

Written Testimony for Anita Desikan

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U.S. House Select Subcommittee on the Coronavirus Crisis

Ensuring Scientific Integrity at Our Nation's Public Health Agencies

April 29, 2022

Thank you, Chairman Clyburn, Ranking Member Scalise, and Members of the Subcommittee for holding this important hearing on scientific integrity at public health agencies. My name is Anita Desikan, and I am a Senior Analyst with the Center for Science and Democracy at the Union of Concerned Scientists. I appreciate the opportunity to testify before you today.

For nearly a decade, I have worked as a public health researcher in academic, research, and science advocacy institutions in the US and the UK. Throughout the pandemic, I have acted as a leading subject matter expert for my organization on the need for a strong science-based and equitable governmental response to the pandemic and have worked closely with grassroots organizations and partners to provide the best available science on COVID-19 and vaccines in underserved communities.

I am here today on behalf of the Union of Concerned Scientists. UCS is a non-partisan, national nonprofit organization that seeks to advance science-based solutions to our world's most pressing problems. Our staff includes scientists, engineers, economists, analysts, and advocates, and we are backed by more than a half-million supporters and our extensive Science Network, comprised of about 23,000 scientists and experts across the country. For more than 50 years, UCS has championed the need to ground governmental decisions in the best science available. We work to ensure that policymakers and the public have access to the independent science needed to make informed decisions about public health, safety, and the environment.

Introduction: Why Scientific Integrity Matters, Especially at Federal Public Health Agencies

In the United States, science serves a fundamental role in how federal agencies develop, assess, and implement safeguards to protect the health and safety of millions of people. The need for the best available science to guide agency decision making is especially prominent during public health emergencies, such as the COVID-19 pandemic. The public's access to scientific research, the ability of federal scientists to communicate about their work, and the implementation of science-based decision making at agencies can be a matter of life and death for the people directly impacted.

However, during the first year of the COVID-19 pandemic, what we witnessed were political appointees, White House officials, and agency leadership carrying out a string of actions meant to sideline,

undermine, and bully federal scientists from providing needed scientific information to the public. These actions included burying scientific reports, censoring scientists, manipulating data processes, and retaliating against scientists who reported on the latest COVID-19 science. When federal scientists and officials faced this onslaught of political interference, they were not able to act on the best available science to protect the public, which in turn translated to the virus spreading rapidly, hospitals being overwhelmed, and people facing severe illness, long COVID, or death as a result of contracting the virus. Communities of color, Indigenous communities, and low-income communities already experiencing longstanding health inequities were the same communities hit hardest by government failures to act on the science and protect public health. The COVID-19 pandemic has demonstrated in the starkest terms why scientific integrity matters and for whom it matters most.

Political leaders choosing to attack science for their own political gains is sadly nothing new. According to our research, every [presidential administration](#) dating back to the Eisenhower administration has chosen to undermine science, which over the years has chipped away at the ability of federal science to safeguard the public. Even during a pandemic, attacking science is not new. President Woodrow Wilson and his administration famously downplayed the seriousness of the [1918 flu pandemic](#) to keep up morale for World War I, even when several people in the Wilson administration—potentially including President Wilson—came down with the deadly disease.

While these tactics are familiar, the degree and extent to which the Trump administration attacked science were unprecedented. We at the Union of Concerned Scientists recorded 204 [attacks on science](#) carried out by the Trump administration over a four-year period, of which 29 were related to the COVID-19 pandemic. In comparison, we recorded 19 attacks on science carried out by the Obama administration over an eight-year period.

At some point during current or future administrations, political leaders will once again be tempted to dust off this same playbook of attacking science for political gain, which in turn will endanger the health, safety, and well-being of millions. *It is not a question of if, but when.* Therefore, it is imperative that strong scientific integrity protections at federal agencies be implemented to prevent future violations of scientific integrity, and protect current and future generations from the harms that attacks on science could have on their health, safety, and well-being.

What is scientific integrity?

[Scientific integrity](#) refers to processes through which independent science fully and transparently informs policy decisions, free from inappropriate political, ideological, financial, or other undue influence. Scientific integrity includes the open and reliable conduct, supervision, and communication of science as well as the appropriate use of science in policy decisionmaking.

Principles of scientific integrity include the following:

- **Independent Science.** Public policy decisions must be informed by expert scientific advice free from political or financial pressure. By relying on independent science, the government ensures that policy proposals are informed by evidence stemming from a credible scientific process. Processes that rely on independent science result in better policy decisions and improved public trust in those decisions. Components of independent science include peer review, disclosure of

potential conflicts of interest, public availability of research findings and methodology, freedom to publish research, and deterrents against scientific misconduct.

- **Transparent Decisionmaking.** Scientific integrity requires public access to the science that underlies decisions as well as to information regarding how decisionmakers used that science. Such access can be granted while maintaining necessary confidentiality and respecting privacy concerns (such as those regarding medical data). Additionally, agency staff should not impede public access to the government scientists responsible for collecting, developing, and analyzing scientific data. It is essential that agencies strive to increase transparency within the regulatory process, both to reduce opportunities for political interference in science and to facilitate public knowledge of and participation in policymaking, particularly for rules that impact public health and safety.
- **Scientific Free Speech.** To flourish and to maintain their professional credibility, government scientists must be able to publish their research relevant to their agency's mission and communicate their findings in a timely manner. Further, federal scientists should have the right to express personal views on science and policy, provided they make clear they are not speaking for their agency. Federal employees who express differing scientific opinions or report political interference in science as a form of fraud, waste, or abuse in government should be protected from retaliation by both law and policy.
- **Statutory Compliance.** Some laws require decisions to be based solely on the best available science. For example, the Food and Drug Administration (FDA) approves prescription drugs based solely on evidence of their safety and efficacy. Other laws require science to be the only factor in some parts of decisions but not in others. For example, the Clean Air Act requires air pollution standards to be set using the best available science on the link between air pollution and health effects, but it allows other considerations (such as economic factors) to be considered when implementing standards. Misrepresentation of these statutes constitutes political interference in science.

