

# Vaccine Hesitancy and Misinformation: Lessons Learned and Reflections from a Battleground State

**Paul J Carson, MD, FACP**  
NDSU Dept. of Public Health



# Disclosure

**I, Paul Carson, have been asked to disclose any significant relationships with commercial entities that are either providing financial support for this program or whose products or services are mentioned during this presentation.**

**I have no relationships to disclose.**

**I may discuss the use of vaccines in a manner not approved by the U.S. Food and Drug Administration, but in accordance with ACIP recommendations.**

# Outline:

1. Roots of vaccine hesitancy
  - a. Historical / philosophical
  - b. Cognitive / psychological
2. How did vaccine hesitancy become politicized?
3. Lessons learned and path forward

# NORTH DAKOTA



Practicing social distancing since 1889



# North Dakota records world's highest COVID-19 mortality rate

BY ZACK BUDRYK - 11/17/20 12:29 PM EST

1,919 COMMENTS

16,863 SHARES

Facebook share button (SHARE), Twitter share button (TWEET), and other social media icons.

## Just In...

Airbnb CEO says 'world is rooting against' Big Tech

TECHNOLOGY — 2M 33S AGO

Media coverage of wildfires omits one key element: Humanity's role

OPINION — 18M 11S AGO

Superman set to have romantic relationship with male friend

IN THE KNOW — 43M 8S AGO



## Most Popular

- 1 Clooney compares Biden...  
655 SHARES
- 2 Rare canine that looks like a lion...  
518 SHARES
- 3 Jon Stewart says Trump has 'a very...'  
400 SHARES

Get the  
**JAB** out of  
the  
of ~~Jobs~~

WHEN TYRANNY  
BECOMES LAW  
**REBELLION**  
**BECOMES**  
**DUTY**

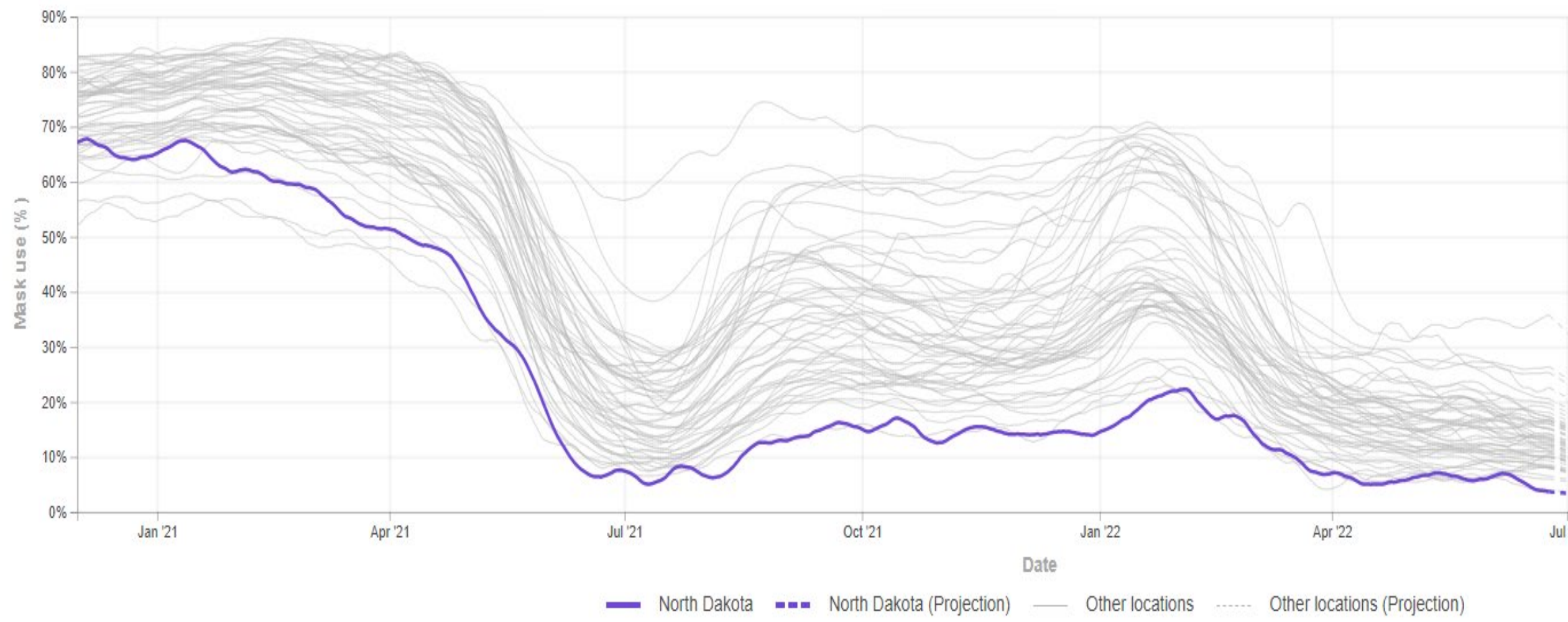
From  
Heros

STOP  
THE  
MANDA



# Mask use [↗](#)

Scenario ⓘ Current projection ▾ Compare *North Dakota* to Alabama X Alaska X Arizona X Arkansas X California X +45 more X ▾



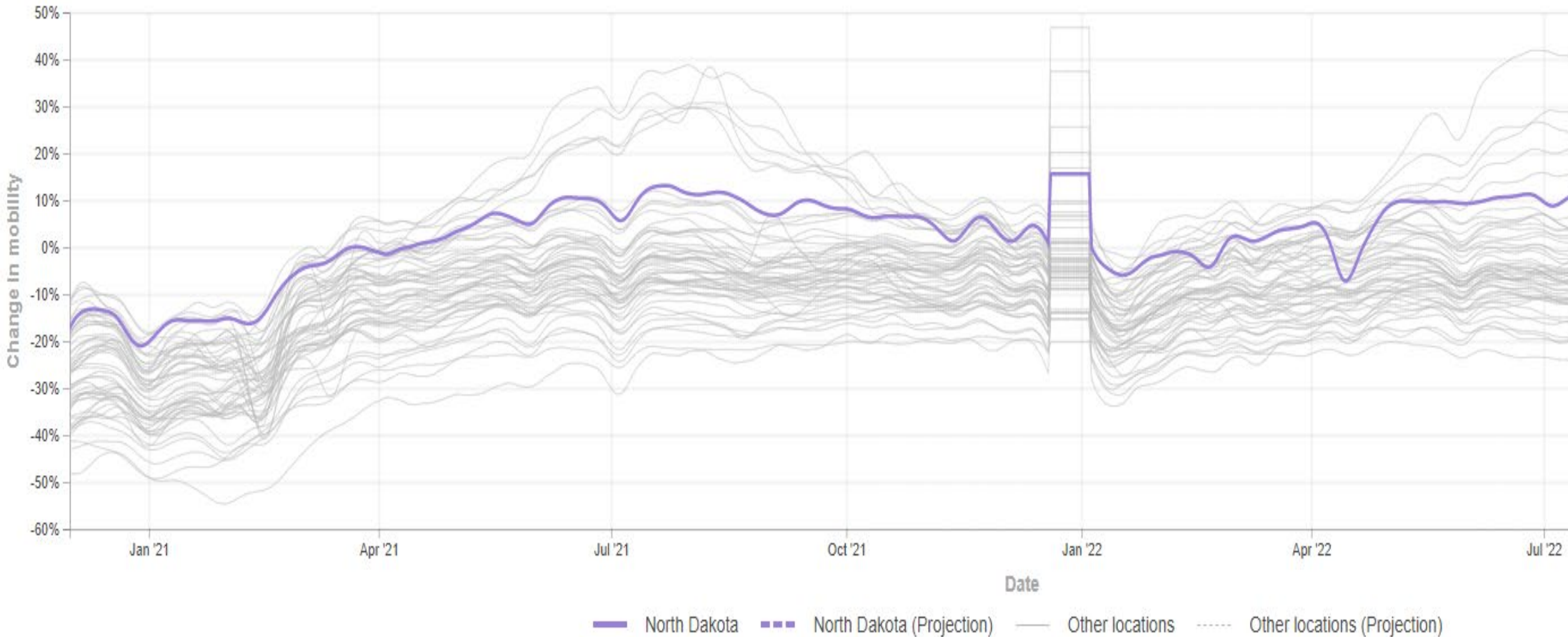
Data sources: Premise (US only); The Delphi Group at Carnegie Mellon University and University of Maryland COVID-19 Trends and Impact Surveys, in partnership with Facebook; Kaiser Family Foundation; YouGov

Scenario ⓘ

Current projection ▾

Compare North Dakota to

- Alabama X
- Alaska X
- Arizona X
- Arkansas X
- California X
- +45 more





OPINION

## Death Came for the Dakotas

In terms of the coronavirus, they're a theater of American disgrace.

Dec. 5, 2020



*“The Dakotas are a horror story that didn’t have to be, a theater of American disgrace.”*

Frank Bruni, NYTs

[THE CORONAVIRUS CRISIS](#) [Latest Coverage](#) [The Struggle to Define Long COVID](#) [What Booster Shots Can and Can't Do](#) [My Family Was a COVID Cluster](#) [The Economic Impact](#)

CORONAVIRUS CHRONICLES FEBRUARY 15 &amp; 22, 2021 ISSUE

# INSIDE THE WORST-HIT COUNTY IN THE WORST-HIT STATE IN THE WORST-HIT COUNTRY

*When COVID-19 surged through a North Dakota community, a battle with the pandemic became a battle among its residents.*

By Atul Gawande

February 8, 2021





# Sen. Magrum introduces bill to ban COVID-19 shots

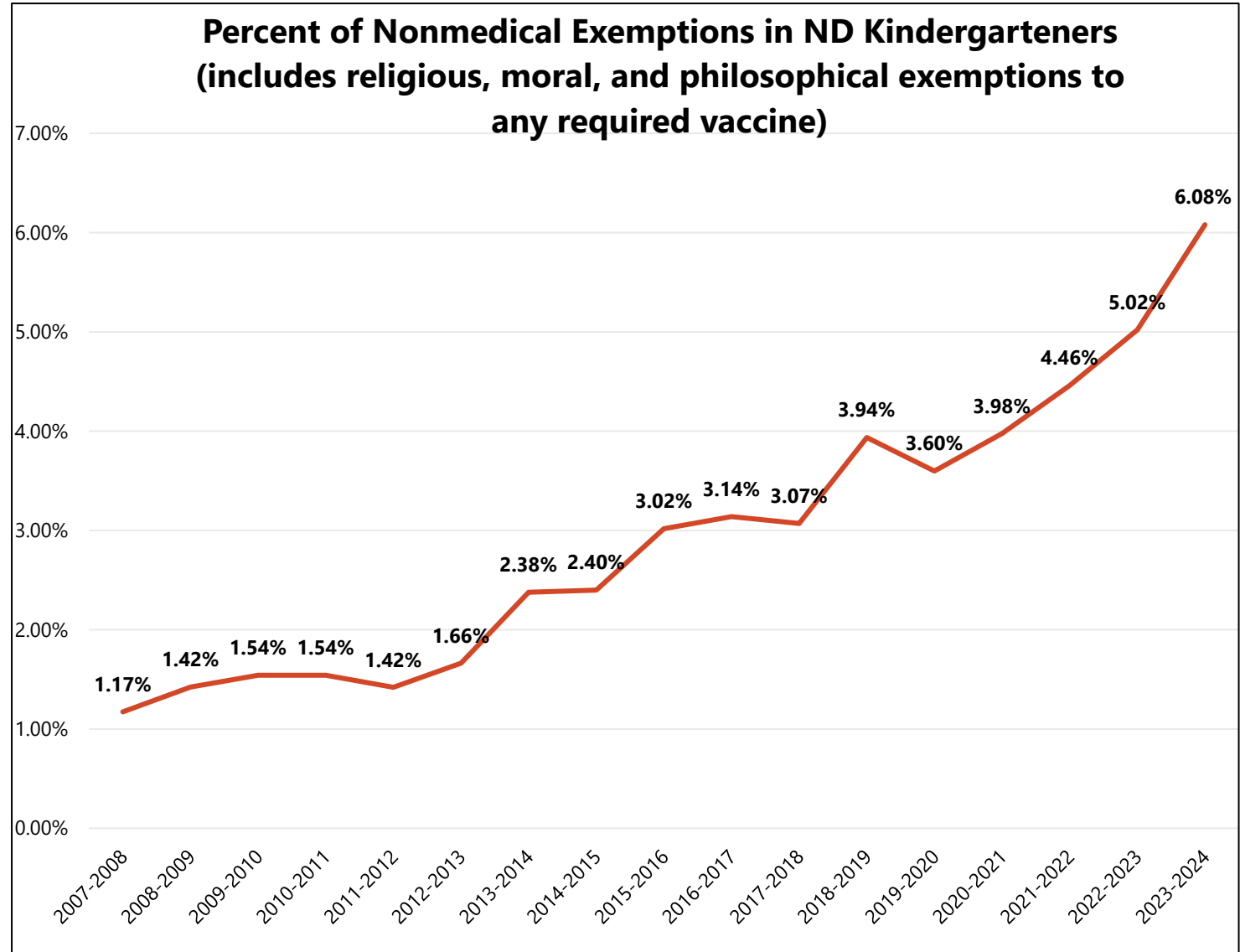
Feb 7, 2023 Updated Feb 8, 2023 0



# NON-MEDICAL EXEMPTIONS

These trends include the percentages of students who have exemptions to one or more of the following vaccines:

- MMR
- Polio
- DTaP
- Hepatitis B
- Chickenpox



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- b. Cognitive / psychological

## 2. How did vaccine hesitancy become politicized?

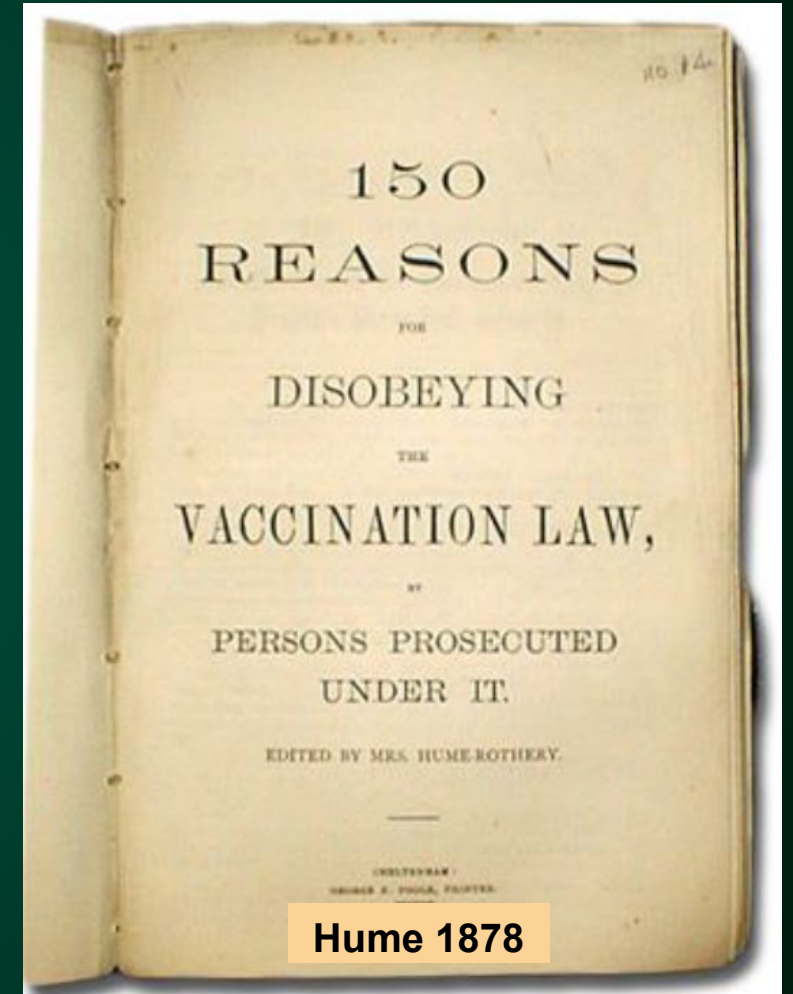
## 3. Lessons learned and path forward

# Vaccine Hesitancy is Not New



*The Cow-Pock — or — the Wonderful Effects of the New Inoculation! — vide. the Publications of the Anti-Vaccine Society.*

*Pub<sup>d</sup> June 12<sup>th</sup> 1802. by H. Humphrey 5, James's Street.  
the Publications of the Anti-Vaccine Society.*



