



### National Biodefense Science Board (NBSB)

#### Public Meeting Summary

March 7, 2022 (virtual)

1:30-3:00PM ET

#### Roll Call<sup>1</sup>

##### ***Voting Members***

Prabhavathi Fernandes, PhD, FISDA  
NBSB Chairperson  
Carl R. Baum, MD, FAAP, FACMT  
John G. Benitez, MD, MPH  
Mark Cicero, MD  
H. Dele Davies, MD, MSc, MHCM  
David W. Gruber, MA  
Laura H. Kahn, MD, MPH, MPP, FACP  
Craig Klugman, PhD  
Beth Leffel, PhD, MPH  
Joelle N. Simpson, MD, MPH  
Tammy Spain, PhD, PMP  
Alan M. Tennenberg, MD, MPH  
Mike Usman, MD, MMM  
David J. Witt, MD

##### ***Ex Officio Members***

Marc Shepanek, PhD, National Aeronautics and  
Space Administration  
Camille Harris, DVM, PhD, Department of the  
Interior, U.S. Geological Survey (USGS)  
Dianne L. Poster, PhD, Department of Commerce  
Brooke Courtney, JD, MPH, U.S. Food and Drug  
Administration (FDA)  
Isaf Al-Nabulsi, PhD, Department of Energy  
Mike Wingerd, PhD, Department of Defense  
Herbert Wolfe, PhD, MS, Department of  
Homeland Security (DHS)

#### **Federal Staff**

Kristin DeBord, PhD, Acting Director, Office of Strategy, Policy, Planning and Requirements, HHS Office of the Assistant Secretary for Preparedness and Response (ASPR)  
RADM Theresa Lawrence, PhD, U.S. Public Health Service (USPHS), Director, ASPR Policy Division  
CAPT Christopher L. Perdue, MD, MPH, USPHS, NBSB Designated Federal Official, ASPR Policy Division  
Mr. Darrin Donato, Chief of the Domestic Policy Branch, ASPR Policy Division  
LCDR Clifton Smith, MPH, USPHS, NBSB Executive Secretary, ASPR Policy Division  
Michael P. Angelastro, Director of the Division of Pharmaceutical Countermeasures Infrastructure, ASPR Biomedical and Advanced Research and Development Authority (BARDA)  
John Balbus, MD, MPH, Interim Director, Office of Climate Change and Health Equity (OCCHE), HHS Office of the Assistant Secretary for Health  
Jeffrey Curry, PhD, Deputy, Joint Assisted Acquisition, Joint Program Executive Office for Chemical, Biological, Radiological, and Nuclear Defense (JPEO-CBRND), U.S. Department of Defense (DOD)  
Joseph McCannon, Senior Advisory, HHS Agency for Healthcare Research and Quality (on detail to OCCHE)  
Gregory Stewart, Human Resource Specialist, HHS Office of the Assistant Secretary for Administration

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<sup>1</sup> A full roster is available on the [ASPR public website](#).

## Executive Summary

The National Biodefense Science Board (NBSB or the Board) held a public meeting (virtually) on March 7, 2022. CAPT Christopher Perdue opened the meeting with required statements specific to the charter of the NBSB, the Federal Advisory Committee Act (FACA), and HHS ethics rules; Dr. Prabhavathi Fernandes served as the Chairperson. The Board welcomed two new board members, Drs. Laura Kahn and Mike Usman, who have been appointed by the HHS Secretary to begin their first, three-year term. Dr. Tammy Spain, after retiring in 2018, is rejoining the NBSB for a third, non-consecutive term as allowed by statute. Drs. Carl Baum, John Benitez, H. Dele Davies, Elizabeth Leffel, and Joelle Simpson have been reappointed for a second term. All new and renewed terms begin on January 1, 2022.<sup>2</sup> Dr. Kristin DeBord gave opening remarks, congratulating the new and reappointed board members; she emphasized that health equity, the effects of climate change on disasters, and the public health supply chain are key issues for ASPR. Dr. John Balbus (HHS) described the new HHS Office of Climate Change and Health Equity (OCCHE) and presented the current priorities for HHS. Dr. Jeffrey Curry (DOD) described the JPEO-CBRND's support for the public health supply chain and industrial base expansion during the COVID-19 pandemic. The board members and subject matter experts in the meeting, including Mr. Michael Angelastro from BARDA, discussed those topics and considered several public comments in the time available. Answers to public questions for which there was not enough time during the public meeting are included in this report.

