CENTERS FOR DISEASE CONTROL AND PREVENTION

CDC Advisory Committee to the Director (ACD)

Minutes from the February 7, 2023 Meeting

Contents

Advisory Committee to the Director: Record of the February 7, 2023 Meeting

The Centers for Disease Control and Prevention (CDC) convened a virtual meeting of its Advisory Committee to the Director (ACD) on February 7, 2023 via Zoom for Government and teleconference. The agenda included an overview of recent developments from the CDC Director; reports and updates from the Data and Surveillance Workgroup (DSW), Health Equity Workgroup (HEW), and Laboratory Workgroup (LW); and a presentation on the Public Health Infrastructure Grant (PHIG).

Welcome and Roll Call

Dr. Debra Houry (ACD DFO) called the meeting to order, welcomed participants, and noted that a closed captioning link had been provided in the chat box.

David Fleming, MD (ACD Chair) extended his welcome and called the roll, which established that a quorum of ACD members was present. Quorum was maintained throughout the meeting. The ACD Membership Roster is appended to this document as Attachment #1. The following potential conflicts of interest (COIs) were disclosed:

- Dr. Adimora: Receives consulting fees funds from Merck and Gilead and her institution receives funding from these companies for her research, but she had no COIs specific to this meeting.
- Dr. Nirav Shah: Serves on the boards of Kinsa Health and STERIS.

Dr. Fleming reviewed the agenda for the day and introduced Dr. Walensky, who provided an overview of current issues and events at the CDC.

Overview of Recent Developments

Rochelle P. Walensky, MD, MPH (Director, CDC) welcomed everyone and expressed her delight to join them for the first ACD meeting of the year, with the second meeting anticipated to be an in-person meeting in Atlanta in May. Dr. Walensky announced that Dr. Debra Houry is now the Designated Federal Official (DFO) for the ACD, replacing John Auerbach in that role. The CDC is grateful for Dr. Auerbach's service as the ACD DFO and wishes him well as he opens a new chapter. Dr. Houry has been serving as the CDC's Acting Principal Deputy Director (PDD) since the retirement of Dr. Anne Schuchat 18 months ago and also has moved into her new roles as the agency's Deputy Director for Program and Science (DDPS) and Chief Medical Officer (CMO). Dr. Houry will continue to serve as the PDD until Dr. Nirav Shah of Maine joins the CDC as the PDD in March 2023. Dr. Walensky noted that the agenda for the day was filled with discussions on what has been considered a deep dive into the LW's recommendations. She expressed deep gratitude for the leadership of the LW Co-Chairs, Dr. Jill Taylor and Dr. Joshua Sharfstein, and for the enormous work the LW members put into their proposed action steps.

Given the strong interest in the CDC's reorganization process, Dr. Walensky provided a high-level update of the CDC's reorganization process and progress. The organizational changes were developed by CDC senior leaders with extensive staff input through 10 Strike Teams focused on public health data, global health, advancing equity, science, policy, laboratories, and more. Taking their input into consideration, CDC submitted a proposed organizational structure to the U. S. Department of Health and Human Services (HHS). The prior structure and the proposed new structure were provided in a printout given to the ACD members. Ultimately, the proposed changes for the processes are to eliminate reporting layers, break down silos within the agency, put foundational public health capabilities first, and facilitate bi-directional communication and accountability.

The first change in the organizational structure will be the number of offices reporting directly to the Immediate Office of the Director (IOD). The Office of Public Health Data, Surveillance, and Technology (OPHDST) is being

created that will report directly to the Director as the CDC continues to move forward its all-of-agency Data Modernization Initiative (DMI) and bring the data infrastructure necessary to connect all levels of public health with the critical data needed for action. Data functions from the Center for Surveillance, Epidemiology, and Laboratory Services (CSELS) will move into this new office and the National Center for Health Statistics (NCHS) will report to the Director of this new office.

A new Office of Health Equity (OHE) will be created that also will report to the Director, which will help weave equity into all of the work done throughout the agency and improve accountability of the agency's shared equity goals. The Office of Science (OS) and the Office of Laboratory Science and Safety (OLSS) now will report directly to the OD. The *Morbidity and Mortality Weekly Report* (*MMWR*) and the Community Guide (CG) will move into the OS. OLSS will be elevated to report to the Director, which immediately will improve accountability for delivering timely information. The functions that support all CDC laboratories, quality management, regulatory oversights, safety training, support for state and local laboratories, the Deputy Director for Infectious Diseases (DDID), and the Division of Laboratory Systems (DLS) are all being centralized into the OLSS.

After the new structures are in place, Dr. Walensky will empower the Centers, Institute, and Offices (CIOs) leaders, such as Jim Pirkle, to move forward on other organizational changes in their own CIOs. The Office of the Associate Director of Policy and Strategy (OADPS) will be renamed the Office of Policy, Performance and Evaluation (OPPE), which still will report to the OD and now will include Regulatory Affairs (RA). The Center for Preparedness and Response (CPR) will be renamed the Office of Readiness and Response (ORR) and will report to the OD, which will create a centralized office to promote accountability and excellence for all readiness and response efforts. The new Center for Forecasting and Outbreak Analytics (CFA) will report to the Director of the new ORR.

CDC is consolidating the public health infrastructure and workforce activities of CSELS and the Center for State, Tribal, Local, and Territorial Support (CSTLTS) into a new National Center for State, Tribal, Local, and Territorial Public Health Infrastructure and Workforce. This new center will combine the critical functions related to supporting state, tribal, local, and territorial public health infrastructure (PHI), and workforce. The CDC awarded the first of its kind $3 billion grant to provide the people, services, and systems needed to promote and protect health in US communities. The new proposed center will centralize CDC's activities to further accelerate this work.

There will be a new Global Health Center (GHC) that will consolidate the work of the Global Health Coordinating Unit (GHCU) that includes the CDC's regional platforms as well as the Center for Global Health (CGH). Dr. Howard Zucker joined CDC in January 2023 in a new position as the agency's Deputy Director for Global Health (DDGH), with broad operating authority responsible for overall planning, direction, and management of CDC's global strategy in the U.S. and around the world. This position will have day-to-day oversight of the GHC and also will work directly with global health programs across the agency. A new leadership position, the Director of External Affairs (DEA), will be created in the Office of the Chief of Staff (OCS) to strengthen the agency's relationships across government, academia, non-profit organizations, and the business community and help outside organizations navigate and partner with CDC.

Dr. Walensky emphasized that the reorganization involved far more than "moving boxes," which is necessary but not sufficient. The restructuring will address long-standing agency-wide challenges, which will require changes across all of the CDC from the agency's structure to processes, to operations. In addition to the organizational changes, the CDC is improving its systems and processes. In January 2023, the CDC began its process of improvement implementation. Because the agency knows that "moving boxes" alone will not improve its processes, CDC also convened 21 Priority Action Teams to offer process improvement solutions. These teams included over 160 staff from across the agency who provided input in 5 key areas: sharing science

and data faster, translating that science into implementable practices, prioritizing public health communications, developing a CDC workforce that is ready to respond to future public health threats, and promoting result-based partnerships. There is a lot of work ahead in terms of implementing the advice of those Priority Action Teams.

In closing, Dr. Walensky thanked the ACD for working with the CDC to make the agency stronger and better-positioned to deliver its public health mission now and in the future. She expressed gratitude to Dr. Fleming for his leadership of the ACD and the ACD members for their extraordinary participation in the workgroups (WGs) and full meetings, and for their ongoing support. She is always grateful for the ACD's wise council and proposals to CDC on key topics and any wisdom they are willing and able to share.

Discussion Summary

Dr. Goldman expressed gratitude for all of the impressive work that Dr. Walensky is doing on behalf of the people of this country. She suggested that it would be helpful for the ACD members to see a diagram showing the changes in restructuring that already have been made by the CDC. Some of the work that the ACD is doing involves looking at the structure of the agency.

Dr. Fleming noted that all of the new organizations very quickly would become acronyms with associated pronunciations, so it would be helpful for CDC to provide a "cheat sheet" early on.

Dr. Walensky pointed out that coming into the agency from the outside, it took her some time to see what they were working with and the pros and cons of the existing structure while also hearing input from the 10 Strike Teams regarding where the agency should be headed. She noted that the ACD's meeting packets included before and after flow charts. In the "before" flow chart, there is a layer of offices called the Communities of Practice (CoP). The plan is to move away from that extra IOD layer, partly because it did not offer a full line of sight and accountability reporting into the IOD. The CoP structure created unproductive silos between the infectious and non-infectious sides of the agency. The other primary difference is the raising up of CDC's foundational public health key areas (e.g., laboratory, equity, workforce, and data) such that these key foundational areas are front and center in reporting into the IOD. It is anticipated that the CDC website will be updated by the end of February with all of the changes.

Mr. Dawes expressed gratitude to Dr. Walensky's for her insightful update and her continued commitment and leadership on health equity. He requested additional insight into what power and resources will be given to OHE moving forward.

Dr. Walensky emphasized that health equity was not an area on which she waited for Moving Forward. A lot of work had been ongoing on health equity when she joined the agency in terms of developing CDC's CORE (Cultivate, Optimize, Reinforce, Enhance) equity infrastructure. A total of 160 proposals were received indicating how the agency could make equity front and center. Part of the reorganization was to position the OHE to report into the IOD. There are areas where she wants to strike a balance versus having all equity efforts only in the OHE, given that equity efforts should be integrated into everything the agency does. In terms of best practices for Notice of Funding Opportunities (NOFOs), prioritizing the agency's equity work, and the latest science are important in the OHE. A position will be created and posted for the lead of the OHE soon.

Ms. Valdes Lupi noted that there was a general timeline in the slide deck that was shared in terms of the activities that Dr. Walensky outlined. Regarding the Strike Teams and process improvement activities, the timeline showed January-February, with a reference to an Executive Committee and an enterprise-wide kickoff. She requested clarification on the general process timeline of the activities for the 5 areas listed to give the ACD a better sense of the dates or key milestones for 2023.

Dr. Walensky said she anticipated that by the end of February, CDC would be fully functioning in the new organizational structure. She emphasized that under the new organizational structure, there may be further organizational actions that need to be taken at the center level. Individual centers have been asked to do that work now. It is understood that within CDC Moving Forward, in order to accomplish the structural process and procedure missions, people within the centers may have other changes that they would like to make. The 21 Priority Action Teams each made many recommendations, so they were asked to prioritize the most important processes and practices. Some priorities will need to be implemented immediately, some will take more time, and some will involve ongoing activities. While some of the partner outreach priorities can be achieved quickly, some of the other priorities truly will be heavy lifts. To provide an example of addressing a priority, one of the priorities in the communications area is to assess the CDC website. Americans are now using the CDC website in ways that they had not done previously. When Dr. Walensky arrived at CDC, the website had about 200,000 pages of content. To address this priority, the agency has embarked on a new project called *Clean Slate* that involves assessing all components of the CDC website to determine what can be archived, what needs to be converted to plain language and made accessible, and so forth. That work is anticipated to take close to a year.

Dr. Sharfstein expressed gratitude to Dr. Walensky for the difficult work involved in rethinking the agency, which seems like a back-to-basic reorganization to ensure that the foundational areas are strong across the agency. He appreciated her recognition that CDC is a laboratory agency in addition to its other charges, and the agency has to do that well. He observed that one issue that became obvious through the COVID-19 pandemic was that the CDC was challenged by a sea of misinformation in ways that Dr. Walensky's predecessors were not. The things people believe continues to be troubling. Almost everything the CDC releases gets distorted in some way and fed back into the information morass in a way that can undermine people's ability to ascertain what is right. Politically, that impairs the ability of people to support CDC if their constituents are being fed a steady diet of falsehoods about COVID-19, vaccines, and other activities. He asked for insight into the ability of the CDC to understand, respond, build bridges to get over the river of misinformation, and how that fits into the organizational restructuring.

Dr. Walensky stressed that the phenomenon of misinformation is deeply concerning to her. The CDC has a lot of work to do in terms of communications. The Office of Communications always fed directly into the OD. There is a lot of work needed to bolster and reorganize the Office of Communications. That work is currently underway in terms of not only the website, but also whether that office has the right structure of divisions and branches. One issue is that CDC's communication resources have not scaled up on par with the resources provided to the agency during the pandemic or otherwise. While CDC needs to and is addressing misinformation, if people are challenging government information to begin with, the CDC alone is not going to be able to tackle this. The agency is working with outside groups to better understand the sources of misinformation in order to cut it off as it is beginning to blossom. The CDC also is working to figure out its role in the misinformation. For instance, when there is a tragedy of a public figure and the cause of death (COD) is said to be due to the vaccine, what is CDC's role in addressing that? The agency may not necessarily know the COD. The CDC has engaged in many conversations about its role and responsibility with regard to misinformation. This must be a combined CDC agency-wide, U. S. Government (USG), academia, and industry effort.

