were equivalent).

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

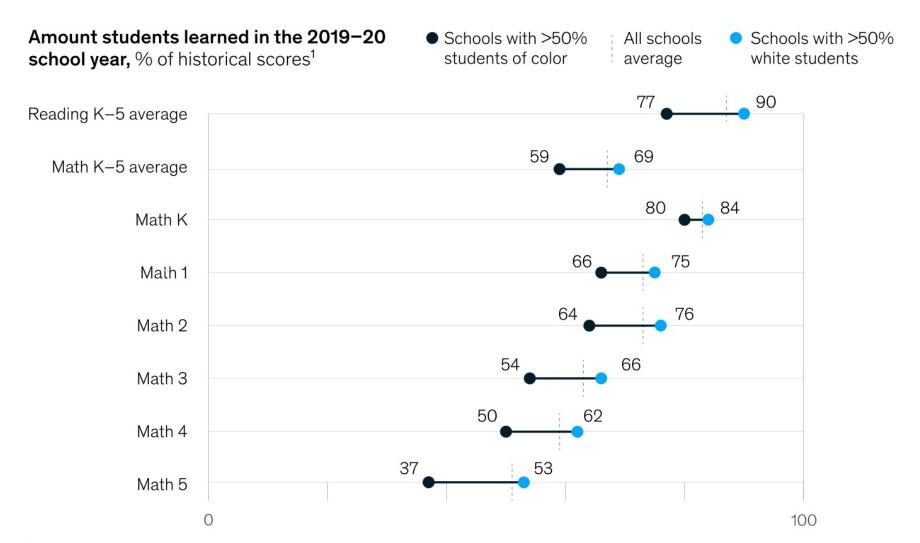


Average fall 2020 achievement and learning loss represents schools with students who are >50% Black, Indigenous, and people of color because there were not enough majority-Black schools that had in-school assessments; average spring 2020 achievement and learning loss represents schools with >50% Black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

Source: Curriculum Associates i-Ready assessment data



Most students are falling behind, but students of color are faring worse.



¹Percent of an "average" year of learning gained by students in 2019–20 school year, where 100% is equivalent to historical matched scores over previous 3 years. Source: Curriculum Associates

https://www.mckinsey.com/featured-insights/coronavirus-leading-through-the-crisis/charting-the-path-to-the-next-normal/american-students-of-color-in-the-us-are-falling-behind-during-the-pandemic

Ios Angeles Times

CALIFORNIA



Schools in more affluent areas move faster to reopen than those in low-income communities



First-grader Braylen Coleman has her temperature checked by teacher's aide Firoozeh Borjian as she arrives at Alta Vista Elementary School in Redondo Beach. (Al Seib / Los Angeles Times)

CORONAVIRUS, VACCINES AND PANDEMIC >

As underserved areas grapple with vaccine inequities, Sean Penn's nonprofit joins effort to get doses to residents

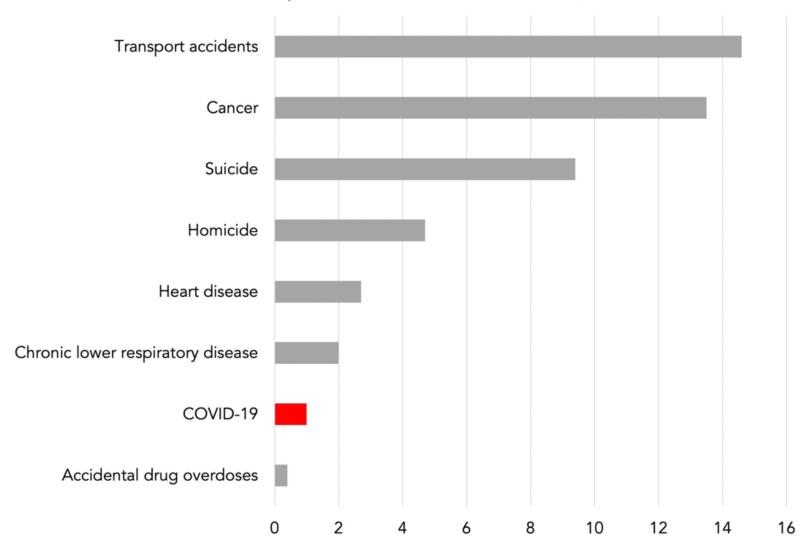
LAUSD coronavirus testing reveals 177 infections prior to first campus openings

