

2022 Michael & Susan Dell Center Lectureship in Child Health

Limiting Global Warming to 1.5 - 2°C: A Necessary and Unique Role for Health Professionals

KEYNOTE SPEAKER:

Edward Maibach, PhD, MPH

University Professor and Director,
Mason's Center for Climate Change Communication
George Mason University

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FOUNDATION

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**Limiting global warming to 1.5 - 2.0° C:
A necessary and unique role for health professionals.**

**Edward Maibach, MPH, PhD
@MaibachEd**



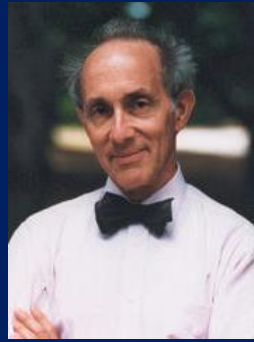
GEORGE MASON UNIVERSITY
CENTER *for* CLIMATE CHANGE
COMMUNICATION



Bernard Lown



James Muller



Eric Chivian



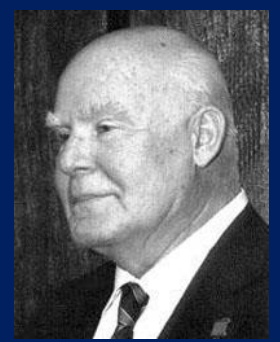
Herb Abrams



Evgeny Chazov



Mikahil Kuzin



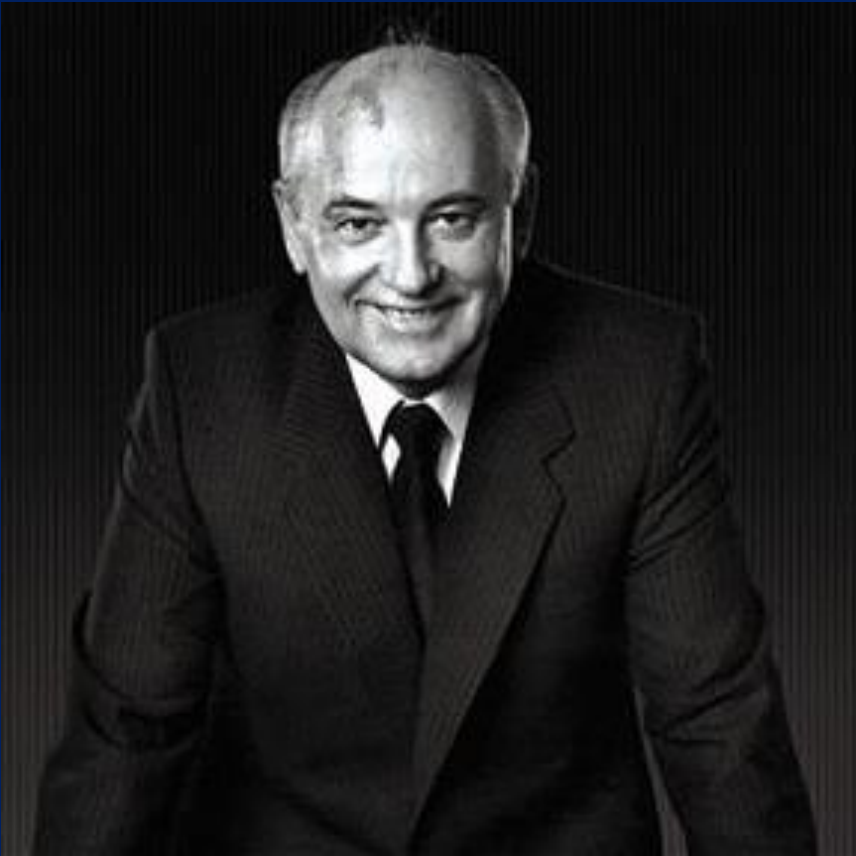
Leonid Illyin



In 1980, seven American and Soviet physicians established the *International Physicians for the Prevention of Nuclear War*.

Their message: A nuclear war would destroy civilization and might extinguish human life.

In 1985 IPPNW was awarded the Nobel Peace Prize for its central role in helping to open arms control discussions between the U.S. and the USSR.



"Their work commands great respect. For what they say and what they do is prompted by accurate knowledge and a passionate desire to warn humanity about the danger looming over it. In light of their arguments and the strictly scientific data they possess, there seems to be no room left for politicking. And no serious politician has the right to disregard their conclusions."

Mikhail Gorbachev (1987)

"I want to thank you [IPPNW] for your great contribution to preventing nuclear war. Without it and other effective antinuclear initiatives this [INF] Treaty would probably have been impossible."

Mikhail Gorbachev (1993)

**An evidence-based heuristic for
effective public education campaigns:**

**“Simple clear messages,
repeated often,
by a variety of trusted sources.”**



Paris Climate Agreement: 2015

The goal: Limit global warming to well below 2.0 °C, ideally 1.5.



Limiting global warming to 1.5 - 2.0° C

Why is this a necessary role for health professionals?

The most important public health goal of our era:

**Limiting the warming of the planet
to well below 2 degrees C
above pre-industrial levels,
ideally 1.5 degrees.**

Global mortality from tobacco use and fossil fuel air pollution (PM2.5)

TOBACCO

7,69 MILLION †
globally per year in 2019



Source: WHO 2021

FOSSIL FUELS

8,7 MILLION †
globally per year in 2018



Source: K. Vohra 2021

@ChristineArena

Human health harms from burning fossil fuels

Mortality:

FOSSIL FUELS
8,7 MILLION †
globally per year in 2018

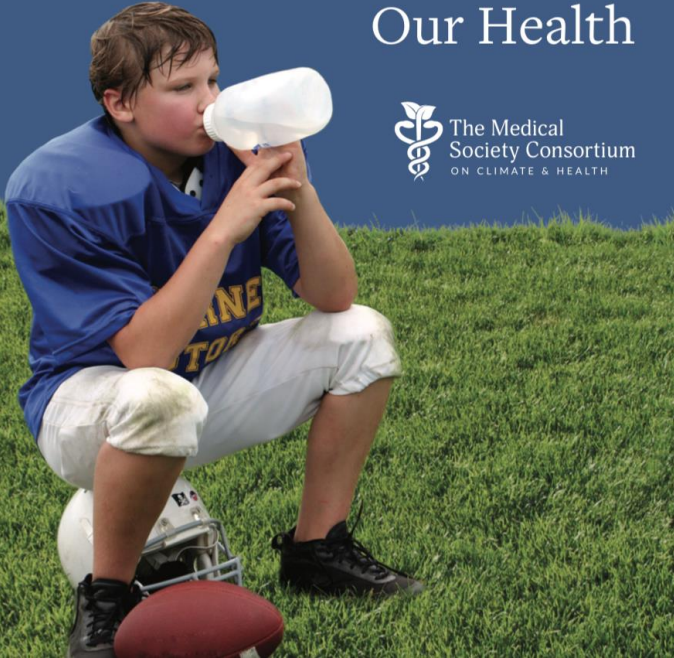


Morbidity:

- Respiratory diseases: asthma, emphysema, COPD, chronic bronchitis
- Cardiovascular diseases: impaired blood vessel function, stroke risk, reduced LDL, HBP (pregnant women)
- Cancer: breast, lung
- Pregnancy outcomes: Low birth weight
- Neuro-development: ADHD, reduced IQ, autism
- Neuro-degeneration: Alzheimer's and other dementias, Parkinson's disease

MEDICAL ALERT!