## Administrative Business and Welcome Remarks

All thirteen of the voting members were present at the opening of the meeting; there were seven ex officio (federal agency) board members present. None of the board members stated any conflicts of interest. CAPT Perdue explained that the public can participate in the work of the NBSB by attending public meetings and sending comments or questions via email to [NBSB@hhs.gov](mailto:NBSB@hhs.gov). During public meetings, attendees may also write comments and questions in the Zoom "Q&A" feature. Stakeholders who wish to make remarks directly to the NBSB in a future public meeting may email [NBSB@hhs.gov](mailto:NBSB@hhs.gov).

Mr. Gregory Stewart from the HHS Office of the Assistant Secretary for Administration administered the Oath of Office to the newly appointed/reappointed Special Government Employees who serve as voting members on the NBSB. Dr. Fernandes welcomed the board members, emphasizing the importance of the topics being presented. Dr. DeBord, the Acting Director of the ASPR Office of Strategy, Policy, Planning and Requirements, thanked the NBSB for its continued work and congratulated the new and reappointed board members. She highlighted that, despite dropping infection rates, ASPR remains heavily engaged with the response to COVID-19 through partnerships with agencies across the federal government. Referring to the agenda for the current meeting, Dr. DeBord noted that health equity, the effects of climate change on disaster preparedness, response, and recovery, and resilience of the public health supply chain are ASPR priorities. She encouraged board members to consider future recommendations on those subjects.

## Summary of Presentations and Discussion

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<sup>2</sup> Prior to the public meeting, the HHS Office of the General Counsel administered the required ethics training for all newly appointed and reappointed voting members.

## **Introduction to the HHS Office of Climate Change and Health Equity (OCCHE)**

John Balbus, MD, MPH, OCCHE Interim Director

Dr. Balbus provided an overview of the newly formed OCCHE, which is a component of the HHS Office of the Assistant Secretary for Health, emphasizing the close connections between the impacts of climate change and the consequences of health disparities. Established by President Biden in [Executive Order 14008](#), OCCHE became an [official part of HHS on August 31, 2021](#) and currently has three priority areas:

1. Climate and health resilience for the most vulnerable
2. Climate actions to reduce health disparities
3. Health sector resilience and decarbonization

HHS staff members have moved quickly to establish a strategy and engagements with other organizations and stakeholders, including global partners. OCCHE staff and RADM Rachel Levine, MD, MPH, HHS Assistant Secretary for Health, provided the first ever HHS delegation to the United Nations (U.N.) Framework Convention on Climate Change at the [U.N. Climate Change Conference of Parties in 2021](#) (also known as COP26). At that meeting, RADM Levine described the United States' commitments to health system transformations to achieve climate resilience and decarbonization goals, for which OCCHE provides leadership within HHS.

