



CDC Advisory Committee to the Director (ACD)

Minutes from the May 11, 2023 Meeting



Contents

Advisory Committee to the Director: Record of the May 11, 2023 Meeting.....2

Welcome and Roll Call.....2

 Discussion Summary3

Health Equity Workgroup.....6

 Discussion Summary8

 Vote: Task Area 19

 Discussion Summary 10

 Vote: Task Area 2 12

Office of Health Equity (OHE) 12

 Discussion Summary 14

Office of Readiness and Response (ORR) 15

 Discussion Summary 17

Global Health 18

 Discussion Summary 23

Data and Surveillance Workgroup..... 24

 Discussion Summary 27

 Vote..... 29

Laboratory Workgroup Report 29

 Discussion Summary 30

 Vote..... 31

Closing Remarks / Adjourn 31

Certification 32

Attachment #1: ACD Membership 33

Attachment #2: Acronyms Used in this Document 36

Advisory Committee to the Director: Record of the May 11, 2023 Meeting

The Centers for Disease Control and Prevention (CDC) convened a virtual meeting of its Advisory Committee to the Director (ACD) on May 11, 2023 in-person, via Zoom for Government, and via teleconference. The agenda included an agency update; reports and updates from the Health Equity Workgroup (HEW), Data and Surveillance Workgroup (DSW), and Laboratory Workgroup (LW); and presentations from the Office of Health Equity (OHE), Office of Readiness and Response (ORR), and Global Health.

Welcome and Roll Call

Dr. Debra Houry (ACD DFO) called the meeting to order, welcomed participants, and noted that Dr. Walensky sent her regrets for being unable to attend as she was testifying in Washington, DC. In addition, Dr. Houry reported that Dr. Walensky had announced the previous Friday that she would be leaving CDC at the end of June. She emphasized what a tremendous impact Dr. Walensky has had in leading CDC's reorganization and the Moving Forward initiative, as well as leading CDC and the nation through many events such as COVID-19, Mpox, Ebola, and more. Dr. Houry expressed her personal gratitude to Dr. Walensky and stressed how much everyone would miss her. The Administration will select the next director, although no further information was available at the time of this meeting.

David Fleming, MD (ACD Chair) extended his welcome to the members and everyone present. On behalf of the ACD, he expressed appreciation to Dr. Walensky for her leadership and for reinvigorating the ACD. The ACD looks forward to continuing to work with all of the great leadership in the Office of the Director and throughout CDC as they await the identification of a new CDC leader. He then 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. Joshua Sharfstein: Beginning a 10% Intergovernmental Personnel Act (IPA) with the National Institutes of Health (NIH) to work on Hepatitis C (Hep C) and is recused from issues related to Hep C on the ACD.
- Dr. Nirav Shah: Serves on the boards of Kinsa Health and STERIS.

Dr. Martinez welcomed and recognized Dr. Ryan Sutton and Ms. Lori Hall, who were in attendance for the second year in a row from the University of Texas at Austin along with 13 University of Texas students interested in the health professions. He emphasized that the students were first generation and/or from historically marginalized groups who were invited to attend in the spirit of increasing the diversity of the healthcare workforce.

Dr. Fleming reviewed the agenda for the day and noted that the February 2023 ACD minutes and WG reports could be found on the ACD website. He introduced Dr. Nirav Shah, who has joined the CDC as the new Principal Deputy Director.

Agency Updates

Nirav D. Shah, MD, JD (Principal Deputy Director, CDC) welcomed everyone, introduced himself, and offered a "shout out" to the students who were in attendance from the University of Texas. He reiterated that Dr. Walensky sent her regrets for not being present due to testifying in DC on the approach to readiness. He emphasized that if she was present, she foremost would thank all of the ACD members for their time and commitment to advising the CDC and making the agency even better. He observed that the ACD was meeting on an interesting day that marked the end of the federal public health emergency (PHE) for COVID-19. Despite the mechanism of the PHE ending, COVID-19 most certainly is not. The COVID-19 pandemic has been a

transformative episode for the CDC. Now that the emergency phase is over, the agency is working to integrate COVID-19 with other respiratory viral pathogens within the National Center for Immunization and Respiratory Diseases (NCIRD). The end of the COVID-19 PHE also presents an opportunity for the CDC to move to the next phase, though there are open questions about what this looks like in terms of how to avoid mistakes that were made in the past and how to accelerate some of the progress that was started during COVID-19. The answers to these questions are provided largely by Dr. Walensky in the form of the Moving Forward initiative. The Moving Forward initiative is designed to make structural changes to improve CDC's efficiency and operational goals to improve the way the agency communicates, shares science in real-time, and ensures that the agency's work force is ready for the next pandemic—whenever that may be. Notwithstanding the promise of the Moving Forward initiative, challenges remain. Trust has waned during the pandemic in the CDC as an institution, in public health as a profession, and in public health leaders. This makes it much more difficult to advise the public on safe steps they can take when the next pandemic occurs. The agency faces challenges in ensuring that funding for public health remains steady and perhaps even sees investments at the national and international levels. The military uses peace times to invest in building materials, training troops, and making sure they are ready for the next engagement. That is the work that lies ahead for the public health enterprise as a whole and it is the work that CDC is committed to doing within the agency. Dr. Shah noted that the ACD meeting would touch on many of these topics throughout the day and emphasized that CDC leadership was excited to hear from the ACD members about how the agency could take action steps to advance the agency's work.

Dr. Debra Houry (ACD DFO) added a few additional updates since the last ACD meeting. For the first time, CDC released a *Vital Signs report* on sickle cell disease (SCD) that discusses CDC's role and some of the health care disparities. A Youth Risk Behavior Surveillance (YRBS) publication released on youth identified the amount of violence teen girls in particular are experiencing. In terms of infectious diseases, CDC staff were involved in the East Palestine train derailment and many other environmental exposures. CDC's National Institute for Occupational Safety and Health (NIOSH) colleagues are still involved in the Michigan paper mill blastomycosis outbreak. CDC's National Center for Chronic Disease Prevention and Health Promotion has been involved in efforts such as the Cancer Moonshot initiative. As Dr. Houry also mentioned how CDC's Public Health Infrastructure Grant (PHIG) supports what states need. One example of using the CDC PHIG where the need is greatest that struck her was in Georgia where public health nurses are being trained to screen for sexually transmitted infections (STIs) during maternal/child visits, which demonstrates how states and communities can work together to address a need. Another example comes from Tennessee where home visitation programs are being conducted, particularly in counties where there are high rates of maternal mortality and infant death. And CDC lost a great colleague in maternal mortality the previous week as a result of the mass shooting in Atlanta. Amy St. Pierre was a CDC staff member in the Division of Reproductive Health. Dr. Houry said she wanted to take a moment to recognize Amy for her efforts and for the loss to the public health community and to CDC, and to announce that Amy's memorial service would be the next day.

Discussion Summary

Dr. Fleming noted that there had been a lot of media about the consequences of the ending of the PHE for COVID-19 and the ability to track health conditions and conduct surveillance in the country. Surveillance existed before COVID-19 and continues now. He asked for information about what CDC is able to continue to do and if there are any concerns on which the ACD should focus its attention that potentially are being dropped as a result of the official ending of the emergency.

Dr. Shah confirmed that the end of the PHE means that CDC's authority to access certain pieces of data from jurisdictions, hospitals, and laboratories comes to a close. In terms of CDC's level of surveillance going forward, some of the pieces of data that individuals across the country were used to seeing will be different. The data will not necessarily be going away altogether, but they will look different. One example is the COVID-19 Community Level monitoring effort that is driven in large part by hospital admission data and in small part by COVID-19 case rates. The end of the PHE means that state- and local-level laboratories will not be reporting individual COVID-19 cases to CDC. While CDC will still have data files from states, the laboratory reporting coming into CDC will come to a close. As a result of that, the COVID-19 Community Level map also will come to a close. It will be replaced by a map that is solely driven by hospital admission rates. That leads to a natural question, "How good is that map?" Scientists at the CDC have back-tested the performance of both of those maps going back to the inception of the COVID-19 Community Level map in February 2022. As published in a *Morbidity and Mortality Weekly Report (MMWR)* the previous Friday, concordance between the maps is 99%. That is, relying on hospitalization data alone that CDC will continue to have for at least another year will be 99% congruous with the COVID-19 Community Level map that is ending. Given that hospitalization data are received somewhat later in the course of a potential surge, CDC will not rely solely upon those data. In addition, the agency will rely on a number of metrics. For example, there will continue to be robust National Wastewater Surveillance System (NWSS) surveillance that covers about 130 million people (~40% of the population) across the country. CDC also will continue to have syndromic surveillance diagnosis data from Emergency Departments (EDs) around the country. In addition, the agency will have a modified form of positivity rates from a laboratory network, the National Respiratory and Enteric Virus Surveillance System (NREVSS), that is run out of NCIRD that goes online May 25, 2023. Therefore, CDC still will have a good view into what is occurring with COVID-19, even though it will be different. None of that should be taken to say that CDC's work around data, data modernization, and data authority are completed. CDC still should have the ability to access these types of data, with a goal for the agency to be prepared for the next pandemic.

Dr. Taylor noted that Dr. Shah did not mention genomic surveillance. Given a report she read from an academic researcher pointing out the potential for COVID resurgence in the Fall and Winter, she wondered how that would be covered. In addition, she understood that the influenza program has a "right size approach" to surveillance. She wondered whether the agency would use that approach for COVID given that it certainly has not been eliminated.

Dr. Shah confirmed that genomic surveillance will continue and will be reported in the Nowcast feature on the CDC website. While the level will not be the same as previously, there will be enough sequences weekly (~10,000) for robust genomic sequencing to monitor the possibility of incoming variants. One program that will be maintained is CDC's effort to screen passengers on a voluntary basis who are incoming from various international flights and sequence the subtypes of those who test positive. Wastewater surveillance testing began at one airport the previous day, which soon will be expanded to other airports with international entry. In tandem, the agency will have good insight into the possibility of variants arriving or emerging in the US that should be sufficient from a surveillance perspective. In terms of the "right size approach," that is the intention of the agency for COVID. The Incident Management Team believes that with the multitude of metrics combined, CDC still will be able to maintain site lines into how COVID is unfolding across the country. There is not a single metric at the moment as there may have been during different times previously. It will take a global view. CDC will continue to publish data on the COVID dashboard that will be publicly available. Combined with other data sources, that still will provide insight and an early warning when certain regions may be experiencing strain.

Ms. Gary pointed out that another issue on people's minds are the debt limit discussions. She asked whether Dr. Shah could speak to how CDC is planning for the possibility of reduced funding, either because a deal is not reached or because a deal is reached that results in significant reductions in discretionary spending.

Dr. Shah responded that this is very much on the minds of CDC leadership. No one knows how and in what form this will shake out. CDC is working with its own budget office, HHS, and their colleagues at the White House to understand the nuances and contours of the discussion; to try as best they can to minimize any potential impact on CDC; and to try to mitigate whatever that might be. To be sure, the consequences would be far-reaching across the US, CDC included, if a deal is not achieved. At this point, the agency is planning for whatever eventuality that may take and getting direction from the colleagues at HHS. Given that this changes almost hourly, he could not say much more than to assure folks that CDC's financial and budgetary staff are staying very clued in.

Dr. Sharfstein asked what Dr. Shah's perspective is having come to CDC after serving as the State Health Officer for a couple of states with large urban and rural areas in terms of what people do not necessarily appreciate about CDC or that he did not appreciate until he arrived.

Dr. Shah said that in his previous 2 posts, he had the privilege of being in 2 different state health departments, Illinois, and Maine. Both states had very different complexions, and both had urban and rural components. Coming to the CDC with its national purview was like all of that times 10 or times 100. One of the things that has emerged for public health in general, and perhaps for the CDC in particular, is that there is still not a lot of clarity across the country into what CDC does or rather what CDC does not do. There is still the impression that CDC is a health care entity rather than a public health entity, along with the notion that the agency provides individual patient care. One thing he is hoping to do is to make the words "public health" and "population health" more synonymous with the CDC as opposed to reimbursement mechanisms and such.