Hume 1878

# Competing Goods

**Personal Liberty**  
**Autonomy**  
**“Health Freedom”**

**Common Good**  
**Solidarity**  
**Public Health**

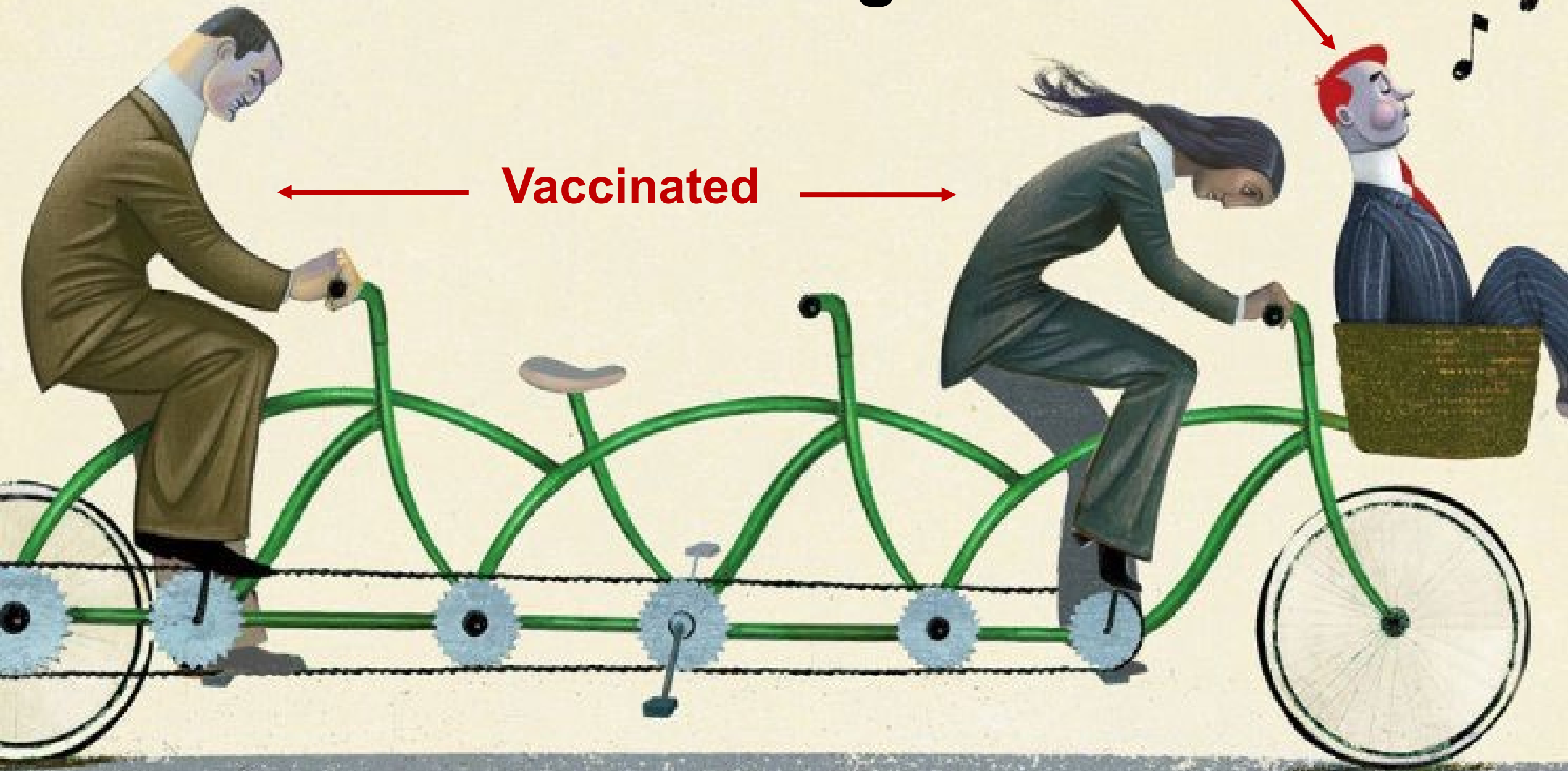


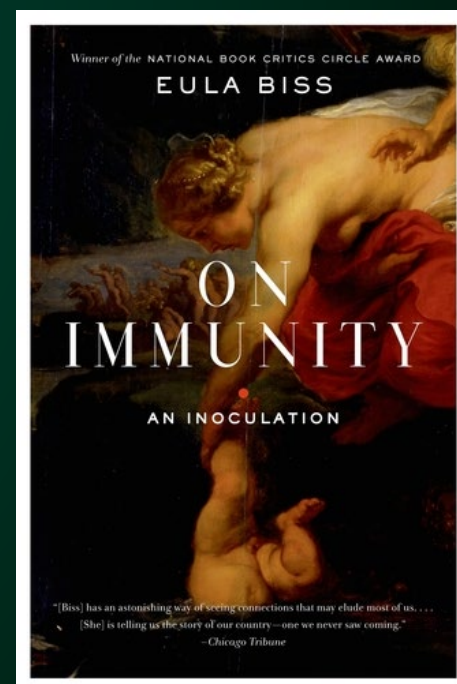
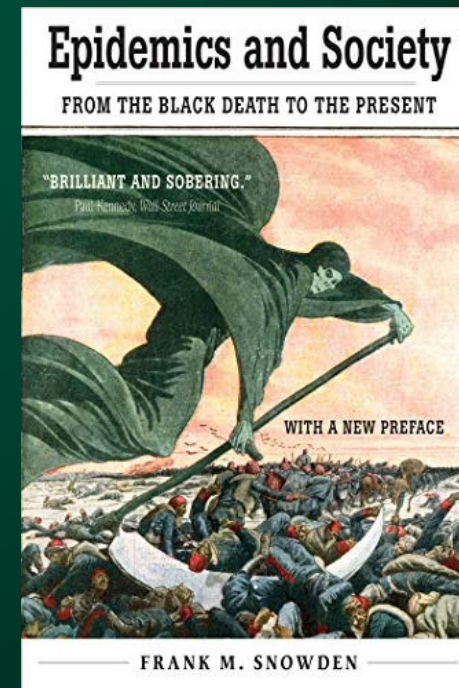
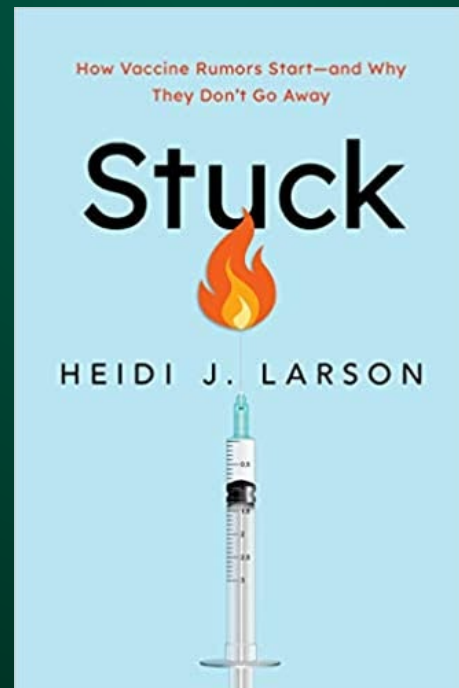
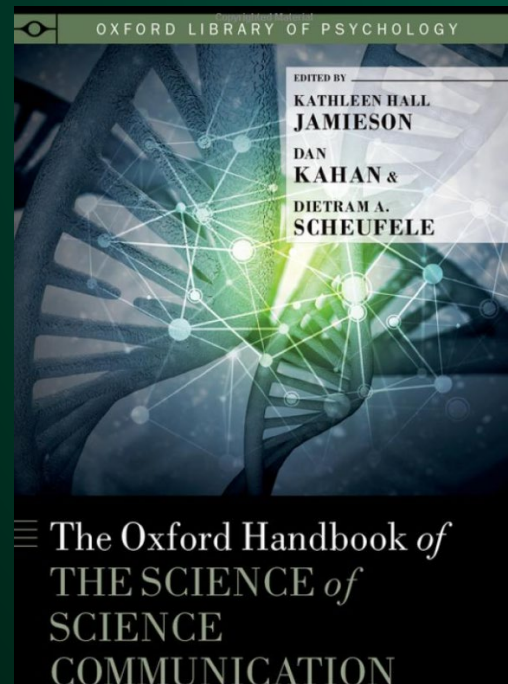
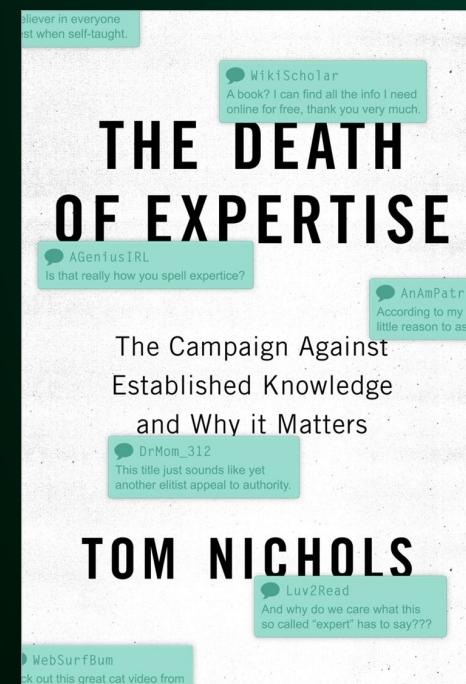
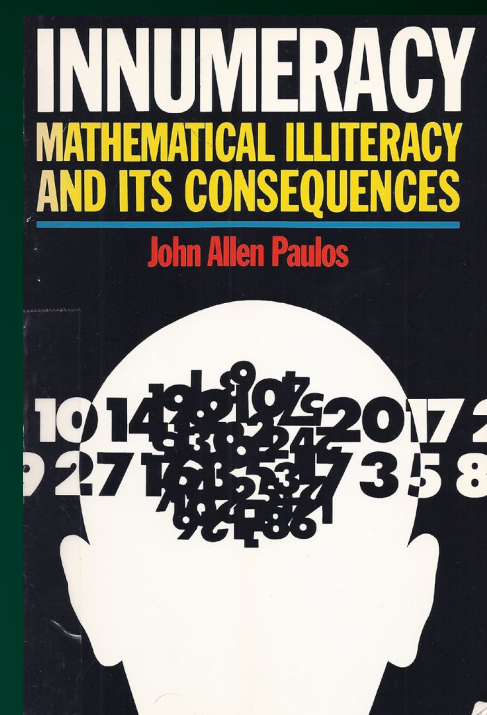
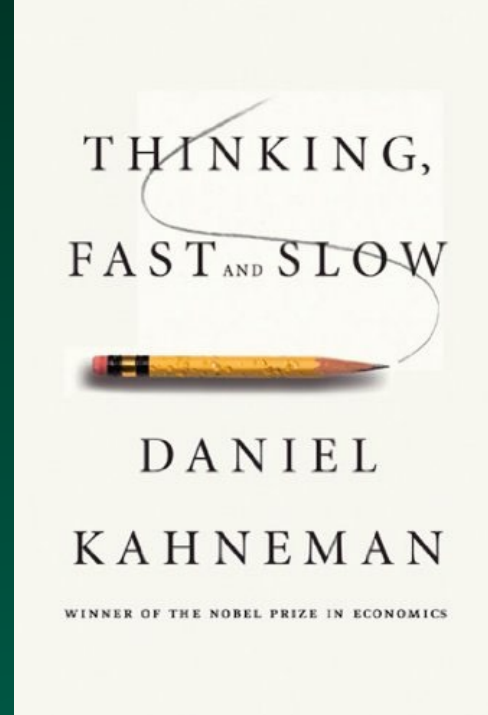
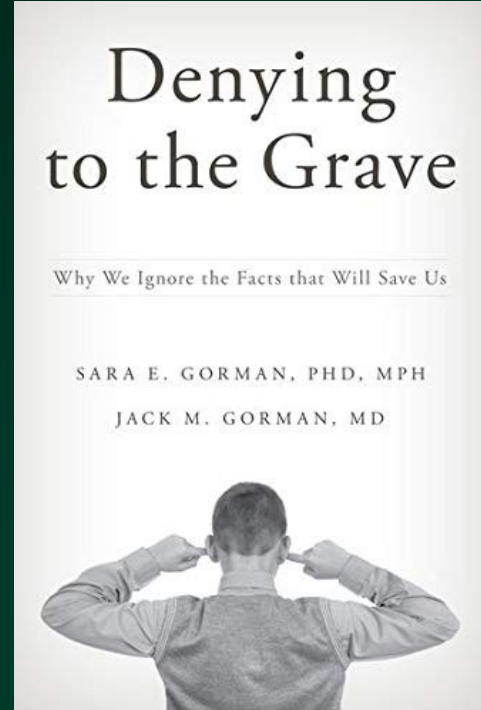
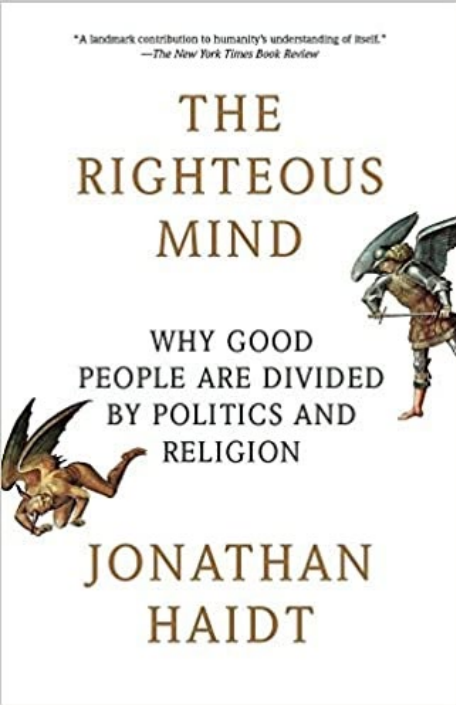


# Free Riding

Unvaccinated

Vaccinated





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# INNUMERACY

MATHEMATICAL ILLITERACY  
AND ITS CONSEQUENCES

JOHN ALLEN PAULOS

"Our society would be unimaginably different if the average person truly understood the ideas in this marvelous and important little book."

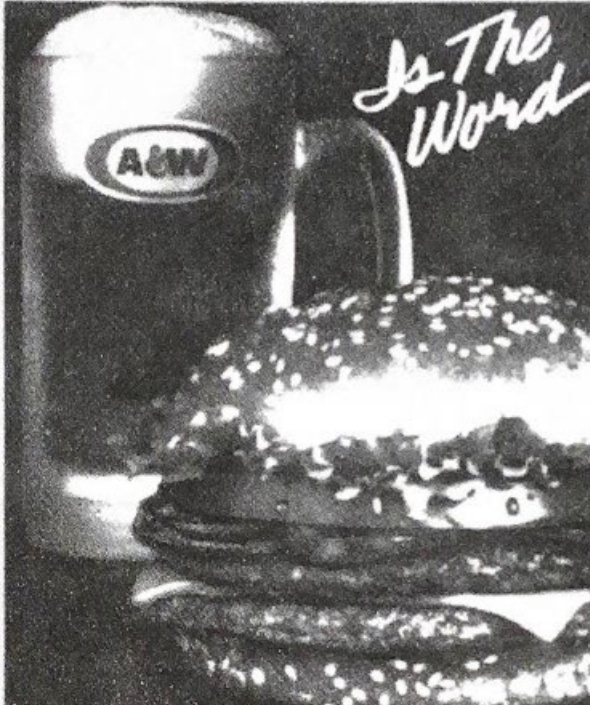
-Douglas Hofstadter

## Schwartz Numbers

1. Fair coin toss many times
2. Convert 1%
3. Convert 1:10

# T·H·I·R·D


*Is The Word*



A&W has bigger, beefier third pound\* burgers — Our double cheeseburger and bacon double cheeseburger. A sesame bun with two 100% pure beef patties freshly cooked to perfection covered in rich, golden melted cheese. Piled high with garden-fresh lettuce, red-ripe tomato, and pickles. Even crispy bacon if you like.


Top it off with an ice cold, frosty mug of A&W Root Beer. It's a super meal. Just bring in the coupon below and your hearty appetite for bigger, beefier third pound\* burgers.

Because The Third Is The Word . . . at A&W.

Rediscover  We're really cookin' now.