Dr. Fleming noted that he has been engaged in communications work at the state and local levels and has found that misinformation rises to the top of state and local communicators' lists of priorities as well. In the effort to devise a way forward, it would be beneficial for CDC to work with them as well.

Dr. Morita observed that the proposed organizational structure made her nervous for Dr. Walensky, given the responsibility she would have to all of the spokes coming off of the IOD. She inquired as to whether the offices reporting directly to Dr. Walensky would have any authority that would help to eliminate some siloing that is occurring. Equity, laboratory, health data, surveillance, and technology are cross-cutting functions. Unless there

is some authority over the centers, siloing could continue to be problematic. In addition, she asked if/how the OPHDST relates to the DMI.

Dr. Walensky emphasized that it was not lost on her that a lot of spokes were coming into the IOD. Previously, the OD had a very small team. To bolster the IOD team, she added the positions of DDPS/CMO, DD/CSO, and DDGH. This increase in leadership will give her a larger and mightier team to help address the responsibilities coming from the IOD spokes. She explained that the OPHDST *is* the centralized data modernization effort and stressed that it is important to her from a DMI standpoint that all of the centers are on board. Similarly for the Office of Readiness and Response Program (ORR), the agency must have an infrastructure that allows people to be ready to respond—those responders come from the centers. Regarding the concern about authority and siloing, part of the work of the Executive Governance Board will be to address the agency's overall needs and the needs of public health. This must be done for the purpose of streamlining data and standardizing data collection to make it easier for the SLTS to provide data writ large.

Dr. Medows expressed deep gratitude to Dr. Walensky for continuing to work through what is difficult in the quietists of times and even more challenging when there are so many opinions, as well as for elevating important aspects of the agency, the intentionality behind it, and the acknowledgement that there is more to come.

Dr. Goldman expressed appreciation for Dr. Walensky's intent to bring more sophistication to CDC's communication efforts. Everybody has to do this in public health because public health has become a target. This cannot be fixed just by controlling communications. As a former government employee, she worries about elevating communications functions because to some extent trust in the government is fostered by people being able to hear from the experts within the government—the people who know what they are talking about even if they sometimes do not understand all of the words. She agreed that the intentionality behind all of the agency changes is wonderful but at the same time, where people are placed in an organization does not always fix the problems in the organization. She agreed that there has been too much siloing within CDC between infectious and non-infectious diseases as if those are completely different. Yet, the temptation is to create another silo. The problem with siloing is not always the organizational chart. It is the way people do or do not work well in teams across an organization. Any organization like CDC needs a lot of cross-cutting teamwork. The definition of "success" and what motivates people in an organization also are important. If success is having more people and a bigger budget, that is what people are going to fight for and they will not care about the health and wellbeing of the rest of the organization. While a scientist may not be a good manager, if the only way to be successful is to become a manager, the scientist might look to achieve that regardless of his or her abilities in order to gain a promotion and recognition. Repeatedly she has seen people who are fabulous scientists abandon their science so they can become an administrator and be recognized for that. Those who want to be recognized as individuals may not be good team players.

Dr. Walensky emphasized that this is why the agency needed to do the Strike Team work in parallel with the Priority Action Team work. She thinks that people come to work because they feel valued. The CDC is a science-based, laboratory-based, and response-based agency. They must ensure that people are feeling valued in their response-based work, including the person who books the overnight flights, the person who plans the logistics, the person who is in the field, and the person who is conducting the studies. These individuals need to feel trained and valued, as well as promoted for their response-based work. A lot has to do with having a CDC workforce that is ready to respond and with how performance metrics are organized.

Dr. Gary revisited a challenge discussed in previous ACD meetings pertaining to the disconnect or misunderstanding many people have about CDC's authorities. That is, there is an expectation of what CDC does or what people think CDC should do for which the agency may or may not have authority. She knew that CDC

was engaging in conversations on the Hill and elsewhere in recent months to provide education about this and wondered how that educational process was going.

Dr. Walensky noted that she has frequently said that they are going to do everything they can at CDC to bolster the agency's public health infrastructure and around the country in terms of laboratory, workforce, data, and equity. Plus, the work of Moving Forward will be done within the agency. There is still a critically important pillar of the things that CDC needs Congressional help and support to do. She would divide these into 4 categories: Data Authorities, Human Resources Authorities, Paperwork Reduction Act, and Vaccines for Adults. In terms of data authorities, CDC currently receives data in a non-standardized fashion through voluntary reporting. She still does not know who is vaccinated for COVID-19 in hospitals, even with the public health emergency in place. She is not confident that CDC will receive immunization data from every state at the end of the COVID-19 public health emergency. It took CDC 2 to 3 months to work out Data Use Agreements (DUAs) to receive vaccination data for the JYNNEOS vaccine. When in the precipice of a public health emergency, the agency does not want to be in the position of trying to work on DUAs. To be very clear, the CDC wants data to be privacy-protected and accessible and is looking to do this from a public health vantage point—not just at CDC, but for counties and across states so that people know what is occurring. In terms of human resources, if CDC is a response-based agency, what do the resources for that look like? The CDC had incredible team members who went into the thick of the Mubende, Uganda Ebola outbreak who did not receive hazard overtime pay. There are no tax deductions for loan repayments. These are the types of human resources authorities that are needed if CDC is to be a response-based organization. While exempt from some of this during the COVID-19 pandemic, the Paperwork Reduction Act does not allow the CDC to conduct studies or collect data in real-time. The agency was quickly able to funnel passengers to perform screening during the Ebola outbreak for people who are entering the US from Uganda but was unable to get the survey to receive the data from the states. If there was an environmental hazard such as release of a toxin or chemical spill, it could take the CDC months to get an approved survey for the potential damage that was done, which would be obsolete at that time. While there is a Vaccines for Children (VFC) program, the U.S. does not have the capacity for an adult vaccine program. The VFC has averted over a million infections and deaths in children and trillions of dollars since its inception in 1994. Not having such a comparable program for adults is probably why only 50% to 60% of adults are vaccinated for influenza each year. The agency currently is working on annual COVID vaccination efforts. Only about 20% of adults over 19 years of age have received every vaccine that they should. Many adults do not have access to vaccines due to being under-insured or uninsured.

Dr. Fleming reminded everyone that the job of the ACD members is to advise Dr. Walensky, and he encouraged her to reach out to them as needed. In terms of trying to break down silos within CDC, his experience has been that the centers are working on their own priorities at full steam and are often underfunded. Working across centers on some of these issues such as equity and data needs to happen, but it takes more work. He asked Dr. Walensky how she is advising her center directors in terms of the increasing workload that they will inherit as a result of the reorganization and the need to work in a more integrated way across the agency, which is going to take more time and energy at the center level.

Dr. Walensky acknowledged that certainly everybody at CDC is not like-minded on this issue. However, there is active energy to want to improve and to be better. People are motivated by some of these missions and goals in ways she is hearing have not happened before. In areas where there is a long menu of areas to improve, she has asked people to prioritize, strategize, and work together in a cross-cutting manner with different centers. It also is the case that people seem to be energized by the cross-cutting work. When people engage in work across social determinants of health (SDOH), it creates motivation. The equity work that was done in April 2021 to create the CORE infrastructure motivated and energized people who were exhausted due to the immense COVID response work. When people are committed to the work, they are willing to put time and energy into that place—even if it is extra time and energy they otherwise do not have, because they find value and

importance in that work. Regarding the issue of authorities, Dr. Walensky thinks that people do not recognize ways in which the CDC's hands are tied to deliver on things that they expect from the agency. The ACD members are helping to send those messages to their academic and political circles by transparently saying that the CDC does not have the authority to obtain the data that are needed. She welcomes that outreach because she does not think that even in the best of academic settings, CDC's authorities are obvious.

Dr. Martinez noted that one area he had not heard covered pertained to CDC's global priorities and relationships outside the U.S. with partners throughout the world.

Dr. Walensky emphasized that CDC's global mission is key and critical and is among the reasons the agency has a new Deputy Director in place. She loves traveling internationally because CDC is perceived as the gold standard. When a new public health agency is established in another country, they often look to CDC. She hears in ministry meetings and international meetings that meetings do not start without the CDC at the table. In terms of the many responses currently occurring across the world, CDC's ability to launch field epidemiology training programs is unparalleled. For example, all of the Field Epidemiology Training Program (FETP) graduates were working in the Ebola response. She personally thinks that CDC's global work is probably the most unappreciated incredible jewel the agency has.

Dr. Taylor stressed that the last thing the world needs is another pandemic, but she reads daily about isolation and detection of avian influenza virus (AIV) moving into the meat population in Spain. To put another pressure on the CDC, the agency needs to be ready and motivated to talk about the Laboratory Response Network (LRN). The LRN did not play a role during the COVID-19 pandemic but is essential in response to any outbreak of that potential magnitude.

Dr. Walensky indicated that AIV is high on her radar. She has been in touch with the agency's teams regarding surveillance and detection status, as well as U.S. Department of Agriculture (USDA) colleagues in terms of their work on detection in the avian population. In addition, she would be attending a hearing and briefing the next day on this topic.

Data and Surveillance Workgroup

Julie Morita, MD (DSW Co-Chair) presented an update on the activities of the DSW, the first of which was that the ACD recommendations submitted to the HHS were approved and accepted. As a reminder, the recommendations included 3 priority areas to improve essential data exchanges between healthcare and public health systems, which were as follows:

1. ***Define the minimal data necessary from core data sources with an emphasis on data quality, harmonization, and standardization.***

   CDC, in consultation with STLT partners, and with input from healthcare and federal agency partners, should:
   - Develop, publish, and regularly update a list of data elements that constitute the minimal data necessary for disclosure to CDC for public health activities, including response activities.
   - Work with STLT partners to develop a list of data elements that constitute the range of data necessary for disclosure to STLTs for the same core data sources.

2. ***Establish a public health certification program to promote the automated exchange of standardized and high-quality data for public health.***

CDC, in collaboration with STLT partners and the Office of the National Coordinator for Health Information Technology (ONC), should:

- Develop and implement a coordinated phased approach to certification which should start with expanded guidance for public health criteria, move to requirements, and ultimately advance to certification.

3. Implement a strategic approach to Data Use Agreements (DUAs) and frameworks that provide patient protections while also supporting real-time decision-making and response.

CDC, in coordination with STLT partners, should:

- Establish a proactive approach to DUAs and streamline the process, seeking to provide language on protecting individual privacy, and addressing other concerns like the use and re-release of data, consistent with laws applicable to each party, respectively.

Jennifer Layden, MD, PhD (DDPHSS, CDC) provided an update from a CDC perspective on next steps now that HHS has approved and accepted the recommendations. She said she was excited to see the HHS endorsement and approval of the recommendations. These represent strong and important steps to take to promote sharing and exchange of data across the public health ecosystem. Now that the approval is in place, the next step is to develop an implementation plan. Some ongoing work already is occurring around minimal datasets, particularly for case data as part of the case surveillance system. The CDC will need to work closely with state and local partners to develop standardized language and reach consensus on some critical aspects of DUAs and minimal data necessary, and to identify challenges and barriers and incorporate them into an implementation plan for standards certification. A lot of work has been done within the CDC to bring the teams together to work on the 3 recommendations and to work with partners.

Julie Morita, MD (DSW Co-Chair) next provided an update on the DSW's recent work. One of the areas in the DSW's Terms of Reference (TOR) that was of great interest to the group was the data science and information technology workforce. A related area that emerged as an outcropping of the conversations the DSW was having about how the workforce regarded the sustained funding challenges. Early on, the DSW heard a presentation from Dr. Pattie Simone, Director of the Division of Scientific Education and Professional Development (DSEPD) at CDC, to understand some of the current challenges the agency is experiencing. Dr. Simone identified the challenges of workforce shortages and increasing need for workforce training. The current supports and training were found to be inadequate to keep up with the technical needs of the workforce. The DSW members were then queried to get a sense of their priorities. The priorities that emerged from the DSW members focused on STLT workforce needs and the need to leverage the academic and private sectors.

In terms of the workforce itself, the DSW recognized that staffing needs must be quantified by category. There also is an opportunity to supplement the workforce through partnerships with the private sector, academia, and healthcare. Within that context, it also is necessary to better understand the public sector's capabilities compared to what is best suited for academia, healthcare, and the private sector. With regard to workforce training needs, the DSW identified that there is a need to define what competencies are necessary. While it is said that the workforce is inadequately trained and needs upskilling, the competencies have not been defined. Moreover, existing training programs need to be enhanced for existing and future workers. Partnerships with the private sector, academia, and healthcare also could help to address some of the workforce training needs as well. The DSW will delve into these issues that have arisen to identify which priority areas they want to bring forward to the ACD to discuss and consider during future meetings.