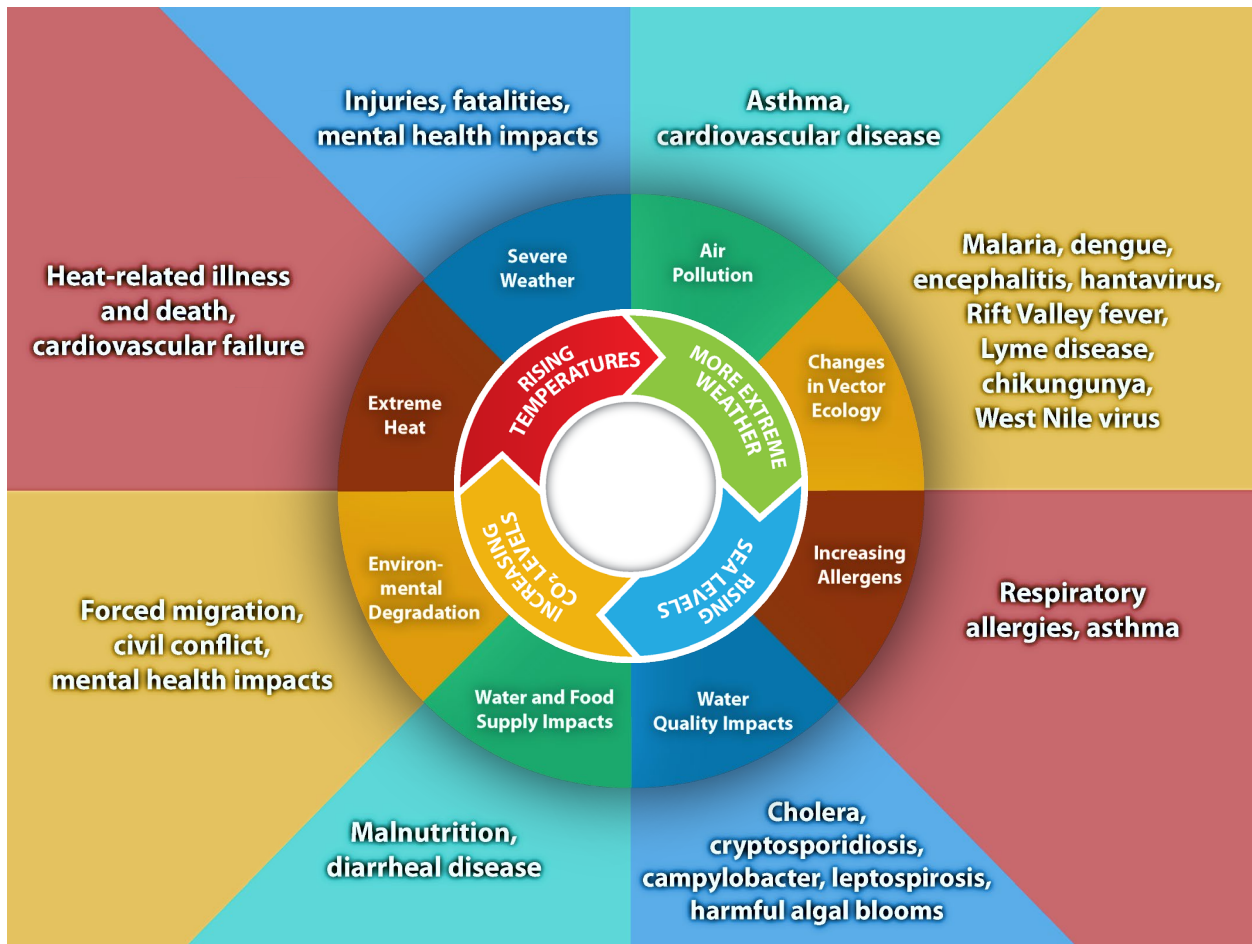
OCCHE aims to strengthen health systems by identifying community and health system vulnerabilities, identifying gaps in plans and resources, and building on existing networks to develop a national implementation plan for health system adaptations to climate change effects. The office's decarbonization efforts include coordinating with agencies that operate the federal health system—the Indian Health Service (IHS), the Human Resources and Services Administration (HRSA), DOD, the Veterans Administration (VA), and the Bureau of Prisons—to agree on methods for greenhouse gas accounting. Together, they are partnering with the private sector to develop an action plan for carbon emissions reductions using incentives, technical assistance, policy guidance, applied research, toolkits, training, and use of regulatory authorities.