Dr. Sharfstein asked what Dr. Shah wished people understood about the way the CDC supports frontline public health organizations. He has found that people who do not have a great conception of the CDC often go to local or state health departments because they need to get an inspection or they have a concern about an outbreak in their neighborhood, which often is removed from the political fray.

Dr. Shah said he wished there was a finer and more detailed understanding of the reality that CDC is meshed with each and every one of those state and local health departments on a very fine level—initially through a funding approach. Most of CDC's appropriated Congressional budget goes directly to state and local health departments, so there is a fiscal relationship. More importantly, the professionals at CDC are literally standing by the phones to take phone calls from state and local health department leaders any time something new or different is happening. There is a notion that the CDC is different from what is going on at health departments when the reality is they are joined at the hip side-by-side. A better appreciation for that relationship would be helpful. He was reminded that many years ago at a meeting when he was a state official, he listened to a statistician at Harvard who was sharing data from a survey in which he asked individuals in the US, "Do you know what your state health department does?" The answer was resoundingly, "No." He later asked in the survey, "Do you think your state health department is doing a good job?" The response again was, "No." The lesson is a lot of people in the US do not know what their state health department does, and they are convinced that they are not doing a good job at it. Work must be done to repair that.

Dr. Albert observed that many leaders think misinformation is the greatest threat to public health and an ongoing threat to the propagation of communicable and non-communicable diseases. She asked Dr. Shah to share his thoughts about some of the principles around emergency responses and sustained responses to misinformation and any associated diagnostic strategies to combat misinformation.

Dr. Shah emphasized that misinformation is a concern for anyone involved in public communication, particularly public health, as unfolded during the pandemic. Misinformation leads directly to degradation of trust—trust in the work that the CDC does, trust in the guidance the agency provides, and trust in the ability of the products the agency evaluates and recommends such as vaccines. CDC is addressing misinformation and disinformation. One approach that the agency has taken more recently is to get ahead of the possibility of misinformation flourishing. For example, a particular strain of avian influenza was detected in a human patient in Chile recently. To a layperson, this strain might have appeared to contain certain mutations that could lead someone to fear it would cost widespread transmission. Recognizing that fear and the possibility of misinformation, CDC scientists spoke with the public and reporters and posted clear information on the CDC website before any of the misinformation-based stories were able to take root and spread. Another example came a few months prior to that when a very faint signal was detected with an association between the Pfizer COVID-19 vaccine and the possibility of stroke. In the interest of scientific integrity, CDC wanted to make sure people were aware but framed that entire process with what was known, what was not known, and what was being done to find out. The result was to cut off the possibility of widespread misinformation flourishing. A subsequent detailed analysis confirmed that there is no link between the Pfizer vaccine and a stroke. In terms of sustained approaches to dealing with misinformation/disinformation, these are 2 examples of being proactive in anticipating what common threads of misinformation may look like and ensuring those are signaled, disputed, and put to bed before something is allowed to take hold. That is the current strategy. There is a quote attributed to Mark Twain that “A lie can travel around the world before the truth can get its boots on.” CDC’s approach is to try to get the truth out the moment the information comes out.

Turning to the Southern border, especially given the end of the PHE and the expiration of Title 42, Dr. Martinez emphasized that there is a lot of angst with people exclaiming that there is going to be an environmental disaster. He asked Dr. Shah’s thoughts on the role of the CDC in tempering the misinformation regarding PHE and Title 42.

Dr. Shah stressed that CDC is closely tracking how the end of the PHE and thus the end of Title 42 will affect the public health conditions along the Southern border, as well as how those conditions may move elsewhere as things unfold. The agency will do what it always has done in situations like that. If there are concerns from the public health perspective, CDC will work with state and local health departments to respond to the concerns. This is not a situation in which CDC would be in a new world. CDC has a robust set of programs devoted to migrant health, traveler health, and rural health, all of which can be brought to bear on related situations as they unfold.

Health Equity Workgroup

Monica Valdes Lupi, JD, MPH (HEW Co-Chair) and David Fleming, MD (HEW Member, ACD Chair) provided the HEW update. Ms. Valdes Lupi conveyed Mr. Dawes’ regrets that he was unable to join the meeting. Since the last ACD meeting, he took on a new role at Meharry Medical College to lead the development of the School of Global Public Health. She expressed gratitude to Dr. Fleming for agreeing to co-present and for his assistance in working with the HEW members in the development of Task Area 1 and Task Area 2 recommendations for the ACD’s consideration. She reminded everyone that to better manage the HEW’s charge, 3 task areas were created that are outlined in the following 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	

The Draft HEW report pertaining to Task Areas 1, 2, and 3 was conceptually approved during the ACD meeting in November 2022. 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 to help facilitate implementing and operationalizing the recommendations. Task Area 3, which the HEW brought forward for a vote during the February 2023 ACD meeting, was approved unanimously. Following the February 2023 ACD meeting, the HEW drafted specific questions for CDC subject matter expert (SME) colleagues to help better understand how CDC programs were currently partnering with communities and how funding and other resources were being deployed to communities through the Notice of Funding Opportunity (NOFO) process. The HEW convened a virtual meeting in April 2023 during which presenters from various CDC financial offices explained CDC’s policies and practices regarding specific appropriations and funding to advance health equity. Armed with that information, the HEW synthesized and used the discussion to help draft updated action steps for ACD’s consideration and implementation. Ms. Valdes Lupi and Dr. Fleming shared the Guiding Principles and Action Steps that the HEW completed for Task Areas 1 and 2, which the HEW brought forward for votes during this meeting. They pointed out that 2 votes would be taken, given that these are separate task areas, but that they would be combined with Task Area 3 into a comprehensive report assuming that both moved forward.

TASK AREA 1

Task Area 1: Guiding Principles

- Ensure systems and processes are created and followed so that community perspectives lead, and communities are meaningfully included throughout the decision-making process.
- Build on strengths that match solutions to each community, rather than employing the same solutions for all. Communities invariably have many strengths and are resilient.
- Health equity efforts cannot be myopic. Health equity across the lifespan is influenced by intergenerational and multigenerational experiences of trauma along with racism, ableism, sexism, classism, homophobia, and trauma.
- To achieve long-term positive change, routinely assess, map the effects, and intervene on the drivers of health equity on the health and well-being of affected populations and center on the principle that community development and sustained investment will yield positive impacts in the community.

Task Area 1: Proposed Action Step 1

CDC should take specific steps to build and strengthen its relationship with underserved communities and community-based organizations (CBOs) that support them.

- Create an external council/process to provide advice and perspective from diverse communities to the new Office of Health Equity and to CDC as a whole.
- Engage in a near-term process with CBOs to solicit their perspective and advice on the challenges of working with CDC and receiving funding from CDC, either directly or through sub-grants from STLT health organizations.
- Include diverse community and CBO perspectives in the membership of its Advisory Committees that serve Centers, Institutes, and Offices (CIOs).
- Routinely include appropriate community and CBO perspectives in its external program reviews and public health issues meetings and convenings that engage outside partners.
- Prioritize the inclusion of “lived experience” as a potential job qualification in job announcements and position descriptions for internal staff who create and oversee public health programs.
- Develop and encourage opportunities for internal program staff to experience the realities of opportunities and challenges in underserved communities and the CBOs that support them.

Task Area 1: Proposed Action Step 2

CDC should engage with state, tribal, local, and territorial (STLT) public health agencies to identify and implement best practices to build and strengthen relationships between STLT public health agencies and underserved communities and the CBOs that support them.

- Provide leadership in better connecting with communities, as in Proposed Action Step 1 above, and encourage appropriate similar action by STLT public health agencies.
- Identify and implement ways to harmonize practices and expectations across CDC programs and grants to optimize community engagement and involvement at the STLT level.
- Work with STLT public health agencies and community partners to identify best practices for strategies and mechanisms to ensure meaningful community engagement and leadership and should encourage or require adoption of these by STLT public health agencies in relevant CDC funding streams.
- Identify and create opportunities, including funding opportunities, for enabling meaningful engagement between STLT public health agencies and communities, especially on issues relating to underlying drivers of health equity or health disparities.

Task Area 1: Overarching Principle

The critical determinant for the success of Task Area 1 will be the recognition that meaningful “community engagement” requires more than just fostering opportunities for the community to provide input and instead requires community agency in the design of policy, program development, and program implementation.

Discussion Summary

Dr. Sharfstein thanked the HEW for excellent and somewhat actionable recommendations that are close to “shovel ready” as opposed to aspirational directions for the agency. For instance, the recommendation about encouraging STLTs to do better is important and there are some specific mechanisms that CDC could use to address that. He pointed out that there is a \$3.9 billion grant with funds for a number of STLTs that has a major emphasis on foundational public health services. Among those are equity and community partnership development. One of the concepts that has been floating around within the Commonwealth Fund Commission report that he was part of is that through that funding, CDC could have some expectations and structure the evaluation around the foundational capabilities in a more specific way. A goal of “encouraging” is an action step, but it is somewhat aspirational. Consideration must be given to how to do that. A number of agencies have been charged with moving in this direction, with a lot of money going into the workforce. Having the CDC be more specific in its instructions to technical assistance (TA) partners and its evaluation for how those funds could build

the foundational capacities for the health department to do this kind of work may be a way to make the recommendation more tangible.

Dr. Fleming indicated that the HEW could work to include these kinds of important changes in a final document. He noted that the second part of this presentation would deal directly with the concept of funding opportunities that CDC is publishing.

Dr. Martinez emphasized that the concept of External Council to the new OHE has a lot of potential for implementation and for the other steps that come along. Having expertise coming from communities can be a powerful mechanism to help with community engagement and following through with these action steps. His foundation has a National Advisory Council that has the right folks at the table and gets a lot of work done as a result.

Vote: Task Area 1

A motion was made and seconded for the ACD to adopt the Proposed Guiding Principles and Action Steps for Task Area 1 as stated, with minor edits. The ACD voted unanimously to move forward the Action Steps for Task Area 1 as recommendations to HHS and the CDC, with no dissentions or abstentions.

TASK AREA 2

Task Area 2: Guiding Principles

Center community and equity in policies and funding:

- Recognize the impact of political and systemic power differentials on historically marginalized communities to facilitate policy actions toward equitable culture shifts and improved public health by embracing a culture of accountability for addressing long standing inequities.
- Strengthen and increase mechanisms that create increased opportunities to provide funding directly to CBOs as opposed to the traditional “trickle down” funding dissemination approach from STLT public health agencies to CBOs.
- Identify institutional barriers that have resulted in fewer opportunities for CBOs to access CDC resources, including financial and technical assistance.
- Examine and revise existing policies and laws for the existence of stigmatizing language and ensure that new policies exclude further stigmatization.
- Embed equity into all decision-making from the OD to the CIOs and ensure a transparent, accountable, accessible, and inclusive process to enable cross-team communication and collaboration.
- Ensure that CDC’s policies, communications, and programs are offered in a person and community-centered, language-concordant, accessible, and culturally-centered manner. Scale equitable practices across the agency that support the allocation of resources to implement cross-cutting initiatives focused on the social determinants of health.

Task Area 2: Proposed Action Step 1

CDC should immediately initiate a coordinated, agency-wide assessment of all grants, cooperative agreements, and contracts across all programs, projects, and activities (PPAs) to establish a publicly available and accessible inventory of how funding is allocated (i.e., competitive, formula-driven, etc.), to which types of organizations (i.e., STLT public health agencies, CBOs, membership organizations, etc.), and where there may or may not be restrictions in the legislative language concerning eligible grantees. CDC should also develop an inventory which identifies the names and award amounts for primary grant sub-recipients for all grants, cooperative agreements, and contracts that are awarded.

