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# Safeguarding Science in State Agencies

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# Introduction

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**T**he Covid-19 pandemic, the biggest public health crisis in more than a century, has underscored the critical role that science plays in government efforts to protect the health and well-being of people across the United States. Research and data — about the pandemic’s severity, appropriate mitigation measures, and long-term solutions to the crisis, such as vaccination campaigns — became central to daily life in a way that many people in this country had never before experienced. Government decisions based on rapidly developing science were, in many instances, a matter of life and death.

Throughout the pandemic, most attention focused on the federal government, from political officials’ early failure to acknowledge the magnitude of the danger to the success of Operation Warp Speed, the federally funded effort to create a vaccine. But state and local governments were the main day-to-day decision-makers. While federal agencies conducted research, collected data, allocated vital resources, and educated the public, state and local officials decided whether to impose mask mandates, close (and later reopen) schools and businesses, set up testing sites, and eventually promote (or discourage) vaccination.

Most state and local officials worked tirelessly — often at risk to their own health and lives — to protect the public. But as was true at the federal level,<sup>1</sup> senior state and local officials repeatedly failed to live up to the trust the public placed in them. Across the country, state and local leaders meddled in research and data and retaliated against experts in order to improve their political standing and cover up mismanagement.

The politicization of public health during the pandemic caused severe attrition among state and local government personnel.<sup>2</sup> At the end of 2020, an investigation by Kaiser Health News and the Associated Press showed that “181 state and local public health leaders in 38 states ha[d] resigned, retired or been fired” since the start of the Covid-19 pandemic, due largely to “political blowback” and harassment related to pandemic public health measures.<sup>3</sup> By the end of 2020, “one in 8 Americans — 40 million people — live[d] in a community that ha[d] lost its public health department leader during the pandemic.”<sup>4</sup> A 2022 survey of nearly 45,000 state and local public health workers showed that about one-quarter of them were considering leaving their agency within the year. Of those intending to leave, nearly 40 percent said the pandemic had impacted their decision, and nearly 40 percent cited organizational climate and culture as the reason for their planned departure.<sup>5</sup>

Threats to science-based policymaking are not new. Rather, the pandemic brought to the fore long-standing problems. A National Academy of Sciences study published in 1988 — at the height of the AIDS epidemic,

the last crisis to significantly test the American public health system — highlighted “tension between professional expertise and politics” at all levels of the American public health system.<sup>6</sup> This tension has persisted, not only throughout the public health system but also in other state and local agencies with science-based missions. While officials often have legal authority to weigh numerous factors alongside scientific evidence when crafting policy, falsifying science in order to obfuscate the consequences of their policy decisions is an abuse of power. Yet senior state and local officials routinely reject scientific advice and facts that would lend support to policies they oppose or cast doubt on their leadership. In some cases, they have financial as well as political conflicts of interest. Even more troubling, they seldom face consequences.

While the tendency of senior government leaders to distort scientific research and data for political gain is well documented at the federal level, this first-of-its-kind report reveals three broad trends in abuse at state and local agencies:

- **Suppression and distortion of politically inconvenient research and data.** Senior officials have often suppressed data and research reports or even altered scientific conclusions and misrepresented data that are typically made publicly available, to create a false evidentiary basis for their preferred policy outcomes.
- **Intimidation and censorship of experts.** State and local agencies rely on subject matter experts to collect and analyze data and perform and interpret research to inform the policymaking process. But in many instances, officials have censored experts’ work and intimidated them, sometimes to the point of forcing them out of government service.
- **Sidelineing or even fabrication of science in agency decision-making.** State and local policymakers have often ignored or even fabricated scientific research and data they are charged with using to take action to protect public health and the environment.

These abuses have dire real-world consequences for people’s health and safety. But the burdens are not distributed equally. When officials misrepresent the scientific basis for policies, the adverse consequences typically fall disproportionately on communities of color and other underserved groups, exacerbating injustices caused by centuries of discriminatory policies with respect to, among other things, housing, working conditions, education, health care, community investment, and intergenerational wealth-building.<sup>7</sup>

Just as episodes of political interference in science at federal agencies have demonstrated the need for stronger safeguards for science in the policymaking process at the federal level, abuses at the state and local levels underscore the need for stronger safeguards in state and local governments. And while there are numerous examples of abuse cataloged in this report, the dearth of safeguards at state and local agencies has likely led to underreporting of misconduct. According to a scientist who used to work at a state environmental agency, “I have heard the same story time and time again — investigators are pressured to ignore problems and not document violations.”<sup>8</sup> Another former state government scientist agrees: “People see retaliation happening, and it discourages them from trying to do the right thing. You just learn to roll with the punches.”<sup>9</sup>

State safeguards are, in general, weaker than those at the federal level.<sup>10</sup> For instance, only two state agencies in the entire country have publicly available policies to safeguard science in the policymaking process, often referred to as “scientific integrity policies” (see figure 1).<sup>11</sup> Only 22 states have statutes that require state agencies to use the “best available science” in decision-making (see figure 2).<sup>12</sup> Twelve states’ whistleblower laws do not offer state employees protection for disclosure of dangers to health, public safety, or the environment. And 41 states

do not protect employees who disclose violations of ethics rules.<sup>13</sup>

Practical reforms are needed to safeguard the research and data produced and used at state and local agencies from politically motivated abuse. States and localities should

- adopt scientific integrity policies;
- require public access to publicly funded research and data;
- require that agencies rely on the best available science and consider equity for underserved communities in the policymaking process;
- ensure professionalism, diversity, and ethical standards for science advisory committees;
- strengthen conflict of interest policies and ethics laws to prevent meddling in science for financial gain;
- ensure whistleblower protections for disclosures of alleged abuse;
- establish protections for experts against politically motivated retaliation at state agencies; and
- create executive branch watchdogs to investigate and remedy abuses.

Almost all these reforms have demonstrated their utility in the federal government and many state agencies already. Many can be implemented by state and local legislative bodies as well as by governors and agency leaders. The federal government too can raise state and local standards in many cases.

**FIGURE 1**

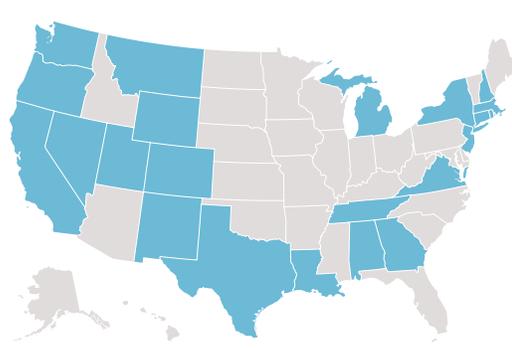
### State Agencies with Publicly Available Scientific Integrity Policies



Source: Climate Science Legal Defense Fund.

**FIGURE 2**

### States with Laws That Require the Use of Best Available Science



Source: Brennan Center and Union of Concerned Scientists research.

Contemporary public health and environmental emergencies such as the Covid-19 pandemic and recent climate change–related catastrophes are shining a light on a long-standing problem endemic to state and local agencies with science-based missions. Now is the time for agency leaders, governors, state and local lawmak-

ers, and the federal government to raise standards and recommit to the promise of science-based policymaking as the means to tackle the country’s most complex problems. The American public’s health, well-being, and trust in government are at stake.

# I. Science in State Policymaking

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**W**hile the federal government's role in funding and producing research to improve public health, protect workers and consumers, ensure food and water quality, preserve the environment, and fuel economic growth is well known, state and local governments also have a long and rich history of producing and using research and data to inform public policy on these and many other topics that require technical expertise.

In particular, state and local governments pioneered the use of scientific research and evidence-based policymaking to protect public health.<sup>14</sup> Such programs predate the founding of the United States. Early public health legislation included a 1701 Massachusetts law to manage smallpox outbreaks. Toward the end of the 18th century, several coastal cities created councils to stop the spread of disease. In 1810, the Massachusetts legislature empowered local health boards to require vaccination against smallpox, and the Boston city government provided free vaccinations to indigent residents.<sup>15</sup> In the 19th century, state and local authorities began collecting data about pollution, mortality, and morbidity and using it to inform public health policy.<sup>16</sup> For example, the New York Board of Health contained a cholera outbreak in 1866 by tracking cases, evacuating residents, and disinfecting contaminated areas.<sup>17</sup>

With the advent of germ theory in the late 1800s, state and local public health agencies established disease research programs.<sup>18</sup> Subsequently, many of the agencies expanded to include clinical care and health education programs.<sup>19</sup> By the turn of the 20th century, there were health departments in 40 states and several local jurisdictions, employing researchers who studied diseases and developed treatments as well as clinicians who treated members of the public.<sup>20</sup> Local health departments were at the forefront of municipalities' responses to the 1918 influenza pandemic and many other public health initiatives throughout the 20th century.<sup>21</sup>

State and local health departments continue to serve many critical roles like these today, as demonstrated by the decisions that officials across the country made in

response to Covid-19 and other disease outbreaks.<sup>22</sup> State and local health departments act both on their own and in partnership with federal agencies such as the Centers for Disease Control and Prevention (CDC), which, among other things, enters into cooperative agreements with states to coordinate responses to public health crises.<sup>23</sup>

Environmental protection is another key area of science-based policymaking at the state and local levels.<sup>24</sup> At the start of the 20th century, states began to establish environmental, conservation, and natural resources agencies, some of which were dedicated to single issues such as water quality or air pollution.<sup>25</sup> States' public health departments have also taken on numerous environmental health issues.<sup>26</sup> Among other responsibilities, state agencies monitor air and drinking water quality, track forest health to prevent fires, and produce geological maps and data to inform housing and industry development and prepare for natural disasters.<sup>27</sup> They also report on emissions, chemical storage, pollution prevention, and waste; conduct research on coastal resources critical to regional industries; and assess and model groundwater.<sup>28</sup> These agencies administer state-level legislation but also rely heavily on federal funds and work under complementary federal and state statutes.<sup>29</sup> For example, states implement the federal Clean Air Act of 1972 and the Clean Water Act of 1972 based on federal standards and with federal funds.<sup>30</sup>

With state and local governments playing a key role in science-based policymaking, safeguards against political interference in scientific research and data at these agencies are essential.

## II. Current Problems

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**T**hree broad trends in political interference in science at state and local agencies demand action: the suppression and distortion of research and data; the intimidation and silencing of experts; and the sidelining of science in the decision-making process.

These abuses have profound consequences. Forced to choose between their integrity and their jobs, experts have left public service, leading to a “brain drain” that often diminishes agencies’ efficiency and competence. Officials’ misrepresentations too often lead to disproportionate harm in low-income communities and communities of color, compounding the consequences of decades of discriminatory policies. While any single episode discussed in this report should inspire reform, the sheer number of episodes, the repetition of tactics, officials’ brazenness, and their near total impunity for misconduct point to the urgent need for comprehensive measures to prevent the further erosion of science-based policymaking so that state and local governments can effectively protect public health, the environment, and much more.

### Suppression and Distortion of Research and Data

The Covid-19 pandemic thrust state and local governments into a far more visible and consequential decision-making role than most Americans had ever before witnessed. While many officials did their best under extraordinary circumstances, leaders across the country buried, manipulated, and misrepresented data related to mortality rates, infection rates, and mitigation strategies to further their political goals. These episodes exposed many long-standing vulnerabilities of scientific research and data at state and local agencies to politically motivated suppression.

Climate science has been another common target of politically motivated suppression of research and data. The episodes discussed below show a clear pattern of misconduct in state and local governments. In almost every instance, officials acted with impunity, underscoring the need for safeguards.

#### Suppression of Covid-19 Data and Research

State and local governments across the country suppressed data during the Covid-19 pandemic. In one of the most notorious cases, senior aides to New York Gov.

Andrew Cuomo rewrote a report state health officials had drafted. Their rewriting concealed 4,100 Covid-19-related nursing home deaths between April 2020 and February 2021, roughly half the total.<sup>31</sup> An audit by the state comptroller found that the undercount took place amid “a threatening environment of intimidation, closed ranks, and lack of commitment to openness” at the New York Department of Health.<sup>32</sup> Moreover, the Office of the New York State Attorney General found that “government guidance requiring the admission of COVID-19 patients into nursing homes may have put residents at increased risk of harm in some facilities and may have obscured the data available to assess that risk.”<sup>33</sup>

This deception took place as Cuomo rose to prominence as a national leader for his handling of the pandemic, which was often compared favorably to that of the Trump administration and won him a \$5.1 million book deal.<sup>34</sup> Cuomo subsequently admitted that his administration undercounted the fatalities due to a fear that the federal government would use the real data to pursue a politically motivated civil rights investigation.<sup>35</sup> Commentators also noted that public disclosure of a failure of this magnitude would have complicated the narrative the governor had cultivated, which fueled talk of a presidential run.<sup>36</sup>

In Florida, too, senior government officials obscured Covid-19 mortality rates, to expedite a reopening of the state’s economy. At the end of April 2020, officials withheld from public access the list of deaths due to Covid-19 compiled by the state’s Medical Examiners Commission. The commission had previously released the list in real time. Additionally, state officials told the commission’s chairman that they planned to remove the cause of death from the commission’s list, which would obscure the death toll from the disease. Staff from the state’s Department of Health also tried to persuade the medical examiner’s office in Miami-Dade County to restrict access to death records, and Palm Beach County attorneys instructed the medical examiner’s office there not to release statistics on Covid-19-related deaths. Beyond fatality statistics, the state’s health department did not release data on Covid-19 infections in nursing homes until a group of news organizations moved to sue to obtain the information.<sup>37</sup>

Examples from other jurisdictions abound. Documents responsive to a public records request indicate that the office of Washington, DC, Mayor Muriel Bowser withheld

data about Covid-19 infection rates in a push to lift restrictions on the local economy in late June 2020, misleading Washingtonians about the risks of patronizing newly reopened businesses.<sup>38</sup> As Georgia lifted public health restrictions in the spring of 2020 — contrary to federal guidelines counseling that restrictions be lifted only after a 14-day downward trend in infections — the state’s Department of Public Health published a graph that misleadingly arranged daily infection rates not in chronological order but in descending order, giving the false impression that infection rates were declining.<sup>39</sup> This prevented the public from making an accurate assessment of the decision to lift public health restrictions.