Climate Change Is Harming Our Health



Eight health-harming pathways of climate change:

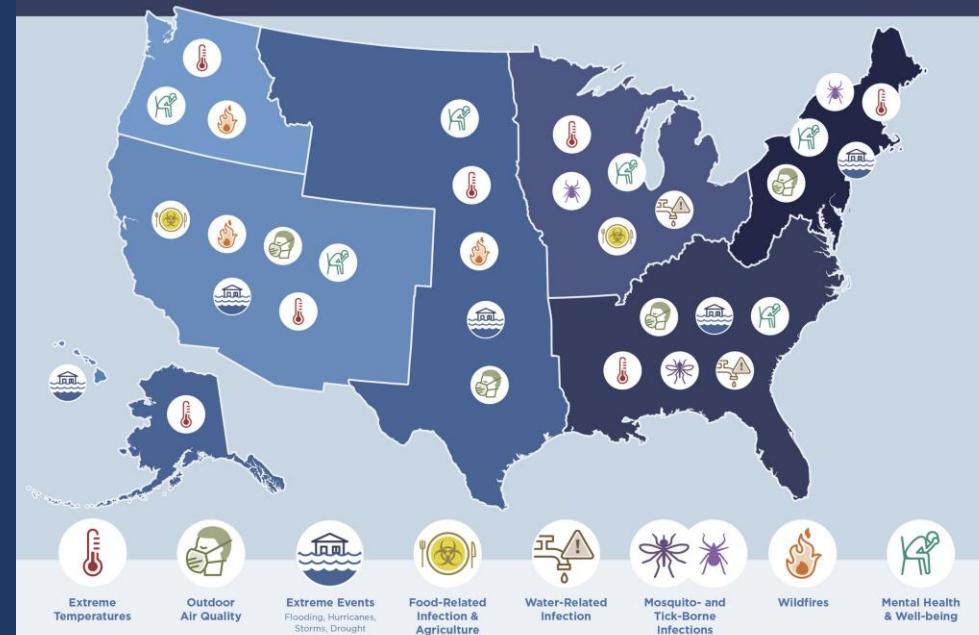
- Air pollution
- Extreme heat
- Extreme weather
- Vector-borne illness
- Water-borne illness
- Food-borne illness
- Hunger and malnutrition
- Mental health harms

Most likely to be harmed:

- Babies, children, pregnant women
- Seniors, people with certain chronic illnesses
- People in low-income & communities of color
- Outdoor workers

Source: Medical Society Consortium on Climate & Health 2017

How Our Health is Harmed by Climate Change: Impacts Differ by Geographic Region



This graphic illustrates key impacts of climate change on health and is based on reports from the U.S. Global Change Research Program. For more information, visit www.globalchange.gov.

Key message 1: Climate change affects the health of all Americans

Key message 2: Exposure and resilience vary across populations and communities

FOURTH NATIONAL CLIMATE ASSESSMENT (2018)

CHAPTER 14: HUMAN HEALTH

Key message 3: Adaptation reduces risk and improves health

Key message 4: Reducing greenhouse gas emissions results in health and economic benefits





IPCC Special Report on Global Warming of 1.5 °C (2018)

Key finding: A half degree of warming beyond 1.5 °C would mean substantially more poverty, extreme heat, sea level rise, habitat and coral reef loss, and drought. **Every tenth of a degree of warming has grave public health consequences.**

A Declaration on Climate Change and Health, 2019



Climate Change is a Health Emergency

01-12 NOV 2021

GLASGOW

COP26

IN PARTNERSHIP WITH ITALY



#HealthyClimate Prescription

An urgent call for climate action from the health community
ahead of COP26

#ClimatePrescription



Effort to Reframe Climate Change as a Health Crisis Gains Steam

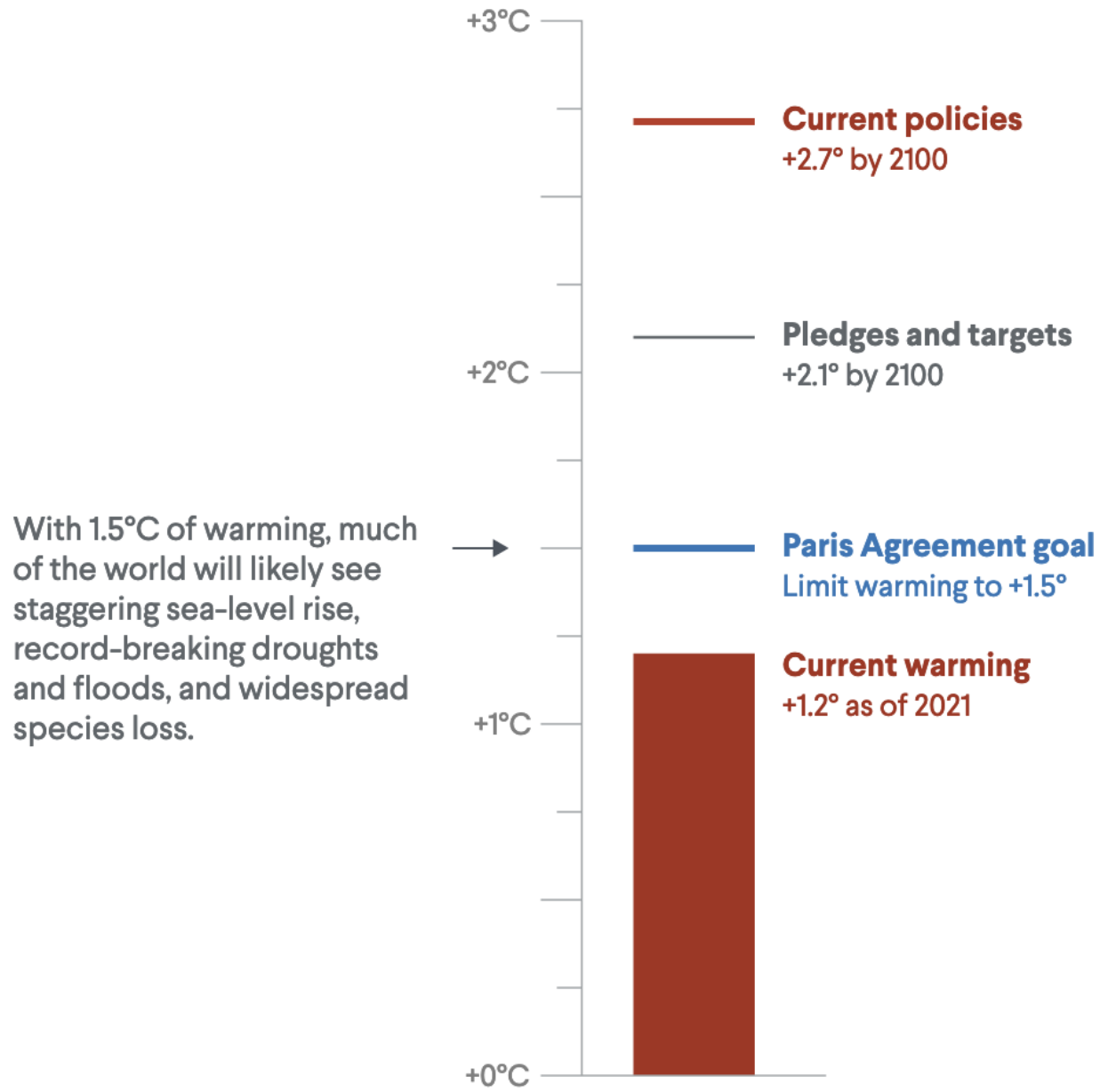
Research has increasingly shown that warming is taking a deadly toll on human health. At the global climate summit in Glasgow, the issue has gained new prominence.