Dr. Balbus referenced a conceptual diagram of the impacts of climate change on human health that was developed by the Centers for Disease Control and Prevention (CDC) (Figure 1). In combination with information about the health impacts of historic racism and social vulnerabilities, the CDC model can be used to design programs and activities to address health disparities and climate change impacts. He cited the example of Hurricane Katrina, which disproportionately impacted minority neighborhoods in New Orleans, Louisiana, where historic, financial risk assignments were based on race and ethnicity (a currently outlawed practice also known as *redlining*). Current efforts seek to integrate climate risk data with information about existing health disparities to achieve equity for vulnerable people and locations.

OCCHE has three priorities goals they seek to achieve by 2025:

- Prepare every U.S. facility to face the impact of climate catastrophes.
- Ensure every community, health system, and provider in every U.S. geography is prepared for the disruptive and chronic climate impacts on its most vulnerable populations.
- Ensure every hospital and health system are publicly tracking greenhouse gas emissions and are on a path to net-zero in all three scopes (Table 1).

**Figure 1. Diagram of the impacts of climate change on human health from U.S. Centers for Disease Control and Prevention, *Preparing for the Regional Health Impacts of Climate Change in the United States* (pg 36).**



**Table 1. The global carbon emission scopes and examples relevant to the health system.**

Carbon Emissions Scope	Examples
1	Direct carbon emission from a hospital or health facility
2	Carbon emissions related to consumption of energy and resources during facility operations
3	Indirect emission related to the medical supply chain or carbon emission from patient transportation (driving to/from a medical appointment)

The World Health Organization (WHO) provides an [Operational Framework for Building Climate Resilient Health Systems](#) that illustrates the building blocks for climate resilience, which include improvements to policy and financing, health workforce, supply chains, infrastructure, and service delivery. Additionally, an overarching principle is that healthier people are inherently more resilient to the effects of climate change, which is an important driver for concurrent improvements in primary care and prevention services. As a department, HHS is dedicated to prioritizing the needs of the most vulnerable populations and ensuring that investments in climate adaptation and decarbonization contribute to health equity.

The [HHS Climate Action Plan](#) has five priority actions:

- Expand existing climate change-related public health and biomedical research activities;
- Improve HHS responses to the climate crisis;
- Develop climate-resilient grant policies at HHS;
- Implement workplace optimization and effective space management for climate resilience; and
- Promote sustainable and climate resilient operations at HHS facilities.

As an example of progress, OCCHE recently assembled a working group of 14 HHS offices and divisions to discuss their own initiatives, each with several short-term (within 12 months) and long-term (within 30 months) goals. The HHS climate action working group will continue to refine the HHS Climate Action Plan and coordinate planning, stakeholder outreach and communications, and HHS workforce training to ensure “climate literacy” across the department. OCCHE’s approach involves coordination with other departments to ensure that climate change adaptation and health equity policies are reflected non-health domains, such as housing and energy.

Dr. Balbus listed several completed and ongoing actions in OCCHE’s priority areas:

**Priority 1: Climate & Health Resilience for Most Vulnerable**

- Launched the Extreme Heat Interagency Working Group in September 2021.
- Conducting direct outreach in HHS regions and individual states, cities, and tribes.
- Expanding CDC and National Institutes of Health Climate and Health grants.

**Priority 2: Climate Actions to Reduce Health Disparities**

- Developing medical administrative codes for social determinants of health with the Centers for Medicaid and Medicare Services (CMS) to measure climate health impacts and health equity.
- Exploring climate health considerations in federal health facility renovations.

**Priority 3: Health Sector Resilience & Decarbonization**

- Initiating an “action collaborative” with the National Academy of Medicine.
- Establishing a learning network with IHS, VA, and DOD to implement [Executive Order 14057](#) to facilitate decarbonization goals for all federal facilities.
- Working with ASPR and Agency for Healthcare Research and Quality to update health system resilience and disasters mitigation tools for the private sector.

