Board of Scientific Counselors (BSC)
Office of Readiness and Response (ORR)
Meeting
November 20-21, 2024
Hybrid (In-person/Virtual)

Contents

Wednesday, November 20, 2024

BOARD OF SCIENTIFIC COUNSELORS (BSC)
OFFICE OF READINESS AND RESPONSE (ORR)
MEETING
WEDNESDAY, NOVEMBER 20, 2024
VIRTUAL/IN-PERSON

Roll Call, Welcome

Ian Williams, PhD, MS; Deputy Director, ORR; Designated Federal Official, BSC, ORR

The BSC meeting began with a roll call by Dr. Williams to ensure a quorum was established. Dr. Williams monitored attendance, and a quorum was maintained throughout the meeting.

Dr. Williams also reviewed the BSC responsibilities, as per its charter, and the conflict-of-interest waivers. Members were requested to identify any conflicts, and no conflicts were identified.

Dr. David Lakey facilitated the discussions. If voting was required, only the Special Government Employee (SGE) Members would vote.

BSC Members Present:

- Julie Fischer
- Francisco Garcia
- Paul Halverson
- David Lakey
- John Lowe
- Umair Shah
- Paula Bryant
- Kristin DeBord
- Darrell LaRoche
- Hilary Marston
- Michele Askenazi
- Benjamin Chan
- Christina Egan
- Alexia Harrist
- Emily Burke
- A.J. Schall, Jr.

The meeting was called to order at 9:39 AM EST.

Response Updates

Clade I Monkeypox (Mpox) Response Update

Ian Williams, PhD, MS; Deputy Director, ORR; Designated Federal Official, BSC, ORR

Dr. William began by sharing CDC's current activities. He highlighted the agency's involvement in multiple emergency responses. Approximately 860 agency staff were supporting active responses to several health threats, including Marburg, Lassa Fever, Mpox, Dengue, influenza H5N1, polio, and the recovery efforts following Hurricane Helene. Dr. Williams also spoke about ORR's focus on finalizing key tools to guide office strategies, priorities, and agendas, including the development of the ORR strategic plan for 2025 and priorities for CDC's readiness and response.

Dr. Williams introduced and welcomed new directors to ORR. Dr. Jose Montero, Acting Director, Division of State and Local Readiness; Captain Daniel Singer, Acting Director, Division of Regulatory Science and Compliance; and Ms. Kate Noelte, Deputy Director for Management, Operations, Communications, and Policy. He thanked Dr. Pam Cox for excellent leadership in her previous role as the Deputy Director for Management, Operations, Communication, and Policy.Dr. Williams then provided the Mpox update. The Democratic Republic of Congo (DRC) has been experiencing a significant outbreak, with over 6,700 confirmed cases and more than 1,000 suspected Mpox-related deaths since January 2024. Clade I Mpox, historically associated with severe cases spreading in DRC and neighboring countries, including Burundi, Rwanda, and Uganda, with travel-related cases reported in several countries, including Germany and the United States (U.S.). However, there were no sustained transmissions in these countries. Dr. Williams highlighted the CDC's efforts to assist DRC with Mpox containment, including technical support for case identification and laboratory analysis, and a U.S. Government donation of up to a million doses of the Mpox vaccine. He stated that while the risk to the U.S. population from Clade I Mpox was expected to be low, CDC continued to monitor U.S. cases, conducting surveillance through wastewater testing and working with state and local public health partners.

The CDC suggested the JYNNEOS vaccination for people at high risk of exposure, especially during travel to countries with ongoing Mpox transmission. Domestic preparedness efforts, including expanding surveillance systems, continued. Dr. Williams also provided an update on the CDC's response to international travel health notices and its coordination with the World Health Organization (WHO) on the issue.

Lastly, Dr. Williams addressed concerns about the potential impact of Clade I Mpox on children in the U.S. He explained that while a high proportion of cases in Africa had affected children under 15, this was due to various health and socio-economic factors, which were not expected to be prevalent in the U.S. population. CDC anticipated low impact on children in the U.S. should Clade I Mpox be detected.

Dr. Williams concluded by reaffirming CDC's commitment to continue working closely with state, local, tribal, and territorial health departments to prevent the spread of Mpox, supporting case investigations, contact tracing, and vaccination efforts. He provided several resources for further

information, including vaccination guidelines, epidemiological risk factors, travel notices, public health strategies, HAN updates, specimen collection and handling, and clinical recommendations.

2024 Marburg Virus Disease Outbreak in Rwanda

Dr. Fernando Torres-Velez; Deputy Incident Manager and Director of the Division of High-Consequence Pathogens and Pathology (DHCPP)

Dr. Fernando Torres-Velez, Deputy Incident Manager and Director of DHCPP provided the BSC with an update on the Marburg Virus outbreak in Rwanda. Marburg Virus Disease, a rare and severe hemorrhagic fever like Ebola, can be caused by either the Marburg or Ravn viruses and affects both humans and primates. Most cases have been reported in sub-Saharan Africa, and the virus is transmitted by Egyptian rousette bats. Infection occurs through contact with body fluids from infected bats, wildlife, or humans, including semen, breast milk, and sweat. Symptoms typically appear between 2 to 21 days post-exposure, starting with flu-like signs, followed by a rash, vomiting, and diarrhea as the disease progresses. The hemorrhagic form, though not always present, is often fatal, with a case fatality rate between 20 to 90 percent. There are currently no approved vaccines or treatments for Marburg.

On September 30, 2024, the WHO issued a report on the outbreak in Rwanda, marking the first appearance of the virus in the country. Most cases were confirmed at two facilities in Kigali, with the presumed index case being a minor working in a mine near the city. By October 30, 2024, the outbreak appeared to be under control, with the last case confirmed on that date. WHO planned to declare the outbreak over by December 21, 2024, assuming no new cases emerged. Notably, this outbreak had the highest number of survivors, with 51 out of 66 confirmed cases recovering. The CDC, in partnership with the WHO and other U.S. government agencies, used the outbreak to conduct a phase one clinical trial of Marburg vaccines and monoclonal antibodies.