Ambulances left the American Medical Response in Portland, Ore., in July during a record-breaking heatwave. Alisha Jucevic for The New York Times

Even With COP26 Pledges, World Not on Track to Meet Paris Agreement's Goal

Global temperature rise over preindustrial average



[REPORTS](#) ▶ [AR5 CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY](#) ▶ [PART A: GLOBAL AND SECTORAL ASPECTS](#) ▶ [GRAPHICS](#)

[DOWNLOADS](#)
[GRAPHICS](#)

15: Human Health: Impacts, Adaptation, and Co-Benefits _____

[LEARN MORE](#)

[AUTHORS](#)



“There is no kind way to put it: We are sleepwalking to climate catastrophe. The 1.5 degree C goal is on life support. It is in intensive care.”

United Nation's Secretary-General António Guterres responding to the IPCC AR6 Report, March 2022



“Nearly half of humanity is living in the danger zone—now.”

“Unchecked carbon pollution is forcing the world’s most vulnerable on a frog march to destruction—now.”

“Delay equals death.”

United Nation's Secretary-General António Guterres responding to the IPCC AR6 Report, March 2022

Social Determinants of Health





**Ecological determinants of health are equally
if not more fundamental**



Climate change disrupts each of the social determinants of health

Limiting global warming to 1.5 - 2.0° C

Why is this a necessary role for health professionals?

**Because this our lane, our obligation, our duty,
and because the hour is getting late.**

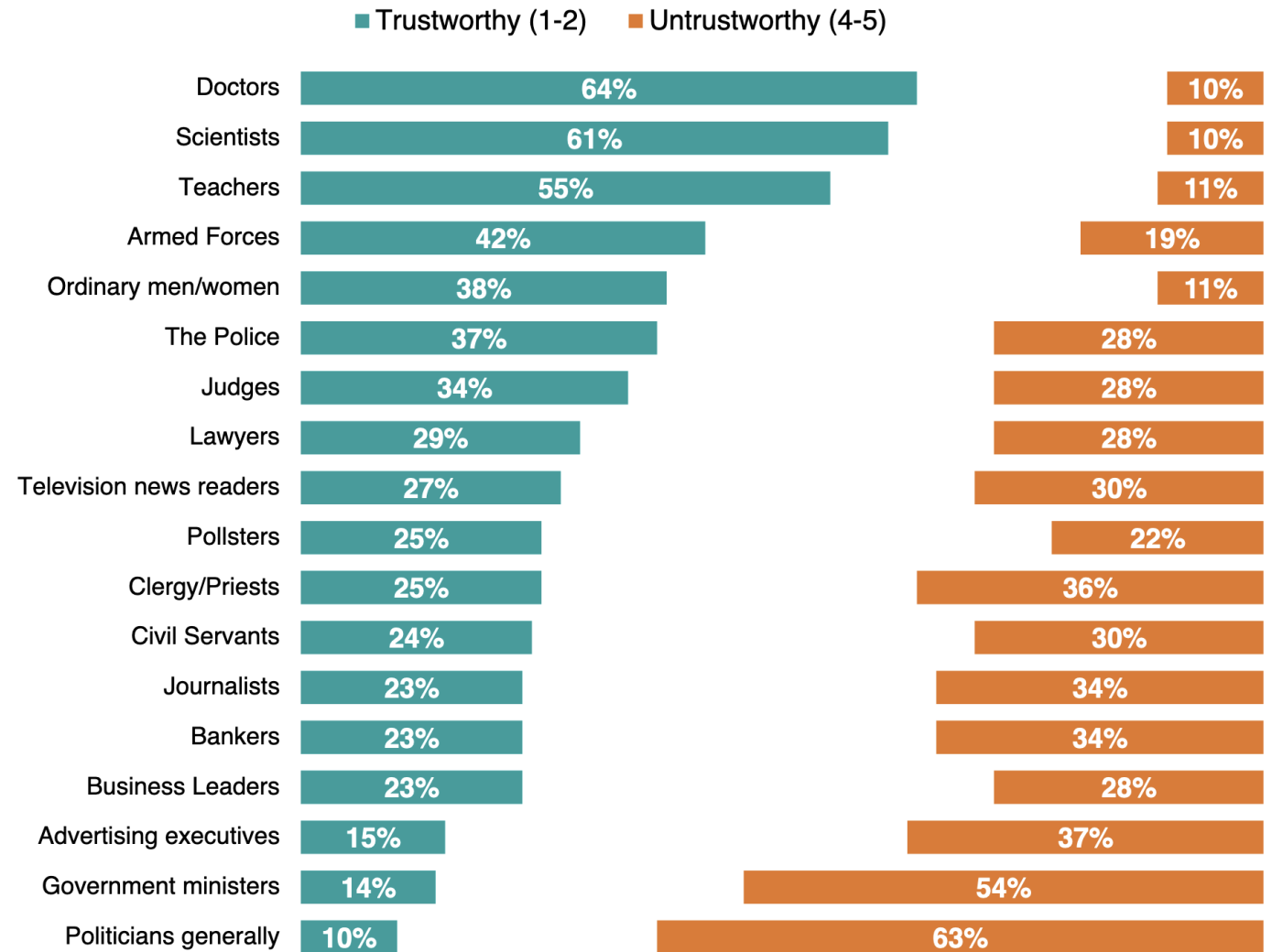
**An evidence-based heuristic for
effective public education campaigns:**

**“Simple clear messages,
repeated often,
by a variety of trusted sources.”**

GLOBAL TRUSTWORTHINESS RANKING 2021

Please look at this list of different types of people. In general, do you think each is trustworthy or untrustworthy in your country?