What emerged from the DSW's conversations related to workforce was a lot of concern about sustained funding challenges. There are concerns about the current levels of funding, given the enormous need for shoring up the data science and information technology workforce. While funds have been made available, they are not

sufficient to meet the needs of STLTs or the federal level. In addition, some of what is hampering the ability to utilize these funds is the anticipated "funding cliff." While there may be a lot of funding in the system currently, it is time-limited and there are concerns about how much can be invested in the workforce if funding is not going to be sustained for the long-term. The DSW just began delving into this topic and has identified areas that they first need to better understand, which include the following:

- Existing funding
- Funding approaches for enterprise services and resources, such as cloud services
- Challenges being experienced by STLT partners
- Models of sustainability from other federal agencies or sectors, such as authorities

In terms of next steps for sustainable funding challenges identified, the DSW planned to request an update from CSELS on the PHIG, which they would hear during this ACD meeting. In addition, they would like to have a clearer understanding about the CDC's Epidemiology and Laboratory Capacity (ELC) grant that is given on a regular basis to get a sense of how that fits in with some of the infrastructure funding. The DSW also would like to hear from the Association of State and Territorial Health Officials (ASTHO), the Council of State and Territorial Epidemiologists (CSTE), the National Association of County and City Health Officials (NACCHO), and the Healthcare Information and Management Systems Society (HIMSS) to better understand the funding challenges.

Discussion Summary

Dr. Fleming noted that he is fortunate to serve on the DSW and agreed that the gap is concerning in terms of the amount of financing available, how long it is available, and what needs to happen. He wondered whether some prioritization recommendations need to be made in terms of what needs to happen first.

Dr. Morita said she thinks this is critical. Situations with inadequate resources require prioritization. One recommendation to the CDC would be to quantify, categorize, and prioritize the actual needs. At this point, this would be difficult for the DSW because they do not have insight into the actual deficiencies.

Dr. Layden added that some good estimates have been made by HIMSS and CSTE pertaining to the cost of DMI modernization. The projected costs certainly are higher than the funds available. There is a continued effort to update these estimates to better understand the reality of the situation. The CDC often hears concerns from STLTs about investing in something without knowing their ability to sustain it long-term. One function of the proposed new OPHDST is to define a public health data strategy. One of the tasks that is thought to be critical is to outline the priority work for the next couple of years in terms of public health response readiness and the core mission of public health, recognizing that the funds and the bandwidth will not enable the OPHDST to do everything at once. In standing up the new office, the goal will be to disseminate the priorities and work with partners to support alignment on that. Consideration also must be given to what a sustained funding model looks like as increasingly more jurisdictions realize the reality that the costs are quite high.

Dr. Taylor requested that the Association of Public Health Laboratories (APHL) be included in outreach efforts, given that they can provide information about specific needs and quantification.

Dr. Valdes Lupi requested an update on the status of equity and SDOH measures being included as part of the minimal datasets. She also requested further information on how the work of the 2 new boxes of the proposed new OPHDST structure will get connected with the new structure for the STLT agencies.

Dr. Morita said that there was recognition of the need to include equity and SDOH measures as part of the minimal datasets. The following language was included in the report that was sent forward to and approved by HHS, "Health equity considerations, such as disaggregation of data by core sociodemographic characteristics, must be the center of defining minimal data necessary."

Dr. Layden indicated that some great work has been done in that space with STLT partners. The work of defining the minimal data has pulled in some data elements that have been identified as being consistent across various diseases, including equity and SDOH elements of health. In terms of working with the infrastructure of the new OPHDST, there will be close collaboration as they work on commitments to resources that would be allocated for infrastructure, alignment on guidance, alignment on messaging and coordination, et cetera. There also is the partnership with state and local jurisdictions to identify best practices and mechanisms to support that.

Dr. Goldman said that as a member of the DSW, she thinks the CDC understands the kind of overhaul that the DSW wants to see in how data are identified, collected, managed, and applied to the public in real-time. The DSW also understands that this overhaul is not cost-free and cannot be absorbed within the CDC's budget or within the budgets of state and local entities. They must determine what words need to use to help those at the policy level and others understand why this is critically important and why this investment has a good return on investment (ROI) for society. A sustainable system that might result from the visioning is only going to happen with the injection of more resources in the intermediate time to overhaul the current system. A considerable amount of activation energy is needed in order to establish a better and more workable system. At the end of the day, it is not going to be that expensive and this is the time to garner those investments. Not all shorter-term investments needed to transform the system are problematic. The problem lies in investments that support core staff who will be needed year after year to keep systems modernized and functional. This was demonstrated with the electronic health record (EHR). The amount of money that has to be injected at the beginning to transform how a hospital is doing its EHRs does not go on indefinitely, but even hospitals have to inject large investments into their processes at the point of transformation. The CDC and STLTs are currently at this point. One way that the DSW could be helpful would be to identify the short- and long-term funding that will be needed to sustain the systems and expertise needed at all levels, which is not in place.

Public Health Infrastructure Grant

Leslie Dauphin, PhD (Director, CSELS) thanked the ACD for allowing her to present and update on the PHIG program and the CDC's proposed new National Center for State, Tribal, Local, and Territorial Public Health Infrastructure and Workforce. She emphasized that CDC is embracing this big name because they think this new center has a very big mission, and they are excited about the next 5 years of work and the potential for strengthening public health infrastructure. The working definition they are using is that "Public health infrastructure is made up of the people, services, and systems needed to promote and protect health in every U.S. community." To be clear, the word "community" refers to the 50 contiguous states, Alaska, Hawaii, U.S. territories, freely associated states, and government-to-government relationships with tribes. The thread through every U.S. community is CDC demonstrating its strong focus on health equity in every initiative. Before delving into the details about the PHIG, Dr. Dauphin first highlighted some of the challenges CDC is trying to face with the establishment of the new center and development of the grant program.

For decades, neglect and under-investment in the public health infrastructure have caused challenges. Public health has existed in a cycle of crisis that highlights weaknesses in the nation's public health system and results in short-term investments flooding health departments, with no sustained funding to maintain the support that is needed—particularly with regard to the workforce and systems. Experts then examine the state of the public health system and highlight the need to strengthen it. This has occurred repeatedly. For instance, the Institute of Medicine (IOM) examined the 1988 HIV/AIDS epidemic and highlighted that this would be a challenge if the

public health system was not addressed.[1] Following 9/11 and the anthrax attacks in 2002, the IOM identified the same pattern (crisis, influx of funding) and once again noted the neglected health infrastructure and the vulnerabilities this presented for the nation's health.[2] In 2022, the U.S. Senate's Committee on Homeland Security & Governmental Affairs (HSGAC) published a report titled *Historically Unprepared: Examination of the Federal Government's Pandemic Preparedness and Initial COVID-19 Response*[3] about the nation's early response to the COVID-19 pandemic, with findings that recognized the need to support the nation's public health system. These are just 3 examples that demonstrate the cycle of under-investments, flood of investments during a crisis, and then identification of a need to really address the system. Specifically related to workforce, the de Beaumont Foundation and the Public Health National Center for Innovation (PHNCI) conducted a first of its kind analysis in October 2021 to estimate the number of state and local public health staff needs. This analysis highlighted that a minimum of 80,000 full-time equivalents (FTEs) need to be hired to provide minimal public health services.[4] The Trust for America's Health (TFAH) highlighted that the public health workforce has shrunk by nearly 56,000 positions, primarily due to the funding crises.

To address these issues that have been highlighted repeatedly, the CDC is making 2 major changes geared toward supporting and strengthening the nation's public health infrastructure. These 2 approaches do not impact the ongoing work that CDC does in its funded categorical areas to support workforce and infrastructure needs. The goal of the new National Center for State, Tribal, Local and Territorial Public Health Infrastructure and Workforce is to strengthen the public's health through effective and efficient delivery of public health infrastructure and workforce development services. The center will have 3 primary functions: 1) jurisdictional support, which includes CDC's broad and non-categorical grants and cooperative agreements that serve as mechanisms to provide funding support to jurisdictions and tribal communities; 2) partnership and technical assistance (TA), which includes the mechanisms CDC uses to fund its partners to move collective public health goals forward; and 3) workforce development. The CDC views the workforce as its most precious asset. The work of public health simply cannot be done without a competent and prepared workforce.

The new center will be a science-based organization focused on evidence-based solutions to push the agency's work forward. This center will focus on 3 cross-cutting scientific functions:

1) *Data Management* refers to the data related to reporting for grants and cooperative agreements and workforce-related initiatives. The workforce functions in this center focus internally in collaboration with CIOs across the agency and working closely with the Human Resources office on enterprise-wide approaches to strengthen the internal workforce, as well as support to state and local entities through fellowships, internships, training programs, and through investments made at the state and local levels.

2) *Systems and Infrastructure* refers to the process used for reporting and opportunities to improve those systems. The center's collaborative work with the DMI and with the new proposed OPHDST will be very helpful.

3) *Evaluation and Assessment* will be critical to demonstrate the impact and value of the work, the ROI, whether communities (CDC's primary customers) are being well-served, and contributions to the evidence base.

[1] https://nap.nationalacademies.org/catalog/1091/the-future-of-public-health
[2] Institute of Medicine. (2002). The future of the public's health in the 21st Century. Washington, DC: The National Academies Press. Retrieved from: https://www.ncbi.nlm.nih.gov/books/NBK221239/
[3] https://www.hsdl.org/c/view?docid=873516
[4] https://debeaumont.org/wp-content/uploads/2021/10/Staffing-Up-FINAL.pdf

To provide an overview of the grant program, the *OE22-2203: Strengthening U.S. Public Health Infrastructure, Workforce, and Data Systems Grant* is one of the many grants and cooperative agreements across the agency that support the workforce through categorical funding. This grant is one tool that the CDC will use to address the challenges mentioned earlier. This is a first of its kind grant for advancing foundational infrastructure and the workforce that is not tied to a specific disease or condition. The hope is that with this disease-agnostic 5-year grant program, recipients along with the CDC can work to lay a foundation for stronger public health infrastructure. In November 2022, the first major step was taken with the rollout of the NOFO to 107 jurisdictions and 3 national partners. Importantly, everyone who lives in the U.S. lives in a jurisdiction that receives some funding from this program. In addition to the 50 states, 5 territories, and 3 freely associated states, the grant also funds 22 cities and 27 counties.[5]

The grant is broken into Components A and B. The purpose of Component A is to directly support the 107 jurisdictions in strengthening public health capacity and systems, while the purpose of Component B is to support the 3 national partners that were funded to provide TA to the component A recipients. The center is working diligently with the 3 partners to evaluate and create a plan. The key strategies for the workforce include recruiting, retaining, supporting, and training the public health workforce. Along with this, the new center is working with colleagues across the agency to determine how these strategies for this grant program can complement strategies that already are underway that provide workforce funding. This is not the only mechanism used to look at funding the workforce. The other strategies revolve around foundational capabilities to strengthen the systems, processes, and policies. The third strategy relates to data modernization and deploying scalable, flexible, and sustainable technologies. Some guidelines of the grant are that state recipients must distribute at least 40% of their workforce funding to local health departments, are not to place additional administrative or reporting burdens on local health departments and are required to identify other cross-cutting sources of CDC funding received to determine how they might best support some of the foundational capabilities. This grant is intended to serve to support other sources of funding and investments in those areas. Although these are huge investments, the CDC knows that it is not enough. Thought is already being given to evaluation in terms of demonstrating ROIs and how these funds are supporting and serving as a bridge for other investment to make the most out of these resources. There are approximately 40 grants and cooperative agreements that have some component of workforce associated with them. Working together with these other mechanisms to show value is going to be important.

Component B has a narrow focus. The 3 national partners who received funding are ASTHO, the National Network of Public Health Institutes (NNPHI), and the Public Health Accreditation Board (PHAB). These partners are working together with additional partners through sub-awards to provide funding to support the recipients of Component A. The key activities are to provide Component A recipients with TA and capacity-building support for assessing and improving workforce policy and implementation, grant program evaluation, and grant coordination and communication. In terms of the grant timeline, this process began in January 2022 with numerous listening sessions that have influenced the center's work every step of the way in terms of development of the NOFO, engagement with partners to support programs in the development of their workplans, and development of strategies to evaluate the progress of the program. The final recipients submitted their work plans earlier in the week. The center will share work plans, performance measures, and success stories from the jurisdictions as they become available.

The key outcomes recipients are expected to achieve by the end of the period of performance are outlined in this table:

[5] cdc.gov/infrastructure

	Component A			Component B
	Workforce	Foundational Capabilities	Data Modernization	
Short-term Outcomes	Increased hiring of diverse public health staff	Improved organizational systems and processes	More modern and efficient data structure & increased data interoperability	Increased hiring & retention mechanisms available to Component A
Intermediate Outcomes	Increased size of public health workforce	Stronger public health foundational capabilities	Increased availability and use of public health data	Improved sharing of lessons learned

The program is flexible and broad. A key workforce component was that every recipient was required to have a Workforce Director who will be responsible for assessing the entire workforce needs, helping to develop their workforce plans, and working with CDC and the funded partners under Component B of this grant program to consider how to use these workforce resources wisely. During the listening sessions, they heard from stakeholders that broad, flexible, non-categorical funding is important. However, this also raises some risks. There needs to be a balance of having flexible funding while also making sure that there are some particular outcomes.