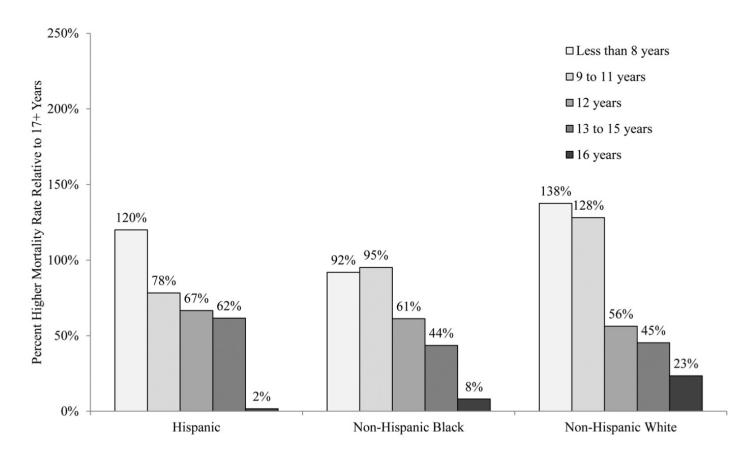
COVID-19 vaccine supply rebounds as L.A. County hopes to rapidly immunize more residents

Tracking reopenings

Latest on vaccines and pandemic

Mortality rate per million by cause in children ages 5-14





Source: Robert A. Hummer and Joseph T. Lariscy, "Educational Attainment and Adult Mortality," in *International Handbook of Adult Mortality*, ed. Richard G. Rogers and Eileen M. Crimmins (NY: Springer, 2011)

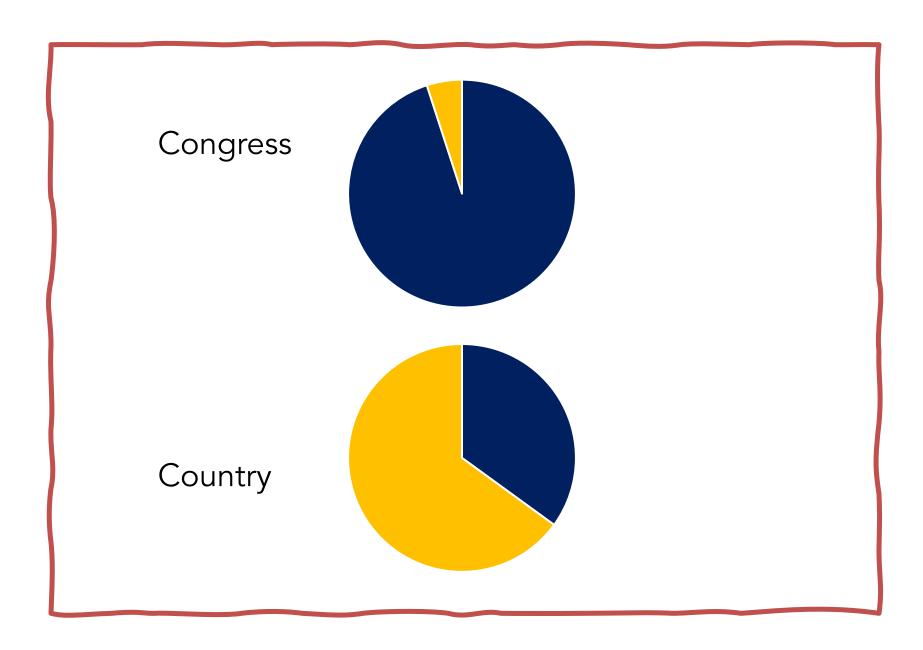
Figure 5.

