American Democracy & Health Security

Lighting A Path *Forward* Amid Pandemic Polarization

THE PANDEMIC CENTER
CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES
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The American Democracy and Health Security Initiative takes its name from the deeply-rooted belief of its founders that American democracy and health security are inextricable. American health security depends on maximizing our ability to live in a free society and manage a public health emergency simultaneously. Likewise, the health of our democracy depends on citizens' faith in our institutions—our schools, workplaces, and especially our government—to protect them in a crisis. We must find a way forward that both respects the individual freedoms we hold dear and supports the collective good—and do so now, before the next devastating health emergency strikes.

We believe that path forward is illuminated by state and local leaders who innovated in the pandemic's darkest days. To chronicle these innovations, we interviewed in 2023-2024 a diverse cross-section of current and former state, local, tribal, and federal leaders across the health, business, education, and community service sectors. These leaders—lamplighters—reveal a host of solutions, strategies and systems—practical, actionable steps—to advance America's health security, which are reflected in our Findings and Recommendations.

The American Democracy and Health Security Initiative is led by three organizations dedicated to finding bipartisan solutions to health security, and whose leaders have considerable policy experience in the executive and legislative branches of the U.S. government, the private sector, academia, and across presidential administrations of both parties: The Pandemic Center at the Brown University School of Public Health, works across disciplines and sectors to analyze evidence, educate a new generation of leaders, and ensure this work is translated to effective policy and practice around the globe; COVID Collaborative is a comprehensive and bipartisan assembly of leading experts in health, education, and the economy—and leaders representing the diversity of America—that develops consensus recommendations and engages with state and local leaders across America; and the Center for Strategic and International Studies (CSIS) Bipartisan Alliance for Global Health Security convenes Members of Congress, senior leaders, and subject matter experts to advance a concrete, forward-leaning agenda for U.S. global health security strategy. The initiative has been assisted by the National Academy for State Health Policy, and it was made possible through support from the CDC Foundation.

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Executive Summary

The story of how America fared under the pandemic is actually two stories—the well-known one of national failure, loss, and polarization, and the lesser-known one of state and local collaborations and innovations that bridged divides. Both are true. The former eroded trust and fractured faith in democracy. The latter earned trust and leveraged the strengths of our democracy.

American democracy and health security are inextricable: American health security depends on maximizing our ability to live in a free society and manage a public health emergency simultaneously. Likewise, the health of our democracy depends on citizens' faith in our institutions – our schools, workplaces, and especially our government – to protect them in a crisis.

Somehow, we must find a way forward that both respects the individual freedoms we hold dear and supports the collective good—and do so now, before the next devastating health emergency strikes.

That path forward is illuminated by the state and local leaders – lamplighters – who innovated in the pandemic's darkest days, and whose efforts reflected the ingenuity, collaboration, debate, and shared decision making that are hallmarks of American democracy.

America at its Worst

On the one hand, things went colossally wrong.

Early 2020 was unlike anything Americans had ever experienced. Gradually and then all at once, we were faced with a global pandemic—a new and lethal coronavirus upending every aspect of our lives.

We never imagined that our nation would struggle so mightily to meet the moment, spectacularly failing to launch a rapid, effective, equitable response. We didn't anticipate that public health would become so polarizing, or that the tension between individual freedoms and collective interventions would become so divisive. We didn't foresee that by 2023, COVID-19 would have claimed more than 1.1 million American lives—a massive loss our nation has neither collectively marked nor mourned—or that our country, among the world's most technologically and medically advanced

and with only 5 percent of the global population, would account for 15 percent of officially reported COVID deaths.

At the local level, the impact of the pandemic—and the interventions intended to slow its spread—reverberated through every aspect of American life. Officials grappled with seemingly diametrical pressures to minimize the multiple tolls of the virus – in health, livelihoods, and learning -- and preserve life as we knew it. There was no established method for reaching

decisions on interventions from masking to school closures to social distancing to business operations. Decisions to resolve one issue often aggravated challenges elsewhere.

Political rhetoric heightened divisions. Health officials implored the nation to "follow the science," but it was not always clear what that meant in practice. Scientific uncertainty and pressing societal concerns – economic, educational – had to be factored into urgent political decisions. Too often, valid dissenting views were dismissed and mis- and dis-information flourished.

Every state, local, and Tribal leader faced flashpoints: how to simultaneously protect health, protect jobs, protect school populations, protect the old, protect the young, protect individual freedom, and promote collective responsibility – all against a terrifying set of unknowns.

Confronting COVID-19 threatened more than Americans' physical and mental health: it intensified divisions and mistrust among us. Faith in governing institutions plummeted; cynicism deepened. Our sense of safety was shaken, our divisions intensified, our faith in our democracy fractured.

America at its Best

Yet beneath the national divisiveness and dysfunction, something else – something hopeful and innovative – was happening at the state and local levels.

Across the country, in countless communities and every sector, there were people finding ways to pull together, innovating amid profound uncertainty, transcending divides, and saving lives.

The efforts of these unsung heroes – **lamplighters** -- reflected the spirit of community, ingenuity, and participatory decision making that are the hallmarks of American democracy at its best. They formed ad hoc collaborations, fusion cells, and networks that reached the corporate sector, the vulnerable and marginalized, the faith and school communities. These improvisations broke down silos, welcomed diverse inputs, demonstrated humility in the face of uncertainty, and prioritized listening that met people where they were.

These leaders prized regular, quality communications and deft explanation of evolving data. They were driven by the will to move rapidly and to create inclusive solutions, respecting individual freedoms while promoting the collective good. In so doing, they struggled, and often succeeded, to transform a limited set of blunt, binary tools – open or close, health or jobs – into more surgical instruments, better tailored to community needs, and better able to balance the science with the social, economic, and educational impacts of an effective battle plan to combat COVID.

They joined with willing partners. Businesses helped fill critical gaps, collect data, and improve planning and delivery processes. Hospitals and health systems rose to the challenge, implementing innovative ideas to remedy gaps in care. Universities brought exceptional

technological assets and expertise. Community organizations stepped up to provide trusted messengers, making sure needs were made known and voices heard.

This side of the American experience of COVID-19 may have gotten less publicity, but it is no less real. Harvesting the hard-won lessons of what worked and what can be replicated going forward must be a national priority.

The Lamplighters: Lighting a Path Forward Amid Pandemic Polarization

We interviewed leaders across the health, business, education, government, and civil society sectors who led through the pandemic, seeking to extract replicable solutions to help our nation do better in the future.

We focused on a cross-section of states that represented wide geographic and socioeconomic diversity, as well as different political contexts and state and local structures. Each of these states improvised, generating a distinct set of lessons. We are not claiming that these states did better or worse than others. While other states developed their own innovations, our resources and remit did not allow for exploring all corners of America. Our intent is not to capture the full universe of creative approaches, but rather to highlight some compelling examples of what was achieved and should be preserved and strengthened.

The lamplighters we feature are Americans who united and served their communities, rising above rhetoric to meet an impossible moment with humility, grit, grace, and strength.

In this pivotal moment for our country and the world, the examples we are privileged to share in this report – of leaders who improvised to balance personal freedoms with communal health measures – offer practical and actionable lessons for rebuilding trust and charting a hopeful future.

A Snapshot of our Recommendations

From these findings, we offer a set of urgent recommendations—practical, actionable steps—that should be implemented now to advance America's health security.

1. **Strengthen state, local, Tribal, and Territorial operational leadership for health emergencies, in collaboration with federal partners. The buck stops here. Public health authorities should inform the fight, but heads of government should lead it, weighing what is known of the science with social, educational, and economic impacts. A familiar refrain during the pandemic was to 'follow the science,' but this alone is insufficient. As the pandemic showed, science is often imperfect and evolving, translating science into practice can be challenging, and elected officials have to weigh what is known of the science with social, educational, and economic impacts, as they reach urgent decisions.**

   Governors, Mayors, Tribal, and Territorial Leaders should:

- ★ Own the consequences of crisis decisions and bear most of the operational responsibility for health emergencies, collaborating with federal partners. Preserving public trust is the coin of the realm.
- ★ Create formal coordination and supply sharing arrangements with Tribes in advance of health emergencies.
- ★ Appoint a single, proven emergency response coordinator with operational expertise, empowered to work across all sectors and silos, at the very start of a health emergency.
- ★ Establish a 24/7 multi-sectoral command structure immediately when a health emergency strikes, to break down silos and engage not only health, but business, education, and civil society representatives.
- ★ Prioritize clear, daily communications, combined with data that is usable by the public.
- ★ Hold annual health emergency exercises, informed by the public and in concert with the National Governors Association (NGA), the Association of State and Territorial Health Officials (ASTHO), and others.
- ★ Insist on after-action assessments of COVID-19 to chart a path ahead, identify what worked and what didn't, and prioritize resources to strengthen capabilities.

2. Create locally tailored pandemic playbooks, aligned with community needs.

Pandemic decision-makers should:

★ Create locally tailored pandemic playbooks that can adapt to community needs and values. Tackle the hardest issues around maintaining in-person learning, opening businesses, and vaccine uptake. Develop modules to regularly exercise and update them.

★ Designate an official in the Governor or Tribal leader's office who is charged with local pandemic planning and exercising health emergency playbooks.

★ Plan carefully to maintain in person learning and to keep businesses open and operating safely in the next emergency.

★ Prioritize clear, daily communications, combined with data that is usable by the public.

★ Create formal agreements to cement operational roles among state governments, Tribes, and other key parties in advance of health emergencies.

★ Lay the groundwork now to ensure future rapidly scaled responses through formal agreements among states and community-based organizations and practiced use of statewide call centers, such as 211 programs, for health emergencies.

3. Prioritize vulnerable populations first.

Governors, Mayors, and Tribal Leaders should:

★ Create advance arrangements with community organizations that prioritize vulnerable, marginalized, and under served populations, who will be disproportionately impacted by health emergencies.

★ Ensure systems for collecting and reporting data are in place to prioritize those populations that are most at risk during health emergencies.

4. Systematically modernize local outbreak data capabilities for decision-making and ensure the CDC fulfills its mission as the one-stop-shop for data dashboards to support local elected officials.

★ Coordinating with the National Governors Association, state and local elected officials should prioritize modernizing their data capabilities, assessing and overcoming obstacles to secure quality and timely data for decision-making in health emergencies.

★ The U.S. Centers for Disease Control and Prevention (CDC) should fulfill its mission as the one-stop-shop for data dashboards, situation reports, and technical assessments that are timely and useful to state and local leaders, as well as the public. In parallel, the federal government should support partnerships with universities, expert disease modelers, and the private sector to strengthen local data capabilities and to create an integrated national picture.

5. Establish new mechanisms to rapidly secure state and Tribal access to scarce supplies.

★ The White House Office of Pandemic Preparedness and Response (OPPR) should appoint a National Pandemic Supply Coordinator.

★ The OPPR National Pandemic Supply Coordinator should develop a new two-way communication channel for federal, state, Tribal, and Territorial leaders to field urgent queries and post regular reports on supply and demand conditions.

★ In parallel, federal, state, and/or philanthropic leaders should invest in the State and Territorial Alliance for Testing (STAT) Network to ensure its sustainability.

★ Starting with H5N1, OPPR should convene a regular, high-level national meeting to hear from state, county, municipal, and community levels on health emergency medical countermeasures and supply needs.

6. Stand up a national bipartisan expert forum for health emergency response in America, charged with providing recommendations and composed of politically diverse experts across disciplines and sectors – health, education, and the economy -- and representing the full diversity of America.

An independent non-governmental body should:

★ Overhaul training for future pandemic decision-makers to include planning for worst-case scenarios.

★ Establish, ideally in conjunction with federal support, a national center or consortium of centers for training next-generation leaders focused on health emergency decision-making and communications, worst-case scenario planning, and pandemic equity in the United States.

If the COVID crisis exposed our nation's worst failings, it also revealed our greatest strengths. As Americans, we now have a chance to define a path forward, while memories and learning are fresh.

Our conclusion—and what these lamplighters revealed—is that these promising pathways are within reach. If we choose them in the next pandemic (for, alas, there will be one) the story of how America fares will be one that inspires the world: A story of vision, action, and collaboration—one nation, indivisible—in which we preserve our democratic ideals while protecting people's lives.

Introduction

Looking Back, Looking Forward

Early 2020 was unlike anything Americans had ever experienced. Gradually and then all at once, we were faced with a global pandemic—a new and lethal coronavirus upending every aspect of our lives. In early January, it had seemed to many Americans like little more than a minor news item. By March, it was a devastating contagion—an invisible killer racing across the country and around the world.

The swiftness with which the pandemic took hold sparked widespread fear, anxiety, and stress. As refrigerator trucks lined up outside New York City morgues and emergency field hospitals sprang up from coast to coast, Americans braced for the worst—wiping down packages, washing groceries, canceling long-anticipated plans, fearing illness and worse, and worrying about what was to come.

But even amid that terrifying early spring of 2020, we never imagined that our nation would struggle so mightily to meet the moment, spectacularly failing to launch a rapid, effective, equitable response. We didn't anticipate that public health would become so polarizing, or that the tension between individual freedoms and collective interventions would become so divisive. We didn't foresee that by 2023, COVID-19 would have claimed more than 1.1 million American lives—a massive loss our nation has neither collectively marked nor mourned—or that our advanced and powerful country, with 5 percent of the world's population, would account for 15 percent of its officially reported COVID deaths.

Four years later, we're still suffering.

In part, that's because new COVID variants continue to circulate and because not all Americans have been willing or able to use tools, like boosters and antivirals, to prevent severe illness. In part, it's because Americans, including the 355,000 children who have lost a parent or caregiver to COVID, are still experiencing the pandemic's aftereffects, even as the attention of policymakers and the public has moved on.

Yet, it's also because the pandemic afflicted our democracy as a whole. Confronting COVID-19 threatened more than Americans' physical and mental health: it intensified divisions and mistrust among us—politically, racially, socially, economically. Faith in governing institutions plummeted; cynicism deepened. Our sense of safety was shaken, our divisions intensified, our faith in our democracy fractured.

Meanwhile, there is a sobering possibility that the United States now is even less prepared to handle – and the public is less willing to accept – certain measures to confront a large-scale biological emergency than it was in 2020. Tensions persist between what the future of American democracy is to be and what the future of health security for Americans is to be. Far too often they collide, when the challenge is to address both together.

America's success in facing the next crisis, be it biological or something else, will depend not only on how prepared we are, but also on the mindset we have as a nation in the face of adversity.

Will we succumb to our worst impulses or summon the better angels of our nature? Will we fall apart or pull together?

At our Worst and At our Best

In many ways, the story of how America fared under the pandemic is actually two stories—and both are true.

On the one hand, things went colossally wrong, especially at the outset.

The federal government initially downplayed the threat and failed to mount a concerted federal response, effectively abandoning the battlefield to the states. The U.S. Centers for Disease Control and Prevention (CDC) stumbled badly, with no mechanism for rapid deployment of widespread screening, surveillance, or testing. The initial COVID-19 tests CDC sent out didn't work, and guidance was often confusing. Decades of underinvestment in our public health infrastructure left policymakers flying blind. They lacked vital situational awareness of what the virus was doing and where it was going due to a patchwork of incompatible data systems and antiquated technology. And, despite years of pandemic planning and the United States' reputation for scientific excellence, the national conversation was distorted from the start by misinformation and anti-science conspiracy theories. Trust declined, as partisanship and polarization rose.

At the same time, the pandemic showcased American prowess in research and development.