The risk of Marburg Virus to the U.S. remained low, but on October 16, 2024, the Department of Homeland Security rerouted all travelers from Rwanda to three U.S. airports for screening: John F. Kennedy International, O'Hare International, and Washington-Dulles International. CDC staff were deployed at these airports to conduct health screenings. A total of 316 CDC staff supported the response, including four subject matter experts in Rwanda and 14 trained Rwandan epidemiologists.

Comment:

- Global events have a significant impact on domestic situations, emphasizing the bidirectional nature of public health. Gratitude is expressed to CDC staff, colleagues, and partners for their critical work, which highlights the importance of investing in public health systems, even if the public is unaware of it. The State of Washington has appreciated its collaboration with the CDC, particularly in wastewater surveillance, public health laboratories, and epidemiology.

2024 Dengue Fever Outbreak

Lyle Petersen, MD, MPH; Director of the Division of Vector-Borne Diseases (DVBD), National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)

Dr. Lyle Petersen provided an update on the dengue fever outbreak. Dengue is a mosquito-borne illness primarily transmitted by *Aedes aegypti* mosquitoes, which prefer to bite humans. The disease, also known as "break bone fever," causes severe muscle and joint pain and can progress to hemorrhagic fever and shock but is treatable with early recognition and fluid therapy. There are four distinct dengue viruses (DENV-1, DENV-2, DENV-3, and DENV-4), and a person can only be infected by each virus once. Puerto Rico typically experiences large outbreaks every 3 to 5 years, but in the last decade, cases have been unusually low, partly due to the Zika virus outbreak, which suppressed dengue for several years.

In 2024, a remarkable increase in dengue cases was reported across the Americas, with 12.6 million cases reported to the Pan American Health Organization. South America saw much of the increase, but outbreaks also occurred in Southern Mexico, Central America, and parts of the U.S. The number of travel-associated dengue cases in the U.S. reached a record 3,224 in 2024. Dr. Petersen emphasized the importance of physician recognition for timely treatment, noting that CDC had focused efforts on educating doctors, particularly in areas with limited experience with dengue.

Dengue cases in Puerto Rico exceeded the epidemic threshold, prompting the declaration of a public health emergency in March 2024. By the end of the year, cases began to decrease as expected, with 5,800 confirmed cases and 3,100 hospitalizations, though only 9 deaths were reported due to effective physician training by the CDC and the Puerto Rico Department of Health. For the past decade, DENV-1 had been the dominant virus in Puerto Rico, but by late 2023, DENV-2 and DENV-3 emerged, with DENV-3 now accounting for most cases. Dengue cases were also found in Texas, the U.S. Virgin Islands, Florida, and California, with locally acquired cases in Southern California (18 cases in 2024), marking a significant development since dengue had never been reported in California before 2023.

The spread of *Aedes aegypti* mosquitoes to the southwestern U.S., including California, Phoenix, and Las Vegas, raised concerns about local dengue transmission in regions where it was previously absent. The reasons behind the mosquito's expansion into these areas remain unclear.

Suggestions and Comments:

- A substantial amount of transmission is likely occurring undetected.
- Vector and mosquito surveillance systems across the country are patchwork in nature, varying in quality among jurisdictions. There is a need for a greater consistency nationwide.

H5N1 Response Update

Chris Brown, PhD, MPH, CPH; Incident Manager for H5N1 Response and Division of Emergency Operations (DEO) Director

Dr. Chris Brown, Director of DEO and Incident Manager for the H5N1 Response between November 1, 2024 and January 10, 2025, provided an update on the multi-state outbreak of highly pathogenic avian influenza in dairy cows and other animals. Since early 2024, there had been 53 human cases across several states (as of the date of the meeting/presentation), with a recent focus on human cases primarily in western states with dairy and/or poultry operations. The outbreak is thought to be linked to bird migrations extending from Canada to Mexico and beyond, with human cases resulting from exposure to infected cows, poultry, and wild birds.

On November 7, 2024, the CDC published a Morbidity and Mortality Weekly Report (MMWR) detailing serological survey work conducted in dairy workers in Michigan and Colorado. The survey aimed to detect infections that may not have been identified by previous testing efforts, revealing that asymptomatic cases were likely underreported, especially after high-risk exposures in workplaces. It was noted that some dairy workers did not wear the recommended personal protective equipment (PPE), and infection was more common among Spanish-speaking workers, who often faced barriers to healthcare and communication.

In response, the CDC updated its guidance and continued to engage with partners through its One Health approach, focusing on preventing exposures as early as possible. The CDC worked with the U.S. Department of Agriculture (USDA) to ensure farms and farm workers received proper messaging on exposure prevention. The agency also emphasized the importance of PPE for workers involved in high-risk activities, such as milking cows, caring for sick cows, or culling poultry. PEE recommendations for moderate- and lower-risk activities, were commensurate with anticipated exposures during those activities.

Additionally, the CDC updated its testing and antiviral post-exposure prophylaxis (PEP) guidance to include offering H5N1 testing and oseltamivir (at treatment dosing, including to prevent the emergency of antiviral resistance) to asymptomatic workers following high-risk exposures. The agency engaged with state, local, tribal, and territorial partners to balance the testing efforts, in particular, with the potential burden on public health departments. Industry and worker groups were also engaged to ensure the guidance was feasible on the ground.

To address language barriers, the CDC implemented outreach efforts, including roadshows and mobile-friendly guidance with QR codes. The agency explored creating videos in multiple languages to

demonstrate proper PPE use. A team was deployed to California to assist state and local public health partners with the ongoing epidemiological investigation into outbreaks linked to dairy herds, which was expected to conclude in November 2024.

Suggestions and Comments:

- Address concerns about jurisdiction and responsibility for workers moving across state lines, specifically regarding occupational exposure prevention. This issue may involve multiple agencies such as the CDC, USDA, or state governments, and should be prioritized.
- The difficulty in surveilling populations like Michigan's, which are predominantly immigrant and undocumented, highlights the need for better planning in response efforts. This issue is expected to worsen and should be factored into future planning.
- There is insufficient surveillance of industries' adherence to PPE protocols and suggestions, and this gap needs to be addressed.
- Emphasize the importance of conducting serial prevalence studies and offering targeted testing and surveillance for workers to better understand occupational health impacts.
- Extreme heat in areas like Colorado contributes to decreased PPE use among workers, despite its availability, as working in the heat with PPE can be difficult. Alternative solutions, like fans, were used to make the environment more manageable.
- Farm workers staying in nearby hotels together limited transmission within local communities. However, many workers returned to work with mild symptoms, likely underreporting cases.
- Delays in information sharing between state and local health agencies created additional challenges in coordinating responses, particularly with non-traditional public health organizations.
- A positive development in Colorado was the indefinite tabling of a controversial raw milk bill, which had previously been a contentious legislative issue.