(Special Offer) \$0.00

(Dealer Imprint)



% Answering  
Incorrect

46%

46%

80%

# The Problem Of

**Causal**

**Inference**



# Our Brains Are Hardwired to Make Causal Inferences

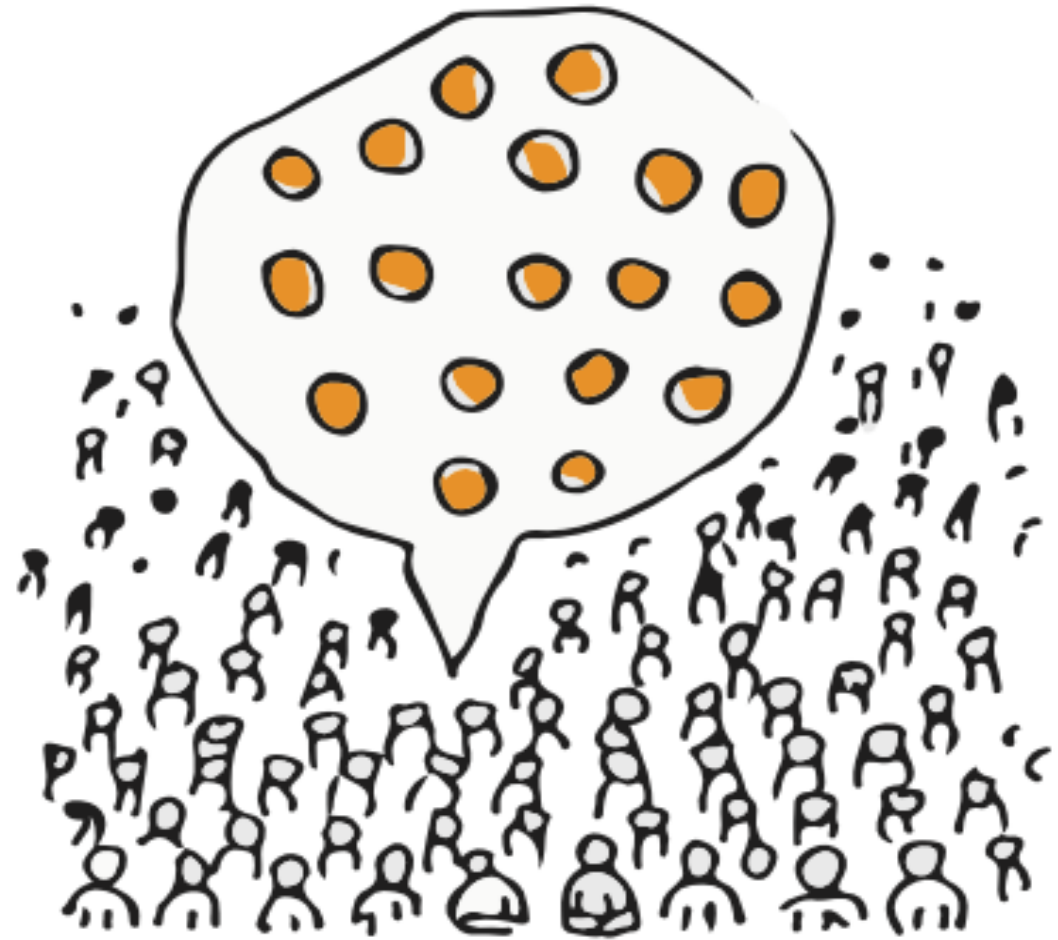
*“He was vaccinated, and something changed. My son is my science”*



# Science communication



scientists



the public

# The “Black Swan” Dilemma and the Communication of Science

---

- My hypothesis: “All swans are white”
- How can I “know” all swans are white?
- Assess a sample, how large a sample is enough?
- The more and more swans I sample, the greater certainty I have in my hypothesis
- The language of science never really let’s me say “I now **know** that all swans are white”, I can only have greater and greater degrees of certainty for my hypothesis





# Media Frequently Gives Appearance of a Legitimate Debate, With Equal Sides



# Ineffective Science Communication

## Vaccine Effectiveness in Israel

Outcome	20/06-17/07		
	VE	Lower CI	Upper CI
SARS-CoV-2 cases	39.0%	9.0	59.0
Symptomatic COVID-19*	40.5%	8.7	61.2
COVID-19 hospitalization	88.0%	78.9	93.2
Severe COVID-19**	91.4%	82.5	95.7

# COVID-19

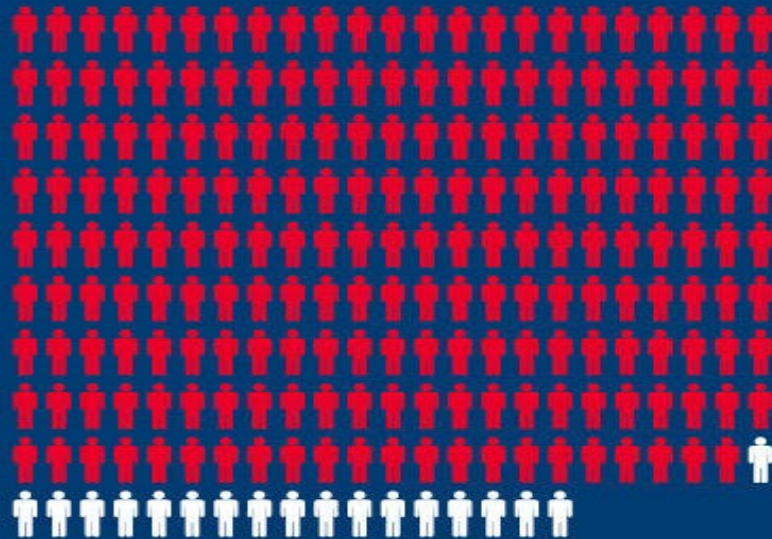
# HOSPITALIZATIONS

On Dec. 14, 2021

Total number of patients with COVID-19 at Sanford Health\*

## 224

HOSPITALIZED

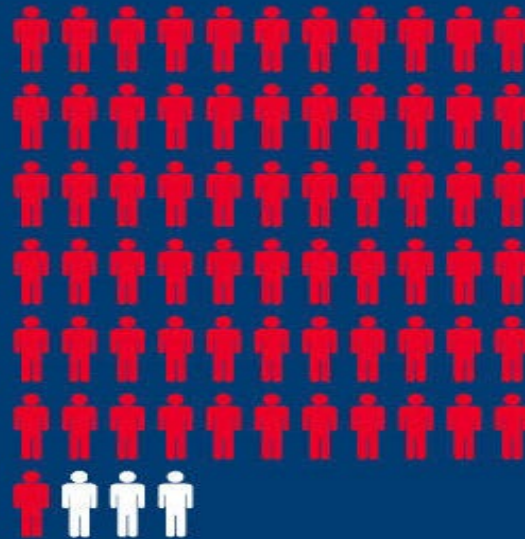


206 unvaccinated

18 vaccinated

## 70

IN THE ICU

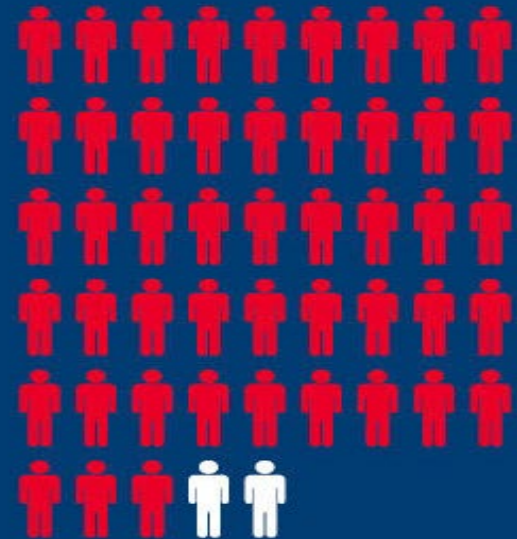


67 unvaccinated

3 vaccinated

## 50

ON VENTILATORS

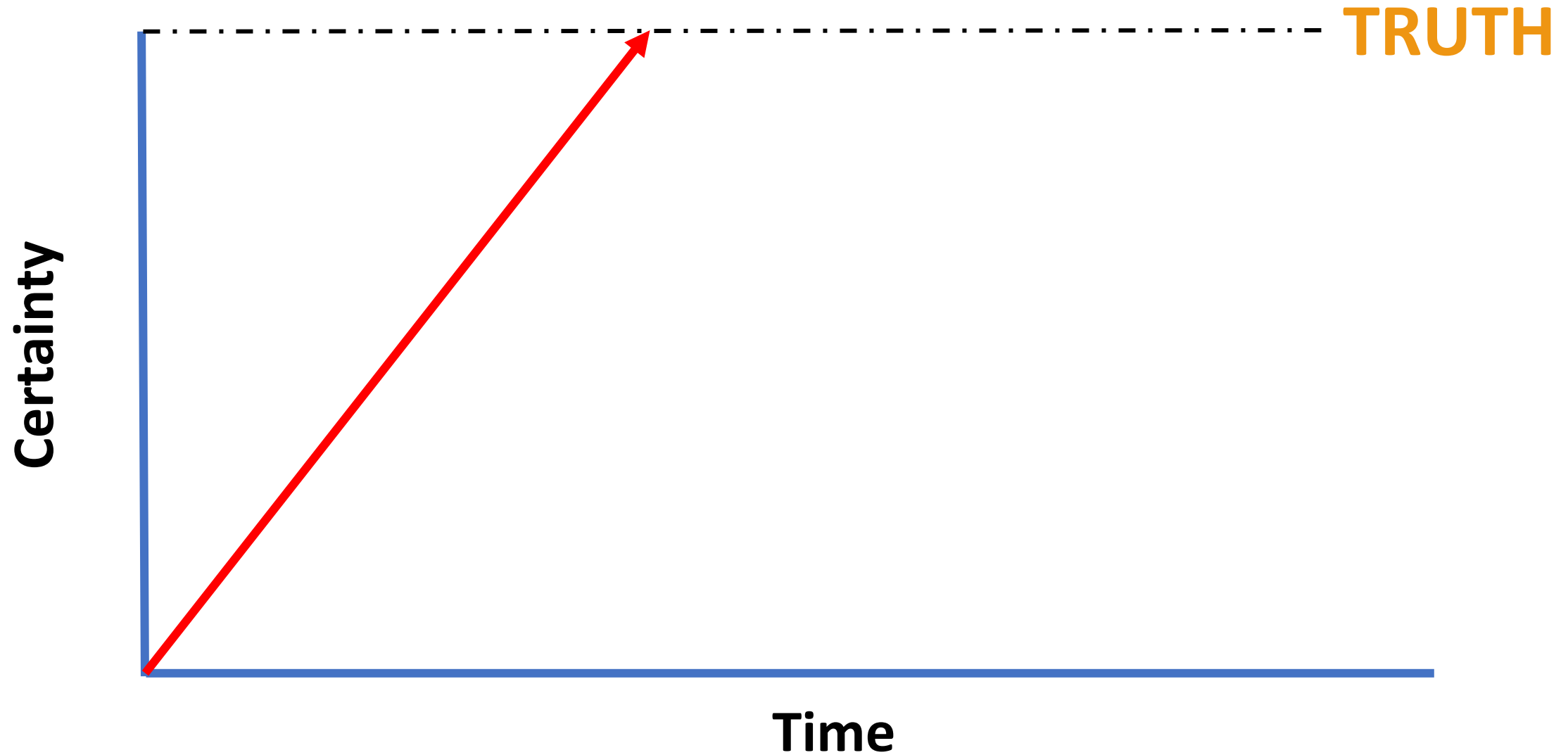


48 unvaccinated

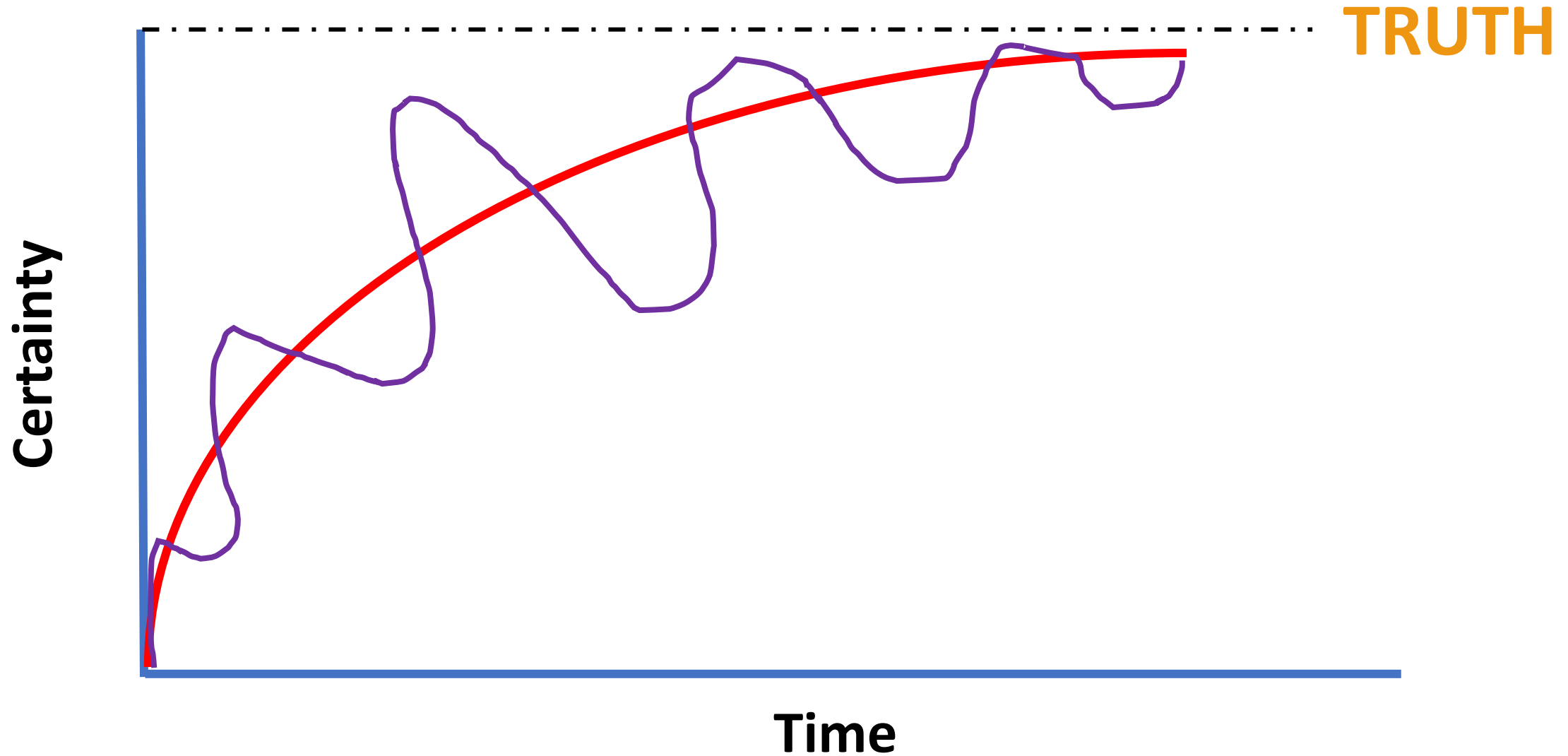
2 vaccinated

\*22 Sanford Health-owned hospitals

# Advances in Science



# Advances in Science





## March 2020: Dr. Anthony Fauci talks with Dr Jon LaPook about COVID-19



BY BRIT MCCANDLESS FARMER  
MARCH 8, 2020 / 7:02 PM / CBS NEWS



## CDC director says masks more guaranteed to work than a vaccine

BY PETER SULLIVAN - 09/16/20 12:11 PM EDT

1,483 COM



“There’s no reason to be walking around with a mask”

*The capacity for self-correction is the source of science's immense strength, but the public is unnerved by the fact that scientific wisdom isn't immutable. Scientific knowledge changes with great speed and frequency—as it should—yet public opinion drags with reluctance to be modified once established. And the rapid ebb and flow of scientific “wisdom” has left many people feeling jerked around, confused, and increasingly resistant to science itself.*



Dr. David P. Barash  
Author, psychologist

“Paradigms Lost” –  
Aeon, 2015

OPINION | REVIEW &amp; OUTLOOK

## Dr. Fauci and the Rule of Experts

His long service is laudable, but his Covid legacy includes more public mistrust.