Task Area 2: Proposed Action Step 2

All CDC PPAs should jointly create and put into practice a publicly accessible policy document for applicants and grantees responding to CDC Notice of Funding Opportunities (NOFOs) detailing requirements for integrating health equity processes and approaches into new or continuing applications. This document should include the elements of the HHS Health Equity Guidance for Notice of Funding Opportunities (NOFOs) and also the additional ACD recommendations derived from the HEW not contained in the HHS Guide. Activities would include requiring PPAs to conduct equity assessments in developing NOFOs and requiring all grantees to develop disparity impact statements as a condition to receiving CDC funding. These NOFO considerations should also be required for STLTs public health agency grantees as they re-grant or sub-award to CBOs in their respective communities.

Task Area 2: Proposed Action Step 3

CDC should develop more equitable systems throughout the lifecycle of NOFOs, from planning and development to selection and post-award support. All programs should be required to: a) engage community partners at the earliest stages of conceptualizing a new NOFO to develop a more credible, accessible, and relevant NOFO; b) develop application evaluation criteria that take into account equity factors or considerations, including evidence of community engagement in developing the response and project budgets that reflect compensation for guidance and leadership provided by individuals with lived experience; c) improve systems for strengthening and improving the accessibility of technical assistance provided to CBOs in the pre and post-award phases; d) develop webinars and other resources that are responsive to language, accessibility, and technical issues, such as access to broadband and screen reader compatible resources, which often present challenges for developing successful applications; and e) provide longer application submission timelines to ensure meaningful opportunities to engage community partners in planning and development.

Task Area 2: Proposed Action Step 4

CDC should strengthen project officer engagement by developing or redesigning training materials that elevate equitable grantmaking and emphasize the important roles they play in providing support to grantee partners.

Discussion Summary

Dr. Fleming emphasized that CDC colleagues could ask questions and/or provide comments even though this set of actions steps was up for a vote.

Dr. Taylor noted that her previous role was as director of a public health laboratory. If she was in that role again, one thing that she would do differently would be to make the walls of the health department more porous (e.g., communication should be much easier). Laboratories are bureaucratic boxes, but laboratory test technology is now much more amenable to field work in community-based sites and going into homes. CDC funding opportunities ought to allow for a certain amount of the funding to promote pilot projects. HIV testing has some important lessons for how testing in the community can be much more approachable, less bureaucratic, and more amenable to community characteristics. She does not think public health laboratories will ever go away. There is an incredible role for them, but the scientific technology and platforms, though not perfect, provide a valuable way of getting into the community more and making testing more approachable to more vulnerable communities.

Dr. Sharfstein noted that it was an interesting question as to whether the primary relationship should be CDC and local CBOs or the primary relationship should be the local and state health departments and CBOs, backed by CDC. In his view as a former local and state health official, he thinks it is important for local and state health departments to be working with community organizations. That was why his previous comment was not so much about ensuring that CDC grants give money directly to CBOs, but for the local and state health departments to have the capacity to do that. While the workforce grant is for local and state health

departments, many do not have the capacity due to tremendous underfunding of local and state public health. Some attention to that in the grant oversight evaluation process could be valuable if there were expectations for what could be done. His bias would be that CDC should be giving money to local and state health departments with the expectation that there will be community partnerships and capacity at the local level. This process can be confusing for a local organization depending upon whether they are oriented to the CDC, local health department, and/or state department.

Ms. Valdes Lupi responded that the HEW did discuss this to some extent. Having been at both a local and state public health agency, she shared Dr. Sharfstein's bias. The HEW did not see this as an either/or. Instead, they viewed it as both/and. They understood from their conversations with the CDC staff that the budgetary process and compressed time frames often are the rationale for going through the public health agencies and then having that funding flow to CBOs. However, there have been examples throughout the country recently in which state health agencies have rejected funding—critical, important funding that would have a direct impact on people who rely on those services. State and local health departments should be building partnerships with communities on the ground, and the CDC should be more expansive in terms of allowing programs to have opportunities to stitch together different ways to allocate the funding within their communities. There is definitely a role across the whole enterprise for each type of organization to play.

Dr. Sharfstein noted that there was a great piece by a former Mississippi Health Officer saying that his state did not have the capacity to write grants effectively or even write agreements with local organizations. Not only is there the ideological issue, but also there is a capacity question. Anything CDC can do to build capacity at the state and local levels is going to pay off.

Ms. Valdes Lupi pointed out that this is why the HEW kept it broad in terms of grants, contracts, and cooperative agreements to the large membership organizations. That is a role that the membership organizations play in terms of technical assistance and capacity building. While it is complex, there are many examples across states and municipalities where there is a lot of sharing of best practices to work with communities in much more authentic ways.

Dr. Fleming added that having worked at the state and local levels, his sense was that there needs to be a primary relationship at the community-level with the state or local health department. Surprisingly, for an information agency like CDC, they do not have the information needed about how bad this problem might be and where it is/is not working. Calling for increased transparency in the subgrant recipients of CDC funding to assess where funds are/are not going to communities is due to a sense that not as much money as would be best is getting out to the frontlines and CBOs. This information is needed on an agency-wide basis. This is related to the first recommendation regarding a request for increased transparency in order to collectively assess the extent to which there is a problem and how best to fix it. Another key piece in the recommendation is that some states and localities that are potentially the most in need may have the least capacity to get the work done. The HEW is calling for CDC to think carefully about the nature of its competitive applications. Historically, "competitive" has translated into more of an academic definition of how competition could work. Speaking as a person who has worked in health departments that tended to be better funded than others, they were at an advantage. They had the capacity and expertise to write applications that were judged to be more competitive than others. What that means is that money is going to the places where the applications are best, not necessarily where that money can be best used. CDC needs to evaluate and correct this historical legacy as needed to establish criteria in its grants so that not only is money well-used, but also that it is sent to the places that are most in need. Some analyses are needed to examine the markers of health equity and health disparities across jurisdictions at the state, local, and community levels to make a realistic assessment of whether the allocations of resources are generally in proportion to the need. The competitive mechanism inadvertently implemented a system where that is not happening as well as it might.

Ms. Valdes Lupi said that the HEW talked about the fact that in terms of state and local capacity, oftentimes there is a bias to looking at the end product, the application, and those that have the capacity to have fulltime development, grant writers, and consultants depending on the particular NOFO. That creates an unlevel playing field, which is what the HEW is trying to address in terms of whether it is an unfair requirement or expectation to impose the same requirements on STLT agencies for example for a \$10,000 small grant to CBOs that they would be if they were awarding a multi-million dollar to a CBO or intermediary through a sub-awardee process.

Dr. Sharfstein added that this is just as big an issue for the government, across health, and beyond for those interested in supporting community-based work. These issues arise in other fields, so there probably are systemic solutions that CDC could play an important role in finding.

Dr. Fleming indicated that minor editorial changes would be made to reflect the discussion, and that a report would be anticipated during the next ACD meeting about CDC's perspective on these recommendations and how the agency is going to move forward.

Vote: Task Area 2

A motion was made and seconded for the ACD to adopt the Proposed Guiding Principles and Action Steps for Task Area 2 as stated, with minor edits. The ACD voted unanimously to move forward the Action Steps for Task Area 2 as recommendations to HHS and the CDC, with no dissensions or abstentions.

Office of Health Equity (OHE)

Leandris Liburd, PhD, MPH, MA (Acting Director, Office of Health Equity, CDC) thanked the HEW for their thoughtful leadership and for providing insight that would not routinely be available to the OHE. In the time that OHE has been working together through the HEW, they have been able to broaden their lens and recognize in real-time the opportunity to improve health outcomes. OHE deeply appreciates the HEW's expertise. During this session, Dr. Liburd provided a high-level overview of the new OHE, which was operating in its first 100 days at the time of this meeting. This year marks another milestone in the CDC's commitment to achieving health equity. In addition to the creation of the OHE, they celebrate 35 years since the initial establishment of an Office of Minority Health (OMH).

The new OHE expands the scope, influence, and potential impact of the agency's efforts to reduce health disparities and health inequities by driving the embedding of health equity into all of CDC's work at every level of the organization. The new OHE is located in the Immediate Office of the Director (IOD). OHE will work closely with sister offices within the IOD, as well as with the national CIOs. The OHE consists of 4 crosscutting components. The first is the Office of the Director from which executive leadership, oversight, and coordination will be managed along with driving accountability and assuring that health equity is embedded at all levels of the agency, including focused efforts to align diversity, equity, inclusion, and accessibility (DEIA) with critical skills for achieving health equity. The second is the OMH, which was first established in 1988 and codified in 2010 through the Affordable Care Act (ACA). The OMH will continue to build a strong program of science, intervention, policy, and systems change to reduce health disparities and health inequities. The third is the Office of Women's Health (OWH). Similar to the OMH, the OWH at CDC was first established in 2002 and codified in 2010 to advance and coordinate a comprehensive women's health agenda, including improving the health and well-being of girls. The newest office, which is still very much in its formative stages, is the Office of Equitable Population Health (OEPH). The OEPH takes an intersectional and inclusive approach to address health inequities of disproportionately impacted population groups such as people with disabilities, people who live in rural areas, and people who identify as LBGTQ+ (Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning+).

The OHE's mission is that the OHE exists to ensure that health equity is embedded in an all-of-public health approach to overcoming persistent health disparities and health inequities across a range of population groups that disproportionately experience poor health outcomes. The OHE's vision is that all people have the opportunity to attain the highest level of health possible. The OHE has 4 overarching functions: Leadership, Coordination, Collaboration, and Accountability. In terms of the leadership function, the OHE takes an interdisciplinary, inclusive, and coordinated approach to leadership in advancing the principles and practices of health equity across CDC's ecosystem. In terms of coordination, OHE will work across the IOD and with the CIOs to establish and support standards for health equity, including embedding health equity into the agency's core capabilities and working collaboratively to achieve equity in CDC's culture, workforce, and workplace. In terms of collaboration, the OHE will work closely with the CIOs and external partners to develop, disseminate, and where appropriate, recommend scaling best and promising health equity science, programs, and communications practices. Lastly, the OHE will implement strategies for attaining accountability or more important, fidelity, to help equity standards, competencies, and goals. The OHE is in the process of developing a health equity strategy and organizational-level equity metrics for success. These are the priorities and some selected initiatives for the OHE:

Priorities

- **Strategy:** Develop a health equity strategy and organizational-level equity metrics for success.
- **Funding:** Create more equity in funding and NOFOs.
- **Partnerships:** Increase community engagement with populations that experience health disparities.
- **Public Health Workforce:** Build CDC's internal capacity of subject matter expertise in health equity within a workforce and workplace of diversity, equity, inclusion, accessibility, and belonging (DEIAB).
- **Science & Interventions:** Implement equitable, community-informed practices for advancing health equity in research, surveillance, programs, evaluation, emergency response/preparedness and laboratory sciences.

Selected Initiatives

- Anti-racism and Health Sprint Team
- CORE Leadership
- Committee on Women's Health
- Disability Inclusion and Accessibility Workgroup
- Diversity and Inclusion Executive Steering Committee (DIESC)
- Health Equity Communication Framing Research
- Health Equity Intervention and Action Principles
- Health Equity Science Principles
- Health Equity Leadership Network (HELN)
- Health Equity Workgroup to Advisory Committee for the Director
- Lewis and Ferguson fellowship/scholar programs
- Partnership with CMS to convene health system CEOs; ASTHO to convene OMHs and OWHs
- Trainings (e.g., Cultural Humility)

Notably with regard to funding, the OHE was able to create and incorporate health equity guidelines into its non-research NOFO template. For Fiscal Year (FY) 2024, colleagues across the agency are writing NOFOs in which they will be using these guidelines to inform the development of their NOFOs. In terms of the partnership priority and consistent with what was shared by the HEW, the OHE hopes to increase community engagement with populations that experience health disparities. Regarding the public health workforce priority, consistent with the agency's core capabilities, the OHE's intention is to build internal capacity to increase subject matter expertise in health equity, health equity science, health equity action, interventions, and policy within a workforce and a workplace that is characterized by diversity equity, inclusion, accessibility, and belonging. With

respect to the science and interventions priority, the OHE intends to implement equitable community-informed practices for advancing health equity in research, surveillance programs, evaluation methods, emergency response and preparedness, and laboratory sciences.