Please use a scale of 1 to 5, where 1 is very trustworthy and 5 is very untrustworthy



Ipsos Global Trustworthiness Index 2021 – 19,570 participants across 28 countries, interviewed online 23 April – 7 May 2021

Online samples in Brazil, Chile, mainland China, Colombia, India, Malaysia, Mexico, Peru, Romania, Russia, Saudi Arabia, South Africa, and Turkey tend to be more urban, educated, and/or affluent than the general population

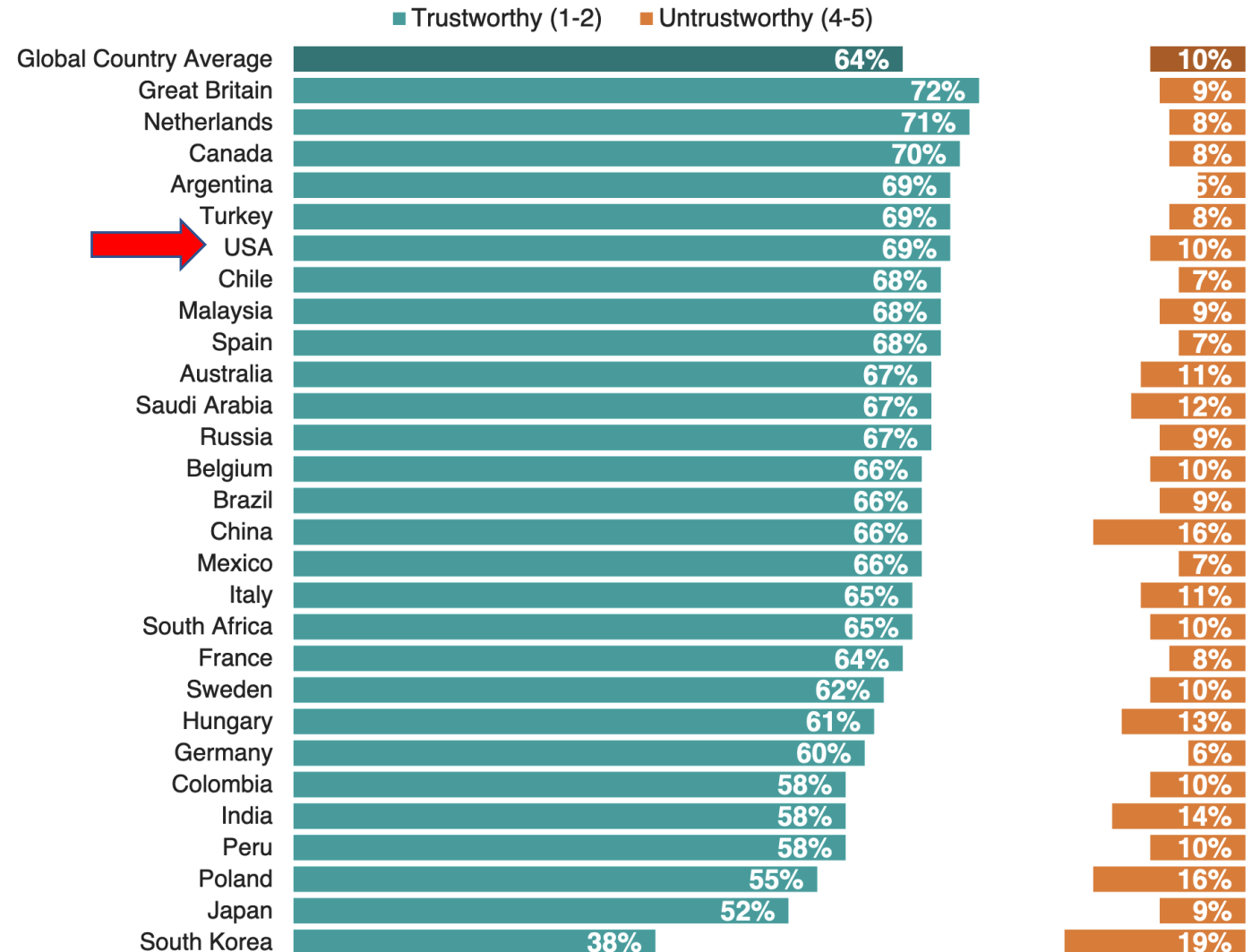
This "Global Country Average" reflects the average result for all the countries where the survey was conducted. It has not been adjusted to the population size of each country or market and is not intended to suggest a total result.

TRUST IN DOCTORS BY COUNTRY

Please look at this list of different types of people. In general, do you think each is trustworthy or untrustworthy in your country?

Please use a scale of 1 to 5, where 1 is very trustworthy and 5 is very untrustworthy.

Doctors



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Limiting global warming to 1.5 - 2.0 °C

Why is this a necessary role for health professionals?

**Because we are trusted,
which is a difference
that can make a difference.**

Limiting global warming to 1.5 - 2.0° C

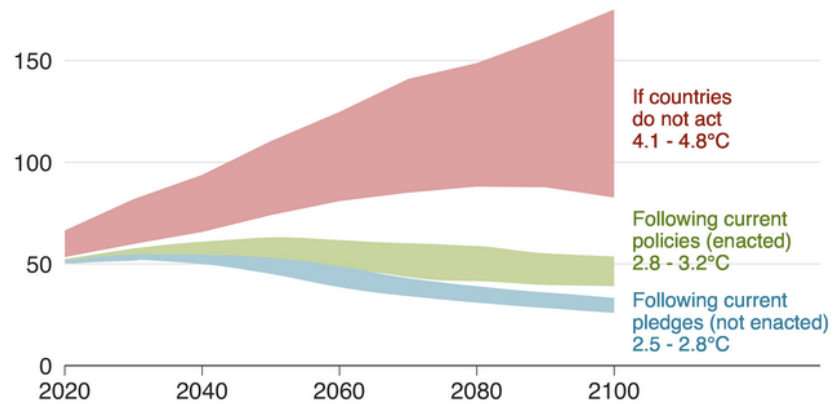
Why is this a unique role for health professionals?

Most Americans understand that climate change is happening.

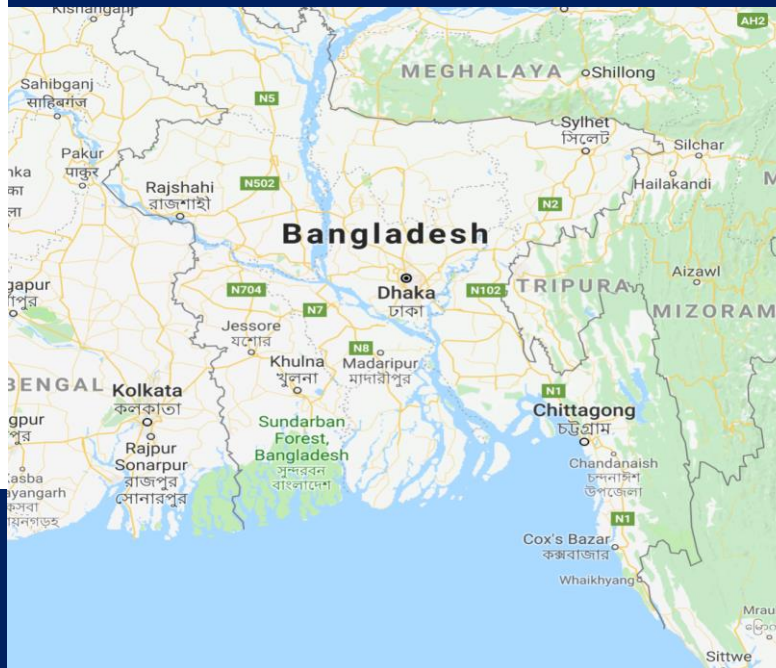
However, they see it as a distant threat...