Dr. Balbus posed several questions and challenges for the board members and others to consider:

1. How do we truly hear the voice of communities, with the goal of understanding local gaps and barriers? How do we deepen evidence on special sensitivities and resilience interventions for the most vulnerable?
2. How might we synergize programs like CDC’s Public Health Emergencies Program (PHEP) and ASPR’s Hospital Preparedness Program (HPP) for equitable community resilience? How might the National Health Security Strategy (NHSS) foster more collaboration between public health and clinical health systems?
3. How can we integrate climate change content into the NHSS and other disaster preparedness strategies and resources, such as the [Risk Identification and Site Criticality Toolkit](#) developed for HPP?

4. How might we measure the effectiveness of our programs? What are the performance and outcomes measure related to climate change for disaster preparedness, and how might we use those (along with surveillance data and other metrics) in a structured way using the methods of implementation science or risk communication?
5. How do we leverage learning from the pandemic and resilience investments to accelerate action on climate?
6. How does climate health become a central consideration for private-sector providers and stakeholders (e.g., supply chain)?
7. How do we best support the workforce in preparing for climate change?

Dr. Baum commented on the scale and intensity of impacts caused by relatively small changes in climate that are already being witnessed, including the potential for climate change to increase human displacement. Dr. Balbus stated that that it is a complex situation, and more focus is needed to prepare for the health and safety issues that will arise because of force and unforced climate migration. He gave the example of the introduction of non-endemic infectious diseases and antimicrobial resistance in refugee settlement locations, where local health systems and public health may be unprepared for such risks. Refugee populations are also at higher risk from the direct effects of severe weather and the related impacts of climate change on food and water availability.

Dr. Kahn stated that, from a One Health perspective, human health is inextricably linked with the health of animals and plants. She observed that the plants and animals that we rely on for food need to be protected from climate change as well, asking Dr. Balbus if OCCHE was working with the U.S. Department of Agriculture (USDA), the Department of the Interior, or other relevant agencies? Dr. Balbus supported the observation that plants, animals, and water sources need to be protected from the effects of climate change, recognizing that food sources and food storage are already threatened or damaged in some parts of the United States. There are also equity implications, as vulnerable populations are going to be the first and hardest affected. Along with climate adaptation and decarbonization of the health systems, there are also opportunities to reduce carbon emissions in agriculture and build resilience again changing weather patterns. A One Health approach would be inclusive of all such considerations. As a relatively new agency, OCCHE is initially focusing on the key human health system and public health issues.

Mr. Gruber commented that many state and local officials are already working on adapting to, and mitigating the impacts of, climate change; he expressed concern about the potential for lack of coordination during the implementation of federal initiatives. Dr. Balbus answered that HHS is already reaching out to state, local, territorial, and tribal representatives to coordinate HHS planning with them, recognizing that still more engagement is needed.

Dr. Davies asked for examples of what HHS could do to address the needs of socially and economically vulnerable populations and communities that experience disproportionate impacts of climate change and disasters. Dr. Balbus emphasized that OCCHE currently works entirely through partnerships and collaboration, rather than direct programming. An example of that is the cooperation with the CMS to identify ways that health systems can prepare to respond to healthcare needs during “non-traditional emergencies,” such as extreme heat. They are working together to collect and analyze billing record data (the “Z codes”) to better understand the effects of heat events on CMS beneficiaries. Another example is the collaboration between OCCHE and the HHS Administration for Children and Families to

leverage a program that was designed to help pay energy bills for heating, which is now helping families pay for cooling during heat waves. One additional goal is to connect families and communities to resources that prevent heat and cold stress, such as weatherization and insulation programs that reduce the overall demand for energy resources.