State officials also suppressed research about the efficacy of infection mitigation techniques. For instance, Missouri Gov. Mike Parson’s office buried a state Department of Health analysis that demonstrated the effectiveness of mask mandates in reducing the spread of Covid-19.<sup>40</sup> Parson opposed mask mandates, regardless of their efficacy as a public health measure, and the state’s attorney general, Eric Schmitt, sued municipalities to stop local governments from imposing them.<sup>41</sup> The health department’s study came to light only in response to a public records request.<sup>42</sup> Commenting on the impact of the suppressed research, a health policy expert noted, “It’s devastating to see what the Missouri governor did since mask policies do reduce the spread of Covid-19 and would reduce the number of people who become sick and die in Missouri.”<sup>43</sup>

Similarly, documents responsive to a public records request revealed that Florida Surgeon General Joseph Ladapo altered a state research report on Covid-19 vaccines to inflate the risks of cardiac death as a result of vaccination. Ladapo, a political appointee, cited the altered research to claim that mRNA vaccines are dangerous to men between the ages of 18 and 39.<sup>44</sup> His editing of the report was part of a larger pattern of Ladapo’s dissemination of false information about Covid-19 mitigation techniques.<sup>45</sup>

### Suppression of Climate Science Research

State government leaders have long suppressed politically inconvenient data and research related to climate science. At times they have suppressed entire research reports; in other instances they have modified publicly available research and data in ways that question — if not outright reject — the scientific consensus that climate change is happening and is caused by human activity.<sup>46</sup>

In Alaska, a day after Gov. Mike Dunleavy took office in December 2018, the state’s Department of Conservation removed from its website a report containing climate change policy recommendations. Alaska has warmed at twice the global average rate since the middle of the last century, and the cost of this warming to the state could range from \$3 billion to \$6 billion between 2008 and

2030.<sup>47</sup> The Climate Action for Alaska Leadership Team, established by Dunleavy’s predecessor, Bill Walker, had written the report pursuant to its charge to “build on already completed research, analysis, and policy recommendation efforts to identify or reassert climate change priorities, set goals and metrics, . . . [and] gather input that will inform current climate priorities . . . in response to emerging opportunities and risks.”<sup>48</sup> Notwithstanding a change in climate policy with Dunleavy’s election, the Leadership Team’s work is subject to Alaska’s public records law, and as such, it should have been available for public inspection.<sup>49</sup>

Vermont Gov. Phil Scott’s office removed a number of references to climate change from a 2018 report that the state’s Natural Resources Board took the lead in preparing pursuant to a statutory directive to understand “the impacts of climate change . . . within the State, and methods to incorporate strategies that reduce greenhouse gas emissions.”<sup>50</sup> An open records request revealed that the governor’s office removed the board’s assessment that climate change would “dramatically affect the health of our natural resources.”<sup>51</sup> The governor’s office also replaced the recommendation that lawmakers “consider establishing new criteria to address impacts from climate change” in the land-use permitting process with more passive language suggesting that lawmakers “review the existing criteria.”<sup>52</sup>

During the administration of Wisconsin Gov. Scott Walker, local newspapers and independent watchdogs documented the removal of references to climate change from the websites of the state’s Department of Natural Resources and the Public Service Commission. The websites were further edited to include statements falsely suggesting that there is substantial debate in the scientific community about the causes of climate change.<sup>53</sup>

What is striking about so many of these episodes of suppression of data and research, whether about Covid-19 or climate science, is the lack of consequences for misconduct, even when the withholding of information caused clear danger to the public. The lack of repercussions underscores the need for stronger safeguards to ensure that research and data compiled in the public’s name and for its benefit cannot be buried to further officials’ political or pecuniary self-interest.

## Intimidation and Censorship of Experts

A second broad pattern of political interference takes the form of officials intimidating and retaliating against experts who work for or with state and local governments. For instance, public health officials in Maryland testified before the state legislature last year about

alleged retaliation they faced. This included suspiciously timed adverse job consequences, such as those experienced by one official after reporting a contractor's use of possibly spoiled vaccine doses.<sup>54</sup> And the administrator for the Florida Department of Health in Orange County was placed on leave because he sent an email to his staff in which he said it was “irresponsible” not to be vaccinated.<sup>55</sup> He was reinstated following an inspector general investigation.<sup>56</sup>

Adverse job consequences are far from the only problem. As noted above, a 2022 survey of public health workers showed that organizational culture was a primary motivator for them to consider leaving their jobs during the pandemic.<sup>57</sup> The staggering attrition rates at many environmental and natural resources departments across the country are virtually impossible to explain without taking into account often hostile political environments. Indeed, between 2008 and 2018, 10 states' environmental and natural resources agencies lost at least 20 percent — and some as much as 38 percent — of their staffs, although funding shortfalls were a major contributing factor.<sup>58</sup> In late 2022, nearly 20 percent of positions at the North Carolina Department of Environmental Quality were vacant.<sup>59</sup>

A lack of civil service protections in a growing number of states, combined with weak whistleblower laws and gaps in government watchdogs' jurisdiction, leaves experts vulnerable to inappropriate pressure from senior officials.<sup>60</sup> This misconduct discourages a culture of objectivity and transparency and can drive talented experts out of government service, causing a loss of institutional knowledge and a disruption of research and leadership. Experts who work for and provide scientific advice to state governments need stronger protections to perform their critical role in the policymaking process and to check abuse.

### Chilling of Scholarly Evaluation of Government Policy

Public university researchers working with state governments have faced censorship, intimidation, and retaliation for their scholarly work. A report commissioned by the University of Florida's faculty senate, for example, found that state officials had pressured researchers to destroy Covid-19 data, prevented them from accessing state data, and delayed publication of their research.<sup>61</sup> The report also documented episodes during which university researchers were instructed not to criticize the governor's or the university's policies.<sup>62</sup> According to minutes from a September 2021 meeting, the university's president told the faculty senate that criticism of the state's Covid-19 response would “fracture the relationship between the university and the state government . . . ultimately leading to a diminished or inability [*sic*] to impact future policies or decisions affecting the university.”<sup>63</sup>

The university denied a medical school professor's request to submit a sworn statement about Covid-19's

impact on children in a lawsuit contesting Gov. Ron DeSantis's ban on school mask mandates.<sup>64</sup> The professor challenged the denial in federal court, and in early 2022 a judge issued an injunction requiring the university to stop enforcing its policy against faculty who serve as expert witnesses.<sup>65</sup> This episode is part of a broader trend of assaults on experts who work at public universities, including efforts to undermine tenure protections.<sup>66</sup>

### Censorship of Agency Staff

Austin Holland was the lead seismologist at the Oklahoma Geological Survey, a state agency and research organization based at the University of Oklahoma. During the fracking boom in the early 2010s, he published peer-reviewed research on the link between fracking and earthquakes in the state. According to Holland, the dean of the university's College of Earth and Energy, Larry Grillot, and the director of the Oklahoma Geological Survey, Randy Keller, reprimanded him for publishing his paper and pressured him to alter his findings.<sup>67</sup> Holland also testified, in a lawsuit brought by an earthquake victim against oil companies, that Grillot changed the wording of his presentations to scientific meetings, published a statement that misleadingly claimed that earthquakes in Oklahoma were naturally occurring (rather than caused by fracking), and asked him to withdraw an abstract for a scientific meeting about earthquakes and fracking, a request with which Holland complied.<sup>68</sup>

As recounted in Holland's sworn testimony, the university president, David Boren, forced him to attend a meeting with Harold Hamm, the CEO of an oil company, Continental Resources. During the meeting, Boren and Hamm told the seismologist that he needed “to listen to the people within the oil and gas industry.”<sup>69</sup> Then Boren — who had previously sat on the board of Continental Resources — Hamm, and Grillot advised him to take the needs of the oil and gas industry into consideration.<sup>70</sup> Emails obtained through a public records request revealed that Hamm and Grillot discussed dismissing from the university scientists who studied the link between oil and gas activity and earthquakes.<sup>71</sup> As a result of these experiences, Holland left his job in 2015, concluding that he “couldn't be a scientist there.”<sup>72</sup>

Another seismologist with the Oklahoma Geological Survey also reported censorship of scientists at the agency, such as the agency's director reprimanding staff for publishing articles connecting earthquakes to fracking.<sup>73</sup>

Censorship of government environmental experts is also common. For instance, a Florida Center for Investigative Reporting inquiry found that, starting in 2011, at the beginning of Gov. Rick Scott's administration, high-ranking officials at the Florida Department of Environmental Protection repeatedly told agency employees not to use the terms “climate change” and “global warming.”<sup>74</sup> And in 2015, the political leadership of the Wisconsin

sin Board of Commissioners for Public Lands — charged with the stewardship of state land to promote education, economic development, and the environment — voted to ban agency personnel from speaking about climate change at work.<sup>75</sup>

## Sidelining and Falsification of Science in Decision-Making

A third trend is the sidelining and sometimes even falsification of science in government decision-making. Officials have ignored evidence of community exposure to dangerous substances; refused to perform scientific analyses of environmental hazards, often in defiance of the law; and knowingly relied on junk science to promote policies that benefit industries with which they have close ties. In some cases, officials or their close associates have stood to profit from government decisions that ignore scientific facts. And in many of these cases, officials have discounted the needs of low-income communities, communities of color, and other marginalized groups, compounding disparities resulting from decades of discriminatory policies. These examples underscore the need for clearer safeguards for how science is used in the policymaking process and whose interests are accounted for in science-based decision-making.

### Misrepresentation of Lead Contamination

Many have written about the Flint, Michigan, water crisis as an example of the disproportionate impact of environmental hazards on low-income communities and communities of color, as well as the consequences of powerful state officials depriving local communities of democratic control over their government.<sup>76</sup> But it is also a story of officials concealing and misrepresenting scientific data that would have triggered a legal obligation to protect public health. Several investigations found that state and local officials had ignored incontrovertible evidence of lead contamination in Flint's water supply, failed to notify Flint residents of exposure, and violated legal requirements regarding drinking water quality.<sup>77</sup>

Flint is a majority-Black city, 41 percent of whose inhabitants live in poverty.<sup>78</sup> In 2011 Gov. Rick Snyder put Flint under state control because of the city's financial crisis, meaning that the city was no longer governed by democratically elected local officials.<sup>79</sup> Pursuant to a 2012 law that passed the legislature after voters rejected it in a statewide referendum, Snyder installed an unelected emergency manager to run the city.<sup>80</sup> In an effort to cut costs, the emergency manager switched the city's water supply in April 2014 from a treated source to the Flint

River, which had served as a waste disposal site for many local industries for more than a century.<sup>81</sup>

Notwithstanding residents' almost immediate complaints, Michigan Department of Environmental Quality (MDEQ) officials asserted that the water was safe, ignoring a memo from an employee of the U.S. Environmental Protection Agency (EPA) showing lead contamination in the water.<sup>82</sup> Additionally, the city found extraordinarily high lead levels in one resident's water in February 2015 but did not notify residents of the extent of the problem until seven months later.<sup>83</sup>

According to the World Health Organization, "there is no level of exposure to lead that is known to be without harmful effects."<sup>84</sup> These harms have been known since the second century BCE.<sup>85</sup> Childhood lead poisoning causes lifelong, irreversible damage to many developmental and biological processes.<sup>86</sup>

As a result of state and local officials' disregard for evidence of lead contamination and prolonged inaction, nearly 9,000 children were exposed to lead for 18 months, an outbreak of Legionnaires' disease killed 12 people and sickened at least 87, and a botched attempt to disinfect the water led to elevated levels of carcinogenic chemicals in the city's water supply, a violation of the federal Safe Drinking Water Act.<sup>87</sup> Although Snyder and other officials have largely escaped charges due to a procedural technicality, the EPA's inspector general found that the MDEQ failed to fulfill its responsibility under the federal Lead and Copper Rule to ensure that utilities minimize consumers' exposure to lead in drinking water.<sup>88</sup>

Officials in Milwaukee, another predominantly nonwhite city, also disregarded evidence of environmental hazards.<sup>89</sup> A 2018 Milwaukee Common Council investigation, spurred by a whistleblower, revealed that a city Health Department policy had prevented staff from informing city lawmakers about children's lead exposure.<sup>90</sup> Due to the lack of timely disclosure of this information, officials failed to provide services to thousands of families with children who tested positive for lead.<sup>91</sup> The Common Council then created an inspector general position to investigate and address such failures.<sup>92</sup>

In the early 2000s, a lead contamination crisis in Washington, DC, resulted from a switch in water treatment chemicals that caused corrosion and leaching of lead into the city's water supply.<sup>93</sup> At the time, Washington was a majority-Black city.<sup>94</sup> Hundreds of children in the city showed elevated lead levels in their blood during the crisis.<sup>95</sup> A water quality manager at the city's Water and Sewer Authority (WASA) who notified agency officials about the lead levels and the need to take action under federal water quality guidelines was fired in 2003. A federal investigator found her discharge to be improper, and an administrative law judge ordered her reinstatement with back pay and damages.<sup>96</sup> The EPA found that WASA had failed to comply with public notification and

reporting requirements under the Lead and Copper Rule.<sup>97</sup> It not only failed to publicly disclose the contamination after discovering the problem was widespread in the summer of 2004 but misleadingly advertised a public meeting about the contamination as an opportunity to “discuss and solicit public comments on . . . Safe Drinking Water Act projects.”<sup>98</sup>

### Refusal to Research Environmental Hazards

State officials have failed to study and act on other environmental hazards as well. In the aftermath of Hurricane Harvey in 2017, the Texas Council on Environmental Quality (TCEQ) declined an offer from NASA to fly air samplers over the affected zone, despite the TCEQ’s mandate to monitor air quality and immediate evidence of the storm’s toxic impact in neighborhoods near oil refineries.<sup>99</sup> Communications obtained through a public records request show the TCEQ’s then toxicology division director, Michael Honeycutt, telling NASA officials, “We don’t think your data would be useful.”<sup>100</sup> Honeycutt is a former lobbyist for the petrochemical industry who has frequently expressed views about air pollution that are outside the scientific consensus, even suggesting that air pollution may be beneficial to human health.<sup>101</sup> An investigation by the Associated Press and the *Houston Chronicle* showed that the post-hurricane pollution was concentrated in communities where the majority of residents were people of color, low-income, or both.<sup>102</sup> Despite repeated assurances from officials that the air pollution posed no health threat, residents were exposed to carcinogens and other toxic substances.<sup>103</sup>

In California, state officials faked government records in order to issue oil and gas extraction permits, disregarding potential environmental hazards. A state audit of the Geologic Energy Management Division (CalGEM) revealed that during a seven-month period in 2019, the agency issued permits without performing legally mandated reviews of data to ensure that injection fluids would not contaminate underground sources of drinking water and other hydrocarbon resources.<sup>104</sup> The agency created 33 empty “dummy” records lacking required environmental impact analyses to authorize the permits.<sup>105</sup>

Although the CalGEM audit focused on deficiencies in the agency’s permitting approval processes, its impetus was concern about conflicts of interest at the agency.<sup>106</sup> Agency regulators tasked with approving and inspecting oil and gas wells had hundreds of thousands of dollars invested in companies they regulated. In fact, officials had investments in companies that received more than 1,000 permits — about 45 percent of the total — between January and June 2019.<sup>107</sup> The agency’s deputy director and a senior oil and gas engineer supervisor, for example, made decisions about Chevron’s and Exxon’s operations while each owning up to \$100,000 of stock in those companies, which prompted an investigation by the state’s Fair Political Practices Commission.<sup>108</sup> The agency’s director, who

was previously employed by regulated companies, was married to a local politician who received unusual campaign donations from a fossil fuel trade association.<sup>109</sup> While the audit was underway, CalGEM’s parent agency, the California Department of Conservation, adopted a new ethics policy to address ongoing concerns.<sup>110</sup>

### Knowing Reliance on Junk Science

Sometimes personnel at state agencies do not simply ignore relevant research and data but try to undermine it. The Oregon Forest Resources Institute (OFRI), a quasigovernmental state agency that is funded by taxes, did just that.<sup>111</sup> Timber companies control 9 of 11 voting seats on the agency’s board.<sup>112</sup> The agency is charged with educating the public and private forest landowners about forestry practices.<sup>113</sup> A state audit found that, although OFRI’s authorizing statute forbids it from influencing policy, agency personnel thwarted scientific research that showed the shortcomings of policies that would benefit the timber industry’s financial interests.<sup>114</sup> For instance, in 2006 a member of OFRI’s board organized efforts to discredit a research article by an Oregon State University (OSU) graduate student about logging after a forest fire because it demonstrated the environmental downsides of pending legislation that would benefit the timber industry. The same year, OFRI produced a report that rejected the scientific consensus that human activities affect climate change, over the protests of scientists who identified inaccuracies. In 2020, OFRI published a report written by a timber industry consultant that undermined an earlier OSU study about forest land use strategies for mitigating climate change. The OFRI report’s author had previously done work for a timber industry group to refute the OSU study. Scientists whose work was cited in the OFRI report questioned its scientific conclusions.<sup>115</sup>