By [The Editorial Board](#) [Follow](#)

Aug. 22, 2022 6:31 pm ET

 PRINT  TEXT

1491 



WSJ Opinion: CDC Fails to Address Covid Mistakes in Reshuffle

*“Whether you’ve met him personally or not, he has touched all Americans’ lives with his work,” President Biden said Monday about Dr. Fauci’s resignation. That’s true enough. But his legacy will be that millions of Americans will never trust government health experts in the same way again.*

Editorial Board of the WSJ

Review & Outlook: CDC director Rochelle Walensky says she’s going to reshuffle the agency with an emphasis on ‘action’ and ‘equity.’ Her diagnosis and prescription are both wrong. Images: AP/Reuters/Bloomberg News Composite: Mark Kelly





**Science ~ Making Sausage**

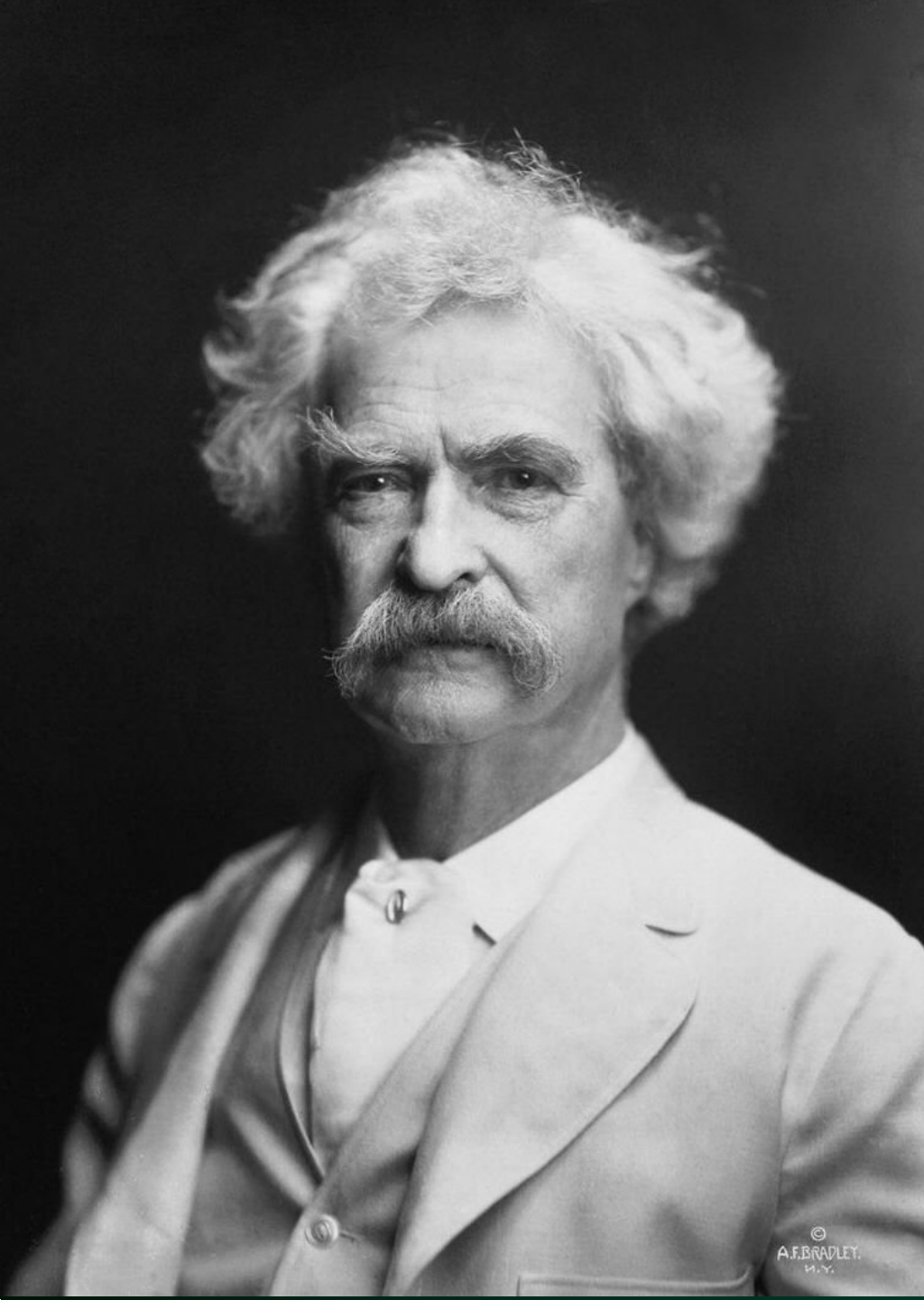


# SCHMITT LOCKER

- **HOMEMADE SAUSAGE**
- **MEAT PROCESSING**
- **BUTCHERING**

754 • 2488 • **NAPOLEON, N.D.**





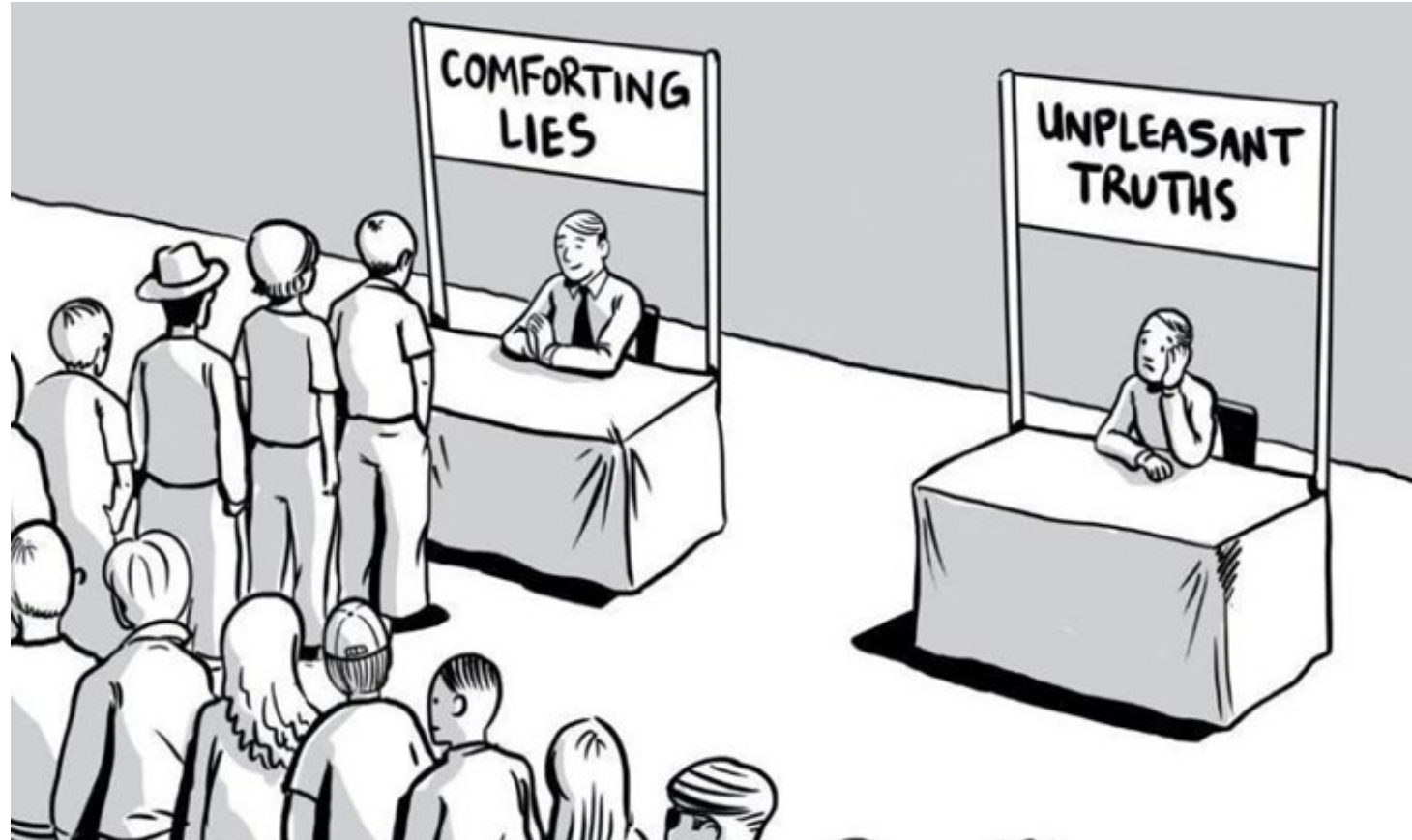
*“It ain’t what you don’t know that gets you into trouble. It’s what you know for sure that just ain’t so.”*

Mark Twain

# Confirmation Bias

“What the human being is best at doing is interpreting all new information so that their prior conclusions remain intact.”

— *Warren Buffett*



# THIS IS YOUR BRAIN—ON FACTS

Question the way we think—and the way we think we think



## CONFIRMATION BIAS

We only pick “evidence” that backs up what we already “know.”



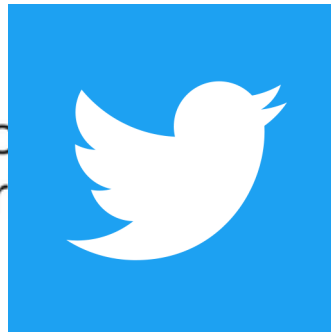
## THE BACKFIRE EFFECT

Faced with contradictory evidence, the brain defends existing beliefs like a fortress.



## GROUP-THINK

Opinions are symbols of belonging, so we work hard to protect their group’s worth.



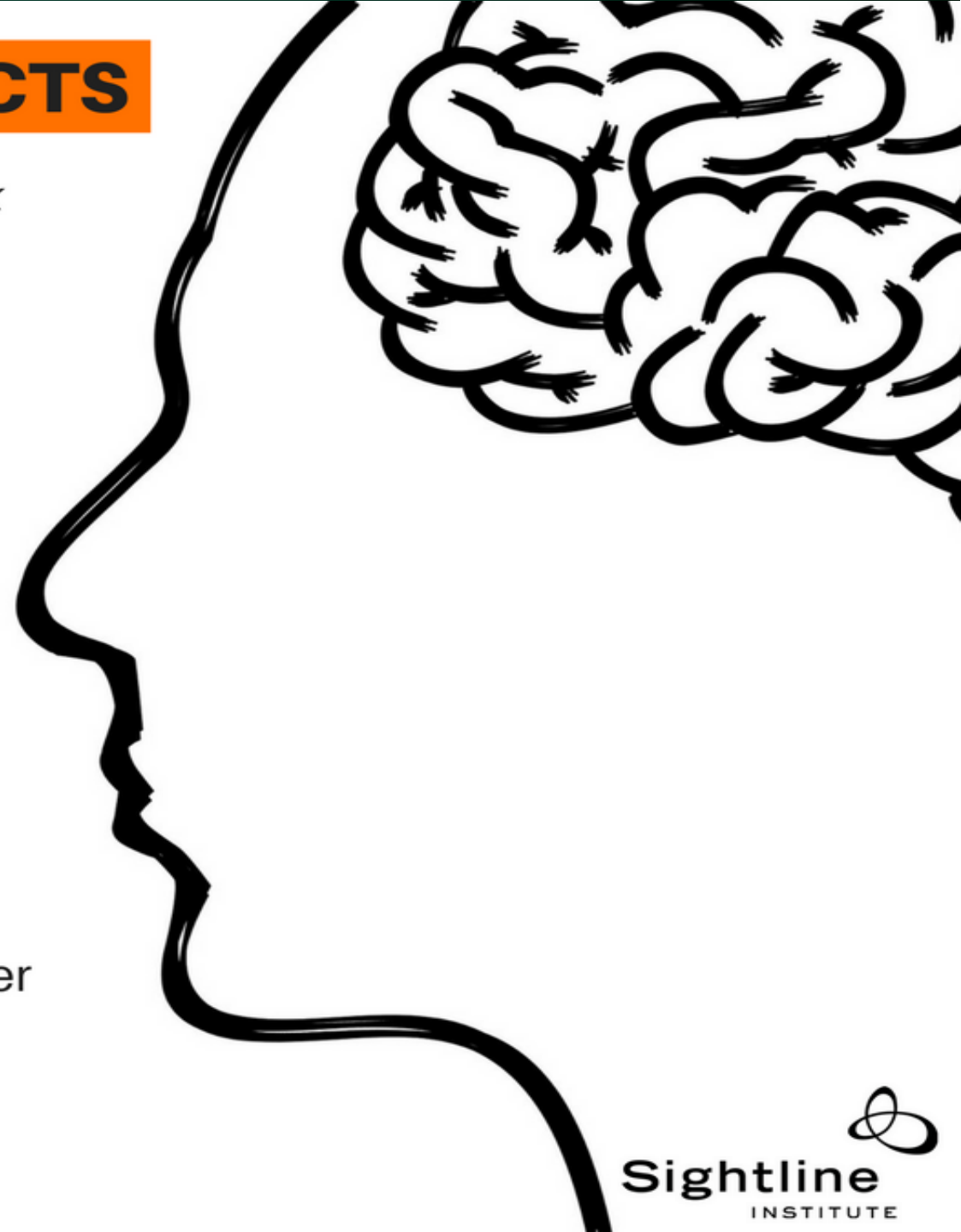
## ANCHOR HEURISTIC

Conclusions based on one vivid example overpower logical narratives.



## AFFECT HEURISTIC

Feelings trump facts.



## "Thinking about Thinking"

Higher Reasoning

Executive Function

## Prefrontal Cortex

9 Functions of the Prefrontal Cortex

1. Empathy
2. Insight
3. Response Flexibility
4. Emotion Regulation
5. Body Regulation
6. Morality
7. Intuition
8. Attuned Communication
9. Fear Modulation



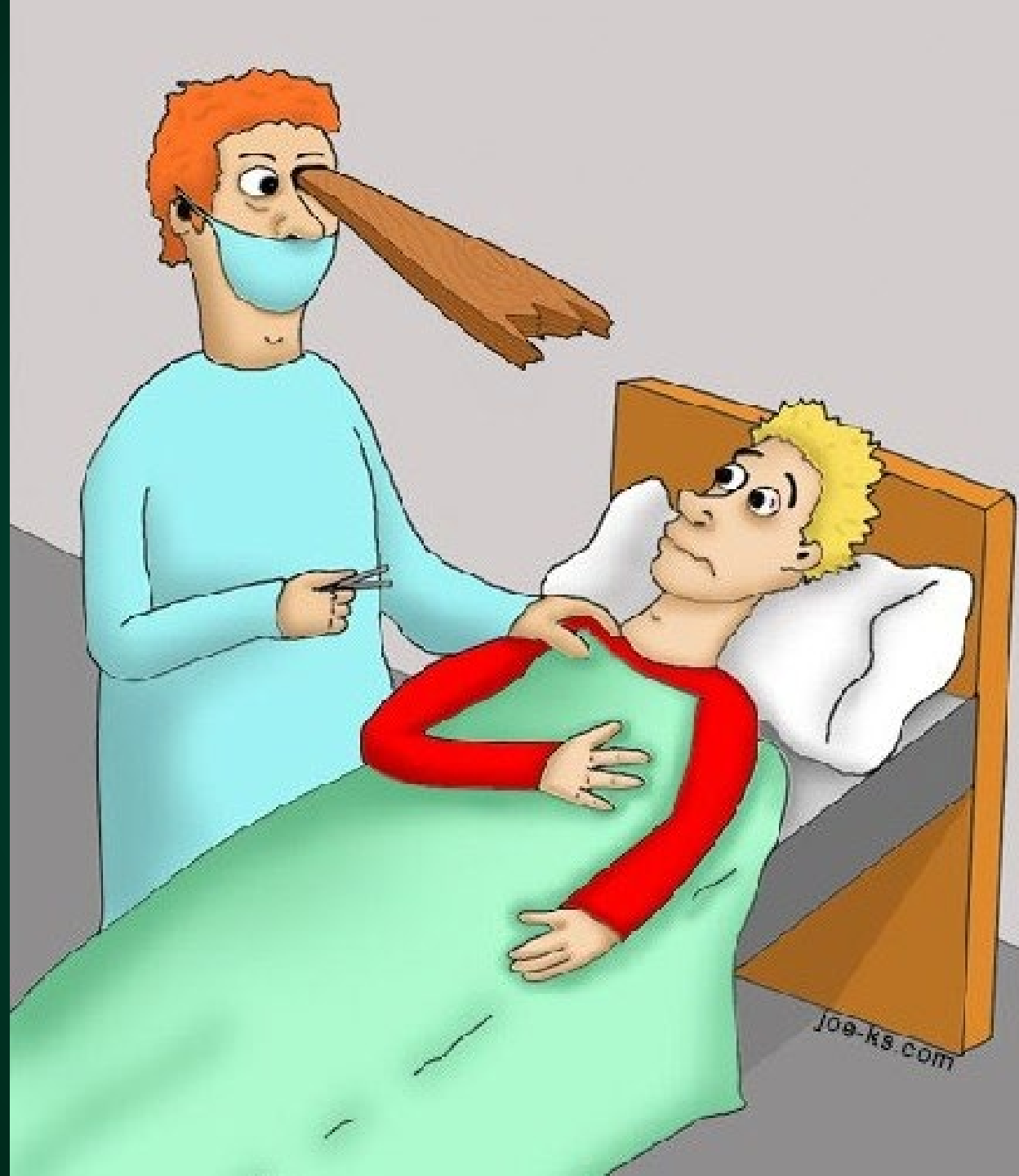
## Limbic Brain

1. Fight, flight, freeze stress response
2. Thinks, "Am I safe? Do people want me?"
3. Emotions live here

# Are Smart People Ruining Democracy?

## Dan Kahan / TEDxVienna







# Among primary care providers in the US:

10% don't agree  
vaccines are *safe*

9% don't agree  
vaccines are *effective*

8% don't agree  
vaccines are *important*



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believer in everyone  
st when self-taught.

WikiScholar  
A book? I can find all the info I need  
online for free, thank you very much.

# THE DEATH OF EXPERTISE

AGeniusIRL  
Is that really how you spell expertise?

AnAmPatri  
According to my u  
little reason to ass

The Campaign Against  
Established Knowledge  
and Why it Matters

DrMom\_312  
This title just sounds like yet  
another elitist appeal to authority.