Dr. Klugman asked about addressing misinformation to prevent or reverse efforts to undermine public health law and progress on climate change adaptations. Dr. Balbus pointed out the need for additional external outreach and engagement to understand how misinformation influences decisions at the local level. Dr. Wolfe added that the DHS Cybersecurity & Infrastructure Agency (CISA) has developed a [misinformation-disinformation-malinformation \(MDM\) program](#) that includes actions to protect the health and public health sector. He also highlighted advisories from the [U.S. Surgeon General on health misinformation](#) during the COVID-19 pandemic.

***Additional Questions (Q) & Answers (A)<sup>3</sup>***

**Q: In a model for equity, are loss estimates calculated to include multi-million-dollar condominiums and hotels, within the same calculus as low-income, socio-economically vulnerable residents? Are climate migrants who leave high-risk areas by choice counted among the numbers of climate refugees, displaced by necessity and with fewer options?**

A: Those are important considerations that underlie equity in general, specifically when addressing climate-related relocation and migration. Those factors would be measured by a different agency, but OCCHE would utilize such data in its planning.

**Q: While applauding the goals [described in the presentation], is there consideration given to the fact that public health entities have little influence or input on infrastructure questions?**

A: There are models in the states for "health in all policies" and OCCHE is engaging at the federal level in initiatives that recognize the connections between the built environment and the social determinants of health. This does not fully address the problem at the local level where decisions are made, but we are exploring different options for incorporating health considerations into infrastructure funding decisions.

**Q: What opportunities and challenges do you anticipate in standing up a fully integrated HHS and USG program?**

A: There are always challenges standing up new programs and getting departments and agencies to work together efficiently, but President Biden, Secretary Becerra, and Assistant Secretary Levine have created opportunities through their leadership. That will result in strength and synergy for the partnerships that OCCHE is building.

**Q: There's a great deal of this work (health equity, climate crisis, etc.) that is done at the local level through initiatives including the PHEP, Community Resilience Initiative (CRI), and HPP. However, their**

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<sup>3</sup> These questions were posed to the invited subject matter experts by public attendees in the Zoom Q&A feature. The phrasing of the responses (whether written or provided verbally during the meeting) have been revised slightly for clarity while maintaining the original intent.

**budgets have been mostly stagnant almost since their inception. What is ASPR doing to increase funding for those programs? <sup>4</sup>**

A: ASPR is responsible for funding the HPP, which sustains cooperative agreements that include health equity considerations in its requirements and as part of its statutorily directed funding formula, which is used to allocate funds to recipients. The cooperative agreements require recipients to show that they integrate the access and functional needs of at-risk populations into their planning and ensure inclusive planning with tribes; application requirements also include flexibilities for isolated or frontier communities that may have limited health care infrastructure, face unique barriers, and/or do not include competitive health care organizations. The HPP funding formula includes components that are specific to risks that would require health care surge, accounting for some health equity and climate change considerations. That component includes climate-related factors, such as occurrence of floods, damaging winds, ice storms/blizzards, tornadoes, storm surges, and hurricanes. The formula also uses datasets such as the CDC Social Vulnerability Index and factors for at-risk populations (the elderly, children, electrically dependent, Medicaid recipients, and individuals with major behavioral health diagnoses) in the funding allocation calculations.

CDC provides funding for the PHEP and CRI programs. In 2021, President Biden signed the American Rescue Plan Act (P.L. 117-2) and Congress appropriated \$2 billion for CDC's Crisis Response Cooperative Agreements, which enhances and complements the funding provided through the PHEP Cooperative Agreements. CDC's Cities Readiness Initiative (CRI) is a federally funded program designed to enhance preparedness in the Nation's largest population centers. In the CDC guidance for 2022, the PHEP notice of funding opportunity outlined strategies and activities that promote health equity and CDC encourages recipients to revisit strategies and activities in *Domain 1: Community Resilience*. Addressing health disparities and health equity will continue to be a key component of program development in the future, and recipients can expect more specific guidance on inclusion and expansion of partners in planning for jurisdictional risks in future funding opportunities.