The state audit also found that OFRI repeatedly made false statements about the quality of drinking water from Oregon forestlands, notwithstanding federal agencies’ determination that the water was contaminated; that it misled the public by promoting biased materials that reflected industry interests; and that it may have broken the law by attempting to influence policymaking.<sup>116</sup> The state auditors found it significant that OFRI did not have a practice or policy of consulting outside experts when preparing reports and public education materials, and they criticized the agency’s lack of standards for the dissemination of objective information.<sup>117</sup>

Texas officials too have knowingly relied on junk science promoted by industry representatives, in this case to determine risks associated with exposure to ethylene oxide, a carcinogenic air pollutant that puts children at risk of leukemia. Texas has the country’s highest rates of ethylene oxide exposure.<sup>118</sup> Due to ethylene oxide emissions, at least 100 census tracts in the state have cancer risk levels above the national average of 30 in one million,

and 15 census tracts face an extreme cancer risk of more than 100 per million.<sup>119</sup> The 26 facilities that produce ethylene oxide in Texas are disproportionately located near communities of color and low-income communities. Among them is Laredo, Texas, a majority-Latino city in which more than a quarter of residents live in poverty. Laredo, which is home to a medical sterilization plant with the highest emissions of ethylene oxide in the country, is among the top 20 locations in the United States for heightened cancer risk. Students at a school near the sterilization plant face a lifetime cancer risk nearly three times the maximum level that the EPA considers acceptable, according to a ProPublica analysis.<sup>120</sup>

Texas is the only state that has refused to adopt the EPA's 2016 standard for ethylene oxide, which was the result of a decade-long study that involved extensive peer review.<sup>121</sup> In 2019 the TCEQ set a maximum acceptable level of exposure to ethylene oxide that was 3,500 times the standard set by the EPA.<sup>122</sup> The TCEQ withheld the analysis it had performed before setting its ethylene oxide standard, along with more than 6,000 related documents, from the public.<sup>123</sup> It is in litigation with the state's attorney general

and environmental groups seeking access to those documents.<sup>124</sup> Despite the withholding of records, groups challenging the lax standard have determined that the TCEQ relied on a study promoted by chemical industry representatives<sup>125</sup> that both the EPA and the TCEQ itself had previously discredited because the study captured cancer risk only for the most highly exposed groups.<sup>126</sup> The TCEQ contracted with the lead author of that study (who is neither a toxicologist nor an epidemiologist)<sup>127</sup> for work on its ethylene oxide standard despite the fact that the TCEQ and the EPA had found his research on the chemical deeply flawed.<sup>128</sup> The TCEQ also relied on another study promoted by chemical industry representatives that has never been published or peer reviewed.<sup>129</sup> Additionally, the TCEQ did not factor breast cancer rates into its toxicity assessment, despite a prior admission that data on the incidence of breast cancer supports a finding that ethylene oxide is far more dangerous than the TCEQ concluded.<sup>130</sup> Consequently, nearly a decade after the EPA determined that ethylene oxide is a hazardous substance, Laredo residents and other Texans continue to be exposed to this cancer-causing toxin at unacceptable levels.

### III. Recommendations

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Political interference in scientific research is often possible because state and local agencies lack safeguards to ensure the independence of scientists and the integrity of their research and data. Enforcement mechanisms, meanwhile, are often insufficient to hold accountable officials who meddle in the scientific process. State lawmakers can implement reforms through statute, and governors and agency leaders can do so as a matter of policy.<sup>131</sup> Some reforms can also be achieved through collective bargaining with state employee unions.<sup>132</sup> Local governments can implement similar safeguards. The federal government, too, can raise standards at state and local agencies as they implement federal programs and mandates.

State legislatures can also exercise their oversight powers. In New York, the state legislature investigated the manipulation of data about Covid-19 fatalities at nursing homes, while in Texas, the legislature's recent report critiquing the TCEQ's lax regulation of ethylene oxide contains numerous sensible recommendations to improve transparency and public trust in the regulatory process.<sup>133</sup> State legislatures should dedicate resources to oversight of state agencies with science-based missions, hire staff who have technical and scientific expertise, and forge relationships with outside experts who can provide advice on either an ad hoc or a routine basis.

## Recommendations for State Legislatures and Agencies

### Safeguards for Evidence-Based Policymaking

#### >> Establish scientific integrity policies at state agencies.

State agencies with science-based missions should have formal policies that establish measures and safeguards to ensure that scientific research adheres to recognized professional standards and is free from political interference.<sup>134</sup> Such policies would give experts an avenue for addressing politically motivated manipulation of research and data, such as the misreporting of Covid-19 deaths in New York and Florida and the censorship of scientific findings about fracking at the Oklahoma Geological Survey.

Federal agencies have had scientific integrity policies for more than a decade, and a bill that would make them permanent has advanced in Congress on a bipartisan basis.<sup>135</sup> In a recent survey, an overwhelming majority of federal scientists reported that agency officials were

adhering to these policies; respondents also believed that recent initiatives to strengthen scientific integrity — including a presidential memorandum and formation of a White House task force — would better protect them and their work from political interference.<sup>136</sup>

By contrast, most state agencies lack formal mechanisms to protect scientists and their work from politically motivated meddling. A 2020 analysis by the Climate Science Legal Defense Fund found just two state agencies with publicly available scientific integrity policies: the Wisconsin Department of Natural Resources and the California Department of Fish and Wildlife.<sup>137</sup> The organization's executive director notes, "The absence of such policies from almost all state agencies deprives researchers of important protections and impacts the effective and efficient execution of state-level programs."<sup>138</sup> Scientific integrity policies at state agencies would be an appropriate response to calls for reform from state oversight bodies and lawmakers.<sup>139</sup>

Scientific integrity policies should

- prohibit the attempted or actual manipulation and suppression, without scientific merit, of scientific evidence used and produced by the agencies, including when scientists working in or for state government publish their research, participate in conferences, or otherwise share their research publicly;<sup>140</sup>
- clearly state the job titles — including those of political officials — bound by the policy;
- establish a procedure for handling disagreements about scientific methods and conclusions; and
- lay out consequences for those found to have violated the policy, including personnel actions and legal actions equivalent to those used for ethical violations.<sup>141</sup>

Along with adopting formal policies, state agencies should designate personnel with relevant expertise and

appropriate insulation from political officials to provide routine scientific integrity training to agency personnel, administer the policies, and investigate and resolve disputes.<sup>142</sup> Agencies too small to support full-time staff for this purpose could share personnel where appropriate.

### **>> Make state-funded research and data publicly available.**

State agencies should make state-funded research and data accessible to the public immediately upon completion or publication in a scholarly journal. It should be free, available electronically, and in a machine-readable format while adhering to appropriate protections for confidential information such as personally identifiable health data. Mandatory disclosure would curb officials' ability to suppress politically inconvenient research and data, such as on Covid-19 infection and death rates, the causes of climate change, or community exposure to dangerous chemicals. As one experienced scientist who recently retired from the Minnesota Department of Natural Resources explains, "It's critical to have transparency in research, and, to the extent practicable, critical results should be articulated in a manner readily understandable to the public. That way, if your work isn't being considered or valued in the regulatory process, it's available to the public, so people can access and apply it during permitting and environmental review."<sup>143</sup>

At least 46 state governments make at least some data they collect and produce publicly available.<sup>144</sup> This often includes data about infectious diseases, water quality, land use, and fish and wildlife.<sup>145</sup> However, many open data programs could be made more comprehensive and incorporate formal safeguards against abuse. For instance, agencies should be required to provide a public explanation any time they alter data or research or remove it from public access. When extenuating circumstances compel a delay in the public release of research and data, the fact of delay, along with the reasons for it, should be disclosed when the data or research is made available.<sup>146</sup>

In 2013 the Obama administration took action to require federal agencies to make federally funded research publicly available, and the Biden administration in 2022 issued a directive to federal agencies to improve equitable access to these materials.<sup>147</sup> A bipartisan federal law enacted in 2019, the Foundations for Evidence-Based Policymaking Act, requires federal agencies to make the data they collect publicly available in usable formats and makes it easier for researchers to request access to restricted and sensitive data, while protecting confidential information.<sup>148</sup> Experts are optimistic that this reform "could help usher in a cultural shift toward evidence-based policy," thus improving policy outcomes.<sup>149</sup> Federal law and executive actions provide models for states to emulate.

### **>> Mandate that state agencies make policy using the best available science.**

It can be hard to defend against political manipulation without clear standards about what constitutes good science. Yet only 22 states have statutes that require the use of the best available science in decision-making, and among those states, the standard applies only in certain areas, such as soil conservation or wildlife habitat protection, not across the board (see table 1 in the appendix). At the same time, some legislatures have actively antagonized evidence-based policymaking. During the Covid-19 pandemic, at least 15 state legislatures introduced, and in many cases enacted, laws that undermined public health agencies' science-based policymaking, upending centuries-old government functions.<sup>150</sup>

When conducting science-based decision-making, state agencies should adhere to a clearly defined "best available science" standard that focuses on the quality and objectivity of information, the use of publicly available data and peer review, and clear documentation and communication of the risks and uncertainties in scientific analysis.<sup>151</sup> This standard does not require that scientific considerations predominate in policy outcomes. Rather, it guarantees that, when scientific questions need to be weighed, the underlying science used is reliable. The standard provides guidance for situations in which the science is incontrovertible as well as those in which the science is quickly evolving and experts disagree, because it specifies how to weigh objective measures of quality, such as whether research is peer-reviewed.<sup>152</sup>

The best available science standard appears in many landmark federal statutes, and a number of federal agencies have adopted it as a matter of agency policy.<sup>153</sup> It should be universal at all levels of government.

### **>> Mandate consideration of equity in agency decision-making.**

When science is sidelined in the policymaking process, communities of color, low-income communities, and other underserved groups frequently bear disproportionate harm.<sup>154</sup> Thus, safeguarding science in the policymaking process is crucial for protecting not only government scientists and their work but also the health and safety of underserved communities. Additionally, policymakers should take affirmative steps to assess the equity implications of proposed policies.

Only 13 states have offices, commissions, or task forces dedicated to ensuring equity in environmental policymaking.<sup>155</sup> But state and federal agencies are making efforts to consider the impact of proposed policies on underserved communities and improve community participation in the policymaking process, which helps ensure that officials understand the facts on the ground, such as the cumulative impact of decades of discriminatory policies on those communities. For example, after the Flint water

crisis, Governor Snyder — who faced criminal charges for his role in the crisis — created an environmental justice work group that generated recommendations for state and local agencies to improve their consideration of equity concerns.<sup>156</sup> Although the group attracted some criticism, Snyder implemented its recommendations to create an environmental justice ombudsman and an inter-agency team focused on environmental justice issues across state government.<sup>157</sup> And a landmark 2020 New Jersey environmental justice law requires the state’s Department of Environmental Protection to consult with overburdened communities and evaluate the environmental and public health stressors they face when making permitting decisions.<sup>158</sup>

The Biden administration has taken steps to improve the consideration of equity in the federal policymaking process, issuing an executive order requiring federal agencies to conduct equity assessments.<sup>159</sup> The order also directs agencies to “review and address potential scientific integrity policy violations that have a disproportionate impact on underrepresented groups or weaken the equitable delivery of agency programs.”<sup>160</sup>

Following the lead of the Biden administration and various state legislative and executive initiatives, state agencies should incorporate equity considerations into project development and research. For instance, public health agencies should be required to consider the needs of underserved communities when crafting infection mitigation protocols and vaccination campaigns, and environmental agencies and energy regulators should account for underserved communities when making permitting decisions, performing toxicology assessments, and engaging in regulatory activities.

State agencies should also ensure communities’ meaningful participation in regulatory processes. If Flint residents had been given a say in the decision to switch the city’s water source, or if Laredo residents had been given opportunities to participate in the TCEQ’s assessment of ethylene oxide, they might have been spared exposure to toxic substances. As a former state agency investigator explains, “People have a lot to say about policy decisions that impact them, and they need to be given adequate notice and time to speak. It’s not enough for regulators to publish a notice for an upcoming public meeting in the newspaper, which is all that’s required by law in my state.”<sup>161</sup> Such participation can be encouraged by conducting outreach about proposed policies, encouraging the submission of public comments through engagement efforts, holding public hearings in affected areas, and reducing barriers to public participation, including a lack of language and communication access, the scheduling of public meetings at inconvenient times for working families, lack of access to transportation to attend in-person meetings, cost of such transportation, and lack of internet access to participate virtually.<sup>162</sup>

Finally, state agencies should create internal channels for addressing equity concerns. Complaint procedures established in scientific integrity policies could be used for this purpose.<sup>163</sup> Such procedures could bring about speedier resolutions to crises such as those in Flint and Laredo.

### >> Create procedures for convening science advisory committees.

Expert advisory committees are a critical source of independent scrutiny that improves regulatory outcomes. State lawmakers and executive branch officials alike have recognized their importance. For instance, the Texas legislature has created committees to advise agencies about water, land use, and other environmental matters. (There does not appear to have been an advisory committee involved in the TCEQ’s controversial ethylene oxide assessment.)<sup>164</sup> In 2019, facing massive per- and polyfluorinated alkyl substances (PFAS) contamination across Michigan, Gov. Gretchen Whitmer created the interagency Michigan PFAS Action Response Team (MPART) to conduct research and implement mitigation measures.<sup>165</sup> MPART in turn created a number of work groups, including a Science Advisory Workgroup made up of external scientists to provide recommendations for PFAS standards.<sup>166</sup>

The federal government has hundreds of advisory committees, some of which are created by statute and others at the discretion of the president and other executive branch officials.<sup>167</sup> For example, the EPA’s Clean Air Science Advisory Committee advises on the technical bases for the National Ambient Air Quality Standards mandated by the Clean Air Act, and the Advisory Committee on Immunization Practices at the CDC advises on the effectiveness of vaccines, including those for Covid-19.<sup>168</sup>

The Federal Advisory Committee Act (FACA) establishes baseline principles for transparency, balance, and ethics for advisory committees across the federal government.<sup>169</sup> Some state laws require the evaluation of candidates’ qualifications and potential conflicts of interest for specific science advisory committees.<sup>170</sup> But many others authorizing science advisory committees do not make reference to ethical considerations and in some cases fail to specify the types of expertise or credentials needed to participate.<sup>171</sup> No state appears to have a statutory equivalent of FACA. Formal rules are needed across the board.

Science advisory committees must operate with safeguards to ensure the rigor of their output, mitigate conflicts of interest, and provide for a highly qualified membership that is diverse not only in areas of expertise but in lived experience as well.<sup>172</sup> Indeed, as the Biden administration recently acknowledged, diversity in such endeavors “is essential to improving the representativeness and eminence of the scientific workforce, innovation in the conduct and use of science, and equitable partici-

pation in science by diverse communities across the Nation.”<sup>173</sup> Protections for science advisory committees should include

- standard procedures for convening committees, including clear criteria for committee formation and member recruitment and selection, as well as requirements for diversity of both expertise and representation in terms of race, ethnicity, gender, and other relevant identities;
- a bar on membership for those with conflicts of interest, unless conflicts are unavoidable, such as when the only available experts have financial conflicts of interest; and
- mandatory public disclosure of committee members’ qualifications, past and present agency and industry affiliations, recent sources of funding, and any conflict of interest waivers granted.<sup>174</sup>

Many of these safeguards have been successfully implemented at the federal level as part of FACA.<sup>175</sup> A 2021 Biden administration memorandum charged agencies with ensuring that their committees’ membership reflect a diversity of expertise and lived experience.<sup>176</sup> States should follow suit.

### >> Ensure that government ethics rules prevent meddling in science for financial gain.

While attacks on science in state government are most often politically motivated, conflicts of interest have also driven episodes of abuse. Cases such as improper permitting by California’s oil and gas regulator and OFRI’s misleading of the public about forestry science erode not only agencies’ effectiveness but also public confidence in government. Greater transparency requirements and stronger enforcement mechanisms could prevent the subversion of science-based decision-making processes for financial gain.

