Twitter Thread by Matt McNeill, MD



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Let’s talk about science and research for a second. Research journals are given a rating used to measure their importance based on citations. This is called an “Impact Factor”. An Impact Factor of >10 puts a journal near the top 1% of all cited journals. 1/x

So a high Impact Factor journal is widely considered reputable by the general scientific/research/medical community. So when a high Impact Factor journal comes out with a statement, it should be taken seriously. 2/x

Consider this article “Trump lied about science” from @ScienceMagazine (IF 41.85) https://t.co/6ApeVqxgWO 3/x

EDITORIAL

Trump lied about science



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When President Donald Trump began talking to the public about coronavirus disease 2019 (COVID-19) in February and March, scientists were stunned at his seeming lack of understanding of the threat. We assumed that he either refused to listen to the White House briefings that must have been occurring or that he was being deliberately sheltered from information to create plausible deniability for federal inaction. Now, because famed *Washington Post* journalist Bob Woodward recorded him, we can hear Trump's own voice saying that he understood precisely that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was deadly and spread through the air. As he was playing down the virus to the public, Trump was not confused or inadequately briefed: He flat-out lied, repeatedly, about science to the American people. These lies demoralized the scientific community and cost countless lives in the United States.

Over the years, this page has commented on the scientific foibles of U.S. presidents. Inadequate action on climate change and environmental degradation during both Republican and Democratic administrations have been criticized frequently. Editorials have bemoaned endorsements by presidents on teaching intelligent design, creationism, and other antiscience in public schools. These matters are still important. But now, a U.S. president has deliberately lied about science in a way that was imminently dangerous to human health and directly led to widespread deaths of Americans.

This may be the most shameful moment in the history of U.S. science policy.

In an interview with Woodward on 7 February 2020, Trump said he knew that COVID-19 was more lethal than the flu and that it spread through the air. "This is deadly stuff," he said. But on 9 March, he tweeted that the "common flu" was worse than COVID-19, while economic advisor Larry Kudlow and presidential counselor Kellyanne Conway assured the public that the virus was contained. On 19 March, Trump told Woodward that he did not want to level with the American people about the danger of the virus. "I wanted to always play it down," he said, "I still like playing it down." Playing it down meant lying about the fact that he knew the country was in grave danger.

It also meant silencing health officials who tried to tell the truth. On 25 February, Nancy Messonnier, director of the National Center for Immunization and Respiratory Diseases (of the Centers for Disease Control and Prevention), said, "It's not so much a question of if this will happen anymore, but rather more a question of exactly when this will happen and how many people in this country will have severe illness." She was right and Trump knew it. But he shut her down. He also tried to control messaging from Anthony Fauci, the nation's foremost leader on infectious diseases. Trump's supporters insisted that Fauci and Messonnier were not being muzzled, but now we have clear evidence in emails that they were.

Trump also knew that the virus could be deadly for young people. "It's not just old, older," he told Woodward on 19 March. "Young people, too, plenty of young people." Yet, he has insisted that schools and universities reopen and that college football should resume. He recently added to his advisory team Scott Atlas—a neuroradiologist with no expertise in epidemiology—who has advocated for a risky and misguided course: somehow isolating the older and more vulnerable while allowing the virus free rein among young people. The opening of colleges and schools has accelerated the spread of the virus and will mean untold suffering among both students and the people to whom they are now spreading the virus.

> **"These lies... cost countless lives..."**

Monuments in Washington, D.C., have chiseled into them words spoken by real leaders during crises. "Confidence," said Franklin Roosevelt, "thrives on honesty, on honor, on the sacredness of obligations, on faithful protection and on unselfish performance."

We can be thankful that science has embraced these words. Researchers are tirelessly developing vaccines and investigating the origins of the virus so that future pandemics may be prevented. Health care workers have braved exposure to treat COVID-19 patients and reduce the death rate; many of these frontline workers have become infected, and some have died in these acts of courage. These individuals embody Roosevelt's call to faithful protection and unselfish performance.

They have seen neither quality exhibited by their president and his coconspirators. Trump was not clueless, and he was not ignoring the briefings. Listen to his own words. Trump lied, plain and simple.