**U.S. Department of Defense Support for Supply Chain and Industrial Expansion through the Joint Program Executive Office for Chemical, Biological, Radiological, and Nuclear Defense (JPEO-CBRND) Joint Assisted Acquisition (JA2)**

Jeffrey Curry, PhD, JA2 Deputy, JPEO-CBRND

Dr. Curry described how JA2 provides COVID-19 Assisted Acquisition support to HHS. JA2's parent organization, JPEO-CBRND, is one of the four components of the U.S. Chemical-Biological Defense Program and reports to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology. The capabilities within JA2 and the partnerships they maintain complement the medical countermeasure research and development capabilities within HHS. At the beginning of the pandemic, DoD/JPEO reacted quickly to add their resources to the federal government's response to COVID-19. With pre-existing partnerships in place, and the capacity to develop and execute contracts in weeks (versus months), JA2 contributed to the accelerated development and production of COVID-19 vaccines and diagnostics technology. In May 2021, DOD and HHS signed an agreement to continue their

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<sup>4</sup> There was not enough time during the meeting, so this answer was developed afterwards for the meeting summary.



partnership while preparing to transfer the responsibilities for additional civilian public health medical countermeasure development, contracting, and distribution to HHS.<sup>5</sup>

Looking forward, DOD and JPEO-CBRND's JA2 team aim to help HHS expand domestic manufacturing capacity while minimizing the impacts of future surges on the healthcare supply chain. The COVID-19 vaccine industrial base expansion goal for JA2 is to increase domestic capacity for production of up to 600 million COVID-19 vaccine doses, with minimal disruption to the base public health supply chain. Specific to vaccines, JA2 efforts include domestic manufacturing of bioprocessing consumables (e.g., braided hose, single use bioreactors, chromatography resins, and cell culture media) and raw materials like nucleotides and lipids used in mRNA vaccines. In addition to vaccines, JA2 is working to provide acquisition expertise in support of HHS to expand U.S. manufacturing for COVID-19 diagnostics, tests, swabs, consumables, and raw materials. Within the context of COVID-19 assisted acquisition and industrial base expansion, Dr. Curry outlined several current priorities:

#### **Lines of Effort**

- **COVID-19 Vaccines and Therapeutics**
  - Procure vaccines and therapeutics to support variants, boosters, and pediatric doses
  - Support global donations of vaccines and therapeutics
- **Enablers**
  - Procure needles and syringes in support of the Strategic National Stockpile (SNS)
- **Screening and Diagnostics:**
  - Procure diagnostics capabilities
  - Establish testing infrastructure for children in grades K-8

#### **Path Forward**

- Expand domestic manufacturing surge capacity for COVID-19 vaccine
- Investments to minimize impacts on the broader healthcare supply chain
- Investments under consideration for critical consumables (vials, bioreactors, device components, etc.) and raw materials, needles and syringes, and fill/finish capacity

Finally, Dr. Curry proposed numerous lessons learned for medical countermeasure development and acquisition that would improve future pandemic responses (Table 2), though there was not sufficient time to explore each of these separately.

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<sup>5</sup> The activity that was initially called Operation Warp Speed and then the Countermeasures Acceleration Group, which were jointly managed, has been transferred fully to HHS and is now managed by ASPR as the HHS Coordination Operations and Response Element (H-CORE). See [U.S. Senate testimony](#) by HHS Assistant Secretary O'Connell for more details.