Evaluation is foundational to the measurement of ROIs and public health impact. Evaluation and performance measurement will allow the agency to track progress toward key outcomes, document successes and challenges, drive continuous improvement, and build evidence for interventions. They also will leverage data from existing assessments such as the Public Health Workforce Interests and Needs Survey (PH Wins), ASTHO Profile, NACCHO profile, and Public Health Accreditation Board (PHAB) assessments to reduce the burden on data collection and reporting on recipients and reinforce the value of those existing efforts. Performance measure reporting will complement other evaluation data and case studies, along with measuring ongoing workplan progress and financial reporting. There will be a limited set of process and outcome performance measures that Component B recipients will report on regularly. These measures will be finalized by Component B evaluation partners in the Spring 2023. While preparing for the finalized plan, the center is working closely with partners and engaging with other organizations to obtain input on the evaluation measurements. Draft examples of performance measures include, but are not limited to the following:

- Number of positions filled and retained
- Staff retention rate
- Proportion of public health staff who report satisfaction with their job, organization, workplace environment, pay, and job security
- Number and type of quality improvements to organizational systems and processes
- Percent of recipients who apply for accreditation/reaccreditation during grant period
- Percent of recipients accredited by Public Health Accreditation Board (PHAB)

Due to the high visibility of this program and the investments, the center is thinking ahead 5 years. There is an expectation that progress will be made and shown shortly. The program is thinking about how to show successes to gain sustainable funding to support the public health work in state and local health departments. The measurements will be used to assess the recipients' individual and collective progress toward the intended outcomes of the grant over time. This information, paired with the case study evaluation data, will be used to calculate the grant's overall public health impact. The new national center will have a focus on evaluation and

has established a small office that will focus solely on evaluation of the data that are submitted to assess the impact of the center's work. Measures of ROIs and customer satisfaction will be key factors.

In closing, Dr. Dauphin posed the following discussion questions to the ACD:

- How can we help to reduce the burden on U.S. jurisdictions that receive funding from CDC?
- What would be most helpful to demonstrate progress given the flexible nature of the grant?
- How do we build support for sustainment?
- How will the grant work with other sources of CDC state and local funding?

Discussion Summary

Dr. Fleming expressed gratitude to Dr. Dauphin for her incredible presentation; amazing work; and the energy, thought, and investment she is putting into the proposed new center's program.

Mr. Dawes expressed his delight in hearing that health equity is being embedded throughout the program. He asked what is being done to ensure that the resources provided by this grant are targeting disproportionately impacted and under-represented groups in the public health workforce, and what is being done specifically to embed health equity.

Dr. Dauphin indicated that specific language is included in the guidance for the workforce component, Component A1, that focuses on considerations for diversity, equity, and inclusion in the hiring process. The partners will be sub-awarding to other groups, which will offer an opportunity to make sure that the hired staff reflect the communities being served by these investments. Health equity is really about access. In terms of foundational capabilities, Component A2, provides an opportunity to think about strengthening the policies and systems that are critical to health access in communities.

Dr. Martinez inquired whether any thought had been given to creating a learning community for the grantees. This is a great model for accountability to each other, accountability in terms of health equity and diversity, and for sharing challenges and successes. There has been great success with a learning community in rural Texas.

Dr. Dauphin indicated that based on the work plans that have been submitted, some of the recipients are already thinking about having a learning community. This also is one of the ways the Component B recipients are thinking about providing TA and sharing best practices. The notion of sharing through CoPs or networks is going to be an element of this program.

Dr. Morita noted that she has been a beneficiary of learning communities as a CDC grantee and felt that this was incredibly valuable in terms of hearing about best practices, errors made, and lessons learned. She emphasized the importance of the proposed new center, which is so needed and appropriate, and congratulated Dr. Dauphin for being appointed to lead the center's work. Regarding the question posed about how to reduce the burden on grantees that are receiving this funding, the Robert Wood Johnson Foundation (RWJF) has been a strong supporter of public health accreditation for years. Having gone through the process of accreditation and re-accreditation in her role in Chicago, she sees the value and purpose of it. However, becoming accredited also is an incredibly burdensome process. She asked whether the center is working with PHAB to determine whether there are ways to streamline the process. In the midst of trying to rebuild an infrastructure and workforce, the thought of having to go through a burdensome accreditation process could be demoralizing to the cities and states that are trying to get through this process. She observed that in the description of the funding available, data modernization was identified as not yet funded and asked Dr. Dauphin to elaborate on that.

Dr. Dauphin indicated that the center is working with PHAB. There have been many discussions about the burden and challenge of obtaining accreditation. In the language and guidance for the grant program, there is not a requirement to achieve accreditation. There is language that encourages moving toward accreditation, which could be one area of measures for success of this program. There is a lot of flexibility in how recipients choose to use the funding to support foundational capabilities. Part of the function and scope within the proposed new national center is TA for public health accreditation and how to work with PHAB and other partners in thinking about that. The center has heard loud and clear through some of its engagement that measurement is extremely burdensome. Regarding Component A2, data modernization, funding was not listed on the slide because it has not rolled out yet. The nice thing about this program is that it is flexible, and a variety of funding sources can be used to go through this mechanism. The program committed to $40 million of FY23 appropriations for the DMI. The program is looking for opportunities to leverage support that already has been allocated for DMI, such as through the ELC cooperative agreement, to support that ongoing work through the funding that is allocated through Component A2 of this grant.

Dr. Goldman applauded the beginning of what she would call "core support" being allocated to states, with particular guidance to ensure that funding reaches the local level and special support is given to cities. This is a good beginning to minimize the bureaucracy and burden. There is still a lot of support from the CDC to state and local governments that is in silos that create bureaucracy and burdens, much of which is not necessary. Perhaps this is an area in which the ACD could make recommendations pertaining to streamlining the data collection process to make it less burdensome for states. There are many infrastructure needs that when people are engaged in unnecessary bureaucratic efforts instead of their jobs, that does not necessarily benefit the public's health.

Dr. Dauphin indicated that one of the priority areas in the proposed new national center is that they have identified collaboration across the agency as a core value. The center is committed to working with colleagues across the agency to address bureaucracy and burden and would like to convene a forum to look across all of the grants and cooperative agreements to identify opportunities to streamline reporting in terms of processes and systems. The center's internal work looking at systems and working closely with colleagues in the OPHDST to consider enterprise approaches is very important. The center welcomes any input from the ACD and others on ways to do this.

Dr. Valdes Lupi congratulated Dr. Dauphin on her new leadership role. Having worked at the state and city level, she really appreciated the partnerships and support when it was the Office of State, Tribal, Local, and Territorial Support (OSTLTS) and then CSTLTS. The commitment to work in an enterprise way across these 2 centers with the partners is very reassuring. Regarding the second question posed to the ACD regarding what would be most helpful to demonstrate progress, a community-based workforce emerged during the COVID-19 pandemic that was able to extend the response work of local and state public health partners. The workforce waxed and waned as the pandemic continued. Depending upon the jurisdiction, some community-based workers were able to become permanent hires. It is important to document the themes, strategies, and approaches that emerge from the jurisdictions that have been successful in making sure that the communities are reflected in the workforce. Dr. Valdes Lupi also requested clarification about the 40% sub-awards in terms of whether recipients would have flexibility to use the funds to work with community partners.

Dr. Dauphin clarified that the 40% sub-awards would be allocated to local health departments, which would have some flexibility in how they use those finances. While she was asked to talk about the new center and grant program, she emphasized that there are other efforts being made in workforce in terms of community-based work. For example, Public Health AmeriCorps is an initiative made possible through partnership between CDC and AmeriCorps that is funded through the American Rescue Plan Act in terms of health equity and is a pathway to public health workers. This program supports efforts to build a strong and diverse workforce that is

prepared to respond to the nation's public health needs. This program now has over 3,000 grantees. It is clear that hiring alone is not enough. A multi-pronged approach is needed in terms of the workforce that involves training, fellowships, internships, and through other pathways such as Public Health AmeriCorps.

Health Equity Workgroup Update

Daniel Dawes, JD (HEW Co-Chair), Monica Valdes Lupi, JD, MPH (HEW Co-Chair), and David Fleming, MD (HEW Member, ACD Chair) provided the HEW update. Mr. Dawes reminded everyone that the HEW was established to help Dr. Walensky and the CDC leadership as a whole meet their objective of actualizing health equity. The HEW is comprised of 21 members, consisting of 11 ACD members and 10 additional members with expertise in population groups that are disproportionately and disparately impacted across the U.S. Members were selected with the intent to ensure that there would be different geographic, racial, and ethnic, disability, LGBTQ (lesbian, gay, bisexual, transgender, and queer/questioning), age representation, and so forth. To better manage the HEW's charge, 3 task areas were created that are outlined in this table (not in prioritized order) along with their ACD lead and members:

TASK AREA #1	**TASK AREA #2**	**TASK AREA #3**
Enable and assure the meaningful involvement of communities in agency decision-making, the development of health equity policies, program implementation, and evaluation	Align, and restructure as necessary, CDC policies, resource allocation, and program practices so as to maximize the ability for staff and partners to address health inequities in their day-to-day work	In concert with communities, take immediate and decisive action to expand, embed, and integrate approaches to measure and influence drivers of health equity across all public health programs
ACD Lead: Daniel Dawes	**ACD Lead:** Monica Valdes Lupi	**ACD Lead**: David Fleming
Members	**Members**	**Members**
David Brown	Nafissa Cisse Egbuonye	Ada Adimora
Delmonte Jefferson	Octavio Martinez	Michelle Albert
Maria Lemus	Rhonda Medows	Philip Alberti
Bonnie Swenor	Julie Morita	Cary Fremin
Bobby Watts	Mysheika Roberts	Rachel Hardeman
	Paula Tran	

Ms. Valdes Lupi provided an update on the HEW's work thus far and the plan for moving forward. The Draft HEW report pertaining to Task Areas 1, 2, and 3 was conceptually approved during the last ACD meeting in November 2022. Since that time, she, Mr. Dawes, and Dr. Fleming have reflected on being more specific with some of the HEW's work and needed more time and information. The discussions centered on the HEW providing additional specificity for the recommended actions for Task Areas 1 and 2 to make the language more concrete in order to help facilitate implementation and operationalization of the recommendations. The HEW will provide an update on this effort during the Spring 2023 ACD meeting. This will create some opportunities for the HEW potentially to work with the CDC Office of Financial Resources (OFR) and the Office of Grant Services (OGS) to ensure that the recommendations are as specific as possible for implementation by CDC within the new organizational structure Dr. Walensky described earlier in the day. Task Area 3 was completed and was ready for HEW to recommend for implementation by CDC, pending a vote by ACD to move forward. The HEW's understanding was that the Task Area 3 recommendations were specific enough that their CDC colleagues would be able to move forward in implementing each of them.

Dr. Fleming shared a high-level recap of Task Area 3, which the HEW brought forward for a vote during this meeting. He explained that while the language was slightly streamlined since the last ACD meeting, it was very

similar to the last approved draft. The basic concept of Task Area 3 is to urge the CDC to adopt an agency-wide approach to working on health equity. The proposed recommendations put forth for a vote for Task Area 3 were divided into 2 Action Steps as outlined below.

Action Steps for Consideration: Task Area 3, Part 1

1) CDC should immediately initiate a coordinated, agency-wide approach to identify and implement measures of underlying drivers of equity and health equity in ways that make them accessible and useful to communities and public health programs. *
   - CDC should lead a process to synthesize the current state-of-the-art of measurement of upstream drivers of health equity.
   - CDC should initiate a process with key partners and stakeholders to assess the feasibility of, and opportunities for, developing and using field-tested and consistent methods and measures across programs and jurisdictions.
   - CDC should assure the development of indicators that includes asset- and solution-based measures of individual and community equity and health equity.
   - CDC should focus special attention on identifying and developing measures that can be timely, locally available, and as granular as possible.
   - CDC programs should promote, and enable through program funding, the incorporation of measures of health equity into the monitoring and evaluation of all public health programs.

Action Steps for Consideration: Task Area 3, Part 2

2) CDC should immediately initiate a coordinated, agency-wide approach to develop and integrate strategies to influence the effects of drivers of health equity across the entire range of its public health programming. *
   - CDC should align and integrate the internal organization and leadership of its Health Equity and Social Determinant of Health activities to assure coherence and synergy of approaches.
   - CDC should promote and enable across all programs funding the routine assessment and mapping of the effects of the drivers of health equity on the health and well-being of affected populations.
   - CDC should promote and enable across all program funding, identifying, and incorporating strategies to improve project outcomes by modifying the most important and influenceable dynamics identified in the assessments above (in bullet #2 above).
   - CDC should assure that this suite of promoted and funded strategies routinely includes asset-based approaches directed at individual, as well as system, policy, and environmental drivers of health equity, including civic engagement strategies.
   - CDC should assure that measurement of these efforts and their effects are routinely incorporated into project and program evaluation.