Building on years of research into the Middle East Respiratory Syndrome coronavirus, the federal government launched audacious plans to achieve vaccines at a pace never seen. In March 2020, the White House mobilized emergency Defense Production Act authorities bringing together military and civilian agencies and corporate partners, and unlocking the resources essential to concentrate the attention of all parties. Out of this emerged Operation Warp Speed, charged with accelerating the development, acquisition, and distribution of medical countermeasures for COVID-19. This trailblazing public-private partnership surpassed even the most hopeful expectations: By December 2020, two vaccines had received emergency use authorization from the Food and Drug Administration (FDA), with clinical trials showing 95 percent efficacy for each. In 2021, the federal government, working with private sector and community leaders, expedited the largest vaccination program in modern U.S. history.

At the local level, the impact of the pandemic—and the interventions intended to slow its spread — reverberated through every aspect of American life. Officials grappled with seemingly diametrical pressures to minimize the multiple tolls of the virus – in health, livelihoods, learning -- and preserve life as we knew it. There was no established method for reaching decisions on interventions from masking to school closures to social distancing to business operations. Decisions to resolve one single issue often aggravated challenges elsewhere.

Every Governor and Mayor faced these and other flashpoint issues; none perfectly navigated the storm. But if their approaches and emphases differed, they were all wrestling with the same dilemma: how to simultaneously protect health, protect jobs, protect school populations, protect the old, protect the young, protect individual freedom, and promote collective responsibility, against a terrifying set of unknowns.

Alas, in an already polarized political environment, and at a time of great fear and stress, diverging perspectives too often morphed into demonization of the other side. Vaccine and mask mandates became political and social flashpoints, pitting – sometimes violently -- proponents of individual freedom against advocates of collective responsibility. Public health professionals found themselves under attack, with some even receiving death threats.

Political rhetoric heightened divisions, giving rise to the appearance of a “your money or your life” divide, with some Governors emphasizing the economy and some Governors emphasizing public health, though all used restrictions to varying degrees. Federal and state public health officials implored the nation to “follow the science” but it was not always clear what that meant in practice. Scientific uncertainty and many pressing societal concerns – economic, educational – had to be factored into urgent political decisions. Too often, valid dissenting views were summarily dismissed and open debate dampened. Mis- and dis-information flourished and further complicated the landscape.

This was America at its worst.

But beneath the national divisiveness and dysfunction, something else was happening too, at the state and local levels.

Across the country, in diverse communities, there were people finding ways to pull together, innovating amid profound uncertainty, transcending divides, and saving lives.

The efforts of these unsung heroes – lamplighters -- reflected the spirit of community, ingenuity, and participatory decision making that are the hallmarks of American democracy at its best. They formed ad hoc collaborations, fusion cells, and networks that reached the corporate sector, the vulnerable and marginalized, the faith and school communities. These improvisations broke down silos, welcomed diverse inputs, demonstrated humility in the face of uncertainty, and prioritized listening that met people where they were. These leaders prized regular, quality communications and deft explanation of evolving data. They were driven by the will to move rapidly and creatively to create consensual and inclusive solutions. In so doing, they struggled – and often succeeded -- to transform a limited set of blunt, binary tools – open or close, health or jobs – into more surgical instruments, better tailored to community needs, and better able to balance the science with the

social, economic, and educational impacts of an effective battle plan to combat COVID. In these efforts, state and local officials joined with willing, able, and collaborative partners. Businesses in sectors from technology to pharmaceuticals, manufacturing, retail, and more helped fill critical gaps, collect data, improve processes, and assist with communication, planning, and delivery. Hospitals and health systems rose to the challenge, proposing and implementing innovative ideas to remedy gaps in care. Universities brought to the table exceptional technological assets and expertise. Community organizations from faith-based institutions to parent groups stepped up to support local priorities, providing trusted messengers for public health.

This side of the American experience of COVID-19 may have gotten less publicity, but it is no less real. Harvesting the hard-won lessons of what worked must be a national priority. It will be critically important to understand what factors favored innovative solutions and won broad community support. No less important is enumerating the concrete gains achieved, and which of them can be replicated to meet new threats in the future.

The American Democracy and Health Security Initiative
Lighting a Path Amid Pandemic Polarization

In 2023-2024, our team—the Brown University School of Public Health Pandemic Center, the Center for Strategic and International Studies (CSIS) Bipartisan Alliance for Global Health Security, and the COVID Collaborative, with assistance from the National Academy for State Health Policy (NASHP)—interviewed current and former federal, state, and local leaders across the health, business, education, and community service sectors who led through the pandemic, seeking to identify replicable solutions, strategies, and systems to help our nation do better in the future.

We focused on a cross-section of states that represented wide geographic and socioeconomic diversity, as well as different political contexts and state and local structures. Each of these states improvised, generating a distinct set of compelling lessons.

We've called our endeavor the American Democracy and Health Security Initiative because, in our view, the two are inextricable: American health security depends on maximizing our options to live in a democracy and manage a public health emergency simultaneously. Likewise, the strength of our democracy depends on citizens' faith in our institutions, from our government to our schools and workplaces, to protect them in a crisis.

Somehow, we must find a way forward that both respects the individual freedoms we hold dear and supports the collective good—and to do so now, before the next devastating health emergency strikes.

Grounds for Hope and Optimism

As the voices and stories we are privileged to share in this report make clear, we found genuine reasons for optimism—individual leaders from diverse institutions who were more collaborative, more pragmatic, and more inspiring than the divided, dysfunctional version of our country that dominates many Americans' recollections. Our team came to think of these leaders as lamplighters—Americans who succeeded in uniting and serving their communities, and who rose above rhetoric to meet an impossible moment with humility, grit, grace, and strength.

Their stories revealed a host of practical, actionable steps to advance our health security for the future, from empowering trusted local messengers to building effective 24/7 leadership command structures; using data to drive decision making; building an equitable response; leveraging the private sector; bridging political divides; and overcoming silos among public health, healthcare systems, education, and business.

In this pivotal moment for our country and the world, these accounts of innovation and of resilient and effective American leadership from individuals who adeptly balanced personal freedoms with communal health measures offer vital lessons for rebuilding trust and charting a hopeful future.

Our task now is to implement these innovations and reclaim the narrative around what kind of nation America is and aspires to be.

A Path Forward

We know it won't be easy.

But if the COVID crisis exposed our nation's worst failings, it also revealed Americans' greatest strengths. Our country now has a chance to define a path forward, while memories and learning are fresh.

We believe people want a path from despair to hope. The stakes are not just health preparedness, but the health of our democracy itself.

Our conclusion—and the lamplighters' conviction— is that such a path exists; and that, paradoxically, our nation's experience during COVID-19 provides multiple beacons to guide the way.

Lamplighters

Innovations to Improve America's Health Security

What follows are examples of innovations developed by state and local leaders to bridge divides, break down silos, and mount a more effective and equitable defense against the pandemic. These innovations are drawn from a cross-section of states that represent wide geographic and socioeconomic diversity, as well as different political contexts and state and local governmental structures. Each of these states improvised, generating a distinct set of compelling innovations and lessons. While other states and localities surely developed similar innovations, our intent here is not to capture the universe of creative approaches, but rather to show broadly what was achieved and must be preserved, strengthened, and replicated to achieve American health security.

Playbooks for Schools and Businesses

★ **A step-by-step guide for safe schools in North Carolina.** North Carolina officials, including then-Deputy State Superintendent of Innovation and Chief Academic Officer **David Stegall**, worked across 115 school superintendents to develop locally relevant tools to reopen the state's schools and get food to children at home, an effort that evolved into an online school reopening playbook. Innovations included identifying regulatory changes needed to allow school buses to deliver meals; crafting guidance for social distancing, masking, transportation, and air handling; and providing mental health support. The document filled a guidance vacuum to provide real-time response mechanisms "that could be used for any type of similar natural disaster or pandemic--it gives you a framework to build on," Stegall said. The North Carolina based EdNC TV network chronicled some of this work, enhancing transparency.

★ **Protecting Purdue: using a powerful data platform to keep a major university open**. In 2020, then Purdue University President and former Indiana Governor **Mitch Daniels** worked with Vice Provost **Cherise Hall** and her team to use the school's campus-wide data system to keep the school open for in-person learning. By combining testing data with readily available information on student movements, the university was able to identify outbreaks and isolate infected groups from the rest of the student body. "Eventually, we could almost instantly pinpoint where any COVID outbreak was happening and address it at the source," Hall said. She and her colleagues created a "Severity Index" to keep the school community abreast of how the virus was affecting the campus. Through a combination of widespread testing, the Severity Index, and continuous communications with parents and teachers, school officials were able to continue in-person learning with a minimum of severe COVID infections.

★ **The ABCs of opening K-12 schools.** Parent physicians at Duke University, including **Dr. Kanecia Zimmerman**, established The ABC Science Collaborative to provide flexible tools for **K-12 schools** to safely re-open classrooms. The Collaborative published data on COVID-19 spread in schools, devised strategies for safe reopening, and engaged with educators across the state through listening sessions. "We saw our job as providing the information - and trusting that people knew their local circumstances better than we did, such that they could adapt that science and apply it to their situations," Zimmerman said. The Collaborative's work fed into state legislation for school reopening and continues today, addressing issues from vaping to teacher resiliency.

★ **Using Microsoft's resources to help local businesses and schools in Washington State.** Businesses of all sizes stepped up during the pandemic, using their resources to protect both the health of their employees and the larger community. In one example, leaders at Microsoft instigated the creation of a playbook to help businesses safely bring employees back to the office. "There weren't practical playbooks on how to address an airborne illness in a workplace, particularly when you've moved to lots of open space offices," said **Teresa Hutson**, vice president, technology and corporate responsibility. "It was really hard to know what to do when we didn't know what was scary. Everything was scary!" Once completed, they shared findings and procedures with state, local, and community leaders and worked with schools to help them reopen. The software giant also used its resources to help schools track cases and maintain data dashboards and helped coordinate a vaccine site on its campus and helped staff through employee volunteers a site with capacity of 20,000 people a day, both of which were open to the larger community.

★ **Treating employees like family in Nebraska.** The 1,200 employee Lincoln Premium Poultry, a subsidiary of Costco, created an internal disaster response team to help workers through the pandemic, arranging transportation, grocery delivery, and homework support for school aged children. "If you had COVID and you were at home, we checked on you every single day. If you needed medicine, we brought you the medicine, we helped find doctors, we made sure you got to a hospital if that meant one of us took you there ourselves," said **Jessica Kolterman**, the company's director of administration. In partnership with the state, the company organized hotel stays and food for sick individuals so they could isolate themselves, as well as onsite vaccine services for employees and their families.

Reliably Reaching Vulnerable Populations

★ **Building a platform to bring services to all Indiana communities.** Reacting to the devastation of COVID-19 on communities of color, the Indiana Minority Health Coalition (IHMC) ensured critical health information was disseminated in all relevant languages and that vaccines were available everywhere. Launched in 1992, IHMC pivoted to become a statewide platform to voice community needs at the state level. The group used its longstanding network of 20 community-based partners to create door-to-door vaccination campaigns in Black neighborhoods. "We created a campaign called Black & Vax where we would go to sporting and other events to encourage especially young folks to take the vaccine," said **Carl Ellison**, IHMC President and CEO. "A key takeaway is that the people managing the logistics didn't include local voices who could help them better target the effort. In some cases they didn't know who the local voice was. There are a lot of players who are not necessarily familiar with, or knowledgeable about, the subpopulation leadership that they could tap into." The group established a weekly call with local and national experts, providing the crucial local voice required to ensure vaccination sites and messaging would resonate and mental health support for hard hit communities.

★ **Reaching rural residents in Nebraska and beyond.** University of Nebraska Medical Center's Chancellor **Dr. Jeff Gold** used a national TV program, Rural Health Matters [youtube.com] to respond to the specific needs of rural Americans during the pandemic. Because rural populations were older, and often had more underlying health issues and lower vaccination rates, rural infection and death rates outstripped those of urban areas as the pandemic wore on. "All we do during our broadcasts is just provide the most up to date information, and as it changes, be humble about the fact that it's going to change, and that we have to recognize what the science currently tells us, and make our best decision-making on that science," Gold said. "We get call-ins, emails, and letters all the time, saying we are the most trusted source of information for the viewing audience in rural America."

★ **LATIN-19: Establishing a dedicated channel for Latino needs in North Carolina.** Responding to the surge of Latino COVID patients in the state's emergency rooms, clinicians, community leaders, and community members that were part of LATIN-19, including researchers **Andrea Thoumi** and **Dr. Gabriela Plasencia**, identified cultural and language barriers to testing, treatment, and vaccinations and worked with policy makers and community health workers to address them. "Trusted messengers were the number one way to combat misinformation…and it was vital for messages to come directly from Latino physicians or providers, Latino community health workers, and Latino community-based organizations," Plasencia explained. "They felt that the message coming from, for example, a White doctor may not be as trustworthy because a White doctor wouldn't understand what they're going through, wouldn't understand what their preferences are." Latin-19 is advocating to create sustained support for Latinos.

★ **"Guarding" Indiana's nursing homes.** Indiana deployed the National Guard's strong logistical capabilities to identify and fill gaps in the state's beleaguered nursing homes. After starting with an initial 25 facilities, the Guard grew its operation to place 1,700 guardsmen in over 550 nursing homes. The move provided critical support to exhausted nursing home staff and a keen sense of purpose for Guard personnel. **Shane Hatchett**, former Deputy Health Commissioner and Chief of Staff said, "I just don't think we would have been able to be as successful as we were without that ability to tap into a transforming, dynamic workforce. A lot of that goes straight up to our National Guard's Adjutant General, who from the very beginning told Dr. Box and others, 'I'm here to stand in the gap for you.' They were a reassuring presence to say, 'we'll get there, but let's do it the right way.'" Training for guardsmen included, "…how to push someone in a wheelchair, how to care for someone…how to wipe down surfaces, how to take temperatures, how to screen people before they came in, how to do routine admin logs of people that come in…how to maintain your PPE…," recounted Indiana's **Adjutant General Dale Lyles**, "Our soldiers and airmen…really thought that they were saving humanity. When you have a purpose that's bigger than yourself, it really drives the soldiers and the airmen to perform well, and that's what they did."

★ **An all-hands approach to health care access in North Carolina.** As COVID's unequal impacts became evident, Mecklenburg County Public Health quickly mobilized public, private, and "direct resident" partnerships to identify and address obstacles to vaccination, testing, and treatment. In one effort, the department engaged leaders at Village HeartBEAT, a network of more than 60 churches, to reach Black residents. The group held education sessions for pastors, provided churches with masks, and had health care partners conduct on-site mobile testing at houses of worship. "Everything from the Latino grocery store to the corner store to the Hindu temple, every corner of the county where we were seeing disparities in outcomes or access – we were mobilizing on the ground teams." said **Raynard Washington**, then Mecklenburg County Public Health deputy director, now director. Continuing those connections is vital to "ensure that people are healthy before we have a crisis, that we are doing everything possible to create neighborhoods and communities where people have an equal fair opportunity to be healthy," he added.

Bridging Statewide Gaps in Services and Communications

★ **Government-to-government agreements in Washington State.** Tribal, state, and local leaders in Washington State worked to mitigate decades of mistrust by activating mutual aid agreements that had been negotiated and exercised among tribes and local health agencies following missteps during the 2009 H1N1 pandemic. Through these agreements and sovereign-to-sovereign dialogues between Tribal Leaders and the Governor, the American Indian Health Commission ensured tribal priorities were honored for vaccine distribution and organized resource sharing that benefited both tribes and local communities. "For the first time ever in the history of the tribes and the United States and state governments, tribal sovereignty was really honored when it came to COVID-19 vaccines," said Commission Executive Director **Vicki Lowe**.