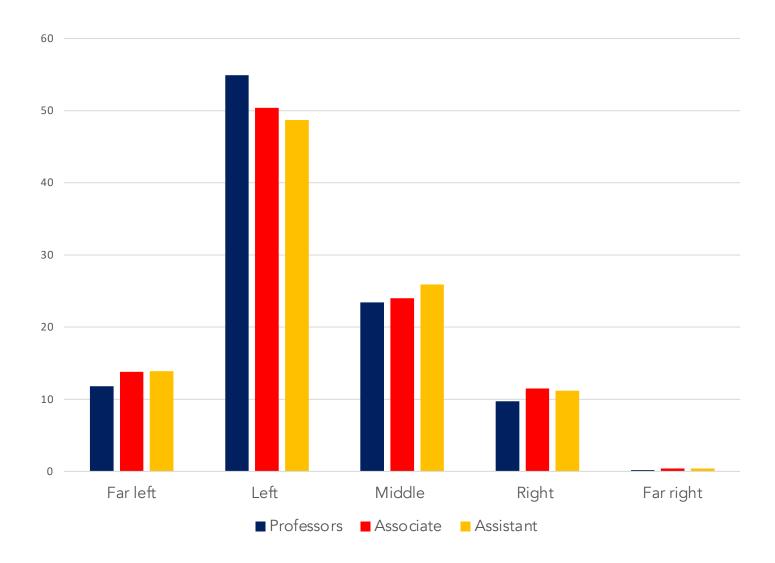
Mortality Rate Differences Relative to Persons with 17+ Years of Education, U.S. Women by Race/Ethnicity



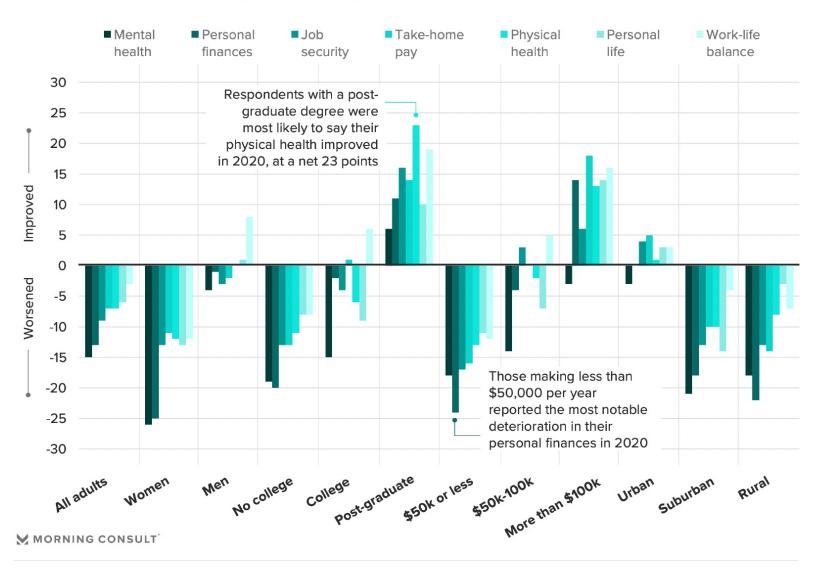
- 1. The complexity of systems
- 2. Our biases and privileged perspectives
- 3. Group think and absolutism





