

TESTIMONY OF DR. JULIE L. GERBERDING
Before the United States Senate Committee on Homeland Security & Governmental Affairs
“Preparedness for COVID-19: The Initial Pandemic Response and Lessons Learned”
April 14, 2021

Chairman Peters, Ranking Member Portman, and other members of the Committee, thank you for the opportunity to appear today. Americans and people around the world are still coping with the SARS-CoV-2 pandemic and its tragic consequences. Unfortunately, we cannot expect this pandemic to be an isolated event and must take steps now to improve our overall preparedness and response capabilities. Reviewing, and more importantly, acting in response to the lessons we have learned so far are essential steps toward strengthening our health security as well as our broader national and global security. Thank you for your leadership in this critical area.

Supported by Congress and several Administrations since 2000, significant progress has been made in increasing our nation’s pandemic preparedness. However, our performance in the context of the current pandemic is far from optimal and reveals many persistent vulnerabilities across the public-private continuum that we must address. A crisis as far reaching as the COVID-19 pandemic merits a comprehensive evaluation, at least as extensive as the 911 Commission report that followed the terrorist attacks in 2001. However, we are still in the midst of the pandemic, and need to apply what we have learned until now to better protect lives and help restore socioeconomic stability for Americans – and people around the world.

The doctrine that frames our national pandemic response includes four main phases: (1) rapid detection of the threat at its source; (2) rapid containment of the outbreak at its source; (3) failing that, mitigation of the consequences of the threat wherever it appears; and finally, (4) recovery. There will be many lessons to be learned from our performance in each of these phases, but since we are currently still in the mitigation phase, I will focus today’s testimony on a few of the most critical requirements and lessons learned in this phase of the pandemic.

I base these observations and recommendations on my work with the Center for Strategic International Studies (CSIS) Commission on Strengthening America’s Health Security that I co-chair with former Senator Kelly Ayotte, my tenure directing the CDC from 2002-2009 that encompassed several global health threats including SARS and avian influenza outbreaks, and my experience as president of the vaccine business and other executive leadership responsibilities in the private sector at Merck & Co., Inc. I believe that the lessons from the pandemic present the perfect opportunity to course correct, even as we are still navigating its ongoing effects.

LESSONS LEARNED AND POTENTIAL ACTIONS

Early Detection and Response

Detecting people who are infected before they can transmit infection to others is the starting point in any outbreak response. Case detection allows isolation of those who pose a risk and quarantine of their contacts who may be incubating infection. In addition, case detection helps pinpoint “hotspots” where outbreak investigations and other special studies should be conducted

to understand the dynamics and determinants of transmission. SARS-CoV-2 proved to be a very challenging pathogen in this regard, since such a large proportion of infectious people were asymptomatic and unknowingly transmitted the virus.

A **critical requirement for success** is rapid and widespread availability of reliable testing for infection. Unfortunately, the early SARS-CoV-2 virus tests distributed across our country were limited in number, unreliable, and restricted to symptomatic people with travel risk factors or their close contacts, factors that impaired the early phases of the public health response. Scale is also proving to be a challenge as new variants of virus emerge and population-based information about the clinical, epidemiologic, and immunologic impact of these emerging genetic lineages is becoming essential to ongoing mitigation planning.

Perhaps the most important of the many **lessons learned** from this experience are: (1) the CDC, FDA, public health laboratories, private sector diagnostic companies, and academic institutions must collaborate in the development of rapid, reliable, and scalable diagnostic testing platforms, and also plan and exercise their deployment and updating; (2) existing regulatory policies made early collaborations challenging; (3) the state and local public health workforce is severely hampered by inadequate human and financial resources to provide testing, trace contacts, and implement immunization programs at the scale required for success. Unfortunately, prevention in public health is seldom prioritized when resources are limited.