When does an action constitute a violation of scientific integrity?

Defining a violation of scientific integrity can be complex. Sometimes it has clear legal boundaries. For instance, if a political appointee tampers with the science that affects a listing under the Endangered Species Act, this opposes the law's mandate that the decision be made based only on the best available science. In other cases, there is legal and ethical uncertainty on whether an action can constitute a scientific integrity violation, such as when presidential administrations have ignored or sidelined independent science advice from federal science advisory committees. And in some cases, an action is legally valid but ethically problematic. For example, while it is legal to route a press call away from a scientist who is working on a politically contentious issue, it may be an instance of politics eclipsing science.

When defining violations of scientific integrity, there are three important considerations. First, a violation of scientific integrity is not synonymous with research misconduct. The Department of Health and Human Services' (HHS) Office of Research Integrity [defines research misconduct](#) as the "fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results," and specifies that it "does not include honest error or differences of opinion." While preventing research misconduct is an important consideration in the context of scientific integrity, in this testimony,

the term scientific integrity applies to the proper use of science throughout federal decisionmaking processes.

Second, while scientific integrity encompasses the need for robust science-based decisionmaking processes, it is not necessarily considered a violation of scientific integrity when finalized policy decisions rely on non-scientific considerations. Policies are appropriately informed by many factors, including value judgments and the legal framework put in place by Congress for particular policy decisions. Therefore, ignoring science during the policymaking process does not always translate to a violation of scientific integrity.

Third, policies acting on the best available science can differ in their processes and execution depending on how the weight of scientific information is interpreted. Differing interpretations on how best to act on the science can happen especially when there is a smaller body of research on a topic, since the incorporation of new scientific data has a greater likelihood to cause a paradigm shift in the scientific consensus. This was especially prominent during the pandemic due to the novel nature of the virus that causes COVID-19. During the pandemic we sometimes saw science-based agencies delaying the enactment of policies based on the emerging scientific consensus—such as when the Centers for Disease Control and Prevention (CDC) unnecessarily delayed characterizing COVID-19 as a disease that spreads through airborne transmission in indoor settings. Such an example would not be considered a violation of scientific integrity, but rather a point in time where strengthened scientific integrity policies could help have helped the CDC act more in line with the best available science, improve transparency, and increase public trust. This example points to the importance of scientific integrity policies in not just protecting federal scientists from inappropriate political interference, but in helping lead science-based agencies to more appropriately respond to and incorporate science in a variety of decisionmaking contexts.

We at the Union of Concerned Scientists have developed a more specific definition of what constitutes a violation of scientific integrity, what we call an [attack on science](#) (see Figure 1). Commonly but not always, an attack on science violated an agency or department policy or standard practice, ran counter to an agency or department's mission statement, and/or was an action taken by a political appointee for political gain. Research misconduct cases, which are rare, were not included as an attack on science if they did not appear to be politically motivated.

During the Trump administration, the Union of Concerned Scientists recorded 204 attacks on science.

[An attack on science is an action that:



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Figure 1. The Union of Concerned Scientists’ definition of an attack on science.

A historical perspective on scientific integrity

Throughout the 2000s, scientific integrity transformed from a research term to a policy term and, finally, to a policy itself. A violation of scientific integrity evolved into a term used by the media, non-profit organizations, and members of Congress to describe actions taken by administrations that constituted political interference within the science and science policy apparatuses of the federal government.

Following the 2008 election, scientific integrity became official government policy. In his inauguration speech, President Barack Obama pointedly promised to “restore science to its rightful place,” and his subsequent [March 2009 memorandum](#) labeled “Scientific Integrity” instructed his science advisor to create a plan for “ensuring the highest level of integrity in all aspects of the executive branch’s involvement with scientific and technologic processes.” On December 17, 2010, President Obama’s science advisor, Dr. John Holdren, [issued a memorandum](#) directing heads of executive departments and agencies to develop and implement scientific integrity policies addressing the principles of scientific integrity as formally laid out in Obama’s 2009 memorandum:

The public must be able to trust the science and scientific process informing public policy decisions. Political officials should not suppress or alter scientific or technological findings and conclusions. If scientific and technological information is developed and used by the Federal Government, it should ordinarily be made available to the public. To the extent permitted by law, there should be transparency in the preparation, identification, and use of scientific and technological information in policymaking. The selection of scientists and technology professionals for positions in the executive branch should be based on their scientific and technological knowledge, credentials, experience, and integrity.

By the end of the Obama administration, 28 agencies adopted specific scientific integrity policies. While these policies range in scope and effectiveness, they generally address the principles of scientific integrity. Because the Holdren memo was intended to give agencies flexibility with assigning roles and responsibilities and establishing specific procedural aspects of how the policy would be implemented, the scientific integrity policies vary in the comprehensiveness of their protections, and gaps remain. For example, White House officials and political appointees at federal agencies still have a great deal of latitude if they choose to politicize science-based information.