## TOM NICHOLS

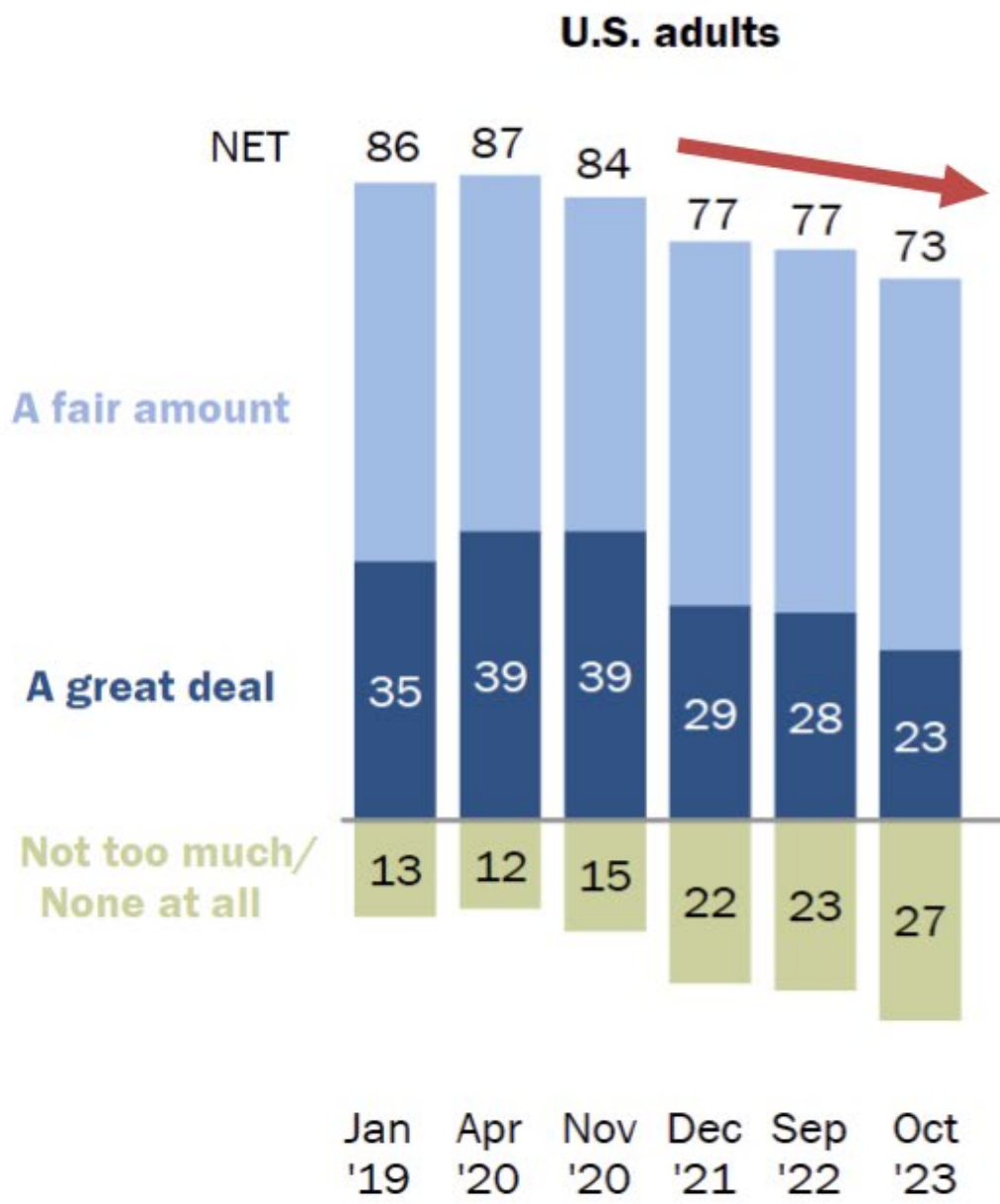
Luv2Read  
And why do we care what this  
so called "expert" has to say???

WebSurfBum  
ck out this great cat video from



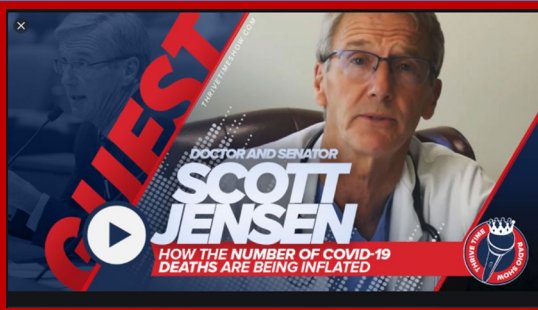
# Declining levels of public trust in scientists

*% of U.S. adults who have \_\_\_ of confidence in **scientists** to act in the best interests of the public*



"It's going to disappear."

News conference, Feb. 27



**Alex Berenson says worldwide COVID outbreak has so far only been 'slightly worse than a bad flu year'**

'Hospitals are not overflowing. Bodies are not piling up in the streets'



**Donald J. Trump** @realDonaldTrump

HYDROXYCHLOROQUINE & AZITHROMYCIN, taken together, have a real chance to be one of the biggest game changers in the history of medicine. The FDA has moved mountains - Thank You! Hopefully they will BOTH (H works better with A, International Journal of Antimicrobial Agents).....

10:13 AM · Mar 21, 2020 · Twitter for iPhone



*The Atlantic* Jun 28, 2020 - Health

**Pelosi: A national mask mandate is "long overdue"**

**The Liberals Who Can't Lockdown**

Progressive communities have been home to over COVID-19 policies, and some liberal scientific evidence behind.

By Emma Green

**MAGAZINE** CORONAVIRUS

**Suddenly, Public Health Officials Say Social Justice Matters More Than Social Distance**

For months, health experts told Americans to stay home. Now, many are encouraging the public to join mass protests.



**CNN health** Food Fitness Wellness Parenting Vital Signs

**Over 1,000 health professionals sign a letter saying, Don't shut down protests using coronavirus concerns as an excuse**

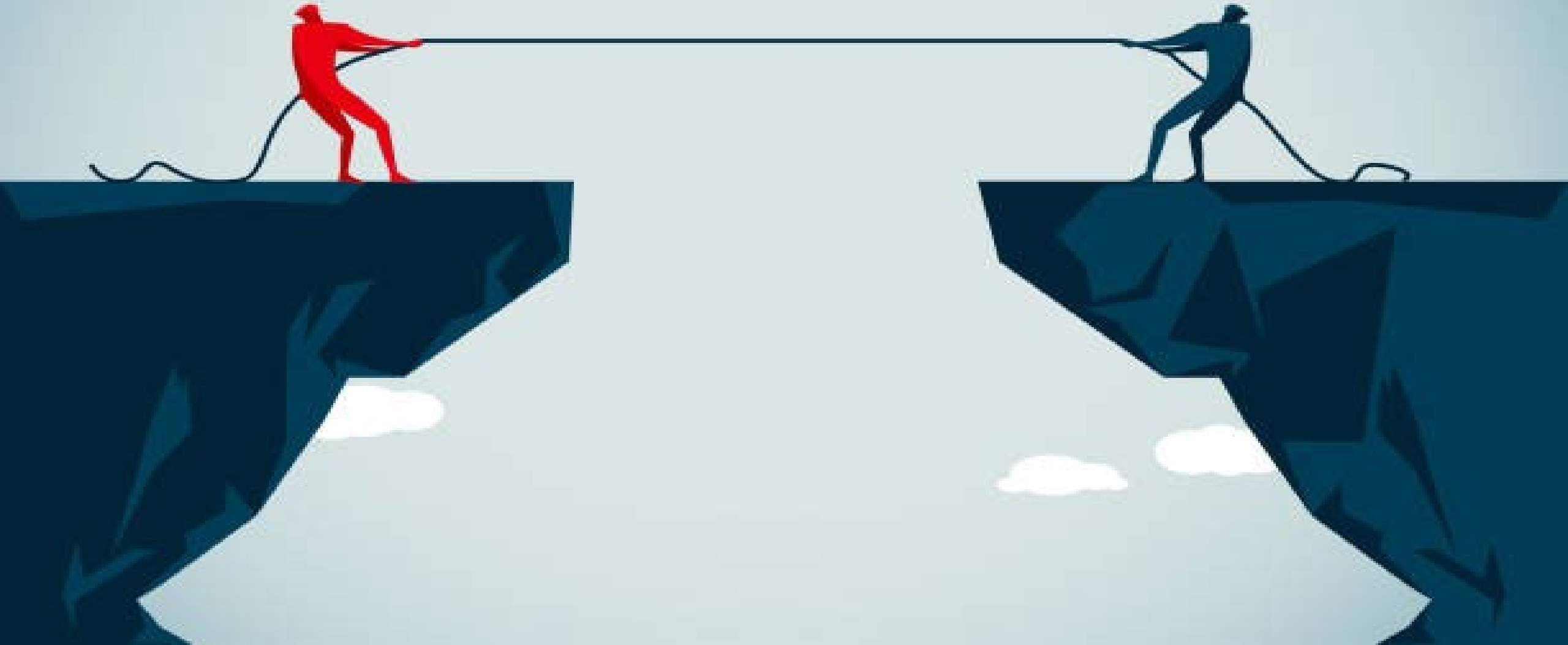
By Mallory Simon, CNN

Updated 9:08 AM ET, Fri June 5, 2020

# Competing Goods

**Personal Liberty**  
**Autonomy**  
**“Health Freedom”**

**Common Good**  
**Solidarity**  
**Public Health**



# Misinformation and Disinformation

- **Misinformation** is false information shared by people who do not intend to mislead others.
- Usually shared by people who *don't know or cannot recognize* that the claims are misleading or false
- And often because they want to help others
  - trying to address concerns
  - rationalize conflicting evidence
  - seeking answers to honest questions
- **Disinformation** is spread intentionally to serve a malicious purpose, such as to trick people into believing something for financial gain or political advantage.



# **PANDEMIC PROFITEERS**

## **The business of anti-vaxx**

**Organisations associated with leading anti-vaxxers have estimated annual revenues of at least \$36 million**

**Anti-vaxxers examined by this report are responsible for up to 70 percent of anti-vaccine content on Facebook**

**Followers of anti-vaxxers are worth up to \$1.1 billion to Big Tech**

<https://counterhate.com/wp-content/uploads/2022/05/210601-Pandemic-Profiteers-Report.pdf>



WORLD & NATION



## How a Kennedy built an anti-vaccine juggernaut amid COVID-19



Robert F. Kennedy Jr. arrives for a hearing about whether stricter vaccine requirements were constitutional at the Albany County Courthouse in August 2019 in Albany, N.Y. Kennedy has been a key part of the anti-vaccine movement for years. (Hans Pennink / Associated Press)

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# CONSPIRACY THEORIES

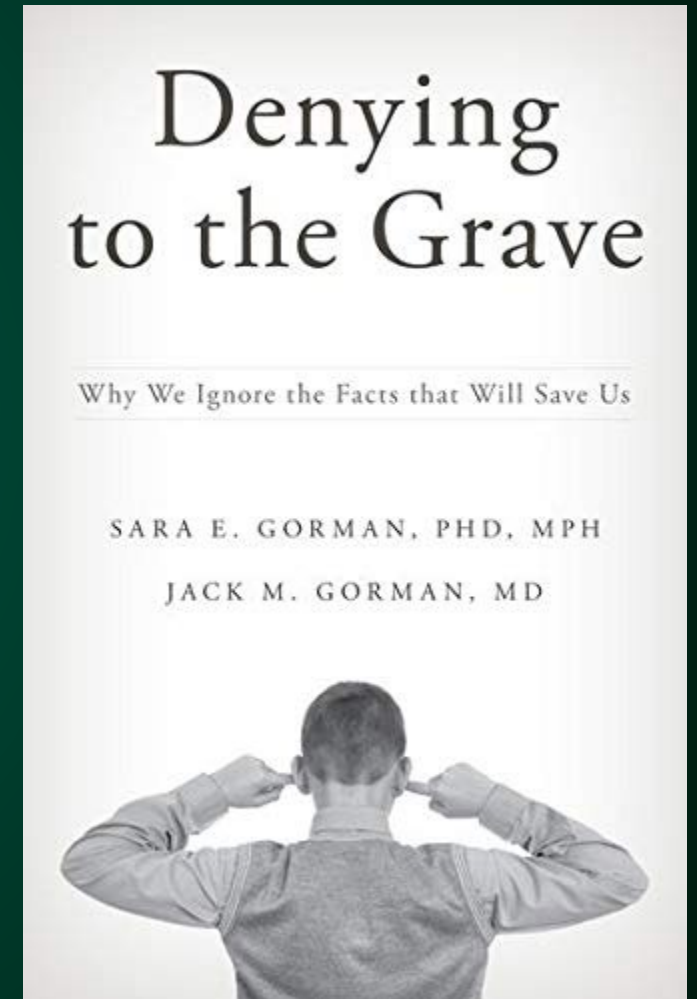


*“Conspiracy theories are attractive. They create order out of chaos.”*

Paul Offit, MD

# Right Conditions for Misinformation and Conspiracy Theories

- Knowledge gaps and uncertainty
- Feelings of powerlessness
  - (I'm now in a group with special knowledge)
- Politicized and polarized issues
- Charismatic leaders with an answer



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# Lessons Learned and Path Forward



- “Never let a good crisis go to waste” – Winston Churchill
  - Breaking down longstanding silos
  - Better research and efforts on communication of science to the public
  - Teaching to recognize our cognitive biases; research on what works?
  - Serious examination of mathematical and scientific literacy
    - “Immunizing” the next generation against misinformation
  - Rebuilding trust in academia, public health, and health professions

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**COVID Pandemic**



**Health Care**



**Public Health**

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≡ **The Oxford Handbook of**  
**THE SCIENCE *of***  
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Stony Brook University

| Alan Alda Center for Communicating Science



ABOUT

PROFESSIONAL DEVELOPMENT

ACADEMIC PROGRAMS

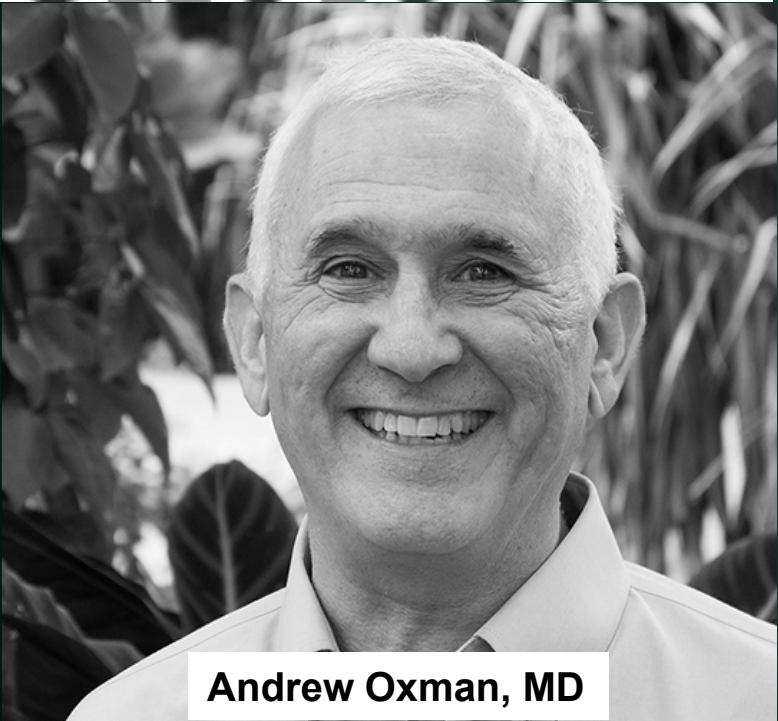
GIVING

THE LINK



**Communicating Science Effectively to Share its Wonder**

# Informed Health Choices



Andrew Oxman, MD



LEARNING TO THINK CRITICALLY  
ABOUT HEALTH CHOICES

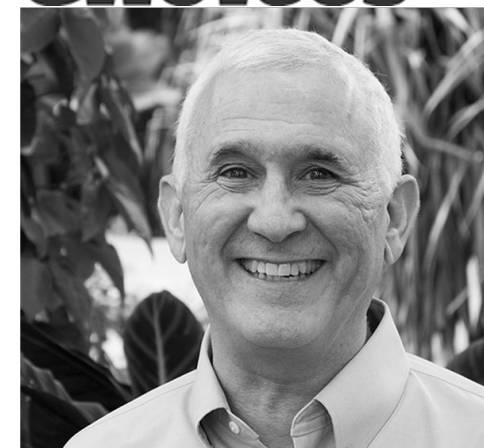


**Teresa Shume, PhD**  
*Associate Professor*  
E M Lebedeff 155H  
Phone: (701) 231-8748  
Email: [✉ Teresa.Shume@ndsu.edu](mailto:Teresa.Shume@ndsu.edu)

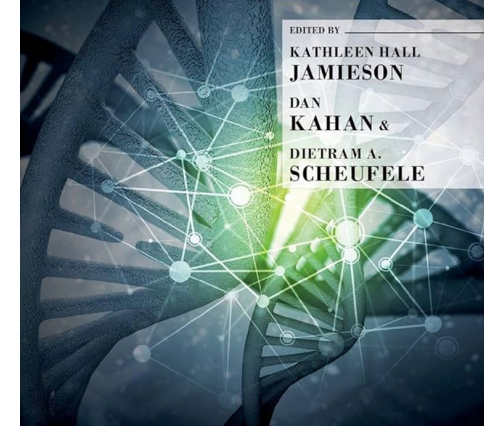


**Kimberly Booth, PhD**  
**Associate Professor of Practice**  
Department of Biological Sciences  
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Phone: (701) 231-7224 (Voice Mail Only)  
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# Informed Health Choices



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The Oxford Handbook of  
THE SCIENCE of  
SCIENCE  
COMMUNICATION