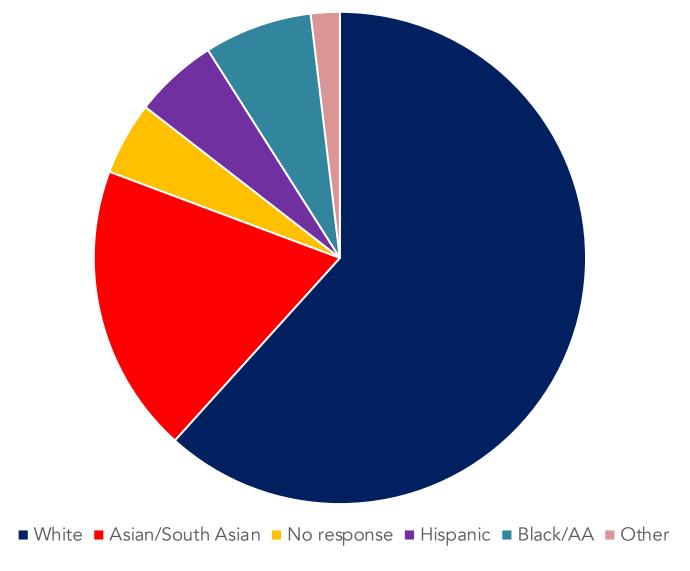


Share who said the following factors improved for them in 2020 minus the share who said those factors have worsened:



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

Epidemiologists today



- 1. The complexity of systems
- 2. Our biases and privileged perspectives
- 3. Group think and absolutism













Zero-covid countries have done best and it's not too late to switch







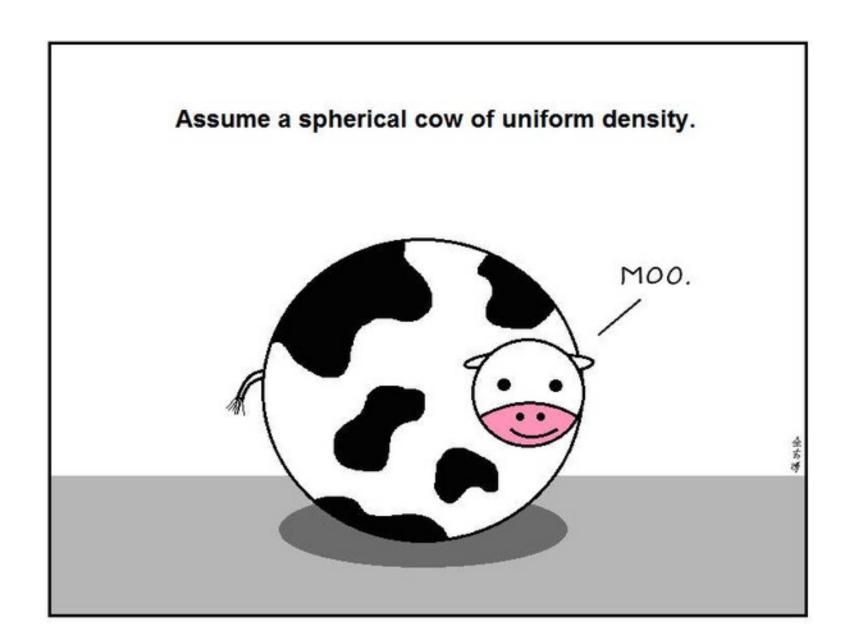








HEALTH 14 June 2021















Zero-covid countries have done best and it's not too late to switch





HEALTH 14 lune 2021









Australian Prime Minister hints at end to 'Covid zero' amid protests and record infections



By Ben Westcott, CNN

Updated 1:12 AM ET, Mon August 23, 2021



More from CNN

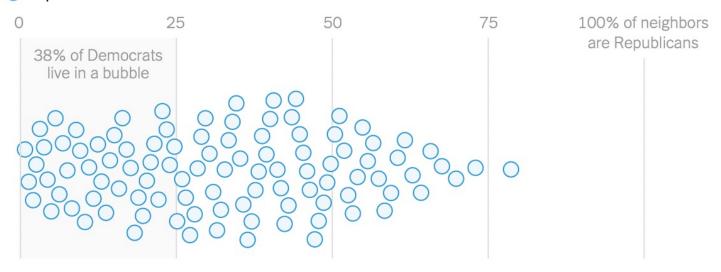


Kayleigh McEnany is gaslighting America

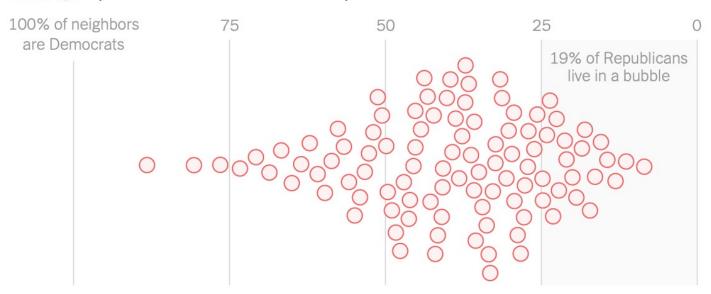


Alana 'Honey Boo Boo' Thompson talks about being a teen and /22/australia/australia-