**Table 2. JPEO-CBRND Lessons from COVID-19 Response.**

Category	Lessons Learned
<b>Personnel and Partnerships</b>	<ul style="list-style-type: none"> <li>• More <b>highly skilled personnel</b> are necessary to enable surge and crisis response</li> <li>• Importance of having <b>established trusted partnerships</b> in place in a time of need</li> </ul>
<b>Support to Joint Force Readiness</b>	<ul style="list-style-type: none"> <li>• High interdependency between Joint Force readiness and global supply chain requires innovative market research and <b>funding/decisional flexibility</b> in a constrained system</li> <li>• Acquisition and operational communities must <b>work in parallel</b> to effectively deploy novel technology</li> </ul>
<b>Research, Development, Test &amp; Evaluation</b>	<ul style="list-style-type: none"> <li>• Take advantage of “peacetime” to <b>increase capacity and hone capabilities to accelerate delivery</b> across PPE, diagnostics, treatment, and prevention in future pandemics/CBRN threats (e.g., clinical trial networks, priority access, refine platforms through MCM development)</li> <li>• <b>Continuously evaluate and reprioritize</b> efforts to redirect resources against to the most critical needs as crisis and response evolve</li> </ul>
<b>Rapid Response Acquisitions</b>	<ul style="list-style-type: none"> <li>• <b>Established contracting mechanisms</b> and cross-functional relationships expedite access to non-traditional industry partners</li> <li>• Critical role of <b>understanding incentives</b> of non-traditional suppliers in negotiations</li> <li>• <b>Acquisition strategy informed by understanding</b> of supply chain vulnerabilities to build resiliency</li> </ul>

Joining the discussion following Dr. Curry’s presentation was Mr. Michael P. Angelastro, Director of the Division of Pharmaceutical Countermeasures Infrastructure in BARDA.

Dr. Spain commented on the deep impact of the COVID-19 pandemic on supplies of vials and raw materials needed to produce medical products other than COVID-19 vaccines, therapeutics, and diagnostics. She and Dr. Fernandes asked if the current focus on supply chain resilience and industrial base expansion remains solely focused on COVID-19. Dr. Curry stated that JA2 continues to support requirements established by HHS for the COVID-19 response. Mr. Angelastro added that most of the supplemental funding appropriated by Congress during the COVID-19 pandemic was for development and acquisition of medical countermeasures to COVID-19. However, he noted that the American Recovery Act included significant funding to bolster domestic production of critical medicines aside from those required for direct diagnosis and treatment of COVID-19 and to bring domestic production of essential medical products back to the United States (an effort known as “on-shoring”). Such investments are impactful, Mr. Angelastro commented, though still relatively small compared to the overall size of the public health and medical industrial base.

Dr. Witt observed that during the COVID-19 response, the distribution of vaccines and therapeutics bypassed existing logistics and administrative systems, reducing overall efficiency, and potentially increasing the public’s mistrust of those interventions. He asked if it were possible to plan to utilize and augment existing systems in the private sector in future large-scale disasters. Dr. Curry pointed out that existing private sectors partnerships with DOD were primarily aimed at developing and manufacturing medical countermeasures, making them available for delivery to the public as quickly as possible. Mr. Angelastro also mentioned that agencies in HHS are looking at lessons learned that can be used to improve development as well as distribution of medical countermeasures.

***Additional Questions (Q) & Answers (A)*** <sup>6</sup>

**Q: Are you working on the HHS children's mask procurement? Is it still happening given that CDC has ratcheted down the mask recommendation?**

A: Children's mask procurements fall outside of JPEO-CBRND's responsibilities.

**Q: Will you continue to serve as contracting lead after the public health emergency has ended?**

A: The assisted acquisition partnership and responsibilities regarding COVID-19 will be transitioned back to HHS in fiscal year 2023.

**Q: Does your organization address regional supply chain problems involving the blood supply?**

A: Regional blood supply chain falls outside of JPEO-CBRND's responsibilities.

**Wrap-Up**

Dr. Fernandes thanked attendees and invited board members and public attendees to send comments and questions to [NBSB@hhs.gov](mailto:NBSB@hhs.gov), which the NBSB DFO will distribute as needed and consider for future meetings.

CAPT Perdue adjourned the meeting at 3:10 p.m. Eastern standard time.

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<sup>6</sup> These questions were posed by public attendees in the Zoom Q&A feature. There was not enough time during the meeting, so these answers were developed afterwards for the meeting summary.