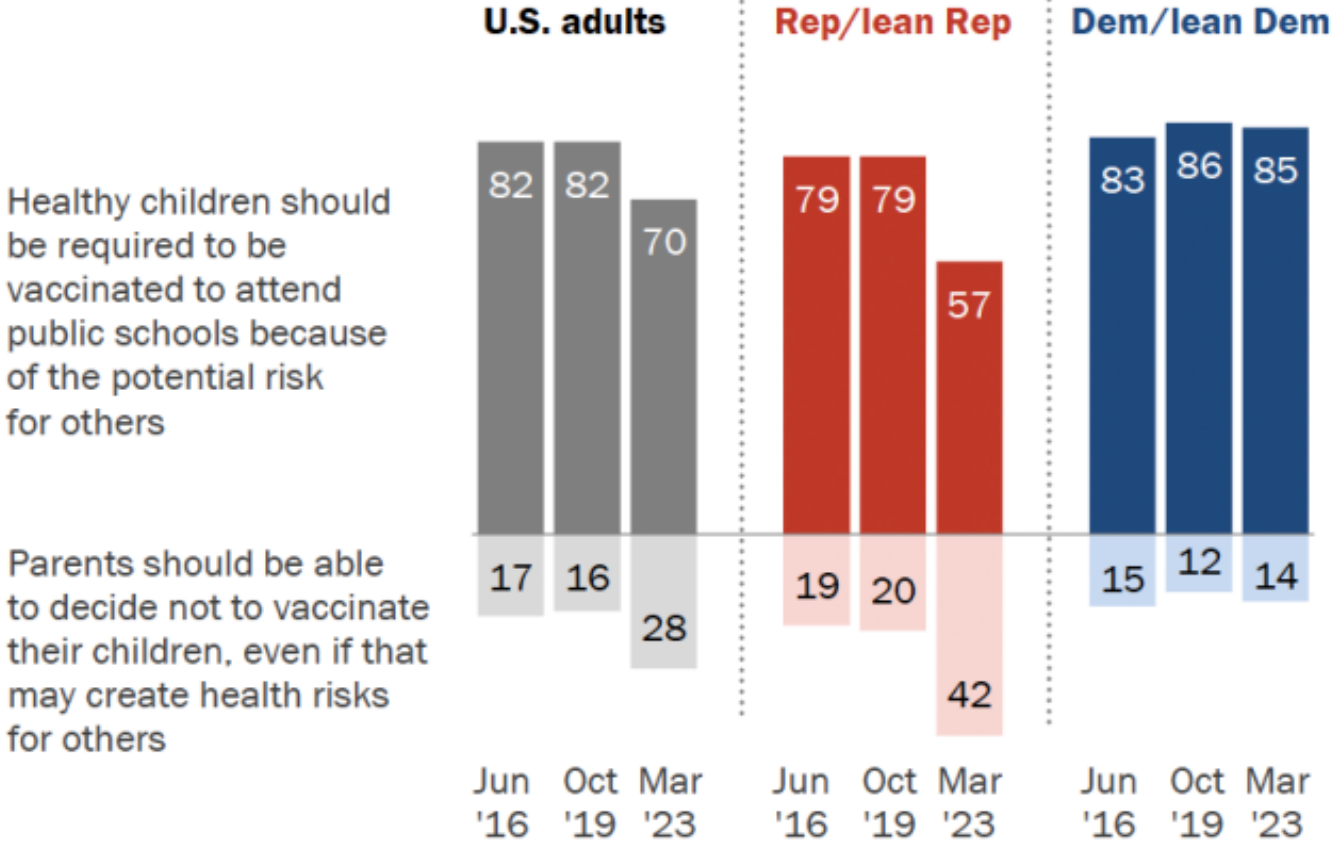
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    - “Immunizing” the next generation against misinformation
  - **Rebuilding trust in academia, public health, and health professions**

# Decline in share of Republicans who support vaccine requirement for children to attend public schools

% of U.S. adults who say the following about childhood vaccines for measles, mumps and rubella (MMR)



Prior to pandemic, republicans and democrats were nearly equal in their support of school vaccine requirements. Post pandemic, there is a major decrease in support along partisan lines. Regaining trust should be a major priority.

Note: Respondents who did not give an answer are not shown.  
 Source: Survey conducted March 13-19, 2023.  
 "Americans' Largely Positive Views of Childhood Vaccines Hold Steady"

# 8 Things U.S. Pandemic Communicators Get Wrong



**Peter Sandman, PhD**

*“When trust is low, the first thing to look at is your own behavior.”*

1. Overconfidence and failure to proclaim uncertainty
2. Failure to do anticipatory guidance
3. False consensus
4. Prioritizing health over all other goods
5. Prioritizing health over truth
6. Failure to own our mistakes
7. Failure to address misinformation credibly and empathetically
8. Politicization



# A pandemic mea culpa from Francis Collins

A key figure in the government's COVID-19 response admits that he was willfully blind.

By [Jeff Jacoby](#) Globe Columnist, Updated January 21, 2024, 3:00 a.m.

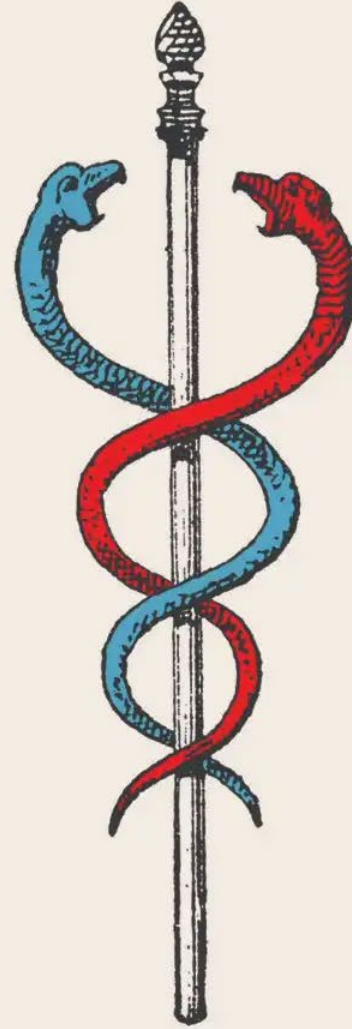


Dr. Francis Collins, then the director of the National Institutes of Health, at a 2021 ceremony where Vice President Kamala Harris got a dose of the COVID-19



WILLIAM

SANDRO  
GALEA



A LIBERAL  
PUBLIC HEALTH

REASON

# Rebutting (Mis)information

## 1. Demonstrable falsehoods

- a. Aborted fetal cells/tissue in the vaccines
  - b. Vaccines cause infertility
- 

## 2. Opinions I may not agree with, or unsettled science

- a. Virus came from a Wuhan laboratory
- b. Masks on schoolchildren cause more harm than good
- c. Ivermectin is an effective treatment for COVID-19
- d. “Focused protection” and herd immunity was a better path (Great Barrington)

## 3. Factoids that are true but misleading

- a. Vaccines were approved without trial data showing mortality benefit
- b. “X”% of reported deaths are “with” COVID, not “from” COVID

# 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.

[READ THE DECLARATION](#)

[SIGN THE DECLARATION](#)

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## THE JOHN SNOW MEMORANDUM

[SIGNATORIES](#)

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**MORE THAN 6,900 scientists, researchers & healthcare professionals** have now signed the John Snow Memorandum.

We vet every signature, so it may take 72 hours for your name to appear.

Thanks for your support, and please continue to share with your colleagues.





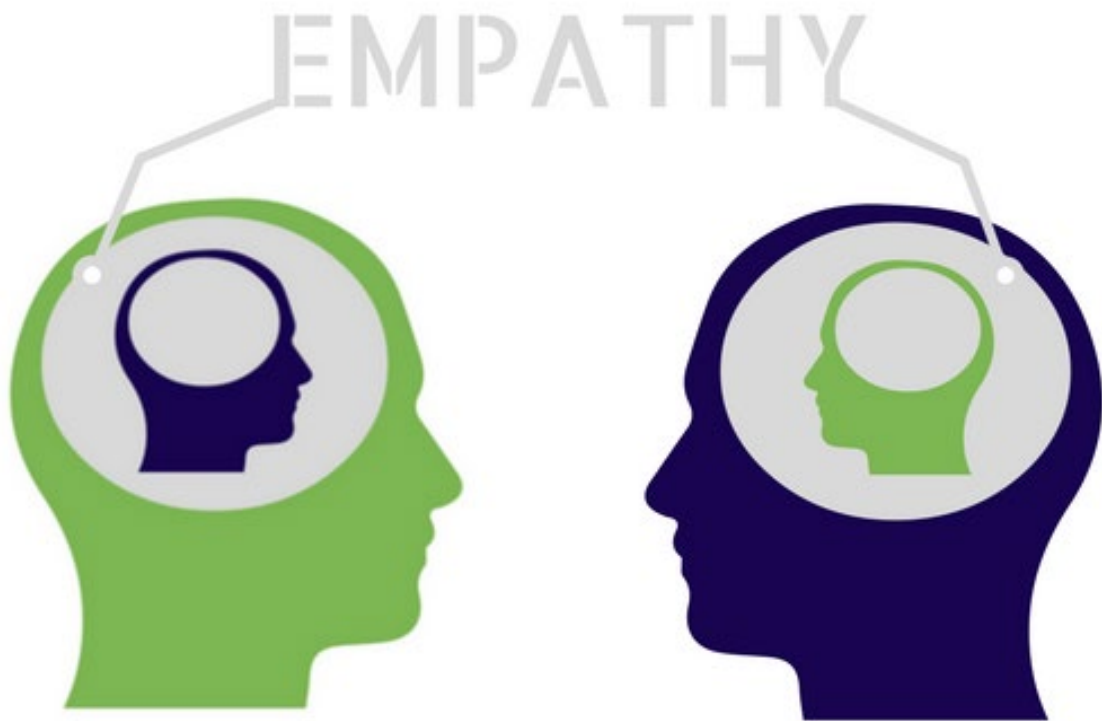
**Kelley Krohnert**  
**“Check Your Work”**

- **Everything sounds like a sales pitch**
- **Data seems crafted to feed the pitch rather than the pitch crafted by data.**
- **Data mistakes**
- **Messaging inaccuracies**
- **Mixing advocacy with scientific communication.**
- **Information that would have been helpful was never provided**
- **I also expected more investigation into children and young people who experienced severe Covid-19.**
- **Everything is misinformation, so nothing is misinformation**
- **A disconnect between what I experienced on the ground and the narrative I was hearing**



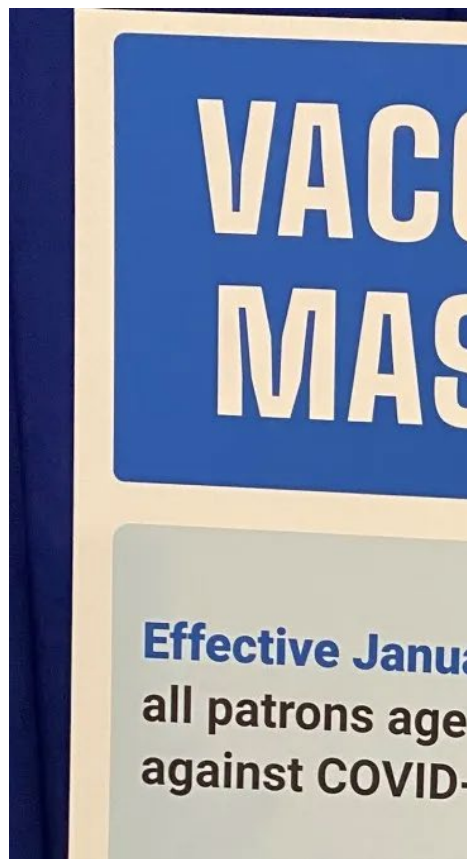
**Katelyn Jetelina, PhD**  
**“Your Local Epidemiologist”**

# Public Health Virtues?





**Strive to be Non-Partisan**





2016

I NEED A  
ROCK THIS  
SIZE...



PUBLIC  
POLICY

UNINTENDED  
CONSEQUENCES

# Reactance Theory



Reactan

ehm (



MY  
BODY  
MY  
CHOICE

HONK 4  
NO  
MANDATE

OPPOSE  
VACCINE  
MANDATES  
OR THEY WILL  
NEVER END!

YOUR MASK  
IS AS  
USELESS  
AS JOE BIDEN

YOUR VACCINATION  
STATUS WON'T  
CHANGE HOW MUCH  
YOU

NO VAX MANDATES  
FOR CITY EMPLOYEES!  
*It's everyone's choice what to put  
or not put in our body!!*





ENTERTAINMENT

# Folk singer Hana Horká dies of COVID after deliberately catching virus

By Ben Cost

January 19, 2022 | 9:49am | Updated



Facebook

Unvaccinated folk singer Hana Horká has died of COVID-19 after intentionally exposing herself to the virus

ENTERTAINMENT

# Folk singer Hana Horká dies of COVID after deliberately catching virus

By Ben Cost January 19, 2022 | 9:49am | Updated



## What caused Hana's death?

- Her own poor risk assessment?
- A policy that mandated her to make a feared choice (vaccination) or lose her livelihood?
- A policy that accepted natural infection as proof of immunity?

# The Problem of the “Contrarian Expert”



**CORONAVIRUS PANDEMIC**

**NEW DAY**

**CORONAVIRUS PANDEMIC**

**YALE EPIDEMIOLOGIST INSISTS, AGAINST EVIDENCE, HYDROXYCHLOROQUINE WORKS**

Dr. Harvey Risch | Professor of Epidemiology, Yale School of Public Health

**CORONAVIRUS PANDEMIC**

**GLOBALY**

TOTAL CASES  
**18,093,891**

DEATHS  
**689,625**

**IN THE UNITED STATES**

TOTAL CASES  
**4,667,957**

DEATHS  
**154,860**

SOURCE: JOHNS HOPKINS UNIVERSITY

**LIVE**

**CNN**

4:59 AM PT

RIGHT NOW CHICAGO 65° DETROIT 67° HOUSTON 74°

ULDN'T REQUIRE SENATE CONFIRMATION, SOURCE SAYS ► HOUSE ARMEI NEW DAY

WEBINAR WITH PROFESSOR

## PAUL MARIK, MD

**The Prevention & Early Treatment of COVID-19**

THURSDAY DEC 17 2020 - 11 AM EDT


**The importance of prophylaxis for C19**

**The importance of outpatient treatment**

**The I-Mask+ Protocol:**

- 1) Prophylaxis Protocol
- 2) Early Outpatient Protocol
- 3) Behavioral Prophylaxis

**Questions and Answers**



**AMERICA'S FRONTLINE DOCTORS**

RESTORING PEACE & PROTECTING FROM HARM



SENATE COMMITTEE ON HEALTH & HUMAN SERVICES



**FREEDOM ALIVE!**

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**EPIISODE 4**

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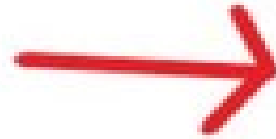
**DR. EXPOSES COVID TRUTHS**



