Center for Preparedness and Response (CPR)
Board of Scientific Counselors (BSC) Meeting
Wednesday, May 19, 2021 – Thursday, May 20, 2021
Webinar

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CENTER FOR PREPAREDNESS AND RESPONSE (CPR)
BOARD OF SCIENTIFIC COUNSELORS (BSC) MEETING
WEDNESDAY, MAY 19, 2021
WEBINAR

Roll Call, Welcome and Call to Order

Kimberly Lochner, ScD; Deputy Associate Director for Science, CPR and Designated Federal Official, CPR BSC

The BSC meeting began with roll call to ensure that quorum was present. If quorum is lost at any point, a break would be taken, or the meeting would be adjourned until a quorum is resumed. Since this was a webinar, members were asked to keep their video on, and to alert Dr. Lochner's staff should there be any technical difficulties. A roll call was conducted, and quorum was present. Dr. Lochner monitored attendance throughout the meeting to ensure quorum was upheld.

Dr. Lochner reviewed the BSC responsibilities, as per its charter, and the conflict-of-interest waivers. All Confidential Financial Disclosure Report Update Forms were asked to be completed and returned to Dr. Lochner prior to the meeting, if there were any changes made since last submitted. Members were asked to identify any conflicts of interest. No conflicts were identified.

Dr. Lochner stated that the meeting would be led by the BSC Chair, Dr. Suzet McKinney. If voting is required, only the Special Government Employee (SGE) Members and Ex Officio Members will vote. Discussions will be facilitated by the BSC Chair and should not be conducted through the Zoom chat feature.

All participants agreed to having their comments recorded and speakers were instructed to identify themselves before speaking to ensure an accurate record was created.

Suzet McKinney, DrPH, MPH; Chair, CPR BSC

Dr. McKinney called the Center for Preparedness and Response Board of Scientific Counselors Webinar to order at 12:36 PM EST. She began by thanking the attendees for participating in the meeting. Dr. McKinney also acknowledged the progress made against coronavirus 2019 (COVID-19) since the last meeting and looked forward to hearing from CPR, particularly the division directors, regarding the latest events and achievements experienced. She ended her comments by introducing Dr. Jonathan Mermin, who is the Acting Director of the Center for Preparedness and Response.

CPR Director: Update

Jonathan Mermin, MD, MPH, Rear Admiral and Assistant Surgeon General, USPHS, Acting Director, CPR

Dr. Mermin has been the Acting Director of CPR since February 2021. In his permanent role, he serves as the Director of the National Center for HIV, Viral Hepatitis, STD, and TB Prevention. Dr. Kevin Cain also joined the meeting. Dr. Cain will succeed Dr. Mermin next week to become the Acting Director of CPR. In Dr. Cain's current role, he serves as the Deputy Director of the Center for Global Health.

Dr. Mermin began by providing an update on CPR's role supporting the Incident Management System (IMS) structure for COVID-19 through its Emergency Operations Center. Over 1,000 individuals have been involved in the response, the largest in CDC's history, with millions of hours of time contributed. There continues to be urgency as vaccinations are expanded to increasing the age groups of children eligible to take the vaccine, as well as dealing with adults that have had difficulty accessing vaccines or who are hesitant to take the vaccine. As of Wednesday, May 19, 2021, 37% of the population in the U.S. is fully vaccinated and 48% have had at least one dose of the vaccine. The CDC COVID Data Tracker can be accessed to view the latest trends, statistics, and modeling predictions.

Dr. Mermin also provided an update on the CPR's strategic planning. Last year, Drs. Joanna Prasher and LaBrina Jones discussed the planning efforts with the BSC. The board members' valuable input helped informed CPR's next steps. The center is used the Baldridge Framework, which is a U.S. Congress department program. The plan is meant to provide CPR with a clear and focused set of priority goals and demonstrate measurable impact on national preparedness and response. It includes new mission and vision statements, as well as organizational values, strategies, and key focus areas. CPR staff and subject matter experts are working together to develop action plans and performance measures. CPR will continue to update on an annual basis as it adapts to public health emergencies and the world. The plan is a document that lends itself to continuous quality improvement.

Dr. Mermin finished his remarks by reflecting on the difficulties of the past year. The nation and CDC continue to be confronted by the COVID-19 pandemic with 584,000 deaths and tens of millions of infections. The pandemic has caused a reduction in services; closures of schools, businesses, clinics, and community organizations; and disruption of individuals' daily lives. Concurrently, numerous episodes of egregious race and ethnicity associated violence have occurred, and COVID-19 has amplified long-standing social inequities and systemic racism that have put people of color and economically disadvantaged individuals at an increased risk of contracting SARS-CoV-2 infection. These same inequities also lead to health disparities.

One of the tasks of preparedness and response is to reflect on the successes and challenges so there can be improvement going forward. He felt there were four areas for potential discussion with the board.

First, was CDC prepared and did it respond effectively? Infections, morbidity, or mortality prevented due to public health efforts are hard to measure compared to the diseases that did occur. It is also difficult to assess the disasters that did not occur as a result of preparedness. Dr. Mermin felt the nation would have been in a much worse state if public health had not

spent the past two decades expanding preparedness and response capacities of CDC and state and local health departments. It would have been impossible to truly prepare for the COVID-19 pandemic; however, lessons garnered can be utilized to mend and strengthen the fractures in the social, economic, and public health infrastructure exposed by the pandemic.

Secondly, who would have expected that COVID-19 would rapidly infect and kill Latinos and African Americans at a two-to-four-fold higher rate than White Americans? It should have been anticipated given the social and economic determinants of health and illness that are reflected in the epi curves for mortality, but a national response was unable to be enacted and prevent the disparities in health from occurring. How can CPR do better in the future to ensure responses are adaptable, flexible, and work for all communities? Dr. Andreadis is currently incorporating health equity and community resilience into the scientific agenda. At least one center in CDC will distribute financial support to state and local health departments using an algorithm based on the Census Bureau's Community Resilience Estimates, which assesses a community's ability to respond to a disaster. Dr. Rochelle Walensky, Director of the CDC, has made this a priority.

Third, within weeks, SARS-CoV-2 had spread across continents and within months affected every country. The risks of pandemics highlights that we are not alone as a nation, state, or community. What does preparedness mean for CPR and the United States if CDC accepts and embraces the responsibility of global preparedness?

Fourth, Dr. Mermin embraced humility. Mistakes have been made. CPR has integrated after action reports for every response so that it may examine its work and identify areas of improvement. This is a difficult time in American's history. There are strong views and polarization with uncertainty and possibility, as well as information and misinformation. The public is hesitant of open discussion and honest learning due to fear of personal attacks. It is difficult to discuss the best course of action for public health without fear of reprisal. How does CPR talk about controversial, scientifically challenging, or politically sensitive topics? How can effective programs be implemented despite these challenges? Public health is inherently political because it exposes the root causes of morbidity, but it should not be partisan. There should be a focus on the common language of public health, proven efficacy, cost-effectiveness, health equity, morbidity, and survival.

There is increased skepticism of trusted institutions, including CDC and the FDA. Success in these agencies' preparedness efforts requires trust. Dr. Mermin said working with the communities most affected by health inequities, creating transparent plans, implementing plans with community members and organizations, and doing good work will restore trust. The BSC can help CDC be creative, proactive, and diligent in those efforts.

Recommendations and Comments from the BSC:

- The nation should have anticipated collectivity that inequities would accompany a crisis such as COVID-19. It is shameful that it was not. The same can be said for vaccination

efforts in response to the pandemic. Vaccination hesitancy should have been expected, as well as disparities. CDC should do an after-action report, that is very blunt and transparent, to examine the failures in anticipating disparities and find solutions to overcome those breakdowns. This should be done on several levels: as a nation, as an agency, and within CPR.