ORR Division Director Updates

Division of Readiness and Response Science (DRRS)

Lisa Barrios, ScM, DrPH; Director of DRRS

Dr. Lisa Barrios, Director of DRRS provided an update on recent activities within the division. In September 2024, DRRS established a network of 10 regional centers for public health preparedness and response across U.S. Department of Human and Health Services (HHS) regions. These centers were tasked with improving public health preparedness using evidence-based strategies, with funding between $740,000 and $800,000 annually. The centers, which include prestigious institutions like Harvard University and Johns Hopkins University, will focus on developing interventions, building relationships with health departments, and addressing health equity. Some centers received additional funding to focus on rural and tribal community preparedness.

Another significant development was the creation of the One CDC Data Platform (1CDP), which integrated CDC's existing DCIPHER and HHS Protect platforms. 1CDP supports both day-to-day public

health work and emergency responses, through a component called Response Ready Enterprise Date Integration (RREDI), which applies data modernization principles to deliver better, faster data streams that give public health professionals, including our state, tribal, local, or territorial (STLT) partners, the right data at the right time for public health response. RREDI offers shared services that enable programs to escalate or de-escalate response activities efficiently.

Additionally, DRRS continued its Strategic Capacity Building and Innovation Program (SCIP), funding eight new activities aimed at improving public health readiness. These included advancements in diagnostics for diseases like Ebola and West Nile Virus, and the testing of air-cleaning technology. SCIP also marked its first use of the Broad Agency Announcement process to fund external projects that utilized artificial intelligence for pathogen detection.

In response to suggestions for improvement, DRRS introduced SCIP 2.0, which separated long-term and short-term activities and established new funding categories. This restructuring aimed to enhance innovation and streamline management. DRRS also made strides in leadership, hiring key personnel and setting priorities for response readiness. It launched a new weekly situation and threat assessment report, released guidance to prevent infections in schools, and expanded its Priority Populations and Settings Network (PPSN) to over 130 members.

Division of State and Local Readiness (DSLR)

José Montero, MD, MHCDS; DSLR Director (Acting)

Dr. José Montero, the Acting Director for DSLR, presented on several key areas: leadership changes, the Response Readiness Framework (RRF) and the new Public Health Emergency Preparedness (PHEP) five-year performance period, DSLR field staff updates, and current DSLR response activities. Leadership changes included Kate Noelte's promotion to ORR Deputy Director for Management, Operations, Communication, and Policy, which led to Dr. Montero's appointment as acting DSLR director, with Noelle Anderson as the Acting Deputy Director. ORR is conducting a search for a permanent director.

The RRF, which guided the development of the current PHEP funding opportunity notice, includes ten core areas for recipient focus, evaluation, and performance. A new cooperative agreement was issued for a five-year period from July 1, 2024, to June 30, 2029, with CDC awarding approximately $653 million to 62 state, local, and territorial (SLT) recipients in the first budget period. There are 34 defined deliverables, with nine tied to potential remediation and funding penalties for unmet targets. Exercises are central to the cooperative agreement and there are 13 exercise requirements. Additionally, we will have 2 community of practice focus areas where the funded jurisdictions are expected to engage.

CDC's national preparedness capabilities guide the PHEP cooperative agreement's three strategies: augmenting STLT planning and modernizing laboratory and data systems; improving community readiness, response, and recovery through partnerships, and risk communications; and enhancing administrative, surge, and workforce capacity. Health equity is a key focus across all strategies. PHEP

exercise framework is organized into a journey of interconnected activities, which includes risk assessments, integrated preparedness planning workshops, multi-year preparedness plans, exercises, and after-action reports leading to improvement plans.

Exercises follow a progressive path, starting with seminars and moving through various stages to full-scale exercises. The framework also includes a biological track, focusing on medical countermeasure capabilities, and a capstone track for assessing response capabilities in different disaster scenarios. Jurisdictions are required to complete exercise(s) that correspond to their risk assessment findings.

In January 2025, DSLR will launch the One PHEP Community of Practice, which aims to enhance collaboration across jurisdictions, promote peer learning, and share public health preparedness resources. The first year will focus on building the foundation, with limited offerings and feedback to guide future developments.

The Career Epidemiology Field Officer (CEFO) program, has expanded to 54 CEFOs across 48 jurisdictions. Meanwhile, the Preparedness Field Assignee (PFA) program, has grown from 16 PFAs in 2022 to 36 PFAs across 30 states, four localities, and one territory. DSLR continues to refine its staff placement process at the jurisdictional level.

Finally, DSLR emphasized a collaborative approach, working with CDC colleagues, STLT partners, and nongovernment stakeholders to improve response readiness. The division values input from the field and recognizes that preparedness requires a team effort beyond just the division.

Suggestions and comments:

- Maintain and strengthen the new framework that integrates state, local, and federal perspectives, as it has fostered greater ownership, investment, and alignment of goals across levels of government. This framework is seen as highly beneficial for public health and provides the flexibility to adapt to different needs.
- Despite the evolving discussions and concerns over language, continue to prioritize emergency response and preparedness efforts for all communities, ensuring that these efforts remain effective and inclusive regardless of the terminology or policy shifts around concepts like misinformation, disinformation, and equity.
- The integration of federal, state, and local perspectives has led to improved coordination and genuine alignment of goals, making the framework successful.

Division of Emergency Operations (DEO)

Chris Brown, PhD, MPH, CPH; Director of Division of Emergency Operations (DEO)

Dr. Brown provided a second presentation on DEO and expressed gratitude for the Board's feedback, which had helped inform their activities related to the Graduated Response Framework (GRF) and the CDCReady Responder program. Introduced in early 2023, the CDCReady Responder program had progressed from its building phase to its operational phase, with over 3,000 CDC staff enrolled—approximately a quarter of the agency's 12,000 employees. The goal was for nearly all staff to be

enrolled. Training milestones were also achieved, with a general responder training series made available to both CDC staff and STLT health department partners. The intent was to create a model for jurisdictional partners developing similar programs.