In terms of recent and upcoming PHE and programs, OHE convened 2 Power of Partnership meetings—one in January and another at the end of April. During these meetings, participants discussed how to strengthen connections between state and local health departments and CBOs. The thinking was to proactively prepare for whatever the next emergency is before it occurs by being focused and intentional about strengthening connections. This will continue to be a priority for the OHE. During these meetings, 23 states, 2 local urban areas, and a number of CBOs were represented. The CORE Forum was convened during the week of May 2-5, 2023 during which the entire agency presented examples of work under this initiative. This forum was titled the *2023 Celebration of CORE: Making the Health Equity, Diversity, Equity, Inclusion, Accessibility, and Belonging, and Equal Employment Opportunity Connection*. Now in its second year, CORE has been focused on advancing health equity through the CIOs and the diversity, equity, inclusion, accessibility, and belonging (DEIAB) work that has been underway, as well as understanding the rules, regulations, and laws that govern equal employment opportunities.

In 2023, CDC's OHE celebrates 35 years of "baking" health equity into its public health work. "Baking" health equity into OHE's work means that health equity principles are foundational ingredients in OHE's work, rather than separate ingredients layered in, sprinkled on top, or served on the side. When health equity is "baked in" to public health, the programs, science, and policies we develop are fundamentally different from the status quo and get to the root causes of preventable health disparities. As part of this celebration, OHE is planning a series of activities to celebrate how we bake health equity into our work to support advancing public health. In addition, the OHE participated with the HHS OMH to celebrate National Minority Health Month and is in the process of standing up a Health Equity Learning Plan that will be available to the entire agency and through which people will be able to select courses they need in order to build their capacity.

In closing, Dr. Liburd invited everyone to connect with the OHE through a variety of avenues, such as the following:

- *Health Equity Matters*: Quarterly e-newsletter that shares news, perspectives, and progress related to minority health and health equity.¹
- *Health Matters for Women*: Monthly e-newsletter that provides information on what is happening in women's health around CDC and other agencies.²
- *Conversations in Health Equity*: Blog devoted to increasing awareness of health inequities and promoting national, state, and local efforts to reduce health disparities and achieve health equity.³
- Engage with us on Twitter and LinkedIn.⁴

Discussion Summary

Dr. Shah expressed excitement that the OHE is building on over 30 years of history. He wondered whether any thought has been given to key performance indicators in terms of what one or two things will be different or new that the OHE will track over time to demonstrate that the OHE has made progress and achieved success.

¹ <https://www.cdc.gov/minorityhealth/newsletter.html>

² <https://www.cdc.gov/women/newsletter/index.htm>

³ <https://blogs.cdc.gov/healthequity/>

⁴ Twitter @CDCHealthEquity and LinkedIn @CDChalthequity

Dr. Liburd emphasized that some of this is still being determined through the creation of the Health Equity Strategy. A priority around funding is to track the inclusion and addressing of health equity within new NOFOs as they are being published. Regarding the priority around DEIAB, the OHE has a DEI Steering Committee that has outlined a number of metrics. Each CIO has made a number of commitments in terms of metrics and indicators that the OHE will be monitoring. Some metrics have been identified and more will be crafted, vetted, and shared publicly over time.

Dr. Fleming noted that he had the privilege of working at CDC in the past and the agency may have changed, but given how much work all of the different parts of the agency are trying to do usually in specific areas, it is difficult to coordinate an agency-wide approach—not because people do not want to do it, but because they are busy doing whatever it is they are charged with doing. He asked Dr. Liburd to speak about the process the OHE has set up to try to create the agency-wide approach she spoke of as an aspiration, given the challenge of siloing and the fact that people are already running 120 miles an hour to get their day-to-day work done.

Dr. Liburd responded that the use of CORE as an organizing framework, through which they have commitments of more than 160 goals from the CIOs, has been beneficial. Twice a year they have what is referred to as an “Interactive Dialogue Session” in which CIOs are convened to talk through their progress, challenges, and what they need to do next to continue to move this work forward. Each CIO has designated a CORE Liaison who meets with the CORE Leadership Team on a periodic basis. Since 2018, they have had a Health Equity Leadership Network that also brings people together from throughout the agency who have responsibility for health equity within their CIO, who meet monthly as well. An effort is being made to elevate that group and further empower it to be able to represent what is occurring within each of their CIOs more broadly. The OHE is also putting forward Health Equity Standards that have been defined as “principles.” They discovered through the recent CORE Forum just how much health equity-focused work is underway throughout CDC. There is a CORE data system that captures progress, milestones, and success stories.

Dr. Martinez requested that Dr. Liburd speak about what she envisions the OHE’s accomplishments will be within the next 12 months.

Dr. Liburd responded that a year from now, she would like for the OHE to be sufficiently staffed to be able to pursue with confidence the commitments that will be made through the Health Equity Strategy and to have documented evidence of the progress toward the strategies she outlined. She would like to see strong structures within the CIOs that support health equity. Some centers have created positions, such as Senior Advisor for Health Equity and Director for Health Equity. Her hope is that the people who fill those positions feel that they have influence and connection across the CIOs and that they are not operating in a vacuum. In addition, she would like to see improvements in the organizational culture, people’s sense of feeling included, and their perspectives on being engaged in the daily deliberations of the agency. It is a combination of quantitatively capturing progress toward the objectives and goals outlined in the strategy, as well as obtaining qualitative feedback from staff about how they perceive health equity to be advancing within the organization.

Office of Readiness and Response (ORR)

Henry Walke, MD, MPH (Director, ORR, CDC) described a few of the activities being conducted within CDC to strengthen the agency’s emergency and readiness response capabilities. The ORR is committed to ensuring that the CDC implements readiness efforts to position the agency to respond rapidly and effectively to public health emergencies through activities such as a Graduated Response Framework (GRF), the CDCReady Responder Program, and the ORR Strategic Direction.

The GRF is a 3-level structure for improved management of CDC's public health emergency responses through better coordination and organization. The GRF allows CDC staff to manage public health responses at the right level within the agency and to transition between levels as operational needs and resource requirements change. The GRF Concept of Operations (CONOPS) serves as a blueprint for multi-level response management and establishes parameters and criteria to guide response leaders and staff in operationalizing and implementing the GRF. The ORR is engaged in responses every day, working alongside state and local partners. While most responses are small and limited in scope, some responses escalate and require more resources and staff to manage them. The GRF enables CDC staff to scale public health response operations across multiple types of responses and allows for a smooth and fast transition between the levels of Program-Led, Center-Led, and Agency-Wide responses in a standardized manner. The CONOPS includes a wide range of topics related to a response, such as roles and responsibilities, data management and analysis, evaluation, response operations and communication, and best practices for scientific response functions. Dr. Walke described examples of responses at each GRF response level, emphasizing that regardless of the FRG level of a response, CDC is still responding. The framework and decisions about the level at which CDC manages emergencies are internal, administrative designations. The level of a response generally does not affect how partners engage with the agency.

The CDCReady Responder program was launched in December of 2022, building upon lessons learned and incorporating input on how to strengthen the agency's emergency response staffing capabilities. This CDC-wide initiative will improve how the agency identifies and prepares staff ahead of public health emergencies. This shifts the agency away from a longstanding time- and labor-intensive voluntary approach to response that centralizes staffing activities under one program with a goal to develop a diverse workforce of pre-qualified, trained, and available responders to establish and sustain an emergency response. The CDCReady Responder program has 4 key aims to achieve that goal, which are to: 1) build and expand pools of pre-qualified, available responders; 2) recruit and include staff not already connected to the response community; 3) train staff to apply their talents to response work; and 4) create opportunities for staff to build new skills and professional connections.

CDCReady Responder Cadres are groups of staff with requisite experience and skills in certain functional areas that include Response Communication, Response Leadership, Response Operations Support, Global Migration, and Health Equity. Over the next year, additional cadres will be established to include Behavior Science, Data Analytics, Data Prevention and Control, and Partnerships—key activities needed for any large response. CDC now has a much more structured system than ever before. It is anticipated that by September 30, 2023 there will be approximately 1000 individuals enrolled and that the goal for FY24 would be 3,000. Eventually, the goal would be to enroll most everyone at CDC into a cadre with which their functions align. They are trying to emphasize that everyone is a responder, that everyone needs to be trained, and everyone needs to understand what their roles and responsibilities are within the Incident Management Structure (IMS). Response elements are being incorporated into position descriptions for new employees so that it is clear that upon being hired, response will be part of what they do.

In terms of Congressional updates, the Public Health, and Social Services Emergency Fund (PHSSEF) for Pandemic

Preparedness includes \$20 billion in mandatory funding across HHS to prepare for pandemics and other biological threats, with \$6.1 billion allocated to the CDC. The Pandemic and All-Hazards Preparedness and Advancing Innovation Act (PAHPAIA) is of particular importance to CDC and the ORR because it provides the framework for the public health emergency preparedness agreement that funds 50 states, 4 cities, and 8 US territories. The PAHPAIA has played a critical role in CDC's response to multiple emergencies, including the H1N1 influenza, Ebola, and COVID-19 outbreaks. The PAHPAIA has been authorized twice and is due for reauthorization again in 2023. The HHS and CDC proposals for renewal include expanded labor and flexible

public health work force solutions so that CDC can bring people onboard quickly and would include direct hire authority, danger pay, and some flexibility around pay in general. The FY24 President's Budget proposal includes \$20 billion of mandatory funding dispersed over 5 years to prepare for pandemics and other biological threats. This funding supports priorities that have been outlined in the 2021 American Pandemic Preparedness Plan (AP3) and the 2022 National Defense Strategy (NDS). The approximately \$6.1 billion of that funding that would be allocated to the CDC would be used to modernize and build laboratory capacity, strengthen public health data systems, enhance global disease preventions by security efforts, and support capabilities for monitoring and evaluating the safety and effectiveness of vaccine and medical countermeasures. From the \$6.1 billion, ORR would administer about \$943 million. This is approximately a \$38 million increase from FY23 for domestic preparedness. ORR will use these resources to elevate readiness and response science; prioritize populations at highest risk for adverse health outcomes; enhance CDC's workforce, programs, and systems to increase CDC's readiness and response capacity and skills; and focus evaluations on tasks that enable ORR to take action. Ultimately, CDC is making an effort to professionalize the way in which the agency approaches responses through standardization and bringing the entire agency's talents and skills to bear against any large public health event.

Discussion Summary

Dr. Taylor pointed out that one of the issues the LW discovered in its work was that there were issues with internal communication at CDC in that people who were part of the response reported to their supervisors rather than through the chain of command in the IMS. It is extremely important for CDC to ensure that everyone recognizes the importance of the IMS chain of command, which is different in an emergency situation.

Dr. Walke agreed and noted that he has a lot of intense emotion around this because as the CDC Incident Manager for about 14 months during COVID-19, there were times when the agency did not speak with one voice and was not organized under a unified IMS. They learned from those lessons. There were many spirited conversations in the hallways around what was/was not working. This aligns with the concept that at least in emergencies, the silos at CDC must be broken down. They all work for CDC and are supporting the agency's mission and the Director as the number one priority. He has seen this evolve and thinks they are now in a much better position moving forward in terms of having a more cohesive response. Another element of this is trying to give everyone an understanding of what IMS is and the goals and responsibilities. It also involves bringing in the best people and senior leadership in a response. Early in the COVID-19 response, he was trying to bring in as many senior leaders as possible because CDC needed good management in a response. Responses are chaotic and need senior leadership not only for management purposes, but also so that they understand some of the challenges and the importance of the response experience.

Dr. Shah emphasized that this incident management approach would fundamentally change what CDC does. He asked Dr. Walke to speak to how this relates to the rest of HHS, the rest of federal government and beyond, states, locals, private sector, et cetera; and how CDC and ORR are thinking about what will be different next time.