Specific actions to address these issues include:

1. Create sustainable funding models, not just emergency supplemental funding, that support our public health infrastructure and workforce to achieve a more proactive model rather than a reactive model of preparedness;
2. Ensure adequate funding of prevention and immunization infrastructure in our health system more broadly since this pandemic clearly demonstrates these are critical for health protection as well as for national and economic security;
3. Accelerate data system modernization as a key public health system enabler. Easy access to interoperable, real-time data can transform the local, state, and national public health infrastructure and response capability as we know it;
4. Incentivize, develop, standardize, and deploy digital tools and other approaches to augment traditional “shoe leather” approaches to contact tracing and related public health interventions.

Provide Safe, Quality Care to Ill People

Some of the most **critical requirements for success** in this priority area include the physical space and related equipment to support a surge in demand for hospital care (and especially intensive care), a robust supply chain of medicines, supplies, devices, and equipment, the environmental controls and personal protective equipment to protect the entire health care workforce, and methods to sustain non-hospital and home care for COVID-19 as well as unrelated primary care and other essential medical services.

The overarching **lesson learned** from our experience so far is that our health care system must

achieve a level of preparedness commensurate with the scale of the threats we anticipate and the vulnerabilities of the communities served, and this will require significantly greater financial, physical, and human capital resources than we had previously achieved. Substantial investments in supply chain strengthening, stockpiling of essential medicines, vaccines, and equipment, and contingency surge capacity are also key. COVID-19 has also once again taught us the painful lesson that the most vulnerable people in a pandemic are those who sustain the greatest degree of socioeconomic and health disparity at baseline. Though this lesson should have been learned during prior outbreaks and natural disasters, we have sustained little progress in addressing the needs of our hardest-hit communities.

Specific actions to address these issues include:

1. Prioritize virus testing and vaccines for people in the most vulnerable communities;
2. Enhance access and linkages to primary care medical services, cancer screening, perinatal care, routine vaccinations, mental health services, substance use services, and dental care, especially among people in hard-to-reach communities and environments;
3. Conduct a thorough medical supply chain assessment to understand and address vulnerabilities;
4. Examine how to best strengthen the Strategic National Stockpile performance to be the most effective and efficient during a pandemic (e.g., consider expansion of personal protective equipment, ventilators, and other durable medical equipment);
5. Augment supplies of antibiotics, intravenous fluids, and other medicines to sustain critical care;
6. Formalize augmented health care workforce contingency plans (credentials across states, retirees, volunteers, Department of Defense) and update training;
7. Create an interoperable pandemic health data network (instead of local and state stand-alone networks);
8. Engage and incentivize the private sector in planning efforts;
9. Exercise and improve planning with accountability from partners to follow through on lessons learned.

Slow Transmission in Communities

Personal protective equipment, hand and environmental hygiene, and social distancing in all its forms remain **critical requirements** for preventing infection. The pandemic experience is highly variable around the world, but some countries like New Zealand and several others in Asia have had remarkable success in using these approaches to mitigate the pandemic's impact – even before vaccines became available.

Important **lessons learned** from this variability across countries and regions are numerous, but the most salient include: (1) consistent and trustworthy leadership communication matters in achieving high degrees of cooperation and compliance; (2) self-quarantine and other forms of social distancing are very effective, but can cause tremendous economic, community, family, and personal disruption, and are difficult to sustain (especially without economic support for those

who cannot work or lose employment); (3) misinformation and intentional disinformation are dangerous threats, especially when polarized in complex political environments; 4) evolving science and updated guidelines and requirements often confuse the public and further erode trust.

Specific actions to address these issues include:

1. Sustain financial support to offset the economic and other hardships imposed by social distancing requirements;
2. Provide communication support to trusted community leaders who can translate government and other expert advice to constituents;
3. Assess federal authorities and other regulatory and legislative strategies to determine how better coordination and harmonization of guidelines and requirements across states might be achieved during a pandemic;
4. Support resource centers and academic research to help understand and combat misinformation and especially disinformation;
5. Encourage more engagement and closer communication between Members of Congress and the CDC and other response agencies so that our leading public health professionals have the unfettered ability to provide the best available science to decision-makers.

Countermeasure Development and Deployment

The most **critical requirement** for success is a robust competitive biopharmaceutical sector with pre-existing capacity and agility to innovate, develop, and deploy medicines, diagnostics, and vaccines that address emergent health challenges. In addition, sustainable investments in innovative platform technologies, pre-pandemic development of countermeasures that target known or potential families of threat agents, regulatory innovation, and manufacturing innovation and scale are essential.