– H. Holden Thorp

PHOTO: CAMERON DAVIDSON

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Consider this article "Why Nature supports Joe Biden for US President" from @Nature (IF 42.778) https://t.co/2AJx5A3zUU 4/x

The international journal of science / 15 October 2020

nature

Why *Nature* supports Joe Biden for US President

Joe Biden's trust in truth, evidence, science and democracy make him the only choice in the US election.

On 9 November 2016, the world awoke to an unexpected result: Donald Trump had been elected president of the United States.

This journal did not hide its disappointment. But, *Nature* observed, US democracy has safeguards built in to protect against excesses. It is founded on a system of checks and balances that makes it difficult for a president to exercise absolute power. We were hopeful that this would help to curb the damage that might result from Trump's disregard for evidence, disrespect for those he disagrees with and toxic attitude to women.

How wrong we turned out to be.

No US president in recent history has so relentlessly attacked and undermined so many valuable institutions, from science agencies to the media, the courts, the Department of Justice – and even the electoral system. Trump claims to put 'America First'. But in his response to the pandemic, Trump has put himself first, not America.

His administration has picked fights with the country's long-standing friends and allies, and walked away from crucial international scientific and environmental agreements and organizations: notably, the 2015 Paris climate accord; the Iran nuclear deal; the United Nations' science and education agency UNESCO; and even, unthinkable in the middle of a pandemic, the World Health Organization.

Challenges such as ending the COVID-19 pandemic, tackling global warming and halting the proliferation and threat of nuclear weapons are global, and urgent. They will not be overcome without the collective efforts of the nation states and international institutions that the Trump administration has sought to undermine. On the domestic front, one of this administration's most dangerous legacies will be its shameful record of interference in health and science agencies – thus undermining public trust in the very institutions that are essential to keeping people safe.

Joe Biden, Trump's opponent in next month's presidential election, is the nation's best hope to begin to repair this damage to science and the truth – by virtue of his policies, which aim to do so, and his leadership record in office, as a former vice-president and as a senator.

The Trump administration's disregard for rules, government, science, institutions of democracy and, ultimately, facts and the truth have been on full display in its disastrous response to the COVID-19 pandemic. Its actions have had devastating consequences. With the nation's death toll now exceeding 215,000, the coronavirus has killed more people in the United States than anywhere else.

> **"Biden has pledged that decisions on the pandemic response will be made by public-health professionals and not by politicians."**

This undermining of research advice has been accompanied by the systematic dismantling of scientific capacity in regulatory science agencies.

The US Environmental Protection Agency (EPA) has helped many nations to better understand the dangers of pollution, and has pioneered regulations that have cleaned up the environment and saved millions of lives. But under the Trump administration, the EPA has withered as its scientists have been ignored by the senior leadership of Trump appointees. Those at the top have worked to roll back or weaken more than 80 rules and regulations controlling a spectrum of pollutants, from greenhouse gases to mercury and sulfur dioxide.

Likewise, the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, which should have led the nation's coronavirus response, has been made subordinate to a task force whose leaders include vice-president Mike Pence and Trump's son-in-law, Jared Kushner – neither of whom has expertise in infectious diseases.

Biden must lead

Biden, by contrast, respects the values of research and has vowed to work to restore the United States' fractured global relationships. For these reasons, *Nature* is endorsing Biden and urging voters to cast a ballot for him on 3 November.

Biden's campaign has worked with researchers on plans for COVID-19 and climate change. He has pledged that decisions on the pandemic response will be made by public-health professionals and not by politicians; and he is rightly committing to restoring the ability of these professionals to communicate directly with the public.

In addition, Biden is promising to ramp up test-and-trace programmes and to provide more support to people hit hardest by the coronavirus. Combined with vaccines and medicines, these are the kinds of policies that will be essential to ending the pandemic.

On climate change, Biden would return the United States to the Paris agreement, and is proposing the most ambitious domestic climate policies ever advocated by nominees from the country's major parties. A US$2-trillion plan would invest in clean energy and low-carbon infrastructure, with the ambition of weaning the United States off fossil-fuel-generated electricity by 2035.