Strong protections against conflicts of interest include, at a minimum, mandatory disclosure, a requirement to either recuse from relevant decision-making or divest from problematic investments, restrictions on the receipt of gifts, ethics training, and penalties for ethics violations. Nearly all states require at least some agency personnel to disclose conflicts of interest and/or financial investments, in at least certain circumstances (see table 2 in the appendix). And nearly all states prohibit participation in government decision-making in the event of a financial conflict of interest (see table 3 in the appendix). But some state laws have significant gaps that can invite improper interference in science.<sup>177</sup> For instance, several states — including Florida, Montana, South Dakota, and Utah — allow personnel to participate in matters so long as their conflict is disclosed.<sup>178</sup>

Nearly all states’ laws include job penalties for violations of ethics laws (see table 3 in the appendix).<sup>179</sup> And many states require by statute ethics training for government personnel.<sup>180</sup> A few, including Oklahoma and Tennessee, do not have robust ethics laws but instead leave it to agencies to create ethics rules.<sup>181</sup>

An effective ethics regime for agencies with science-based missions should include

- mandatory public disclosure of all significant financial holdings and sources of income by political leaders and other high-ranking officials, with reasonable exceptions where such disclosure would pose an undue hardship;<sup>182</sup>
- safeguards against conflicts of interest, including mandatory recusal of government personnel from decisions that impact their financial interests in the absence of divestiture from the relevant holdings;
- appropriate “revolving door” rules barring officials from taking part in matters directly impacting recent employers or clients, regardless of ongoing financial ties, and restricting exiting officials from lobbying their former colleagues in government;<sup>183</sup> and
- reasonable monetary restrictions on gifts to government officials.<sup>184</sup>

States should also establish robust enforcement mechanisms, with job penalties for ethics violations, including removal. Enforcement could be carried out by a dedicated ethics agency or by other personnel, such as public integrity staff in the state attorney general’s office.<sup>185</sup> Routine training should be required to help government personnel avoid ethical pitfalls. At federal agencies, such programs increase employees’ awareness of and help them comply with ethical obligations.<sup>186</sup>

While state lawmakers should pass legislation to improve ethics laws, executive branch leaders can institute strong ethics practices as a matter of gubernatorial or agency action.<sup>187</sup> Many states already have fairly comprehensive ethics regimes and need only to fill in a few gaps.

## Safeguards for Scientists

### >> Establish whistleblower protections.

Experts who produce and use scientific research and data for state agencies should have strong protections for reporting allegations of illegality and abuse. Such protections, which can be extended to contractors and external advisers,<sup>188</sup> promote respect for science in government agencies.

Strong whistleblower laws provide several avenues for reporting misconduct.<sup>189</sup> They also cover a broad array of

potential abuses, including mismanagement, waste, fraud, and unethical behavior, and provide remedies for retaliation.<sup>190</sup> Federal whistleblower laws, though imperfect, are a useful model.<sup>191</sup> Such laws made it possible, for example, for a group of EPA scientists to raise concerns recently about directives they allegedly received to minimize evidence of hazards related to certain chemicals.<sup>192</sup>

All states have whistleblower statutes that cover government employees, but many have significant deficiencies. As a seasoned whistleblower attorney notes, “There’s a patchwork of protections across the states, making it difficult for whistleblowers to navigate. My colleagues and I don’t litigate under many state whistleblower laws if at all possible because they are so weak, and some are more traps than protections.”<sup>193</sup> Twelve states do not offer protections for disclosure of dangers to health, public safety, or the environment. And 41 do not protect disclosures of unethical conduct. Twenty-one states require whistleblowers to make disclosures to state officials or their supervisors before making disclosures elsewhere, which is concerning because those in the whistleblower’s chain of command may be biased or may even be implicated in the misconduct at hand. Thirty-seven states’ laws do not provide for personnel actions against managers who retaliate (see table 4 in the appendix).<sup>194</sup> Three states offer no opportunities for a court challenge upon the exhaustion of administrative remedies.<sup>195</sup>

Despite these weaknesses, some of the abuses documented in this report were still uncovered by whistleblowers. In Milwaukee, for instance, a health department whistleblower violated the department’s policy banning such communications to notify the city council about lead contamination.<sup>196</sup> But other abuses came to light through other channels.<sup>197</sup> In many cases, stronger whistleblower protections could have led to earlier discovery of misconduct and potential mitigation of harms.

At a minimum, state whistleblower laws should

- protect any state employee, consultant, or other external adviser or contractor who discloses misconduct related to research, analysis, or the use of technical data and other information, and define misconduct broadly;<sup>198</sup>
- protect disclosure of misconduct outside agency reporting lines, including to legislative bodies, as well as independent inspectors general and similar watchdogs, because agency leaders may be implicated in the reported misconduct and therefore likely to retaliate against whistleblowers;<sup>199</sup>
- provide remedies for retaliation, including back pay and reinstatement;<sup>200</sup> and
- provide access to courts once administrative procedures are exhausted.

### **>> Protect state employees whose jobs entail the use of scientific and technical expertise from politically motivated discharge.**

State employees whose jobs entail the use of scientific and technical expertise should have civil service protections. The federal government established such protections nearly 150 years ago to end political patronage, ensure merit-based hiring, and protect career public employees from political pressure, and many states followed suit.<sup>201</sup> Elements of a strong civil service law include a stipulation that career government employees be discharged only for cause, notice of the proposed removal and an opportunity for the employee to challenge the decision, and the opportunity to appeal and be made whole in the event of unjustified discharge.<sup>202</sup>

Statutory job protections against arbitrary and politically motivated discharge enable experts at state agencies to do their jobs. In recent decades, however, lawmakers and state executives have curtailed not only the types of state employees entitled to such job protections but the strength of those protections as well.<sup>203</sup> For instance, following the weakening of civil service protections in North Carolina in 2013, Gov. Pat McCrory increased from 24 to 179 the number of professionals at the North Carolina Department of Environment and Natural Resources (DENR) exempt from civil service protections.<sup>204</sup>

Improving protections against politically motivated discharge for career experts in state agencies would foster a culture in which politically motivated abuse is not tolerated. State lawmakers should enact job protections for government scientists that include

- clear definitions of employees covered by civil service laws, to include experts at state agencies;<sup>205</sup>
- protection against removal for any reason other than for cause, with “cause” clearly defined as deficiency in work performance or personal conduct, following progressive discipline;<sup>206</sup>
- written notice and an opportunity for the employee to be heard, as well as a procedure for appealing adverse employment actions before an independent review board or commission;<sup>207</sup> and
- remedies for employees who have been wrongfully discharged, including reinstatement and back pay.<sup>208</sup>

State executives and agencies can implement such job protections through rules, regulations, and collective bargaining with state employee unions.<sup>209</sup>

## Enforcement Mechanisms

### >> Create executive branch watchdogs with authority to investigate scientific integrity–related issues at state agencies that engage in evidence-based policymaking.

Inspectors general or other watchdogs should be granted jurisdiction over agencies with science-based missions. These watchdogs should have independent authority to investigate allegations of political interference in scientific research and data as well as retaliation against scientists, recommend remedial action, and refer serious matters to appropriate authorities.

Watchdogs have rooted out political interference in research and data, keeping government accountable and contributing to a culture of respect for evidence-based policymaking. For instance, the state comptroller in New York investigated the underreporting of nursing home Covid-19 fatalities, and the Oregon Audits Division brought to light misconduct at OFRI.<sup>210</sup> In the wake of the lead contamination scandal at the Milwaukee Health Department, local lawmakers created an office of inspector general.<sup>211</sup>

But despite the important role that executive branch watchdogs play in safeguarding science in the policymaking process, the Association of Inspectors General’s “Directory of State and Local Inspector General Agencies” lists only eight states with inspectors general in agencies charged with protecting public health, the environment, or natural resources.<sup>212</sup> It lists just 11 states with a central inspector general’s office with jurisdiction over several executive branch agencies.<sup>213</sup> Most states have auditors charged with investigating misconduct in state agencies, but they tend to be focused on misuse of government funds.<sup>214</sup>

Twenty-three state legislatures have an office with the authority to audit executive branch agencies.<sup>215</sup> But as a former senior Minnesota government official notes, “In my experience, when the watchdog with oversight over a state agency is in the legislature, it can be challenging to not politicize strong oversight. The interbranch element can complicate good management practices and can put the emphasis on the initiation of the investigation rather than its outcome. That can be at odds with the goal of depoliticizing science.”<sup>216</sup>

With limited oversight options at the state level, some scientists in state government have reported allegations of abuse to federal inspectors general.<sup>217</sup> But this is an option only when federal law is implicated.

Experts who perform and use research at state agencies must have an effective in-house avenue for reporting and remedying misconduct, and executive branch watchdogs must have the autonomy to act on allegations of misconduct. Ideally, inspectors general should be housed in each agency because they gain familiarity with the agency’s

operations and substantive work. But with many state governments facing budgetary concerns and some agencies having small staffs, it may be more cost effective for executive branch watchdogs to have jurisdiction over more than one agency. If watchdogs lack the expertise required to evaluate highly technical matters, they should have the authority and resources to hire expert staff or contract with impartial consultants and advisers.

## Recommendations for the Federal Government

The federal government plays a critical role in state science-based policymaking, including by funding state agencies and overseeing their work through federal mandates and cooperative agreements, pursuant to which federal agencies provide financial and other assistance to local actors to address issues in their communities. Hence Congress, the White House, and federal agencies have many tools to safeguard from abuse the research and data that state agencies use and produce.

### >> Require state agencies to adhere to scientific integrity principles when implementing federal law, programs, and grants.

Congress should pass legislation requiring state government partners in federal programs to adhere to scientific integrity principles in work performed pursuant to federal funding and mandates. For their part, federal agencies should require state agencies to adhere to scientific integrity principles in work performed pursuant to federal funding, regulations, mandates, and other formal arrangements.

Federal protections already extend to state-level scientific research in some instances. For example, some federal agencies require grant recipients to adhere to their scientific integrity standards for work performed pursuant to agency grants.<sup>218</sup> Institutions receiving funding from the Public Health Service are required by regulation to have written policies and procedures for addressing research misconduct.<sup>219</sup> The National Science Foundation likewise requires its grant recipients to adhere to research integrity standards.<sup>220</sup> The federal government routinely puts other conditions, such as auditing requirements, on state agencies’ use of federal funding to help ensure that those funds are used for their intended purposes.<sup>221</sup> And pursuant to federal workplace safety and health statutes, 28 states have created programs approved by the federal Occupational Safety and Health Administration that afford state government employees whistleblower protections.<sup>222</sup>

A scientist who worked in the EPA’s Office of Children’s Health Protection explains: “Requiring states to

adhere to scientific integrity principles on federal projects would improve the quality of their work and prevent those peddling junk science from getting another bite at the apple at the state level after they've been discredited at the federal level."<sup>223</sup> And an administrative law professor in Texas notes that federal standards could improve the administration of state-level programs and regulations by "creating the right incentives for a race to the top, as is the case on substantive science-based policies like automobile standards, where many states follow the lead of a pioneer."<sup>224</sup>

**>> Require state agencies to make publicly accessible the research and data they produce and use pursuant to federal programs and funding.**

Public access to government-funded research and data is important not only for scientific advancement but also for

public education and government accountability.<sup>225</sup> The federal government, by statute and executive action, should require state agencies to make publicly available research and data that they use and produce pursuant to federal funding and when carrying out federal programs and mandates. In the view of the former EPA scientist, "It's crucial that there be transparency around research and data when state agencies are engaging in federal processes, to ensure that actions states are taking are based on high-quality information."<sup>226</sup> Appropriate exemptions should be established to protect confidential data.

Federal requirements for state agencies to make research and data publicly available would represent a modest extension and streamlining of existing practices. Congress and the White House already mandate that federal agencies make it easy for the public to access and use government data, and several states make a substantial amount of data they collect and use publicly available.<sup>227</sup>

## Conclusion

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Science-based policymaking is critical to meeting the major challenges this country will face in the 21st century. A recent survey found that the scientific expertise, hard work, and compassionate policies of public health agencies across the country were sources of a great deal of public trust in those agencies during the Covid-19 pandemic. But the same survey showed that trust in these institutions eroded due to politicization of science-based decision-making and the undue influence of industries with financial stakes in decision-making.<sup>228</sup>

As the many episodes of abuse documented above show, an environment at state agencies that is permissive of politically and financially motivated suppression and falsification of data and intimidation of experts leaves the public at risk of grave harm from the major challenges ahead — from future public health threats

to extreme weather to environmental hazards and much more. Now is the time to repair the damage caused by abuses of power and to strengthen state agencies' capacity to engage in science-based policymaking, so that they are ready to meet future challenges and crises.

# Appendix

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**TABLE 1**

## Laws Requiring State Agencies to Use the Best Available Science

STATE	STATUTE
Alabama	Ala. Code § 1-2-43 (2021)
California	Cal. Fish & Game Code § 2820 (West 2002)
Colorado	Colo. Rev. Stat. Ann. § 25-7-103.5 (West 2022)
Connecticut	Conn. Gen. Stat. Ann. § 26-141b (West 2011)
Georgia	Ga. Code Ann. § 12-5-546.2 (West 2015)
Louisiana	La. Stat. Ann. § 38:3306 (West 2021)
Massachusetts	Mass. Gen. Laws Ann. ch. 21N, § 1 (West 2021)
Michigan	Mich. Comp. Laws Ann. § 324.20120a (West 2018)
Montana	Mont. Code Ann. § 50-20-104 (West 2023)
Nevada	Nev. Rev. Stat. Ann. § 533.024 (West 2017)
New Hampshire	N.H. Rev. Stat. Ann. § 142-A:2 (2011)
New Jersey	N.J. Stat. Ann. § 24:4A-9 (West 2019)
New Mexico	N.M. Stat. Ann. § 72-14A-5 (West 2023)
New York	N.Y. Env'tl. Conserv. Law § 75-0105 (McKinney 2020)
Oregon	Or. Rev. Stat. Ann. § 496.164 (West 1993)
Rhode Island	R.I. Gen. Laws Ann. § 42-6.2-5 (West 2014)
Tennessee	Tenn. Code Ann. § 11-11-202 (West 2016)
Texas	Tex. Water Code Ann. § 36.0015 (West 2015)
Utah	Utah Code Ann. § 19-2a-102 (West 2021)
Virginia	Va. Code Ann. § 2.2-220.5 (West 2022)
Washington	Wash. Rev. Code Ann. § 36.70A.172 (West 2010)
Wyoming	Wyo. Stat. Ann. § 11-5-120 (West 2021)

**Note:** The statutes included in this table are a representative sample of laws in the states with best available science statutes.