Dr. Walke responded that one of the responsibilities within the ORR is inter-agency coordination around preparedness and response and what that means. With HHS, the ORR has very tight coordination with the Administration for Strategic Preparedness and Response (ASPR), the Biomedical Advanced Research and Development Authority (BARDA), and the NIH related to response activities. That has not always been the case. COVID-19 was an all-of-US-government response that required CDC to work on its policies and collaborations within the department to set up disaster leadership groups to synchronize across all activities. In a very large event, the US would move into a Federal Emergency Management Agency (FEMA)-led response in which case CDC's response would feed into the Secretary's operation system at HHS that feeds into an overall FEMA-coordinated response. There are a number of cities and states in the country that have very strong emergency

management operations and very skilled workforces that are managing various disasters or responses on their own. CDC's Emergency Operations Center (EOC) should synchronize better with state and local EOCs, which Dr. Walke wants the ORR team to work on further. While there have been and remain a lot of challenges, he feels like CDC is now in a better place in terms of readiness and response.

Dr. Goldman emphasized that while this is a great conceptual framework in terms of emergency response that is communicable to people in the agency, there still are implementation challenges. What she did not hear was whether ORR or somebody would have the authority to require CDC staff to participate in drills that test the ability for people to change overnight in terms of the mode of the chain of command in which they are working. People are often very confident that they understand a plan and that it is trivial. Drilling can help identify and learn from problems, which will make them better at an actual response. One analogy is that people cannot provide cardiorespiratory life support if they have not been trained and practiced that.

Dr. Walke agreed and stressed that as they think about the work with Moving Forward, all of the issues that have been identified, and the priority actions the agency is taking to try to deal with the issues, they have engaged in a series of exercises to test new policies and procedures that have been put in place. Supervisors and their staffs are expected to participate in exercises. Measuring the supervisors' approval of their staff to engage in exercises or responses is an important element of that. The expectation is that senior leaders, supervisors, and their people will participate in all public health responses and/or exercises as needed. This is particularly important for new/junior staff. The whole agency must be trained and ready. Burnout is real, especially when the same core group of people respond to everything. The state and local public health workforces on the frontline do not have the resources and staffing that CDC does, yet they have been on 24/7 and their burnout level is being demonstrated in terms of the number of people who are leaving state and local public health departments.

Dr. Martinez asked what Dr. Walke finds to be the greatest resistance and what he foresees as being the greatest challenges with the leadership change with Dr. Walensky stepping down.

Dr. Walke responded that at least from the staffing standpoint as someone who has spent almost 22 years at CDC, there is a misunderstanding between day-to-day CDC work and program-lead responses and the role of emergency management in terms of helping SMEs in a response to organize and respond efficiently. For emergency management, there is a need to organize in an efficient way based on some principles that are well-known, such as how FEMA responds to natural disasters. To Dr. Walensky's credit, the Moving Forward initiative has given CDC a framework within which to change and make progress. He does not foresee that changing after she leaves the agency. There is a lot of hope and enthusiasm throughout the agency in terms of Moving Forward.

Global Health

Howard Zucker, MD, JD (Deputy Director for Global Health, CDC) noted that he is new to CDC and explained that because Dr. Walensky wanted to bring the global health efforts across the agency together, she created the Deputy Director for Global Health position to address this. After the pandemic, CDC recognized how central global health is to everything the agency does overseas and in the US. Outbreaks and pandemics have shaped history. They have sparked political conflict, gridlocked international trade, sunk economies, and redrawn maps. Disease outbreaks have undermined the security and well-being of every generation, every community, every civilization, and will continue to shape history. In early 542, the Justinian Plague struck. At that time, the city was the capital of all of the Eastern Roman Empire that was led by the Emperor, Justinian. It did not burn out until 750—some 200 plus years later, by which point there was an entirely new world order. Jumping to 1347, the earliest formal quarantines were developed to respond to the Black Death that killed an estimated 25 million people in Europe and Asia between 1347 to 1352. The word "quarantine" comes from the Italian word

“quaranta” meaning 40, which refers to the practice of a 40-day quarantine. The period of 40 days has nothing to do with incubation and was chosen not for medical reasons, but for scriptural ones. Moving forward 500 years to 1863 and smallpox, Lincoln reportedly told his private secretary during his train ride to Gettysburg that he felt dizzy and weak. Nevertheless, he gave an unbelievable memorial speech that everyone can quote and is taught to recite in public school. On the train ride home, he developed a high fever and a widespread rash that morphed into smallpox lesions. He said to people when he got back to Washington, “I have something to give everyone, but no one wants it.” Smallpox, an ancient virus that was even found in Egyptian mummies from 1157 BC, is estimated to have killed more than a billion people before eradication in the mid-20th Century. In more recent history, the outbreaks of HIV beginning in 1981 and COVID-19 in 2019 have shaped the economic, social, and political fabrics of the world today and will have a lasting impact on the way of life.

Outbreaks like these and others also have defined some of the basic tenants of modern medicine, pushing the scientific community to develop principles of epidemiology, prevention, immunization, and antimicrobial treatments. It has been known for a long time that a health threat anywhere is a health threat everywhere. However, the degree of investments in the global health infrastructure systems, workforce, and programs that can help prevent and detect outbreaks in the early days remain insufficient. Population growth, rapid urbanization, environmental degradation, and the misuse of antimicrobials are disrupting the equilibrium of the global world. For instance, poorly treated cases of tuberculosis (TB) or pneumonia in Asia and Africa have shown up in US hospitals within days. In today's interconnected world, a disease can be transported from an isolated village to any major city in as little as 36 hours. The global Mpox and Marburg outbreaks in Tanzania and Equatorial Guinea are just 2 recent examples of how the risks of emerging infectious diseases are increasing daily and how global systems remain ill-equipped to prevent and contain these threats. This is where CDC steps in. CDC is seeking to change this by working with countries and parliaments to invest in laboratories, data, surveillance, communications, and infrastructure for timely and effective detection, response, and prevention of health threats.

CDC's global programs address more than 400 diseases, health threats, and conditions that are major causes of death, disease, and disability. CDC has a history of more than 70 years of global public health excellence and a record of trailblazing science and evidence-based decision-making. CDC's workforce includes scientists and seasonal technical experts who lead the global efforts to detect, prevent, control, and treat a broad range of diseases; respond to health emergencies; and strengthen public health systems. CDC's public health leadership influences the advancement of global science and practice. CDC collaborates with Ministries of Health (MOH) in over 60 countries and with other organizations including the United Nations (UN), the World Health Organization (WHO), United Nations Children's Fund (UNICEF), and many others. CDC also works with non-governmental organizations (NGOs) to address and solve major health issues such as COVID-19, influenza, HIV, TB, malaria, neglected tropical diseases, zoonotic diseases, and vaccine-preventable diseases that seem to be on the rise. CDC's robust expertise and technical exchanges with partner countries and other global institutions bolster the US as a global leader. Given the agency's broad global presence and depth of partner collaboration, CDC staff are at the forefront of international relations as the agency leads public health systems strengthening, advances and promotes health security, enhances health equity, and responds to emergencies.

In terms of continuing security efforts during and after the COVID-19 pandemic, CDC is expanding its strategy in recognition that these diseases know no borders and that cross-border cooperation is critical. In addition to establishing over 60 Country Offices worldwide in 2020, CDC has established 4 Regional Offices: Eastern Europe/Central Asia Region in Georgia, Middle East/North Africa Region in Oman, South America Region in Brazil, and Southeast Asia Region in Vietnam. Additional Regional Offices will be added, including a Central America/Caribbean Region that will be based in Panama and East Asia/Pacific Region based in Japan. CDC's approach of establishing Country and Regional Offices around the world advances US global health security goals and maintains a comprehensive presence that allows the agency the flexibility to focus on core capacity-

building efforts where they are most needed in order to address outbreaks, provide technical assistance, and/or advance key programmatic objectives. CDC experts work alongside local, regional, and global partners in all regions to provide unparalleled expertise in many areas, including data analytics, disease and vector surveillance, diagnostics, laboratory systems, workforce development, emergency preparedness, and outbreak response. The agency engages with foreign governments to address their health challenges. In addition to increasing public health capacity, these partnerships often serve as entry points for broader diplomatic engagement, making CDC's ongoing global work critical to diplomacy.

CDC long-term investments in flagship health programs have built the foundational infrastructures in over 100 countries that is necessary for disease detection and outbreak response. The agency is a key leader in implementing flagship global public health programs such as the President's Emergency Plan For AIDS Relief (PEPFAR), the President's Malaria Initiative (PMI), the Global Polio Eradication Initiative (GPEI), and the Global Health Security Agenda (GHSA). For example, 73% of the global PEPFAR-supported centralized laboratories implemented SARS-CoV-2 testing. In Haiti, the CDC office supported COVID-19 vaccination efforts with assistance from PEPFAR's implementation partners. In Uganda, the CDC office funded COVID-19 vaccine outreach through the Infectious Disease Institute (IDI) and leveraged existing HIV platforms to administer COVID-19 vaccines. This truly made an impact on how this disease was curtailed in other parts of the world. With additional resources included in the President's Budget Request for PY24, CDC will be able to modernize and build laboratory capacity; strengthen public health data systems; enhance domestic and global disease surveillance, biosafety, and biosecurity efforts; and support capabilities for monitoring and evaluating vaccine and medical countermeasures' safety and effectiveness.

There is a continued focus on investments in global health security. It is vital to improving health outcomes and recovering lost ground in global responses from HIV, polio, malaria, neglected tropical diseases, and numerous other health threats. Everyone benefits from strong and equitable public health systems with a highly skilled workforce. Since 1980, the CDC has trained more than 19,000 Disease Detectives in over 80 countries through its flagship Field Epidemiology Training Program (FETP), which is a truly remarkable program. Since 1980, CDC has partnered with the MOHs in more than 80 countries to strengthen their workforces through the program that is modelled after the Epidemic Intelligence Service (EIS) program. This on-the-job training in dozens of countries has allowed experts to track, contain, and eliminate outbreaks before they become epidemics. For instance, the CDC office in Nigeria built relationships with the MOH focused on polio eradication and used US CDC SMEs to support vaccine roll-out. In Thailand, the US CDC office identified and expanded existing influenza research platforms to evaluate vaccine effectiveness (VE) for COVID -19.

CDC also is engaged in improving health care quality at the global level and enabling the safe delivery of health care through eliminating the risk of infection. Since 2014, CDC's International Infection Control Program (IICP) has worked to protect patients and health care personnel (HCP) in more than 40 low- and middle-income countries across many geographic regions and has partnered with public and private organizations in the US and around the world. Working closely with partners in countries, CDC supports the development of sustainable infection prevention and control capacities in health care systems. CDC has rapidly responded to infectious disease outbreaks in healthcare settings abroad, such as COVID-19, Ebola, Mpox, Marburg, and many others. In addition, this program supports monitoring and prevention of healthcare-associated infections (HAIs) and detection, prevention, and response to antimicrobial resistance (AR) in healthcare globally.

To prepare for the next emergency outbreak or pandemic, CDC can activate and draw from a wide range of tools in the global toolkit to strengthen and support health system capacity in 4 essential areas, which are to: 1) expand disease surveillance systems to quickly catch outbreaks before they spread broadly; 2) strengthen laboratory networks to accurately diagnose diseases and identify pathogens; 3) train a skilled public health workforce to contain outbreaks at their source; and 4) establish Emergency Operation Centers (EOCs) to

coordinate response efforts across sectors when crises occur. Some of the programs in the toolbox are the CDC Global Disease Detection (GDD) Operation Center established in 2007. The GDD provides for exchange of real-time information with US international agencies and other countries, often being the first to alert the US Government (USG) about international outbreaks and the risk they pose to the American public and others. The CDC partnership with the National Public Health Institutes (NPHI) and the FETP are the building blocks for the country's health security and by extension to global health security. There is the new Global Laboratory Leadership Program (GLLP) that works around the world to help countries build public health capacity to prevent, detect, and respond to disease threats at their source. The global Joint External Evaluation (JEE) assesses countries' health security strengths and weaknesses, pinpointing the most urgent gaps in public health systems around the world. To date, more than 113 JEEs have been completed, representing over half the UN member states. CDC experts have participated in over 60% of the JEEs conducted thus far.