★ **An information Easy Button in Indiana.** Using a newly configured statewide 211 information hotline, Indiana developed a unified call center to schedule vaccinations and perform contact tracing. The center evolved with the pandemic, eventually becoming a one-stop shop for state residents seeking health information and resources, child care, and rental aid. "It was like the Easy Button for the Indiana 211 service to be a part of a human service delivery agency that could quickly collaborate with the Indiana Department of Health at a time when it was critical for people to have a place to call where they could, in five minutes, schedule their vaccine and then receive a follow-up text message or email confirmation," said IN211 Executive Director **Tara Morse.**

★ **Ensuring access to mental health services for students in Nebraska.** The Nebraska Department of Education partnered with a local foundation's Community Collaboratives to better understand the unique needs of schoolchildren in different areas. In addition to tangibles such as PPE and hand sanitizer, the Collaboratives uncovered a huge need for mental health services. "There was a significant amount of fear and uncertainty, obviously," said **Lane Carr** of the Education Department's Office of Policy and Initiatives. "We used a big chunk of our first set of pandemic relief funds to provide technology and make sure that kids had access and connectivity. But then the second big piece was focused on additional mental health support and support for counselors to be able to meet with students virtually, because we heard loud and clear that folks were feeling really isolated."

★ **Harnessing businesses for pandemic support in Washington State.** Challenge Seattle, a business coalition headed by former Washington Governor **Christine Gregoire**, engaged locally based corporations including Starbucks, Nordstroms, Boeing, Alaska Airlines, and Microsoft to develop data platforms, manufacture PPE, provide transportation, and organize logistical support for mass vaccination. Gregoire told us, "The private sector had immense capability and never asked for a thing in return. They saw it as a humanitarian crisis, and they were called for action, and nobody said no. Everyone instead said, 'We're on it' and 'When do you need it?'" She elaborated, "We issued reports on how to reopen businesses after they had closed, how to function while closed, and the ramifications for businesses, as well as how to reopen the schools and how to focus on the kinds of problems that had been caused by the closures… Government did what only government can do. And the private sector offered up and did what only the private sector can do, and the combination of the two was really stunning."

★ **Scaling testing in Indiana.** In 2020, as access to testing became scarce nationally, pharmaceutical multinational **Eli Lilly and Company** enabled faster COVID-19 testing by shifting its global diagnostic testing and laboratory capacity to create a local drive-through clinic, initially for first responders and Lilly employees and then more broadly. The company worked closely with the Governor's office to help enhance the buying power of the state for testing equipment and supplies and altered how it used technology and employees to fit the needs of the COVID-19 response. Lilly staff created a playbook on setting up a drive-through clinic for others to use and assisted the Indiana governor's office to manage and move its inventory of testing materials.

★ **Hyper-local communications for a wary Alaskan populace.** Then Alaska Chief Medical Officer **Anne Zink** and her team identified locally prevalent communications including Zoom, radio, and Facebook pages to amplify information while engaging trusted local elected, tribal, and community leaders to encourage hyper-local decision making for the state's fiercely independent residents. "Ensuring as much sovereignty as possible for individuals, communities, tribes, and localities was critical to people feeling they had at least some control and could make choices over how they protected themselves," Zink said.

★ **Organizational experts honing local response structures.** Leadership consultants McChrystal Group worked with cities and states across the country to develop fusion cells to coordinate across sectors and organize their 24/7 response operations. “COVID-19 was not a medical problem. It was an organizational challenge. It came down to whether we could get organized, make clear decisions, and implement those decisions across communities,” said **General Stanley McChrystal**. “We created a more refined understanding about the evolving crisis for our network, so that folks making policy at the federal and senior state levels could get that feedback from the people that actually had to implement it,” added Barrett Moorhouse, a Senior Principal for the group.

★ **Networking experts and using data to advise Seattle.** As her city grappled with the first COVID case to hit the United States, then-Seattle Mayor **Jenny Durkan** established a team – a “pandemic kitchen cabinet” – of local and national experts to provide regular counsel and used national mayors’ networks to consult with officials across the country and find supplies, including test kits. “The lack of access to testing in the beginning left us flying blind to the spread of the disease and limited options for slowing that spread,” Durkan said. “It set us on a path that was unnecessarily difficult and required too many innovations and pivots. It also created a kind of a ‘Hunger Games’ competition for resources among cities and states.” Regular channels to access national experts and local data modelers gave Durkan the added crucial information she needed to “see around corners,” understand transmission, and better protect her constituents. She also enlisted globally renowned disease modeling experts. Their data provided models that gave Durkan a realistic picture of what lay ahead for Seattle, “Ongoing access to modeling is critical. Public health officials were constrained because their hard data was limited to the known few dozen cases. Dr. Bedford’s research and model indicated we likely could have at least 1,100 cases at that time, doubling every 6 days. That changed everything…We were facing a tsunami if we did not act.”

★ **Developing air ambulance crew safety protocols in Texas:** Concerned about her crews as they transported severely ill COVID-19 patients in Texas with minimal guidance and protective gear, **Lesley Osborn** helped developed a playbook to protect everyone from pilots to mechanics. “There was so much unknown to my EMS providers, flight nurses, and flight paramedics,” said Osborn, medical director of Memorial Hermann’s Life Flight program, one of the busiest hospital-based air medical companies in the United States. “They were very concerned about flying these patients in an aircraft where you can’t filter anything out.” The blueprint she published guided other air medical companies in safely approaching patient care during the COVID-19 pandemic. Portions are still being used in transporting highly infectious patients in the greater Houston area

★ **Capitalizing on Nebraska's ongoing preparedness resources:** Drawing on biocontainment infrastructure and clinical science and operational research capacities established with the help of federal grants over the years, the University of Nebraska Medical Center's Global Center for Health Security cared for patients returning from Wuhan and passengers from the Diamond Princess, one of the first cruise ships to report infections. It also aided the U.S. Centers for Disease Control and Prevention in developing working test kits, conducted clinical trials for treatments, and published more than a dozen playbooks for infection control that were used from schools to multiple collegiate athletic conferences and professional sports. "We had a number of tools in the tool chest that were sort of locked and loaded," said UNMC Chancellor **Dr. Jeff Gold**. "I would characterize the time of critical decision making by simply saying that we leaned in. We tried to fill a broad and deep void."

National Level Innovations to Scale Pandemic Supplies

★ **Pooling procurement of state supplies.** In August 2020, the Rockefeller Foundation aided rapid development of the State and Territory Alliance for Testing (STAT) Network, which initially served as a state hub for the procurement and distribution of COVID tests. The network expanded to include "action networks" providing guidance on vaccination and school reopening and quickly became a platform for information sharing and problem solving. It continues in that role today. "In the very beginning, the federal government really struggled to be the shipping clerk they needed to be…that was a huge failure out of the gate," explained **Kody Kinsley**, now Secretary of the North Carolina Department of Health and Human Services. "No state should have been working so hard as we were to buy PPE. The federal government should have been sourcing it and distributing it, but instead, we were competing with each other." To address the issues, Kinsley said, "Rockefeller was willing to make, essentially, a major order and invest their resources upfront, and then states were able to order…That allowed us to get big bulk, low prices, and it was a great buy. It both underscores the value of the STAT network, but also that in the future, the federal government really has to lean in harder from the front end on being the centralized shipping clerk."

★ **Using FEMA as the national pandemic response "front door."** Amid national level political and bureaucratic disarray, the Federal Emergency Management Agency (FEMA) used its robust systems and experience to field supply and assistance requests from states, localities, tribes, and territories. "A major advance in the COVID response in March 2020 was switching to FEMA's system for ingesting requests for assistance," said former FEMA head of response and recovery **Dave Bibo**. "Until that happened, the federal government couldn't see itself in the response. It couldn't see what was actually being sought or the articulation of the need." The agency streamlined the request process to make it more manageable and ensure resources were going where they were needed most.

Protecting Hospital Systems

★ **Preserving hospital capacity in Washington state.** When Washington suspended elective surgeries to preserve surge capacity for COVID patients, there was no process for working with key hospitals, medical specialties, nursing unions, and tribal nations to craft solutions that could maximize public health benefits and minimize impact to routine healthcare and hospital operations. Working across sectors, the governor's team helped find a solution – a network for surge capacity to ensure that no single hospital went into crisis-care mode. "We worked with the University of Washington and the Institute for Health Metrics and Evaluation on modeling to forecast what we could expect our hospital capacity to look like and what our projected hospitalizations would look like," said former Washington COVID-19 response lead **Raquel Bono**, "We had been suspending elective surgery to preserve personal protective equipment and to mitigate spread, but we also recognized that some surgical care shouldn't be delayed even if considered elective. We expanded the number of participants in drafting the policy to inform how to re-start elective cases safely while preserving at least a 20% surge capacity and continuing to have sufficient PPE for the frontline health workers – all conditions had to be met before elective surgery could be done. The policy wasn't going to tell the providers or hospitals what procedures could be done, but rather under what conditions should they decide to prioritize performing elective surgery. We were able to monitor its implementation with a dashboard..."

★ **Building hospital surge and data infrastructure in Nebraska.** Former Chief Medical Officer **Gary Anthone** and his team helped create approaches to designate hospitals with empty floors as COVID-specific surge units and to establish decompression facilities throughout the state to help with hospital discharge - ultimately allowing Nebraska to more effectively manage an influx of COVID patients. In the early days of the pandemic, the team built new infrastructure to collect case and hospital data, working through phone calls to each of the 21 hospitals across the state. "At first, we did not have the infrastructure in place to track, collect, and use the data that we really needed. I don't think we were the only state in that situation," said Anthone. "Our state developed a public dashboard that the public could see on a daily basis...Once we were able to do that, I think the public just became much more confident in how we were making decisions." By Fall 2020, officials were able to digitize and automate case reporting, eventually standing up a knowledge center to inform decision-making and resource deployment and to tie capacity restrictions and business closures to hospitalization rates.

★ **Enabling data-driven decision-making in North Carolina.** Through strategic investments in data integration, the state connected formerly siloed systems into a central database, reducing inefficiencies and automating processes to enable rapid data-sharing with partners. "We built pipelines with every hospital facilitated by trust and huge dollars that we had to invest in technology to be able to get near-hourly reports about bed utilization and then be able to break it down – so we could actually learn from the information, not just monitor utilization," said North Carolina Secretary of Health and Human Services **Kody Kinsley**. "We had Medicaid data, and we had vaccine data and we had testing data, and we had syndromic surveillance data and we had bed utilization data and never should these systems ever talk to each other. And so then we started building pipes between them...to make sure that we know who the people are that we're serving and that we're asking them at the point of service as little as possible to help them move through the process fast."

Pandemic Leadership

★ **Press briefings creating community in Arkansas.** Former Governor **Asa Hutchinson** led 200 daily press briefings, including every day for over 100 days, to keep citizens informed and create a sense of common experience. “It was honest, what people saw. I wanted them to go on this journey with us. What we knew one day might have been disavowed the next day. They went with our ups and downs,” he said. “Four years later, I still get people coming up and saying, ‘I followed you every day in those briefings and it helped us get through it - our nurses and our teachers and people that couldn’t go to work.’ That communication intensity was important and one of the big lessons that is important for any leader.” The media was “an important part of our response efforts,” Hutchinson added. “Those daily briefings were a lifeline for every citizen in Arkansas, and if the media was not there covering it, it would not have been effective.”

★ **Checking egos—and politics—at the door in Texas.** Dallas County **Judge Clay Lewis Jenkins**, the highest elected official in the county, developed multiple advisory groups to better understand and respond to the concerns of businesses, community activists, and faith groups. He also worked across party lines and jurisdictions—sometimes in opposition to the governor—to secure vaccines and develop public health protocols. “The career professionals, many of them are Republican, many are Democrats, all worked very well together,” he said. “It was a very low-ego response here. Nobody’s really talking politics here. We’re just trying to get people well, get them vaccinated, get them informed.”

★ **Using economic modeling in Utah and keeping legislators in the loop: In Utah, the state worked with retailers and used data to assess economic impacts of the pandemic.** State legislators, “were very sensitive to business owners and people who were impacted by public health decisions, and they helped us recognize that the decisions could not be purely based on public health--there was an economic consequence, too,” said **Gordon Larsen**, senior advisor to Utah Governor Spencer Cox. “If you don’t account for the economic consequences, even if you think it’s purely a public health decision, then politics will have an impact on public health.” On masking, the state worked to drive collective action. Economic behavioral modeling showed that a masking mandate for retail settings might increase store traffic because more people might feel comfortable shopping if they knew others were wearing a mask. “As the pandemic went on...we recognized that we couldn’t only be getting information from the public health community. There is an economic component,” said Larsen. “We designed a matrix that was based on hospitalization rates, case counts, and other factors, which created a way for our legislature and others to say masking requirements or restrictions on large group gatherings weren’t arbitrary but based on data and had the ultimate goal of protecting our hospital capacity.”

★ **Bringing sectors together in Indiana,** Governor Eric Holcomb relied heavily on the state’s health commissioner to be a key spokesperson in the response and to be a clinical advisor to inform his decisions with sound medical and public health principles. He oversaw a coordinated state response that called on the National Guard for logistics and coordinated closely with the Family and Social Services Administration, Department of Homeland Security, and others.

★ **Engaging operational and scientific expertise in North Carolina.** Governor Roy Cooper relied on then State Secretary of Health and Human Services Mandy Cohen and Chief Deputy Secretary and COVID-19 Operations Lead **Kody Kinsley**, who had authority over public health as well as the overall health system across the state. They had previously built strong relationships through the state's multi-year efforts to expand Medicaid, which engendered trust – including through a regular Executive Roundtable with health system Chief Executive Officers – as they coordinated across North Carolina's health systems and worked to bridge the Republican-controlled legislature and Democratic administration. North Carolina also created statewide networks of individuals serving in similar positions across the state, including Chief Medical Officers of hospitals, physicians, and hospital leaders.

★ **Appointing an experienced incident commander in Washington**. Governor Jay Inslee brought in retired **Admiral Raquel "Rocky" Bono**, former surgeon general from the Department of Defense Indo-Pacific Command, to oversee a whole-of-state response, quickly surface and solve problems, and ultimately extend the governor's reach across the state. Grappling with some of the pandemic's earliest deaths in the United States, Seattle Mayor Jenny Durkan relied on a national experts' group – a "pandemic kitchen cabinet" – to inform the city's thinking, "see around corners," and gain a larger perspective on what might emerge next from the unfolding crisis.

★ **Finding pragmatic solutions in Alaska.** Governor Mike Dunleavy worked closely with then Chief Medical Officer **Anne Zink** and other officials behind the scenes to find pragmatic solutions. Zink said, "The governor never tried to be the scientist, but he also never asked me to be the governor…I really appreciated that he never said to me what I had to say, what I could say, what I couldn't say." Even without a mandate, the state promoted masks' value in reducing transmission. "…he let me speak to it: 'The mask is going to help you, it's going to help me.' He would just say, 'I don't think it's the government's role to tell you how to live your life.' Ultimately, I decided that messaging together about the value of masking was more important than a mandate – dividing our messages would have made it even harder to communicate."

★ **Communicating and sticking to clear goals in Nebraska.** In 2020 U.S. Senator Pete Ricketts – then former Nebraska Governor – consulted regularly with leadership of the University of Nebraska Medical Center and convened a statewide coalition of state public health leadership that met regularly. Ricketts explained the importance of communicating a plan and sticking to it, "We started off with a very clear goal to preserve hospital capacity. That was going to be our North Star. We communicated that goal. We were transparent about the goal. We showed how we were measuring it. We communicated that out through press conferences," Ricketts outlined. "We got on the phone weekly with hospital CEOs to bring them on board. The entire state of Nebraska became one big hospital system."