**Source:** Brennan Center and Union of Concerned Scientists research.

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TABLE 2

## Laws Requiring Disclosure of Conflicts of Interest or Financial Investments

STATE	STATUTE	NOTES
Alabama	Code of Ala. § 36-25-14 (2015)	
Alaska	Alaska Stat. Ann. § 39.52.150 (West 1986), § 39.52.210 (West 1998)	
Arizona	Ariz. Rev. Stat. Ann. § 38-503 (1987), § 38-509 (1978)	
Arkansas	Ark. Code Ann. § 21-8-203 (West 2005)	
California	Cal. Gov't Code § 87202 (West 2022)	<i>Covering elected and appointed officials, which includes many state commission officers</i>
Colorado	Colo. Rev. Stat. Ann. § 24-6-202 (West 2022)	
Connecticut	Conn. Gen. Stat. Ann. § 1-83 (West 2021)	
Delaware	Del. Code Ann. tit. 29, § 5806 (West 2007)	
Florida	Fla. Stat. Ann. § 112.3144 (West 2023), § 112.3143 (West 2013)	<i>§ 112.3144: Covering elected public officers § 112.3143: Requiring disclosure when state officer abstains from vote due to financial conflict of interest</i>
Georgia	Ga. Code Ann. § 45-10-26 (West 2011)	
Hawaii	Haw. Rev. Stat. Ann. § 84-17 (West 2023)	
Illinois	Ill. Const. art. XIII, § 2 (West, Westlaw through Nov. 2022 amendments)	<i>Requiring statement of economic interests for holders of state offices and members of commissions and boards</i>
Indiana	Ind. Code Ann. § 4-2-6-8 (West 2021)	
Iowa	Iowa Code Ann. § 68B.35 (West 2017)	
Kansas	Kan. Stat. Ann. § 75-4302a (West 1998)	<i>Covering elected officials</i>
Kentucky	Ky. Rev. Stat. § 11A.050 (West 2021)	
Louisiana	La. Stat. Ann. § 42:1124	
Maine	Me. Rev. Stat. Ann. tit. 5, § 19 (West 2022)	
Maryland	Md. Code Ann., Gen. Provis. § 5-601 (West 2018)	
Massachusetts	Mass. Gen. Laws Ann. ch. 268A, § 6(a) (West 2009)	
Michigan	Mich. Const. art. IV, § 10 (West, Westlaw through Nov. 2022 amendments)	<i>Requiring governor, lieutenant governor, secretary of state, and attorney general to file annual financial disclosure report</i>
Minnesota	Minn. Stat. Ann. § 10A.09 (West 2021)	
Mississippi	Miss. Code Ann. § 25-4-25 (West 2008)	
Missouri	Mo. Ann. Stat. § 105.483 (West 2019)	
Montana	Mont. Code Ann. § 2-2-131 (West 2005)	
Nebraska	Neb. Rev. Stat. Ann § 49-1493 (West 2016), § 49-1495 (West 2003)	

(continued on next page)

**TABLE 2** (continued from previous page)

## Laws Requiring Disclosure of Conflicts of Interest or Financial Investments

STATE	STATUTE	NOTES
Nevada	Nev. Rev. Stat. Ann. § 281A.420 (West 2017)	
New Hampshire	N.H. Rev. Stat. Ann. § 15-A:3 (2006), § 21-O:9 (2010), § 21-O:11 (2010)	§ 15-A:3: Requiring disclosure of financial interests by certain government officials § 21-O:9: Requiring disclosure of conflicts of interest for waste management council § 21-O:11: Same for air resources council
New Jersey	N.J. Stat. Ann. § 24:6I-26 (West 2021)	Requiring appointees and employees of cannabis commission to file financial disclosure statements
New Mexico	N.M. Stat. Ann. § 10-16-3 (West 2011), § 53-7B-8 (West 2009)	Requiring disclosure of interests for personnel at research applications center
New York	N.Y. Pub. Off. Law § 73-a (West 2022)	
North Carolina	N.C. Gen. Stat. Ann. § 138A-36 (West 2019)	
North Dakota	N.D. Cent. Code Ann. § 44-04-22 (West 1995), § 61-02-04.1 (West 2007)	§ 44-04-22: Covering persons acting in a legislative or quasi-legislative or judicial or quasi-judicial capacity for a political subdivision of the state § 61-02-04.1: Covering members of water commission
Ohio	Ohio Rev. Code Ann. § 102.02 (West 2021)	
Oregon	Or. Rev. Stat. Ann. § 244.050 (West 2023)	
Pennsylvania	65 Pa. Cons. Stat. Ann. § 1104 (West 1998)	
Rhode Island	R.I. Gen. Laws Ann. § 36-14-6 (West 1987)	
South Carolina	S.C. Code Ann. § 8-13-700(B) (2011)	
South Dakota	S.D. Codified Laws § 3-1A-1 (1974)	
Tennessee	Tenn. Code Ann. § 8-50-501 (West 2022)	
Texas	Tex. Gov't Code § 572.058 (West 1993)	
Utah	Utah Code Ann. § 67-16-7 (West 2018)	
Vermont	Vt. Stat. Ann. tit. 3, § 1211 (West 2022), § 1212 (West 2021)	
Virginia	Va. Code Ann. § 2.2-3114 (West 2018)	
Washington	Wash. Rev. Code Ann. § 42.17A.710 (West 2020)	
West Virginia	W. Va. Code Ann. § 6B-2-6 (West 2017)	
Wisconsin	Wis. Stat. Ann. § 19.43 (West 2022)	
Wyoming	Wyo. Stat. Ann. § 6-5-118 (West 2015)	

**Note:** The statutes included in this table are a representative sample of laws in the states with laws requiring disclosure of conflicts of interests or financial investments. Idaho's government ethics statute was repealed, although certain unethical conduct by public servants is subject to criminal penalties. Idaho Code Ann. §§ 59-701-706 (repealed 2015); § 18-1359 (West 2016). Oklahoma's ethics laws were also repealed. Okla. Stat. tit. 74, § 1401 (repealed 1982); Okla. Stat. tit. 74, § 4246 (repealed 1995).

**Source:** Brennan Center and Union of Concerned Scientists research.

TABLE 3

## Laws Requiring Recusal or Divestment

STATE	STATUTE	NOTES
Alabama	Code of Ala. § 36-25-5 (2000)	<i>Prohibiting use of official position for personal gain</i>
Alaska	Alaska Stat. § 39.52.210(b)(1)–(2) (West 1998), § 39.52.410(a)(2) (West 1986)	<i>Providing for recusal and divestment</i>
Arizona	Ariz. Rev. Stat. Ann. § 38-508 (1978)	<i>Recusal, but allowing employing agency to act upon disclosure of conflicts if recusal would prevent agency from acting as required by law</i>
Arkansas	Ark. Code Ann. § 21-8-1001 (West 2001)	<i>Prohibiting participation by member of state board or commission in decisions in which the member has a pecuniary interest</i>
California	Cal. Gov't Code § 87100	<i>Prohibiting participation in decisions in which personnel have financial interest</i>
Colorado	Colo. Rev. Stat. Ann. § 24-18-105(2) (West 2012), § 24-18-110 (West 1991)	<i>§ 24-18-110: Instructing government personnel not to “acquire or hold an interest” in business affected by decisions over which they have “substantive authority,” but treating disclosure of conflict of interest by some government personnel as affirmative defense</i>
Connecticut	Conn. Gen. Stat. Ann. § 1-85 (West 1989), § 1-86 (West 2005)	<i>Recusal</i>
Delaware	Del. Code Ann. tit. 29, § 5805 (West 1998)	<i>Recusal, except when there is no provision for delegation, provided that conflict is disclosed</i>
Florida	Fla. Stat. Ann § 112.3143 (West 2013)	<i>Prohibiting state public officers from voting on matters that would “inure” to their special private gain or loss without disclosure of such interest</i>
Georgia	Ga. Stat. Ann. § 45-10-22 (West 1984), § 45-10-23 (West 1985)	<i>§ 45-10-22: Prohibiting public officials from transacting business with state agencies § 45-10-23: Same for public employees</i>
Hawaii	Haw. Rev. Stat. Ann. § 84-14 (West 2019)	<i>Prohibiting official actions directly affecting, inter alia, substantial financial interests, with exception for department head who cannot disqualify self</i>
Illinois	5 Ill. Comp. Stat. 420/3A-35 (West 2003)	<i>Prohibiting certain appointees from having contracts or pecuniary interests therein related to government entity where they serve</i>
Indiana	Ind. Code Ann. § 4-2-6-9(b)(1)(A) (West 2015)	<i>Recusal</i>
Iowa	Iowa Code Ann. § 68B.2A (West 2009)	<i>Recusal</i>
Kansas	Kan. Stat. Ann. § 46-286 (West 1984)	<i>Prohibiting participation by state officers or employees in the licensure, inspection, administration, or enforcement of any regulation or in any contract with any outside organization with which the officer or employee holds a position</i>
Kentucky	Ky. Rev. Stat. § 11A.030 (West 1992)	<i>Laying out factors to consider in deciding whether to recuse</i>
Louisiana	La. Stat. Ann. § 42:1112 (West 2018)	<i>Recusal</i>
Maine	Me. Rev. Stat. Ann. tit. 5, § 18 (West 2021)	<i>Recusal, but allowing participation in limited circumstances if conflict is disclosed</i>

(continued on next page)

**TABLE 3** (continued from previous page)

## Laws Requiring Recusal or Divestment

STATE	STATUTE	NOTES
Maryland	Md. Code Ann., Gen. Provis. § 5-501 (West 2021)	<i>Recusal, but allowing participation in limited circumstances</i>
Massachusetts	Mass. Gen. Laws Ann. ch. 268A, § 6	<i>Recusal</i>
Michigan	Mich. Comp. Laws Ann. § 15.342 (West 1984)	<i>Prohibiting participation by public officers or employees in governmental decisions regarding business entities in which the officer or employee has a personal or financial interest</i>
Minnesota	Minn. Stat. Ann. § 43A.38 Subd. 7 (West 2009)	<i>Recusal, but allowing participation if not possible to reassign and conflict is disclosed</i>
Mississippi	Miss. Code Ann. § 25-4-119 (West 1990)	<i>Prohibiting pecuniary benefit</i>
Missouri	Mo. Ann. Stat. § 105.454 (West 2014), § 105.462 (West 1998)	<i>Recusal</i>
Montana	Mont. Code Ann. § 2-2-105(4) (West 1995), § 2-2-131 (West 2005)	<i>§ 2-2-131: Allowing participation in decision-making so long as conflicts are disclosed</i>
Nebraska	Neb. Rev. Stat. Ann § 49-1499.02 (West 2020)	<i>Recusal except if participation is legally required</i>
Nevada	Nev. Rev. Stat. Ann. § 281A.420	<i>Requiring recusal only in “clear cases” of a conflict of interest</i>
New Hampshire	N.H. Rev. Stat. Ann. § 21-G:22 (2016)	<i>Recusal</i>
New Jersey	N.J. Stat. Ann. § 52:13D-23(e)(1), (4) (West 2008)	<i>Prohibiting participation in matters where there is a conflict of interest</i>
New Mexico	N.M. Stat. Ann. § 10-16-4(B) (West 2011)	<i>Recusal with option of waiver</i>
New York	N.Y. Pub. Off. Law § 74(2) (West 2016)	<i>Prohibiting conflicts of interest</i>
North Carolina	N.C. Gen. Stat. Ann. §§ 138A-36(b), 138A-38, 138A-39 (West 2019)	<i>Recusal with option for waiver, divestment</i>
North Dakota	N.D. Cent. Code Ann. § 44-04-22	<i>Recusal, unless majority of body gives consent to participate</i>
Ohio	Ohio Rev. Code Ann. § 102.04 (West 1980)	<i>Recusal</i>
Oregon	Or. Rev. Stat. Ann. § 244.120 (West 1993)	<i>Recusal, except when necessary to maintain a quorum</i>
Pennsylvania	65 Pa. Cons. Stat. Ann. § 1103(j) (West 1998)	<i>Recusal, except when necessary to maintain a quorum</i>
Rhode Island	R.I. Gen. Laws Ann. § 36-14-5(f)(2) (West 2005)	<i>Recusal</i>
South Carolina	S.C. Code Ann. § 8-13-700(B)(4)–(5), (C)	<i>Recusal, with option to create blind trust</i>
South Dakota	S.D. Codified Laws §§ 3-23-3, 3-23-3.1 (2017)	<i>Allowing participation after disclosure</i>
Tennessee	Tenn. Code Ann. § 8-50-501 (West 2022)	
Texas	Tex. Gov’t Code § 572.058(a)	<i>Requiring recusal for members of boards of state agencies</i>
Utah	Utah Code Ann. § 67-16-8(1) (West 2018)	<i>Allowing participation in transactions between state and business entity in which personnel have substantial interest if that information has been disclosed</i>

(continued on next page)

**TABLE 3** (continued from previous page)

## Laws Requiring Recusal or Divestment

STATE	STATUTE	NOTES
Vermont	Vt. Stat. Ann. tit. 3, § 1203(a)(2), (b)(4), (c) (West 2022)	<i>Recusal, with option for waiver</i>
Virginia	Va. Code Ann. § 2.2-3112 (West 2017)	<i>Recusal from transactions except when necessary to maintain a quorum</i>
Washington	Wash. Rev. Code Ann. § 42.52.030 (West 2005)	<i>Prohibiting participation by state officers or employees in transactions between the state and entities with which the officer or employee has a beneficial interest</i>
West Virginia	W. Va. Code Ann. § 6B-2-5(d)(3) (West 2018)	<i>Requiring recusal for contracts, with option for waiver</i>
Wisconsin	Wis. Stat. Ann. § 19.46 (West 2016)	<i>Prohibiting public officials from taking official action affecting matters in which they have a substantial financial interest</i>
Wyoming	Wyo. Stat. Ann. § 6-5-106(b) (West 1982)	<i>Recusal</i>

**Note:** The statutes included in this table are a representative sample of laws in the states with laws requiring recusal or divestment. As noted in table 2, Idaho and Oklahoma are the only states with no such laws.

**Source:** Brennan Center and Union of Concerned Scientists research.

**TABLE 4**

## States That Lack Adequate Whistleblower Protection Laws

STATE	NO PROTECTION FOR HEALTH/SAFETY/ ENVIRONMENTAL DISCLOSURES	NO PROTECTION FOR DISCLOSURES OF UNETHICAL CONDUCT	REQUIRED DISCLOSURE UP CHAIN OF COMMAND	NO PROVISIONS FOR PERSONNEL ACTIONS AGAINST RETALIATORY MANAGERS
Alabama				x
Alaska		x	x	x
Arizona		x		
Arkansas	x			x
California		x	x	
Colorado	x		x	
Connecticut				x
Delaware		x		x
Florida		x		x
Georgia	x	x	x	x
Hawaii	x	x		x
Idaho	x	x	x	x
Illinois		x		x
Indiana	x	x		x
Iowa		x		x
Kansas		x	x	
Kentucky		x		x
Louisiana		x		x
Maine		x	x	x
Maryland		x	x	
Massachusetts		x	x	x
Michigan		x		x
Minnesota		x		x
Mississippi		x		x
Missouri				
Montana		x	x	x
Nebraska		x		x
Nevada		x	x	x
New Hampshire		x		x
New Jersey		x	x	
New Mexico		x	x	x
New York		x	x	x
North Carolina		x		x
North Dakota	x	x		x

(continued on next page)

**TABLE 4** (continued from previous page)**States That Lack Adequate Whistleblower Protection Laws**

<b>STATE</b>	<b>NO PROTECTION FOR HEALTH/SAFETY/ ENVIRONMENTAL DISCLOSURES</b>	<b>NO PROTECTION FOR DISCLOSURES OF UNETHICAL CONDUCT</b>	<b>REQUIRED DISCLOSURE UP CHAIN OF COMMAND</b>	<b>NO PROVISIONS FOR PERSONNEL ACTIONS AGAINST RETALIATORY MANAGERS</b>
Ohio	x	x	x	x
Oklahoma		x	x	
Oregon		x		x
Pennsylvania	x			
Rhode Island	x	x		x
South Carolina				
South Dakota	x	x		x
Tennessee		x	x	x
Texas	x	x		x
Utah		x		x
Vermont		x		x
Virginia				x
Washington		x	x	
West Virginia				
Wisconsin		x	x	
Wyoming		x	x	x

**Source:** Public Employees for Environmental Responsibility, "Whistleblower Report Cards by State," accessed June 15, 2023, <https://peer.org/resource-center/state-whistleblower-report-cards/>.