Dr. Brown noted that the CDC had shifted from a voluntary approach to emergency response participation to a more structured model through CDCReady Responder. This included updating internal policies to remove voluntary participation language and integrate response readiness into staff performance management. A more robust system now existed to identify and deploy staff based on their availability, skill sets, and training. By October 2023, 54% of staff involved in ongoing responses were CDCReady Responders, though challenges remained, such as securing staff during field deployments, particularly during the holiday season.

Dr. Brown also provided an update on the GRF, which had been re-evaluated to meet the agency's operational needs. The GRF now emphasized cross-cutting functional areas and responsibilities, ensuring that various centers within CDC were prepared to contribute their capabilities during responses. The framework's response levels were redefined to reflect hazard severity, response complexity, and the need for cross-cutting support, moving away from the previous model of program-led, center-led, and agency-wide responses.

Efforts to improve coordination included the creation of the Incident Management Leadership Group, which facilitated collaboration across ongoing responses. Additionally, a more efficient model for engaging STLT partners was established through combined response calls to reduce the burden on partners.

Finally, Dr. Brown discussed the transition of the Corrective Action Program database to a new Continuous Improvement Program (CIP) module within the CDCReady platform. This upgrade moved away from an outdated system and made improvement tracking more accessible to staff across the agency. By fall 2024, all CDC staff had access to the CIP, ensuring ongoing improvement based on after-action reports from major responses.

Suggestions and comments:

- Develop a standardized training platform to enhance interoperability and support across federal, state, and local public health workforces during emergencies.
- Explore implementing mandates within the PHEP program to systematize training and certification for public health personnel, ensuring consistency and readiness across all levels.
- Involve public health schools and programs in preparedness training by developing curricula that integrate students at all levels and the deployed workforce, thereby strengthening overall preparedness efforts.
- A uniform training system could help bridge gaps between different levels of government and improve response coordination.
- Engaging academic institutions in the development of preparedness training curricula can enhance the workforce pipeline and provide a more robust training framework.

Division of Regulatory Science and Compliance (DRSC)

CAPT Daniel Singer, MD, MPH, FACP, DRSC Director (Acting)

Dr. Singer provided an overview, update, and report on recent activities within the DRSC. He discussed the division's three core programs: the Federal Select Agent Program (FSAP), the Import Permit Program (IPP), and the U.S. National Authority for the Containment of Poliovirus (NAC).

The FSAP regulates the possession, use, and transfer of biological agents or toxins that could threaten public health. Currently, 68 select agents are listed, with updates expected soon. FSAP is co-managed with the USDA. The IPP oversees the importation of infectious agents, substances, or vectors capable of causing communicable diseases in humans. This includes pathogens, animals, and even materials like bats or bodies that could pose an infection risk. Lastly, NAC works to minimize the risk of poliovirus release through voluntary participation in a global containment plan led by the World Health Organization (WHO).

Dr. Singer, who joined the division in July 2024 to guide it through a transitional phase, previously worked at the White House as Director for Countering Biological Threats. A search is underway for a permanent director. His focus is to set the division up for success, ensuring a smooth transition.

In October 2024, FSAP published its 9th annual report, detailing efforts to ensure biosafety and biosecurity. It covered the regulatory functions of the program, including inspections and security assessments. FSAP registered 226 entities and conducted nearly 200 inspections last year. There were no incidents of illness or transmission from select agents, though one lab worker experienced an occupational exposure. FSAP also held its first in-person training for Responsible Officials since the pandemic and conducted several webinars to support entities in adhering to regulations.

The IPP also saw improvements, including standardizing forms for first-time importers and launching an app to help determine if a permit is needed. The program handled a significant number of import permits, with an uptick in non-COVID (Coronavirus Disease) related permits, potentially reflecting increased international research collaboration.

The NAC focused on identifying and certifying facilities that retain poliovirus, ensuring compliance with the WHO's Global Action Plan for poliovirus containment. The program increased survey response rates and published its first manuscript on U.S. polio containment efforts. Additionally, NAC conducted audits and verification visits to ensure alignment with global containment milestones.

Action Item:

- Dr. Singer will check with his staff to gather data on the geographic distribution of permit requests, specifically regarding where permits are being requested from and to within the U.S. and will report this information to the BSC.

CDC Priorities for Response Readiness

Aliki Pappas Weakland, MPH, MSW, Associate Director for Policy, Planning, and Communication

Ms. Weakland reviewed the FY25 ORR Strategic Plan, CDC's Priorities for Response Readiness (PRR), and the ORR Science Agenda with the BSC. These documents, while distinct, were complementary in advancing readiness and response capabilities at the CDC. The ORR Strategic Plan outlined priorities for readiness and response, aiming to accelerate CDC's capabilities. The PRR focused on a unified approach to enhance response readiness across CDC, while the ORR Science Agenda defined critical scientific questions across all response phases.

ORR's vision was to ensure a prepared and resilient nation capable of responding to public health threats. Its mission was to integrate readiness and response programs, science, and policies to support both domestic and global public health responses. The FY25 Strategic Plan highlighted five key strategies: evaluating CDC's readiness and response, improving emergency operations and business services, building partnerships with state and local health departments, advancing science, and leading data-driven decision-making for response.

Strategy one emphasized strengthening readiness and response capabilities, with a focus on centralizing and streamlining response staffing and operations. Strategy two aimed at enhancing business readiness and ensuring efficient emergency management and resource deployment. Strategy three centered on strengthening readiness at all administrative levels by supporting state, local, tribal, and territorial health departments. Strategy four focused on advancing readiness and response science, including biosafety and biosecurity. Finally, strategy five highlighted the importance of data, especially in supporting ongoing responses and guiding decision-making.

PRR's primary goal was to identify and prioritize CDC's most significant readiness areas over the next three to five years. It was aligned with ORR's first strategy and aimed to build core capabilities across the agency through a harmonized approach. These core capabilities included planning, research, support, analysis, communication, mitigation, and detection, with health equity embedded throughout. The effort would involve collaboration with CDC's various divisions and was expected to establish measurable progress by January 2025.