That leads me to the biggest **lesson learned** during the pandemic so far – the tremendous value that our entire biopharmaceutical and related ecosystem, including small and large pharmaceutical companies, small biotechnology companies, academic investigators, research institutions, foundations, and patient advocacy organizations, is delivering to our nation and the world. In the context of unprecedented collaboration, speed, and investments, hundreds of innovative vaccines, antiviral and immunologic therapies, and diagnostics are in development, and the largest proportion of these originated in the United States. Ultimately, these are the tools that will end the pandemic.

But another important lesson is that development of these products is complex, expensive, and carries no guarantees; for this reason, we need to support the pursuit of multiple approaches, expect that most will fail, and prepare for an ongoing cycle of updating and improving the products that do emerge. In addition, as with health care system preparedness, we must invest in these capabilities and innovations commensurate with the scale of the threats we anticipate, and that will require significantly greater financial, physical, and human capital resources from governments and investors than we previously planned.

Specific actions to address these issues include:

1. Right now, sustain focus on vaccine deployment in the United States and globally as our highest value countermeasure;
2. Increase support for accelerated development and deployment of antiviral and immunologic therapies, especially in light of emerging virus variants;
3. Start now to increase investment in robust countermeasure development, via CEPI, NIH, and the private sector, to address future threats;
4. Accelerate investments in vaccine confidence and community engagement to build trust and, at the same time, counteract misinformation and disinformation at every level;
5. Augment vaccine distribution, delivery, administration, and tracking;
6. Invest in novel strategies to detect counterfeit countermeasures;
7. Assess the need for additional regulatory changes to reduce complexity, sustain safety, and encourage more standardization and harmonization of medicine and vaccine development across jurisdictions.

LONG-TERM OPPORTUNITIES

Even while we are in the midst of responding to the current pandemic, we must remain mindful of tomorrow's threats, and that requires a new health security doctrine. In November of 2019 before the SARS-CoV-2 pandemic was apparent, the CSIS Commission on Strengthening America's Health Security outlined several actions that should be taken to enhance our biosecurity. We framed the Commission's output with a simple understanding: health security is national security, in a world that is increasingly dangerous and interdependent. Biological threats – outbreaks from natural, intentional, and accidental causes – are occurring more often and at the same time, the world is increasingly insecure, violent, and disordered. This is exactly the danger zone where biological outbreaks occur, and the current SARS-CoV-2 pandemic is no exception.

Unfortunately, when a health crisis strikes – COVID-19, measles, MERS, Zika, dengue, Ebola, pandemic flu – our policymakers rush to allocate resources in response. Yet all too often, when the crisis fades and public attention subsides, urgency morphs into complacency. Investments dry up, attention shifts, and a false sense of security takes hold. That realization led the Commission to conclude that the U.S. government needs to break the cycle of crisis and complacency and replace it with a doctrine that can improve threat prediction and pre-emption, and enhance detection, containment, mitigation, and recovery. That was true in the pre-pandemic era, and is certainly even more true today.

The United States must establish permanent health security leadership as a central pillar of the National Security Council (NSC), by a credentialed and qualified expert. This is critical to guaranteeing effective oversight of global health security and biodefense policy and spending. As has been reinforced over the last year, public health is an essential component of national security.

We also must achieve greater operational capability to execute in disordered settings around the world. We need to invest directly and consistently, over the next decade, in the capacities of low-income countries. The best approach to protect the American people is to stop outbreaks at their source. The Global Health Security Agenda has a proven track record in building health systems and health security preparedness, and that investment must continue.

With the window of opportunity presented since the onset of the SARS-CoV-2 pandemic, we have the opportunity to strengthen our capabilities and repair the gaps in our public health infrastructure, and hopefully continue towards the path of strengthening our international credibility and biosecurity.

Again, thank you for the opportunity to testify in front of you today, and it is my sincere hope that we can work closely together to advance the U.S. biosecurity agenda, so we are better prepared for the next pandemic.