in time

How much worse will the problem get?
Emissions* and expected warming by 2100



in space



in species



The dominant mental frame for climate change



A common but polarizing mental frame for climate change: Politics

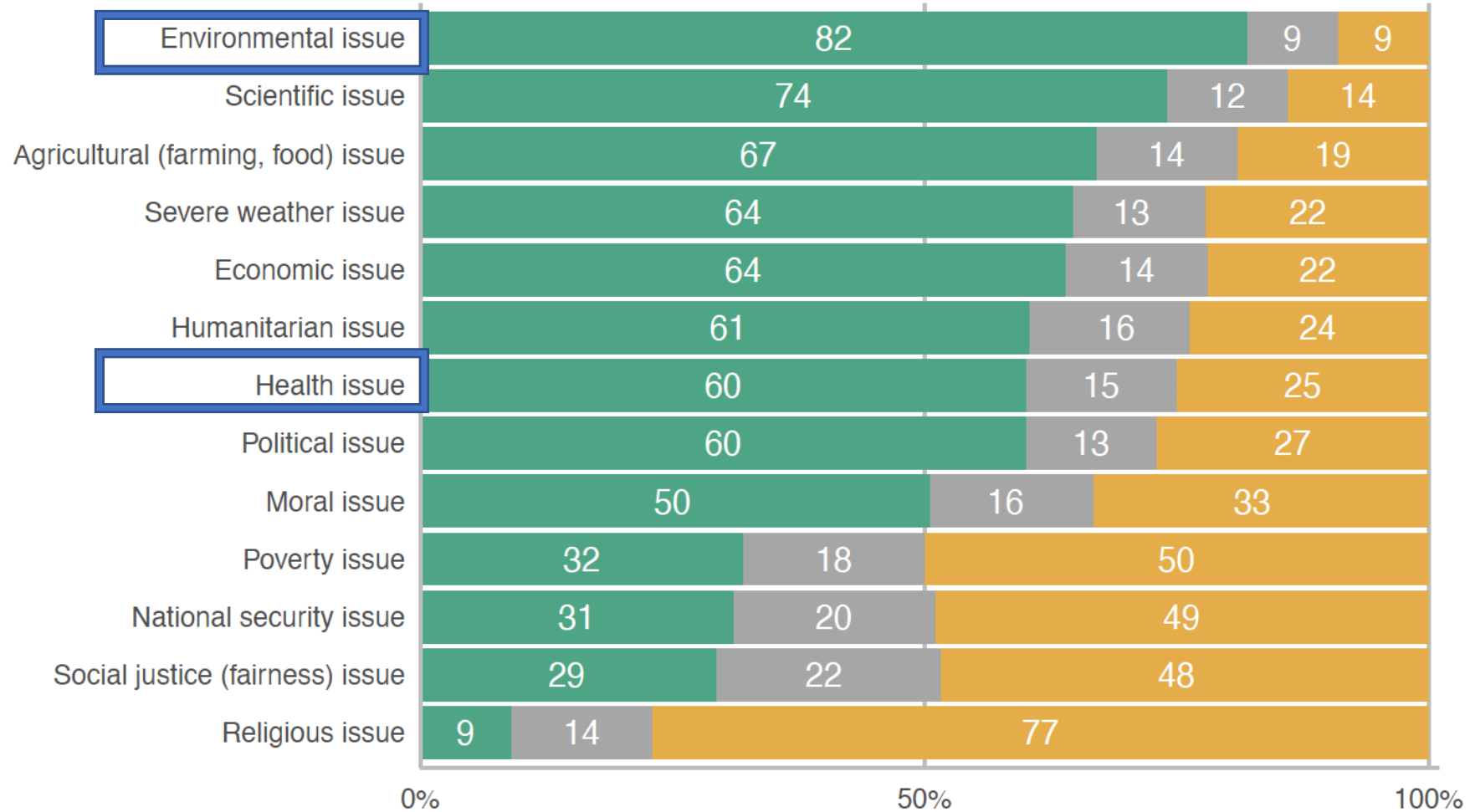


An engaging and depolarizing mental frame for climate change: Health



Americans are most likely to think of global warming as an environmental and/or scientific issue

■ Yes
 ■ Not sure/No response
 ■ No



In your opinion, do you think global warming is a(n)...

April 2020



Five key truths about global warming (in 10 words)

IT'S REAL	Global warming is happening.
IT'S US	Human activity is the main cause.
EXPERTS AGREE	More than 99% of the world's climate experts are convinced, based on evidence, that human activity is warming the planet.
IT'S BAD	The impacts are serious and affect people—especially children, older adults, people with chronic illnesses, and member of low-income & communities of color
THERE'S HOPE	There are many actions we can take that will address climate change AND improve our health—in equitable ways.



Simple, clear climate and health messages



Climate change is harming our health now, in communities across the nation. These harms include more heat-related illness; worsening chronic illnesses; injuries and deaths from dangerous weather events; infectious diseases spread by mosquitoes, ticks and rodents; illnesses from contaminated food and water; and mental health problems.



The health of *any* American can be harmed by climate change, but some people face greater risk. Children, student athletes, pregnant women, the elderly, people with chronic illnesses and allergies, and people in low-income and some communities of color are most likely to be harmed.



There are many things we can do to limit climate change and have better health now: clean energy; healthy buildings; active transportation; local, sustainable foods, etc. The sooner we take action, the sooner we will all benefit from clean air and water, better health, and a safer and more livable community. What are we waiting for?

MEDICAL ALERT!

Climate Change Is Harming Our Health



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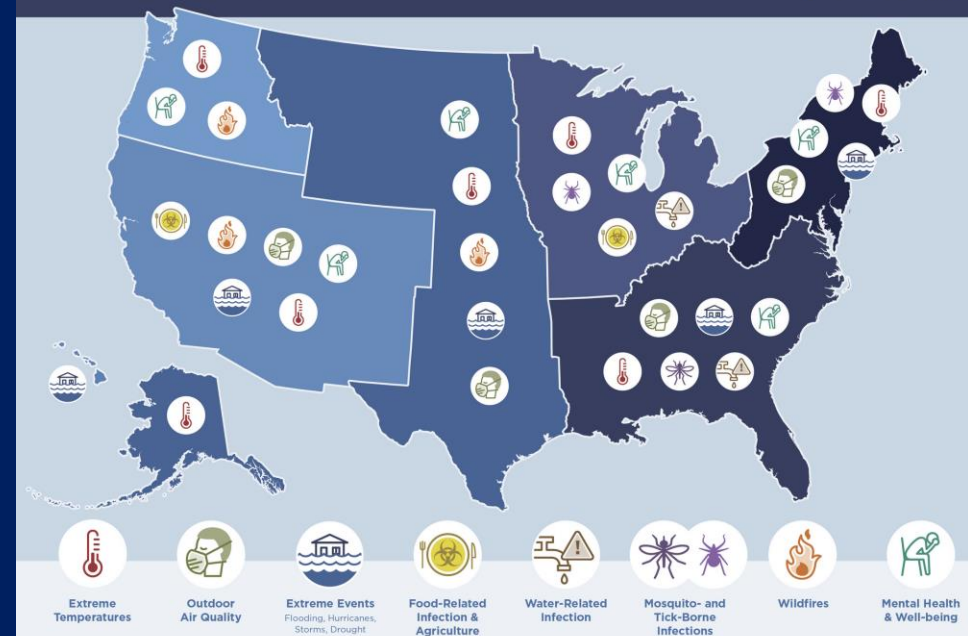
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Most likely to be harmed:

- Babies, children, pregnant women
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- People in low-income & communities of color
- Outdoor workers

Source: Medical Society Consortium on Climate & Health 2017

How Our Health is Harmed by Climate Change: Impacts Differ by Geographic Region



This graphic illustrates key impacts of climate change on health and is based on reports from the U.S. Global Change Research Program. For more information, visit www.globalchange.gov.

The most effective climate/health advocacy messages...

- **Show health impacts**
 - Top 3: air pollution; food-borne diseases; extreme weather
- **Call for policy solutions**
 - Top 3: clean energy; improved community design; recycling & reusing
- **Invoke helpful social norms**
 - Most Americans agree that we want healthy communities and a healthy climate, [and many of us/but not enough of us] are taking action

All three kinds of information increase persuasive impact, but **solutions information has the most impact**. This is equally true for conservatives as for liberals.

The most effective climate/health advocacy messages also...

Call out opponents of climate action

- Fossil fuel CEOs and their lobbyists
- Some politicians
- Fossil fuel CEOs and their lobbyists, and the politicians who are in their pockets*

Calling out opponents:

- Significantly strengthens policy support and intention to advocate
- Is most effective with Republicans and Independents, thus providing further evidence of the depolarizing effect of the climate/health narrative

“Don’t Tell Me What to Do”: Resistance to Climate Change Messages Suggesting Behavior Changes

“We found that (as compared to recommending new laws to mitigate climate change), recommending behavioral changes decreased individuals’ willingness to take personal actions to reduce greenhouse gases, decreased willingness to support pro-climate candidates, ... and decreased trust in climate scientists.”

Source: Palm et al. (2020) *Weather, Climate & Society*, 1–29.

Five important pathways to improve our climate and health:

#1: Use clean, renewable **energy** and reduce energy waste

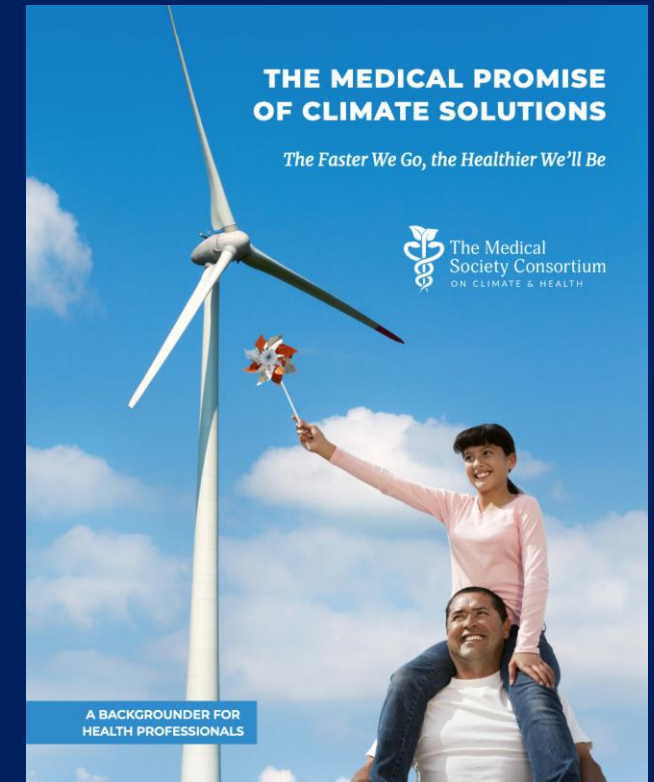
#2: Favor climate-smart **foods**, farms and food systems

#3: Support clean and active **transportation** options

#4: Improve our **buildings and homes**

#5: Improve our **community environments**

The **health benefits** of these actions are enjoyed **almost immediately**, and **primarily locally** in the communities that take the actions. Thus, they circumvent the behavioral economic conundrum that people have limited willingness to take actions today that will benefit them in the future.



Limiting global warming to 1.5 - 2.0 °C

Why is this a unique role for health professionals?

Because we — perhaps uniquely — have a narrative that engages, depolarizes, and focuses on creating benefits in the here and now that people value greatly.



The Medical Society Consortium

ON CLIMATE & HEALTH

Our mission is to mobilize and amplify the voices of U.S. doctors – in partnership with public health experts and fellow health professionals – to successfully advocate for equitable climate solutions that protect and promote the health of all people.

Launched in 2017:

- 9 medical societies
- No state affiliates
- A handful of partner organizations
- A few dozen individual advocates

By March 2022:

- 40 medical societies
- 18 state affiliates (but not TX, yet)
- 50 partner organizations
- 1,200 individual advocates

PRESIDENT BIDEN,
"Go Big" at COP-26 for Health

2021

INVEST IN HEALTH
Recommendations for Congress in Response to the Climate Crisis

2021

CLIMATE, HEALTH, AND EQUITY:
Recommendations for the Department of Health and Human Services

2021

PROTECT HEALTH
Recommendations for the Biden Administration in Response to the Climate Crisis

2021

U.S. CALL TO ACTION
ON CLIMATE, HEALTH, AND EQUITY:
A POLICY ACTION AGENDA

2019

The Problem With Jon Stewart
@TheProblem

One study found it costs the U.S. more than \$800 billion every year to combat the health effects of fossil fuel pollution and climate change. And money aside, the human cost is staggering: As many as 1 in 5 deaths worldwide are linked to fossil fuel air pollution.