To help gauge the state of federal scientific integrity during previous administrations, UCS has [conducted surveys since 2005](#), reaching thousands of federal scientists across multiple federal agencies under the administrations of President George W. Bush and President Barack Obama. During the Trump administration, UCS and the Center for Survey Statistics and Methodology at Iowa State University [surveyed thousands of scientific experts](#) employed by the federal government. Conducted in February and March 2018, the survey addressed issues of scientific integrity at 16 agencies. The results reiterated those found in past surveys that scientific integrity policies were not protecting science-based policymaking from political interference.

In 2021, President Biden issued a [presidential memorandum](#) on restoring trust in government through scientific integrity and evidence-based policymaking. The memorandum has initiated a process, including the formation of a scientific integrity taskforce, overseen by the White House's Office of Science and Technology Policy (OSTP) to review the effectiveness of agency scientific integrity policies government-wide. The scientific integrity taskforce [issued a report](#) in January 2022 providing guidance to OSTP regarding how scientific integrity policies can be bolstered to further protect science-based decisions from being politicized. A scientific integrity framework is expected to be released to agencies this year from OSTP to begin a process by which federal agencies review and update their scientific integrity policies.

Strong Scientific Integrity Policies Can Protect the Nation's Most Disenfranchised Communities

Science-based solutions, inclusive of and alongside the viewpoints and experiences of impacted community members, increase the chances that decisionmakers will enact policies that are [equitable, evidence based, and tailored to communities' needs](#). Likewise, the failure to advance science-based policies often disproportionately burdens underserved communities—communities that are already overburdened with cumulative environmental, economic, and social stressors. I was the lead author of a [2019 Union of Concerned Scientists](#) report prepared with contributions from Texas Environmental Justice Advocacy Services (t.e.j.a.s) and Clean Power Lake County that illustrated, through case studies, how the dismantling of science-based policies and processes at the federal government exacerbated existing inequities for communities of color, Indigenous communities, and low-income communities.

In particular, agencies collecting and making public scientific data on health inequities is critical. [Scientific research](#) and community members themselves have long identified certain groups of historically marginalized people as being at a higher risk of contracting certain diseases or conditions due to systemic and discriminatory processes. However, early in the pandemic and even in later stages, the CDC failed to report comprehensive COVID-19 case data that was broken down by race, ethnicity, and other demographics (e.g., socioeconomic factors, or disability status). The failure of federal agencies to collect, disaggregate, or analyze data on demographic features associated with historically disenfranchised communities leaves communities without vital information to act upon local conditions that are causing disproportionate health burdens. That evidence must be explicitly called for, evaluated, and become a routine part of the science that informs government decisions.

When [these data](#) were reported, it was clear that Black and Indigenous communities, low-income communities, and communities of color were disproportionately harmed by COVID-19. The failure of the CDC to consistently and comprehensively collect case data broken down by demographic features early in the COVID-19 pandemic meant that the vast inequities in case numbers, severity, and in access to adequate healthcare were not publicly known fast enough for health workers in communities to address the problem earlier. An emphasis on [quicker and more reliable breakdowns](#) of the data made publicly available would help the agency, states, and communities better understand and work to address disparities in health outcomes across populations.

In the [2018 survey](#) of federal scientists conducted by the Union of Concerned Scientists, several CDC scientists described how politics undermined scientific research processes related to health disparities, including the following statements:

- “I am a maternal and child health scientist. The issues we work on nearly all trace upstream to the social determinants of health, which all are being ever more adversely affected by this administration's policies as well as longer-term political changes that give large corporations ever more power over the structure of society.”
- “My research on a controversial topic that deals with health/racial inequities was released but not communicated. Media, etc. was cancelled. This was immediately before the election. This involves a policy issue that has been of high public interest for the last few years.”
- “The suppression of science as it occurs within the agency is unethical. Vulnerable and marginalized populations suffer because the research and programmatic efforts that are suppressed are often things that would benefit those communities the most. I repeat—it is unethical. It is all politically motivated... Sacrifices are made, and those sacrifices generally include the quashing of findings or projects that speak to issues related to racial/ethnic minorities, immigrants, LGBTQI+ people, etc. We trade scientific integrity for political expediency, and we do it far more than the public knows.”

Strong scientific integrity policies that are enforced such that violators are held to account can help to prevent such erosion of science-based decisions. For example, a key provision of scientific integrity policies is ensuring that scientific conclusions are not made based on political considerations. Decisions made at agencies that prioritize scientific integrity can help protect the health and safety of the public, including disenfranchised communities. Not only are politically influenced decisions concerning the science less likely to protect these communities, but the failure of agencies to release reliable, consistent science-based guidance can result in the erosion of trust in public health agencies whose mission is to prevent disease and protect public health and safety.