Additional details in full report

Discussion Summary

Dr. Sharfstein pointed out that one challenge for CDC in trying to implement these action steps is that a lot of these factors are not directly part of the CDC's orbit and may not even be part of HHS's orbit. He wondered if there is a way to address that and how the CDC becomes engaged in the work of other departments in the federal government or private sector to accomplish some of these goals that relate to the fundamental drivers of public health.

Dr. Fleming added that this also is an issue at the state and local levels. In the fine print of the recommendations, HEW tried to address this by pointing out that many of the interventions fall in other domains within HHS agencies or more broadly in areas such as transportation. The report recommends that the CDC take a leadership role at the federal level in convening those appropriate groups and establishing the appropriate liaisons between the CDC and the other parts of HHS and the federal system that are actually needed. This also should be part of the program funding that goes down to states and local health departments

to assure that the public health perspective is included in the work of other agencies that are fundamentally working on these underlying determinants. This is not simple and will require additional work.

Dr. Medows emphasized that everyone has a responsibility to integrate and coordinate, even outside their so-called silos. She believes that is where there is a major misstep. Until everyone owns that responsibility, it will not be done.

Dr. Goldman added that the only way to create more collaboration across all of the various entities is to take responsibility. While she believes that this is a great starting point for the CDC to begin to tackle, it cannot be accomplished by the CDC alone. The CDC has processes for collaborating with state and local health departments and agencies. She recalled an example from years ago when environmental public health surveillance started. Most of those data were within the environmental agencies and some of them were only federal. While CDC gained increasingly more of that information over time, it still is not at the level it should be. There is more progress to be made. Task Area #3 needs to be viewed as a process that will be kicked off versus an ACD vote that will be followed by this just happening.

Dr. Sharfstein stressed that the point was not that just because the CDC is not in charge of all social policies, this is not the right direction. He thinks this totally is the right direction. It is just that a critical part of what the CDC can do is to use the types of analyses that Dr. Goldman mentioned to become relevant to other conversations and pick up on whatever strand there is of interest and engagement in other areas for this. It is going to be very important to move beyond the measurement into the action.

Dr. Fleming expressed hope that other areas can be embedded in the thinking that goes into the measurements and actions the HEW is recommending.

Dr. Morita appreciated the action steps and thinks that they are necessary. While they recognize that the CDC alone cannot address these issues and needs to be able to work with other federal agencies to be able to do this work, she did not know whether the CDC had been asked to play this type of role explicitly by anybody. These action steps make clear that the ACD thinks that that the CDC could play a major role in this way and has an expectation and desire for the CDC to take these steps—not that it will be easy or that everybody will embrace it, but it is important to put it in writing.

Dr. Houry indicated that the CDC has done a lot of this work within its SDOH efforts, and she agreed that not everyone believes that the CDC or public health is the convener. However, in her mind, there is a great opportunity for public health and the CDC to be a convener across different disciplines. This makes sense to her and is something the CDC is supportive of, and she is delighted to consider how the agency can focus more on social determinant drivers of health equity and think broader. She expressed gratitude for the HEW's thoughtful time on these action steps

Vote

Mr. Dawes made a motion for the ACD to adopt the action steps as proposed, which Ms. Valdes Lupi seconded. The ACD voted unanimously to move forward the action steps for Task Area 3 as recommendations to HHS and the CDC, with no dissentions or abstentions.

Areas for Additional Specificity: Task Areas 1 and 2

Mr. Dawes indicated that the HEW also has been working diligently to provide additional specificity for recommended actions for Task Areas 1 and 2 and in doing so, categorized specific areas and developed some questions to help accomplish this objective. To delve deeper and provide more specificity, the HEW has been meeting with the CDC.

For Task Area 1, the HEW is focusing on the current rules, policies, and practices related to community engagement and community participation. This is an especially sensitive topic for some people. For instance, he recently moved to Tennessee where there is an issue with the Tennessee Department of Health deciding not to take CDC funding for HIV/AIDS work. This makes it unclear how to ensure that the people who are closest to the pain and the problems of many of these public health issues get the resources they need. Some of the questions/observations the HEW will be asking CDC colleagues to provide more clarity on with regard to Task Area 1 include:

- What are options for community engagement and input (e.g., FACA, other advisory boards, listening sessions, other types of committees)?
  - It is important to understand that to advance and ultimately achieve health equity, changes to CDC structures, processes, culture, and policies are required.
  - What needs to be changed in order to effect positive changes to allow for the advancement of health equity, the prioritization of community engagement, and increased funding and resources to non-governmental entities that are working to bolster health equity?
- What are concrete ways for communities to contribute to decision-making and practices?
  - Can CDC organize community-based listening sessions prior to releasing NOFOs to help inform developing NOFO language?
  - Does the CDC have the ability to build in approaches to STLT programs that help integrate communities in decision-making and resource allocation through NOFO requirements?
  - How much flexibility does CDC have in the application or NOFO process and as part of an extended timeline to require community participation?
- How can we understand and influence authorizing language limitations?
  - Does Congressional language explicitly preclude or explicitly limit funding to certain entities, specifically non-governmental entities?
  - How do CDC's Congressional liaison and other staff work with Congressional staff in developing appropriations and authorizing language for bills?
  - It will be interesting to see how the new position of Director of External Affairs that Dr. Walensky mentioned earlier will be working, influencing, and ensuring that appropriations and written language are inclusive.
  -

Ms. Valdes Lupi explained that the questions for Task Area 2 are centered on exploring specific business practices and administrative rules that guide resources and funding mechanisms for community-based organizations (CBOs). Some of the questions/observations the HEW will be asking CDC colleagues to provide more clarity on with regard to Task Area 2 include:

- What are current business practices and administrative rules that guide resources and funding mechanisms for CBOs?
  - What is the current status of funding that is provided directly to CBOs or community funding? Is CDC tracking this? How much of the funding is going to CBOs across the agency?
  - Which programs are mandated because of authorizing language to go through governmental public health at different levels?
- How do CDC and its various programs and divisions determine whether funding will be distributed competitively or will be formula-driven?
  - Is there any flexibility in influencing competitive criteria?
  - For instance, could the CDC require certain demonstrated partnerships with CBOs?

  - Beyond providing a list of community partners, how can CDC gauge true, authentic, and meaningful partnerships with CBOs?
- Are there opportunities for CDC to scale exemplars like 2103 Health Equity, SDOH, or Ryan White?
  - When the HEW began this process learning about CORE, there were colleagues from CDC who were able to share exemplars that currently exist.
  - There also are HHS sister agencies like the Health Resources and Services Administration (HRSA) that has a robust Community Advisory Board (CAB) mechanism for funds allocated through the HRSA Ryan White HIV/AIDS Program.
- What business practices and structural barriers limit the CDC's ability to provide community funding?
  - What are the rules? Are they in statutes, administrative policies, or procedures?
  - Where are opportunities to allocate funds to community-based partners?
- What mechanisms exist for TA and capacity-building support for CBOs?
  - Is there any flexibility or ability to restrict or limit payment for different financial models in terms of the payment structures of various grants (e.g., cooperative agreements, contracts, et cetera)?
  - How does the CDC partner or work with CBOs beyond what the state and local level health departments might be doing to promote funding opportunities? It is not clear whether CBOs understand or are aware of opportunities that they might have to partner with their local health departments to build a future workforce, such as through the 40% example in the PHIG.

Discussion Summary

Task Area #1

Dr. Houry suggested that it would be helpful to give CDC guidance with examples to help understand where there are levers at the state level versus the federal level and to help unpack where some of the barriers are. If it is an artificial or state barrier, CDC can work within that to see where there are flexibilities or changes that can be made. Federal- and Congressional-level barriers are harder for CDC. However, understanding it and being able to drill down is very helpful. The more that the HEW can help guide the questions, the greater the ability for CDC to pull the data and information for the HEW.

Dr. Sharfstein thought the topic was great to focus on because the processes are often boilerplate. Yet, they represent an untapped opportunity. Perhaps thought could be given to asynchronous ways for people to contribute in writing or via video if they are unable to attend an advisory board meeting or listening session. It is vital for the public to be able to participate. There may be certain policies for which it would make sense for the CDC to propose in draft for comment. Typically, people obtain input and apply it, but there is a great possibility that the applied input will miss some of the major issues and then the public gets upset afterwards. One way to do this that would keep things moving forward would be to propose ideas simply for comment, even if it is not done as a Notice for Comment or Rulemaking for which a proposal is required. An example would be to state grant criteria upfront before publishing it in order to allow groups to give input. This way, negative issues can be dealt with in advance. He considers proposals to be a backdoor way to do community engagement. On top of that, it could energize the proposal, make clear everyone's position, and allow the CDC to make a final decision with full knowledge of the landscape.

Ms. Valdes Lupi noted that the spirit of these 2 Task Areas is to open up opportunities for resources to be allocated to a more expansive group of grantees. As Dr. Dauphin explained with regard to the 40% funding, the majority of funds do flow to state and local health departments and directly to some large cities.

Dr. Goldman suggested bringing in people with lived experience of what these processes look like and the burdens that they create, which are considerable in proportion to the budget that some small organizations have.

Dr. Lupi indicated that this suggestion arose when they met in-person last summer and heard from their Colorado colleagues who attended about a specific issue pertaining to direct payments, especially for non-profits because many times grants are set up with states and cities on a cost-reimbursement structure. Questions arose about whether that is required or necessary. The suggestion about the lived experience and meeting real people who are receiving grants and leading non-profits is important to inform the recommendations that the HEW will be making.

Task Area #2
Dr. Medows agreed with how everything was laid out for Task Area #2. She wondered if/how feedback could be obtained from the grantees and sub-grantees who are receiving the funding and the public who are receiving the services. There is no set way to obtain input from the public in communities. There is no intentional, built-in, and required process to gain feedback, particularly with health equity work. It is not only about whether the grant should be given, but also is about the effectiveness of the resources provided.

Dr. Valdes Lupi said she was much more familiar with obtaining feedback at the state and local levels. Feedback on how the resources are flowing to actual communities is very important. As Dr. Dauphin mentioned earlier, communities are the customers. This is an important point about how CDC can gauge the effectiveness of funds as they are being implemented. The HEW will make a point of that.

Dr. Morita expressed appreciation for the way the HEW was diving deeper to get more specific about the focus of each task area. She suggested that an opportunity for overlap between Task Area 1 and 2 had to do with identifying exemplars. Ryan White is a great example of an exemplar for both funding and community engagement because of the expectations for engaging with people with lived experience as part of the decision-making for allocation of resources. The Ryan White example might also serve as a good model for how to carry out community engagement in a way that informs decision-making in addition to distribution of resources. This also ties into Dr. Medows' point of garnering input from the community.

Dr. Lupi invited ACD members to provide other examples to her, Mr. Dawes, and Dr. Fleming, including offline later. There are other examples such as Healthy Start. The city where she was previously had a community coalition. However, this differs from legislation pertaining to the CABs that were written into law in the Ryan White legislation.

Dr. Morita added that the community health needs assessments that public health agencies are conducting throughout the country use community-engaged approaches to hear from the community directly when building out their improvement plans about what needs to be prioritized, what is working well, and what is not working well.

Laboratory Workgroup Report

Debra Houry, MD (ACD DFO) reminded everyone that in FY2020, Congress directed the Secretary of HHS to establish a Task Force that included participation from outside stakeholders and subject matter experts (SMEs) to evaluate what contributed to the shortcomings of the first COVID-19 test and what policies, practices, and systems should be established to address these issues in the future. Through an agreement with HHS and Congress, the ACD, through the LW, has served as the Task Force as requested by Congress. CDC welcomed the in-depth review the LW conducted of the agency's laboratory policies, practices, and systems under the direction of Co-Chairs Drs. Jill Taylor and Joshua Sharfstein. She stressed that CDC was looking forward to hearing the presentation of the LW's work over the last 6 months and expressed gratitude to the LW and the CDC staff who provided a lot of time and input into what she believes will be a comprehensive review, action steps, and discussion.

Joshua Sharfstein, MD and Jill Taylor, PhD (LW Co-Chairs) presented the LW's background, findings, and proposed action steps. Dr. Sharfstein emphasized that the CDC was remarkably open throughout this process, which was very much appreciated and reflected the spirit the agency's leadership has for figuring out what the issues are so that they can be addressed. CDC already has taken some steps. The LW had a number of conversations with CDC as the LW was doing its work and CDC is unquestionably moving in the direction of the recommendations to be presented during this session. The purpose of LW is to provide advice and work products for the ACD, CDC regarding the effective implementation of CDC agency-wide laboratory quality improvements across the agency to meet CDC's goal of ensuring the agency's laboratories maintain a gold-standard level of quality using advanced laboratory science. The LW is comprised of state, private sector, academic, and public health laboratory leaders, as well as various public health experts.