# Endnotes

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- 1 Martha Kinsella et al., *Trump Administration Abuses Thwart US Pandemic Response*, Brennan Center for Justice, last updated July 26, 2021, <https://www.brennancenter.org/our-work/research-reports/trump-administration-abuses-thwart-us-pandemic-response>.
- 2 Anna Maria Barry-Jester et al., "Pandemic Backlash Jeopardizes Public Health Powers, Leaders," *KFF Health News*, December 15, 2020, <https://khn.org/news/article/pandemic-backlash-jeopardizes-public-health-powers-leaders/>.
- 3 At least some of the harassment came from members of the public. Barry-Jester et al., "Pandemic Backlash."
- 4 Barry-Jester et al., "Pandemic Backlash."
- 5 De Beaumont Foundation, "The Impact of the Covid-19 Pandemic: Rising Stress and Burnout in Public Health, Results of a National Survey of the Public Health Workforce," Public Health Workforce Interests and Needs Survey, 2022, [https://debeaumont.org/wp-content/uploads/dlm\\_uploads/2022/03/Stress-and-Burnout-Brief\\_final.pdf](https://debeaumont.org/wp-content/uploads/dlm_uploads/2022/03/Stress-and-Burnout-Brief_final.pdf).
- 6 Institute of Medicine (US) Committee for the Study of the Future of Public Health, *The Future of Public Health* (Washington, DC: National Academies Press, 1988), 4.
- 7 See Anita Desikan et al., "An Equity and Environmental Justice Assessment of Anti-Science Actions During the Trump Administration," *Journal of Public Health Policy* 44 (2023): 148, <https://doi.org/10.1057/s41271-022-00390-6> ("Members of underserved communities face disproportionately high exposure to pollution and other stressors. Residents of underserved communities are exposed to greater health hazards in their homes, workplaces, and neighborhoods than are residents from whiter and more affluent communities. The hazards relate to long-standing inequities and systemic racism, such as residential segregation due to 'redlining' practices in which governments marked up neighborhoods on maps and gave lower grades in red to places where they expected property values to decrease, often in areas with Black homeowners. Underserved communities are more likely to be located near sources of environmental hazards such as sewage systems, mines, landfills, industrial facilities, major roads, and fossil fuel extraction operations.").
- 8 Interview with Neil Carman, clean air director for the Sierra Club's Texas chapter, March 15, 2023. As a Texas Air Control Board investigator, Carman faced retaliation after filing a complaint against a polluter in 1989. The Texas Attorney General's Office of Environmental Protection subsequently pursued a successful record-breaking air pollution suit against the polluter. United Press International, "Dynagen Rubber Plant Agrees to \$1.4 Million Fine for Pollution," September 4, 1991, <https://www.upi.com/Archives/1991/09/04/Dynagen-rubber-plant-agrees-to-14-million-fine-for-pollution/8309683956800/>.
- 9 Interview with former state agency investigator, March 13, 2023.
- 10 While the federal government has adopted a number of safeguards within the past 15 years, they are still in need of strengthening. See Preet Bharara et al., *Proposals for Reform, Volume II*, National Task Force on Rule of Law & Democracy, 2019, <https://www.brennancenter.org/our-work/policy-solutions/proposals-reform-volume-ii-national-task-force-rule-law-democracy>.
- 11 Climate Science Legal Defense Fund, *A Quick Guide to the Scientific Integrity Policies of Universities, State Agencies, and International Institutions*, 2020, <https://www.csldef.org/wp-content/uploads/2020/05/Scientific-Integrity-at-Universities-State-Agencies-and-International-Institutions.pdf>.
- 12 See table 1.
- 13 Public Employees for Environmental Responsibility (hereinafter PEER), "Whistleblower Report Cards by State," accessed June 15, 2023, <https://peer.org/resource-center/state-whistleblower-report-cards/>.
- 14 Institute of Medicine, *The Future of Public Health*, 66. The Supreme Court has long recognized public health as a "police power" of the states. *Jacobson v. Massachusetts*, 197 U.S. 11, 25 (1905) ("[This Court] has distinctly recognized the authority of a state to enact quarantine laws and 'health laws of every description[.]' . . . According to settled principles, the police power of a state must be held to embrace, at least, such reasonable regulations established directly by legislative enactment as will protect the public health and the public safety. It is equally true that the State may invest local bodies called into existence for purposes of local administration with authority in some appropriate way to safeguard the public health and the public safety." [Internal citations omitted.]).
- 15 Jess McHugh, "First U.S. Vaccine Mandate in 1810 Launched 200 Years of Court Battles," *Washington Post*, December 12, 2021, <https://www.washingtonpost.com/history/2021/12/12/first-vaccine-mandate-massachusetts-waterhouse/>.
- 16 Institute of Medicine, *The Future of Public Health*, 60; and Lawrence O. Gostin, Scott Burris, and Zita Lazzarini, "The Law and the Public's Health: A Study of Infectious Disease Law in the United States," *Columbia Law Review* 99 (January 1999): 78, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=139923](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=139923).
- 17 Institute of Medicine, *The Future of Public Health*, 61.
- 18 Institute of Medicine, *The Future of Public Health*, 63; and Gostin, Burris, and Lazzarini, "The Law and the Public's Health," 78.
- 19 Institute of Medicine, *The Future of Public Health*, 66.
- 20 Institute of Medicine, *The Future of Public Health*, 61, 66.
- 21 Nancy Tomes, "'Destroyer and Teacher': Managing the Masses During the 1918–1919 Influenza Pandemic," *Public Health Reports* 125, Supp. 3 (2010): 49–50, <https://journals.sagepub.com/doi/epdf/10.1177/00333549101250S308>.
- 22 Gostin, Burris, and Lazzarini, "The Law and the Public's Health," 78. See also Jennifer Frazier and Jane D. Vincent, "Health," *Georgia State University Law Review* 28 (2011): 157, (citing 2009 survey finding that state public health agencies "'top activities" included "1) disease prevention; 2) preparedness; 3) epidemiology, data, surveillance, and monitoring; and 4) wellness, health promotion, and health communication"); and Emily Berman, "The Roles of the State and Federal Governments in a Pandemic," *Journal of National Security Law & Policy* 11 (2020): 62–64, [https://jinslp.com/wp-content/uploads/2020/12/The-Roles-of-the-State-and-Federal-Governments-in-a-Pandemic\\_2.pdf](https://jinslp.com/wp-content/uploads/2020/12/The-Roles-of-the-State-and-Federal-Governments-in-a-Pandemic_2.pdf).
- 23 Centers for Disease Control and Prevention (hereinafter CDC), "Cooperative Agreements, Grants & Partnerships," last reviewed April 10, 2023, <https://www.cdc.gov/publichealthgateway/partnerships/index.html>.
- 24 Richard J. Lazarus, *The Making of Environmental Law* (Chicago: University of Chicago Press, 2004), 50–51.
- 25 See, e.g., California Natural Resources Agency, "Our Agency's History," accessed June 8, 2023, <https://resources.ca.gov/About-Us/Our-Agency's-History>; Maryland Manual On-Line, "Department of Natural Resources," accessed June 8, 2023, <https://msa.maryland.gov/msa/mdmanual/21dnr/html/dnr.html>; Indiana Department of Natural Resources, "DNR History," accessed June 8, 2023, <https://www.in.gov/dnr/about-us/dnr-history/#>; and Texas Commission on Environmental Quality (hereinafter TCEQ), "History of the TCEQ and Its Predecessor Agencies," last modified March 15, 2023, <https://www.tceq.texas.gov/agency/organization/tceqhistory.html>. See also Library of Congress, "Documentary Chronology of Selected Events in the Development of the American Conservation Movement,

1847–1920,” accessed June 8, 2023, <https://memory.loc.gov/ammem/amrvhtml/cnchron1.html>; and Lazarus, *The Making of Environmental Law*, 51, 54, 86 (noting passage of state pollution control laws from the 1940s to the 1960s and the passage of state and tribal environmental disclosure requirements). The impetus for regulation in the 1960s was the growing environmental movement, spurred by a number of high-profile industrial disasters and the publication of *Silent Spring*. Richard J. Lazarus, “The Greening of America and the Graying of United States Environmental Law: Reflections on Environmental Law’s First Three Decades in the United States,” *Virginia Environmental Law Journal* 20 (2001): 79, <https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1149&context=facpub>.

**26** Institute of Medicine, *The Future of Public Health*, 68.

**27** Washington Department of Natural Resources, “At-a-Glance: A Quick Look at the Department of Natural Resources,” accessed June 21, 2023, [https://www.dnr.wa.gov/publications/em\\_dnr\\_at\\_glance.pdf](https://www.dnr.wa.gov/publications/em_dnr_at_glance.pdf).

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- 148** Foundations for Evidence-Based Policymaking Act of 2018, Pub. L. 115–435, 132 Stat. 5529 (2019); Andrew Ujifusa, “Trump Signs Legislation Promoting Evidence-Based Policymaking,” *Edweek*, January 15, 2019, <https://www.edweek.org/policy-politics/trump-signs-legislation-promoting-evidence-based-policymaking/2019/01>; Data Coalition, “Foundations for Evidence-Based Policymaking Act of 2018,” 2019, [https://www.datacoalition.org/resources/Evidence-Act-Web-version-2019%20\(7\).pdf](https://www.datacoalition.org/resources/Evidence-Act-Web-version-2019%20(7).pdf); and Results for America, “Evidence Act Brief: The Promise of the Foundations for Evidence-Based Policymaking Act and Proposed Next Steps,” 2019, <https://results4america.org/wp-content/uploads/2019/09/Evidence-Act-Proposed-Next-Steps-FINAL.pdf>.
- 149** Robert Hahn, “Building upon Foundations for Evidence-Based Policy,” *Science* 364, no. 6440 (May 2019): 534, <https://www.science.org/doi/abs/10.1126/science.aaw9446>.
- 150** Network for Public Health Law and the National Association of County and City Health Officials, *Proposed Limits on Public Health Authority: Dangerous for Public Health*, May 2021, 5, <https://www.naccho.org/uploads/downloadable-resources/Proposed-Limits-on-Public-Health-Authority-Dangerous-for-Public-Health-FINAL-5.24.21pm.pdf>. For instance, in 2021, Governor DeSantis signed a law in Florida that prevented local governments from implementing evidence-based public health measures. S.B. 2006, 2021 Leg., Reg. Sess. (Fla. 2021). An Ohio law allows the state legislature to void any rule regarding the prevention of the spread of contagious disease issued by the governor or the state’s health department. S.B. 22, 134th Gen. Assemb. (Ohio 2021). See also *Scientific American* editors, “New State Laws Harm Public Health by Putting Politicians in Charge of Medicine,” *Scientific American*, November 1, 2021, <https://www.scientificamerican.com/article/new-state-laws-harm-public-health-by-putting-politicians-in-charge-of-medicine/>. A Kansas law limits the ability of local health departments to issue orders without the approval of county commissioners, who lack relevant subject matter expertise. The law also allows the county commissioners to opt out of public health orders issued by the governor. H.B. 2016, 2020 Leg., 1st Spec. Sess. (Kan. 2020).
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Oceanic and Atmospheric Administration, "Information Quality Guidelines," last updated November 4, 2021, <https://www.noaa.gov/organization/information-technology/policy-oversight/information-quality/information-quality-guidelines> ("To the degree that the agency action is based on science, [the National Oceanic and Atmospheric Administration] will use (a) the best available science and supporting studies (including peer-reviewed science and supporting studies when available), conducted in accordance with sound and objective scientific practices, and (b) data collected by accepted methods or best available methods."); and EPA, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency*, 2002, 22, [https://www.epa.gov/sites/default/files/2020-02/documents/epa-info-quality-guidelines.pdf\\_version.pdf](https://www.epa.gov/sites/default/files/2020-02/documents/epa-info-quality-guidelines.pdf_version.pdf) ("The substance of the information is accurate, reliable and unbiased. This involves the use of[] the best available science and supporting studies conducted in accordance with sound and objective scientific practices, including, when available, peer reviewed science and supporting studies and [] data collected by accepted methods or best available methods (if the reliability of the method and the nature of the decision justifies the use of the data).").

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**155** National Conference of State Legislatures, "State and Federal Environmental Justice Efforts," updated May 26, 2023, <https://www.ncsl.org/environment-and-natural-resources/state-and-federal-environmental-justice-efforts>.

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**157** Michigan Environmental Justice Coalition, "Gov. Snyder Appoints EJ Work Group Absent of Impacted EJ Community Members," February 23, 2017, <https://oktjustice.org/2017/02/23/gov-snyder-appoints-ej-work-group-absent-of-impacted-ej-community-members/>; and AP News, "Snyder Creates Environmental Justice Ombudsman, Work Group," July 25, 2018, <https://apnews.com/article/fa1f9fd18c434dca85aedad9785678a7>.

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Office of Management and Budget, "Broadening Public Participation and Community Engagement in the Regulatory Process" (official memorandum), Executive Office of the President, July 19, 2023, 6–8, <https://www.whitehouse.gov/wp-content/uploads/2023/07/Broadening-Public-Participation-and-Community-Engagement-in-the-Regulatory-Process.pdf>.

**163** See Scientific Integrity Fast-Track Action Committee of the National Science and Technology Council, *Protecting the Integrity of Government Science*, January 2022, 27, [https://www.whitehouse.gov/wp-content/uploads/2022/01/01-22-Protecting\\_the\\_Integrity\\_of\\_Government\\_Science.pdf](https://www.whitehouse.gov/wp-content/uploads/2022/01/01-22-Protecting_the_Integrity_of_Government_Science.pdf).

**164** Sandoval-Solis et al., "Environmental Flows," 17; and TCEQ, "Ethylene Oxide (EtO) Development Support Document (DSD)," last modified February 6, 2023, <https://www.tceq.texas.gov/toxicology/ethylene-oxide>.

**165** 2-2019 Mich. Reg. 33 (February 15, 2019) (Executive Order 2019-03, Department of Environmental Quality Michigan PFAS Action Response Team).

**166** Michigan PFAS Action Response Team, "MPART Workgroups," accessed July 28, 2023, <https://www.michigan.gov/pfasresponse/workgroups>; and Michigan PFAS Action Response Team, "Science Advisory Workgroup," accessed June 16, 2023, <https://www.michigan.gov/pfasresponse/about/advisory-groups/science-advisory-workgroup>.

**167** See U.S. General Services Administration (hereinafter GSA), "FACA 101," last reviewed July 13, 2016, <https://www.gsa.gov/policy-regulations/policy/federal-advisory-committee-management/finding-information-on-faca-committees/what-is-faca>; and Energy.gov, "Federal Advisory Committee Management," accessed June 16, 2023, <https://www.energy.gov/management/federal-advisory-committee-management>.

**168** EPA, "Clean Air Scientific Advisory Committee (CASAC)," last updated February 8, 2017, <https://casac.epa.gov/ords/sub/f?p=113:1>; and CDC, "Vaccine Recommendations and Guidelines of the ACIP: COVID-19 ACIP Vaccine Recommendations," last reviewed July 28, 2022, <https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19.html>.

**169** GSA, "The Federal Advisory Committee Act (FACA) Brochure," last reviewed August 2, 2017, <https://www.gsa.gov/policy-regulations/policy/federal-advisory-committee-management/advice-and-guidance/the-federal-advisory-committee-act-faca-brochure>.

**170** See, e.g., Ohio Rev. Code Ann. § 3718.03(A), (E) (West 2021) (specifying the types of expertise required for members and specifying that members "shall not have a conflict of interest with the position"); and Or. Rev. Stat. Ann. § 196.451(3)(b)–(c) (West 2013) (requiring candidates to possess relevant scientific and technical backgrounds and an evaluation of potential or actual conflicts of interest).