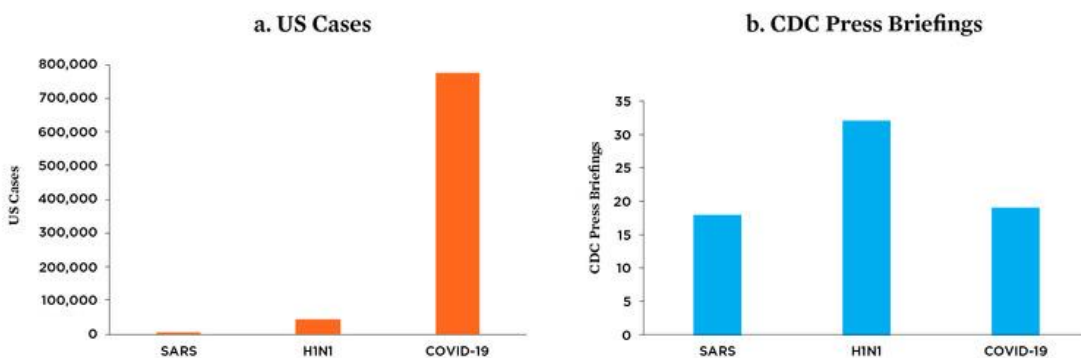
Distrust of medical researchers in communities of color, especially African American communities, is already a reality and a [rational response](#) to a long history of medical abuse. African Americans and other people of color in the United States [continue to experience](#) more illness, worse outcomes, and die younger compared with white individuals. African American women and Indigenous women are [two to three](#) times more likely to die from pregnancy-related causes than white women. As the federal government was failing to provide local, relevant data to these communities about COVID-19, the void was [filled by misinformation campaigns on social media](#) that, compounded with mistrust of health agencies, resulted in many believing precautions were not necessary. A commitment to scientific integrity at public health agencies accompanied by enhanced transparency and accessibility of government decisions are necessary to build trust in these communities.

Attacks on science that undermined the government’s pandemic response

Blocking scientists’ ability to communicate with the public

In May 2020, I was the lead author of a UCS [report](#) showing that compared with all other major epidemics in the 21st century, CDC scientists during the COVID-19 pandemic were severely hampered in their ability to provide the public with the latest scientific information on the disease. When comparing across the first 13 weeks of the Severe Acute Respiratory Syndrome (SARS), H1N1 influenza (also called swine flu), and COVID-19 epidemics, the CDC held about two-thirds as many press briefings about COVID-19 as it did about H1N1 influenza, and almost the same number of COVID-19 briefings as SARS—even though SARS affected only eight people in the US (see Figure 2). In November 2021, the House Select Subcommittee [confirmed our findings](#) by releasing a slew of documents and emails showing that White House officials directly blocked CDC scientists and staff from conducting telebriefings during the early months of the pandemic.

CDC Public Communication and Reported US Cases of SARS, H1N1, and COVID-19



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Figure 2. Although COVID-19 infected far more people (776,093 people in the United States) than SARS (8) or H1N1 influenza (43,771) during the first 13 weeks of these epidemics (Figure 2a), the number of CDC press briefings held on COVID-19 was on par with that of SARS (Figure 2b).

By directly silencing CDC experts, the Trump administration hindered the ability for scientists and health officials to inform the public about COVID-19 and help slow the spread of a dangerous disease. Political officials, not just in public health agencies, interfered with what should have been a science-based response to a health crisis and downplayed vital health information regarding the pandemic. Under the prior administration, some other prominent examples of censorship included:

- NOAA Fisheries restricted its staff from using the words “COVID-19” and “pandemic” in front-facing materials.
- Political officials ordered a CDC official to [destroy an email](#) that contained evidence of political interference in a CDC study.
- The White House required all government officials to [seek approval](#) from the Office of the Vice President for all public statements and public appearances related to COVID-19.

As a result, federal scientists faced significant roadblocks from communicating with the public on what the latest science suggested were the best ways for people to protect themselves and their loved ones from COVID-19. This gap in official scientific information helped open the door to an onslaught of online [disinformation](#) and misinformation and hampered federal scientists and officials from countering these falsehoods, including falsehoods spoken by the President and other top officials. Disinformation and misinformation are more likely to take root and proliferate if people lack reliable access to accurate, up-to-date information from authoritative scientific sources like the CDC or FDA, the consequences of which can translate to [real-world harm](#).

Hindering the publication of scientific data and research

Perhaps the clearest examples of scientific integrity violations occur when supervisors, managers, agency leadership, or political appointees target scientific data or research processes. This includes burying scientific studies, line-editing documents to undermine the science, or manipulating processes related to data collection or analysis. Undermining scientific research and data is a powerful tactic to shape policymaking and outside groups with a financial incentive, such as corporations, have long established a [playbook](#) on how to do so.

Agencies publishing data and research on COVID-19 and the pandemic response proved to be especially vulnerable to political interference for two reasons. First, COVID-19 data and research produced by agencies like the CDC and FDA were incredibly influential in pandemic-related decisionmaking processes not just for federal agencies, but for the public, businesses, academia, and local, state, congressional, and international authorities. Therefore, undermining federal science proved to be a powerful tactic to influence how both governmental and non-governmental entities responded to the pandemic. Second, while scientific integrity guidelines are in place at most federal agencies, they differ in how protective they are, how well they are enforced, and how knowledgeable or comfortable agency staff are in utilizing their rights in scientific integrity policies. Without clear, strong, and regularly enforced scientific integrity policies, especially concerning potential violations involving high-ranking individuals and political appointees, agency scientific activities will continue to be targets of political interference.