OUTLIERS

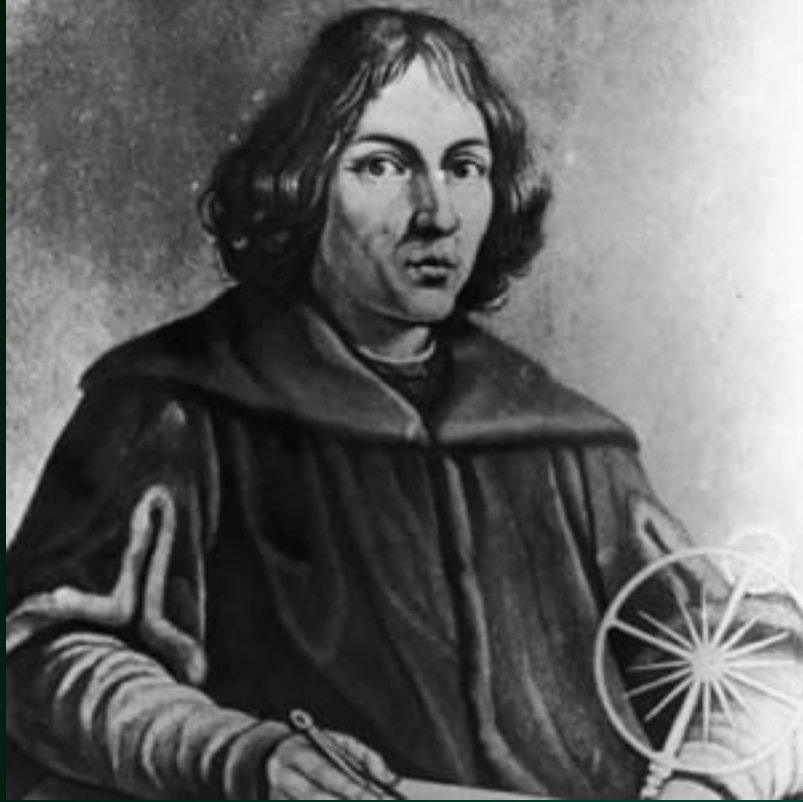


*OUTLIERS*  
**With Credentials**

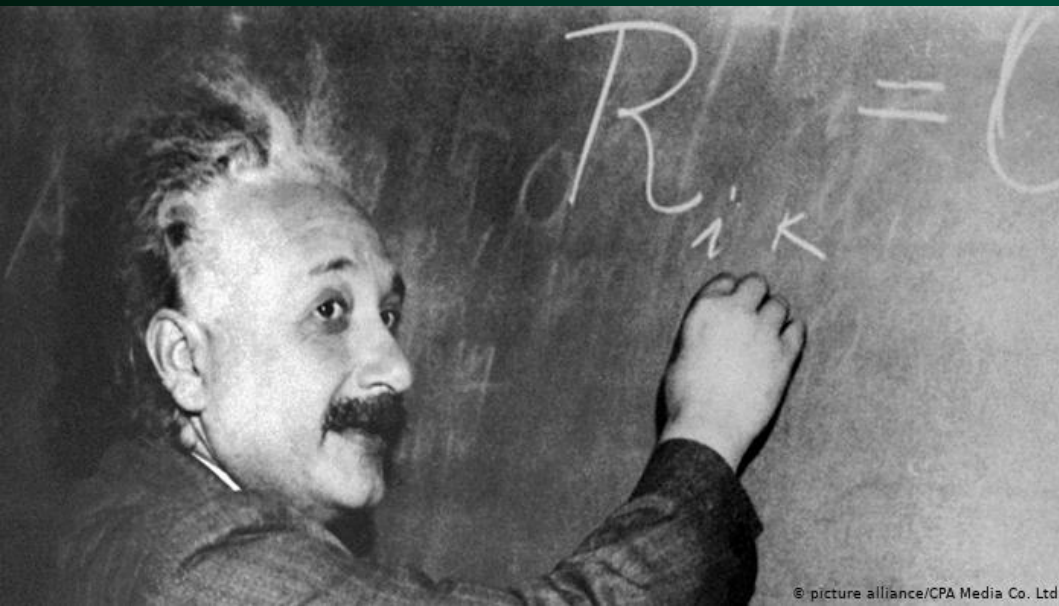
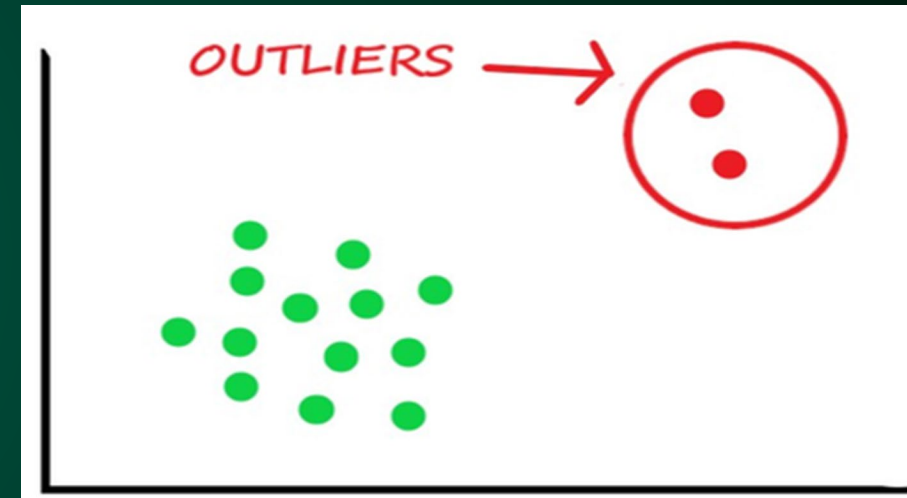


1. **Brilliant?**
2. **Critical blindness?**
3. **Charlatans/opportunists?**





# Copernicus and Heliocentrism



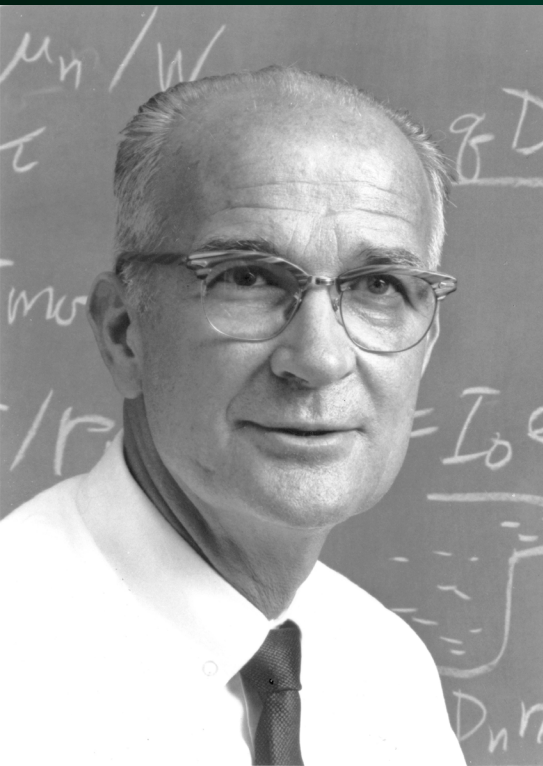
# Einstein and Relativity



Alexis Carrell - Nobel prize in medicine for innovations that modernized vascular surgery



Kary Mullis – Nobel prize in chemistry for his development of PCR technology



William Shockley - Nobel prize for his invention of the transistor. Paved way for building of the modern computer



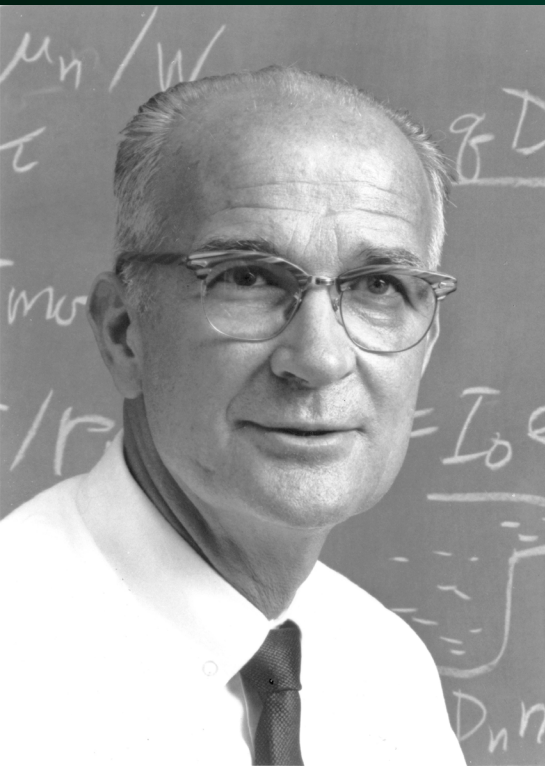
Linus Pauling– Won 2 Nobel prizes. One in chemistry for sickle cell dz and a Nobel peace prize



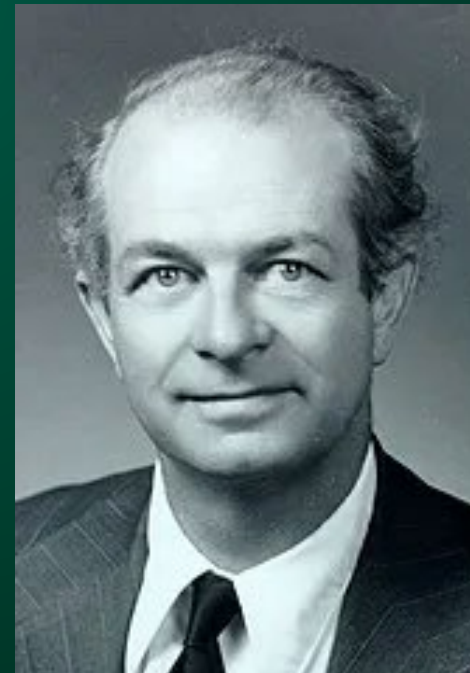
Alexis Carrell -  
Later espoused fervent  
belief in mysticism,  
clairvoyance, and  
telepathy. Became a  
passionate eugenicist



Kary Mullis –  
Promoted astrology  
into mainstream  
education. Became  
an HIV denier




William Shockley -  
Proposed idea that low IQ  
people should be paid to  
be sterilized, emphasized  
African Americans.



Linus Pauling–  
Promoted Vit C to  
eradicate the  
common cold from  
the earth and extend  
life by 30 yrs. Also to  
treat AIDS, retinal  
detachments and  
snakebites

*“The pandemic narrative has crumbled. We’re at 18,000 deaths. And this is the vaccine should be just VAEERS, which pulled from the market, is underreported, about 1/3 of what we’re not solving the problem.”*

**Peter McCullough, MD, MPH**



**Now over 13  
RCTs and a  
meta-analysis  
showing no  
benefit of HCQ.  
Will you yield?**

**Tis but a  
flesh  
wound!**

SCIENCE

# 2 fringe doctors created the myth that ivermectin is a 'miracle cure' for COVID-19 — whipping up false hope that could have deadly consequences



# Weighting the Reliability of a Source, Who Should I Trust?

Do they have education or training > the general population?



Do they have specialized education or training on the topic?



Are they recognized by their peers as an expert on the topic?



# Weighting the Reliability of a Source, Who Should I Trust?

**Do they reflect the consensus of the scientific community, and if not, do they acknowledge their contrarian view and support it with EBS?**



**Does their presentation acknowledge nuance, and is not dogmatic or one-sided? Do they change their stance if/when new information is persuasive?**



**Are they debating their ideas in scientific forums and not political forums?**



**Do they have no COI, and if they do, are they well disclosed?**





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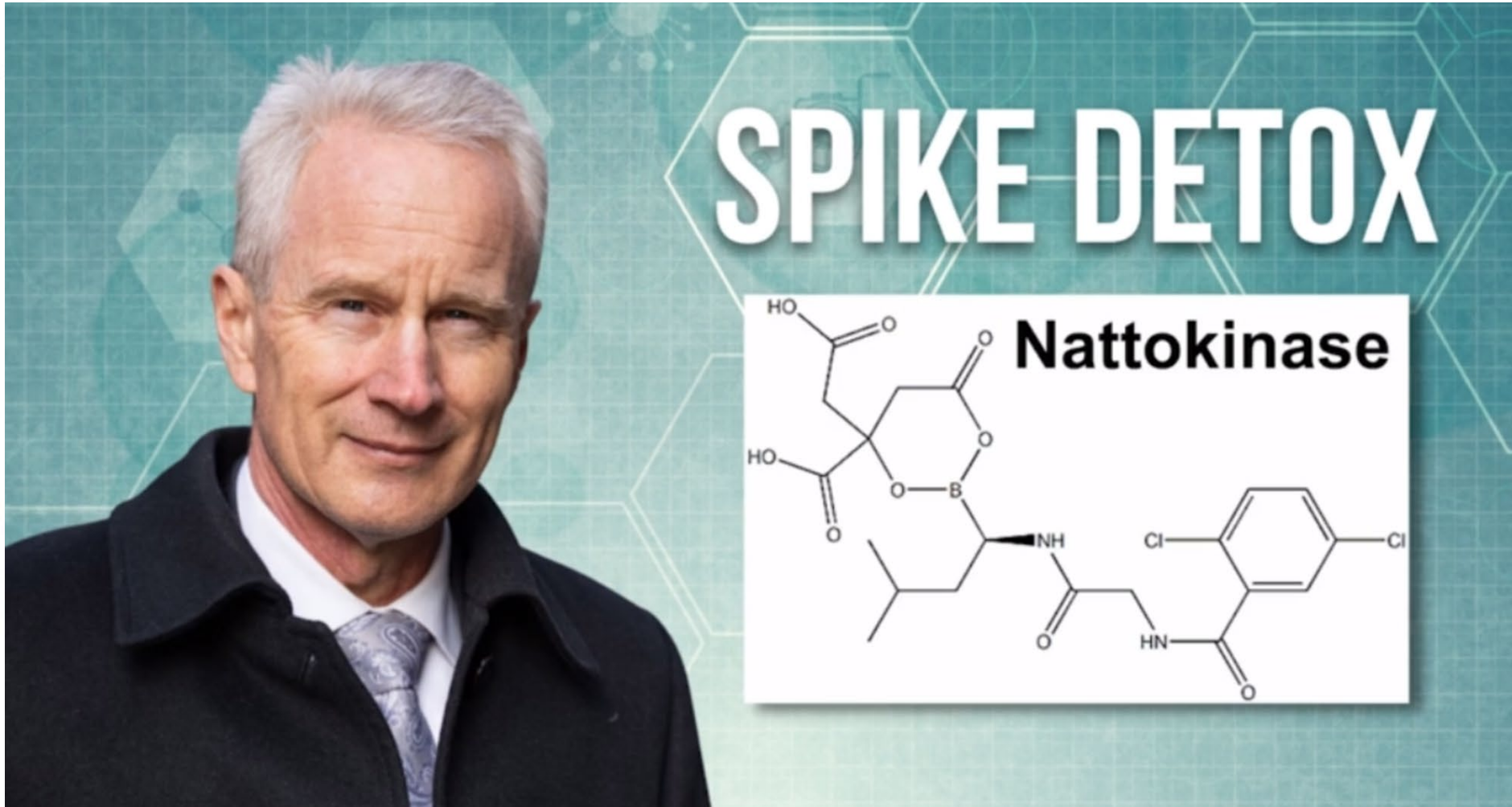


Do they have no COI, and if they do, are they well disclosed?



## Dr. Peter McCullough On “The Holy Grail Of COVID-19 Vaccine Detoxification”

April 04, 2023



# SPIKE DETOX

## Nattokinase

CC(C)CC(NC(=O)CCNC(=O)c1ccc(Cl)cc1)C1OC(=O)CC(O)C1=O



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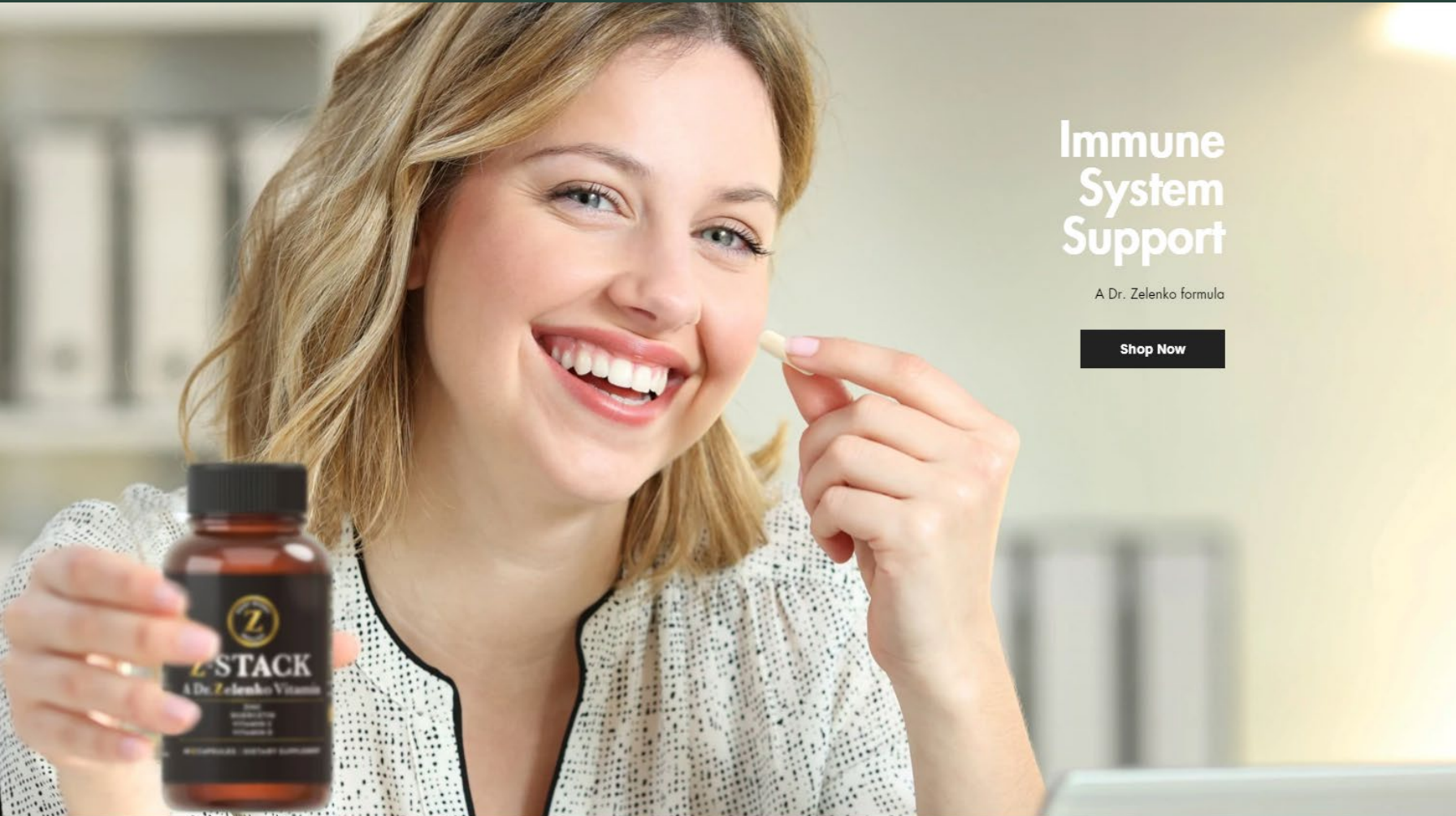
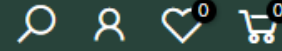
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About Vladimir Zelenko MD