**171** See, e.g., Cal. Fish & Game Code § 6594.1 (West 2021) (specifying types of experts to serve but not mentioning procedures for handling conflicts of interest); Iowa Code Ann. § 206.23 (West 2001) (same); N.H. Rev. Stat. Ann. § 125-F:6 (1987) (same); N.C. Gen. Stat. Ann. § 113-335 (West 1989) (specifying that nongame wildlife advisory committee "is to be comprised of knowledgeable and representative citizens of North Carolina" to advise on conservation of endangered species, with no reference to conflicts of interest).

**172** Restoring Trust, 86 Fed. Reg. 8845.

**173** Scientific Integrity Fast-Track Action Committee, *Protecting the Integrity*, xiii.

**174** See Melissa L. Kelly et al., "Safeguarding Against Distortions of Scientific Research in Federal Policymaking," *Environmental Law Reporter* 51, no. 1 (2021): 10022–23, <https://www.ucsusa.org/sites/default/files/2021-01/uci-clean-rec.pdf>.

**175** FACA, which governs the establishment and operation of advisory committees, requires that they be "fairly balanced in terms

of the points of view represented and the functions to be performed” and not “inappropriately influenced by the appointing authority or by any special interest.” 5 U.S.C.A. § 1004.

**176** Restoring Trust, 86 Fed. Reg. 8845.

**177** Of note, a number of states — including Louisiana, Nebraska, Nevada, New Mexico, New York, North Carolina, North Dakota, Ohio, Pennsylvania, South Dakota, and West Virginia — have more stringent ethical standards for at least some energy, environmental, and/or public health agencies, in apparent recognition of the particular risks that ethical violations pose for their missions and their vulnerability to capture by certain interests. Even in these states, however, heightened ethics safeguards omit many other government bodies that generate or make heavy use of scientific research and data. See, e.g., La. Stat. Ann. § 42:1124 (West 2017) (requiring financial disclosures for certain personnel at departments of health, environmental quality, and natural resources, among other agencies); Neb. Rev. Stat. Ann. § 49-1499.06 (West 2002) (recusal rules for members of Environmental Trust Board); Neb. Rev. Stat. Ann. § 38-168 (West 2007) (defining conflict of interest for members of boards appointed by State Board of Health as “includ[ing] financial, professional, or personal obligations that may compromise or present the appearance of compromising the judgment of a member in the performance of his or her duties”); Nev. Rev. Stat. Ann. § 701.150 (West 2001) (preventing “any conflict of interest relating to the performance of . . . duties” for Office of Energy, a higher standard than “clear” conflicts of interest for other government personnel); N.M. Stat. Ann. § 53-7B-8 (West 2009) (requiring disclosure of conflicts of interest and recusal at state research applications center); N.Y. Env’tl. Conserv. Law § 17-0827 (McKinney 1973) (prohibiting commissioner of Department of Water Pollution Control from receiving significant income from permit holders in the state pollutant discharge elimination system); N.C. Gen. Stat. Ann. § 143B-283 (West 2015) (granting governor authority to impose additional ethical standards on members of Environmental Management Commission); N.D. Cent. Code Ann. § 38-14.1-38 (West 1981) (conflict of interest law for employees of Surface Mining Commission); N.D. Cent. Code Ann. § 61-02-04.1 (West 2007) (more stringent conflict of interest law for members of Water Commission); Ohio Rev. Code Ann. § 1513.04 (West 1980) (conflict of interest law for public employees working on coal and other surface mining regulation); 71 Pa. Cons. Stat. Ann. § 510-28 (West 1982) (conflict of interest law for employees of Department of Environmental Resources regarding coal, oil, and gas extraction); S.D. Codified Laws § 1-16A-6 (1972), § 1-16H-12 (2004) (recusal required for members of South Dakota Health and Educational Facilities and Science and Technology Authorities); and W. Va. Code Ann. § 22B-1-11 (West 1994) (recusal required for members of State Environmental Board). Cf. N.J. Stat. Ann. § 52:13D-19.1 (West 1991) (more relaxed ethics law for state contracts and agreements for the development of scientific or technological discoveries or innovations).

**178** See table 3.

**179** Alaska Stat. § 39.52.410(a)(3) (West 1986) (authorizing personnel board to recommend that employee’s agency take disciplinary action, including dismissal, but not requiring it); Ariz. Rev. Stat. Ann. § 38-510(B) (requiring forfeiture of public office); Ark. Code Ann. § 21-8-1004(a) (West 2001) (allowing removal of state board or commission members); Cal. Gov’t Code § 91003.5 (West 2022) (disciplinary action, including dismissal); Conn. Gen. Stat. Ann. § 1-89(b) (West 2018) (permitting discipline); Del. Stat. Ann. tit. 29, § 5810(d)(2) (West 1995); Fla. Stat. Ann. § 112.317(1)(b)(1)–(5) (West 2023); Ga. Code Ann. §§ 45-10-28(a)(1)(A), (c)(3) (West 2012); Haw. Rev. Stat. Ann. § 84-33 (West 1972); Idaho Code Ann. § 18-1360 (West 1990) (forfeiture of office); 5 Ill. Comp. Stat. 430/50-5(f) (West 2017); Ind. Code Ann. § 4-2-6-12(5)–(7) (West 2006); Iowa Code Ann. § 68B.32D(1)(e)–(f) (West 2006) (allowing ethics board to recommend removal or suspension); Kan. Stat. Ann. § 46-243(a) (West 2010); Ky. Rev. Stat. Ann. § 11A.990(1) (West 2000) (forfeiture of employment); La. Stat. Ann. § 42:1153(B) (West 2012); Md. Code

Ann., Gen. Provis. § 5-904(1) (West 2014) (removal or other disciplinary action); Mich. Comp. Laws Ann. § 15.308 (West 1968); Miss. Code Ann. § 25-4-109 (West 2008) (authority to recommend personnel actions); Minn. Stat. Ann. § 43A.39 (West 2004) (disciplinary action); Mo. Ann. Stat. § 105.492 (West 1999) (suspension and removal); Mont. Code Ann. § 2-2-136(3)(C) (West 2019) (disciplinary action); Nev. Rev. Stat. Ann. §§ 281A.785–281A.790 (West 2017) (job penalties); N.H. Rev. Stat. Ann. § 21-G:31(III)(d) (2019); N.J. Stat. Ann. § 52:13D-23(d); N.M. Stat. Ann. § 10-16-14(D) (West 2020); N.Y. Pub. Off. Law § 74 (McKinney 2016); N.C. Gen. Stat. Ann. § 138A-45 (West 2019) (letter of reprimand, explanation, or education); N.D. Cent. Code Ann. § 44-11-01 (West 2013) (granting governor power to remove state officials); Ohio Rev. Code Ann. § 102.99(C) (West 2023) (forfeiture of employment); Or. Rev. Stat. Ann. § 244.350(5) (West 2019); 65 Pa. Cons. Stat. Ann. § 1109(d) (West 1998) (discipline); 36 R.I. Gen. Laws Ann. § 36-14-14 (West 1992) (removal from office); S.C. Code Ann. § 8-13-780(D) (1992); S.D. Codified Laws § 3-23-5 (West 2017) (removal from office and disgorgement); Tenn. Code Ann. § 8-17-106(b) (West 2007) (“The ethics commission shall . . . refer [its] findings and recommendations for appropriate action to the appropriate official with supervisory authority over the person.”); Tex. Gov’t Code § 572.051(b) (West 2007), § 572.058(b); Utah Code Ann. § 67-16-12(1) (West 2000), § 67-16-14(1) (West 1989); Va. Code Ann. § 2.2-3122 (West 2001); Wash. Rev. Code Ann. § 42.52.520(1) (West 1994); W. Va. Code § 6B-2-10 (West 2017); Wis. Stat. Ann. § 19.58 (West 1999) (acknowledging power to impeach and discipline); and Wyo. Stat. Ann. § 6-5-113 (West 2000).

**180** Code of Ala. § 36-25-4.2 (2010) (requiring certain personnel to participate in training once every four years); Cal. Gov’t Code § 11146.1 (West 1998) (offering training semiannually); Conn. Gen. Stat. Ann. § 1-81(a)(5) (West 2021) (annual training); Fla. Stat. Ann. § 112.3142 (West 2023) (annual training for constitutional officers); Haw. Rev. Stat. Ann. § 84-42 (West 2023) (training for certain personnel every four years); 5 Ill. Comp. Stat. 430/5-10 (West 2017) (annual ethics training); La. Rev. Stat. Ann. § 42:1170 (West 2014) (annual training for certain senior officials); Md. Code Ann., Gen. Provis. Ann. § 5-205(d) (West 2021) (training for public officials); Mass. Gen. Laws Ann. ch. 268A, § 28 (West 2009) (online training); N.J. Stat. Ann. § 52:13D-21.1 (West 2006) (annual training); N.M. Stat. Ann. § 10-16-13.1 (West 2020) (annual training); N.Y. Exec. Law § 94(8) (West 2023) (training every two years); N.C. Gen. Stat. Ann. § 138A-14 (West 2019) (same); Or. Rev. Stat. Ann. § 184.370 (West 2016) (training for certain personnel); Tenn. Code Ann. § 3-6-112 (West 2008) (annual training for supervisory personnel); Tex. Gov’t Code Ann. § 571.071 (West 2021); Va. Code Ann. § 30-356(7) (West 2020); Vt. Stat. Ann. tit. 3, § 1205 (West 2022) (training every three years); Wash. Rev. Code Ann. § 42.52.365(2) (West 2013) (training encouraged every three years); and W. Va. Code § 6B-2-5b (West 2005) (training every four years).

**181** Oklahoma Ethics Commission, *Oklahoma Ethics Law, a Compilation of: Constitutional Provisions, Statutes, Ethics Rules*, November 1, 2022, <https://www.ok.gov/ethics/documents/2022%20Ethics%20COMPILATION%20v2022.2pf.pdf>; and Tenn. Code Ann. § 8-17-103(a) (West 2016). See also Tex. Gov’t Code § 572.051(c).

**182** To ensure the continuing utility of financial disclosure requirements, disclosure thresholds should be indexed to inflation, and the categories of holdings required to be disclosed should account for evolving ways in which assets are held. See Preet Bharara et al., *Proposals for Reform*, National Task Force on Rule of Law & Democracy, 2018, 5–6, [https://www.brennancenter.org/sites/default/files/publications/TaskForceReport\\_2018\\_09\\_.pdf](https://www.brennancenter.org/sites/default/files/publications/TaskForceReport_2018_09_.pdf).

**183** See Exec. Order No. 13,989, § 2, 86 Fed. Reg. 7029 (January 25, 2021) (requiring appointees to refrain from participating “in any particular matter involving specific parties that is directly and substantially related to [their] former employer or former clients, including regulations and contracts” for two years); and Exec. Order No. 13,490, § 2, 3 C.F.R. 193 (2009) (same). See also Md. Code Ann.,

Gen. Provis. § 5-501(a-1)(2) (requiring former lobbyists to abstain from cases, contracts, and other specific matters involving former clients for one year); Ohio Rev. Code Ann. § 102.03 (West 2023) (post-employment restrictions); Or. Stat. Ann. § 244.045 (West 2021) (post-employment restrictions for certain government officials); and Tex. Gov't Code § 572.054(b) (West 2011) (restriction on post-employment work on matters if there was participation during government service).

**184** See GSA, "Accepting Gifts," accessed June 16, 2023, <https://training.smartpay.gsa.gov/rules-about-gifts>. See also Cal. Gov't Code Ann. § 89503 (West 2022); and Wash. Rev. Code Ann. § 42.52.150 (West 2015).

**185** For instance, Alabama, New York, and North Carolina have ethics commissions. Alabama Ethics Commission, "About Us," accessed June 16, 2023, <https://ethics.alabama.gov/about.aspx>; New York State Commission on Ethics and Lobbying in Government, "Regulating Lobbying and Ethics in New York State: Education, Guidance, Public Disclosure, and Enforcement," accessed June 16, 2023, <https://ethics.ny.gov/>; and North Carolina State Ethics Commission, "State Ethics Commission," accessed June 16, 2023, <https://ethics.nc.gov/>. Several states and localities, such as Kentucky, New Jersey, and Montgomery County, Texas, have public integrity offices housed in the office of the attorney general or district attorney. Office of Kentucky Attorney General Daniel Cameron, "Public Integrity," accessed June 16, 2023, <https://www.ag.ky.gov/about/Office-Divisions/DCI/Pages/public-integrity.aspx>; New Jersey Office of Public Integrity & Accountability, "Combatting Public Corruption and Strengthening Public Confidence in Government and the Criminal Justice System in New Jersey," accessed June 16, 2023, [https://www.njoag.gov/about/divisions-and-offices/office-of-public-integrity-and-accountability-home/page/91/?et\\_blog](https://www.njoag.gov/about/divisions-and-offices/office-of-public-integrity-and-accountability-home/page/91/?et_blog); and Montgomery County [Texas] District Attorney's Office, "Public Integrity," accessed June 16, 2023, <https://www.mctxdao.org/public-integrity>.

**186** U.S. Office of Government Ethics, "Education Through Training & Advice," accessed June 16, 2023, [https://www.oge.gov/web/oge.nsf/ethicsofficials\\_education-through-training](https://www.oge.gov/web/oge.nsf/ethicsofficials_education-through-training).

**187** See, e.g., Office of Ohio Governor Mike DeWine, Executive Order 2019-11D, March 4, 2019, <https://governor.ohio.gov/media/executive-orders/2019-11d> (mandating annual ethics training).

**188** Whistleblower Protection Improvement Act, H.R. 2988, 117th Cong. § 5 (2022) (codifying protections for disclosures of censorship related to research, analysis, or technical information).

**189** See Michael German, "Protecting Whistleblowers Protects National Security," Brennan Center for Justice, March 5, 2015, <https://www.brennancenter.org/our-work/analysis-opinion/protecting-whistleblowers-protects-national-security>.

**190** See, e.g., Stephen M. Kohn, "Ten Things Every Whistleblower Needs to Know," National Whistleblower Center, accessed June 16, 2023, <https://www.whistleblowers.org/know-your-rights/ten-things-every-whistleblower-needs-to-know/>; Government Accountability Project et al., letter to President Joseph R. Biden et al., April 1, 2021, <https://whistleblower.org/wp-content/uploads/2021/04/GAP-266-Organizations-Whistleblower-Support-Letter.pdf>; and PEER, "Whistleblower Report Cards."

**191** The Whistleblower Protection Act protects "any disclosure of information" by federal employees that they "reasonably believe[] evidences an activity constituting a violation of law, rules, or regulations, or mismanagement, gross waste of funds, abuse of authority or a substantial and specific danger to [the] public." National Whistleblower Center, "FAQ: Whistleblower Protection Act," accessed June 16, 2023, <https://www.whistleblowers.org/faq/whistleblower-protection-act-faq/>.

**192** Sharon Lerner, "Whistleblowers Expose Corruption in EPA Chemical Safety Office," *Intercept*, July 2, 2021, <https://theintercept.com/2021/07/02/epa-chemical-safety-corruption-whistleblowers/>; and Sharon Lerner, "EPA Whistleblowers Provide New Evidence of

Ongoing Failure to Assess Dangerous Chemicals," *Intercept*, August 1, 2022, <https://theintercept.com/2022/08/01/epa-chemical-assessments-health-risks-cancer-whistleblowers/>.

**193** Interview with Tom Devine, legal director of the Government Accountability Project, June 6, 2022.

**194** See table 4.

**195** The three states are Indiana, Oklahoma, and South Dakota, although Indiana law does not limit any other right or legal remedy of a state employee. PEER, "Whistleblower Report Cards."