During the pandemic, this tactic was one of the most frequent and high-profile ways that the Trump administration attacked COVID-19 science, so much so that there were serious concerns about the independence of the CDC and FDA to carry out their congressionally mandated duties during the pandemic. Administration officials inappropriately blocked, edited, or forced the reissuing of CDC guidance documents on at least four different occasions on issues related to [businesses](#), [houses of worship](#), [schools](#), and [coronavirus testing](#). Perhaps the most startling example was related to how then-HHS appointee [Michael Caputo](#) tried to institute a highly political process for reviewing, even line-editing, studies set to be published in a prestigious and highly influential CDC report series, the Morbidity and Mortality Weekly Reports. Other similar examples include:

- The White House delayed the release of an [FDA guidance measure](#) on how they would approve a COVID-19 vaccine under their emergency use authorization powers.
- The United States Geological Services (USGS) Director shut down a study looking at the impacts of the novel coronavirus on [wild ferret populations](#).
- The Occupational Safety and Health Administration (OSHA) changed its reporting requirements on [two different](#) occasions in ways that prevented the full collection of data on work-related COVID-19 cases.
- The administration redirected the collection of COVID-19 [hospitalization data](#) from the CDC to a private third party under HHS.

Failure to incorporate science into agency decisionmaking

According to a number of environmental and public health laws—such as the Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, the Safe Water Drinking Act, the Occupational Safety and Health Act, the National Environmental Policy Act, the Endangered Species Act, the Comprehensive Environmental Response, Compensation, and Liability Act, and the Resource Conservation and Recovery Act—federal agencies have a duty to safeguard public health and well-being using the best available science. This includes the main legal framework governing public health protections, Title 42 of the US Code, in which scientific research processes (e.g., [42 US Code § 241](#)) are considered a fundamental component. In many cases, law dictates that agencies incorporate strong science-based decision-making processes and that a failure to do so may violate the agency’s mission and required duties as granted to them by Congress.

However, during the pandemic, we witnessed scientific integrity violations in which politics were elevated over science and agency decisionmaking stepped far out of line from the best available science. Such actions risk the lives and safety of people, erode public trust in federal institutions, and undermine the legal framework governing the use of science in decisionmaking.

For instance, in February 2020, State Department officials [overrode](#) the safety concerns of CDC officials during the evacuation of Diamond Princess cruise passengers by allowing 14 infected people to board the same airplane as over 300 non-infected people. Even at the time, the scientific consensus was clear that COVID-19 was a highly infectious disease that spreads easily in close quarters, and later scientific research provided overwhelming evidence of the disease’s highly contagious nature in crowded, indoor settings. CDC officials were so disturbed by these actions they requested that their names be stricken from the news release. In this example, State Department officials who had the responsibility of safely evacuating people back to the US decided to go against the best available science and directly expose hundreds of those under their care to a novel and deadly disease.

Overriding the concerns of CDC scientists, experts, and officials became a common theme in 2020, with White House officials choosing to act in non-transparent, politically convenient ways and ignoring CDC experts on topics such as [temperature screenings at airports](#), [cruise ship docking](#), [masks on public transportation](#), and [sealing the US border](#). Unbelievably, this pattern of sidelining of CDC experts also included an HHS public relations effort that defunded the CDC of [\\$300 million](#) in congressionally allocated funds. But the CDC was not the only agency to have their science and scientific experts sidelined during important decisionmaking processes related to the pandemic. Other examples include:

- An HHS scientific expert filed a [whistleblower complaint](#) stating that in January and February 2020, HHS officials sent HHS workers to Wuhan, China, without proper infectious disease training or personal safety equipment.
- The National Institutes of Health (NIH) took the unprecedented step of [defunding](#) a research grant recipient, the EcoHealth Alliance, a research program studying bat-human virus transmission.
- HHS officials removed the FDA's ability to conduct science-based checks to regulate the accuracy and quality of [laboratory tests](#), including coronavirus tests.

This lack of transparent, science-based decisionmaking tends to have large-scale effects, as the anti-science actions can directly harm people, dissuade the public from placing trust in governmental institutions, and make it easier for anti-science actions to be approved in the future.

Scientific Integrity Measures that Would Promote Independent Science and Evidence-based Decision Making

As the many, diverse, and well-documented attacks on science indicate, existing scientific integrity policies and processes are not enough to protect federal scientists and their invaluable work. Even when agencies have strong written policies, implementation and enforcement often fall short. Protections vary widely because federal agencies manage and enforce their own policies (see Figure 3).

Progress on Scientific Integrity Policies at Federal Agencies

	Scientific Integrity (SI) Policy	Procedures for SI Allegations	Public Reporting of SI Cases	Designated SI Official
Executive Agencies and Subagencies				
DOC (Department of Commerce)	Some Progress	Nonexistent or Poor	Some Progress	Nonexistent or Poor
NIST (National Institute of Standards & Technology)	Some Progress	Nonexistent or Poor	Some Progress	Some Progress
NOAA (National Oceanic & Atmospheric Administration)	Strong	Strong	Strong	Strong
DOE (Department of Energy)	Strong	Nonexistent or Poor	Some Progress	Some Progress
DOI (Department of the Interior)	Strong	Strong	Strong	Strong
FWS (Fish & Wildlife Service)	Strong	Strong	Strong	Strong
USGS (US Geological Survey)	Strong	Strong	Strong	Strong
HHS (Department of Health & Human Services)	Nonexistent or Poor	Some Progress	Some Progress	Nonexistent or Poor
CDC (Centers for Disease Control & Prevention)	Some Progress	Some Progress	Some Progress	Strong
FDA (Food & Drug Administration)	Some Progress	Nonexistent or Poor	Some Progress	Strong
NIH (National Institutes of Health)	Nonexistent or Poor	Some Progress	Some Progress	Some Progress
DOL (Department of Labor)	Nonexistent or Poor	Some Progress	Some Progress	Some Progress
DOT (Department of Transportation)	Nonexistent or Poor	Some Progress	Some Progress	Some Progress
USDA (Department of Agriculture)	Strong	Strong	Some Progress	Strong
Independent Agencies				
CPSC (Consumer Product Safety Commission)	Some Progress	Nonexistent or Poor	Some Progress	Nonexistent or Poor
EPA (Environmental Protection Agency)	Strong	Some Progress	Strong	Strong
NASA (National Aeronautics & Space Administration)	Strong	Some Progress	Some Progress	Nonexistent or Poor
NSF (National Science Foundation)	Strong	Some Progress	Some Progress	Some Progress
NRC (Nuclear Regulatory Commission)	Nonexistent or Poor	Nonexistent or Poor	Some Progress	Nonexistent or Poor