The LW's TOR #5 focused on addressing the FY2022 Congressional language in which Congress requested the establishment of a Task Force to evaluate factors contributing to the shortcomings of CDC's first COVID-19 test as well as policies, practices, and systems that should be established to mitigate future issues. To evaluate these issues, the LW met with experts within and outside of the CDC, requested and reviewed many documents from the agency, and developed a draft report of findings and action steps. In terms of the background of what the LW knew going into this, there were 3 known and well-described failures in the first iteration of CDC's SARS-CoV-2 test:

1) The N1 probe was contaminated by the positive control because there was no actual virus in the CDC's possession while making the test. The CDC had to manufacture the positive control to demonstrate that the test worked. That contaminated one of the probes, resulting in false positive results.

2) The N3 probe, which was binding to a different part of the virus, was poorly designed leading to false positive results.

3) The Quality Control (QC) step did not detect these failures before the test kit was sent to public health laboratories.

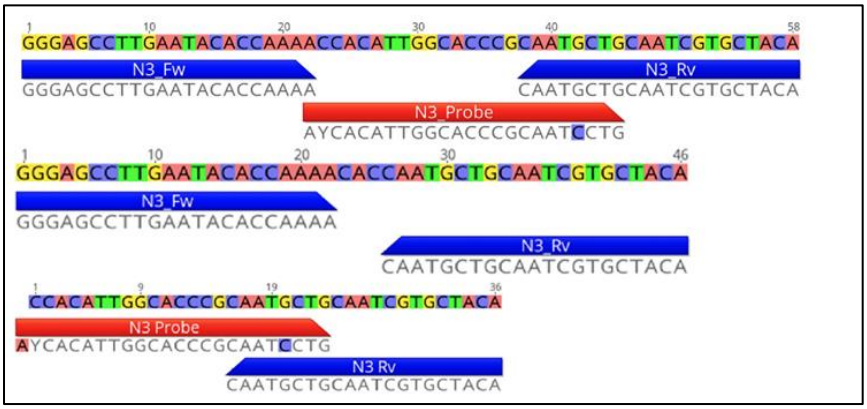
The N1 probe was known to be contaminated by what the CDC itself manufactured as the positive control because that positive control had a certain genetic signature. Table 2 below is from a CDC paper published in PLOS One[6] that illustrates the N1 problem. CDC analyzed 3 lots of the initial diagnostic panel that included the EUA-kit that was sent out, the pre-EUA lot that was used internally at the CDC for diagnostic testing, and a commercial EUA lot that was manufactured outside of the CDC. The CDC sequenced the false positive amplification product and then looked for template contamination. This table shows that 34% of the PCR products showed contamination by the positive control, but only in the EUA kit. Since there was no contamination found in the pre-kit and commercial EUA-kits, this was evidence that the N1 probe was contaminated in the EUA-kits that were sent to the state public health laboratories.

Table 2. Sequencing results of RT-PCR products demonstrated the source of false reactivity in N1 and N3 components.

RT-PCR Components[i]	Reagent Source[ii]	% Reads Mapped to Reference[iii]	% Template Contaminant[iv]	% Reads Mapped to Oligonucleotides	% Reads Involving Probe[v]
N1_pc (n = 1)	EUA-kit	96%	nd	4%	<1%
N1_fp (n = 2)	EUA-kit	nd	34% (0%)	66% (0%)	<1% (0%)
N3_fp (n = 2)	pre-EUA	nd	nd	98% (1%)	51% (2%)
N3_pc (n = 1)	EUA-kit	42%	nd	58%	<1%
N3_fp (n = 14)	EUA-kit	nd	nd	>99% (0%)	37% (4%)
N3_fp (n = 6)	Commercial	nd	nd	94% (6%)	43% (10%)

[6] https://journals.plos.org/plosone/article?id=10.1371%2Fjournal.pone.0260487

The N3 probe had a different challenge based on the science CDC has put forward, which was that the probe essentially could bind to itself, as seen in the image below from the PLOS One paper. The N3 probe could bind in a certain way that could create a false positive result, demonstrating that the design of the N3 probe itself was an issue.



The data concluded that there was 51% false positives for the pre-EUA kit, 37% for the EUA- kit, and 43% for the commercial kit. The problem of false positives occurred in all three kits, showing it was an inherent issue in design and not a problem of contamination.

The third issue was that QC procedures should have caught the first 2 issues with the N1 and N3 probes. A CDC Root-Cause Analysis (RCA) identified that specifically, an "incorrect" QC testing procedure used initially to evaluate the final EUA Test Kits was unable to detect the non-specific amplification observed with the N3 molecular target when used with samples that should be negative. When the "correct" Final Kit QC procedure was performed, 1 of the 3 NTCs (33%) was positive with the N3 molecular target, which should have been negative. The available information indicates that the 33% QC failure results were accepted and the EUA Test Kits, which already were dispatched to the International Reagent Resource (IRR), were not recalled.

The LW asked the question, "What were the causes of the causes?" The science the LW reviewed was very compelling and straightforward, but they wanted to know what was behind these failures. Therefore, they focused on the systems and processes that led to these problems. The LW focused on 4 issues: 1) Inadequate Planning; 2) Ineffective Governance; 3) Inadequate QC, Quality Assurance (QA), and Regulatory Oversight; and 4) Poor Test Design Processes

In terms of planning, the LW found in its document requests and interviews was there not a plan for how the CDC could develop and scale a test rapidly in the circumstance of a pandemic. Instead, the CDC relied on a "Graduated Response Framework, which was a document that was supposed to support responses that were too large for just one office to handle but too small for agency-wide activation. During the key weeks of test development, CDC was operating under the "Graduated Response Framework" and the overall Incident Command had not been activated. Because it was not clear at that time what was happening with COVID-19, there was a less than full agency activation and there was no clear plan for how to develop a test in that circumstance. The framework that the LW was given was not relevant to test development as much as it was just a way to organize the agency when it was between normal day-to-day mode versus full activation mode. The framework also lacked a clear governance structure, particularly for laboratories. Moreover, the framework lacked a detailed transition plan from a "graduated response" to full agency activation.

An example of the impact of inadequate planning was that the same laboratory manufactured both primers and probes for the test kits and the positive control despite the known risk of contamination and the perception that

there was no reasonable alternative approach to quickly gain access to positive control. This created a risk of contamination, but the CDC felt it had no reasonable alternative approach. The CDC concluded that the contamination did not occur in the laboratory where the test was manufactured. Although everyone saw it as suboptimal to manufacture the probes and positive controls in the same place, there was no plan for what to do without the virus itself and the need to manufacture a positive control. It is important in any emergency plan to have some redundancies, some back-up plans, because things can go wrong at any point. Manufacturing in the same laboratory was clearly a point of vulnerability, but time was of the essence and was a governing factor. The LW did not conclude it was an incorrect decision under the circumstances to manufacture the probes and positive controls in the same laboratory, but rather that it introduced risk in the absence of an alternative plan.

The second issue was ineffective governance. There were 3 different CDC laboratories involved in manufacturing the test, but they were not led by someone whose job it was to oversee the entire process. The laboratories were engaging based on their job descriptions. There was no point of coordination or responsibility across these 3 laboratories empowered to make the test the right way across all 3 participating laboratories. That was true prior to the emergency, during the graduated response, and during the incident management (IM) mobilization because one of the laboratories was not included as part of the IM structure (IMS). An example of the impact and consequences of ineffective governance was the delay in understanding the scale and cause of the test issues. No one was empowered and responsible for overseeing these issues across the laboratories. In addition to the fact that one laboratory made the positive control and the probes in the same location, another laboratory was storing the positive control near where some of the tests were. This is thought to be where the contamination occurred. Once the problems began, the IM leadership, which in a crisis is responsible for the development of the test, was not even made aware of the performance issues. The flow of information was not effective. The person who was nominally in charge of the test was very frustrated due to being unable to get information about what was happening and learning about it after the fact. This person was unaware that the test had failed the QC step. The LW's sense was that earlier understanding of the problems could have led to different decisions about development, validation, and distribution. It would have influenced how the investigations happened and the steps that the CDC might have taken. This example illustrates the importance of having both a single point of authority and very good communication.

The third area was inadequate quality control, quality assurance, and regulatory oversight. One of the challenges that CDC has is that research and clinical laboratory space are intermingled. That creates different risks because there is not a clear quality management system for the clinical space. Moreover, scientists in the laboratory might be doing clinical testing in the morning and research in the afternoon. This is a vulnerability, especially in emergency situations when time is of the essence. There is a different quality system for research versus clinical, so scientists really need to know what quality system they are working under. The clinical research quality system is extremely specific and rigorous.

The Clinical Laboratory Improvement Amendments of 1988 (CLIA) is a law that is supposed to ensure quality in clinical laboratories., but it does not apply to tests manufactured for state and local public health laboratories. The CDC did not rely on its CLIA Office for oversight. The U.S. Food and Drug Administration (FDA) was reviewing the specifications on the test. However, the failed QC occurred after the CDC submitted an Emergency Use Authorization application to the FDA for its COVID test. The FDA looks more at the design issues than QC, so they also were not able to catch the problem. The biggest overall issue was that there was not a clear QA system to oversee the test development. Having a clear quality system for a laboratory is like the air they breathe, so understanding what a test has to do at each step to proceed to the next step through the quality system is important but was missing for these tests.

CLIA oversight is essentially a protocol that sets standards for training and competency of staff, space, instrumentations, and the protocols that are used. The Centers for Medicare & Medicaid Services (CMS)

regulates all laboratory testing except research performed on humans in the U.S. through CLIA. CLIA regulations establish quality standards for laboratory testing performed on specimens from humans, patient test management, test validation requirements, QA, QC, and personnel qualifications. During the period of graduated response, no reliable quality management system was in place to guide early response activities. The CLIA rules were not followed, and a hybrid system was put into place that drew from different types of quality systems and was not considered to be effective. There was a lack of clarity around critical aspects of test design, validation, and manufacturing. This relates to the lack of governance because there was not a single, clear, standard quality system put into place for the design of the test.

The fourth issue was poor test design processes. Typically, when a new test is developed, there are a series of gates that the test goes through. There are people who review the test to make sure that it is right, and it is not all on one person to make all of the decisions and then put the test out. During that process, there may be several steps, including using computer models to predict design failure. In fact, when the CDC went back and used a computer model on the N3 probe, it predicted design failure. It is unclear whether that was ever done in the control process. Another thing a test design process would do is specify the criteria for releasing the test. The release of the test even after a failure indicated that there was a flaw in the test design process, which was another fundamental cause of the more proximate failures. An example of the impact of having a poor test design process was the failure that occurred in the design and validation of the N3 probe. The N3 probe performance issue was not detected or addressed prior to manufacture and distribution. There was no clearly defined pass/fail threshold criteria that existed for test validation. Despite 1 in 3 test kits failing validation, the kits were sent to public health laboratories.

Discussion Summary

Dr. Goldman pointed out that once the pandemic moved from a soft emergency to a real emergency and the CDC had an Emergency Operation Center (EOC), it appeared that the laboratories did not necessarily feel that they were working under the EOC, but instead felt they were working under their normal chain of command. She emphatically expressed that despite the chain of command, every single employee needs to be trained in incident command structure and function and needs to understand that in the case of a major emergency, they report to that chain of command. It seemed to her that even though there was a command structure, the training was lacking. The CDC cannot possibly foresee all potential test kits that might be needed for any emergency. A lot of tests are going to be developed in this fashion during a crisis. If there is no coordination from incident command, issues like this will happen. She said she was shocked when she read what the LW wrote in its report. It must be a priority to practice, drill, and rehearse IM reporting or people will continue to do what they do every day.

Dr. Sharfstein noted that he teaches a course on crisis response that covers a lot of IMS. It is extremely important that everything must align with IMS. As the LW stated in the report in the governance section, that did not happen in this case. Some of the laboratories were not put under the IM. Even the laboratories under the IM were not reporting up. It was not clear to the LW why the people who were empowered did not receive the information. They did hear that people may have been calling other people inside the structure, but were not necessarily informing the people who were supposed to be responsible for the laboratory tests. He agreed that there must be a priority to practice, drill, and rehearse IM reporting. This relates to the planning issue and the structure must be clearly outlined. The workforce must be familiar with it and feel comfortable with doing it. Drills certainly help with that. The issue lies at the juncture of planning and governance. It would be fine to find a spot, perhaps in the underlining text around planning, where they could say that it is important to have governance in the plan and to practice.

Dr. Taylor noted that the individual who designed and developed this test is a researcher. In most institutions, it would be the clinical people who are in the IMS, not necessarily the researcher. It is important that everyone involved is in the structure and understands the reporting chain.

Dr. Fleming reminded everyone that some of problems the LW identified have been recognized by CDC. For example, the current IMS and governance may not reflect what was just reported.

Dr. Taylor stressed that there was absolutely no "gotcha" aspect to this report. CDC was very forthcoming and honest, with a tone of wanting to help.