- Include partners like the liaison representatives' agencies in the creation of the after-action reports.
- Engage the communities as CDC strengthens its science agenda. Community groups have been one of the saving graces of the crisis. They have been very active in addressing inequities and should be invited to the table to provide feedback that will inform the science agenda.
- Asians or American Indians were not mentioned in the opening comments, which is problematic for data and information. These two groups tend to be lumped into the "other" category, while data for White, Blacks, and Hispanics is presented. This impedes the ability to make good decisions that will assist those populations.
- State and local data tends to illustrate racial disparities, but that information may not be disseminated to CDC. CDC may need to advocate for those statistics. This type of data is needed on a national level in order to make sound decisions.
- Tribal sovereignty must be respected. They may not want their data uploaded, but some do work with the states to provide information that will help build local capacity. CDC should provide additional technical assistance, training, and funding for local communities on par with states and counties.
- As CDC does their evaluations and after-action reports, incorporate an examination of leadership in public health practice and the science behind it. Emergency preparedness leadership is of the command-and-control stance, but this is not suitable for disparate outcomes nor the system issues that perpetuate those outcomes. Leadership should be more of a multi-sector collaboration that scales across the community to policymakers. In the past year, public health and political leaders became adversaries around the pandemic, and this was a time where they actually needed to work together to produce effective results.
- For future events, behavioral scientists and change management should be involved for dealing with the different categories of people impacted such as people who are likely to be impacted, the worried-well, detractors, and disbelievers. How can CDC add influence in each of those realms to help them comply with whatever they are being instructed to do?

CPR Division Updates and Discussion

Mark Davis, Associate Director, Financial and Management Services, CPR, Division of State and Local Readiness (DSLR)

Mr. Davis' presentation updated the Board on the Public Health Emergency Preparedness (PHEP) funding for fiscal year 2021 and highlighted proposed strategies for continued improvements to the PHEP program.

DSLR's mission is to assure the nation's public health system is prepared to respond to and recover from a public health event or emergency and to assist state, local, and territorial health departments in developing strong, response-ready, public health emergency management capabilities. Given the COVID-19 response efforts of the past year, did DSLR meet its mission? In many ways, yes. According to the states, the PHEP program laid a foundation that, without which, the nation would not have been as prepared as it was. But arguably, the level of need that was seen was much more than anyone could have anticipated. The PHEP program has prepared health departments for less impactful emergencies, like weather events or localized disease outbreaks, and it has afforded major improvements since its inception 20 years ago. But there is more that can be done, and DSLR has developed scalable strategies the PHEP program can implement to strengthen preparedness for future emergencies.

PHEP funding, at its highest, was a little over $1 billion in 2006 – due to supplemental funding – and at its lowest at $585 million in 2013. It has been fairly stable over the last few years, hovering around $600 million+,.This has been sufficient for keeping preparedness efforts at a steady state, but it does not allow the ramp up needed for a high-impact event, such as COVID-19. It also does not allow for the ability to increase capacity.

There was a $20 million appropriation increase this year that allowed DSLR to award total PHEP funding at nearly $638 million. The money was largely used to increase awards given to localities through the Cities Readiness Initiative (CRI). The CRI is used to prepare local jurisdictions within large population centers for medical countermeasure (MCM) missions to respond to events like anthrax or pandemic influenza. Funding was used in this manner because CRI responsibilities are expanding to include all 15 of the preparedness capabilities.

The money was also used to increase the core funding to primary recipients by over $3 million dollars across the PHEP cooperative agreement. DSLR also stabilized funding to its critical national partner organizations by providing over $1.6 million in funding.

The biggest shift in funds was to the Career Epidemiology Field Officer (CEFO) program. The fiscal year increase allowed DSLR to move CEFOs from a direct assistance model, where PHEP recipients paid for the cost of CEFOs out of their award, to a centrally funded model, where DSLR covers the cost. This significantly reduced the burden of administering the CEFO program and enabled the division to expand the field staff footprint. CEFOs can now be supported with central funding in all 50 states, and four directly funded localities, as well as in the Pacific and Caribbean regions. The goal is to have at least 56 CEFOs over the next 12 to 18 months.

Following are strategies for how DSLR can further improve its capabilities. There are four anticipated outcomes the division would like to see as the program matures:

1. Improved local and state response capacity.
2. Long-term sustainable solutions to specific gaps identified during the COVID-19 response.
3. Modernized rapid response capacity of public health laboratories.

4. Enhanced scientific, informatics, and technical support for state, tribal, local and territorial (STLT) preparedness and response.

Proposed strategies for achieving these outcomes are scalable based on various levels of resources that may be available. Following are suggested strategies for each outcome, at the different resource levels.

Outcome 1: Improve local and state response capacity

Level One:

- Increase CRI funding for current 72 metropolitan statistical areas (MSAs)
- Increase core funding to states to provide oversight and technical assistance to MSAs and other local jurisdictions
- Increase core funding to support additional PHEP-funded staff across the nation from 2,400 (current) to > 4,000.

Level Two:

- Expand CRI to 100 MSAs; ensure CRI communities are resourced sufficiently to meet readiness goals
- Increase core funding to states to provide oversight and technical assistance to 100 MSAs and other local jurisdictions
- Increase core funding to support additional PHEP-funded staff to > 5,000.

Level Three:

- Consider further CRI expansion, increase core funding to states; increase funding to fully implement response teams in communities; institute Community of Practice to share best practices, advance preparedness
- Establish guidance and fiscal allocation strategies that support rural and frontier state public health preparedness and recovery needs
- Provide funding to advance PHEP recipient workforce development needs; promote responder resilience.

Outcome 2: Long-term sustainable solutions to specific gaps identified during the COVID-19 response

Level One:

- Increase core funding for 62 PHEP jurisdictions.
- Fund recipient improvement plans, remediation of gaps, including epidemiology, surveillance, isolation, and quarantine
- Designate jurisdictional preparedness equity officers

Level Two:

- Develop, replenish STLT medical countermeasure and personal protective equipment (PPE) caches
- Fund jurisdictional public health community recovery and reconstitution priorities
- Expand capacity to manage multiple simultaneous events

Level Three:

- Update nonpharmaceutical interventions to include robust isolation and quarantine planning; wrap-around services; movement and monitoring processes
- Improve crisis standards of care

Outcome 3: Modernized rapid response capacity of public health laboratories

Level One:

- Ensure sufficient support for STLT laboratories affiliated with Laboratory Response Network for Chemical Threats (LRN-C), including security/safety, staffing, training, certification, and accreditation

Level Two:

- Promote data modernization strategies
- Support development of advanced laboratory tier for LRN for Biological Threats to serve as regional centers for test development
- Support LRN-C equipment upgrades and training

Level Three:

- Develop Laboratory Response Network for Radiological Threats (LRN-R)
- Invest in CDC capability to support LRN-R

Outcome 4: Enhanced scientific, informatics, technical support for STLT preparedness and response

Level One:

- Expand CEFO program to fund second CEFO in select jurisdictions. Add tribal CEFOs
- Expand DSLR capacity to support STLT training, exercise planning, and technical assistance

- Expand DSLR evaluation capacity to support Operational Readiness Review (ORR) expansion
- Improve informatics support for expanded ORR and program management systems

Level Two:

- Expand the Preparedness Field Assignee (PFA) program; invest further in CDC's Public Health Associate Program (PHAP) and Epidemic Intelligence Service (EIS) programs
- Fund informatics fellowship program to advance jurisdictional data modernization initiatives
- Invest in robust program management IT system to enhance recipient monitoring and tracking of progress.
- Increase recipient funding to address new requirements and subrecipient (local) monitoring

Level Three:

- Establish CDC regional presence with a senior CDC leader and support staff assigned to each HHS regional office to serve as CDC liaisons
- Develop CEFO assignments to support public health needs of select entities including specific federal agencies
- Improve CDC's capacity to support LRN-R

DSLR's questions for the BSC regarding Outcome 4:

- How might the PHEP program be included in the initiatives?
- How can informatics improve preparedness?
- Is there more to be completed from a staffing perspective to support the operational readiness of funded jurisdictions?
- The division has engaged in "blue-sky thinking." What can it do in a world that is wide open to its goals and objectives?
- Is DSLR focusing on the right things? Are there additional options to be considered?

Recommendations and Comments to DSLR from the BSC:

- Consider the Small Business Initiatives (SBI) being a part of funding formulas.
- When examining the workforce, ensure that the appropriate mental health resources and services are available. This includes responders, individuals in the incident command centers, administrators, field officers, etc.
- For some communities, working through the states was not successful, particularly for tribal communities. The funding is not ample. Pre-pandemic, tribes were offered roughly $5,000, and considering the administration cost to complete the paperwork to receive the funding,

it ends up being a waste of time. Arizona has a stronger program that was built over several years. It was created out of the inability for tribes to access funding during the Rocky Mountain Spotted Fever response, which started around 2010. During the pandemic, the average awards were listed at approximately $25,000 to $150,000.