Each O represents one out of 100 Democrats



Each O represents one out of 100 Republicans



The Most Intolerant County in America (and the Most Tolerant City)

Suffolk County Massachusetts, which represents the heart of the Boston-Cambridge-Newton part of New England, appears to be the most politically intolerant county in the US.

Friday, March 15, 2019

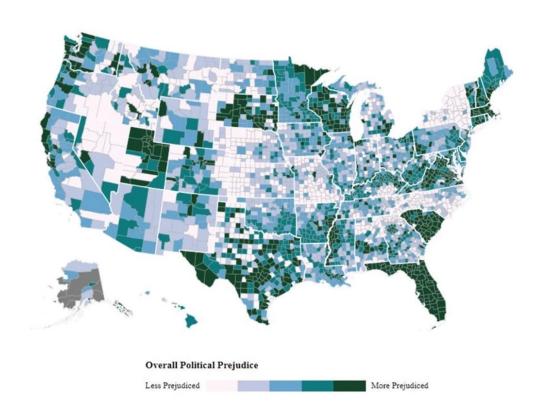


Image Credit: The Atlantic

7. Reclaiming a liberal public health

- 1. Epistemic humility
- 2. Radical compassion
- 3. Reform through reason

- 1. Epistemic humility
- 2. Radical compassion
- 3. Reform through reason

TheUpshot

What 635 Epidemiologists Are Doing for Thanksgiving

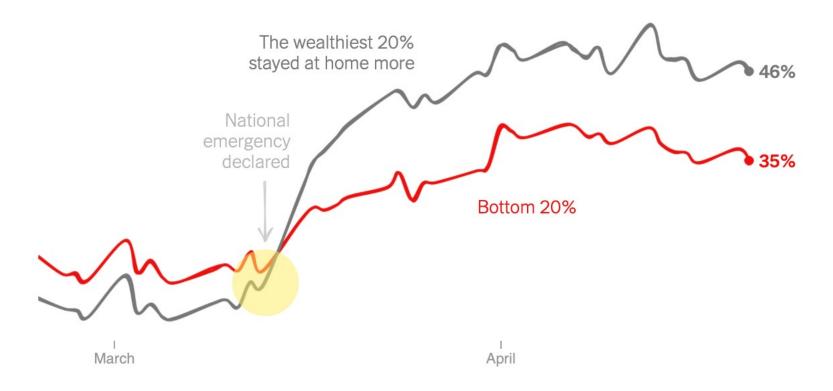
Those who are gathering with family or friends are taking precautions or rethinking their holiday rituals altogether. Most are staying home.

66

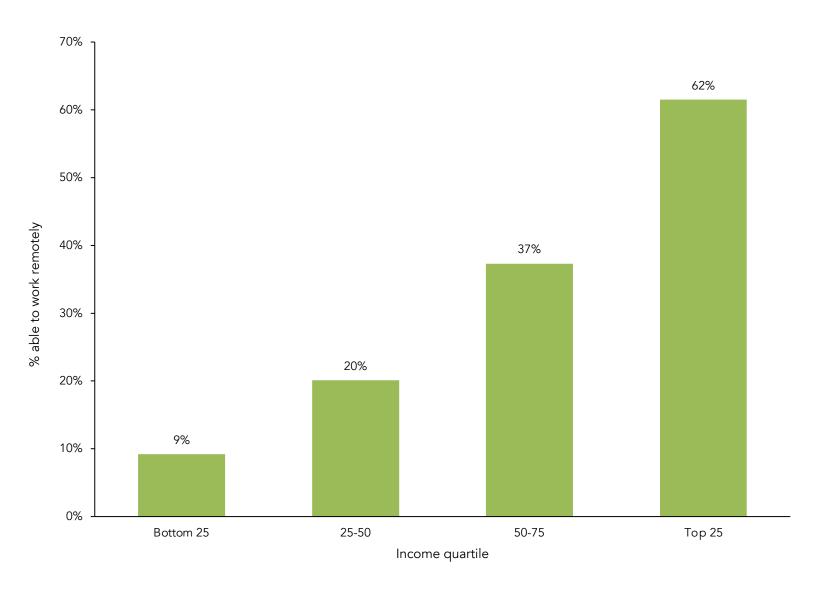
Epistemic arrogance is the tendency to overestimate our ability to predict when we're overconfident in our knowledge. 99