■ Strong
■ Some Progress
■ Nonexistent or Poor

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Figure 3. In a 2020 report, the Union of Concerned Scientists analyzed federal agencies on how strong, explicit, and protective their scientific integrity policies were.

HHS and its sub-agencies, the CDC the FDA, and the NIH, fall short in their scientific integrity protections as compared to many other science-based agencies. For example, HHS and its sub-agencies’ policies are not explicitly clear regarding how employees or the public can report potential violations of scientific integrity. This concern has not only been reported by UCS but also recently through a [report on scientific integrity](#) at public health agencies by the Government Accountability Office (GAO).

It is clear that public health agencies need to update their scientific integrity policies to protect science-based decisionmaking from undue political interference. The White House’s OSTP recently released a report about the state of scientific integrity across the federal government. The report was developed by a task force of 57 representatives representing 29 federal agencies that use and communicate science as part of their daily activities. The publication of this report marked an important first step toward strengthening scientific integrity and evidence-based decisionmaking as laid out in a memorandum signed by President Biden over one year ago.

Several recommendations in the report closely align with those UCS has been making for over a decade. However, the report [falls short](#) in providing details on issues like accountability, equity, and the fact that many agencies have lagged behind on the implementation of strong scientific integrity policies (see Figure 3). These issues will need to be discussed and incorporated into OSTP’s scientific integrity framework, which will serve to guide agencies in the update of their scientific integrity policies.

Ensuring that scientific agencies have the resources and capacity to face the next public health crisis

Our ability to respond to the current pandemic along with future pandemics and other health crises depend in large part how prepared our federal agencies are. However, while some administrations, such as the [George W. Bush administration](#), carried out a comprehensive science-based effort to ensure that federal agencies had the resources, plans, and capacity they needed to tackle infectious disease threats, other administrations, such the Trump administration, worked to dismantle these programs meant to guard us against disease threats.

Only a few years prior to the COVID-19 pandemic, [two global disease surveillance systems](#), whose goals were to stop future outbreaks at their sources, were shuttered or dramatically weakened. In 2018, the CDC was forced to close or downsize its efforts to fight global epidemic outbreaks in [39 out of 40 countries](#), including China. In 2019, the Trump administration shut down the [US Agency for International Development's](#) (USAID) 14-year-old program of working with local researchers around the world to collect samples and better understand viruses in animals ([75 percent](#) of new and emerging infectious diseases, including COVID-19, originate in animals). Additionally, in 2017, the White House's National Security Council had a dedicated global health security team composed of a group of world-class infectious disease and public health experts whose work included developing a comprehensive strategy to defend the United States against disease pandemics and biological attacks by terrorists; this team [was disbanded](#) in 2018 due to a reorganization effort by then-National Security Advisor John Bolton.

In our 2018 survey to federal scientists, several CDC scientists expressed concerns about the administration's attempt to deprioritize, defund, and reduce scientific capacity in systems meant to detect and control infectious disease outbreaks. Responses from the survey include:

- “The idiotic myopia of not wanting to fund ‘global health’ work will certainly come home to roost, with the next flu, ebola, SARS, zika, whatever else pandemic.”
- “Talk of defunding global health initiatives has caused my division to start terminating research collaborations with international laboratories that function as infectious disease surveillance sites in Africa and Asia.”
- “Proposed funding cuts limits our [agency's] capacity for responding to infectious disease overseas and domestically. These cuts don't just affect our ability to prepare and respond at a federal level either. These will disproportionately affect smaller state and local health departments and grant-funded programs.”

In addition to infectious disease threats, science remains a fundamental tool in how we prepare for other public health and environmental emergencies, such foodborne illnesses, toxic chemical spills, earthquakes, wildfires, or extreme weather events. In order for these agencies to properly meet and address these threats to human health and safety, it is imperative take we steps to ensure that agencies have the resources to prevent and tackle future threats. Additionally, agencies need to have strong scientific integrity policies in place so that federal scientists and other agency staff can rapidly research, communicate, and respond to these threats when they occur, and help save people's property, health, and lives.

Recommendations on bolstering scientific integrity

The Union of Concerned Scientists has [played a leading role](#) in researching scientific integrity and its role in science-based policymaking since 2004. We have learned about such issues through the media, through

congressional oversight, and from scientists themselves. We conducted [surveys of federal scientists](#) about the level of political interference in their work across three previous presidential administrations. We have pushed for and participated in congressional oversight related to scientific integrity, and regularly work with reporters to bring attacks on science to light. We developed model good government policies for federal scientific agencies and analyzed and made recommendations about both the content and implementation of federal agency scientific integrity policies since they were developed nearly a decade ago. We have worked with several federal agencies to improve peer review policies and other policies to strengthen the role of science in policymaking. And we constantly monitor and bring to light challenges with regard to science-based policymaking.