- Consider direct, sustained funding for tribes in the future, regardless of their size. A tribe may be small, but they may also support an entire community and have multiple enterprises that support people that are not tribal members. Some of those enterprises had to be closed due to the pandemic, but often those tribes still provided funding for those staff members.
- Consider adding workforce development for the public health laboratories to the fellowship and workforce development efforts.

Samuel S. Edwin, Ph.D., Director, Division of Select Agents and Toxins (DSAT), CPR

DSAT oversees two key regulatory programs. The first is the Federal Select Agent Program (FSAP). This program regulates the possession, use, and transfer of biological select agents and toxins (BSAT) with the potential to pose a severe threat to public, animal, or plant health, or to animal or plant products. This is a list-based oversight system, which currently contains 67 agents. It is a U.S. national, federal program that is jointly managed by DSAT, and the Division of Agricultural Select Agents and Toxins (DASAT) located in the Animal and Plant Health Inspection Service (APHIS) at the U.S. Department of Agriculture (USDA).

There are roughly 215 laboratories under the FSAP. They range from very small, two-room labs to million square foot facilities. There are roughly 8,300 individuals approved to work with select agents and toxins in the nation. The FSAP's functions and activities are to:

- Promulgate the select agent regulations
- Provide oversight of possession, use, and transfer
- Conduct inspections
- Approve registrations
- Approve individual access to select agents and toxins
- Receive reports of a theft, loss, or release
- Take appropriate enforcement actions
- Serve as a resource on compliance with the regulations

Since the last BSC meeting, there have been some updates to FSAP's review and inspection processes. The Advanced Notice of Proposed Rulemaking allows for a biennial review and republication of the select agent and toxin list. This was published on March 17, 2020. The comment period ended on May 18, 2020. There were 334 comments received, with 286 comments supporting the removal of Brucella abortus. The Notice of Proposed Rulemaking is

on its final rounds through DSAT before it moves to CDC and then eventually to the Office of Management and Budget (OMB)

In light of the travel constraints caused by COVID-19, DSAT developed a remote inspection process. Thanks to the fully electronic FSAP information system, all of the information pertaining to the registered entities has been compiled. All programmatic actions such as amendments to registration were already occurring through the information system. Entities provided pre-inspection documents including items such as their current biosafety, operational health, and security plans, certifications, as well as trainings via the highly secure system. Video exchanges have also been incorporated. In addition, many of the biosafety level 3 (BSL3) laboratories registered with FSAP received funding for SARS-CoV-2 work thus increasing the demand for work involving non-select agents. The remote inspections have allowed DSAT to monitor the entities working with select agents and toxins efficiently.

With the success of the remote inspection process, DSAT is piloting a hybrid inspection mechanism. This would be any combination of remote and on-site program review used to complete one inspection. It would be used to maximize FSAP resources, as well as limit the size of inspection teams and on-site presence. The inspections will be geared toward allowing comprehensive review of records in-house and a more focused inspection of on-site operations.

DSAT's second program is the CDC Import Permit Program (IPP). It regulates the importation of infectious biological agents, infectious substances, and vectors capable of causing communicable disease in humans. Over 2,000 import permits are issued annually. IPP conducts inspections, provides outreach and training, and collaborates with partners to accomplish its mission.

From January 2021 to April 30, 2021, IPP issued 1,226 import permits. Of those, 382 were for SARS-CoV-2 variance, which will be used to develop diagnostics and to conduct research. There was one onsite inspection, but the majority of inspections (13), were conducted remotely. The states with the highest number of import permits were California (179), Maryland (142), and New York (81).

Hybrid inspections (part on-site, part remote) of regulated entities have a lot of benefits to offer such as saving time and travel expenses. Inspections are snapshots, and the hybrid model can possibly enable continuous monitoring of the registered entities. With that in mind, DSAT posed the following question to the Board. Are there any unseen vulnerabilities associated with the use of this approach?

Recommendations and Comments to DSAT from the BSC:

- If there are policies and procedures not being adhered to in the laboratory or perhaps safety concerns, a remote visit would not allow those to be discovered. Laboratory may even be able to hide those occurrences. This could be a vulnerability to remote inspections.

- Dr. Christina Egan recently went through the remote inspection process. She thought it would be burdensome initially but was pleasantly surprised that it went well. She found the inspection to be very thorough. She felt more discussion with members of the laboratory, who work with select agents, will provide the most critical and valuable information.
- Human to human interaction tends to be more effective at uncovering matters of concern. It also affords the opportunity for real-time learning. This cannot be replaced with a digital format; therefore, a hybrid model would be more sufficient.
- How will DSAT effectively separate the inspection versus the enforcement aspects of its responsibilities? If those functions are handled by the same staff and DSAT decides to move to hybrid inspections and further decides to decrease staff because it is more effective, there is a potential to incur bias on the enforcement side or even just the perception of bias.
- Consider reaching out to other groups in CDC like the Hospital Associated Infections Program, who have also moved to remote inspection processes for assessing infection control. There may be some lessons learned that can be drawn from those groups.
- Engage with the other operating divisions. It would be beneficial to learn what DSAT has gained as a result of the remote or hybrid inspections. Your best practices and lessons can be mirrored.

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

Dr. Brown began by providing examples of some of the ongoing DEO support efforts to CDC. In addition to COVID-19, it is supporting three ongoing responses; however, the bulk of the division's focus is on COVID.

DEO has developed training courses for COVID-19 operation coordinators and general responders. More than 4,020 responders have been trained since April 2020 through the Emergency Operations Center (EOC) Day One orientation. This training will allow the responders to be effective as soon as they begin in the EOC. In addition, over 600 operations coordinators have been trained to coordinate the daily activities of the taskforces. . DEO is also planning coordination with inner agency partners at the Federal Emergency Management Agency (FEMA), the Office of the Assistant Secretary for Preparedness and Response (ASPR), and other federal bureaus. . Onsite planning coordination has also occurred with the FEMA National Response Coordination Center and the Department of Health and Human Services (HHS) Secretary's Operations Center to support operational coordination between the agencies.

With DEO support the Clinician Outreach and Communication Activity (COCA) and Health Alert Network (HAN) teams have conducted 33 COVID-19 COCA calls to date with a live attendance of over 330,000 clinicians. The teams usually conduct one COCA call a month with an average of 1,000 clinicians. They also facilitated and disseminated 11 COVID-19 Health Alert Network (HAN) advisories. The most recent HAN Alert directed a pause in the Johnson & Johnson Janssen vaccine due to issues with blood clots. It was the first such alert to reach the very top level of the HAN product notices since 9/11.

DEO also has processed, equipped, dispatched, and tracked over 3,400 field deployments, while supporting a total headquarter Incident Management System staff that averages more than 2,400 personnel. They have also provided deployers to the COVID-19 Southwest Border Migrant Health Task Force (50+), as well as other ongoing efforts in support of the Unaccompanied Children (UC) missions.

DEO, from January 1, 2021, to mid-April 2021, has triaged 19,221 emails and 6,378 calls related to COVID-19. This was a 311% increase in emails from those of 2019 and an 80% increase in calls. It also managed 1,184 Low Level International Health Regulations requests to identify and notify international travelers. Also, DEO has produced, maintained, and updated more than 400,000 reports and analytic products. They are also working to improve COVID-19 data interoperability with cross jurisdictional partners and have made significant advancement on that front as well.

In addition to DEO's support of ongoing emergency responses, several strategic preparedness areas are being updated. There is an effort to modernize the EOC, particularly the IT infrastructure that supports it. A year was spent doing a comprehensive analysis of the current state and future needs of IT systems that support daily EOC operations and emergency responses. This was completed through a series of stakeholder interviews across the Agency. . As a result, a three-year roadmap is being developed to help DEO build the foundation of a Master Incident System, which will modernize and harmonize EOC applications. This is occurring under several guiding principles that align with the broader data initiatives at CDC. Those principles are as follows:

1. Address responder needs through process re-engineering and automation
2. Build scalable, secure cloud infrastructure for systems, applications, and data
3. Modernize EOC applications that draw from common data sources
4. Ensure interoperability across CDC response activities to simplify data sharing

DEO will continue to work on the roadmap. They are prioritizing tasks to be completed as money becomes available. The division is also identifying the resources that will be needed to support this modernization effort in the way of staff, funding, and additional resources. Numerous funding opportunities from CDC are being considered to support various pieces of the projects. Proposals are being put forth to secure the funding.