- 1. Epistemic humility
- 2. Radical compassion
- 3. Reform through reason

Share of population staying at home, by income group

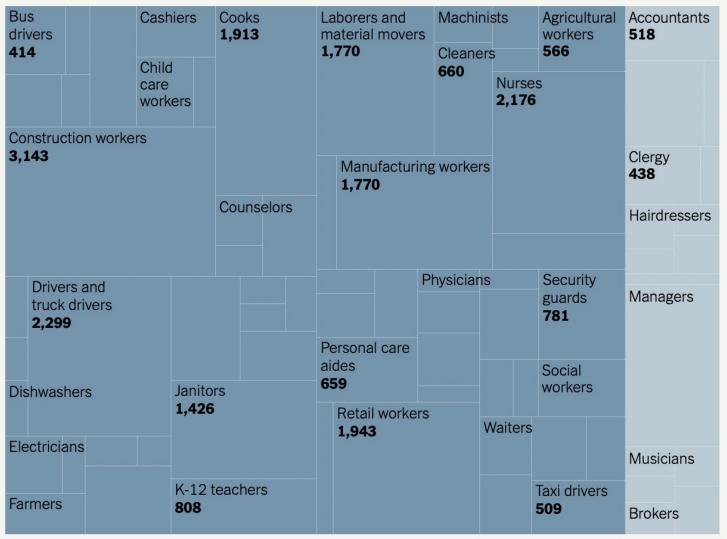


Ability to work remotely



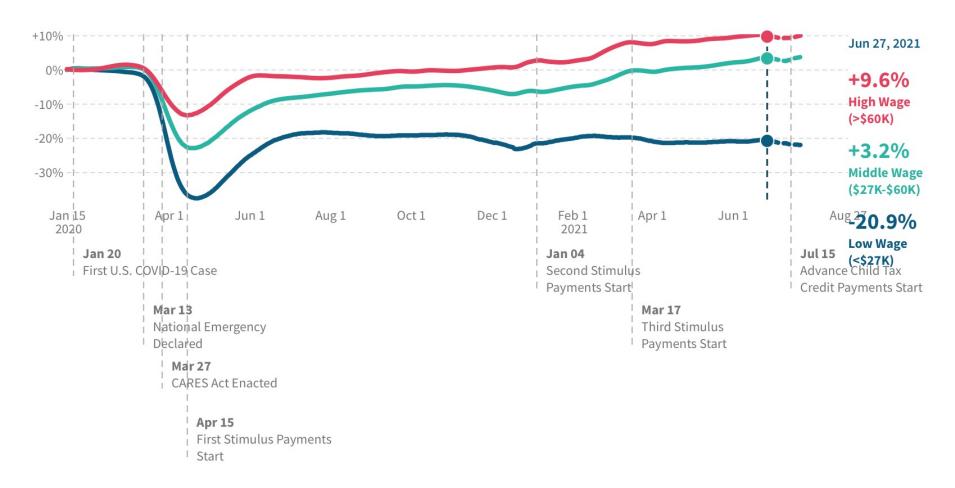
Covid-19 deaths by occupation in 2020

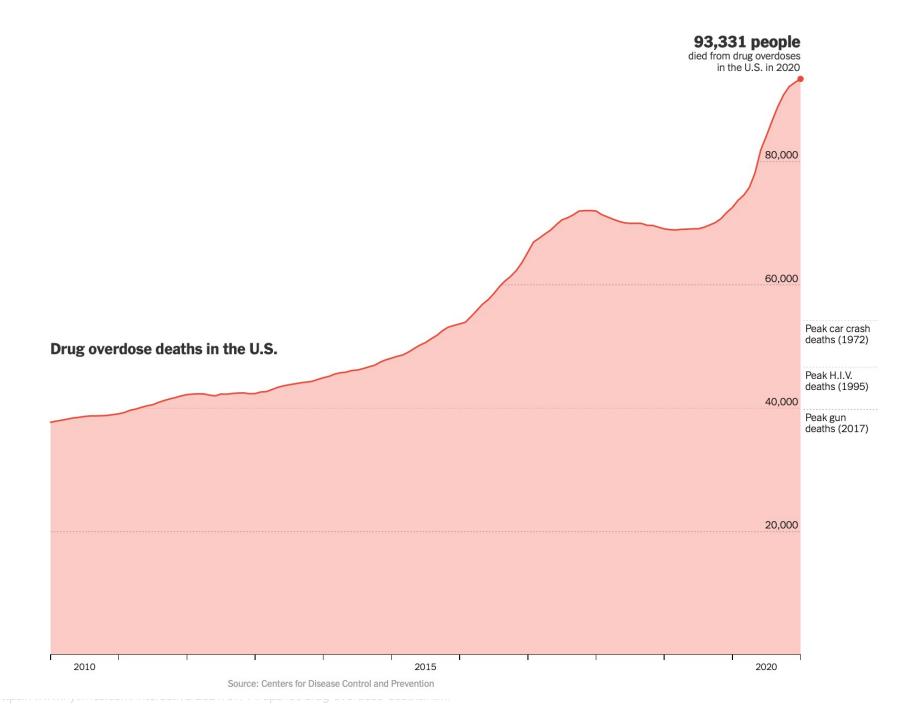
Essential workers Other workers



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

In **the United States**, as of June 27 2021, employment rates among workers in the bottom wage quartile decreased by **20.9%** compared to January 2020 (not seasonally adjusted).





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OCTOBER 29, 2020 OUARTERLY OPINION



A Radical Vision, An Incremental Approach to Achieving the Aspirations of Public Health

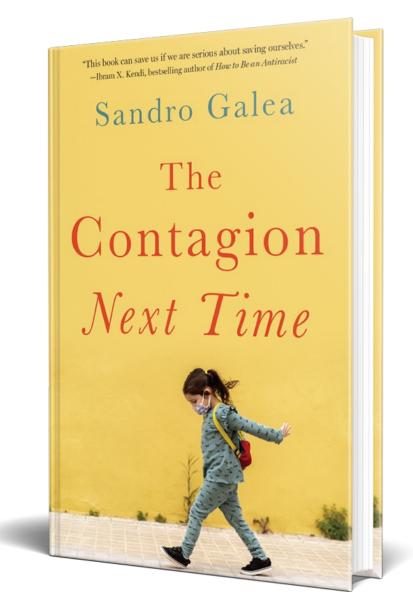
PUBLIC HEALTH

COVID-19

Author:



It is not difficult to feel, these days, that we are living in revolutionary times that demand a re-ordering of the status quo and a re-thinking of how we structure our world. 2020 brought with it a novel coronavirus pandemic that, as of this writing, has claimed more than a million lives worldwide. COVID-19 itself, and efforts to contain its spread, brought about a collapse of much of the world's economy, triggering a recession of substantially deeper scope than any since World War II, the global effects of which remain to be fully appreciated. And, perhaps centrally, the consequences of COVID-19 and the economic recession have not been evenly felt, with their burden falling disproportionately on persons of color and persons with fewer socioeconomic resources, occasioning civil unrest that rivals any the country has gone through in the past 50 years. Living through the COVID-19 moment suggests indeed that much is awry with the world, that



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