The ORR Science Agenda, aligned with the fourth strategy, set clear scientific priorities to guide investments and address gaps in readiness and response science. It focused on research that could be directly applied to public health operations and workforce improvements. The agenda covered all phases of response, ensuring a robust scientific infrastructure to anticipate and address emerging gaps. The agenda was iterative and would be updated annually to stay aligned with evolving public health needs and scientific advancements.

Suggestions and comments:

- It's crucial that project officers at CDC and state/local recipients work closely together, ensuring mutual understanding and commitment to success. Ensuring project officers are well-

versed in the public health field and possess decision-making authority is key to the effectiveness of interventions.
- Focus on rebuilding trust in the CDC, especially in light of the degradation of trust post-COVID. Rebuilding trust with communities and the public will require a systematic approach to relationship-building and transparent communication.
- The CDC needs to rethink how to communicate with younger populations and ensure messages resonate with them. This includes both public health leaders and the general public, particularly in the context of a culture of preparedness.
- Shift away from terms that trigger negative reactions, such as "misinformation" and "surveillance," and adopt more neutral, fact-based language to improve communication with the public.
- Strengthen communication and collaboration between CDC and other federal agencies [e.g., Federal Emergency Management Agency (FEMA), DHS, Education, etc.], ensuring public health is always represented in discussions where it is relevant.
- Review the current model of convening federal agencies in response to outbreaks. Consider refining the process for identifying and involving the right stakeholders in both large and smaller outbreaks.
- CDC staff and partners should better reflect the communities they aim to serve, particularly in rural and underserved areas. This diversity will enhance the effectiveness of messaging and interventions.
- Invest in the science of communication to better understand how to convey messages effectively, particularly in public health and emergency response contexts.

Comments:

- Post-COVID, the CDC faces a significant challenge in regaining public trust. The credibility of the CDC and other trusted messengers must be intentionally nurtured, ensuring transparency and reliability in the dissemination of new information.
- The public's decreasing trust in institutions, including public health, underscores the need for strategic communication that emphasizes factual accuracy and is free from the value judgments that often accompany public health terms.
- Engaging younger generations, both as future public health leaders and as part of the general public, is critical. It's essential to integrate them into preparedness and response systems to ensure a sustainable culture of preparedness for the future.
- Ensuring equitable outreach and not leaving behind marginalized communities is a crucial aspect of strengthening preparedness and response efforts.

CDCReady Demonstration

Joshua Williams, DEO Associate Director for Information Technology (IT)

Joshua Williams, the Associate Director for IT in the DEO, introduced the CDCReady application, providing a demonstration of its capabilities. He explained that the system was developed in response to outdated and siloed systems that were inefficient and unable to scale for large emergencies like

COVID-19 (Coronavirus Disease 2019). DEO identified key challenges, including the lack of integrated data and the limitations of single-purpose systems, prompting the development of CDCReady as part of their Emergency Operation Center (EOC) IT Modernization plan.

CDCReady is a modernized, cloud-based IT solution designed to support emergency responses, combining scientific and operational data into a single platform. It replaces the previous Incident Management System by integrating emergency response resources into a unified platform, improving efficiency and usability. The system offers features like centralized datasets, dashboards, resource libraries, and tools for day-to-day operations, preparedness, and situational awareness.

The platform includes an aggregate view of emergency-related activities, document libraries for SOPs and other resources, curated data sets, and dashboards, making it easier for staff to access and manage information. It tracks personnel qualifications, training, medical readiness, and other essential data for field deployments, as well as language proficiencies and past experience, helping to identify the right staff during emergency responses.

Williams highlighted the system's ability to integrate data from multiple sources, creating a holistic view of each emergency response. Key functions include event management, inventory and resource tracking, and staffing summaries, with a recommendation engine to suggest qualified staff based on their availability and qualifications. The platform also ensures mobile accessibility, allowing field staff to access information and make requests from their mobile devices.

The application is designed with security features to ensure that sensitive data can be restricted to authorized personnel. With over 92% of Civil Service and Commissioner staff using CDCReady, the platform has been widely adopted, providing a centralized, user-friendly interface that supports efficient response management across the agency.

Suggestions and comments:

- BSC member expressed great admiration for the CDCReady system, noting that it exceeds expectations and is beyond what was initially envisioned. They praised the work done and highlighted its potential value, particularly in providing vital situational awareness during emergencies.
- BSC member acknowledged the importance of the system in improving situational awareness and efficiency during public health emergencies.
- Consider deploying the CDCReady system to state health departments to improve integration between state-level and CDC data.
- Explore ways to access and integrate state vital records, medical records, and death records to enhance data collection and response capabilities.
- Investigate incorporating non-health data, such as information from fusion centers, into the system, as such data could influence health responses.

Public Comments

No public comments were made.

Closing Comments

Dr. Lakey provided closing thoughts for Day 1 of the meeting, expressing his appreciation for the work done by ORR and the CDC. He emphasized the importance of their efforts, acknowledging that there would inevitably be another event, whether an epidemic, natural disaster, or man-made crisis. He highlighted the necessity of improving staffing, organizing people, refining data systems, and developing strategic plans, all of which were discussed during the day. Dr. Lakey concluded by thanking the ORR and CDC teams for their public service and dedication to ensuring the nation's preparedness for future events.

Adjourn

With no further comments, Day 1 of the BSC meeting was adjourned at 3:38 PM EST.

BOARD OF SCIENTIFIC COUNSELORS (BSC)
OFFICE OF READINESS AND RESPONSE (ORR)
MEETING
THURSDAY, NOVEMBER 21, 2024
VIRTUAL/IN-PERSON

Roll Call, Welcome

Ian Williams, PhD, MS; Deputy Director, ORR; Designated Federal Official, BSC, ORR
David Lakey, MD; Chair, BSC, ORR

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Dr. Williams also reviewed the BSC responsibilities, as per its charter, and the conflict-of-interest waivers. Members were requested to identify any conflicts, and no conflicts were identified.

Dr. David Lakey facilitated the discussions. If voting was required, only the Special Government Employee (SGE) Members would vote.

The following BSC members were present:

- Julie Fischer
- Francisco Garcia– joined late
- Paul Halverson
- David Lakey
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- Umair Shah – joined late
- Paula Bryant
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- Michele Askenazi
- Benjamin Chan
- Christina Egan
- Alexia Harrist
- Emily Burke

The meeting was called to order at 9:07 AM EST.