Below, I've highlighted some recommendations that we believe could help to bolster scientific integrity policies and help prevent some of the attacks on science discussed in this testimony.

Creating consistent and strong scientific integrity policies. Federal agency scientific integrity policies vary in the rights and protections afforded to scientists, processes by which scientific integrity allegations are received and handled, and whether scientific integrity information is made transparent. While some agencies or offices may have science-based processes that are unique to their agency and therefore require unique provisions in their scientific integrity policy, many policy provisions could be standardized across all agencies. In other words, addressing agency-specific needs should not be at the expense of ensuring strong policies for challenges that all federal agencies share. Consistent policies across agencies could remedy confusion regarding federal scientific integrity—for example, under current policies, depending on which agency they work in, a scientist may, or may not, be able to speak to the media without prior approval from the public affairs office. Therefore, OSTP and federal agencies should standardize a definition of scientific integrity as well as many other provisions across agency scientific integrity policies.

Empowering scientific integrity officials. Each relevant agency should designate an experienced scientific integrity official, or officials, to provide a focal point for agency scientists, oversee the implementation of the agency's scientific integrity policy, and follow through on investigation and resolution of concerns from scientific staff. President Biden's memorandum on *restoring trust in government through scientific integrity and evidence-based decision-making* has required this of all federal agencies, but not all agencies have implemented this. Scientific integrity officials should also be empowered to enforce and implement the agency's policy.

Clearly outlining how to submit a scientific integrity violation. Each agency's scientific integrity policy should make clear the process for submitting allegations of scientific integrity violations. These policies should also make explicit and enforceable that no retaliatory measures will be taken against an employee for filing an allegation. Agencies must respond quickly and effectively to allegations and enforce penalties for individuals found to have committed violations. In their scientific integrity policy, agencies must outline clear and detailed guidelines on how and when to submit allegations. Additionally, policies should make clear how allegations are investigated, how resolutions are determined, and how investigations will be made public, including how violators will be held accountable.

Welcoming differing opinions and perspectives on the science. Evidence-based decision-making often involves multiple people with various backgrounds and expertise—disputes are likely to arise. Such disputes may occur because of differing opinions regarding the science or policy choice made. Scientific integrity policies should make clear that differing views and opinions are welcomed as a part of the

scientific process. Agencies should include in their scientific integrity policy, or as a separate policy, detailed procedures for addressing differing scientific opinions and make them part of the public record. The application for filing a formal differing scientific opinion should be reserved for employees who have been substantively engaged in the work being discussed.

Strengthening enforcement. An agency's scientific integrity policy is only as good as the agency's ability to enforce it and hold violators accountable. This is an area of scientific integrity that has largely been ignored, but prior violations of scientific integrity that threaten public health and safety (especially during a pandemic) highlight the importance of accountability and enforcement. The recent report released by the scientific integrity task force addressed the issue briefly, recommending that scientific integrity violations be considered on par with ethics violations. However, the report did not provide further details about how this might work, who would oversee holding violators accountable, or what the process might look like for such enforcement. We recommend that violations of scientific integrity that have been investigated and substantiated by the agency should be documented and included in the perpetrator's performance record. Performance plans for managers and supervisors that oversee scientific staff should include clear goals for adhering to the agency's scientific integrity policy. When violations occur, these should be reflected in performance ratings and fully considered in future promotions or appointments for that individual.

Investigating alleged scientific integrity violations. Substantiated violations of scientific integrity, for both career and political staff, should be investigated and have consequences on par with ethics violations such as misuse of funds, inappropriate workplace behavior, or false reporting. Agency general counsel should be trained to take these violations of policy seriously and develop recommendations for appropriate response and consequences for violators. General counsel should work with scientific integrity officials to ensure that investigations meet acceptable standards and protect employee's rights, while protecting the agency and the public from unethical behavior including violations of scientific integrity policies.

Encouraging scientists to communicate with the public on their work. To improve the timeliness and content of communication of scientific information to the public and media, we [recommend](#) that federal agencies:

- Increase their training and guidance opportunities on scientific integrity and crisis communication beyond those offered one or more times annually to all scientific/technology professionals. For example, establish opportunities for staff to directly engage with scientific integrity officials and expand who would benefit from attending scientific integrity trainings to include managers, directors, public relations officers, and political appointees.
- Discourage self-censorship by making explicit, in the form of a memo and other public communications from agency leadership, that federal scientists are free to pursue and communicate openly about their scientific work.
- Strengthen scientific integrity policies to make clear that media employees, interagency officials, political appointees, and managers cannot interfere in the ability of scientists to communicate their work to the public and that such interference can constitute a violation of scientific integrity.

Protecting scientific research from undue political interference. Considering that some of the most egregious attacks on science constitute attacks on research processes, such as political officials or senior

leadership burying studies, line-editing out the science from reports, or stopping the collection or analysis of data, we need strong guardrails to protect agency science. We recommend that each relevant agency:

- Affirm the agency's commitment to and support of scientifically important data collection, independent of financial interests.
- Ensure that agency scientists who request data for official work receive these data in a timely manner, as long as the requests do not violate existing regulations (e.g., the Paperwork Reduction Act of 1980).
- Ensure that the public has access to unclassified, federally funded data in a timely manner and with appropriate context to enhance public understanding.
- Declare that political appointees may express opinions on grant solicitations, but only qualified career staff may review and decide on the scientific merit of grant proposals.
- Declare that the receipt of a scientific research grant from any federal agency does not constitute a conflict of interest and should not preclude a grant recipient from participating on federal advisory boards, committees, and panels.
- Establish mechanisms to ensure that, once grant funding has been awarded and distributed, political officials cannot rescind, reallocate, or limit use of that funding, nor can political officials at any agency move to delay use of funding for political reasons.
- Ensure that nonscientific considerations or other bureaucratic hurdles do not impede the clearance process for unofficial scientific publications (e.g., peer-reviewed publications that do not rely on non-public agency data).