Key Issues

Key Issue

Leadership

Pandemic leaders must weigh societal wide impacts, and appoint proven commanders with operational experience. Public health authorities should be at the table, but in general should not head operations.

"I had to be in charge. A governor has to lead the effort. The public needed to see one person, who was leading this effort, who could communicate and bring everybody together. Only the governor could do that."

"I didn't run to be governor of the Democrats. The job is about everybody...I am your neighbor in this to figure out with all of you how we get to the other side of it."

–Deval Patrick, former Governor of Massachusetts"

As the worst health emergency in more than a century crashed onto U.S. shores, it quickly became clear that the repercussions far surpassed the scope and resources of the country's response infrastructure. Amid great uncertainty and fear, it fell to governors, mayors, tribal and territorial officials to determine how the virus would affect their communities, keep people safe while avoiding economic and health system collapse, and find ways to inform the public in a rapidly changing and politically volatile environment. Effective response involved more than just grappling with the virus – it required marshaling the collective resources of different sectors across the state to ensure that the economy did not falter, children were cared for and educated, and people continued to have access to basic services.

"...for the first time ever in the history of the Tribes and the United States and state governments, Tribal sovereignty was really honored when it came to COVID-19 vaccines. In our history, with smallpox and other diseases brought by settlers, there is that memory and a fear of that happening again. In the early days of smallpox, the federal government chose which Tribes were behaving well and gave them vaccines, but not other Tribes. To have it go right during COVID-19 for the first time ever was a really big deal."

– Vicki Lowe, Executive Director, American Indian Health Commission

Many of the structures needed to support local leaders in making broad-based, multisectoral decisions did not exist, requiring leaders to, as one said, “build the plane while flying it.” While response mechanisms for natural disasters–like hurricanes, fires, and floods–were more established, the scale and speed of the COVID-19 pandemic outpaced long under-resourced public health systems and created unprecedented uncertainty and hesitation that cost lives. In the absence of a well-practiced local pandemic response system, governors and other state and community leaders forged local approaches to support information exchange and rapid decision-making across sectors.

Some leaders seemingly got it right – mobilizing resources and a spirit of common cause to both save lives and protect livelihoods. Others sowed chaos, confusion and mistrust, exacerbating the pandemic threat. Political party was not the deciding factor. Neither was geography. So, what made some leaders more effective?

In interviews with former state governors; mayors; federal, local, and tribal pandemic response officials; educators; and community and business leaders, we learned about the networks and mechanisms they established to deal with the COVID catastrophe, build confidence, and save lives. Their insights, ingenuity, and determination provide invaluable lessons in how to prepare for future emergencies.

An Imperfect Playbook for Local Pandemic Leadership

The COVID-19 pandemic required governors and municipal leaders to make life or death decisions related to masking, lockdowns, and vaccines, often in politically charged environments and without adequate data. While ensuring they were the ultimate decision makers, our lamplighters convened multi-sectoral advisory groups, established an incident commander, created command centers built on recent disaster experiences, and gave agency heads the resources and autonomy to move quickly. To better inform their decisions, they convened national experts and cobbled together local data dashboards. Effective leaders were in many cases able to build on trusted relationships and partnerships that had been forged through previous crises, which, as one interviewee put it, allowed them to “exercise their trust muscles.” Critically, they activated relationships with businesses and community organizations to serve as force multipliers that could reach people in all communities.

States achieved results differently, taking a variety of paths in building their command posts. Some brought in national experts to guide them. Others established new ways to coordinate decisions and create clear lines of authority across various elements of the response. Successful strategies ranged from co-opting standing phone calls with agency heads – so that public health officials could directly inform local hospitals – to establishing fusion cells to speed information flow and drive data to decision makers, to engaging contracted external experts to support state governors.

Across these actors’ varied experiences, some common ingredients for pandemic leadership emerged.

Knowing where the buck stops—the effective pandemic governor

Chief among the ingredients for state pandemic leadership was having a governor take responsibility for coordinating the response–one who was motivated by public welfare, not politics, and who was ready to own key decisions, establish clear command and control, and change course based on data. Effective pandemic leaders assumed final decision-making authority, giving support and back up for the rest of their team—a model one interviewee described as "the nesting doll" approach. They were described by interviewees both within and outside their command structure as inclusive, open, and - perhaps above all - pragmatic. They used science but didn't become paralyzed by it. They found ways to track data and used it to effectively target resources. When they lacked decision support tools, they created them as best they could, leveraging the best available data and listening to experts and impacted communities alike. They harnessed the power of local leaders and communications tools. They prioritized saving all lives in their states and regularly communicated that goal as their primary objective.

Empowering key leaders in a command structure

Effective leaders created a leadership structure that empowered public health officials but did not rely solely on them for decision-making. They understood that navigating an effective COVID-19 public health response—while simultaneously taking into account the pandemic's socioeconomic effects on businesses, schools, and essential workers—required a clear command and control leadership structure that could function 24/7 across sectors and silos, was capable of quickly gathering and synthesizing information; making decisions that impacted hospital systems, school districts, businesses, and the public's social, emotional, and economic well-being; and deploying resources.

Ideally, this apparatus was plugged into the federal response, informed by national and global experts, and had the ability to quickly pivot based on data and modeling. In some cases, leaders overseeing health and human services agencies were the natural choices to drive the process. In others, national experts and consultants were hired from outside the state. Ideally, the leader

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Telling the truth, transparently

Effective communication–telling the truth as transparently as possible–was another common ingredient. Governors across the United States took on roles that were equal parts command and control and "communicator in chief." Across the board, governors and other pandemic leaders were viewed as most successful when they built consensus across political divides, when they told the truth as they knew it, shared information transparently and accurately, preserved channels for debate on controversial issues before making key decisions, and responded to uncertainty with humility and empathy.

Effective leaders recognized that the science was simultaneously essential and incomplete and that what we knew would change as the pandemic unfolded. They didn't become paralyzed or polarized by the science; instead, they took it into account, and used it to help communities.

Finally, effective leaders admitted it when they got it wrong.

Meeting communities where they are

While the pandemic affected everyone, not all were affected equally. Housing conditions, occupations, race, ethnicity, age, health status, and income levels were among the varied factors that differentiated people's experience.

Effective leaders listened and responded to these disparate realities. They used, and when necessary created, dedicated two-way communication networks, so that communities felt heard and understood. They engaged communities in forging solutions to their own concerns, and ensured they had the resources to act on them.

Lighting a Path Forward

Lamplighters built leadership structures in different ways, but ultimately, they appointed pandemic response leads who were proven commanders, capable of cutting across sectors and silos–not singularly focused on public health outcomes. They established multi-sectoral command structures – networks, collaborations, and fusion cells – that met daily. They created formal agreements on handling supplies and medical countermeasures. They used data to drive their decisions, and they listened with humility to respond to the needs of all their constituents and meet people where they were.

In **Alaska**, Governor Mike Dunleavy worked closely with then Chief Medical Officer **Anne Zink** and other officials behind the scenes to find pragmatic solutions. Zink said, "The governor never tried to be the scientist, but he also never asked me to be the governor...I really appreciated that he never said to me what I had to say, what I could say, what I couldn't say." Even without a mandate, the state promoted masks' value in reducing transmission. "...he let me speak to it: 'The mask is going to help you, it's going to help me.' He would just say, 'I don't think it's government's role to tell you how to live your life.' Ultimately, I decided that messaging together about the value of masking was more important than a mandate – dividing our messages would have made it even harder to communicate."

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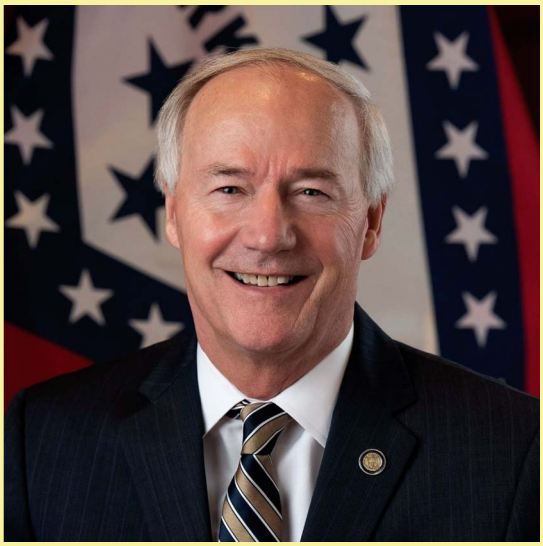

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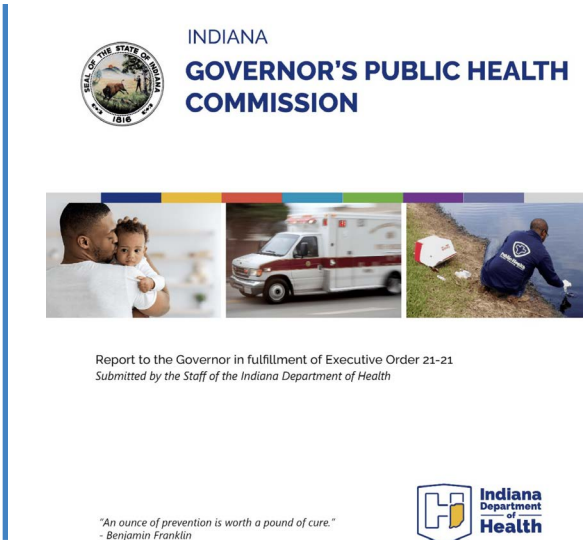

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Key Issue

Equitable Access

"The people managing the logistics didn't include local voices who could help them better target the effort. In some cases they didn't know who the local voice was, and, if they had just called us, we could have told them. There are a lot of players who are not necessarily familiar with, or knowledgeable about, the subpopulation leadership that they could tap into."

– Carl Ellison, President and CEO, Indiana Minority Health Coalition

Every community in America struggled with access to services during the COVID-19 pandemic. Vulnerable populations, including elderly, immunocompromised, and racial and ethnic minorities bore a larger brunt of the pandemic's brutal death toll, and states scrambled to get scarce supplies to underserved rural, urban, and tribal populations.

What Happened

As the pandemic tore across the United States, it exacerbated pre-existing disparities of all types. Lower income and education levels, race, ethnicity, age, gender, and chronic illness all created additional vulnerabilities that led to higher infection and death rates, as well as increased economic dislocation and mental health challenges. Critical factors ranged from occupation to housing to healthcare access.

Social distancing was a luxury unavailable for those in low-wage and essential jobs requiring in-person interactions. Workers in transportation, security, agriculture, food production, and construction – the backbone of our daily lives – had among the highest COVID-19 mortality rates reported. At the end of their shifts, many of these workers faced additional risks as they returned home to communities with crowded living conditions in communities that had less access to COVID-19 testing and treatments if they fell sick.

As a result, people of color bore the brunt of COVID mortality. While comprising only 8% of the U.S. population, lower income Hispanic and Black men aged 25-62 accounted for 29% of premature COVID deaths during the first year of the pandemic. In 2020 alone, Black and Hispanic men suffered a staggering erosion of life expectancy – 3.6 and 4.5 years, respectively – far surpassing the 1.5-year reduction seen in White men. The long-term psychological and economic impact on families, particularly on children, was also profound: Hispanic, Black and Indigenous children were 1.1-4.5 times more likely to lose a caregiver to the pandemic than were their White peers.

Others were vulnerable as well. COVID-19 disproportionately killed those with pre-existing conditions, the elderly, and the incarcerated. Health care access challenges and vaccine hesitancy fueled a death surge in rural areas even after the rollout of COVID-19 vaccines. The pandemic's indirect effects were equally unfair, disproportionately stripping jobs from women, who bore the brunt of an increased child care burden due to school and daycare closures. An ensuing mental health crisis stoked an unprecedented spike in deaths from drugs and alcohol, with communities of color again enduring the harshest impact.

Scrambling to Provide Services

America has long struggled with health inequity. The pandemic laid bare these enormous and persistent disparities, driving state and local leaders to devise new ways to reach all their constituents with information, economic resources, food, and emotional support. States that had adopted Medicaid expansions were able to use those benefits to achieve lower death rates among poor counties compared to states without the extra aid. Child care funding kept facilities operating so essential workers could stay on the job. Food assistance through the Supplemental Nutrition Assistance Program and school meals offered food security.

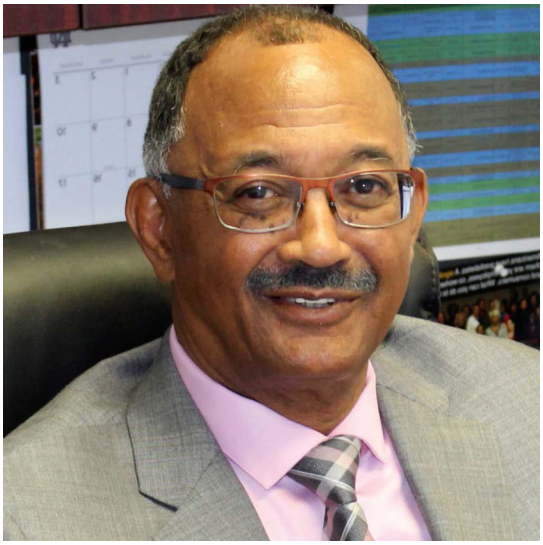
The extraordinary level of economic and social disruption wrought by the pandemic required creative solutions and social ingenuity. Amid these challenges, government officials also relied on established civil society groups that had long histories with specific communities and were able to identify special problems and needs. The groups acted as go-betweens for vulnerable groups and officials, providing critical information, feedback, and resources.

Many of these communicators were existing government partners, but some emerged from ad hoc collaborations that bloomed in 2020 and laid the ground for improved community engagement and emergency response later in the pandemic.

Lighting a Path Forward

In states, cities, and on tribal lands across the country, American lamplighters worked tirelessly to identify and bridge divides in equitable access to information and services. They used existing channels of communication with underserved populations to enable transparency, feedback, and connections to resources. They used old and new platforms to share information and worked with trusted community leaders to engage with people of color, as well as those living in underserved urban, rural, and tribal settings.

Ensuring these networks survive and thrive is critical to achieving an equitable response in the next health emergency.

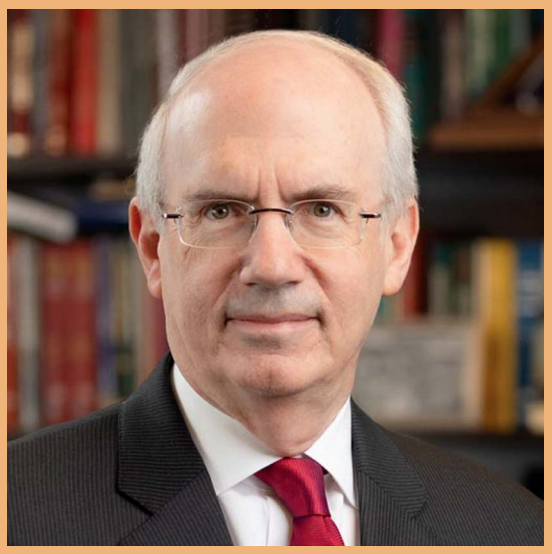


Reacting to the devastation of COVID-19 on communities of color, the Indiana Minority Health Coalition (IHMC) ensured critical health information was disseminated in all relevant languages and that vaccines were available everywhere. Launched in 1992, IHMC pivoted to become a statewide platform to voice community needs at the state level. The group used its longstanding network of 20 community-based partners to create door-to-door vaccination campaigns in Black neighborhoods. “We created a campaign called Black & Vax where we would go to sporting and other events to encourage especially young folks to take the vaccine,” said **Carl Ellison**, IHMC President and CEO. “A key takeaway is that the people managing the logistics didn’t include local voices who could help them better target the effort. In some cases they didn’t know who the local voice was. There are a lot of players who are not necessarily familiar with, or knowledgeable about, the subpopulation leadership that they could tap into.” The group established a weekly call with local and national experts, providing the crucial local voice required to ensure vaccination sites and messaging would resonate and mental health support for hard hit communities.