If elected, Biden would have the chance to reinstate and strengthen the climate and environmental regulations rolled back under Trump; restore the EPA's depleted scientific capacity; and return the CDC's leadership role in the pandemic. He should also move to reverse egregious policies on immigration and student visas, and hold the United States to its international commitments – not least its membership of the WHO and UNESCO.

Joe Biden must be given an opportunity to restore trust in truth, in evidence, in science and in other institutions of democracy, heal a divided nation, and begin the urgent task of rebuilding the United States' reputation in the world.

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Consider this article "Trump versus Biden: a fight for the health of a nation" from @TheLancet (IF 60.392) https://t.co/tfbZ1LAnM2 5/x

Trump versus Biden: a fight for the health of a nation



AP Photo/Morry Gash

With only 73 days until Nov 3, the 2020 presidential election in the US has entered a decisive phase with Democratic candidate Joe Biden's announcement of California Senator Kamala Harris as his running mate. It comes against the backdrop of the COVID-19 pandemic that has revealed a nation of stark inequity, especially in terms of health. Over the past three decades, non-communicable diseases, especially cardiovascular diseases, cancers, neurological disorders, chronic respiratory diseases, diabetes, and chronic kidney disease have been the predominant causes of death and disability in the US. High blood pressure, high body-mass index, and smoking have ranked among the top risk factors for poor health since 1990. Yet this bleak picture of US health has been considered in previous elections mainly as it relates to access to health care.

The 2010 Affordable Care Act (ACA) codified a set of ten essential health benefits that insurance plans must provide, including preventive health services, pregnancy and maternity care, and mental health services. Importantly, the ACA also eliminated pre-existing condition bans. The law aimed to greatly increase the number of those insured in the US through a mix of Government-provided insurance, such as Medicaid, and private insurance with employer and state-run health-care market places. A recently published 2020 Commonwealth Fund report shows that before the major provisions of the ACA were introduced, the US had worse outcomes and spent more on health care than after, but also had the lowest life expectancy, highest suicide rate (13·9 per 100 000 population, compared with an OECD average of 11·5), and the highest rate of avoidable deaths of all OECD countries. The US also has the highest chronic disease burden and an obesity rate of 40%, which is twice as high as the OECD average.

In 2017, the number of uninsured people increased for the first time since implementation of the ACA—to 27·4 million people. Those most at risk of being uninsured include persons with low incomes and people of colour. Because coverage is still associated with the ability to pay, the cost of coverage continues to be the most commonly cited barrier to accessing care. Over half of Americans are insured through their employers and the massive loss of jobs because of COVID-19 has led to millions more Americans becoming uninsured. Biden has called for strengthening and expanding the ACA, but there is little incentive in Congress to move towards a single-provider health-care system. The US must move away from a system in which health care is politicised, contentious, and tied to employment, income, and immigration status. In addition, President Trump's isolationist and anti-scientific adminstration has de-prioritised health and health care.

Decisions made by the next administration will affect the lives of all people in the US and around the world. For this reason, we invite both political parties to articulate their positions on the following urgent priorities.

COVID-19. In light of the devastating effects of this pandemic, accentuated by the pre-existing epidemics of chronic disease, will you commit to enact truly universal health coverage to protect the health and wellbeing of the American people? If so, how?

Health inequalities. Given the growing and disfiguring health disparities across the country, combined with burgeoning levels of racial and gender injustice, will you commit to making the reduction of health inequalities, and the social determinants of those inequalities, one of your major domestic objectives? If so, what specific actions will you take?

Public health. Given the critical importance of the Centers for Disease Control and Prevention to domestic health and global health security, will you commit to investing in and strengthening this vital national public health agency? If so, by how much?

Global health. Given the importance of the international leadership role of the US in health and medicine, will you commit to returning as a fully participating member of multilateral health institutions, such as WHO?

Medical research. Will you commit to accelerating funding for medical and public health research? The current President's budget proposal for 2021, called for a 7% cut in National Institutes of Health (NIH) spending. Do you agree that a strong research base is a powerful means to ensure the long-term health of the nation? If so, how much will you commit to invest in NIH?