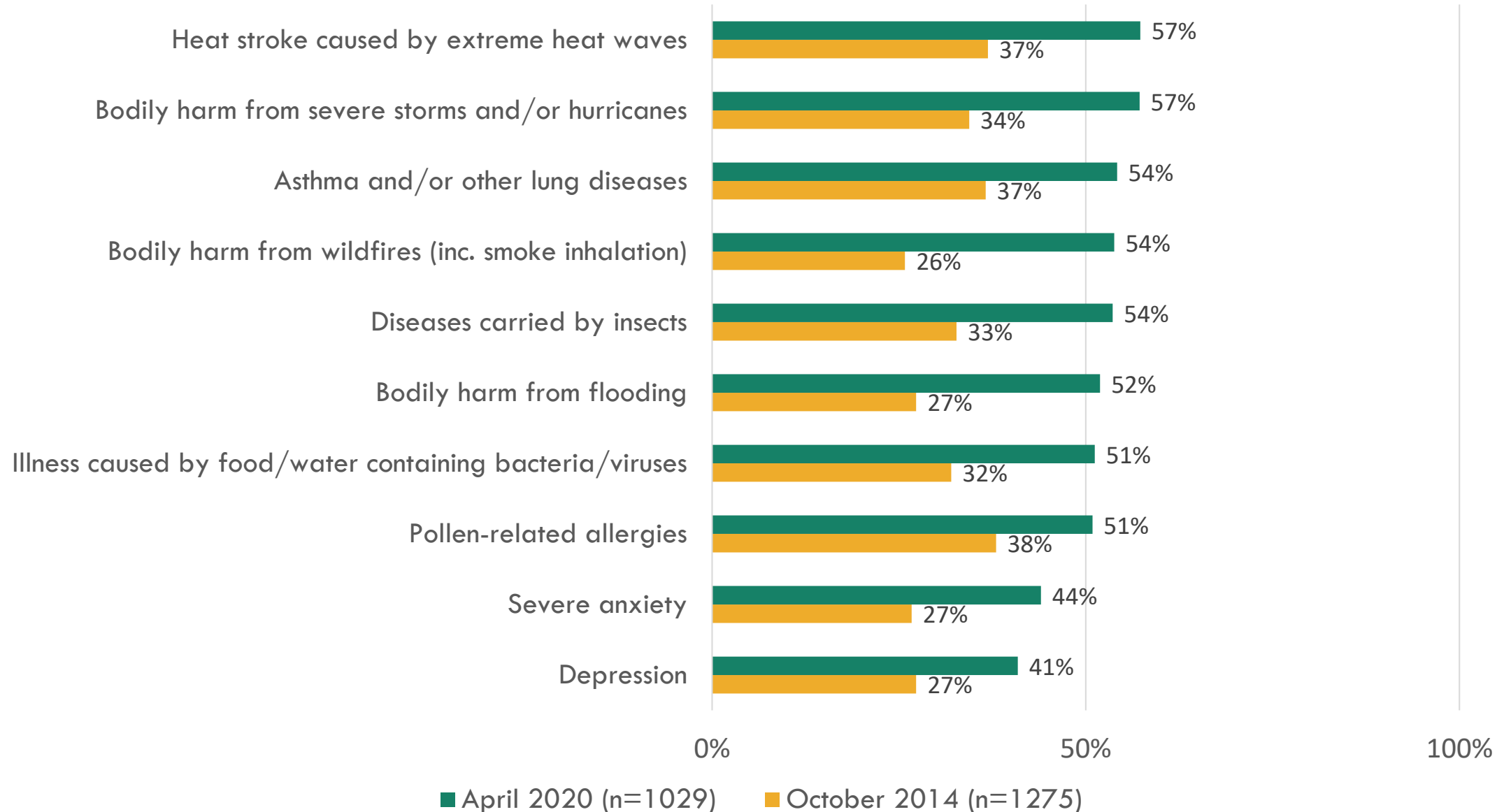
8:33 PM · Mar 10, 2022 · Twitter Web App

61 Retweets 10 Quote Tweets 193 Likes

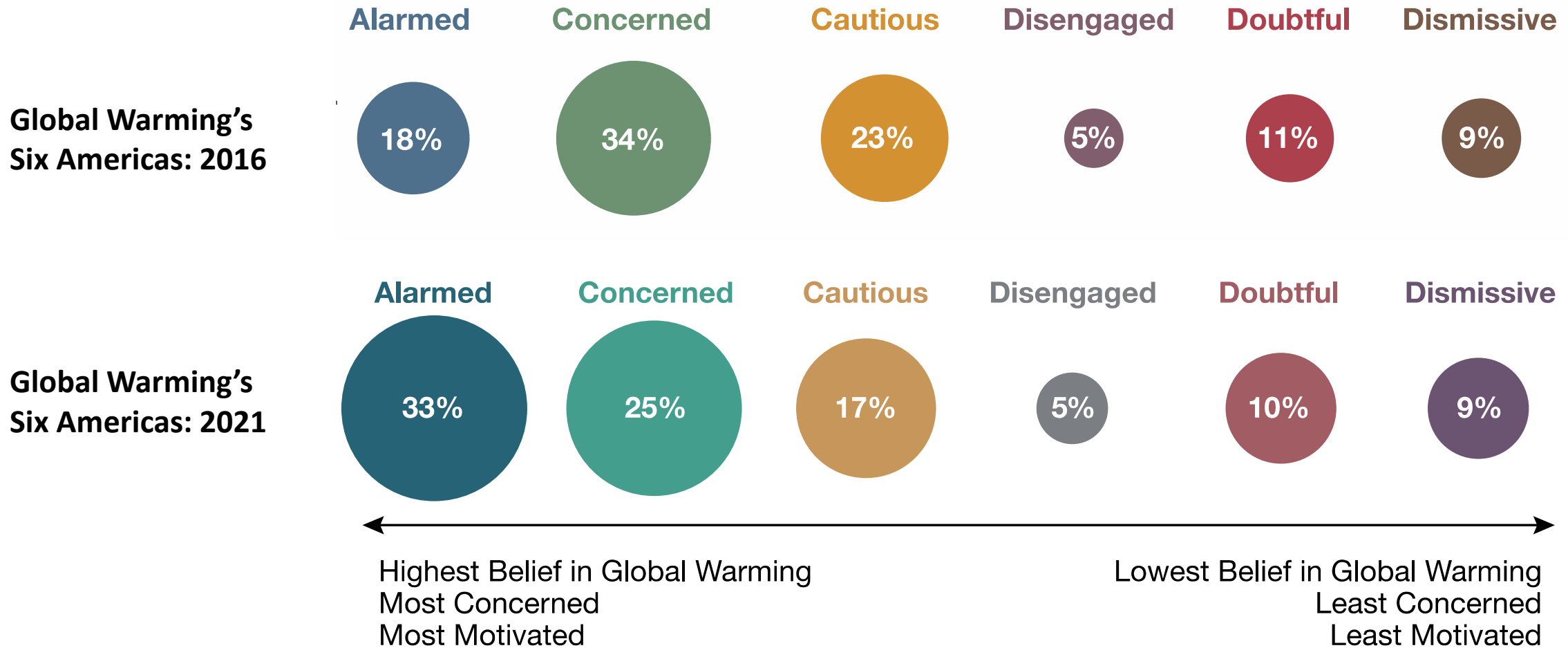
The Costs of Inaction:
The Economic Burden of Fossil Fuels and Climate Change on Health in the United States

There has been a large increase since 2014 in the number of Americans who see climate change as becoming a danger to health in their community

--% of Americans who think each condition will become more common in their community over the next 10 years as a result of global warming--



Americans are rapidly waking up to the realities of climate change



September 2021
(n=1,006)