The DEO has been leading the efforts on the Graduated Response Framework (GRF), a framework for managing various levels of emergency response.. GRF will be an all-hazards approach and a compliment to the existing all-hazards plan. It allows for activities that may start small, at a program-led level, to be expanded and grow, if needed to center-led or even agency-wide responses.

As of May 2021, the steering committee held two meetings and formed a number of workgroups, who will help develop a concept of operation (CONOPS) and will also work simultaneously on a communications plan. The workgroups will develop pieces of the CONOPS

document that are within their respective subject matter expertise. The four workgroups are Knowledge Management, Resource Management & Operations, Joint Information Center (JIC) Operations, and Capacity Assessment. The Capacity Assessment Workgroup are tasked with determining the current capacities of chief information officers across CDC to manage emergencies, as well as the capacities that will be needed in the future to handle responses of all sizes across the spectrum of the graduated framework. A third meeting will be held on August 4, 2021, where the committee will hear some of the outputs from the workgroups.

DEO is also preparing for the 2021 hurricane season. The 2021 hurricane season is forecasted to have above average hurricane activity. The division is collaborating with the National Center for Environmental Health (NCEH) for domestic responses, and the Center for Global Health (CGH) for international responses. Some of the preparedness activities include the following:

- Identifying potential response staff and deployers
- Updating the Hurricane Season Response Strategy
- Scheduled the Emergency Coordinator Hurricane Season preparation meeting for May 26
- Updating and coordinating public health messaging with partners

The DEO posed two questions to the Board:

- Response staffing continues to be a critical planning consideration for ongoing and future CDC public health emergency responses. CDC currently uses an opt-in model to recruit volunteers to staff IMS positions during responses. Are there other models for emergency response staffing within public health, emergency management, or other similar organizations that CDC, through CPR, should explore?
- CPR is continually evaluating its internal staffing posture to best support emergency preparedness and response agency wide. If CPR were to consider building a cadre of staff who are always ready to quickly support IMS stand-up with other CDC Center partners as well as augment technical expertise for certain CBRN planning/response scenarios, on what areas should such a cadre focus? Are there useful ways in which a ready-responder cadre could provide technical support and assistance to other public health emergency management partners both to improve national preparedness and maintain their own skills and abilities during non-response times?

Recommendations and Comments to DEO from the BSC:

- One of the lessons learned from COVID is the need for a response-ready staff body to respond to multiple emergencies. Think about the specific skillsets needed for the various incident management system positions and which titles within the CDC structure are expected to have those skillsets for their day-to-day duties and operations. Perhaps consider assigning titles, not people, with the necessary or associated skillset to a response role within the IMS as a means of ensuring a core of staff is always ready and available for

incident response. This would make the division less dependent on volunteers in the midst of a large-scale response operation.

- Think About a 'selective-service' type model. Could it be modified in some way to have an opt-out sort of approach? This would provide a standing public health army.
- CDC is not well served by an opt-in, volunteer model, where in the setting of a crisis people have to be convinced to participate. The agency should move to a model where the decisions are made in advance and there is a clear operating model for acquiring the personnel needed to respond to the crisis. How do you backfill? How do you contract out? How do you provide maximum support? This model will enable CDC to draw on the resources needed when they are necessary without having to undergo bureaucratic delays.
- Think through a new model. This model is not the correct one.
- The U.S. military has moved to a standing, professionalized workforce. What would that look like for public health response?

Public Comment Period

No public comments made.

Meeting Adjourn

With no further comments, the meeting was adjourned at 3:05 PM EST.

CENTER FOR PREPAREDNESS AND RESPONSE (CPR)
BOARD OF SCIENTIFIC COUNSELORS (BSC) MEETING
THURSDAY, MAY 20, 2021
WEBINAR

Roll Call, Welcome and Call to Order

Kimberly Lochner, ScD; Deputy Associate Director for Science, CPR and Designated Federal Official, CPR BSC

Dr. Lochner conducted a rollcall, quorum was present, and

Dr. McKinney called the meeting to order at 12:35 PM

Dr. McKinney alerted the Board that she would only attendance the first portion of the meeting due to a scheduling conflict. Dr. Lochner facilitated the remainder of the meeting.

CPR BSC Polio Containment Workgroup (PCWG): Update

Cathy Slemp, MD, MPH, PCWG Co-Chair
Dawn Wooley, PhD, PCWG Co-Chair
Lia Haynes Smith, PhD, Director, U.S. National Authority for Containment (NAC) of Polioviruses
Bryan Shelby, PhD, Auditor, U.S. NAC

The presenters gave a brief overview on polio eradication efforts and the containment work activities to begin the session. There are three poliovirus serotypes: 1, 2, and 3 (PV1, PV2, and PV3). Eradication of wild poliovirus (WPV) type 2 was declared in 2015. Not long after, in 2019, wild poliovirus type 3 was also eradicated. Wild poliovirus type 1 only exists now in Afghanistan and Pakistan. There are some circulating vaccine-derived poliovirus (cVDPV) type 2 outbreaks from time to time, but type 1 is the only remaining wild type. Vaccine types include live, attenuated oral polio vaccine, and inactivated polio vaccine.

COVID-19 has had a significant impact on eradication efforts. It has temporarily halted immunization activities. Staff normally working on polio have been shifted to work on COVID-19. Much of the laboratory and surveillance work has also moved to COVID-19 activities. This has caused a risk of increased poliovirus cases in some areas and an underreporting of WPV1 and cVDPV cases. There are some positive outcomes to the temporary shift in work efforts. The brief break in polio eradication has allowed the NAC more time for more policy development.

The World Health Organization (WHO) has a global poliovirus containment effort. Its focus has mainly been on type 2 materials, but type 3 is moving into inclusion. There are 25 countries who plan on retaining type 2 materials. These are mostly laboratories or vaccine companies, who hold the materials for further research. Those entities are known as poliovirus essential

facilities (PEF). They follow requirements and guidelines of the Global Action Plan III (GAPIII). The number of PEFs will likely increase with the eradication efforts of type 1 and 3.

As of April 2021, 22 out of 25 countries have nominated NACs. For the U.S., CDC has been given this authority for poliovirus. There are now 74 type 2 PEFs, worldwide. Fifty-eight have submitted their applications to the Global Certification Commission-Containment Working Group (GCC-CWG) for a certificate of participation (CP) and 43 of the CPs have been endorsed.

The U.S. has the largest number of poliovirus type 2 PEFs globally. There were initially 12 but one facility has completed its work and therefore has withdrawn its request for certification. The U.S. PEFs were invited to attend virtual Pan American Health Organization regional GAPIII trainings in April and May of 2021. The GAPIII is undergoing revisions. Public comments will soon be allowed. Staff at CDC has provided its input as well on the revisions.

There are two paths for PEF certification. The path for certification is dependent on whether the facilities have short- or long-term plans for their viral material. Below is a visualization of those paths.

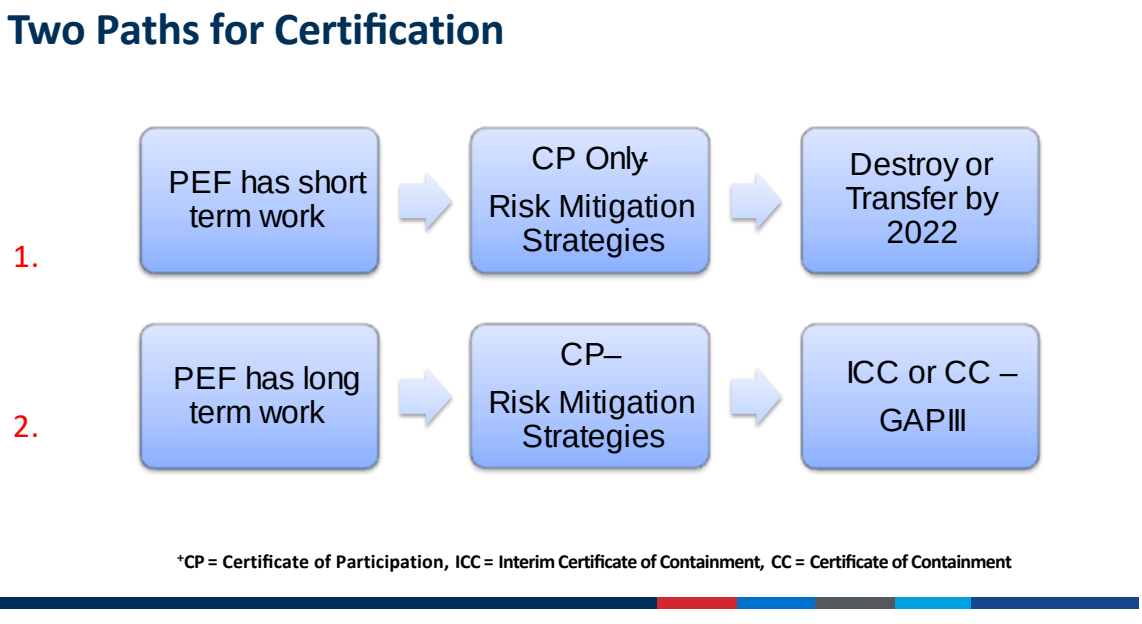

Figure 1. Two Paths for Certification

If an entity has plans for short-term use of viral materials, it would complete a CP, put in place risk mitigation strategies for work conducted on the viral material, and commit to destroying or transferring the viral material by 2022. This timeframe was extended due to the delays caused by COVID-19.