Polio Containment Workgroup (PCWG) Updates/Voting

David Lakey, MD; PCWG Co-Chair and BSC
Bryan Shelby, PhD; NAC Auditor, Senior Policy Advisor; PCWG DFO

Dr. Shelby provided an update on containment and eradication efforts, including a snapshot of global wild-type 1 and vaccine-derived poliovirus cases as of October 2023. He discussed the challenges, particularly in Afghanistan and Pakistan, and noted the extended timelines for the interruption and certification targets set by WHO.

Dr. Shelby also outlined the certification process for poliovirus facilities, emphasizing the three-step process and the progress made globally, with many facilities now working towards achieving the Certificate of Containment (CC). He highlighted the updates to the Global Action Plan (GAP) and its impact on policy development, including changes driven by the eradication of wild poliovirus type 3 and suggestions from the Containment Advisory Group.

Lastly, Dr. Shelby provided an update on the progress of policy development, noting the engagement of the PCWG in the development of 12 policies, with 8 reviewed by the BSC, and 2 more to be reviewed at this meeting. He mentioned plans to introduce a new containment policy in April 2025, as well as ongoing work on guidance documents for potentially infectious materials.

Dr. Lakey began his portion of the presentation by introducing the U.S. NAC PCWG Security Policy and the Risk Assessment Policy, which were the seventh and eighth updated policies reviewed by the BSC that year. He outlined changes applicable to all updated NAC policies, including updates to align with GAPIV requirements, the introduction of a new NAC external policy template, and an emphasis on risk assessments. The updated documents would be available on the NAC website for reference, with a link to each policy.

The discussion then moved to the Security Policy, which was first published in 2018 to address GAPIII security requirements. The policy had been expanded to include personal reliability programs and access records. Major changes included the requirement for site-specific risk assessments and a new record retention requirement, which was reduced from 10 years to 6 years after initial containment. The policy also clarified the classification of essential and non-essential personnel and introduced a requirement for annual security drills.

Next, Dr. Lakey discussed the Risk Assessment Policy, which was first published in 2019. After the release of GAPIV, biorisk management and risk assessment were separated into distinct policies. The updated Risk Assessment Policy expanded the use of risk assessments across all GAPIV elements, including general safety risks such as fire and electrical hazards. The policy also introduced a requirement for top management to review risk assessments for high-risk activities and emphasized continuous reevaluation of risks.

Dr. Lakey then provided updates on future U.S. NAC/PCWG policies. These included the Inactivation Policy, which will apply to all U.S. facilities with poliovirus material, and the Occupational Health

Policy, which addresses the need for health surveillance and vaccination programs for those working with polioviruses. The Emergency Response Policy will also apply to ICC and CC poliovirus-essential facilities (PEF) and covers procedures for emergencies, including waste decontamination and isolation/testing of exposed individuals. A new policy for physical facility requirements, such as autoclave maintenance and air handling, was also in development. Additionally, updated guidance documents for laboratory and non-laboratory PIMs, initially published in 2022, were being finalized based on feedback from facilities involved in poliovirus detection.

Recommendation:

- Ensure the communication section that was agreed upon in previous meetings is added to each policy to ensure consistency. In addition, include guidance on how such situations would be communicated and how communities would be informed. It was also suggested that this information be incorporated into the website to ensure transparency.

Proposal:

- A proposal was made to have further discussions within the PCWG about facility security, particularly the use of security devices like metal detectors. It was suggested that while not mandatory, facilities should consider these devices based on their risk assessments. The working group would discuss the matter further.

Vote:

Dr. Julie Fischer motioned to move the Security Policy forward with the addition of the communication section, which was seconded by Dr. Paul Halverson. The BSC unanimously voted in favor, with no oppositions or abstentions. A second motion to move the Risk Assessment Policy forward was made by Dr. Francisco Garcia and seconded by Dr. Julie Fischer. The BSC unanimously voted in favor, with no oppositions or abstentions.

Dr. Lakey and Dr. Shelby thanked the BSC for their time, discussion, feedback, and document review. They announced that more policies would be presented to the BSC for review in April 2025.

ORR Science Agenda Workgroup (SAWG) Updates

Paul Halverson, DrPH; SAWG Co-Chair
John Lowe, PhD; SAWG Co-Chair
CDR Dee Dee Downie, PhD, MPH; SAWG DFO

Drs. Halverson and Lowe, along with Commander Downie, provided updates on the SAWG. The workgroup emphasized the importance of engaging external audiences and securing sustainable funding for research and discovery. They highlighted the need for the science agenda to have a high level of investment to ensure its success. The group acknowledged the substantial work that had

already been done in collaboration with science leaders from various divisions and areas within ORR, setting a strong foundation for further efforts.

The Science Agenda is designed to enhance ORR's public health readiness and response, with an annual update to reflect advancements and urgent research needs. It covers all phases of response, including Readiness, Monitoring, Investigation, Intervention, Recovery, and Response Operations. Key priority themes for the agenda include advancing health equity, improving early warning and detection, public health surveillance, epidemiology and laboratory readiness, public health systems strengthening, evaluation, and response operations and management.

Each theme has specific goals, science questions, and key activities to guide research, with an emphasis on making these activities actionable and impactful. The internal process for developing the agenda began in October 2023, with a focus on identifying priority areas and refining science questions, which were then prioritized and scored. The resulting document focuses on the top-tier science questions that will guide the agenda.

Moving forward, the workgroup will review and revise the agenda incorporating external feedback and engaging stakeholders to ensure the agenda is relevant and impactful. The workgroup members, including representatives from various public health organizations, are committed to reviewing the science agenda monthly, diving deep into the questions and strategies, and ensuring the document reflects the diverse perspectives of public health at the local and state levels.

Next steps include prioritizing the work based and conducting an external review to ensure the agenda's rigor and credibility. The goal is to develop a process that stands the test of time and support evolving readiness and response science agendas.

1. Before concluding, the co-chairs presented three discussion questions for which they sought feedback from the BSC.
2. Which key stakeholders (experts/organizations) should be engaged as part of an external review group?
3. What strategies should be developed to better align resources for intra- and extra-mural research for implementation?
4. What should be the priority focus areas in reviewing the Science Agenda?