Objectives and Grand Strategies

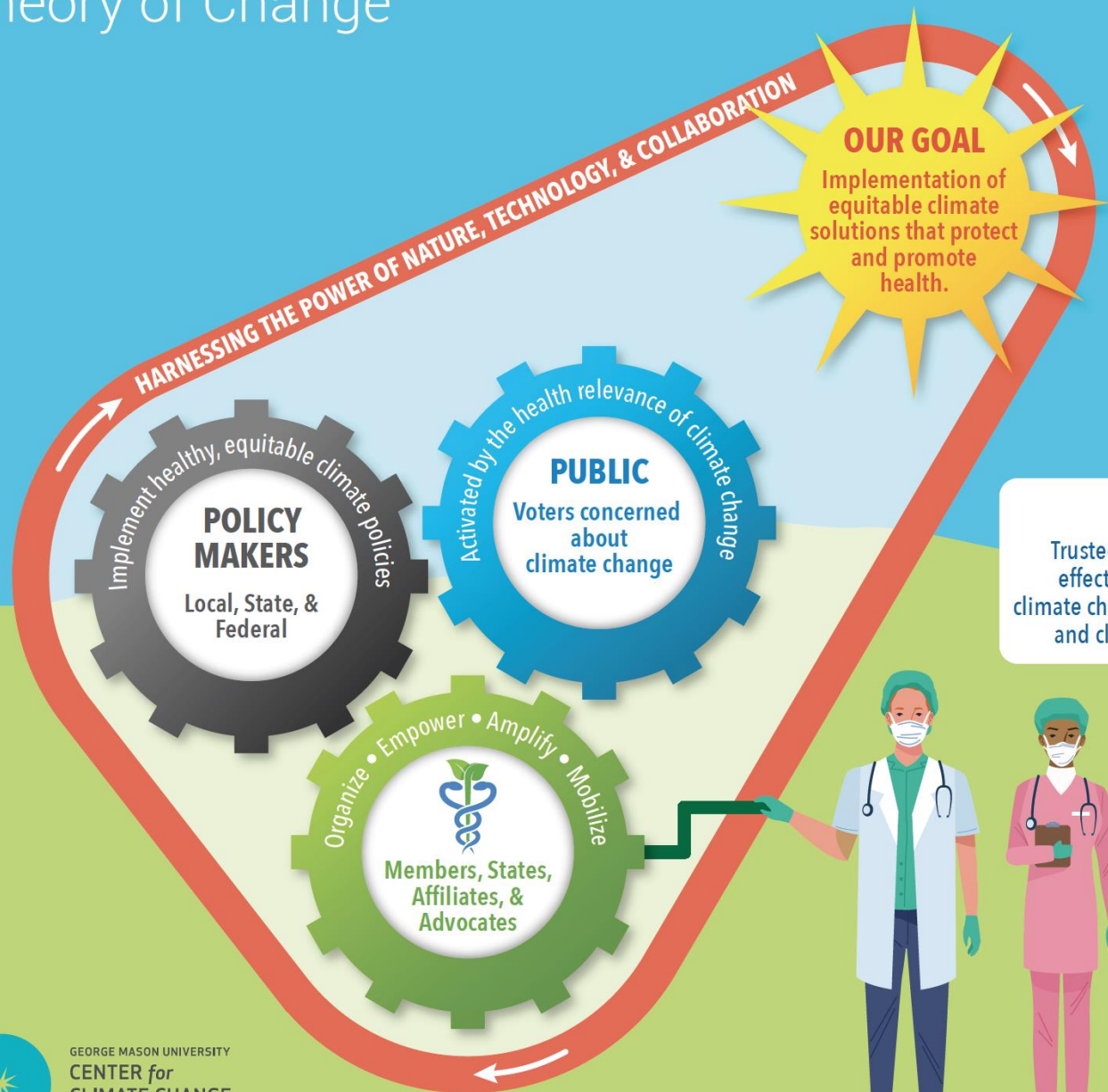
Three key objectives (to protect human health & our climate):

What? <ul style="list-style-type: none">• Mitigation 1.0: Decarbonize all of the energy we use	How? <ul style="list-style-type: none">• 100% clean energy (solar, wind, geothermal, etc.)• Scale-up storage• Electrify everything	Who? <ul style="list-style-type: none">• Families• Companies• Governments• NGOs• Utilities	Where? <ul style="list-style-type: none">• Everywhere.	Metaphor: <ul style="list-style-type: none">• Turn off the faucet of heat-trapping pollution
What? <ul style="list-style-type: none">• Mitigation 2.0: Reduce/drawdown CO₂ in the atmosphere to 280 ppm	How? <ul style="list-style-type: none">• Nature: Forestry, agriculture, land use• Technology: TBD	Who? <ul style="list-style-type: none">• Farmers• Foresters• Indigenous people• Land use planners• Entrepreneurs	Where? <ul style="list-style-type: none">• Everywhere possible.	Metaphor: <ul style="list-style-type: none">• Clean up the deadly mess we made
What? <ul style="list-style-type: none">• Adaptation and Resilience: Reduce the harm to human health	How? <ul style="list-style-type: none">• Vector-control• Stronger/better infrastructure• Emergency prep.• Emergency response	Who? <ul style="list-style-type: none">• Homeowners• Companies• Governments• NGOs	Where? <ul style="list-style-type: none">• Homes• Workplaces• Cities/counties• Regions	Metaphor: <ul style="list-style-type: none">• Protect our community while we heal the climate

“Grand strategy” options

What: <ul style="list-style-type: none">• Bottom up (behavior change)	Who: <ul style="list-style-type: none">• Individual actors	How: <ul style="list-style-type: none">• Education• Communication• Social marketing
<ul style="list-style-type: none">• Top down (policy change)	<ul style="list-style-type: none">• Government policymakers (local, state, federal)• Corporate policymakers	<ul style="list-style-type: none">• Get elected to office• Become a corporate board member• Lobby (Note: Powerful financial interests got there first & have deeper pockets.)
<ul style="list-style-type: none">• Middle out (build demand for government and corporate policy)	<ul style="list-style-type: none">• People who influence policy-makers• Opinion leaders (including health professionals)• The engaged & engageable publics	<ul style="list-style-type: none">• Political advocacy to influence government policies• Consumer advocacy to influence corporate policies

Theory of Change



How can we help as health professionals?

1. **Engage the public** to build public will for equitable policy solutions in government and the corporate sector that protect our health and our climate.
2. **Engage public policymakers** to create political will.
3. **Engage corporate policymakers** to create corporate and political will.
4. **Engage our health and educational institutions** (universities, hospitals, clinics, etc.) to decarbonize our operations and to create a climate-ready health workforce.
5. **Lead by example** (in our private lives and our professional lives).



“Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.”

Margaret Mead (?)

**Never doubt that simple, clear messages,
repeated often, by a variety of trusted health voices
can change the world.”**

Mead-Maibach mash-up

Join your trusted voice with mine – and those of a fast-growing number of other health professionals – in advocating for equitable policies to protect our climate & our health.

Point your camera here



Become a founding member
of Texas Health Professionals
For Climate Action.



Edward Maibach, PhD, MPH

University Professor and Director,
Mason's Center for Climate Change
Communication
George Mason University

2022 Michael & Susan Dell Center Lectureship in Child Health

Limiting Global Warming to 1.5 to 2°C: A Necessary and Unique Role for Health Professionals

Audience Q&A

Moderated by: Dr. Mike Mackert