Action Steps

In terms of what policies, practices, and systems should be established to address these issues in the future, the second component of the Congressional mandate, the LW developed 10 proposed action steps within the categories of Leadership and Management, Quality, Test Development, and Electronic Laboratory Reporting. CDC has made addressing challenges with its clinical laboratory enterprise an urgent priority. Some of the LW's action steps overlap with moves that CDC has proposed or is in the process of advancing, while others would go further. The action steps, along with annotations provided by the Co-Chairs for clarity and/or additional details, are as follows:

Leadership and Management

Action Step 1: There should be a senior leader for laboratories, reporting to the CDC Director, with major responsibility and authority for laboratories at the agency. This position should be a deputy director or equivalent position within the CDC's organization.

- *Dr. Walensky reported earlier that there will now be a Senior Laboratory Leader reporting directly to the IOD, which is a major step for this agency in that regard.*
- *The LW felt that this position should be internally- and externally-facing. The Senior Laboratory Leader needs to relate to all of the problems outside of the CDC, such as difficulty scaling the test, gaps in the supply chain, et cetera. This individual also needs to be able to work at a national level intersecting with the private sector, FDA, CMS, and others.*

Action Step 2: The CDC should consolidate key laboratory support functions into a new Center. This Center should focus on clinical laboratory quality, laboratory safety, workforce training, readiness and response, and manufacturing.

- *Dr. Walensky mentioned how the CDC will pull in different functions across the agency into the OLSS, which is responsive to the fact that laboratories are a fundamental aspect of what the CDC does. It is very important that there is an office that is empowered around these core issues to ensure that people have the right training, quality is in place, and laboratories are safe. Having these core issues be a distributed responsibility has not been successful for the agency.*
- *The laboratory needs to be at the table in important decision-making and it has not been in the past.*
- *The research laboratories leaders have an important role to play, for instance, in test design for a particular pathogen, so there should be connectivity.*
- *In the Center, it should be about quality, safety, training, and other laboratory-based issues.*

Action Step 3: The CDC should create plans for developing tests for novel public health challenges that include the governance structure to be utilized in an emergency.

- *As a national public health system, the CDC needs to be proactive and create tests for pathogens that have a good chance of emerging. This is something that the external public health system should be doing with CDC, clinical, and commercial partners.*
- *In an emergency, there must be a much more rigid structure so that everyone understands what needs to be done and who needs to be told.*
- *An exercise plan for developing tests should be part of the plan for an emergency.*
- *This would be a good place for the suggestion that it must be a priority to practice, drill, and rehearse IM reporting.*

Quality

Action Step 4: Across CDC, clinical laboratories should be consolidated, ideally at the Division level, with cross-Center strategies to encourage collaboration with epidemiologists and basic science research laboratories. The CDC should maintain a strict separation of laboratory space and staff between clinical laboratories and basic research laboratories.

- *The LW felt that there should be a separation of laboratory space and staff between clinical laboratories and basic research laboratories. This will present the CDC with addressable logistic challenges, but they are addressable.*
- *Currently there are many laboratories at the team level within CDC, with approximately 300 people. There are fewer people at the branch level at around 30. There are even fewer people at the Division level, with around 5 people. The idea is that there should be a relatively smaller number of people who can implement necessary changes or policies and be responsible for all of the things that the laboratories are supposed to do. Decentralization and distribution of leaders creates a weakness.*
- *Another advantage the LW heard during the discussion was that from the HR perspective, a person in a laboratory at the team level has to find another laboratory in order to be promoted. If there were more of a laboratory structure across the CDC, people would not jump across the organizational chart and that would create more continuity over time. This is a workforce issue as well.*
- *Where overlap is inevitable, the clinical laboratory quality standards must be upheld.*
- *There should be cross-center collaboration with epidemiologists and basic research scientists.*

Action Step 5: The CDC should create and train a robust, diverse workforce for clinical laboratories, comprised of scientists who have the education, skills, and qualifications to support and lead high-complexity laboratories.

- *The CDC is doing an amazing job with the APHL in terms of fellowships and internships, but the LW feels that the agency, in association with regional hospitals, should develop a program for training laboratory directors.*
- *The discussion behind this recommendation also talks about the need for diversifying the workforce in different ways and using creative training programs in order to accomplish that goal.*

Action Step 6: The CDC should cultivate and foster a culture of laboratory quality through the adoption of a comprehensive clinical laboratory quality management system across the agency.

- *The LW did not feel that CDC has a comprehensive clinical laboratory quality management system across the whole agency. While there certainly are CLIA regulated laboratories within CDC, this is not embedded in the culture.*
- *Dr. Pirkle has done an enormous amount of work toward this approach, but the LW feels that this needs to be prioritized and valued.*
- *The idea in part is that there are clinical laboratory quality management systems that could be implemented across the clinical laboratories. CDC does not have to invent one. The principle is that this part of CDC that is doing clinical laboratory testing needs to rise to the standards of clinical laboratories across the board.*

Test Development

Action Step 7: To facilitate the rapid scale-up of testing, the CDC should involve external experts in its review and deployment process for clinical tests for pathogens with pandemic potential.

- *CDC should be at the center of a national laboratory system, which means that the agency needs to be much more outward-facing and involve external experts.*

Action Step 8: The CDC should incorporate redundancy into the national responsibility for test development.

- *One of the problems the LW feels was crucial for the failure of the COVID-19 test was that there were no redundancies.*
- *External laboratories (public health, academic, commercial) did not play a role in developing the tests for COVID-19.*
- *There should be multiple versions of the tests developed by different entities in case one or more of them fails.*

Action Step 9: To reduce the burden on the agency and support a high-quality laboratory network, the CDC should transfer the performance of selected rare tests to Centers of Excellence.

- *There are a number of very competent high-complexity laboratories around the country that have the ability to test for rare agents.*
- *The CDC has recently funded Centers of Excellence in Genomics that are a collaboration between public health laboratories and academia. The LW thinks that using that model to develop Centers of Excellence for diagnosis of other rare pathogens would be of value.*

Electronic Laboratory Reporting

Action Step 10: The CDC should lead the standardization of health data collection associated with laboratory tests to improve future public health responses.

- *This already is occurring with the CDC, CSTE, and APHL for minimum datasets, case reports, and permission to perform tests.*
- *For this Action Step, the LW had some engagement with the DSW.*

Discussion Summary

Dr. Shah noticed the word “culture” was used once as related to quality. He wondered if the LW noticed cultural aspects in its review that might warrant a light being shined on them beyond the governance and structural changes. Ultimately, “culture” has to be defined differently.

Dr. Taylor responded that she thinks the staff are demoralized due to working incredibly hard for over 2 years while having bricks thrown at them. Public health works when no one knows about it. Then when something happens and something goes wrong, everyone knows about it. It is an interesting culture to work in. Whatever CDC does, empowering the scientists is very important because they are the best. She also thinks it is important for CDC staff to get the message from CDC leaders that public health is as important as research. At the moment, the promotion system is built on papers and academic aspects. However, there are leadership tracks in public health that should be evaluated as approaches to promotion and advancement. This does not currently exist at CDC.

Dr. Sharfstein added that the cultural part really came out as a fundamental expectation. The ability to get to that culture is part of the reason for some of the structural recommendations. For example, a laboratory having

to report to someone who is not a laboratory scientist who has a lot of competing demands may not appreciate the intricacies of certain laboratory expectations. This can make it harder to maintain that culture. The reorganization that the LW is suggesting, and that the agency is pursuing, is to try to align the organization with more support for that kind of culture. In terms of public health being as important as research, because there are so many teams at a lower level in the hierarchy, it is much harder for people to be promoted just on the basis of running a great laboratory.

Dr. Goldman agreed that the CDC culture is an issue. When there is a culture in an agency with people working in silos, just creating different silos will not necessarily fix that issue. Scientists doing laboratory work also need to be working with epidemiologists, program managers, and others. Creating new structures in an organization that works in a silo-fashion will not necessarily make the organization function better. To think that a reorganization will repair the culture is an illusion. She expressed concern that there were many "shoulds" in the recommendations that she was questioning. The issues the LW raised around centralizing some of the key support functions like laboratory quality, safety, workforce, training, readiness and response, and manufacturing are critical. Whether it is a CLIA laboratory function or not, the laboratories must be safe and function well. This is just as important for a laboratory doing epidemiology versus clinical research. If they are coming up with the wrong answer about something, that could have profound national implications. The research must be somehow feeding into the clinical laboratory work or the work that supports the epidemiology. It was not clear to her that CDC has a strong translational process from the laboratory bench to something that can become a CLIA test or that is validated for use in epidemiology. She understands the issue of the separation of the research from the CLIA functions. However, there is a "should" statement about "strict separation of space and staff." She was not sure she could agree with that strong of a statement. There might be extremely specialized things that are going on in the clinical laboratory space and the research space where they might not want all of the staff to be separated. There might be a handful of people who have the knowledge and skillsets to do certain things. This could be interpreted as there cannot be a single person who works in the research and clinical research spaces. She expressed concern that people who do not understand the science aspect might draw a line. Certainly, the issues around the workforce and laboratory quality have been long-term issues for the CDC and other federal agencies. She also noted that many of the recommendations seemed to be focused almost exclusively on infectious disease laboratory processes. There are clinical laboratories in environmental health and other areas. There could be a huge national emergency related to radiation exposures, chemical weapons, et cetera that might need to trigger similar laboratory responses. The CDC needs to be able to manage around the laboratories that cannot co-locate. Realistically, there is only a certain amount of consolidation and mobility. For example, a person who works with malaria is unlikely to become a radiation laboratory expert. The language, before transmittal to HHS, needs to be made clear that the interest is more in the outcome than the exact process that needs to be followed to get there.

Dr. Adimora found this to be a wonderful report that was fascinating to read. She wondered how much of what happened was at least in part due to what appeared to be extraordinary chaos at the very top of the CDC and highest levels of government. This could only have served to further demoralize and confuse people. She liked the recommendations because they seemed to fix many of the issues within the CDC that went wrong. However, that type of chaos could easily happen again in the future and probably will depend upon the elections over the next few years. She wondered if there was a way to make the CDC response more bulletproof. While she agreed with everything in the report, with people reporting directly to the CDC Director, to the extent that a CDC Director comes under attack for whatever reason, what effect might that have on laboratory performances?

Dr. Taylor responded that it is important that the Director knows what is going on, what the challenges are, what the pitfalls are, and what is working and not working. The Director must have that knowledge because ultimately, that is where "the buck stops." There was chaos outside of the CDC, although it was much more obvious a little later in the timeline of the pandemic. The White House probably was unaware of what the CDC

was doing during the initial stages of the COVID-19 pandemic. In fact, the administration was downplaying the problem in the early stage. Therefore, she felt that CDC was doing what it was supposed to do early on and was not that influenced by the outside chaos. Being in public health emergencies in a public health laboratory, there is a lot of tension. People are working long hours and they are tired. It is the communication and reporting structure that mitigates and controls the chaos.

Dr. Sharfstein noted that a report was released by the Science Committee of the House of Representatives in December that discussed the relationship between the White House and the CDC in great detail. The report mentions all the different things that happened with the *MMWR* and different components. The LW's sense was that these were failures inside the CDC that were caused by not having a plan, inadequate governance structure, and the other issues listed in the report. The LW focused the four corners of this report mainly on the CDC. That is not to say though that there were not major issues outside of the CDC that were inhibiting the overall response. The LW stuck with what CDC can do better.

Dr. Sharfstein called upon some of the LW members to answer some of the questions raised, noting that the LW was open to suggestions on changing the language in the report. There are members on the LW who work in very high-tech laboratories where research is performed.

Dr. Rhoads, LW member, works at the Cleveland Clinic where he is a physician and oversees the microbiology diagnostic laboratory. He also works with a team that conducts clinical research. Those 2 teams are mostly separate in their function. Based on the LW's visit to CDC, there seems to be a strong culture around research. While that is important, when COVID-19 emerged, the clinical testing seemed to be rolled up inside of the research laboratories. If it remains this way, there always will be tension and different priorities. If research is a priority, clinical diagnostic testing may be less of a priority. There are many CLIA regulations, competency maintenance, and proficiency testing in clinical laboratories that are not required in the research environment. When a scientist is doing research in the morning and working in a clinical environment in the afternoon, it is going to be difficult to do that successfully. It is easy to mix up regulations and requirements. The attempt at this with the emergence of COVID-19 was unsuccessful. Together with the LW, he still feels that separating those focused on diagnostic testing into their own group where that is the only priority for that group and where they spend all of their effort could lead to better outcomes in the future. A lot of tests translate from research into the clinical laboratory, so there should be a good hand-off between those who are involved in the early development to those who are validating and using the test.

Dr. Caliendo, LW member, is currently the Executive Vice Chair of the Department of Medicine at Brown University, prior to which she spent about 20 years in clinical laboratories and directing clinical laboratories. She initially had her research laboratory embedded in the clinical laboratory, which did not go well. She ultimately separated out her research laboratory and got it CLIA certified. That was done to create a culture of quality. They concluded that the best-case scenario would be separation so that the staff doing clinical testing could focus on the quality program around clinical testing. Researchers need more flexibility. If there is something that is so specialized that the clinical cannot be separated from the research, then the researchers are going to have to live in a CLIA environment. That is very different from what exists currently at the CDC. This led the LW to say that the person overseeing all of the laboratories should report directly to the CDC Director. This addresses the question about the culture at the CDC, which has a different hierarchy for research laboratories and clinical laboratories. The culture of the clinical laboratories needs to be elevated. In a situation where there cannot be full separation, the default must be the higher level of quality oversight.