**196** Alderman Bob Donovan, "Commissioner Baker's Departure Leaves Us All with Many, Many Questions," *Urban Milwaukee*, January 6, 2018, <https://urbanmilwaukee.com/pressrelease/commissioner-bakers-departure-leaves-us-all-with-many-many-questions/>.

**197** See, e.g., John McQuaid, "Without These Whistleblowers, We May Never Have Known the Full Extent of the Flint Water Crisis," *Smithsonian*, December 2016, <https://www.smithsonianmag.com/innovation/whistleblowers-marc-edwards-and-leanne-walters-winner-smithsonians-social-progress-ingenuity-award-180961125/> (describing Michigan government officials as fitting "a pattern of bureaucracies closing ranks").

**198** Three states, Minnesota, Missouri, and Washington, protect the communication of scientific findings or disclosure of alteration of technical findings. PEER, "Whistleblower Report Cards." The Whistleblower Protection Improvement Act defines this misconduct to include "any effort to distort, misrepresent, or suppress research, analysis, or technical information." H.R. 2988, § 5.

**199** Jesselyn Radack, "How to Trap a Whistleblower," *Salon*, August 16, 2013, [https://www.salon.com/2013/08/16/how\\_to\\_trap\\_a\\_whistleblower/](https://www.salon.com/2013/08/16/how_to_trap_a_whistleblower/); and WNYC Studios, "How Whistle-Blower Protections Can Be a Trap," *On the Media*, September 27, 2019, <https://www.wnycstudios.org/podcasts/otm/segments/how-whistleblower-protections-can-be-trap-on-the-media?tab=summary>. Thirteen states protect disclosures made to any person or organization, including public media: California, Colorado, Idaho, Kansas, Maryland, Montana, Nevada, New Hampshire, New Mexico, Oklahoma, Oregon, Tennessee, and Wisconsin. Thirty-one states protect disclosures made to a state executive or legislative body or person employed by such entities: Alabama, Alaska, Arkansas, Arizona, Connecticut, Delaware, Florida, Hawaii, Illinois, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Carolina, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, Texas, Vermont, Virginia, Washington, and West Virginia. Fourteen states protect disclosures to a federal or non-state government entity: Alaska, Arizona, Connecticut, Delaware, Florida, Illinois, Maine, Massachusetts, Minnesota, New Jersey, North Carolina, Rhode Island, Texas, and Vermont. PEER, "Whistleblower Report Cards."

**200** Only Indiana and South Dakota do not offer make-whole remedies. Most other states have fairly strong make-whole remedies, the exceptions being Alabama (back pay and front pay only), Alaska (authorizing court to provide appropriate relief, including actual/compensatory damages), Iowa (does not guarantee back pay), Kentucky (where it appears that only the state's occupational safety and health statute contains make-whole remedies), and Oklahoma (statute specifies only that corrective action may be taken). PEER, "Whistleblower Report Cards." See also Government Accountability Project, "Legislative Initiatives," accessed June 15, 2023, <https://whistleblower.org/legislative-initiatives/> (advocating for federal legislation that, among other things, protects whistleblowers from retaliatory investigations, strengthens communication channels with Congress, extends coverage to federal public health employees, and provides an opportunity to obtain temporary relief, make-whole remedies, and attorney fees).

**201** Melissa Maynard, "States Overhaul Civil Service Rules," *USA Today*, August 27, 2013, <https://www.usatoday.com/story/news/nation/2013/08/27/states-civil-service-government/2707519/>. See also National Archives, "Pendleton Act (1883)," accessed June 15,

2023, <https://www.archives.gov/milestone-documents/pendleton-act>; U.S. Merit Systems Protection Board, *What Is Due Process in Federal Civil Service Employment?*, May 2015, [https://www.mspb.gov/studies/studies/What\\_is\\_Due\\_Process\\_in\\_Federal\\_Civil\\_Service\\_Employment\\_1166935.pdf](https://www.mspb.gov/studies/studies/What_is_Due_Process_in_Federal_Civil_Service_Employment_1166935.pdf); and Brendan Koerner, "What Are Civil Service Protections?" *Slate*, July 29, 2002, <https://slate.com/news-and-politics/2002/07/what-are-civil-service-protections.html>.

**202** U.S. Merit Systems Protection Board, "Merit System Principles (5 UCS § 2301)," accessed June 15, 2023, <https://www.mspb.gov/msp/meritsystemsprinciples.htm>. See generally Cissy Jackson, "Congress Must Pass the Preventing a Patronage System Act to Protect Federal Civil Servants' Impartiality," Center for American Progress, December 2, 2022, <https://www.americanprogress.org/article/congress-must-pass-the-preventing-a-patronage-system-act-to-protect-federal-civil-servants-impartiality/>; and Nathan Abse, "Pay and Prestige for Civil Servants: The Historical Advantages — and Disadvantages — of Government Work," *Government Executive*, April 26, 2023, <https://www.govexec.com/pay-benefits/2023/04/pay-prestige-civil-servants-historical-advantages-disadvantages-government-work/385623/>. One deficiency in some state civil service laws is a lack of a requirement that there be cause for removal. See, e.g., Ala. Code § 36-26-27 (1983) (allowing dismissal "for the good of the service"); Alaska Stat. Ann. § 39.25.170 (West 1960) (enumerating improper grounds for removal but not requiring cause); and 36 R.I. Gen. Laws Ann. § 36-4-38 (West 1962) (allowing discharge "for the good of the service").

**203** McGrath, "The Rise and Fall of Radical Civil Service Reform"; Maynard, "Civil Service Reform Passes"; Nigro and Kellough, "Personnel Reform in the States"; and Kellough and Nigro, ed., *Civil Service Reform in the States*, 117–314.

**204** Paul R. Verkuil, *Valuing Bureaucracy: The Case for Professional Government* (New York: Cambridge University Press, 2017), 79; and Trip Gabriel, "Ash Spill Shows How Watchdog Was Defanged," *New York Times*, February 28, 2014, <https://www.nytimes.com/2014/03/01/us/local-ash-spill-reveals-transformation-of-north-carolina-agency.html>.

**205** See, e.g., Haw. Rev. Stat. Ann. § 76-16 (West 2023); La. Const. art. X, § 2 (West, Westlaw through Jan. 2023 amendments); Mich. Const. art. XI, § 5 (West, Westlaw through Nov. 2022 amendments); and S.D. Codified Laws § 3-6D-4 (2019).

**206** See, e.g., Haw. Rev. Stat. Ann. § 76-41 (West 2000); Kan. Stat. Ann. § 75-2949e (West 1985); and Wis. Stat. Ann. § 230.34 (West 2020).

**207** See, e.g., Alaska Stat. Ann. § 39.25.170; 20 Ill. Comp. Stat. Ann. 415/8b.16 (West 1982), 415/11 (West 2019); Kan. Stat. Ann. § 75-2949 (West 2000); La. Const. art. X, § 8 (West, Westlaw through Jan. 2023 amendments); Mass. Gen. Laws Ann. ch. 31, § 41 (West 1978); N.J. Stat. Ann. § 11A:2-13, -14 (West 2008); N.Y. Civ. Serv. Law § 75 (McKinney 2023); N.C. Gen. Stat. Ann. § 126-35 (West 2013); S.D. Codified Laws §§ 3-6D-5, 3-6D-15 (2019); Tenn. Code Ann. § 8-30-316 (West 2017); and Tenn. Code Ann. § 8-30-318 (West 2022).

**208** See, e.g., Del. Code Ann. tit. 29, § 5949 (West 1995); 20 Ill. Comp. Stat. Ann. 415/11 (West 2019); N.M. Stat. Ann. § 10-9-18 (West 2009); N.Y. Civ. Serv. Law § 76 (McKinney 1985); and Tenn. Code Ann. § 8-30-318.

**209** For instance, in Vermont, collective bargaining agreements provide protection from removal for any reason other than for cause to covered state employees, and personnel rules and regulations promulgated by the Department of Human Resources grant the same protection to employees not covered by union contracts. Vermont Department of Human Resources, "Disciplinary Action and Corrective Action," section 8, number 8.0 in *State of Vermont Personnel Policy and Procedure Manual*, 2021, 1, [https://humanresources.vermont.gov/sites/humanresources/files/documents/Labor\\_Relations\\_Policy\\_EEO/Policy\\_Procedure\\_Manual/Number\\_8.0\\_DISCIPLINARY\\_ACTION\\_AND\\_CORRECTIVE\\_ACTION.pdf](https://humanresources.vermont.gov/sites/humanresources/files/documents/Labor_Relations_Policy_EEO/Policy_Procedure_Manual/Number_8.0_DISCIPLINARY_ACTION_AND_CORRECTIVE_ACTION.pdf). In Michigan, state employees have protection against

removal for any reason other than for cause pursuant to rules promulgated by the Civil Service Commission. Michigan Civil Service Commission Rule 2-6.1(b) (just cause), <https://www.michigan.gov/mdcs/-/media/Project/Websites/mdcs/RULES/2022-4-15-Rules-Unannotated.pdf?rev=afb9f5bd36344a77b4491e2ec81ccaf8&hash=49A51DC97E6CE32B60E37B4CAC9D9944>.

**210** New York State Comptroller DiNapoli, *Department of Health*; and Secretary of State Oregon Audits Division, *OFRI's Statute Undermines Its Public Benefit*, 21. A bill has been introduced in the Oregon legislature that would address the abuses uncovered by the Audits Division. H.B. 3019, 2023 Leg., Reg. Sess. (Or. 2023).

**211** Mary Spicuzza, "Milwaukee Will Get a New Watchdog After Common Council Overrides Tom Barrett's Veto," CBS 58, October 16, 2018, <https://www.jsonline.com/story/news/politics/2018/10/16/milwaukee-get-inspector-general-after-common-council-overrides-veto/1657924002/>.

**212** These eight states are Florida, Georgia, Kansas, Kentucky, Maryland, Texas, West Virginia, and Wisconsin. Association of Inspectors General, "Directory of State and Local Inspector General Agencies," accessed June 12, 2023, <https://inspectorsgeneral.org/useful-links/directory-of-state-and-local-government-oversight-agencies/>.

**213** These 11 states are Florida, Georgia, Illinois, Indiana, Louisiana, Massachusetts, New York, Ohio, Pennsylvania, South Carolina, and Virginia. Association of Inspectors General, "Directory."

**214** According to Ballotpedia, the states with executive branch auditors are Alabama, Arkansas, California, Delaware, Georgia, Hawaii, Illinois, Iowa, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Texas, Utah, Vermont, Washington, West Virginia, and Wyoming. Ballotpedia, "Auditor (State Executive Office)," accessed June 12, 2023, [https://ballotpedia.org/Auditor\\_\(state\\_executive\\_office\)](https://ballotpedia.org/Auditor_(state_executive_office)).

**215** According to Ballotpedia, these 23 states are Alabama, Alaska, Arizona, Arkansas, Colorado, Connecticut, Florida, Idaho, Kansas, Louisiana, Maryland, Minnesota, Montana, Nevada, New Hampshire, New Jersey, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, West Virginia, and Wisconsin. Eight of those states (Alabama, Arkansas, Minnesota, Montana, Pennsylvania, South Carolina, South Dakota, and West Virginia) have executive auditor offices as well. Ballotpedia, "Auditor (State Executive Office)." New York and Tennessee are the only states with neither a legislative nor an executive auditor office. Ballotpedia, "Auditor (State Executive Office)."

**216** Interview with Eric Hallstrom, chief operations officer, City of Missoula, Montana, October 6, 2022. Hallstrom previously served as the Minnesota deputy commissioner for management and budget and as director of the Operations Services Division at the Minnesota Department of Natural Resources.

**217** See, e.g., Rosendo Majano, DeVondria Reynolds, and Bradley Rink, PEER, letter to EPA Inspector General Sean W. O'Donnell, "Request for Review of Intentional Non-Enforcement of National Ambient Air Quality Standards by Colorado Department of Public Health & Environment Pursuant to State Implementation Plan Under the Clean Air Act, 42 U.S.C. § 7401 et seq.," March 30, 2021, <https://peer.org/wp-content/uploads/2021/03/EPA-OIG-Letter.pdf>. See also Banks et al., *Management Weaknesses*.

**218** See, e.g., EPA, "Scientific Integrity Policy for Transparent & Objective Science," accessed August 18, 2023, 2, [https://www.epa.gov/sites/production/files/2014-02/documents/scientific\\_integrity\\_policy\\_2012.pdf](https://www.epa.gov/sites/production/files/2014-02/documents/scientific_integrity_policy_2012.pdf). See also Scientific Integrity Fast-Track Action Committee, *Protecting the Integrity*, 5. The federal Scientific Integrity Act would guarantee that grantees could report violations of federal scientific integrity policies. H.R. 4893, § 3.

**219** 42 C.F.R. § 93.300(a) (2005) (requiring institutions to have "written policies and procedures for addressing allegations of research misconduct").

**220** 45 C.F.R. § 689 (2002).

**221** See, e.g., John D'Amico, "Complying with Federal Requirements for Covid-19 Funding in a Single Audit," *CPA Journal*, June 2021, <https://www.cpajournal.com/2021/06/02/complying-with-federal-requirements-for-covid-19-funding-in-a-single-audit/>; and White House Office of Management and Budget, Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations," [https://www.whitehouse.gov/wp-content/uploads/legacy\\_drupal\\_files/omb/circulars/A133/a133\\_revised\\_2007.pdf](https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A133/a133_revised_2007.pdf), issued pursuant to the Single Audit Act Amendments of 1996, 31 U.S.C. §§ 7501–7507 (1996).

**222** State employees in states with OSHA-approved plans "may only file occupational safety or health retaliation claims with the State agencies." "OSHA Fact Sheet: Filing Whistleblower Complaints Under Section 11(c) of the OSH Act of 1970," <https://www.osha.gov/sites/default/files/publications/OSHA3812.pdf>. See also Occupational Safety and Health Administration, "State Plans," accessed June 12, 2023, <https://www.osha.gov/stateplans/>. The long-standing approach of the federal government approving of states' plans to enforce federal protections appears to accommodate the constitutional principle that states must remain free to make choices "which are essential to [their] function as a state" under the Tenth Amendment. *United States v. Ohio Department of Highway Safety*, 635 F. 2d 1195, 1205 (6th Cir. 1980).

**223** Interview with Michelle Mabson, staff scientist, Earthjustice's Healthy Communities program, March 3, 2023.

**224** Interview with Thomas O. McGarity, William Powers Jr. and Kim L. Heilbrun Chair in Tort Law, University of Texas at Austin School of Law, July 5, 2022.

**225** Additionally, as noted in a recent White House memorandum, a public access policy during the Covid-19 pandemic served an important public education function while facilitating advancements in the treatment and prevention of the disease. Nelson, "Ensuring Free, Immediate, and Equitable Access."

**226** Interview with Michelle Mabson.

**227** See Nelson, "Ensuring Free, Immediate, and Equitable Access"; and Foundations for Evidence-Based Policymaking Act of 2018. For robust state open data initiatives, see, e.g., State of Alaska, "Open Data Geoportal," accessed June 9, 2023, <https://statewide-geoportal-1-soa-dnr.hub.arcgis.com/pages/organizations/#state>; data.michigan.gov, "Michigan's Open Data Portal," accessed June 9, 2023, <https://data.michigan.gov/>; New Mexico Environment Department, "Open Data for the Public," accessed June 9, 2023, <https://data-nmenv.opendata.arcgis.com/>; and New York State, "Open NY."

**228** Gillian K. SteelFisher et al., "Trust in US Federal, State, and Local Public Health Agencies During COVID-19: Responses and Policy Implications," *Health Affairs* 42, no. 3 (March 2023): 328, <https://doi.org/10.1377/hlthaff.2022.01204>.

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