CDC plays a leading role in Global Health Security Agenda (GHSA) implementation for the US by working directly with partner country governments to strengthen public health systems and reduce the risk of infectious disease outbreaks. CDC recognizes that the ability of countries to respond to health threats depends upon the strength of their capacities in 4 core areas: Surveillance, Laboratory Systems, Workforce Development, and Emergency Management and Response. Focusing on the potential weak links in these core areas ensures that countries are well-prepared to respond to disease threats wherever they might begin. In addition to government-to-government collaboration with MOHs, Ministries of Agriculture, and other relevant ministries, CDC works with partner organizations to build and improve the capacity to prevent, detect, and respond to disease outbreaks. CDC leverages its partnerships with NGOs, multilateral organizations, the private sector, and other stakeholders to support the GHSA mission of stopping outbreaks globally to protect Americans locally by tracking and responding to disease threats, training Disease Detectives, and deploying CDC responders across the globe. Over the course of 5 years of the GHSA, all 17 CDC-supported countries have improved their capacity to prevent, detect, and respond to infectious disease threats. CDC plays an essential role in implementing programs internationally to support the USG's National Biodefense Strategy, which helps ensure that outbreaks are stopped before they land on US shores. The most effective and least expensive way to protect Americans from diseases and other health threats that begin overseas is to prevent, detect, and respond to outbreaks before they journey toward the US and cause social and economic disruption.

When countries work with CDC to develop sub-national disease surveillance systems, bolster the health workforce, and act decisively in the face of outbreaks, epidemics can be prevented. Epidemics that do not happen are, by definition, much less visible than those that do. It is easy to overlook the careful planning and swift, strategic action that go into keeping the world safe from infectious disease threats that happen behind the scenes. It is easy to lose sight of the progress that has been made, but just as much can be learned from successes as can be learned from failures. Some examples of some of the epidemics that did not occur include containment of an influenza outbreak on a cruise ship in the South Pacific in 2009, containment of yellow fever in Brazil during the 2018 and 2019 seasons, the 2021 Ebola outbreak in Guinea that was declared over after 6 months, and prevention of a cholera outbreak in Burkina Faso in spite of a regional outbreak that caused 109,000 cases and 3,700 deaths across West Africa in 2021. These are just some of the epidemics that did not happen—these stories did not make the headlines. These failed epidemics are a testament to the power of investing in preparedness and they demonstrate quite simply that preparedness works. These epidemics that did not happen show that smart investments, improved health systems, and better coordination and communication by determined leaders can find, stop, and prevent outbreaks.

Investing in people, systems, and partnership with communities can stop the spread of disease and save lives. More than 70% of the world remains under-prepared to prevent, detect, and respond to a public health emergency. When countries prepare consistently and act decisively, epidemics can be prevented. Every day around the world, public health experts are preventing epidemics. The epidemics that did not happen

demonstrate that smart investments, improved health systems, and better coordination and communication by determined leaders prevent outbreaks. The wins of preparedness and absence of epidemics are not always obvious. Without clear metrics, it is hard to quantify success and justify investments. Investments today will build a safer, healthier world tomorrow. Global health security has been plagued by cycles of panic and neglect, with little effort made to strengthen systems to prevent epidemics when not staring down an epidemic. The COVID-19 pandemic caused an economic shock 3 times worse than the 2008 financial crisis and caused the biggest blow to the US economy since the Great Depression. The economic disruption caused by the COVID-19 pandemic is estimated to have cost the world more than \$16 trillion—many times more than the projected cost of preventing future pandemics according to a recent study. By one estimate, it would take just \$124 billion over the next 5 years to make the world better prepared for epidemics and pandemics—significantly less than the trillions that COVID-19 has cost and the deaths of 6 million people globally. Similarly, the USG has spent \$4.6 trillion to respond to and recover from the COVID-19 pandemic.

In contrast, a study by the National Academy of Medicine (NAC) commissioned in 2016 advised that increasing global expenditures on pandemic preparedness by \$4.5 billion by year, which is a negligible fraction of the global output, would provide substantial safety increases for pandemics such as COVID-19. There was a failure to make such investments then and the USG cannot afford to repeat these mistakes again. COVID-19 is the latest and most devastating crisis to underscore the need to shape and sustainably fund long-term pandemic preparedness globally. Prioritizing a sustained, focused commitment to global health security is vital to saving lives, using resources wisely, and minimizing political and economic instability around the world. At its core, the CDC's work on global health security is the translation of investments into lifesaving actions through disease programs, across sectors that impact health, and in communities where local and global are inextricably linked.

It is not possible to build a safer, healthier world and achieve health security without health equity. To address the next public health threats and countless pressing health issues facing the world, everyone must work together toward solutions for all on a global scale. CDC embeds health equity into the design, implementation, and evaluation of global programs and activities. CDC's global public health work across the agency is guided by 5 pillars: Scientific Expertise, Diverse Partnerships, Innovation, Sustainability, and Health Equity. CDC works to eliminate health disparities and achieve optimum health throughout all of these pillars and more specifically by addressing health equity to reach those in greatest need through global programs, research, tools and resources, and leadership. The US and the world are at a critical point in the fight to sustain the progress made in global health security and health equity. CDC is committed to being a leader in both areas, as they are interdependent.

CDC will continue to work in communities near and far to build a world safe and secure from emerging and re-emerging health threats. Diseases will not stop, and neither can CDC. The agency will continue to do this by providing timely and effective responses to large-scale public health emergencies; fostering a public health action-oriented CDC committed to accountability, collaboration, communication, timeliness, and equity; and building world class data analytics, a diverse public health workforce, state-of-the-art laboratories, more effective response to outbreaks, and expanding global health capacity and preparedness. CDC's global public health work embodies American values, using both US knowledge and technical expertise and the knowledge and technical expertise of global partners to protect and enhance health and livelihoods in the US and around the world.

As he began with historical references, Dr. Zucker concluded with some as well. History is written not only by men and women, but also by microbes. Similar to Lincoln at Gettysburg, the lingering effects of Spanish influenza hindered Woodrow Wilson's ability to effectively advocate for his "14 Points" at the Paris Peace Conference at the end of the World War I. He was left bedridden due to influenza in the middle of perhaps the most important negotiations of his life. Spanish influenza eventually killed an estimated 20 million people

worldwide, including more than 600,000 in the US. When Thomas Jefferson wisely commented that “An attention to health should take the place of every other object,” he likely did not imagine that his words would still ring true in reflecting on the catastrophic human impact COVID-19 pandemic and the work to prevent future outbreaks of pandemic potential. It took the COVID-19 pandemic to remind everyone of the power microbes have over our lives. Very few phenomena throughout human history have shaped societies and cultures the way that outbreaks of infectious diseases have. If anything has been learned from pandemics and outbreaks of the past and present, it is that the health of people in one corner of the world is inextricably linked to the health of millions around the world, and that will remain true for centuries to come.

Discussion Summary

Dr. Fleming observed that there is no question that global health security is a key issue that from a threat standpoint to the US is probably the most immediate. It is an issue that enjoys considerable support. Health Ministers in low- and middle-income countries generally say that their greatest concerns are non-communicable diseases. Africa now has more untreated hypertension on that continent than any other continent. When the same Health Ministers are asked where they are least prepared to respond, they say non-communicable diseases. He asked how CDC is working to enable countries to better address that emerging health threat and emergencies as well.

Dr. Zucker said it is accurate that non-communicable diseases (e.g., hypertension, diabetes, heart disease, and cancer) are killing more people on a larger scale. The answer is that CDC needs to have more partnership with countries and NGOs to address communicable diseases and make sure they get more attention. Getting non-communicable diseases “on the radar” more will be helpful. Funding is tough to tackle because people do not recognize sometimes that controlling non-communicable diseases overseas also has an impact on US lives. A country with a high level of chronic disease and a compromised workforce can no longer achieve its goals. A country that is not safe and secure can create unrest.

Dr. Cardo emphasized that this is exactly what they hear every time CDC meets with MOHs. Where CDC has a country or regional presence, they do not just go by disease. The funding comes by disease, but the programs take care of people. For instance, the Kenya and India programs include hypertension, heart problems, and so forth as part of the care of patient who also are being treated for HIV. The PEPFAR Ambassador, Dr. Nkengasong, is known for talking about how to use the resources that have been implemented for PEPFAR and other issues to address non-communicable diseases. Dr. Cardo hears sometimes from countries that they do not want the money—they want technical support and to know how to better implement programs.

Dr. Sharfstein asked how CDC thinks about its role working with countries versus multilateral organizations, such as the role of the WHO and the relationship between the CDC and the WHO.

Dr. Zucker responded that there are organizations in the field doing other things and providing funding, such as WHO, that do not necessarily have the technological expertise that CDC brings. There is something very special about the CDC because there are people who understand issues at a level and depth that is unmatched. For example, there are staff within CDC who understand Marburg, how it is transmitted, which kind of bat transmits it, where it is located, patterns and seasons, et cetera. CDC needs to be in sync with international organizations such as the WHO, which has its own expertise and often turns to CDC for advice. With a strong WHO and CDC presence in a country, a lot can be achieved. CDC and WHO worked closely with Ecuador and New Guinea to help them achieve what was needed with respect to Marburg. There is an advantage to being an organization that basically can represent all countries. CDC needs to work closely with organizations of that nature, such as the WHO, in many ways.

Dr. Cardo added that as Dr. Zucker mentioned, CDC has a presence in 60 countries and 4 regions. There are almost 2,000 people, but 70% of them are local employee staff. CDC does not want to have just a lot of agency people going to countries. They want to build that. WHO is critical and other programs have people embedded in WHO and locally working with WHO. It also is important to empower local organizations because they also are involved.

Dr. Goldman pointed out that many times global infectious disease outbreaks are accompanied by massive humanitarian emergencies, such as hunger and other crises that are created by diseases such as Ebola. For instance, one result can be children who need sudden care, homes, and so forth. It is not clear how all of that is coordinated. Instead, it seems like a multitude of US agencies and others are involved. There are broader public health issues that accompany many of these larger epidemics in which not only is there a disease to control, but also there are large humanitarian problems. A population being dislocated by an epidemic also impacts children who may not be infected themselves but are losing their parents. There are workers on scene who need to be protected. She wondered what CDC's role in that would be. For example, is CDC involved with making sure that people who come in to do humanitarian work are protected and, if so, how does the agency do that?

Dr. Zucker indicated that this regards the issue of addressing the whole community in terms of making sure the disease and other issues are addressed. This relates to the concerns about the health system and society starting to fracture, civil unrest occurring, the workforce leaving—a domino effect that creates a void when everything starts to fail. The key at the beginning of such a situation is not to just parachute in and then leave. It is critical to identify partnerships, work with organizations already in the country, understand the culture of the country and its communities and gain their trust, and so on. Something CDC does very well is that its leadership in the country offices are attuned to the culture of that community. Even though he hears criticisms from all of the Country Directors about COVID-19 in the US, they also were extremely appreciative of what CDC brought to the table in the countries where the agency has offices in an effort to prevent the spread of disease in their countries.

Dr. Taylor brought up the importance of genomic databases, especially in surveillance. There is a perturbing discussion in *Science* magazine at the moment about the extensive use of USAID data during the COVID-19 pandemic. CDC set up spheres and there were National Center for Biotechnology Information (NCBI) and European surveillance. At some point, all these data have to be in one place, be transparent, and have no strings attached. CDC absolutely has a role in that. While she did not know what the solution would be, she wanted to raise the importance of that topic for surveillance.

Dr. Zucker agreed that this is an enormous issue. Using genomic data to detect diseases is a relatively new field for which there needs to be a basic platform where all of the data go, and it must be interchangeable. Until this is accomplished, there will continue to be challenges.