Strengthening conflicts of interest policies. Where federal policy decisions must be informed by scientific evidence, we need qualified, independent individuals who are [unencumbered by conflicts of interest](#) and able to make decisions that benefit the public. The public interest is best served by political appointees and advisory committees that are free from financial or ideological interests. Improvements to conflict-of-interest disclosure and management policies in tandem with enhanced scientific integrity policies will help firewall science from conflicts, restore trust, and enable the public to hold decisionmakers accountable. In turn, this will help ensure that our [government bases decisions on scientific evidence](#), free of financial, ideological, or political conflicts of interest.

Protecting the independence of science advisory committees. More than 200 science advisory committees produce and analyze research that help federal science agencies inform or shape policy decisions. These committees must be composed of independent experts, be well-balanced, and represent a diverse set of backgrounds, expertise, career stage, and lived experience in order to serve the best interest of the public. The value of clear and independent science advice has been front and center during the COVID-19 pandemic as FDA's Vaccine and Related Biological Products Advisory Committee (VRBPAC) and CDC's Advisory Committee on Immunization Practices (ACIP) reviewed agency and company data to advise on the safety and effectiveness of vaccines and boosters in real time. In order to continue to promote informed decisions and increase public trust, the [federal government should actively work](#) to better utilize the advisory committee system. Agencies can do this by improving the integrity and transparency of processes to ensure committees meet their chartered objectives, protecting the independence and integrity of advisory committees by guarding against conflicts of interest, and ensuring that the processes used to establish and terminate advisory committees are clear and transparent.

Ensuring that scientific integrity policies are accessible. It is imperative that agencies' scientific integrity policies be readily available online for both agency staff and the wider public to view. However,

some agencies have failed to meet this basic requirement. Parts of the CDC’s scientific integrity policies, the “Release of Information to News Media” and “Clearance of Information Products Disseminated Outside CDC for Public Use,” were fully offline for several months in 2020 and the CDC’s primary document on scientific integrity, “CDC Guidance on Scientific Integrity,” was not available on the CDC website for several months in summer 2020, and was only accessible through the CDC Stacks, the agency’s publications library. Unclear or inaccessible policies impede federal scientists from knowing their rights and the public from understanding the agency’s commitment to upholding scientific integrity.

In addition to the recommendations described here, we have made many more in a [roadmap to strengthen scientific integrity](#) at federal agencies that UCS published in 2020. In this report, we describe how agencies can revisit their policies to better educate federal workers on their rights and responsibilities, ensure that scientific communication is open and transparent with the public, and how agencies can better prevent conflicts of interest in government science. We are hopeful that many of the concerns and recommendations are addressed by OSTP’s ongoing process to strengthen scientific integrity, and that Congress will help to hold agencies accountable to their policy choices through future legislation.

Policy Solutions

The Union of Concerned Scientists has long advocated for strong scientific integrity policies at federal agencies. We support requiring agencies that fund, conduct, and/or oversee scientific research to develop strong scientific integrity policies that include enforcement mechanisms. It is vital that these safeguards are codified into statute to ensure their permanence and stability in the coming years.

In order to codify and enforce the aforementioned scientific integrity best practices, UCS recommends that Congress and the Biden-Harris administration:

- **Move expeditiously in completing the next phase in addressing the requirements of President Biden’s Presidential Memorandum of January 2021.** This should include requirements for all science agencies involved in the first phase review to bring their scientific integrity policies and implementation up to best practice as outlined in the review and in recommendations from the Union of Concerned Scientists and other civil society organizations. It also should include the implementation of clear processes to hold violators accountable.
- **Pass [H.R.849, the Scientific Integrity Act](#), to codify scientific integrity policies into law and require that all agencies implement and enforce them.** This will help restore independent science to its rightful place in government decision-making, free of political interference.
 - The *Scientific Integrity Act* contains provisions that would address many challenges of consistency, stability, and accountability in ensuring federal science and scientists are not censored or politically manipulated. It would prohibit political appointees from altering or suppressing scientific findings, and give scientists final review over how agencies portray their research. It also would ensure that federal agencies designate scientific integrity officers, and provide federal employees with ethics training to help prevent misconduct. Another vital component of the Scientific Integrity Act is its codification of scientists’ right to disseminate their work without interference. It would enable scientists to talk about their research with reporters, in scientific journals, and at scientific conferences, as well as directly with members of the public. Such communication is

essential both for public understanding and for federal scientists' ability to share their insights for better oversight and accountability of agency decisions.

Conclusion

It is critical that Congress and the Biden-Harris administration work to strengthen scientific integrity at all applicable federal agencies, especially the nation's public health agencies. The Union of Concerned Scientists applauds the efforts of the Select Committee in examining this issue as it pertains to public health.

Chairman Clyburn, Ranking Member Scalise, and Members of the Subcommittee, I appreciate the opportunity to testify before this Committee to share my views, and I am happy to answer any questions.