Dr. Toney, LW member, is the Laboratory Director for Virginia's state public health laboratory, which is CLIA-accredited. She feels that if a test is properly validated and developed and is robust enough to be moved into the clinical diagnostic sector, that laboratory should be able to run the test without the need for input from the

researcher. If input is still needed, the test is clearly not ready for clinical diagnostic testing. A test should be able to be quickly validated and verified and then be put into action, especially when dealing with an emergency. Along the lines of CLIA and having a culture of quality and a strong quality management system, her own laboratory has research functions and separate diagnostic functions. For those diagnostic functions and those laboratories to operate seamlessly, there needs to be structure, repetition, and consistency. These are essential to maintaining all the compliance factors that are needed for quality. When the system is stressed, training and consistency are very important. Mistakes will be made, and best practices will not be employed when someone is teetering back and forth between a research mindset and a quality diagnostic mindset and is tired, stressed, and under pressure. Separation is important to ensure success and accuracy in the work that comes out of laboratories.

Dr. Morita was pleased to see that in the LW's first recommendation, there was inclusion of language specifically stating that the person reporting to the CDC Director has the responsibility and authority to require these things of the laboratories.

Dr. Fleming moved the ACD members toward a vote to accept the LW's report. He explained that it would be appropriate for the ACD to approve the report even if there were a couple of issues revolving around wordsmithing or issues that could be added in the letter of transmittal after the fact.

Dr. Houry expressed appreciation for the depth and breadth of the report and the recommendations. As she was listening, she was reflecting on a few things. While some of the issues highlighted have been long-standing, CDC has been addressing them as they have come to light and not waiting for the report. This has been a top priority for Dr. Walensky. In terms of the reorganization, CDC realizes that moving boxes will not solve things. That is why there is CDC Moving Forward that includes the 21 Priority Action Teams who are looking at the systems, processes, policies, and culture. CDC staff have been engaged at all levels to empower scientists and practitioners to be engaged in this effort. There is now a response-ready workforce, as Dr. Walensky mentioned, so that CDC is prepared for the next response and all staff are poised and ready to join responses. The graduated framework has been revisited and revised and the agency is prepared to stand things up. A quality management system is being piloted and hopefully this will be implemented agency-wide under the leadership of Dr. Pirkle. Dr. Houry expressed her gratitude to the laboratory staff and others who worked tirelessly 24/7 during the response while simultaneously keeping all of the other programs at CDC going. In terms of morale, CDC has a resilient and amazing group of staff, scientists, administrators, practitioners, and others who she is proud to be shoulder-to-shoulder with. In terms of next steps, if the LW report is approved by the ACD, it will then be transmitted to HHS. The review and response from HHS will take about 30 days. In approximately 6 weeks, the report will be available publicly on the CDC website.

Dr. Martinez emphasized the importance of addressing organizational cultural laboratory behavior and the potential unintended consequences of the recommendations themselves.

Dr. Sharfstein listed the following adjustments to be made to the report based on the ACD's deliberations and input:

- When there is a Senior Laboratory Leader who will engage with other agencies, part of their responsibilities should include at least CDC's engagement in the supply chain.
- The plans must be exercised.
- Add language regarding a robust, diverse workforce for the laboratory.
- Modify the language around the strict separation between research to be clearer about the meaning. The use of technicians working in both a research space that is not being held to clinical standard and clinical space that is being held to a clinical standard would be discouraged, and the spaces should be different if there are 2 different quality systems.

- If there is an inevitable need to have a shared research and clinical space, the space must be held to a clinical standard of quality protocols.

Vote

Dr. Sharfstein made a motion for the ACD to accept the report and adopt the actions steps as ACD recommendations, with inclusion of the adjustments he outlined. Dr. Morita seconded the motion. The ACD voted unanimously to accept the report and adopt the actions steps as ACD recommendations, with no dissentions or abstentions.

Closing Remarks / Adjourn

David Fleming, MD (ACD Chair) and Debra Houry, MD (DFO) expressed gratitude to all of the presenters; working groups; outside experts in equity, data, and laboratory; and the incredible staff who made this ACD meeting possible. The next ACD meeting will be convened in-person in May 2023.

With no further business posed or questions/comments raised, the meeting officially adjourned at 3:30 PM ET.

Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the February 7, 2023 meeting of the Advisory Committee to the Director, CDC are accurate and complete.

April 18, 2023
Date

David Fleming
David Fleming, MD
Chair, Advisory Committee to the Director
Centers for Disease Control and Prevention

Attachment #1: ACD Membership

CHAIR
David W. Fleming, MD
Clinical Associate Professor
University of Washington School of Public Health
Seattle, Washington
Term: 10-01-2021 – 06-30-2023

DESIGNATED FEDERAL OFFICER
Debra Houry, MD, MHP
Acting Principal Deputy Director
Deputy Director for Program and Science
Chief Medical Officer
Centers for Disease Control and Prevention

MEMBERS
Adaora Alise Adimora, MD, MPH
Professor of Medicine and Epidemiology
Division of Infectious Diseases
University of North Carolina School of Medicine
Chapel Hill, North Carolina
Term: 09-27-2021 – 06-30-2025

Michelle A. Albert, MD, MPH, FACC, FAHA
Walter A. Haas-Lucie Stern Endowed Chair in Cardiology Professor of Medicine
Director, Center for the Study of Adversity and Cardiovascular Disease (NURTURE Center)
Associate Dean of Admissions
Division of Cardiology, Department of Medicine
University of California, San Francisco School of Medicine
San Francisco, California
Term: 09-27-2021 – 06-30-2024

Daniel E. Dawes, JD
Executive Director
Global Health Equity Institute
Meharry Medical College
Atlanta, Georgia
Term: 09-28-2021 – 06-30-2024

Cristal A. Gary, MPH
Chief Advocacy Officer
Amita Health
Chicago, Illinois
Term: 09-30-2021 – 06-30-2023

Lynn R. Goldman, MD, MS, MPH
Dean and Professor of Environmental and Occupational Health
Milken Institute School of Public Health
George Washington University
Washington, District of Columbia
Term: 09-28-2021 – 06-30-2023

Rachel R. Hardeman, PhD, MPH
Blue Cross Endowed Professor of Health and Racial Equity
Founding Director
Center for Antiracism Research for Health Equity
Division of Health Policy and Management
University of Minnesota School of Public Health
Minneapolis, Minnesota
Term: 09-28-2021 – 06-30-2025

Octavio N. Martinez, Jr., MD, MPH, MBA, FAPA
Executive Director
Hogg Foundation for Mental Health
Senior Associate Vice President, Division of Diversity and Community Engagement
Clinical Professor, Steve Hicks School of Social Work
Professor of Psychiatry, Dell Medical School
The University of Texas at Austin
Austin, Texas
Term: 09-28-2021 – 06-30-2025

Rhonda M. Medows, MD
President
Providence Population Health
Renton, Washington
Term: 09-27-2021 – 06-30-2024

Julie Morita, MD
Executive Vice President
Robert Wood Johnson Foundation (RWJF)
Princeton, New Jersey
Term: 09-29-2021 – 06-30-2024

Nirav R. Shah, MD, MPH
Chief Medical Officer
Olea.Health
Palo Alto, California
Term: 09-27-2021 – 06-30-2025

Joshua M. Sharfstein, MD
Vice Dean for Public Health Practice and Community Engagement
Johns Hopkins Bloomberg School of Public Health
Baltimore, Maryland
Term: 06-30-22 – 06-30-23

Jill Taylor, PhD
Senior Advisor for Scientific Affairs
Association of Public Health Laboratories (APHL)
Silver Spring, Maryland
Term: 09-28-2021 – 06-30-2023

Monica Valdes Lupi, JD, MPH
Managing Director for the Health Program
The Kresge Foundation
Troy, Michigan
Term: 09-27-2021 – 06-30-2024

Attachment #2: Acronyms Used in this Document

Acronym	Expansion
ACD	Advisory Committee to the Director
AIV	Avian Influenza Virus
APHL	Association of Public Health Laboratories
ASTHO	Association of State and Territorial Health Officials
CAB	Community Advisory Board
CBO	Community-Based Organization
CDC	Centers for Disease Control and Prevention
CFA	Center for Forecasting and Outbreak Analytics
CGH	Center for Global Health
CIOs	Centers, Institutes, and Offices
CLIA	Clinical Laboratory Improvement Amendments of 1988
CMO	Chief Medical Officer
CMS	Centers for Medicare and Medicaid Services
COD	Cause of Death
COI	Conflict of Interest
CoP	Communities of Practice
CORE	Cultivate, Optimize, Reinforce, Enhance
CPR	Center for Preparedness and Response
CSELS	Center for Surveillance, Epidemiology, and Laboratory Services
CSTE	Council of State and Territorial Epidemiologists
CSTLTS	Center for State, Tribal, Local, and Territorial Support
DDGH	Deputy Director for Global Health
DDID	Deputy Director for Infectious Diseases
DDPS	Deputy Director for Program and Science
DEA	Director of External Affairs
DFO	Designated Federal Officer
DLS	Division of Laboratory Systems
DMI	Data Modernization Initiative
DSEPD	Division of Scientific Education and Professional Development
DSW	Data & Surveillance Workgroup
DUA	Data Use Agreements
EOC	Emergency Operations Center
ET	Eastern Time
FACA	Federal Advisory Committee Act
FDA	Food and Drug Administration
FETP	Field Epidemiology Training Program
FTE	Full-Time Equivalent
GC	Community Guide
GDD	Global Deputy Director
GHC	Global Health Center
GHCU	Global Health Coordinating Unit
HEW	Health Equity Workgroup
HHS	(United States Department of) Health and Human Services
HIV	Human Immunodeficiency Virus

Acronym	Expansion
HR	Human Resources
HRSA	Health Resources and Services Administration
HSGAC	Committee on Homeland Security & Governmental Affairs
IM	Incident Management
IMS	Incident Management Structure
IOD	Immediate Office of the Director
IOM	Institute of Medicine
IT	Information Technology
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning
LRN	Laboratory Response Network
LS	Laboratory of Science
LW	Laboratory Workgroup
MMWR	*Morbidity and Mortality Weekly Report*
MoH	Ministry of Health
NACCHO	National Association of County and City Health Officials
NCHS	National Center for Health Statistics
NNPHI	National Network of Public Health Institutes
NOFO	Notice of Funding Opportunity
OADPS	Office of the Associate Director of Policy and Strategy
OCS	Office of the Chief of Staff
OFR	Office of Financial Resources
OGS	Office of Grant Services
OHE	Office of Health Equity
OLSS	Office of Laboratory Science and Safety
OoS	Office of Science
OPE	Office of Performance and Evaluation
OPHDST	Office of Public Health Data, Surveillance, and Technology
ORR	Office of Readiness and Response
OS	Office of the Secretary
OSTLTS	Office of the State, Tribal, Local, and Territorial Support
PDD	Principal Deputy Director
PHAB	Public Health Accreditation Board
PHIG	Public Health Infrastructure Grant
PHNCI	Public Health National Center for Innovation
PRA	Paperwork Reduction Act
QA	Quality Assurance
QC	Quality Control
RCA	Root-Cause Analysis
RRP	Readiness and Response Program
RRT	Rapid Response Teams
RWJF	Robert Wood Johnson Foundation
SDOH	Social Determinants of Health
SME	Subject Matter Expert
SPH	School of Public Health
STLT	State, Tribal, Local, and Territorial
TA	Technical Assistance
TFAH	Trust for America's Health

Acronym	Expansion
TOR	Terms of Reference
US	United States
USDA	US Department of Agriculture
USG	United States Government
VFC	Vaccines for Children Program
WG	Workgroup

Attachment #3: ACD Workgroup Minutes

Workgroup	Meeting Date	Meeting Minutes
Data and Surveillance	November 14, 2022	https://www.cdc.gov/about/advisory-committee-director/pdf/November-14-2022-DSW-Minutes_Final-Signed.pdf
	December 12, 2022	https://www.cdc.gov/about/advisory-committee-director/pdf/December-12-2022-DSW-Minutes_Final-Signed.pdf
	January 17, 2023	https://www.cdc.gov/about/pdf/advisory/January-17-2023-DSW-Minutes.pdf
	February 13, 2023	https://www.cdc.gov/about/pdf/advisory/February-13-2023-DSW-Minutes.pdf
	March 13, 2023	https://www.cdc.gov/about/pdf/advisory/March-13-2023-DSW-Minutes.pdf
Laboratory	December 1 – 2, 2022	https://www.cdc.gov/about/advisory-committee-director/pdf/December-1-2-2022-LW-Minutes-Final-Signed.pdf