Data and Surveillance Workgroup

Nirav R. Shah, MD, MPH (DSW Co-Chair) reviewed the extensive work of the DSW over the last couple of months that he noted built upon some of the DSW's prior work. In November 2022, the first DSW report defined 3 areas of recommendations that included defining a minimal dataset for core public health, establishing standards for such data, and ultimately weighing in on data use agreements (DUAs). He then summarized the DSW's activities and work since that time and presented the DSW's proposed action steps for discussion and a vote. In April 2023, Dr. Jennifer Layden, CDC's new Director of the Office of Public Health Data, Surveillance, and Technology (OPHDST), shared with the DSW her public health data modernization strategy, which is required reading for anyone who is interested in public health data. It is an incredible tour de force, comprehensive, and thoughtful strategy that holds the CDC accountable with specific 1-year metrics and 2-year metrics. The DSW

built upon this strategy to create action items to present to the ACD about the workforce that will be needed to support this public health data modernization strategy. The DSW learned a lot about how to ask an organization like the CDC to be action-oriented, aligned with the Moving Forward strategy, and accountable. That is the new model for all of the work at CDC. He heard these themes in the presentations given throughout the day. As CDC's internal processes, organization, and structure evolve, consideration also must be given to refreshing the people who can lead within the CDC. The agency has incredible epidemiologists, data scientists, and many others already. However, the world is changing very quickly and as a result, CDC will need to incorporate new skills in data architecture, artificial intelligence (AI), et cetera. This will be an evolving strategy versus one-and-done that will require regular revisiting.

As a reminder, the DSW was asked as part of its charge to make recommendations to the ACD on the DSW's Term of Reference (TOR) #4: Workforce. Dr. Shah reviewed the priority areas addressed in the Workforce Memo and the core recommendations against each priority area. The DSW identified 3 priority areas to address the epidemiology, public health data science and informatics, and information technology workforce. The bottom line is that to deliver a modern, responsive public health data infrastructure and to advance health equity, the CDC and STLT public health agencies need to build a workforce that includes staff appropriately trained in epidemiology, public health data science, and information technology (IT). To achieve that goal, the DSW proposed 3 priority areas: Workforce Shortage, Workforce Training, and Funding Use Guidelines.

Priority Area Action Steps

1. Assess **workforce needs** to support the Data Modernization Initiative (DMI) including identifying the range of skills needed, the size of the workforce gap, and a prioritized roadmap to meet short and medium-term needs.
2. Assemble a cohesive **workforce training** strategy aligned with identified needs and work with the private sector and academia partners to build programs that enable upskilling, recruitment, and retention.
3. Issue **guidance on the use of dedicated data infrastructure funds** including how funds may be used to support the epidemiology, public health data science, and IT workforce.

Proposed Action Steps for Priority Area 1: Workforce Shortage

The CDC should:

- **Endorse updating the public health informatics competencies** by partner organizations (PHII/UW)
- **Sponsor a landscape assessment** of the gap in skills/capabilities and staffing to deliver DMI in the short-term and medium/long-term based on the updated competencies:
 - Collect data from STLTs and relevant state agencies (e.g., state OIT) to inform specific workforce KPIs and goals (e.g., workforce size/efficiency)
 - Inform workforce training strategy and funding guidelines (priority areas 2 and 3)
- Based on the assessment and in consultation with STLTs/other partners, **put together example workforce models for DMI including RACI charts, and clear role descriptions, and reviewed salary levels** to support medium to long-term workforce development:
 - As part of this exercise, potential solutions including **public/private combined workforce** and **shared resources across state lines** should also be explored by referencing successful models from other agencies (CMS/HHS)
 - **Reimagine public health IT coordinator roles** at the state level to build leadership capabilities to oversee workforce coordination and executive change management
- **Act on the short-term workforce gaps** identified via the assessment with STLTs by:
 - Initiating a process to understand how best to place CDC technical assistance teams to STLTs over a sustained period of time

- Sponsoring the establishment of systematic training-in-place programs for core public health informatics skills needed in the short-term
- Support workforce capacity-building over the medium and long term via innovative avenues, such as the **creation of a shared workforce with hospitals and academic institutions** and **placement of mid-career academics/professionals**
- Develop a program to **highlight and celebrate front-line public health heroes in the fields of informatics and data science/data modernization** to support recruitment and retention

Proposed Action Steps for Priority Area 2: Workforce Training

The CDC should:

- **Sponsor an evaluation of the landscape of public health data and informatics training** available today to identify gaps to meet needs identified in Priority Area 1:
 - Work with the Office of the National Coordinator for Health Information Technology (ONC) to understand existing efforts
 - **Identify core KPIs** for training program development and operations
 - Address integration of health equity related measurement and strategies into public health programs
- **Create a consistent strategy for public health data workforce training** including a framework of training programs linked to professional development paths identified for Priority Area 1
 - Evaluate the possibility of creating **regional Centers of Excellences (CoEs) and online communities of practice** to support knowledge transfer
 - Explicitly include components that will increase diversity in the public health workforce
- **Support the creation of new public health informatics training programs** within CDC/STLTs, including accreditation/certification programs, leveraging the existing curriculum developed in academia/industry, and referencing other successful governmental programs.
- **Create practical training programs for academic trainees** in public health and relevant informatics fields with an exit into CDC/STLTs as pipelines for the future workforce:
 - Consider working with other agencies to champion incentives such as loan forgiveness for students
 - Consider expanding centrally funded paid fellowships and internships building upon existing CDC programs
- **Evaluate the viability of building academic training grants** similar to other successful governmental grant programs (e.g., RO1 grants/T15 programs) to increase engagement with academic trainees

Proposed Action Steps for Priority Area 3: Funding Use Guidelines

The CDC should:

- **Issue specific fund use guidelines informed by the workforce shortage and training gap assessments** to incorporate input from frontline staff
- Clarify that existing grants/contracts including the Epidemiology and Laboratory Capacity (ELC) and data infrastructure grants **can be used toward creating a data modernization workforce** that includes:
 - Using the funding to conduct a **workforce gaps assessment**
 - **Specific leadership roles** identified in priority area 1 (e.g., Chief of Public Health Informatics/Data Modernization Lead) and their responsibilities within STLTs and within the state governance structure
 - **A team** that oversees data interoperability, bidirectional exchange, and data use agreement
- Evaluative and **issue guidance on how states could share public health informatics resources** to support regional alignment and establishment of regional CoEs

- **Issue guidance on how DMI funding should be used across different programs within STLTs** to ensure a cohesive informatics workforce can be formed at the department level

Discussion Summary

Proposed Action Steps for Priority Area 1: Workforce Shortage

Dr. Fleming noted that the DSW recognized that there is a time urgency such that the process of updating competencies and working together to put forward these clear descriptions may need to occur in parallel versus in series.

Dr. Shah added that the point is that this effort does not start at zero. CDC has many partner public health associations and others who have thought about this a lot. The committees on workforce within the Council of State and Territorial Epidemiologists (CSTE), the Association of Public Health Laboratories (APHL), and many others are willing, ready, and able. They also have many published reports that can be drawn upon. It is more about being systematic about the priorities.

A suggestion was made to add health plans. For example, Chief Medical Officers of health plans may review data every day for millions of people, so there are skills in that space for data analysis and predictive modeling. There is richness of knowledge in health plan groups.

Dr. Shah agreed, pointing out that CDC was able to ask Kaiser for data on VE during COVID-19. Kaiser had the data and abilities in-house that allowed them to spin up data overnight, while CDC did not necessarily have all of those capabilities and data in-house at the same time. He noted that the broad areas of non-profit, for-profit, and academic are meant to cover all of the potential traditional and some non-traditional partners. He thinks there is a lot of work to be done in terms of thinking about the private sector as a whole in terms of what they have in-house, such as large pharmacy associations. The top 4 pharmacies in the country had a lot of in-house abilities around COVID-19 and data science, which certainly helped the nation and could be better integrated into CDC's own capabilities.

Dr. Sharfstein pointed out that there are parts of the data network that is core to CDC like reportable diseases, parts that bridge with private health systems, and parts that are totally separate that may have a completely novel data source (e.g., wastewater surveillance, thermometer company). He asked how much of this relates to core public health data systems and people in public health having the capabilities and how much relates to public health doing one thing and another group doing another something else. That is, should CDC's concept of the workforce be broader than the data systems at CDC.

Dr. Shah agreed that CDC has to be much more ambitious about data in the future. Certainly, CDC has to make efforts internally. The recommendations focus primarily on what the CDC as an agency can control itself in terms of our partnerships with private sector entities. There is a lot of work to be done in the public-private space. CDC's concept of the workforce absolutely should be broader than the data systems at CDC.

Dr. George likes to refer to this as the "information supply chain" in that CDC is aligned in that they want to have data for action, some sort of public health impact or outcome, and determine what evidence is needed to make those decisions and have that impact. What are the analytics we need to generate that evidence? What data are needed to do that? How do we collect those going forward? If CDC has robust requirements that are rooted in that "information supply chain" to get there, then it helps the agency understand how to evaluate novel data sources and whether they are fit for purpose in some capacity. They do need a way to look at innovative, "non-core public health datasets" to determine whether they can help CDC in some capacity. He and Dr. Layden are thinking through how they potentially can test those data sources in different capacities.

Dr. Shah noted that one of many success stories he has seen across HHS is the work that Micky Tripathy is doing with the Trusted Exchange Framework and Common Agreement (TEFCA) in the Office of the National Coordinator for Health Information Technology (ONC). This pertains to considering the public health relevancy of electronic medical care (EMR) data from healthcare in terms of the relevant datasets that need to be collected in a standardized format across the country from every EMR. These active conversations are occurring across HHS and CDC is taking the lead in saying what is needed, how they are thinking about it, and partnering with those who have access to other data.

Dr. Sharfstien clarified that his point is that given that conception, it has to be very clear in CDC's workforce assessment that this capability is expected.

Dr. Martinez said he did not hear a recommendation about what the timeline should be for these action items. The sooner the better, but something tangible needs to be done now.

Dr. Shah stressed that timeliness underlies all of the work, which is addressed in the third recommendation as well.

Proposed Action Steps for Priority Area 2: Workforce Training

Dr. Taylor reported that the APHL has talked a lot about public workforce training in this area. Specifically, they have been thinking about certificate programs that can be used by the molecular staff at laboratories for their own promotion series and to expand knowledge. Some discussion around that would be fantastic. She suggested that it would be useful to identify the best and most valuable programs, especially given that millions of certificate programs come up through a Google search.

Dr. Shah said he is a big fan of career ladders, and it is known that with the evolution of large language models, the more routine data efforts that a lot of staff have to deal with such as surveys will be augmented. The notion is to offer opportunities to reskill or retrain those staff into higher level, hopefully better paid jobs. They will take the suggestion about identifying the best and most valuable programs back to CDC staff. They likely have figured out for other areas which are the ones that matter, why people seek them, what the right cost is, the right formats, et cetera. It is not necessary to start from zero.

Dr. Goldman recalled that in the past, CDC had a Workforce Training Office that engaged with that sort of thing. The extent to which these are people who would end up working at CDC or with CDC partners, that could be a good linkage. They heard from CDC that there is not only a need for training but also for orientation to public health. While this is challenging, she is confident that public health can do this.

Proposed Action Steps for Priority Area 3: Fund Use Guidelines

Ms. Valdes Lupi said it was her understanding that not all jurisdictions receive ELC funding, so she requested more information about the work on that front in terms of additional resources perhaps that might be available.

Dr. Shah, CDC Principal Deputy Director, said his understanding is that every jurisdiction receives at least the base ELC funding. There also is a sub-component called "ELS Enhanced." This would come under the rubric of ELC. He will check this to confirm whether all jurisdictions receive ELS Enhanced.

Dr. Walke added that there are a number of grant programs that support infrastructure data modernization, and there are likely some opportunities to coordinate across the various grant mechanisms to support this type of workforce. Because CDC is very siloed in some of its grant mechanisms, it would be a great opportunity for state and local jurisdictions to build that kind of capacity across multiple mechanisms.

Dr. Fleming said that from his perspective, this seemed like an obvious recommendation. On the other hand, his understanding was that among the members of the DSW who are closer to the frontlines, there was considerable confusion at the level of the folks who are writing the grants and their leaders in terms of the extent to which the funding streams could be used for modernization staff and there was some urgency in trying to clarify this.

Dr. Shah called for a formal vote on the recommendations as promulgated, with some feedback that the DSW will incorporate at the working level as opposed to in the formal document.