If a facility has plans for long term work, they will need to obtain a CP but will also work towards an interim certificate of containment (ICC) and eventually a certificate of containment (CC), which would outline the work moving forward long term to minimize the risk of viral release.

The presenters briefly reviewed the PCWG and its function. This workgroup was established in July 2020. They work collaboratively with the PEFs to provide best practices and gather feedback from the facilities. It holds monthly meetings and most of its recent work has been concentrated on policy development and guidance documents, as well as providing input on scientific projects that will support the CDC NAC in its evidence-based approach to policy development. It is comprised of six members, including co-chairs, and their areas of expertise include microbiology, molecular biology, biosafety, security, and public health. The table below is an overview of some of the policies currently in progress.

PCWG Update

Status	U.S. NAC Policy	Date
Published	Risk Mitigation Strategies	February
	Inventory, Security, and Transfer	April
Cleared by PCWG and CDC CIOs (Need BSC review)	**Inactivation**	**March**
	Shared Use	**April**
In development	Occupational Health	June
On deck	Personal Protective Equipment and Hand Hygiene (previously published)	June
	Incident Response	July?
	Biorisk Management and Risk Assessment (previously published)	July?

Figure 2. PCWG Policy Status Update

When the NAC develops a new policy, the PCWG will first review it and make recommendations. The policy is updated to reflect the recommendations and then moves to the BSC for its review and endorsement. The policy is also disseminated to the PEFs for their feedback. Updates are made based on the advice received before moving to CDC for clearance and review. Once approved, it is published and reviewed annually. The two policies that were shared with the BSC today have already been reviewed by the PEFs to align with the timing of the BSC meeting.

The first policy presented was the Inactivation Policy. It is important to recognize that some facilities may need to inactivate infectious material (IM) or potentially infectious material (PIM)

for work outside of poliovirus type containment or non-poliovirus type-related work. This may include work such as PCR, protein analysis, sequencing, or histological or cytological staining. The policy was developed in consultation with several facilities, documents, and individuals including GAP III, PEFs, FSAP Inactivation Guidance, CDC CIOs, CDC's Polio and Picornavirus Laboratory Branch (PPLB) Inactivation Study, and a WHO Containment Advisory Group (CAG) member. The policy applies to U.S. facilities possessing any poliovirus type IM or PIM, and it covers inactivation of PV2 and WPV3 IM that require poliovirus type containment.

The goal of this policy is to provide the flexibility and adaptation needed to address validated, novel, and a variety of methods, such as nucleic acid extraction and use of formalin. It is for the PEFs and non-PEFs and encompasses IM and PIM. The policy will allow facilities to demonstrate inactivation effectiveness using current methodologies and techniques.

The Inactivation Policy encourages facilities to use validated methods. No substantiation is required if protocol is followed. Validated methods are encouraged to reduce the NAC and facility workload while ensuring materials are inactivated properly. For novel inactivation methods, U.S. NAC establishes validation standards and maintains appropriate documentation of inactivation methodologies. Modifications to nucleic acid extractions are required to ensure inactivation. The policy requires procedures for discovery of improperly inactivated materials. The U.S. NAC encourages the use of surrogates when applicable.

The second policy presented to the Board was the Shared Use Policy. Some of the U.S. designated PEFs may need to perform non-poliovirus type work in labs used to work with and store poliovirus IM requiring containment. This may include multi-use labs, where there is a principal investigator with only one lab and multiple agents or multiple principal investigators using the same lab. The policy will also address the issue where labs are used for surge capacity. The facilities remain responsible for the biosafety and security of non-poliovirus type agents in the containment perimeter and are encouraged to implement appropriate standards such as outlined in the *Biosafety in Microbiological and Biomedical Laboratories* (BMBL).

The Shared Use Policy will require that users follow facility procedures for work with poliovirus when poliovirus is in use including the U.S. NAC Risk Mitigation Strategies. Users must also implement spatial and/or temporal separation. For example, they should not work with poliovirus infectious material when other agents are present, as well as not perform concurrent experiments with poliovirus infectious material and non-poliovirus agents. Users should restrict access to poliovirus personnel when poliovirus is in use and ensure poliovirus immunization of all individuals with access. They must also decontaminate all work surfaces, equipment, and waste before and after work with poliovirus.

There are several activities to be completed next. Both policies, if approved by the BSC, will move to CDC for clearance and publication by end of July 2021. The PCWG will review the draft of the U.S. NAC Occupational Health Policy to ensure that the PEFs implement a comprehensive occupational health program. This will be applicable to PEFs seeking either an ICC or CC. The NAC will seek the PCWG's input on the Personal Protective Equipment (PPE) and Hand Hygiene

Policy. The policy will ensure PPE practices minimize risk of a potential poliovirus breach. It will be applicable to PEFs seeking, again, either the ICC or CC.

After presenting the two new policies, the BSC asked questions. Dr. Octavio Martinez reminded the BSC of Winter Storm Uri, which caused severe freezing in Texas. The damaged caused by the storm impacted the electricity system in the state. He wondered if the PCWG had thought about external events, like this, that could affect the PEFs. Dr. Wooley felt this was something the BSC should discuss and possibly a policy should be made that addresses national disasters. Dr. Shelby said the Incident Response Policy being drafted will include such matters. There is also a national incident response plan being developed by CDC, but the Incident Response Policy will be the overarching plan. WHO has provided a guidance document to PEFs that has suggestions for preparing for this type of event. Also, during site visits, conversations around external events and responses do occur, and part of the risk mitigation strategies is to have emergency response procedures in place. The NAC encourages the PEFs to go beyond addressing spills or exposures but also thinking of ways to respond to external events like Winter Storm Uri. Dr. David Lakey, who works in the state of Texas, said the research laboratories that house poliovirus agents take this type of preparedness extremely serious because they understand their stewardship responsibility related to the materials in their possession. Dr. Slemp added there may be more challenges when considering laboratories who have potentially infectious poliovirus material. This is a much wider array of facilities.

Dr. Brent Pawlecki asked if there was a timeline around the cessation of poliovirus vaccination. Dr. Smith said there have been discussions globally regarding the matter; however, there are no plans to end vaccinations. This is particularly due to circulating vaccine-derived poliovirus outbreaks. Any thought of minimizing or reducing vaccinations is nonexistent and will not occur in the near future, certainly not prior to final eradication and even then, it will probably be a while after the post eradication. Dr. Slemp added there is work occurring for the vaccine derived poliovirus type 2. Dr. Smith said there is a novel OPV2 that is more attenuated than the original, and it was recommended for emergency use in the fall of 2020. It is being used in limited countries as well as being further evaluated. The hope is to have full licensure in 2022. Dr. Slemp said after COVID, there should be more surveillance to gain insight of eradication efforts. The pandemic may have hindered detection of the virus in some places.

Dr. McKinney thanked the PCWG and the NAC for their hard work on these policies. Dr. Lochner conducted a roll call on each policy separately to allow the BSC members to voice their vote. The Inactivation Policy and Shared Use Policy were unanimously approved by the Board.

The NAC also asked the board the following questions:

1. What programmatic policy gaps should the NAC consider in preparation for final containment of all three serotypes?
2. What additional expertise (e.g., immunizations) should the NAC include in the policy development and clearance process?