If logic and justice prevail in the next presidential administration, universal health coverage, a fairer society, stronger health institutions, more energetic global engagement, and a robust research agenda will be the foundations for America's renewal. We all have a stake in America's success. ■ *The Lancet*

For the **IHME data on life expectancy and mortality** see http://www.healthdata.org/infographic/gbd-2017-study-highlights-life-expectancy-and-mortality

For more on the **ACA** see https://www.healthcare.gov/glossary/essential-health-benefits/

For the **Commonwealth report** see https://www.commonwealthfund.org/publications/issue-briefs/2020/jan/us-health-care-global-perspective-2019

For more on the **uninsured and the ACA** see https://www.kff.org/uninsured/report/the-uninsured-and-the-aca-a-primer-key-facts-about-health-insurance-and-the-uninsured-amidst-changes-to-the-affordable-care-act/

For more on **NIH funding** see https://fas.org/sgp/crs/misc/R43341.pdf

Consider this article “Dying in a Leadership Vacuum” from @NEJM (IF 74.699) https://t.co/CE7CB5jngq 6/x

EDITORIALS

Dying in a Leadership Vacuum

The Editors

Covid-19 has created a crisis throughout the world. This crisis has produced a test of leadership. With no good options to combat a novel pathogen, countries were forced to make hard choices about how to respond. Here in the United States, our leaders have failed that test. They have taken a crisis and turned it into a tragedy.

The magnitude of this failure is astonishing. According to the Johns Hopkins Center for Systems Science and Engineering,[1] the United States leads the world in Covid-19 cases and in deaths due to the disease, far exceeding the numbers in much larger countries, such as China. The death rate in this country is more than double that of Canada, exceeds that of Japan, a country with a vulnerable and elderly population, by a factor of almost 50, and even dwarfs the rates in lower-middle-income countries, such as Vietnam, by a factor of almost 2000. Covid-19 is an overwhelming challenge, and many factors contribute to its severity. But the one we can control is how we behave. And in the United States we have consistently behaved poorly.

We know that we could have done better. China, faced with the first outbreak, chose strict quarantine and isolation after an initial delay. These measures were severe but effective, essentially eliminating transmission at the point where the outbreak began and reducing the death rate to a reported 3 per million, as compared with more than 500 per million in the United States. Countries that had far more exchange with China, such as Singapore and South Korea, began intensive testing early, along with aggressive contact tracing and appropriate isolation, and have had relatively small outbreaks. And New Zealand has used these same measures, together with its geographic advantages, to come close to eliminating the disease, something that has allowed that country to limit the time of closure and to largely reopen society to a prepandemic level. In general, not only have many democracies done better than the United States, but they have also outperformed us by orders of magnitude.

Why has the United States handled this pandemic so badly? We have failed at almost every step. We had ample warning, but when the disease first arrived, we were incapable of testing effectively and couldn't provide even the most basic personal protective equipment to health care workers and the general public. And we continue to be way behind the curve in testing. While the absolute numbers of tests have increased substantially, the more useful metric is the number of tests performed per infected person, a rate that puts us far down the international list, below such places as Kazakhstan, Zimbabwe, and Ethiopia, countries that cannot boast the biomedical infrastructure or the manufacturing capacity that we have.[2] Moreover, a lack of emphasis on developing capacity has meant that U.S. test results are often long delayed, rendering the results useless for disease control.

Although we tend to focus on technology, most of the interventions that have large effects are not complicated. The United States instituted quarantine and isolation measures late and inconsistently, often without any effort to enforce them, after the disease had spread substantially in many communities. Our rules on social distancing have in many places been lackadaisical

These are some of the most influential scientific voices in the world. These statements/endorsements are unprecedented. We should not be having a debate about the validity of science. Questioning science will fester doubt about medicine, the environment, and technology. 7/x

If you’re scared about climate change, COVID, clean air, or coverage of health issues, you have every right to be. We need to right this ship before we are on an irreversible course. 8/x

So register to vote, make a plan to vote, and then vote. Our lives literally depend on it. #vote #earlyvote #votingplan #science #climatechange #STEM #sciencefacts #sciencefiction #technology #research #environment #nature #globalwarming #COVID #COVID19 #voting 9/x