Vote

A motion was made and seconded for the ACD to adopt the proposed Priority Areas and Recommendations for TOR #4: Workforce as promulgated, with minor edits. The ACD voted unanimously to move forward the Priority Areas and Recommendations for TOR #4: Workforce to HHS and the CDC, with no dissentions or abstentions.

Laboratory Workgroup Report

Joshua Sharfstein, MD and Jill Taylor, PhD (LW Co-Chairs) presented the LW's background and findings regarding TOR #1 that the LW has been addressing over the last couple of months, which is as follows:

Term of Reference #1

As the national reference laboratory for ID diagnostics, CDC is sometimes the laboratory of last resort for testing specimens that may have been stored in less-than-acceptable conditions, may be an unusual specimen type, or may contain less-than-acceptable volume. These specimens would not meet requirements for acceptable specimens and, adhering to Clinical Laboratory Improvement Amendments of 1988 (CLIA) regulations, CDC would have to reject them. In so doing, rare or difficult-to-obtain specimens can be rejected, whose results could have a meaningful impact on public health, including identifying pathogens responsible for rare or novel diseases.

Questions:

- Considering CLIA requirements, should CDC support investigation of unknown infectious agents or diseases using less-than-acceptable specimens, when acceptable specimens are not available?
- If so, how should an appropriate disclaimer be worded regarding result interpretation that acknowledges the specimens are outside validated parameters.

The LW met virtually on April 4, 2023 with CDC staff who were very forthcoming in providing a history and examples of specimen scenarios, including where CDC did not test samples outside of usual parameters, such as different types of specimens or different temperatures. The LW met on April 11, 2023 to discuss the response that they would provide in the form of a report. The WG came to 2 unanimous conclusions. First, the CDC should offer laboratory testing for unknown, rare, important, and/or difficult to diagnose infectious agents, even under less-than-ideal circumstances. The unique role that public health laboratories, including the CDC's CLIA-certified laboratories, play in testing for pathogens of public health significance is incredibly important for the population, the individual who has the disease, and the clinician. There can be a negative impact on patient care and public health if specimens not meeting routine acceptance criteria are not eligible for testing. Second, based on best practices of large clinical and public health reference laboratories, it should be possible for CDC to perform this critical testing and still meet the regulatory requirements of CLIA. This will require changes in some processes at CDC and policy discussions with the Centers for Medicare and Medicaid (CMS). With the CDC presentations and discussions, and separate WG discussions and conclusions in mind, the WG completed a written report that includes 7 Action Steps CDC should take with regard to TOR #1, which they shared as follows along with some specific examples:

#1: Perform Broad Validations of Pathogen Detection and Quantification Assays

- Multiple specimen types.
- Validate the impact of multiple pre-analytic variables beyond the ideal state.
- Derive data to support specimen acceptance for specimens of varying volume, temperature, time in transit, matrix, and collection device.
- Document this validation data in detail.

#2: Develop and Document a Process for Referral to Clinical Laboratory Director

- Document, in the standard operating procedure, the criteria for which specimens not meeting the routine acceptance criteria, are escalated to a CLIA-qualified laboratory director for evaluation.
- The laboratory director will determine whether the test's validation data can reasonably be understood to mean that technically accurate and clinically useful results can be obtained from testing such specimens.

#3: If the Sample Cannot be Tested at CDC

- If a CDC Clinical Laboratory Director determines that the laboratory cannot test a particular specimen accurately, but another laboratory is able to do so, the agency should have a documented procedure for sending the specimen to the outside laboratory for testing.

#4 Develop an Explanatory Statement for the Provider on the Report

- Each CDC Clinical Laboratory should develop a written policy on additional interpretive comments that may be appropriate to include on the laboratory report, based on the specific context of the specimen being tested.

#5: Continuous Quality Improvement & Documentation

- Each CDC Clinical Laboratory should review its records regularly to determine the main reasons for rejection of specimens received and use this information to improve their validation criteria or processes.
- Document the roles of the Clinical Laboratory Directors.

#6 Proposed Action

- CDC should divide its diagnostic testing across multiple CLIA-certified laboratories with an individual CLIA-qualified Laboratory Director responsible for the diagnostic testing in each Center-level CLIA-certified laboratory.

#7: Initiate a Regulatory Policy Discussion with CMS

- Discuss this with CMS senior leadership.
- If necessary, engage with HHS senior leadership.
- Consider partnering with the APhL for the CMS discussion.

If inter-Agency alignment on the interpretation of CLIA regulations proves difficult, the LW recommends that CDC engage with HHS and CMS executive leadership. It is essential that an acceptable solution is found, so that CDC can perform this critical function.

Discussion Summary

Dr. Goldman said it was her understanding that CLIA Laboratory Directors are limited in how many laboratories they are permitted to direct, though this may vary state-to-state. If the CDC has 1 Laboratory Director, it must be that they have a regulatory authorization, which is for one laboratory. There could be resource implications of CDC redefining their laboratories as being separate CLIA laboratories in terms of the number of directors. Laboratory Directors are allowed to direct more than one laboratory, but not half a dozen. Also, the training and qualifications required by CMS are stricter to lead a research laboratory, which is something else CDC would have to consider as a pragmatic issue. If these Action Steps were adopted, which she supported, it would need to be clear that it is acceptable to have someone directing more than one laboratory. For instance, there could

be a problem if someone leaves. There may be a need for someone to direct more than one laboratory while a new director is being recruited for the vacant position.

Dr. Sharfstien did not think that the LW contemplated that someone would direct more than one laboratory. The reason to have multiple laboratories would be to have multiple directors. This relates to one of the Action Steps that the ACD adopted previously that pertained to the workforce and strengthening the number of highly qualified Laboratory Directors at CDC.

Vote

A motion was made and seconded for the ACD to accept the report and adopt the 7 Actions Steps as ACD recommendations. The ACD voted unanimously to accept the report and adopt the Actions Steps as ACD recommendations to move forward to CDC and HHS, with no dissensions or abstentions.

Closing Remarks / Adjourn

David Fleming, MD (ACD Chair) and Debra Houry, MD (DFO) expressed gratitude to the ACD members; CDC presenters; working groups; CDC leadership; and the incredible CDC staff who collectively made this ACD meeting possible. Dr. Fleming acknowledged that one of the realities of being on an advisory committee and the way that it is structured is that people rotate on and off and are not permanent members. Given that, Cristal Gary will be rotating off of the ACD and this was her last meeting. He thanked her for her service, during which she had been instrumental in helping to reconstitute and revitalize the ACD. He also expressed gratitude for her participation in the DSW and the energy that she brought to the ACD and DSW meetings. Dr. Houry also conveyed her gratitude and emphasized how excited CDC was to reconstitute the ACD and install all of the new members. Having Ms. Gary's input on data and all of the feedback CDC has received from her on the agency's priorities has been very helpful. She expressed her hope that Ms. Gary would remain close to CDC and still provide guidance and feedback. Ms. Gary stressed that it had been an honor to serve on the ACD and to be able to provide input. She thinks the work the ACD does is very important, and it has been great to get to know some of the leaders at the CDC and her fellow ACD members.

With no further business posed or questions/comments raised, the meeting was officially adjourned at 2:49 PM ET.

Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the May 11, 2023 meeting of the Advisory Committee to the Director, CDC are accurate and complete.

July 21, 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

Senior Vice President, Global Health
Executive Director, Global Health Equity Institute
Founding Dean, School of Global Public Health
Meharry Medical College
Nashville, TN
Term: 09-28-2021 – 06-30-2024

Cristal A. Gary, MPP

Chief Advocacy Officer
Ascension
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
Sharecare
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: March 30, 2022 – June 30, 2023.

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
ACA	Affordable Care Act
ACD	Advisory Committee to the Director
AP3	American Pandemic Preparedness Plan
APHL	Association of Public Health Laboratories
AR	Antimicrobial Resistance
ASPR	Administration for Strategic Preparedness and Response
BARDA	Biomedical Advanced Research and Development Authority
CBO	Community-Based Organization
CDC	Centers for Disease Control and Prevention
CIOs	Centers, Institutes, and Offices
CLIA	Clinical Laboratory Improvement Amendments of 1988
CMO	Chief Medical Officer
CMS	Centers for Medicare and Medicaid Services
COI	Conflict of Interest
CONOPS	Concept of Operations
CoP	Communities of Practice
CORE	Cultivate, Optimize, Reinforce, Enhance
CSTE	Council of State and Territorial Epidemiologists
DEIAB	Diversity, Equity, Inclusion, Accessibility, and Belonging
DFO	Designated Federal Officer
DMI	Data Modernization Initiative
DSW	Data & Surveillance Workgroup
DUA	Data Use Agreement
ED	Emergency Department
EIS	Epidemic Intelligence Service
EOC	Emergency Operations Center
ET	Eastern Time
FACA	Federal Advisory Committee Act
FEMA	Federal Emergency Management Agency
FETP	Field Epidemiology Training Program
FY	Fiscal Year
GDD	Global Deputy Director
GDD	Global Disease Detection Operation Center
GHSA	Global Health Security Agenda
GLLP	Global Laboratory Leadership Program
GPEI	Global Polio Eradication Initiative
GRF	Graduated Response Framework
HAI	Healthcare-Associated Infections
HCP	Health Care Personnel
HEW	Health Equity Workgroup
HHS	(United States Department of) Health and Human Services
HIV	Human Immunodeficiency Virus
IDI	Infectious Disease Institute
IICP	International Infection Control Program
IM	Incident Management
IMS	Incident Management Structure
IOD	Immediate Office of the Director

Acronym	Expansion
IT	Information Technology
JEE	Joint External Evaluation
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning
LW	Laboratory Workgroup
<i>MMWR</i>	<i>Morbidity and Mortality Weekly Report</i>
MOH	Ministry of Health
NAC	National Academy of Medicine
NCIRD	National Center for Immunization and Respiratory Diseases
NDS	National Defense Strategy
NGO	Non-Governmental Organizations
NIH	National Institutes of Health
NOFO	Notice of Funding Opportunity
NPHI	National Public Health Institutes
NREVSS	National Respiratory and Enteric Virus Surveillance System
NWSS	National Wastewater Surveillance System
OEPH	Office of Equitable Population Health
OHE	Office of Health Equity
OMH	Office of Minority Health
OPHDST	Office of Public Health Data, Surveillance, and Technology
ORR	Office of Readiness and Response
OWH	Office of Women's Health
PAHPAIA	Pandemic and All-Hazards Preparedness and Advancing Innovation Act
PDD	Principal Deputy Director
PEPFAR	President's Emergency Plan For AIDS Relief
PHE	Public Health Emergency
PHIG	Public Health Infrastructure Grant
PHSSEF	Public Health and Social Services Emergency Fund
PMI	President's Malaria Initiative
SCD	Sickle Cell Disease
SDOH	Social Determinants of Health
SME	Subject Matter Expert
SPH	School of Public Health
STLT	State, Tribal, Local, and Territorial
TA	Technical Assistance
TB	Tuberculosis
TOR	Terms of Reference
UN	United Nations
UNICEF	United Nations Children's Fund
US	United States
USG	United States Government
VE	Vaccine Effectiveness
WG	Workgroup
WHO	World Health Organization
YRBS	Youth Risk Behavior Surveillance

Attachment #3: ACD Workgroup Meeting Minutes

Workgroup	Meeting Date	Minutes
Health Equity	April 6, 2023	https://www.cdc.gov/about/advisory-committee-director/pdf/April-6-2023-HEW-Minutes_Final_signed.pdf
Data and Surveillance	April 10, 2023	https://www.cdc.gov/about/advisory-committee-director/pdf/April-10-2023-DSW-Minutes-DRAFT-Submitted_JM_NS.pdf
Laboratory	April 4, 2023	https://www.cdc.gov/about/advisory-committee-director/pdf/April-4-2023-LW-Minutes-Draft_Final_-002.pdf
	April 11, 2023	https://www.cdc.gov/about/advisory-committee-director/pdf/April-11-2023-LW-Minutes-Draft_Final.pdf