Recommendations and Comments to the NAC from the BSC:

- The public is not thinking of the impact COVID-19 has had on routine vaccinations, like for poliovirus. Is CDC communicating the impacts COVID-19 has had on the laboratories and the ability to vaccinate for other viruses? Furthermore, will there be questions and concerns at the local level regarding the vaccines that are needed by children and youth in addition to COVID-19 vaccines? There should be a strategic approach to communicate a general message to the public on those issues. The CDC brand has been impacted by COVID-19, and this is an opportunity to highlight the work of the CDC and remind the public that the agency is thinking strategically about these matters.

Office of Science and Public Health Practice (OSPHP): The Role of Science in the Age of Uncertainty

Joanne D. Andreadis, PhD, Associate Director, OSPHP, CPR
Jana Austin, MPH, Lead Health Scientist, OSPHP, CPR
Robin E. Soler, PhD, Director of the Office of Applied Research, OSPHP, CPR

This presentation highlighted the new strategic foresight activity and tactical capacity building and innovation program, as well as an update on the scientific research agenda.

Over the years, CDC has engaged in small, global, and sometimes concurrent public health responses. For example, 9/11 and the Anthrax Attacks set the course for bioterrorism for the next decade, and SARS brough collaboration among scientists to improve infection control strategies. More than 18 years since 9/11, the world faces a complex pandemic that requires a speed and scale that is substantially greater.

The pandemic has taught the CDC the importance of science in combating uncertainty and securing public trust. Science can be imperfect and incomplete particularly when learning is still occurring, but science helps to build the big picture. As each piece is put into place, the entire picture becomes clearer. The Office of Science and Public Health Practice (OSPHP) promotes science to foster innovation and evidence-based planning and decision making that advances federal, tribal, state, local and territorial readiness to respond to public health emergencies for all. Internal and external partnerships are key to OSPHP's work. Collaboration increases its ability to bear results faster. Below is an illustration of the collaborative process with its partners.

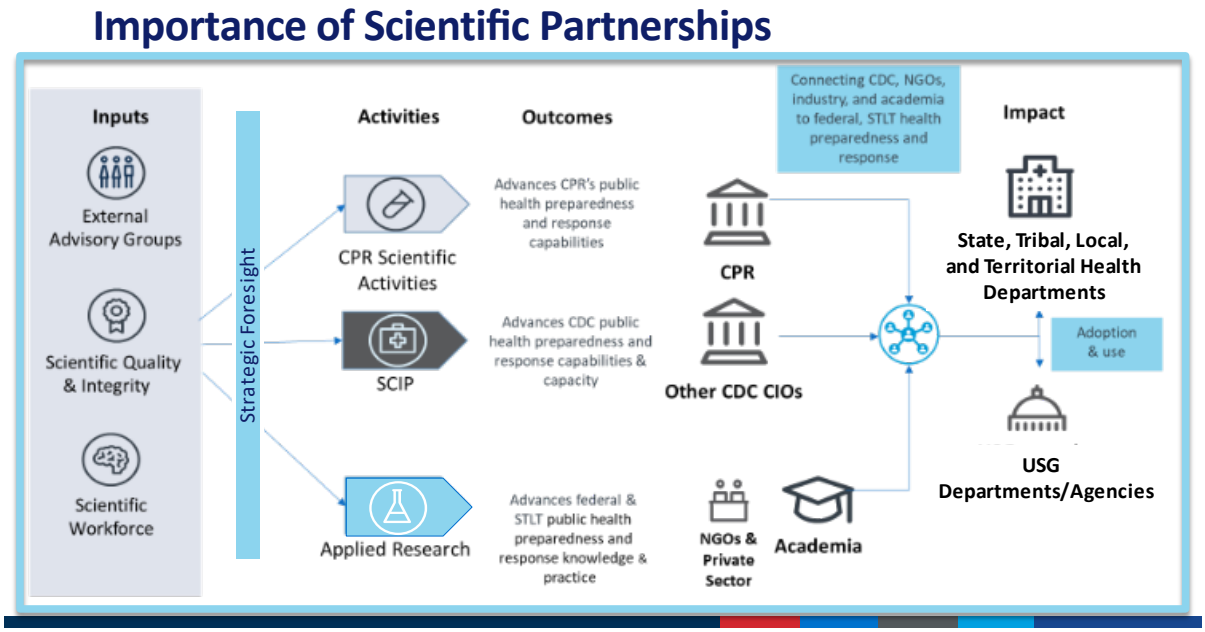

Figure 3. Importance of Scientific Partnerships

The strategic foresight work offers an objective framework by using past events, current trends, and interactions through underlying drivers of change to identify a wide range of potential future scenarios. It is not intended to predict the future but rather to challenge core assumptions, assess present capabilities, and think through options with a goal of establishing a foundation that will cause better positioning in the future. Through continuous scanning, early signals or trends can be monitored to determine likely scenarios. The implications can be used to identify strengths, weaknesses, opportunities, and threats that will guide programmatic decisions, investments, and the development of strategic partnerships. This will bring about resilience in an everchanging world and translate into actions such as:

- Inform the Strategic Capacity Building and Innovation Program (SCIP) priorities and science agenda development
- Direct internal and external partnership initiatives
- Resource allocation
- Strategic plans to disrupt the current path

The SCIP will support preparedness and response activities across the agency by suballocating CDC preparedness and response capability funding both long and short term. SCIP resources aid in developing people, processes, and the science needed for CDC to respond to public health emergencies involving chemical, biological, radiological, and nuclear threats. It advances epidemiology and surveillance, laboratory science, and MCM to improve CDC's preparedness and response capabilities and capacities in four areas:

- Preparedness

- Response Timeliness
- Response Situational Awareness & Communication
- Response Evaluation

OSPHP highlighted some of the accomplishments achieved by a few of the portfolios under its office.

The Epidemiology and Surveillance Portfolio currently contains 17 programs and activities funded across CDC.

- *Emergency Response Capacity & Workforce Development:* Incident Management Training and Development Program (IMTDP) has built incident management by increasing responder leadership to over 600% since SCIP supported the program beginning in 2018.
- *CDC Public Health Informatics & Data Preparedness:* System for Enteric Disease Response, Investigation, and Coordination (SEDRIC) is used to depict clusters and outbreaks of foodborne diseases in the United States. SCIP investment allowed SEDRIC to link food-exposure data to patient-level data in real time. This caused the discovery of food vehicles for infections in a fraction of the time normally seen in conventional epidemiology.
- *Surveillance & Reporting Systems for Preparedness & Response:* Near real-time surveillance of chemical, biological, and radiological threats in the National Poison Control Center Data identifies anomalies in call volume and exposures to 59 high-priority agents. From 2014 to 2015, four to seven anomalies were detected each day by CDC staff, which were relayed to state health departments for follow-up.

The Laboratory Science Portfolio has 21 programs and activities funded through SCIP across the agency.

- *Method Development & Manufacture of Diagnostic Kits:* SCIP funding has facilitated the chemical methods and biological diagnostic essay development at CDC for dissemination to state and local partners. This includes use across laboratory response networks for surveillance and kits for use during public health emergency responses and point of care tests for the Strategic National Stockpile.
- *Training, Proficiency Testing, & Exercises:* SCIP has facilitated the development and dissemination of trainings and exercises that ensure laboratory staff's proficiency and *safety.* In 2020, more than three dozen e-learning courses were developed, which reached over 35,000 learners.

The Medical Countermeasures Portfolio has been a key tool to ensuring effective storage and use of MCMs in public health emergencies.

- *Clinical Practice Guidelines:* These guidelines inform storage and use of MCM products within public health emergencies including shortage scenarios in all populations. Guideline products include anthrax, botulism, and Zika.
- *Tools and Products for Stockpiled MCMs:* Informational tools and products inform federal, state, local partners, healthcare systems, first responders and the public. They include algorithms to support deployment decisions for stockpiling assets and exercises to ensure jurisdictions can effectively plan for addressing the needs of children during an emergency.
- *Federal Preparedness and Response Support:* The portfolio supports the integration of CDC's MCM subject matter expertise and scientists into federal preparedness and response efforts, including through the Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) processes.

The Nuclear/Radiological Coordination Unit was established in January 2021 and engages subject matter experts from across the agency, including 55 individuals representing six CIOs. This engagement will last eight months and result in a collaborative document, intended for leadership, with prioritized suggestions of where work should be completed in the next three to five years. This is a pilot, and if it is successful, it will be implemented across all SCIP portfolios.