Suggestions and comments:

- It is crucial to involve state and local health agencies, big city health coalitions, public health educators, and other diverse stakeholders like the National Academies to ensure transparency and build trust. Additionally, cross-collaboration with groups such as the Health Equity Workgroup (HEWG) and HHS partners [e.g., National Institutes of Health (NIH), Office of the Assistant Secretary for Preparedness and Response (ASPR)] is necessary.
- Many public health issues, such as animal health (e.g., H5N1 virus), toxic exposures, and environmental risks, require input from agencies like the USDA, United States Food and Drug Administration (FDA), Environmental Protection Agency (EPA), and Poison Control Centers. A

One Health approach is vital, as these issues often extend beyond human health to involve animal health and the environment.

- It is important to engage impacted communities, including tribal, rural, and minority populations, as well as advocacy groups, to ensure their voices are heard. This is essential to avoid criticism and improve inclusivity in public health discussions.
- Global health partners, healthcare coalitions, and other BSCs (e.g., Infectious Disease Centers) should be included in the discussions to ensure the science agenda is comprehensive and relevant.
- Collaboration with private industry is necessary since they may also be impacted by public health initiatives. Public comment and feedback from these sectors should be encouraged, ensuring all relevant perspectives are included.
- It is critical to improve the science of how public health suggestions and interventions are implemented at state and local levels. This includes evaluating the efficiency and impact of responses and fostering better coordination with local partners.
- This initiative includes on applied research to inform decision-making, not only basic science research. The purpose and potential funding opportunities should be clarified before disseminating any documents.
- Involvement from agencies related to homeland security and defense, such as the Department of Defense or National Emergency Management Association (NEMA), is important to ensure comprehensive input for funding and operational coordination.
- While the agenda covers various themes, prioritization should consider where data and expertise already exist, areas needing further engagement, and where new expertise is required. The process should align with broader strategies and national priorities.
- The evolving national priorities, including laboratory readiness and surveillance, should be considered when refining the agenda, ensuring it aligns with government goals and adapts to changes in the administration's focus.

Health Equity Workgroup (HEWG) Updates

Paul Halverson, DrPH; HEWG Co-Chair
Julia Smith-Easley, MPH, CHES; HEWG DFO

Dr. Halverson, co-chair of the HEWG, provided an update on the group's progress, noting the challenges with scheduling and staff availability that had slowed substantive progress. Despite these challenges, he emphasized the importance of the work being done by the HEWG, particularly in relation to social equity, justice, and health equity. He introduced Julia Smith-Easley, the acting lead for the Behavioral Science Community Mitigation and Equity Team, to report on recent developments.

Julia Smith-Easley discussed the crucial role of health equity in emergency preparedness and response, highlighting the systemic barriers faced by racial and ethnic minorities, people with disabilities, and those geographically isolated during emergencies. She outlined some of the division's activities, including cross-agency collaborations and resources like the Health Equity Partners webinar, health equity newsletters, and training tools on the foundations of health equity. Smith-Easley also

mentioned ongoing initiatives such as the CDCReady Responder program, which includes a health equity cadre, and efforts to improve health equity data collection through the draft Health Equity Measures Report. Additionally, she highlighted the development of the Chief Health Equity Officer toolkit to help state and local partners incorporate equity into their response efforts.

The HEWG's charge is to evaluate ORR's health equity goals, strategies, and activities, identifying gaps and areas for improvement in emergency preparedness and response. The group aims to develop a draft evaluation plan to measure progress and provide expert input on strategic planning for future health equity activities. Preliminary organizing meetings have taken place, and the group is now focusing on reviewing the Health Equity Measures Report to identify areas for improvement.

Four key concepts the HEWG is considering were shared with the BSC: 1) persistent health disparities due to social and environmental conditions, 2) ensuring that individuals critical to societal and economic infrastructure are prioritized in disease management efforts, 3) the importance of serving high-risk populations for disease surveillance and management, and 4) the need for customized health interventions to achieve desired outcomes. These points form the business case for the critical role of health equity in public health efforts.

The workgroup posed several questions for consideration, which were as follows:

- What are the highest priority areas and readiness and response for review by the work group?
- Are there examples of areas in public health readiness and response efforts where we failed to address specific populations or to consider special population needs that would be informative in planning and policy efforts?
- How can we best recommend that ORR continue to "build in" equity considerations into their planning and evaluation efforts?

Suggestions and comments:

- It is essential to expand disaster planning beyond infectious diseases, addressing non-infectious events like hurricanes, toxic spills, and mass migrations that expose societal inequities.
- The concept of equity must be precisely defined to ensure fair treatment of diverse populations. Clear communication strategies are crucial, especially when serving rural, low-income, or underserved communities that may not readily embrace the term "equity."
- Special attention is needed for individuals with medical needs, such as those dependent on electricity for medical devices, as well as those without transportation, mental health issues, or substance use disorders, who face unique challenges during disasters.
- Successful disaster readiness and response depends on working closely with community-based organizations and local trusted leaders, ensuring that the community's input shapes planning and execution.
- The needs of the unhoused and individuals in the justice system should be considered in disaster planning, as their circumstances are particularly affected during crises.

- After-action reports from state, local, and federal levels offer valuable lessons on what works and what doesn't in disaster planning, highlighting successes and challenges in both rural and urban areas.
- Including a health equity officer in incident management structures is an important step in ensuring that health equity is considered in disaster response efforts.
- A framework developed by the National Academy of Medicine on delivering services for interpersonal violence during disasters may be useful, particularly in addressing mental health and substance use issues.
- A key area for improvement is the integration of risk assessments into grant programs like the PHEP cooperative agreement, which focuses on community-specific planning for disaster and disease threat mitigation.
- Ensuring that vaccines and antivirals reach vulnerable communities and are communicated effectively is a critical part of disaster preparedness. The communication strategy should focus on increasing understanding of the utility of these medical countermeasures.
- A joint external evaluation of national preparedness efforts is underway, that includes a focus on risk communication and community engagement. The suggestions from this evaluation will provide useful guidance for better engaging communities in disaster response planning.

Public Comments

No public comments were made.

Adjourn

With no further comments, the meeting was adjourned at 12:31 PM EST.