As COVID's unequal impacts became evident, Mecklenburg County Public Health quickly mobilized public, private, and "direct resident" partnerships to identify and address obstacles to vaccination, testing, and treatment. In one effort, the department engaged leaders at Village HeartBEAT, a network of more than 60 churches, to reach Black residents. The group held education sessions for pastors, provided churches with masks, and had healthcare partners conduct on-site mobile testing at houses of worship. "Everything from the Latino grocery store to the corner store to the Hindu temple, every corner of the county where we were seeing disparities in outcomes or access – we were mobilizing on the ground teams." said **Raynard Washington**, then Mecklenburg County Public Health

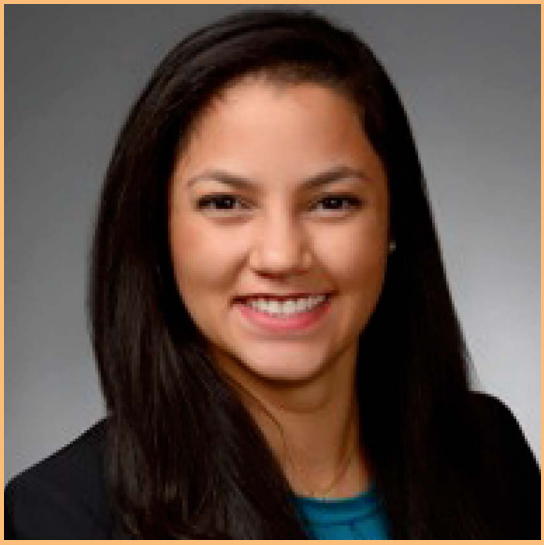
Tribal, state, and local leaders in **Washington State** worked to mitigate decades of mistrust by activating mutual aid agreements that had been negotiated and exercised among tribes and local health agencies following missteps during the 2009 H1N1 pandemic. Through these agreements and sovereign-to-sovereign dialogues among Tribal Leaders and the Governor, the American Indian Health Commission ensured tribal priorities were honored for vaccine distribution and organized vaccination resource sharing that benefited both tribes and local communities. "For the first time ever in the history of the tribes and the United States and state governments, tribal sovereignty was really honored when it came to COVID-19 vaccines," said Commission Executive Director **Vicki Lowe**.

Reaching rural residents in Nebraska and beyond. University of Nebraska Medical Center's Chancellor **Dr. Jeff Gold** used a national TV program, Rural Health Matters [youtube.com] to respond to the specific needs of rural Americans during the pandemic. Because rural populations were older, and often had more underlying health issues and lower vaccination rates, rural infection and death rates outstripped those of urban areas as the pandemic wore on. "All we do during our broadcasts is just provide the most up to date information, and as it changes, be humble about the fact that it's going to change, and that we have to recognize what the science currently tells us, and make our best decision-making on that science," Gold said. "We get call-ins, emails, and letters all the time, saying we are the most trusted source of information for the viewing audience in rural America."



Indiana used a newly configured statewide 211 information hotline to develop a unified call center to schedule vaccinations and perform contact tracing. The center evolved with the pandemic, eventually becoming a one-stop shop for state residents seeking health information and resources, child care, and rental aid. "It was like the Easy Button for the Indiana 211 service to be a part of a human service delivery agency that could quickly collaborate with the Indiana Department of Health at a time when it was critical for people to have a place to call where they could, in five minutes, schedule their vaccine and then receive a follow-up text message or email confirmation," said IN211 Executive Director **Tara Morse**.

In **North Carolina**, the LATIN-19 coalition established a dedicated channel for Latino needs. Responding to the surge of Latino COVID patients in the state's emergency rooms, researcher **Andrea Thoumi** and **Dr. Gabriela Plasencia** identified cultural and language barriers to testing, treatment, and vaccinations and worked with policy makers and community health workers to address them. "Trusted messengers were the number one way to combat misinformation…and it was vital for messages to come directly from Latino physicians or providers, Latino community health workers, and Latino community-based organizations," Plasencia explained. "They felt that the message coming from, for example, a White doctor may not be as trustworthy because a White doctor wouldn't understand what they're going through, wouldn't understand what their preferences are." Latin-19 is advocating to create sustained support for Latinos.



Key Issue

Supporting States through Improved Federal-State Collaborations

"What we heard from local officials is 'We felt like we could not rely on the federal government. We just had to work with the state. We were on our own for supplies. We were on our own for advice. We were on our own.'"

—Susan Brooks, former U.S. Representative from Indiana

While state operational officials must be ready to lead in the next health emergency, federal and state operational officials must be able to work hand-in-hand. The unified approach will require dedicated operational links to support supply distribution, strategy development, and communications – connections that have been severely neglected for health crisis management.

What Happened

There was no single federal supply coordinator for pandemic emergencies.

National crises can be unifying, as we have seen from Pearl Harbor to 9/11. Yet, the slow, disorganized early response from the federal government failed to unite the American public in suppressing the emerging COVID-19 pandemic and overcoming the pre-existing health and social inequities that exacerbated its toll. States and localities, as the first responders in any emergency, did not receive required supplies, guidance, or resources. There was a lack of data; testing supplies were flawed and then scarce; public health messaging was inconsistent. All of this left states and localities scrambling for tools, which fueled anger, distrust in government institutions, and, ultimately, loss of life.

Competition for lifesaving supplies was a major flashpoint. In 2020, the United States faced shortages of tests, PPE, and ventilators that pitted states, communities, and tribes against one another—what many interviewees described as a supply chain "Hunger Games."

Avoiding a Pandemic Hunger Games

During health emergencies, the federal government doesn't regularly use the well-practiced response routes for localized natural disasters that allow the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide funding to states for supplies and personnel. While these were activated in March 2020, they weren't created for a response affecting every state at the same time. States across the country were left to bid for supplies, with larger states purchasing on the open market, and smaller states banding together or, in some cases, buying from other countries.

Lack of an organized communications and strategy channel was another issue. While governors and mayors maintained open lines of communication with counterparts and the White House, there wasn't always a routine way or dedicated time for local pandemic response leaders to work with federal officials to devise solutions to increasingly complex challenges. The absence of a federally linked pandemic supply chain and dedicated operational daily network for state, local, territorial, and tribal officials to facilitate collaboration with federal counterparts was felt across America.

As the pandemic wore on, the federal government became more engaged in surging manufacturing and distribution for supplies, starting with FEMA and expanding to a National COVID-19 Supply Coordinator housed at the White House. As vaccines became available, states consulted with the federal government on allotments, but many operational conversations remained one-way briefings. The federal government would roll out a plan, and states would implement it on the back end. State operational officials didn't always have a routine touch-point with each other or with federal counterparts to work through implementation issues. Philanthropies stepped in with stop-gap

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Providing expert advice

A related challenge was the lack of routine advice for state and local decision makers. National guidance wasn't tailored for community needs, and local leaders didn't have access to technical assistance teams. Decision makers fielded recommendations from a wide array of experts and institutions, locally, on national television, and through social media. These yielded arguments for various, sometimes contradictory, approaches that often didn't take into account geographic diversity, socioeconomic complexity, or dissent.

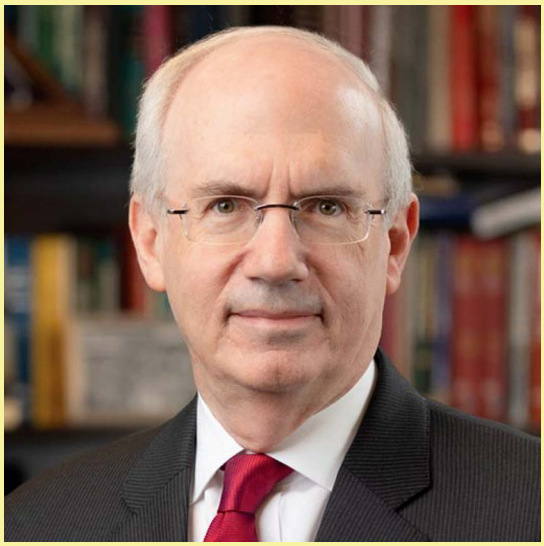
Many leaders turned to external consultants or formed their own informal advisory groups, many of which were bespoke and have since disbanded.

Lighting a Path Forward

As state, local, and tribal leaders were left on their own to grapple with major gaps in knowledge, supplies, and coordination, lamplighters banded together to take care of their constituencies and their communities. States, non-governmental partners, businesses, and community groups formed coalitions to buy and make their own masks. They manufactured testing swabs. They bought supplies from other countries. They joined across states in "compact" agreements to buy tests in bulk–competing with other, larger states with more purchasing power. They formed operational groups to share what they were learning and solve problems together.

While these networks should be preserved and strengthened, they also underscore the need for the federal government's new Office of Pandemic Preparedness and Response to serve as the national supply coordinator, stand up FEMA immediately during pandemic emergencies to organize and scale supplies, and pre-identify and exercise state and local operational networks to troubleshoot logistical challenges.

In August 2020, the Rockefeller Foundation aided rapid development of the **State and Territory Alliance for Testing** (STAT) Network, which initially served as a state hub for the procurement and distribution of COVID tests. The network expanded to include "action networks" providing guidance on vaccination and school reopening and quickly became a platform for information sharing and problem solving. It continues in that role today. "In the very beginning, the federal government really struggled to be the shipping clerk they needed to be…that was a huge failure out of the gate. No state should have been working so hard as we were to buy PPE. The federal government should have been sourcing it and distributing it, but instead, we were competing with each other," explained **Kody Kinsley,** now Secretary of the **North Carolina Department of Health and Human Services**. "Rockefeller was willing to make, essentially, a major order and invest their resources upfront, and then states were able to order…That allowed us to get big bulk, low prices, and it was a great buy. It both underscores the value of the STAT network, but also that in the future, the federal government really has to lean in harder from the front end on being the centralized shipping clerk."



Capitalizing on Nebraska's ongoing preparedness resources: Drawing on biocontainment infrastructure and clinical science and operational research capacities established with the help of federal grants over the years, the **University of Nebraska Medical Center's** Global Center for Health Security cared for patients returning from Wuhan and passengers from the Diamond Princess, one of the first cruise ships to report infections. It also aided the U.S. Centers for Disease Control and Prevention in developing working test kits, conducted clinical trials for treatments, and published more than a dozen playbooks for infection control that were used from schools to multiple collegiate athletic conferences and professional sports. "We had a number of tools in the tool chest that were sort of locked and loaded," said UNMC Chancellor **Dr. Jeff Gold**. "I would characterize the time of critical decision making by simply saying that we leaned in. We tried to fill a broad and deep void."

Leadership consultants McChrystal Group worked with cities and states across the country to develop fusion cells to coordinate across sectors and organize their 24/7 response operations. "COVID-19 was not a medical problem. It was an organizational challenge. It came down to whether we could get organized, make clear decisions, and implement those decisions across communities," said **General Stanley McChrystal**, "We created a more refined understanding about the evolving crisis for our network, so that folks making policy at the federal and senior state levels could get that feedback from the people that actually had to implement it," added Barrett Moorhouse, a Senior Principal for the group.

As her city grappled with the first COVID case to hit the United States, then-Seattle Mayor **Jenny Durkan** established a team – a "pandemic kitchen cabinet" – of local and national experts to provide regular counsel and used national mayors' networks to consult with officials across the country and find supplies, including test kits. "The lack of access to testing in the beginning left us flying blind to the spread of the disease and limited options for slowing that spread," Durkan said. "It set us on a path that was unnecessarily difficult and required too many innovations and pivots. It also created a kind of a 'Hunger Games' competition for resources among cities and states." Regular channels to access national experts and local data modelers gave Durkan the added crucial information she needed to "see around corners," understand transmission, and better protect her constituents. She also enlisted globally renowned disease modeling experts. Their data provided models that gave Durkan a realistic picture of what lay ahead for Seattle, "Ongoing access to modeling is critical. Public health officials were constrained because their hard data was limited to the known few dozen cases. Dr. Bedford's research and model indicated we likely could have at least 1,100 cases at that time, doubling every 6 days. That changed everything...We were facing a tsunami if we did not act."

Amid national level political and bureaucratic disarray, the Federal Emergency Management Agency (FEMA) used its robust systems and experience to field supply and assistance requests from states, localities, tribes, and territories. "A major advance in the COVID response in March 2020 was switching to FEMA's system for ingesting requests for assistance," said FEMA Deputy Assistant Director **Dave Bibo**. "Until that happened, the federal government couldn't see itself in the response. It couldn't see what was actually being sought or the articulation of the need." The agency streamlined the request process to make it more manageable and ensure resources were going where they were needed most.

Indiana deployed the National Guard's strong logistical capabilities to identify and fill gaps in the state's beleaguered nursing homes. After starting with an initial 25 facilities, the Guard grew its operation to place 1,700 guardsmen in over 550 nursing homes. The move provided critical support to exhausted nursing home staff and a keen sense of purpose for Guard personnel. **Shane Hatchett**, former Deputy Health Commissioner and Chief of Staff said, "I just don't think we would have been able to be as successful as we were without that ability to tap into a transforming, dynamic workforce. A lot of that goes straight up to our National Guard's Adjutant General, who from the very beginning told Dr. Box and others, 'I'm here to stand in the gap for you.' They were a reassuring presence to say, 'we'll get there, but let's do it the right way.'" Training for guardsmen included, "...how to push someone in a wheelchair, how to care for someone...how to wipe down surfaces, how to take temperatures, how to screen people before they came in, how to do routine admin logs of people that come in...how to maintain your PPE...," recounted Indiana's **Adjutant General Dale Lyles**, "Our soldiers and airmen... really thought that they were saving humanity. When you have a purpose that's bigger than yourself, it really drives the soldiers and the airmen to perform well, and that's what they did."

Key Issue

Harnessing Data to Drive Decision-Making

"You're only able to respond when you know. The ability for data to flow freely between the local, state, and national level is really vital for us to be able to respond to a national or global pandemic. So the need to have a strong public health infrastructure in terms of data management and our data systems is a true lesson learned and I hope that we don't miss the opportunity to build on that as we move forward and prepare for the next pandemic."

– Raynard Washington, director, Mecklenburg County Public Health, North Carolina

Data was among the greatest challenges of the COVID-19 pandemic. How to get it. How to use it to make decisions. How to harness it to target scarce resources to save the most lives. How to use it to open schools and businesses safely and to support livelihoods and interactions among families and friends.

What Happened

Rapid access to reliable data is the bedrock of successful health emergency response. Yet, in 2020, a disconcerting truth became painfully clear: the United States, despite its advanced healthcare and technological capabilities, was crippled by an antiquated public health data infrastructure. The many deficiencies included a lack of clear definitions on what should be measured and how; cumbersome reporting processes between health facilities and government agencies; and a glaring lack of race and ethnicity identifiers—something that was especially egregious given COVID's heavier burden on people of color.

As the pandemic's toll grew, it became increasingly apparent that communities of color, the elderly, tribal nations, and the incarcerated, faced disproportionate risks and outcomes from COVID-19, as well as systemic barriers to testing, treatments, and vaccinations. In most cases, data on race and ethnicity were not collected at all or were incomplete, clouding officials' knowledge of where these gaps existed and how to lower barriers to services.