OSPHP also is working to address gaps in the field of public health preparedness and response. Its vision is a coordinated cross sector public health enterprise that collaborates to:

- Identify and prioritize public health emergency preparedness and response (PHEPR)science needs or gaps
- Conduct research and evaluation
- Translate, disseminate, and implement knowledge to practice
- Create measurable impact and monitor progress

The National Academy of Sciences, Engineering, and Medicine Consensus Study released in July 2020 includes 80 recommendations that delineate the need for a PHEPR national science agenda. One of the recommendations is for the development of a crosscutting research agenda. OSPHP's work is consistent with the recommendations. Its science agenda will focus on the practice needs of state and local health departments. It will also contribute to a broader CDC PHEPR agenda and perhaps a federal science agenda, which was called for in the report.

The CPR Science Agenda is designed to accomplish the following:

- Identify emergency preparedness and response research needs and priorities that address field-level gaps and improve state, tribal, local, or territorial (STLT) action through evidence-based practice
- Guide science investments that support STLT public health emergency practice
- Offer value to other investors and scientists in the field

OSPHP is currently engaged in an iterative process to develop the Science Agenda that will be used to establish short-term priorities that the offices and partners in the agency will expand into research, evaluation, translation, and dissemination projects. Below is an illustration of the development process.

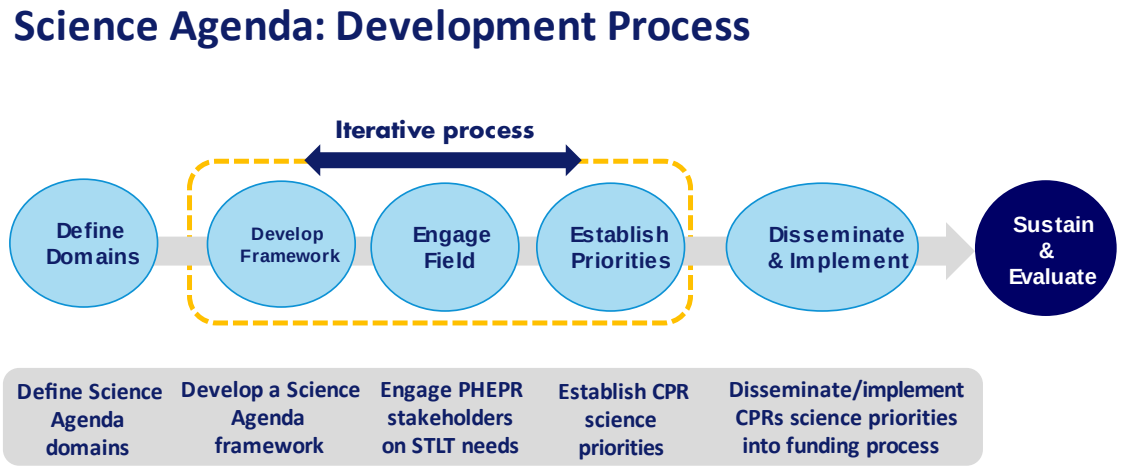

Figure 4. Science Agenda Development Process

The agenda is the overarching structure used to flesh out construct and establish priorities. There are five domains, which are recognized in the public health preparedness field and are consistent with PHEP capabilities. They also represent practice areas at the state and local levels. The domains are Community Resilience; Information Management; Incident Management; Surge Management; and Countermeasures & Mitigation. OSPHP has explored, as well as expanded, the Community Resilience and Incident Management domains using past science agenda literature reviews, formal and informal PHEP guidance document reviews, and internal and external subject matter expert input.

The agenda includes two process overlays. The first ensures the proposed topics and research questions are within CPRs scope. If it is within the scope, the burden of the issue, the need or gap being field, evidence, and potential impact or output on the field of public health is assessed. The feasibility of the project is also considered assessing time, funding, and administrative requirements.

The second overlay is designed to ensure health equity is considered at all stages. The agenda systematically incorporates six steps to improve health equity across STLT public health levels.

1. Develop, engage, and maintain diverse and appropriate partnerships

2. Identify important health disparities
3. Conduct science with a health equity lens
4. Change and implement policies, laws, systems, environments, and practices
5. Evaluate and monitor efforts
6. Re-assess strategies in light of process and outcomes and plan next steps

Four of the steps are from the Robert Wood Johnson Foundation. The two additional steps (1 and 3) were added by OSPHP. Again, this is an iterative process.

Most recently, the Association of Public Health Labs hosted three workshops, where more than 60 subject matter experts discussed eleven of the community resilience and incident management subdomains. Some of the topics included public health agency partnerships, responder safety and health, public health law and regulations, operations evaluation, corrective action, and public health agency support of community cohesion to support community resilience. Examples of themes related to these topics were shared with BSC. In the case of partnerships, themes captured were:

- Trust
- Value
- Systems understanding
- Connections across phases
- Role of academe
- Jurisdictional risk assessment
- Cross-sector partnerships/ break-down siloes
- Decision making
- Surge coordination
- NIMS and ESF8 Implications
- Roles, responsibility & authority

Themes for public health law and regulations were:

- Diversity and inclusion
- Sector differences
- Lack of evidence-based guidelines
- Laws that need to be relaxed in emergencies
- Cultural awareness/appropriateness
- Knowledge/awareness by leaders
- Legal authority
- Cross-jurisdictional differences
- PH law in broader emergency management law
- Roles, responsibilities & authority
- Health in all policies

The information gathered from stakeholders has generated a wealth of information for OSPHP to process into a clear set of topics.

Going forward, the office will establish clear priorities for FY22 and FY23 funding. It will also continue to work with a range of partners to predict the needs of public health requirements in 2025 and beyond. OSPHP is also working on additional domains and subdomains, such as MCM, nonpharmaceutical interventions for noninfectious diseases, and laboratory surge. The final plan for prioritizing topics is being developed and will be released annually. The office is also creating the evidence base to address future needs.

Before ending the presentation, two questions were posed to the BSC.

1. What partners need to be engaged to further develop the science agenda to foster large scale adoption of evidence-based preparedness activities and priorities that emerge from it?
2. How might we most effectively utilize the BSC (or BSC WG) in the development, validation, or promotion of the CPR Science Agenda?

- **Recommendations and Comments to OSPHP from the BSC:**
- The pandemic illustrated that people will not necessarily react in a way that is science-based. As scientific developments are made, think simultaneously on how the developments will impact people from a behavioral science perspective, how it impacts those currently infected by whatever virus or issue on the horizon at that time, and how those who are likely to be infected are addressing the issue. Also give thought to the worried-well (those who have nothing to worry about but are constantly concerned that they are at risk). Lastly, think about the disbelievers and the detractors. Whenever these scientific advancements are made, be sure to engage behavioral scientists or marketing experts, who can help sort through these factors.
- One of the needs at the state and local level with respect to equity is how to connect with members of communities that are not part of the usual circle or are the normal suspects. It is the hidden voice in community that is sometimes the most important and the most difficult to reach. Cocreation of solutions by affected communities is also important to think about in this domain.
- Talk with leadership at the state and local health departments to assess the nature of the emergencies they confront in their day-to-day practice. Is there an ability to expand the science agenda to better help state and local health jurisdictions deal with the crises they deal with routinely?
- There are several partners that should be considered: the social science disaster community; risk analysis and risk research and decision science; and those who work on climate change issues like the U.S. Global Change Research Program and the National Climate Assessment. The latter two can help in finding solutions to deal with the issues resulting from climate change.