Science

Contact Us



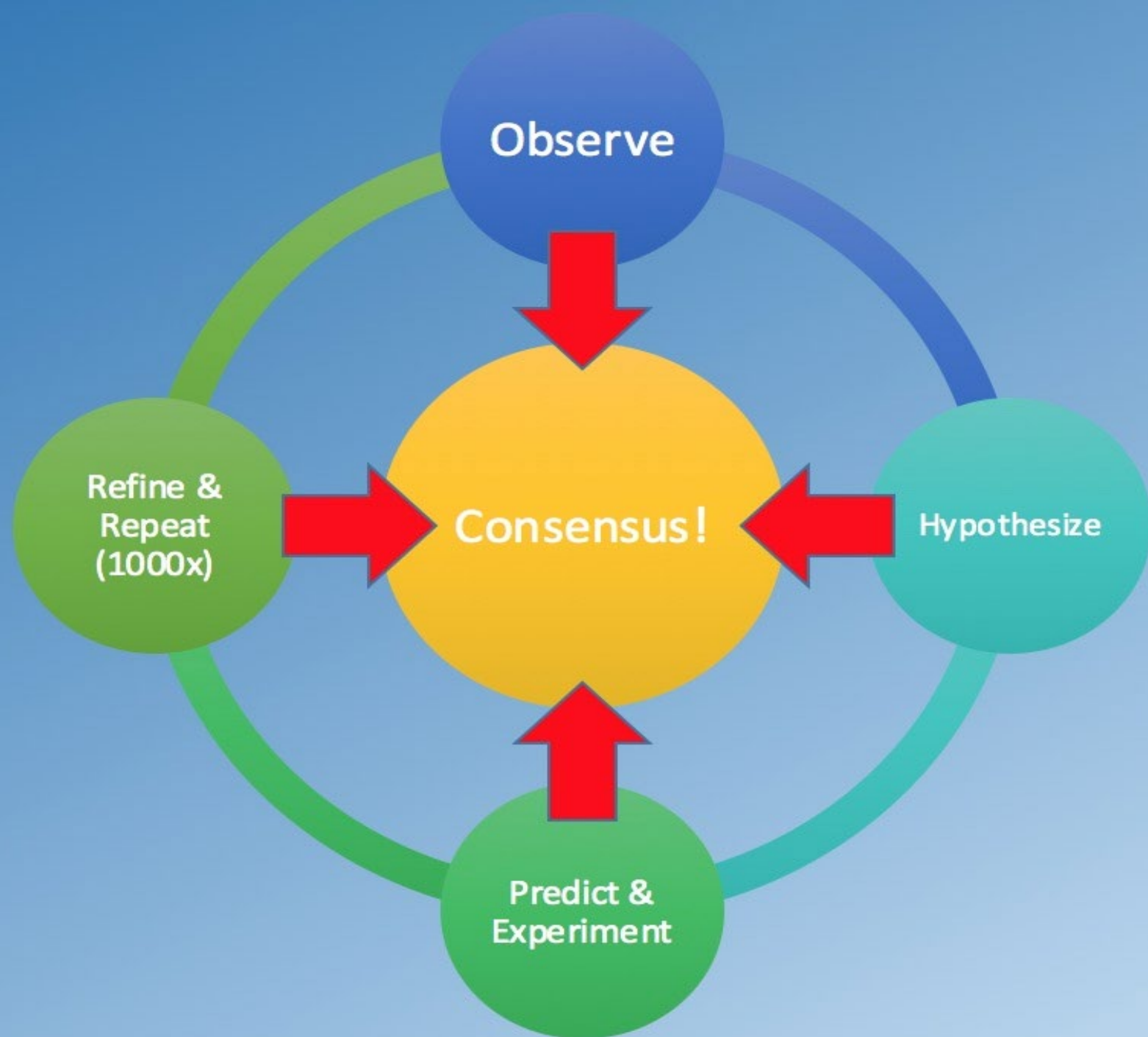
# Immune System Support

A Dr. Zelenko formula

Shop Now



Dr. Vladimir Zelenko



ANY  
QUESTIONS?



# Common Denominators Associated with Higher Rates of COVID Infections and Death



**Lower levels of  
education**



**Higher poverty**



**Less access to  
quality healthcare**



**Less trust in  
others**

Researchers found that states that...

1

Ordered more  
protections

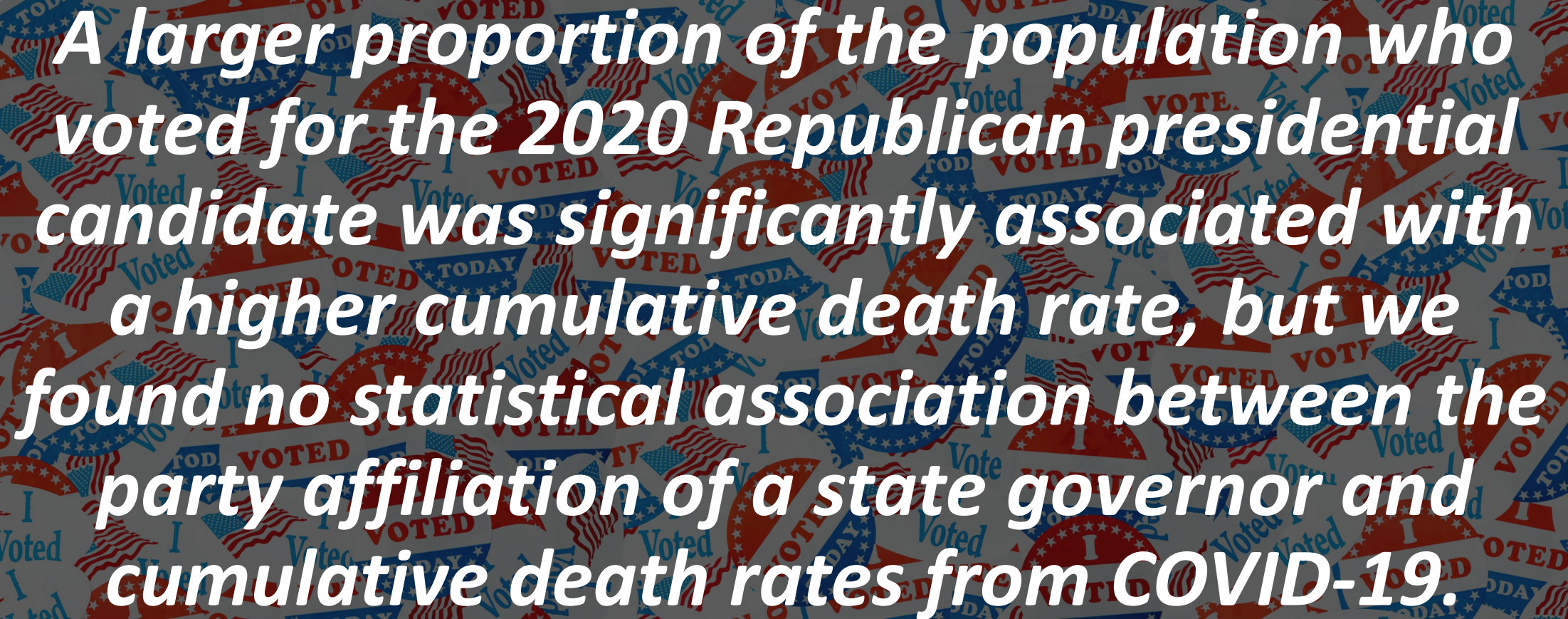
2

Maintained  
protections for  
longer

3

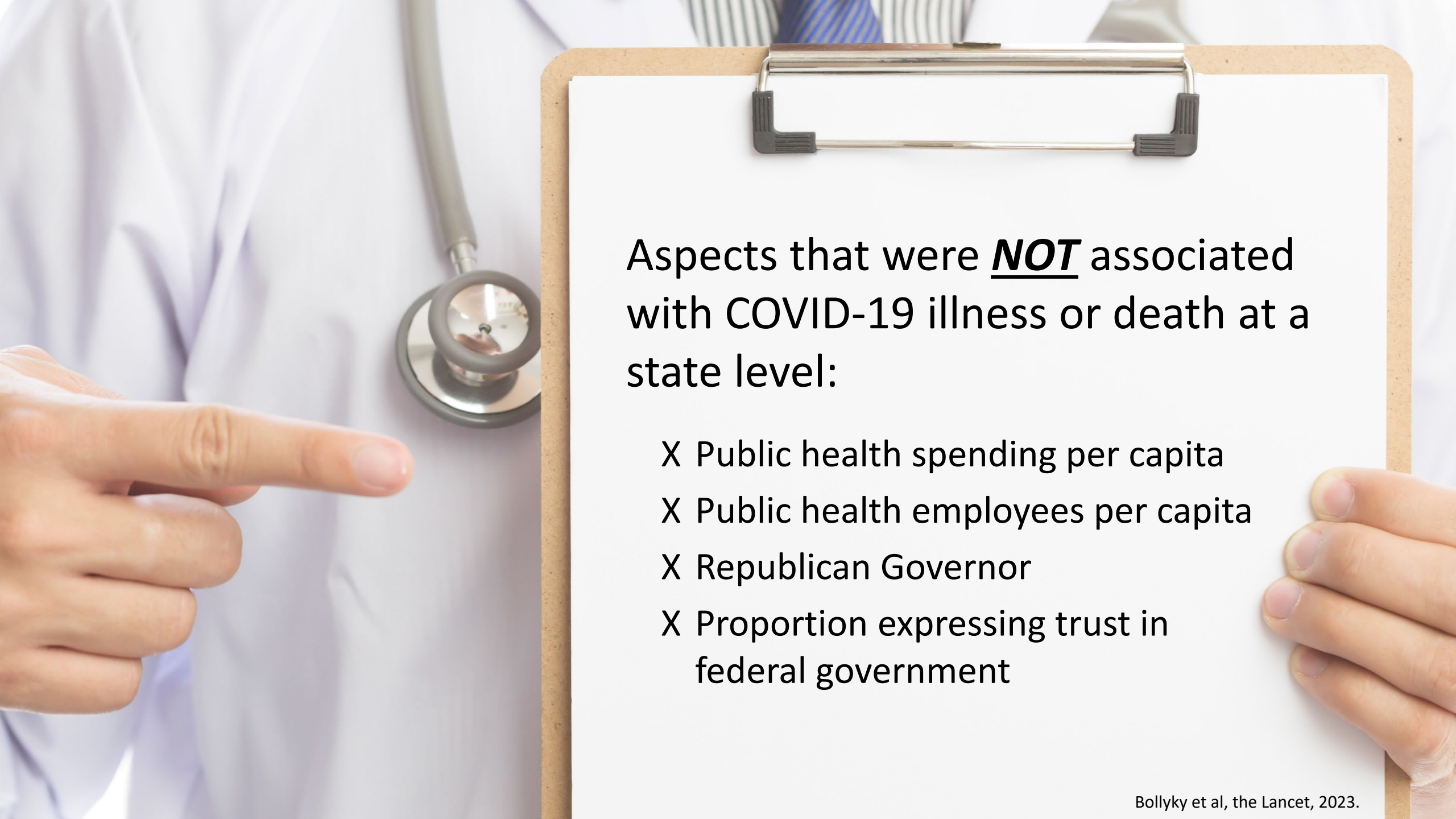
And had high  
vaccination  
rates

...had lower infections. However, only high vaccination rates were associated with lower death rates.



*A larger proportion of the population who voted for the 2020 Republican presidential candidate was significantly associated with a higher cumulative death rate, but we found no statistical association between the party affiliation of a state governor and cumulative death rates from COVID-19.*





Aspects that were **NOT** associated with COVID-19 illness or death at a state level:

- X Public health spending per capita
- X Public health employees per capita
- X Republican Governor
- X Proportion expressing trust in federal government

# Lessons Learned:

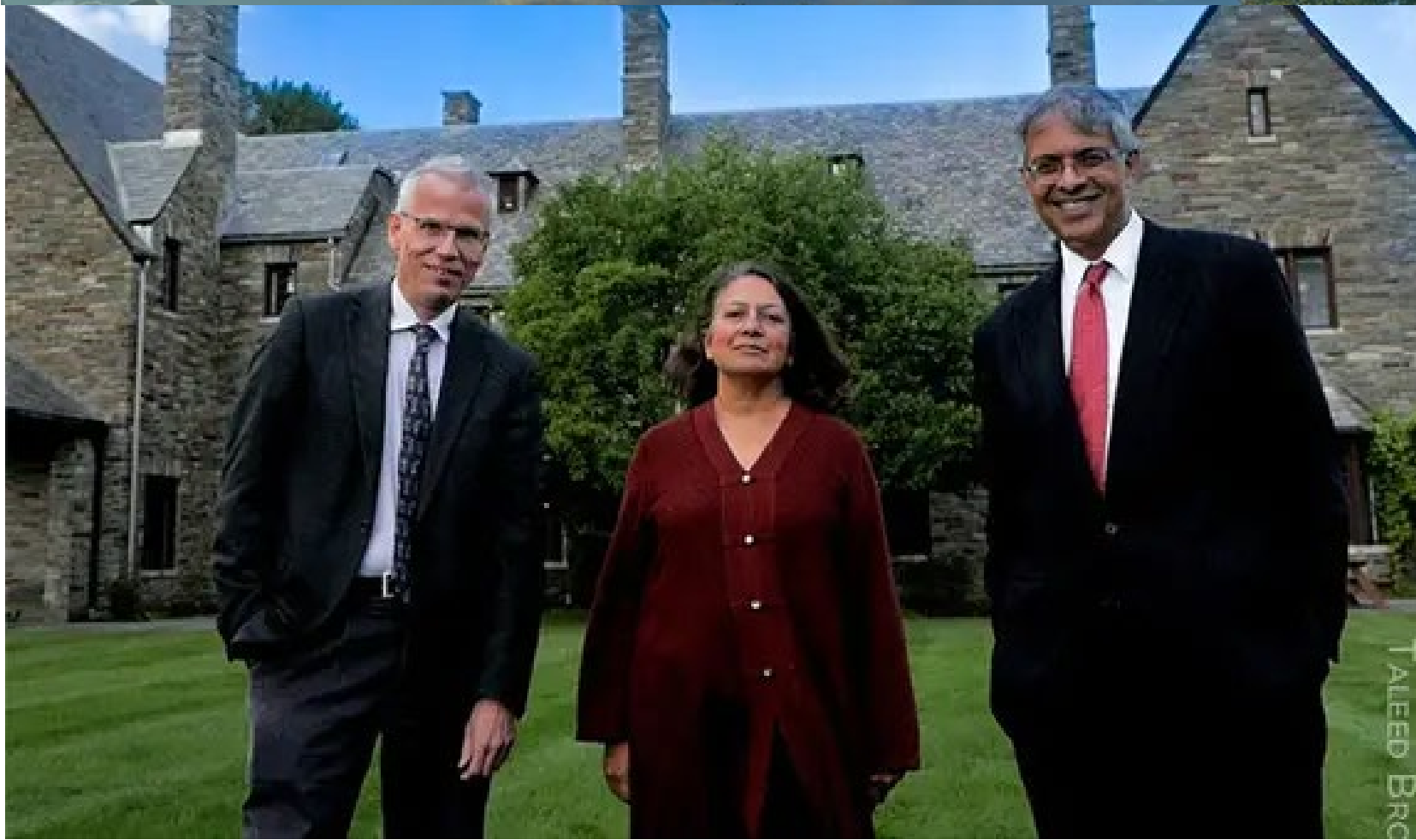
*How can this research help us navigate a future pandemic?*

- Confront structural inequalities
- Deploy science-based measures
- Mobilize the social solidarity that does exist in America
- Utilize clear, transparent, and timely communication - which can help to build public trust in a crisis
- Investing in community-based efforts to narrow disparities and build trust
- Underscore the need for policies such as paid family/sick leave and expanded Medicaid/insurance coverage
- Policy mandates and protective behaviors *can be effective* but may be associated with employment and educational trade-offs in some cases



# 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.



# Court rules Biden's vaccine mandate for large employers can take effect

**Decision reverses previous ruling but Republican officials say they will appeal measure to supreme court**



📷 A federal appeals court panel has allowed Joe Biden's vaccine mandate for larger private employers to move ahead. Photograph: Susan Walsh/AP

# Guests urged to be vaccinated at anti-vaxxer Robert F Kennedy Jr's party

The Guardian

**Kennedy said his wife, Cheryl Hines, was behind it and that he is 'not always the boss at my own house'**

- **[Kamala Harris says US did not see Omicron variant coming](#)**



📷 Cheryl Hines and Robert F Kennedy Jr in December 2019. Photograph: MJ