The absence of a unified national strategy for data collection and analysis meant there were no comprehensive tools to inform Americans about pandemic risks, no dashboards that could signal impending collapse for local hospitals, and little actionable data geared toward helping businesses and schools to open safely.

As a result, the United States found itself navigating the pandemic blindfolded, without situational awareness of where the virus was and where it was headed, and without the tools needed to guide crucial choices impacting every aspect of American life—from determining safe times to leave the house to deciding when children should attend school.

Making Decisions in the Dark

Data fragmentation was a particular impediment. The first glitch appeared early as the federal government lacked infrastructure to track laboratory results nationwide, leaving officials guessing as to the true scope of the disease. While COVID-19 hospital admissions were reported to the Center for Disease Control and Prevention's National Healthcare Safety Network, laboratory results and emergency department cases wound through a labyrinth of disparate state and local databases before finally reaching the agency days later.

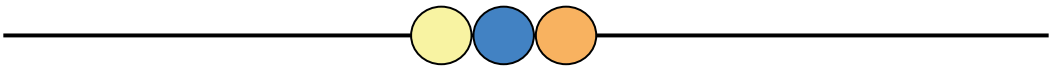
As the virus spread, it became clear that this amalgamation of outdated technologies and isolated data silos was incapable of providing the real-time data that decision makers needed to target resources. In July 2020, the U.S. Department of Health and Human Services attempted to streamline processes by rerouting critical data—such as hospital bed occupancy, healthcare workforce staffing, and personal protective equipment—to its own system, which was not publicly accessible. The restricted access to crucial data, including, in some instances, their own, incited widespread frustration among local, state, and tribal entities.

Getting Ahead of the Virus

Governors, superintendents, and CEOs all had one thing in common: they craved better ways to understand pandemic risk, communicate that risk to the best of their ability, and use that information to make and change daily decisions.

As decades of underinvestment in public health data and incomplete linkages among cities, states, and the federal government left decision makers in the dark, all of our interviewees, from elected leaders to school officials to businesses, sought better information. To fill the federal data vacuum, state and local organizations turned to others–including universities and private companies – for solutions.

These collaborations resulted in the creation of COVID-19 data dashboards, using independent data sources, visualization tools, and methodologies for analyzing data on hospital admissions, COVID-19 cases, and deaths. For example, Johns Hopkins University, working with the Applied Physics Laboratory, created a reliable map to track cases at the national and local levels. Other efforts were developed across the country, funded by “coalitions of the willing” and led by experts from the tech industry and other leading universities. The outcome was a patchwork of systems and dashboards that, while imperfect, proved indispensable in the absence of cohesive national outbreak data. While it was remarkable, it should have been unnecessary.it was remarkable, it should have been unnecessary.



Lighting a Path Forward

America's lamplighters didn't have the data they needed in the form they needed to help their communities stay safe or to keep them in business and in school. They rapidly formulated their own systems to gain and use needed data and drew on local and national experts for insights on how to get ahead of the virus.

In **North Carolina**, through strategic investments in data integration, the state connected formerly siloed systems into a central database, reducing inefficiencies and automating processes to enable rapid data-sharing with partners. "We built pipelines with every hospital facilitated by trust and huge dollars that we had to invest in technology to be able to get near-hourly reports about bed utilization and then be able to break it down – so we could actually learn from the information, not just monitor utilization," said North Carolina Secretary of Health and Human Services **Kody Kinsley**. "We had Medicaid data, and we had vaccine data and we had testing data, and we had syndromic surveillance data and we had bed utilization data and never should these systems ever talk to each other. And so then we started building pipes between them…to make sure that we know who the people are that we're serving and that we're asking them at the point of service as little as possible to help them move through the process fast."

As her city grappled with the first COVID case to hit the United States, then-Seattle Mayor **Jenny Durkan** established a team – a "pandemic kitchen cabinet" – of local and national experts to provide regular counsel and used national mayors' networks to consult with officials across the country and find supplies, including test kits. "The lack of access to testing in the beginning left us flying blind to the spread of the disease and limited options for slowing that spread," Durkan said. "It set us on a path that was unnecessarily difficult and required too many innovations and pivots. It also created a kind of a 'Hunger Games' competition for resources among cities and states." Regular channels to access national experts and local data modelers gave Durkan the added crucial information she needed to "see around corners," understand transmission, and better protect her constituents. She also enlisted globally renowned disease modeling experts. Their data provided models that gave Durkan a realistic picture of what lay ahead for Seattle, "Ongoing access to modeling is critical. Public health officials were constrained because their hard data was limited to the known few dozen cases. Dr. Bedford's research and model indicated we likely could have at least 1,100 cases at that time, doubling every 6 days. That changed everything…We were facing a tsunami if we did not act."

In 2020, Purdue University CEO and former Indiana Governor **Mitch Daniels** worked with Vice Provost **Cherise Hall** and her team to use the school's campus-wide data system to keep the school open for in-person learning. By combining testing data with readily available information on student movements, the university was able to identify outbreaks and isolate infected groups from the rest of the student body. "Eventually, we could almost instantly pinpoint where any COVID outbreak was happening and address it at the source," Hall said. She and her colleagues created a "Severity Index" to keep the school community abreast of how the virus was affecting the campus. Through a combination of widespread testing, the Severity Index, and continuous communications with parents and teachers, school officials were able to continue in-person learning with a minimum of severe COVID infections.

Nebraska former Chief Medical Officer **Gary Anthone** and his team helped create approaches to designate hospitals with empty floors as COVID-specific surge units and to establish decompression facilities throughout the state to help with hospital discharge - ultimately allowing Nebraska to more effectively manage an influx of COVID patients. In the early days of the pandemic, the team built new infrastructure to collect case and hospital data, working through phone calls to each of the 21 hospitals across the state. "At first, we did not have the infrastructure in place to track, collect, and use the data that we really needed. I don't think we were the only state in that situation," said Anthone. "Our state developed a public dashboard that the public could see on a daily basis...Once we were able to do that, I think the public just became much more confident in how we were making decisions." By Fall 2020, officials were able to digitize and automate case reporting, eventually standing up a knowledge center to inform decision-making and resource deployment and to tie capacity restrictions and business closures to hospitalization rates.

In **Utah**, the state worked with retailers and used data to assess economic impacts of the pandemic. State legislators, "were very sensitive to business owners and people who were impacted by public health decisions, and they helped us recognize that the decisions could not be purely based on public health--there was an economic consequence, too," said **Gordon Larsen**, senior advisor to Utah Governor Spencer Cox. "If you don't account for the economic consequences, even if you think it's purely a public health decision, then politics will have an impact on public health." On masking, the state worked to drive collective action. Economic behavioral modeling showed that a masking mandate for retail settings might increase store traffic because more people might feel comfortable shopping if they knew others were wearing a mask. "As the pandemic went on...we recognized that we couldn't only be getting information from the public health community. There is an economic component," said Larsen. "We designed a matrix that was based on hospitalization rates, case counts, and other factors, which created a way for our legislature and others to say masking requirements or restrictions on large group gatherings weren't arbitrary but based on data and had the ultimate goal of protecting our hospital capacity."

Key Issue

Maintaining In-person Learning During a Health Emergency

> Education became one of the most significant flashpoints of the American COVID-19 response. Schools across the country closed early in the pandemic and were left with insufficient guidance for reopening.

What Happened

In Spring 2020, as a new virus that was killing people across the globe hit the United States, more than 124,000 public and private education institutions abruptly closed their doors. Many didn't reopen for months. The move left 55 million students without adequate educational and social support, resulting in long term educational deficits. Impacts on children and families stemmed not only from academic disruptions but also from the broader upheaval that the pandemic brought to children's lives – social isolation, family stress, illness, and loss. Simultaneously, millions of parents lost access to vital school-based services they counted on to sustain their families, including food and child care. Roughly 30 million public-school students depended on daily meals from the National School Lunch Program. The shift to virtual learning and child care facility closures limited many parents' ability to work, increasing the 2020 unemployment rate by 4 percentage points for mothers and 3.4 percentage points for fathers.

As with many aspects of the pandemic, the closures hit hardest those who were least able to weather them. School districts struggled to provide sufficient services for students with special needs. Students with disabilities, representing 15% of public school enrollment, lost access to services and suffered disproportionate learning deficits. Rural schools, which represent 28% of public schools, faced challenges with remote learning, including insufficient broadband access and limited staffing. Students in poor communities fell further behind and face greater post-pandemic disadvantages as this generation enters adulthood.

No Toolkit for Maintaining In-person Learning in Schools

Creating and improving more community-adaptable toolkits for maintaining in-person learning at schools is vital to mitigate major impacts of future health emergencies, in areas from learning loss to nutrition to mental health.

In our interviews with state and local leaders across the country, everyone was dissatisfied with their toolkit for serving our nation's children. Guidance on how to keep schools open was insufficient; testing and management of airflow were inadequate for keeping students and teachers safe; and, once closures began, the inertia skewed toward keeping schools closed rather than exploring options for restarting in-person learning.

Yet, the pandemic also sparked innovation. Across the country, educators, parents, and local officials quickly forged effective virtual learning mechanisms and used new information about the virus, along with new tools to control it, to create safe environments. Communities adopted testing, airflow improvements, alternate schedules, and masks to get students back into classrooms. School systems developed new communications methods to maintain credibility and trust in an inherently uncertain time. Outlets for discussion and data to address families' concerns and devise creative solutions became vital.

Going forward, schools need better tools to maintain in-person learning during health emergencies.

Lighting a Path Forward

Lamplighters developed innovative ways to preserve in-person learning and safely adapt the latest science to keep students and teachers safe. Preserving their work and creating better and more community-adaptable toolkits for maintaining in-person learning is vital to mitigate learning loss, mental health challenges, nutritional impacts, and other major consequences of future health emergencies.

North Carolina officials, including then-Deputy Superintendent **David Stegall**, worked across 115 school superintendents to develop locally relevant tools to reopen the state's schools and get food to children at home, an effort that evolved into an online school reopening playbook. Innovations included identifying regulatory changes needed to allow school buses to deliver meals; crafting guidance for social distancing, masking, transportation, and air handling; and providing mental health support. The document filled a guidance vacuum to provide real-time response mechanisms "that could be used for any type of similar natural disaster or pandemic--it gives you a framework to build on," Stegall said. The North Carolina based EdNC TV network chronicled some of this work, enhancing transparency.

In 2020, Purdue University CEO and former Indiana Governor **Mitch Daniels** worked with Vice Provost **Cherise Hall** and her team to use the school's campus-wide data system to keep the school open for in-person learning. By combining testing data with readily available information on student movements, the university was able to identify outbreaks and isolate infected groups from the rest of the student body. "Eventually, we could almost instantly pinpoint where any COVID outbreak was happening and address it at the source," Hall said. She and her colleagues created a "Severity Index" to keep the school community abreast of how the virus was affecting the campus. Through a combination of widespread testing, the Severity Index, and continuous communications with parents and teachers, school officials were able to continue in-person learning with a minimum of severe COVID infections.

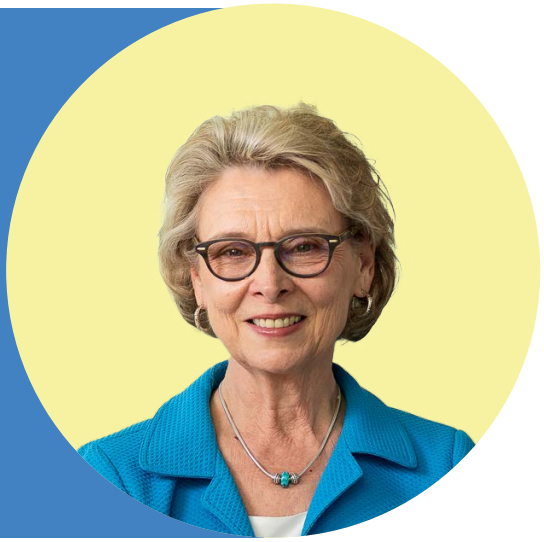
Parent physicians at Duke University, including **Dr. Kanecia Zimmerman,** established the ABC Science Collaborative to provide flexible tools for **K-12 schools** to safely reinstate in-person learning. The Collaborative published data on COVID-19 spread in schools, devised strategies for safe reopening, and engaged with educators across the state through listening sessions. “We saw our job as providing the information – and trusting that people knew their local circumstances better than we did, such that they could adapt that science and apply it to their situations,” Zimmerman said. The Collaborative’s work fed into state legislation for school reopening and continues today, addressing issues from vaping to teacher resiliency.

Key Issue

The Power of the Private Sector

"The private sector had immense capability and never asked for a thing in return. They saw it as a humanitarian crisis, and they were called for action, and nobody said no. Everyone instead said, 'We're on it' and 'When do you need it?'"

– Christine Gregoire, Chief Executive Officer, Challenge Seattle and former governor, State of Washington



Businesses played a crucial role throughout the COVID-19 pandemic, both as protectors of their own employees and as part of the broader response. They took on logistics for organizing mass vaccinations, created playbooks for how to open, developed guidance for employees to keep them safe, made supplies, provided transportation, and became a trusted source of information amid a confusing mix of guidance on lockdowns and re-openings.

Some of them developed playbooks for how to operate during a pandemic emergency, which, if sustained and further developed, could be valuable resources for future crises.

"I think there's a certain role that the government had to play in terms of being a quarterback, but we could not have done this without a series of vibrant and effective private sector partnerships. I'm not suggesting that the government was incapable. We just did not have the resources going into [the pandemic] to be able to mount an effective response. We needed several agencies. We needed the National Guard. And we needed to move very quickly."

– Chris Shank,

What Happened

Despite funding support from the federal government, the COVID-19 pandemic had a devastating impact on U.S. businesses, especially early on. Effects included supply chain interruptions, product and service demand declines, and supply and input shortages. A spring 2020 survey of small businesses indicated that more than 41% suffered revenue drops of more than 50%. Further, more than one in three small businesses had already closed, with related ripple effects including temporary or permanent staff layoffs. As with other aspects of the pandemic, people of color and women bore the largest losses.

But as the pandemic wore on, American entrepreneurs rallied, developing creative ways not only to bolster their own businesses, but to aid their communities in the broader response. Amid a confusing mix of information coming from federal and state officials, the private sector became a trusted internal source of information for their workers and customers. Cultivating an environment of adaptability and resilience, entrepreneurs learned how to reconfigure workspaces, implement safety measures to protect employees on-site, and invest in innovative services, technologies, and business models to accelerate remote productivity. They served as economic engines to keep essential workers on the job and critical services running, and they adjusted as they became the go-to source for employee information and support, including for mental and physical health.

Externally, many businesses rapidly retooled operations to produce and distribute critical supplies such as PPE, sanitizers, and medical equipment. They also served as accelerators to help state and community leaders muster resources and organize logistics for a complex local response. Requests for and offers of private sector assistance included transitioning laboratory spaces to help with testing; manufacturing products in short supply; and providing logistics, space, and employees for vaccination campaigns.

Tapping in to Public-Private Platforms for Pandemic Response

As the pandemic unfolded, it became clear that overcoming such a monumental and national-scale crisis would require a concerted effort between the private sector and government at all levels. Federal strategies were crucial in mobilizing resources and setting broad directives, and high-profile federal initiatives like the Chamber of Commerce's engagement efforts, the Federal Communications Commission's Keep Americans Connected pledge, and Operation Warp Speed garnered significant attention. But state and local governments were ultimately responsible for executing the critical task of delivering services like COVID-19 tests, vaccines, and PPE to communities. Ingenuity and responsiveness often came from public-private partnerships forged by necessity at these less visible layers of state and local government, which worked to implement practical, on-the-ground solutions.