- Engage academic partners from the public health research community, who can facilitate the practice-based research and evidence-based public health called for in the preparedness space. They can also make sure evidence is translated with fidelity.
- There are four subcommittees in the Biden-Harris COVID-19 Health Equity Taskforce. One of the committees works on data analytics and research. Reach out to the Chair, Dr. Marcella Nunez-Smith to see what the subcommittee has put together. Subject matter experts' feedback has already been collected. There may be some synergy there.
- David Williams, at Harvard or Dr. Camara Jones at UCSF are subject matter experts on disparities, racism, and the structural drivers. They can help with implementation particularly at the local and community level. Also consider reaching out to the Patient-Centered Outcomes Research Institute (PCORI). The models they utilize like the Community Based Participatory Research Model and the Citizen Scientist Model could also be fitting for the development process.
- One of the frustrations at the state and local level, particularly during the pandemic, is the issue of response timeliness. Time and time again, states and local public health agencies have been ahead of CDC in releasing guidance, with CDC releasing its version weeks late. This can impact the credibility and relevance of CDC's guidance. There needs to be attention given to tying evidence-based recommendations to a timely response.
- Rethink what evidence-based means. This is currently a VUCA (volatility, uncertainty, complexity, and ambiguity) environment, where there is no manual or a roadmap. There may not be an evidence base that can be applied from one locality to another. It is more about how to learn and adapt together. This requires a trusting relationship. You cannot undermine the trust by having poor timeliness. Even when the path is not clear, if the trust is there, along with robust communication and feedback loops, success can be achieved.
- Be sure to buy-in and support the priorities of those at the state and local levels.
- Possibly create a track list of what has been completed, what is of interest, and what is being used by practitioners, policymakers, and others so that utility can be assessed. Cross reference priorities with those of the National Academy of Sciences.
- Partners should put together all of their plans and priorities to move the agendas forward versus working in siloes. That is the only way to tackle the challenges that lie ahead.
- Individuals with mental health and substance use issues are often forgotten, and they should be a part of the public health lens. They require special effort during disasters.
- Determine ways to facilitate research in the midst of a disaster so contacts are made, and protocols are in place. This avoids health officers being hit with new requests for samples that may no longer be collectable.
- What is the structure in the middle of a crisis that will allow for a quick response? What is enough evidence before moving forward with action? How is the public communication brought into the process? Having answers to these questions will allow the agency to say here is what we are doing now, here is what we know, and here is what we are doing to find

out more. It will also let others know that this is interim guidance and will allow the agency to pivot quickly if there is an update to the science without losing credibility.

- Work with academia like Morehouse, who can provide some of their priorities and scientific agendas with regards to the health equity pieces.
- Continue to have conversations with HHS and entities like the Office of Minority and Health Equity and hear their best practices and priority areas as part of their scientific agenda. This can help both parties to leverage one another's work and create synergy on the scientific agendas.

Public Comment Period

No public comments made.

Meeting Recap and Action Items

Dr. Ian Williams recapped some of the themes and topics of the meeting. CPR's strategic plan was created with the idea to address many of the topics and questions that have arisen during the meeting's discussions, particularly those around future preparedness and health equity. As stated, this is an iterative process, so CPR will reexamine the plan with the recommendations and comments in mind.

The COVID response taught CPR that it has to be better prepared for future events, large or small. Significant planning and foresight need to consider the populations that are most likely to be disproportionately affected. The BSC is critical to the review of these plans because it provides an unbiased eye. Further progress will be shared at the next meeting, which will be held November 2-3, 2021. The Board is invited to submit topics it would like to see addressed for this meeting.

Dr. Williams reviewed themes captured during the meeting. They included the following:

1. Community resilience and health equity
2. Partnerships and relationship building across levels of government and communities, as well as other sectors like housing, education, and community-based organizations
3. The need for continued learning and improvement both during a response and through after-action reports in addressing gaps in public health and response going forward.

The Board was asked to provide additional comments, as well as topics it would be interested in hearing at the next meeting.

- The mental health implications are a crosscutting issue not only for COVID-19 but for every disaster. It not only impacts the community but also to the responders and administrators. There should be a strategic approach to ensure that lens in addition to health equity is also being addressed in future plans.

- By November, hopefully, an after-action review of the response to COVID and lessons learned can be discussed.
- As the after action is completed, assess how the response impacted all the other important projects of the CDC. Think through how to continue projects in the midst of a disaster and what type of surge capacity is needed for the EOC to facilitate that management so the event is not a complete distraction to other public health issues also occurring.
- Given the fact that pandemic planning has been conducted intently since 2006, it was surprising to see how unprepared the public was in terms of understanding the meaning of a pandemic. Political leaders were stating it would last a few weeks and then everything would be fine. A concerted effort needs to be made, not just by CDC but across government and up and down from local to federal, from a community resilience prospective. What needs to be done to better prepare the public from a mindset point of view?

Dr. Williams thanked everyone who helped planned the meeting. He welcomed any further feedback from the Board and looks forward to engaging with the members again in November, which will be a virtual meeting.

Meeting Adjourned

With no further comments, the meeting was adjourned at 2:33 PM EST.

CERTIFICATION

I hereby certify that to the best of my knowledge, the foregoing minutes of May 19-20, 2021 meeting of the Center for Preparedness and Response (CPR) BSC are accurate and complete.

_____/S/_____
Suzet McKinney, DrPH, MPH
Chair, Board of Scientific Counselors, CPR

__8/16/2021_____
Date

APPENDIX A: CPR BSC ATTENDANCE ROSTER

CPR BSC Webinar Meeting Attendance Roster
May 19, 2021 – May 20, 2021

NAME	AFFILIATION	PRESENCE (05.19.21)	PRESENCE (05.20.21)
Suzet McKinney	Chair and SGE	Via Zoom	Via Zoom
David Fleming	SGE	Via Zoom	Via Zoom
Octavio Martinez	SGE	Via Zoom	Via Zoom
Brent Pawlecki	SGE	Via Zoom	Via Zoom
Catherine Slemp	SGE	Via Zoom	Via Zoom
Kasisomayajula Viswanath	SGE	Via Zoom	Absent
Dawn Wooley	SGE	Via Zoom	Via Zoom
Paula Bryant (NIH)	Ex Officio	Via Zoom	Via Zoom
Kristin DeBord (HHS)	Ex Officio	Via Zoom	Via Zoom
Denise Hinton (FDA)	Ex Officio	Via Zoom	Via Zoom
Michele Askenazi (NACCHO)	Liaison	Via Zoom	Via Zoom
Benjamin Chan (CSTE)	Liaison	Via Zoom	Via Zoom
Christina Egan (APHL)	Liaison	Via Zoom	Via Zoom
Parham Jaberi (ASTHO)	Liaison	Via Zoom	Via Zoom
Laura Magaña (ASPPH)	Liaison	Via Zoom	Via Zoom
Jamie Ritchey (TEC)	Liaison	Via Zoom	Via Zoom
A.J. Schall (NEMA)	Liaison	Via Zoom	Absent

APPENDIX B: CPR BSC MEMBERSHIP ROSTER

DESIGNATED FEDERAL OFFICIAL

Kimberly Lochner, ScD
Deputy Associate Director for Science,
CPR Centers for Disease Control and Prevention
Atlanta, Georgia

CHAIR

Suzet McKinney, DrPH, MPH
Principal, Director of Life Sciences
Sterling Bay
Chicago, Illinois
Term: 8/6/2018 – 9/30/2021

MEMBERS

David Fleming, MD
Distinguished Fellow, Trust for America's Health (TFAH)
Bainbridge, Washington
Term: 11/7/2019 - 9/30/2023

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APPENDIX C: ACRONYMS

APHL	Association of Public Health Laboratories
ASPPH	Association of Schools and Programs of Public Health
ASPR	Assistant Secretary for Preparedness and Response (HHS)
ASTHO	Association of State and Territorial Health Officers
BSC	Board of Scientific Counselors
CC	Certificate of Containment
CIO	Centers Institute and Offices
CEFO	Career Epidemiology Field Officer Program
CP	Certificate of Participation
CPR	Center for Preparedness and Response (CDC)
CDC	Centers for Disease Control and Prevention
CRI	Cities Readiness Initiative
CSTE	Council of State and Territorial Epidemiologists
cVDPV	Circulating Vaccine-Derived Poliovirus
DEO	Division of Emergency Operations (CDC)
DSAT	Division of Select Agents and Toxins (CDC)
DSLR	Division of State and Local Readiness (CDC)
DSNS	Division of Strategic National Stockpile (CDC)
EOC	Emergency Operations Center
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FSAP	Federal Select Agent Program
GAP III	Global Action Plan III
ICC	Interim Certificate of Containment
IMS	Incident Management System
IPP	CDC Import Permit Program
LRN-C	Laboratory Response Network for Chemical Threats
LRN-R	Laboratory Response Network for Radiological Threats
MCM	Medical Counter Measures
PCWG	Polio Containment Workgroup
PEF	Poliovirus-essential facilities
PHEPR	Public Health Emergency Preparedness Response
PPE	Personal Protective Equipment
HHS	US Department of Health and Human Services
IMTDP	Incident Manager Training and Development Program
SBI	Small Business Initiatives
SCIP	Strategic Capacity Building and Innovation Program
SEDRIC	System for Enteric Disease Response, Investigation, and Coordination
STLT	State Tribal Local Territorial
USDA	United States Department of Agriculture
US NAC	US National Authority for containment
WPV	Wild poliovirus
WHO	World Health Organization