CERTIFICATION

I hereby certify that to the best of my knowledge, the foregoing minutes of the November 20-21, 2024, hybrid meeting of the Board of Scientific Counselors, Office of Readiness and Response are accurate and complete.

_____	_____
Date	David Lakey, MD Chair, BSC, ORR

APPENDIX A: BSC ORR Membership Roster

DESIGNATED FEDERAL OFFICIAL

Ian Williams, PhD, MS
Deputy Director
Office of Readiness and Response (ORR)
Centers for Disease Control and Prevention (CDC)
Atlanta, Georgia

CHAIR

David Leroy Lakey, MD
Vice Chancellor of Health Affairs and Chief Medical Officer
The University of Texas System
Austin, Texas
Term: 5/13/2021 – 9/30/2024

MEMBERS

Julie Fischer, PhD
Senior Technical Advisor for Global Health
CRDF Global
Arlington, Virginia
Term: 6/10/2022 – 9/30/2025

Francisco Garcia MD, MPH
Deputy County Administrator & Chief Medical Officer
Pima County
Tucson, Arizona

Paul Halverson, DrPH, MHSA, FACHE
Dean and Professor
Oregon Health & Science University
Portland State University School of Public Health
Portland, Oregon
Term: 6/8/2022 – 9/30/2025

Joneigh Khaldun, MD, MPH, FACEP
Staff Physician, Emergency Medicine
Henry Ford Health
Former Chief Medical Executive
State of Michigan
Canton, Michigan

John Lowe, PhD
Director, Global Center for Health Security
Professor and Interim Chair, Department of Environmental, Agricultural & Occupational Health

Assistant Vice Chancellor for Health Security Training and Education
University of Nebraska Medical Center
Omaha, Nebraska
Term: 7/31/2023 – 9/30/2026

Phyllis Meadows, PhD, MSN, RN
Senior Fellow, Health Programming
The Kresge Foundation
Troy, Michigan
Term: 8/7/2023 – 9/30/2023

Umair Shah, MD, MPH
Secretary of Health
Washington State Department of Health
Olympia, Washington
Term: 8/7/2023 – 9/30/2026

Kathleen Tierney, PhD
Professor Emerita, Sociology, University of Colorado Boulder
Fellow, Institute of Behavioral Science
Faculty, Institute of Behavioral Science
University of Colorado Boulder
Boulder, Colorado
Term: 6/13/2022 – 9/30/2025

EX OFFICIO MEMBERS

National Institutes of Health
Paula Bryant, PhD
Director, Office of Biodefense, Research Resources, and Translational Research
Division of Microbiology and Infectious Diseases
National Institute of Allergy and Infectious Diseases
Rockville, Maryland

Assistant Secretary for Preparedness and Response
Kristin L. DeBord, PhD
Director. Strategy Division
Office of the Assistant Secretary for Preparedness and Response
Department of Health and Human Services
Washington, District of Columbia

Indian Health Services
Darrell LaRoche, CAPT (ret.) USPHS
Deputy Director for Management Operations
Rockville, Maryland

Food and Drug Administration
Hilary Marston, MD, MPH
Chief Medical Officer
Office of Clinical Policy and Programs
Silver Spring, Maryland

LIAISON REPRESENTATIVES

Michele Askenazi, MPH, CHES
National Association of County and City Health Officials (NACCHO)
Director of Emergency Preparedness, Response, and Communicable Disease Surveillance
Tri-County Health Department
Greenwood Village, Colorado

Emily Burke, EdD, MPH, CPH
Senior Director, Workforce Development and Applied Practice
Association of Schools and Programs of Public Health
Washington, District of Columbia

Benjamin P. Chan, MD, MPH
Council of State and Territorial Epidemiologist (CSTE)
State Epidemiologist
New Hampshire Department of Health and Human Services
Division of Public Health Services
Concord, New Hampshire

Christina Egan, PhD, CBSP
Association of Public Health Laboratories (APHL)
Chief, Biodefense Laboratory, Wadsworth Center
New York State Department of Health
Albany, New York

Alexia Harrist MD, PhD
Association of State and Territorial Health Officials (ASTHO)
State Epidemiologist and State Health Officer
Wyoming Department of Health
Cheyenne, Wyoming

Laura Magaña, PhD
Association of Schools and Programs of Public Health (ASPPH)
President and CEO
Washington, District of Columbia

A.J. Schall, Jr., BS
National Emergency Management Association
Director, Delaware Emergency Management Agency
Department of Safety & Homeland Security
Smyrna, Delaware

APPENDIX B: Acronyms

ASPR	Office of the Assistant Secretary for Preparedness and Response
BSC	Board of Scientific Counselors
CC	Certificate of Containment
CDC	Centers for Disease Control and Prevention
CEFO	Career Epidemiology Field Officer
CIP	Continuous Improvement Program
COVID	Coronavirus Disease
COVID-19	Coronavirus Disease 2019
DENV	Dengue viruses (-1, - 2, -3, and -4)
DEO	Division of Emergency Operations
DHCPP	Division of High-Consequence Pathogens and Pathology
DRC	Democratic Republic of Congo
DRSC	Division of Regulatory Science and Compliance
DRRS	Division of Readiness and Response Science
DSLR	Division of State and Local Readiness
DVBD	Division of Vector-Borne Diseases
EOC	Emergency Operation Center
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FDA	Food and Drug Administration
FSAP	Federal Select Agent Program
GRF	Graduated Response Framework
HEWG	Health Equity Workgroup
HHS	Department of Health and Human Services
IPP	Import Permit Program
IT	Information Technology
Mpox	Monkeypox
NCEZID	National Center for Emerging and Zoonotic Infectious Diseases
NEMA	National Emergency Management Association
NIH	National Institutes of Health
ORR	Office of Readiness and Response
PCWG	Polio Containment Work Group
PFA	Preparedness Field Assignee
PEF	Poliovirus-essential facilities
PHEP	Public Health Emergency Preparedness
PPE	Personal Protective Equipment
PPSN	Priority Populations and Settings Network
RREDI	Response Ready Enterprise Date Integration
RRF	Response Readiness Framework
SAWG	Science Agenda Workgroup
SCIP	Strategic Capacity Building and Innovation Program

SGE	Special Government Employee
STLT	State, Tribal, Local, or Territorial
U.S.	United States
USDA	U.S. Department of Agriculture
WHO	World Health Organization