Public-private pandemic networks not only benefited communities but businesses as well. Companies that had pre-existing, varied relationships were better able to leverage them to weather the pandemic. Not only did these companies have more flexibility in their buyers and sellers, but they were also able to set up learning groups with other companies to help them better understand the ever-changing regulatory environment of the pandemic.

Lighting a Path Forward

Lamplighters helped harness businesses in unprecedented ways to manufacture supplies, stand up testing, and get people back to work safely. The private sector's pandemic learnings and ability to adapt in response to large-scale health emergencies may be lost if not explicitly sustained and exercised.

Challenge Seattle, a business coalition headed by former Washington State **Governor Christine Gregoire**, engaged locally based corporations including Starbucks, Nordstrom, Boeing, Alaska Airlines, and Microsoft to develop data platforms, manufacture PPE, provide transportation, and organize logistical support for mass vaccination. Gregoire told us, "The private sector had immense capability and never asked for a thing in return. They saw it as a humanitarian crisis, and they were called for action, and nobody said no. Everyone instead said, 'We're on it' and 'When do you need it?'" She elaborated, "We issued reports on how to reopen businesses after they had closed, how to function while closed, and the ramifications for businesses, as well as how to reopen the schools and how to focus on the kinds of problems that had been caused by the closures…Government did what only government can do. And the private sector offered up and did what only the private sector can do, and the combination of the two was really stunning."

In 2020, as access to testing became scarce nationally, pharmaceutical multinational **Eli Lilly and Company** enabled faster COVID-19 testing by shifting its global diagnostic testing and laboratory capacity to create a local drive-through clinic, initially for first responders and Lilly employees and then more broadly. The company worked closely with the Governor's office to help enhance the buying power of the state for testing equipment and supplies and altered how it used technology and employees to fit the needs of the COVID-19 response. Lilly staff created a playbook on setting up a drive-through clinic for others to use and assisted the Indiana governor's office to manage and move its inventory of testing materials.

Businesses of all sizes stepped up during the pandemic, using their resources to protect both the health of their employees and the larger community. In one example, leaders at **Microsoft** instigated the creation of a playbook to help businesses safely bring employees back to the office. “There weren’t practical playbooks on how to address an airborne illness in a workplace, particularly when you’ve moved to lots of open space offices,” said **Teresa Hutson**, vice president, technology and corporate responsibility. “It was really hard to know what to do when we didn’t know what was scary. Everything was scary!” Once completed, they shared findings and procedures with state, local, and community leaders and worked with schools to help them reopen. The software giant also used its resources to help schools track cases and maintain data dashboards and helped coordinate a vaccine site on its campus and helped staff through employee volunteers a site with capacity of 20,000 people a day, both of which were open to the larger community.

In Nebraska, the 1,200 employee Lincoln Premium Poultry, a subsidiary of Costco, created an internal disaster response team to help workers through the pandemic, arranging transportation, grocery delivery, and homework support for school aged children. “If you had COVID and you were at home, we checked on you every single day. If you needed medicine, we brought you the medicine, we helped find doctors, we made sure you got to a hospital if that meant one of us took you there ourselves,” said **Jessica Kolterman**, the company’s director of administration. In partnership with the state, the company organized hotel stays and food for sick individuals so they could isolate themselves from families. They also provided onsite vaccine services for their employees and their families.

In Utah, the state worked with retailers and used data to assess economic impacts of the pandemic. State legislators, “were very sensitive to business owners and people who were impacted by public health decisions, and they helped us recognize that the decisions could not be purely based on public health--there was an economic consequence, too,” said **Gordon Larsen**, senior advisor to Utah Governor Spencer Cox. “If you don’t account for the economic consequences, even if you think it’s purely a public health decision, then politics will have an impact on public health.” On masking, the state worked to drive collective action. Economic behavioral modeling showed that a masking mandate for retail settings might increase store traffic because more people might feel comfortable shopping if they knew others were wearing a mask. “As the pandemic went on...we recognized that we couldn’t only be getting information from the public health community. There is an economic component,” said Larsen. “We designed a matrix that was based on hospitalization rates, case counts, and other factors, which created a way for our legislature and others to say masking requirements or restrictions on large group gatherings weren’t arbitrary but based on data and had the ultimate goal of protecting our hospital capacity.”

Key Issue

Protecting Hospital Systems

"I would advise that any chief medical officer or state health official or director of public health...one of their first roles should be to get to know their hospital leaders and their medical community leaders, including the Federally Qualified Health Centers. It's very very important to make sure that you know each other before you have to go through a pandemic and make introductions at that point."

— Gary Anthone, Chief Medical Officer, Vetter Health Services and former Chief Medical Officer, Nebraska Department of Health and Human Services

COVID-19 exposed chasms between public health officials and state healthcare systems. In 2020 and 2021, states were faced with a plethora of changing public health guidance, scarce supplies, and overwhelmed health workers. That guidance was not always easy to implement within the context of the healthcare systems for which it was intended. Early in the pandemic, cementing these vital links, and in some cases creating them from scratch, became an urgent priority.

What Happened

The American healthcare system is a fragmented amalgam of public and private service providers and payers. The provision of public health services in many places – including testing, immunization, and guidance for masking, isolation, and quarantine – is separate from the delivery of routine healthcare. While public health recommendations are generally made on a population level and intended to apply to everyone, healthcare delivery happens in personal and community contexts, adapted to the needs of people who live and work nearby. Adding to the confusing mix, major federal healthcare payers, like Medicare, Medicaid, the Indian Health Service, and Tricare, as well as private insurers, intersect with that system in ways that are organized differently across states, tribes, and territories.

These divides can be confusing and problematic during the best of times. During an emerging biological catastrophe, delays in communicating, adapting, and implementing public health measures cost time and, ultimately, lives. Throughout the COVID-19 pandemic, there were costly delays as states and communities worked to overcome major divides among pandemic response, hospital systems, healthcare service providers, long-term care facilities, and other providers of care. There was a deficit of data and communication, inadequate surge and worst-case scenario planning, major workforce and supply shortages, and fragmentation. Sometimes messages conflicted between public health officials and what people heard from their own trusted providers of care.

Despite enormous challenges in integrating public health guidance and practices with local delivery of healthcare in communities, states forged systems to bridge the divide. Frequently, the state health official, an academic institution, or a designated COVID response team stepped in to facilitate this relationship. Ultimately, routine collaboration between public health authorities and local hospital systems led to better data, improved outcomes for patients, and assurances that providers could garner the support and resources they needed.

Lighting a Path Forward

Lamplighters overcame these deficits in a variety of important ways. Some states and hospital systems were able to draw on existing habits and structures to link public health guidance into decision-making about hospital needs, daily care, and supplies. Other public health leaders and healthcare networks scrambled to develop ad hoc solutions.

In the next health emergency, state public health and healthcare organizations must be better interconnected from the start.

In **North Carolina**, through strategic investments in data integration, the state connected formerly siloed systems into a central database, reducing inefficiencies and automating processes to enable rapid data-sharing with partners. “We built pipelines with every hospital facilitated by trust and huge dollars that we had to invest in technology to be able to get near-hourly reports about bed utilization and then be able to break it down – so we could actually learn from the information, not just monitor utilization,” said North Carolina Secretary of Health and Human Services **Kody Kinsley**. “We had Medicaid data, and we had vaccine data and we had testing data, and we had syndromic surveillance data and we had bed utilization data and never should these systems ever talk to each other. And so then we started building pipes between them…to make sure that we know who the people are that we’re serving and that we’re asking them at the point of service as little as possible to help them move through the process fast.”

In **Nebraska**, former Chief Medical Officer **Gary Anthone** and his team helped create approaches to designate hospitals with empty floors as COVID-specific surge units and to establish decompression facilities throughout the state to help with hospital discharge - ultimately allowing Nebraska to more effectively manage an influx of COVID patients. In the early days of the pandemic, the team built new infrastructure to collect case and hospital data, working through phone calls to each of the 21 hospitals across the state. “At first, we did not have the infrastructure in place to track, collect, and use the data that we really needed. I don’t think we were the only state in that situation,” said Anthone. “Our state developed a public dashboard that the public could see on a daily basis…Once we were able to do that, I think the public just became much more confident in how we were making decisions.” By Fall 2020, officials were able to digitize and automate case reporting, eventually standing up a knowledge center to inform decision-making and resource deployment and to tie capacity restrictions and business closures to hospitalization rates.

When **Washington** suspended elective surgeries to preserve surge capacity for COVID patients, there was no process for working with key hospitals, medical specialties, nursing unions, and tribal nations to craft solutions that could maximize public health benefits and minimize impact to routine healthcare and hospital operations. Working across sectors, the governor's team helped find a solution – a network for surge capacity to ensure that no single hospital went into crisis-care mode. "We worked with the University of Washington and the Institute for Health Metrics and Evaluation on modeling to forecast what we could expect our hospital capacity to look like and what our projected hospitalizations would look like," said former Washington COVID-19 response lead **Raquel Bono**, "We had been suspending elective surgery to preserve personal protective equipment and to mitigate spread, but we also recognized that some surgical care shouldn't be delayed even if considered elective. We expanded the number of participants in drafting the policy to inform how to re-start elective cases safely while preserving at least a 20% surge capacity and continuing to have sufficient PPE for the front line health workers – all conditions had to be met before elective surgery could be done. The policy wasn't going to tell the providers or hospitals what procedures could be done, but rather under what conditions should they decide to prioritize performing elective surgery. We were able to monitor its implementation with a dashboard..."

Findings & Recommendations

Lighting a Path Forward Amid Pandemic Polarization:

Harnessing State and Local Innovations to Achieve American Health Security

There are two stories of how America fared during the COVID-19 pandemic, one of struggle and one of innovation.

One story

> ...is characterized by national failure, loss, inequity, and polarization. To honor the more than 1 million Americans who have died from this virus and the millions who have suffered from related economic, social, and educational impacts, we must remember that story—and do everything we can to prevent it from recurring.

The Second Story

> ...is one of hope in the darkness -- of American ingenuity and state and local innovations that bridged divides across sectors and silos and enabled a more effective response tailored to community needs. These improvisations, and the unifying practices and structures they yielded, must be captured and sustained -- now and before the next pandemic or health security crisis

Both are true.

Bridging Health Security Divides in the United States

Pandemic-related polarization in America has made it likely that our country is less prepared today for a major biological crisis than it was in 2019. This is an existential threat to America's health, society, economy, and future. To overcome this challenge to our health – and to the health of our democracy – we set out to harness learning across a variety of states and communities with different pandemic experiences, recognizing that each American community is unique, and leaders and state structures vary. When a pandemic meets a system of federalism, you need a whole-country response with states and localities on the frontlines. We have sought to learn lessons from communities and states that represent the diversity of our nation's response to the pandemic.

We spoke with approximately 75 leaders and experts from different geographies, political ideologies, and critical sectors, including state officials such as former Governors and Mayors; health experts and emergency response officials; community, nonprofit, and faith-based groups; educators; and business leaders.

We did not encounter amnesia or anger in our outreach. Instead, we found self-critical leaders who were candid about what worked and what didn't and were willing to dispassionately examine their own actions. We found public health experts who recognized their limits and worked within the bounds of a broader socioeconomic response. We found humility on both sides of the aisle. Most of all, we found an intense interest in sustaining lessons that will not only build better preparedness for the next pandemic but will also make communities safer today.

From this exploration, we have identified a set of common-sense actions – borne out of American ingenuity in our darkest moments – that can draw support across political divides and that, if adopted, will strengthen preparedness for inevitable future emergencies and health crises.

We have no illusions. Challenges that plagued our nation during the COVID-19 response persist: data access, health inequities, mental health issues, learning loss, economic impoverishment, lack of trust in science, and political divisiveness. There is no single formula for pandemic leadership that will resolve them. And finding common ground in America is difficult, especially given the crisis in trust – in government, institutions, experts, science, and especially in one another.

But we remain optimistic.

For, despite the many drivers of mistrust during the pandemic—reckless leadership in high places; profound fear; the sheer destructive power of COVID-19 itself; and the pervasive falsehoods of our digital era—the flame of hope still burned.
At the state and local level we saw the spirit of community and ingenuity that are the hallmarks of American democracy at its best. We found leaders across the country who understood that trust

isn't bestowed, it's earned – earned through operational competence and through partnerships built on pragmatism, transparency, and humility in the face of uncertainty. They earned it by being prepared, mounting a rapid response, acting equitably, admitting mistakes, communicating in plain language, and most of all, listening. As a result, they were able to mount a more nuanced and effective response.

Going forward, we must capture, learn from, and sustain the practices these leaders and lamplighters employed and innovations they inspired to ensure effective, community-informed responses to future American health crises. That is the path to restore trust. We intend the American Democracy and Health Security Initiative to be a living effort, one that can form the basis for a larger bipartisan American endeavor – an endeavor, as one leader urged us, to ensure that in the next crisis – and there will be one – we can transcend red, blue, and purple divides, to mount a response that is simply "red, white, and blue."

That is our charge. Here are our findings.

John Bridgeland
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COVID Collaborative

Gary Edson
President
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Beth Cameron
Senior Advisor, The Pandemic Center
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CSIS Global Health Policy Center

FINDING 1

In health emergencies, federal support is critical, but states bear most of the operational responsibility. It is with Governors, Mayors, Tribal, and Territorial leaders that the rubber meets the road. Public health authorities should inform the fight, but elected officials should lead it, collaborating with federal partners. A familiar refrain during the pandemic was to 'follow the science,' but this alone is insufficient. As the pandemic showed, science is often imperfect and evolving, translating science into practice can be challenging, and elected officials have to weigh

what is known of the science with social, educational, and economic impacts, as they reach urgent decisions. Successful leaders appointed an emergency response coordinator with proven operational expertise to oversee a society-wide, multi-sectoral response, informed by quality data, and clear and candid communication. Advance arrangements among states and Tribal governments were crucial. Preserving trust was a top concern.

Successful leaders appointed pandemic response coordinators who were proven commanders, capable of cutting across sectors and silos–not singularly focused on public health outcomes. Successful leaders established multi-sectoral command structures – networks, collaborations, and fusion cells – that met daily. They put in place formal agreements with Tribes on handling supplies and medical countermeasures. They used data to drive their decisions, and they listened with humility to meet people where they were. Immersed in chaos and faced with a need for speed, many Governors called on outside experts with experience leading on a national scale to coordinate their statewide efforts.

Recommendations for Governors, Mayors, Tribal, and Territorial Leaders

★ **The Buck Stops Here.**

Governors, Mayors, Tribal, and Territorial leaders should be the key decision-makers for states and Tribes during pandemic emergencies. Their decisions should be informed by health and other experts, but elected officials ultimately own the consequences of their crisis decisions. They should create formal agreements with Tribes in advance of health emergencies that outline how coordination and supply sharing will work. Preserving public trust and confidence is the coin of the realm.

★ **Appoint a proven emergency response coordinator with operational expertise.**

At the very start of a health emergency, Governors, Mayors, Tribal, and Territorial leaders should appoint a single pandemic response leader, who is empowered to work across all sectors and silos for every constituency taking into account social impacts of key actions and decisions. The appointed leader must be a recognized expert, who has operational experience in crisis response, strong communications skills, and a ready ability to tap top expertise in science, health, education, and the economy.

Recommendations for Governors, Mayors, Tribal, and Territorial Leaders (continued)

★ **Establish a 24/7 Multi-Sectoral Command Structure Right Away**

The command structure must break down silos and engage not only health but business, education, and civil society representatives. It must integrate medical intelligence with social, educational, and economic data and considerations from local, state, national, and global sources. The command center or network must meet at least daily with the elected official and their pandemic response team, work with modeling experts, and push data to decision-makers. Private sector and community leaders should be active participants.

★ **Prioritize Clear, Daily Communications, Combined with Data that is Usable by the Public**

Leaders should regularly communicate with the public and key leaders across sectors about the status of the pandemic response, driven by data, candor about what is known and not known, and a holistic approach that takes into account the impacts on health, education, the economy, and society. There should also be regular opportunities for the public to provide feedback and voice concerns.

★ **Hold Annual Health Emergency Exercises**

Leaders should annually conduct an exercise on health emergency response. Crisis learning is quickly forgotten if not regularly practiced. These exercises must become an embedded, budgeted routine, into which the public should provide input. Organizations such as the National Governors Association (NGA), the U.S. Conference of Mayors, National League of Cities, National Congress of American Indians, and National Association of Counties, in concert with the Association of State and Territorial Health Officials (ASTHO), should support these exercises through sharing their knowledge on health emergency learning and practice.

★ **Insist Upon After-Action Assessments of COVID-19**

All states, Tribes, and Territories should take account of pandemic preparedness in the context of their broader health system, in order to chart a path ahead, identify what worked and what didn't, and prioritize resources to strengthen capabilities. In states, such as Indiana and Maryland, where public health commissions have been established, enabling communities across states to reconcile loss and identify a common path forward to improve pandemic response and access to health services. In Indiana, the very first commission to be launched

FINDING 2

In our democracy, successful state and local pandemic responses require a locally tailored menu of options that are, by design, highly flexible and adaptable to local community contexts. Without such tools for dealing with societal issues during a pandemic, leaders were often left with blunt, binary, and divisive options for responding: e.g., lock down or open up schools and businesses; prioritize health versus jobs. These rigid approaches failed to sufficiently take account of social, business, and educational impacts and exacerbated inequities.

Pandemic decision-makers didn't have flexible response playbooks at the ready and frequently created their own after scrambling for weeks. Federal and state public health officials implored the nation to "follow the science," but it was not always clear what that meant in practice. Successful leaders created their own playbooks to open schools, enable widespread testing and vaccinations, and keep employees safe.

Recommendations for Governors, Mayors, Tribal, and Territorial Leaders

★ **Create Local Pandemic Playbooks That Can Adapt to Community Needs and Values**

Develop modules to regularly exercise and update them. They should align with community needs, tackle the hardest issues around maintaining in-person learning, opening businesses, vaccine uptake, and other critical items These playbooks should be developed and exercised now for different scenarios, while COVID-19 experiences are fresh. A useful example is the Testing Playbook developed by non-governmental experts to identify specific steps for deploying tests in different phases of public health emergencies. These state and local playbooks should take into account worst-case scenarios and be operationally feasible for state, local and Tribal use. Successful approaches will expand equitable access, while building public trust and legitimacy, systematically tapping into networks rooted in diverse ethnic, racial, economic, faith, business, and educator communities. Modules for exercising these playbooks should be developed for states to use for different scenarios and sectors.

★ **Designate a leader within the elected official's office, who is charged with local pandemic planning in advance of a health emergency.**

Ensure these plans establish lines of responsibility, the delivery of health services, and how to manage and open businesses and schools. The key to success is refining options that will better protect essential workers exposed to high risks, more clearly allow for safe schooling and opening businesses, and, wherever possible, avoid overly directive guidance in recognition of the specific needs and challenges of a given community.

★ **Plan carefully to keep schools and businesses open and operating safely in the next emergency.**

Future closures may happen; we can't predict the next pandemic agent's mortality rates or its impact on children or any other population. Still, the goal should be to maximize in-person work and learning.

Recommendations for Governors, Mayors, Tribal, and Territorial Leaders (continued)

★ **Lay Groundwork Now to Ensure Future Rapidly Scaled Responses**

Formal agreements, in advance of health emergencies, among states and community-based organizations can accelerate future access to and distribution of supplies. Practiced use of statewide call centers, such as 211 programs, for health emergencies can make pandemic information, vaccination scheduling, and access to PPE, tests, and treatments more accessible to all.

FINDING 3

Successful local COVID-19 response approaches prioritized vulnerable populations first. Protecting communities that will be hardest hit is essential for limiting harm, disease spread, and deaths.

New and existing networks and collaborations across the country were essential: the Indiana Minority Health Coalition; Challenge Seattle; LATIN-19 and The ABC Science Collaborative in North Carolina; the American Indian Health Commission in Washington; and Rural Health Matters in Nebraska. They delivered voices from across communities and Tribal lands into the deliberations of Governors and other pandemic leaders. In the post-acute phase of COVID-19, their resources have dwindled, placing their future at risk.

Recommendations for Governors, Mayors, Tribal, and Territorial Leaders

★ **Create advance arrangements with community organizations that prioritize the vulnerable, marginalized, and underserved populations, who will be disproportionately impacted by health emergencies.**

Some states had pre-existing relationships with community groups and understandings with Tribes. Some created relationships from scratch. These must be retained as an integral component of every leader's health emergency toolkit to reach and gain rapid input from the elderly, frontline workers, and ethnic, Tribal, racial and ethnic communities. These community bodies should be ready in advance of a biological crisis to assist their constituents with food and housing, childcare, mental health support, and access to vaccines, tests, therapies and other critical supplies.

★ **Prioritize Clear, Daily Communications, Combined with Data that is Usable by the Public Ensure systems for collecting and reporting data are in place to prioritize those populations that are most at risk.**

While different groups will be at particular risk depending on the emergency, ensuring real-time identification of those most affected will be essential to an effective, equitable response. Ongoing engagement with community groups to ensure on-the-ground perspectives is critical as are data systems that capture factors such as race, ethnicity, health status, and occupation. The information can be used to refine messaging and surge resources to those at higher risk.

FINDING 4

The absence of quality, actionable data motivated state and local pandemic leaders to create their own data dashboards to track key outcomes, adapting information from local universities, the private sector, and national non-governmental data efforts.

Quality data was the single most important commodity during the pandemic. Yet, despite leading the world in developing new technologies, American pandemic leaders and the public didn't have wide access to modeling, testing, and hospital data. Access to data often became a politically charged issue of personal privacy. Sharing of data was often a bureaucratic and political challenge. When data did become available, it often wasn't in a usable format to inform decisions to avert healthcare system collapse or safely reopen schools and businesses. There was an over-emphasis on COVID case numbers and insufficient emphasis on actionable metrics like COVID hospitalizations, deaths, and disparities. In the future, leaders across America–from states to cities, Tribes, and Territories–must have timely access to quality, actionable data.

Recommendations for Local and Federal Leaders

★ **Coordinating with the National Governors Association, state and local elected officials should accelerate efforts to modernize state and other data capabilities, assessing and overcoming obstacles to securing quality and timely data for decision-making in health emergencies.**

Without reliable, standardized data about the virus, governors were often flying blind on critical decisions from stay-at-home directives, to masking, to school closures. States, cities, Tribes and Territories will need technical assistance as they modernize the way they collect and report public health data. Across the country, this effort would benefit from the support of the National Governors Association, the Association of State and Territorial Health Officials (ASTHO), and local organizations.

★ **The U.S. Centers for Disease Control and Prevention should fulfill its mission as the one-stop-shop for data dashboards, situation reports, and technical assessments that are timely and useful to state and local leaders as well as the public.**

The data upon which technical recommendations are based should be transparent. These data and analyses should be easy to interpret and actionable. They should be the go-to-source for Governors, municipal leaders, Tribal and Territorial authorities, and the general public as they seek accurate, intelligible information about outbreaks. The one-stop-shop should get input from outbreak modeling centers from states across the country. In parallel, the federal government should support a network of partnerships with universities, expert disease modelers, and the private sector to strengthen local data capabilities and to create an integrated national picture.

FINDING 5

Facing an acute scarcity of supplies, state and local leaders competed with one another in a "pandemic hunger games." Some established independent procurement pathways; others partnered with neighboring states. The federal government wasn't a reliable "shipping clerk" and still lacks routine ways to secure rapid, orderly, transparent, and equitable access to scarce essential supplies during health emergencies. This was true for vital personal protective equipment (PPE), testing, treatments, vaccines, and related supplies. Today there is still no single, dedicated official channel for state-federal collaboration to jointly solve problems on urgent supply challenges arising during health emergencies. This must change.

State and local leaders didn't have well-exercised or defined ways to connect with the federal government to resolve supply access problems in real time. At the start of the pandemic, political leaders made scattershot efforts to link state and federal officials – a far cry from the tried-and-true hurricane response channels built on years of post-Katrina experience. The Federal Emergency Management Agency's (FEMA's) eventual involvement in March 2020 as the federal logistical coordinator for COVID-19 supplies was welcome, but FEMA wasn't adapted for simultaneous emergencies like pandemics that are experienced by every state at the same time. Some states banded together to pool purchasing and share best practices for testing through the Governors' compact with COVID Collaborative and the **State and Territory Alliance for Testing** *(STAT) Network, which was launched with the support of The Rockefeller Foundation.*

Recommendations for Federal Leaders and Philanthropies

★ **The White House Office of Pandemic Preparedness and Response (OPPR) should appoint a permanent National Pandemic Supply Coordinator. That person should develop a formal two-way communication channel for federal, state, Tribal, and Territorial leaders to field urgent queries and post regular reports on supply and demand conditions.**

OPPR – working with National Security Council staff, the Department of Health and Human Services, and FEMA – should create a formal channel to work through operational challenges and supply shortages with these leaders. This channel should include material requests, allocations, and distribution of medical countermeasures and related supplies.

★ **In parallel, federal, state, and/or philanthropic leaders should make the State and Territory Alliance for Testing (STAT) Network a sustainable entity.**

While there are many different communication links among federal, state, and local officials around supplies, there isn't a dedicated channel for state and local leaders to work through operational challenges around pandemic supplies in real-time. STAT is currently a peer network and could be sustained and expanded to help fill this gap.

★ **Starting with H5N1, OPPR should convene a regular, high-level national meeting to hear from state, county, municipal, and community levels on health emergency medical countermeasures and supply needs.**

The outcome of the meetings should be to facilitate operational contact and regular communication and to identify bottlenecks and set timelines to fix them.

FINDING 6

A critical gap is the lack of a national expert forum for American health emergency response. Pandemic leaders would have benefited from access to an enduring, bipartisan, non-governmental experts' group that represents the full diversity of America. It should be charged with providing consensus recommendations and advice, composed of respected experts from health, education, economic, disaster response, the business sector, the faith community, and the media. Such a council can foster civil public debate, encourage the application of guidance in vastly divergent local contexts, and work towards restoring trust and confidence.

The ability to openly debate ideas is a strength of our democracy, yet there is no widely respected national body – no national 'Team B' – dedicated to developing consensus recommendations in the context of a national health emergency. Nor is there any prospect in the future for the formation of a national commission to examine the response to COVID-19 and the way forward for the future. During the COVID-19 pandemic, decision-makers and the American public were bombarded with disparate, inconsistent analyses and recommendations from a wide, confusing, and often conflicting array of different sources and institutions. Misinformation and conspiracies abounded. What was needed was an authoritative, bipartisan, and multi-sectoral experts' forum, akin to the COVID Collaborative, to debate and sift through the cacophony of conflicting information and develop consensus advice and actionable recommendations in real time.

Recommendations for Non-Governmental Leaders

★ **An independent non-governmental body should launch a prestigious and enduring high-level, bipartisan expert forum on health emergency response in America, that cuts across sectors – health, education, and the economy – and represents the diversity of America.**

This standing national council should be independent, charged with advising states and localities on health emergency response, both in peacetime and during outbreaks. It should draw support and opinion from across the political spectrum. Special care should be taken to bestow this group with gravitas and ensure its sustainability over time.

★ **This council should comprise prominent American experts and leaders – spanning pandemic security, public health, disaster response, public policy, media and communications, business, education, the faith sector, and community leaders – and reflect the diversity of America.**

It should offer a platform for ongoing debate during peacetime and quick thinking and consensus situational reports as outbreaks appear. It should be an instrument for countering misinformation and restoring trust and confidence

FINDING 7

The COVID-19 pandemic revealed the need for more systematic training for the next generation of pandemic decision-makers, equipping them to "look around corners" and prepare for unexpected or worst-case scenarios. The United States was caught flat-footed again and again on issues ranging from testing to masking to vaccine distribution to the mutation rate of the virus itself. The leaders interviewed stressed the need to be prepared for all possible outcomes, no matter how unlikely it was thought to be.

There is no "worst case scenario" track for training the generation of decision-makers who will serve during the next pandemic. Public health leaders, national security professionals, and disaster response officials still speak different languages, whether they are meeting in the White House Situation Room or in Governors' and Mayors' chambers. Many public health officials and other health security decision-makers are not formally trained in crisis response, and appointed health officials lack standard training competencies. Developing and implementing standardized training that crosses the disciplines of public health, crisis response, policymaking, and biosecurity will enable current and next-generation pandemic leaders to respond more rapidly and effectively.

Recommendations for Academic Leaders and Philanthropies

★ **Overhaul training for future pandemic decision-makers to include planning for worst-case scenarios.**

Many public health officials are not formally trained in crisis response and don't have practical experience with worst-case decision-making. Training should include incident command, decision-making in the face of uncertainty, communications, and high-level systems thinking. It should also account for new realities facing public health leaders, such as skepticism, hostility, and mis- and dis-information regarding pandemic measures. To improve responders' understanding of government functions, career training should allow for rotations through federal agencies.

★ **Establish, ideally in conjunction with federal support, a national center or consortium of centers for training next generation leaders focused on health emergency decision-making and communications, worst-case scenario planning, and pandemic equity in the United States.**

The training center could be launched in coordination with the Association of State and Territorial Health Officials (ASTHO), universities, and other relevant institutions.

Acknowledgements

This project would not have been possible without the dedication of so many people. We thank those we interviewed for sharing their stories, leadership, grit and determination. We are particularly indebted to our Lamplighters who shared so much and spent hours working to make this initiative possible.

We want to thank our partners at the National Academy for State Health Policy (NASHP), including NASHP Executive Director Hemi Tewarson, Katie Greene, and Maddy Hraber. They were instrumental to this effort, and to working with and introducing us to many of the state and local Lamplighters featured here.

We are grateful to Brown University anthropologist and senior lecturer Dr. Lisa DiCarlo for her skill, research, and assistance with envisioning the process for this work. We are indebted to Brown University Pandemic Center research assistant Aquielle Person who has been there from its inception and Visiting Fellow Britt Lampert and Project Director Carly Gasca for their leadership and partnership. We also want to thank the Brown Pandemic Center team, particularly Marla Romash, Bentley Holt, Michael Mitchell, and Amanda Cogan for their critical contributions. Thank you also to Dean Ashish Jha at the School of Public Health for his thought leadership and dedication to taking this effort and what comes next.

We also would like to thank Nellie Bristol who was instrumental to envisioning the Lamplighters' innovations.

We want to thank Sophia Hirschfield and Michaela Simoneau at the Center for Strategic and International Studies (CSIS) for their support throughout the project, Maclane Speer, Ella Bergendahl, Carolina Andrada, and Corey Donnelly for their support preparing for and running our launch of the initiative on June 5, 2024. We also thank the CSIS streaming and broadcasting team, including Dhanesh Mahtani, Eric Ruditsky, Alex Brunner, Qi Yu, Craig Grunewald, Arturo Munoz, and Theo Mitchell, as well as Bridget Corna, Lauren Adler, Alex Kisling, Ava Rose, and Sam Cestari.

A special thank you to Vinca LaFleur from West Wing Writers who was invaluable to our storytelling.

This work was made possible through the generous support of the CDC Foundation and Dr. Judy Monroe


American Democracy
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Amid Pandemic Polarization