



CDC Advisory Committee to the Director (ACD)

Minutes from the February 1, 2022 Meeting
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Advisory Committee to the Director: Record of the February 1, 2022 Meeting

The Centers for Disease Control and Prevention (CDC) convened a meeting of its Advisory Committee to the Director (ACD) on February 1, 2022 via Zoom for Government and teleconference. The agenda included updates from the CDC Director; review and discussion of a variety of topics, including data modernization, public health workforce, COVID-19 response, current CDC activities and proposed ACD action steps in the promotion of equity, and workgroups (WGs); and public comments.

Welcome and Introductions

John Auerbach (Director, Intergovernmental and Strategic Affairs, CDC and the Designated Federal Officer [DFO] for the ACD Committee) called the meeting to order at 11:00 Eastern Time (ET). He welcomed everyone to the first meeting of the re-established ACD. Upon her assumption of the role of Director, Dr. Rochelle Walensky began the process to recreate this worthwhile federal advisory committee to assist her and the agency in addressing the wide range of public health issues that CDC faces. He noted that participants soon would have the opportunity to meet the ACD members, hear from Dr. Walensky and other CDC officials, and observe the deliberations of the committee members as they take on their initial tasks.

David Fleming, MD (ACD Chair) welcomed everyone to this inaugural meeting of the ACD, extending a special welcome to Dr. Walensky and to Mr. Auerbach. On behalf of all of the committee members, he emphasized that it was an honor to have the privilege of working with CDC in its critical role in advancing and improving the health of each and every person. He then called the roll, which established that a quorum of ACD members was present. Quorum was maintained throughout the duration of the meeting. An attendance roster is appended to this document as Attachment #1. The following ACD members disclosed the following information regarding potential conflicts of interest (COIs):

- Dr. Adora: Receives consulting fees and her institution has received funding for her research from Merck and Gilead.
- Dr. Goldman: As Dean in the Milken Institute School of Public Health at George Washington University (GW), she has many faculty members who receive funding from a multitude of sources, including the CDC.
- Dr. Shah: Sits on the boards of STERIS, Kinsa, and CovidActNow.

Dr. Fleming provided Zoom instructions, reviewed the agenda for the day, and introduced Dr. Walensky. He stressed what a great privilege it was to introduce Dr. Walensky, who has been providing such incredible leadership to CDC and the country for the past year. As the Director for the CDC and the Administrator of the Agency for Toxic Substances and Disease Registry (ATSDR), Dr. Walensky is the person who the ACD advises and would be speaking with them about aspects of CDC's current work and priorities.

Director's Update

Rochelle P. Walensky, MD, MPH (Director, CDC) said this was truly a day that she has been looking forward to since becoming CDC Director just over a year ago. As she said during the ACD's orientation meeting, she is so grateful the members have committed to sharing their collective expertise with CDC. She wished she could have convened the ACD sooner, because there have been so many times in this first year when she would have welcomed having a trusted, knowledgeable, and independent-minded group to turn to for insight and recommendations. CDC has outstanding employees who are skilled, dedicated, and hardworking. She benefits from their expertise every single day. Every day, she has the privilege of meeting and learning from CDC's many partners and partnership organizations. CDC also benefits from the advice of many federal advisory committees providing invaluable support to the agency on a wide range of topics, including vaccination, clinical laboratory standards, injury prevention, and tobacco control. However, there are issues that extend beyond a single health condition or single concern and beyond a single center or office. For insight and recommendations on these issues, she will now look to the ACD.

CDC is now at the beginning of its third year of responding to the COVID-19 pandemic, a response that requires enormous resources and dedication to the evolving science as well as an unwavering commitment to protecting the public. This pandemic has underscored the impact of racism and inequity, the relationship of chronic diseases and infectious diseases, and the importance of properly funding the public health system. Thousands of CDC staff have been directly involved in the COVID-19 response, with 2000 deployed across the United States (US) and abroad in the last 2 years. They have developed guidelines and educational materials that have attracted more than 3.5 billion views on the internet, and they have helped achieve the major accomplishment of having over 210 million people in the US vaccinated with their primary series. Dr. Walensky noted that the ACD would hear more about the agency's COVID-19 response from CDC's Incident Manager, Dr. Barbara Mahon, later in the day.

While the pandemic also is consuming much of Dr. Walensky's time and focus in relation to CDC's response to this extraordinary challenge, they also must not lose site of the other important work done within CDC—work that reflects commitment to the agency's mission to equitably protect the health, safety, and security of every American and its strategic priorities of securing global health and America's preparedness, ending epidemics, and eliminating disease. Staff from every part of CDC have participated in the response, with many serving repeatedly for extended periods of time. They serve because they know this is a critical time for public health, representing perhaps the biggest challenge of their lifetimes and they want to do their part. Yet for many, their time on the response takes them away from the important work that is their reason for being at CDC. Dr. Walensky emphasized that she is constantly aware of how hard this is.

Many public health issues have worsened during the pandemic, including record high levels of obesity and tobacco use, increasing rates of human immunodeficiency virus (HIV) and other sexually transmitted diseases (STDs), worrying trends in rates of firearm violence and suicides, the growing impact of climate change, and the staggering increase in opioid-related deaths. The pandemic has not stopped CDC from being on the front lines of preventing and responding to these and many more public health issues. To build a stronger and more resilient public health system, it is necessary to strengthen the public health workforce, prepare for future global and domestic health threats, strengthen the public health laboratory infrastructure, modernize data systems, and address health equity in everything that is done.

Just as the pandemic has exacerbated public health issues, it also has exposed the weaknesses in the public health infrastructure and stretched that infrastructure to and beyond its limits. The impact of the chronic underfunding of the public health system has been observed at the local, state, tribal, federal, territorial levels. The pandemic also has laid bare the hard truths about health equity in this country. Those in marginalized communities have been disproportionately affected by the pandemic, and the results of the inequity will have a devastating impact for years to come. More clearly than ever before, the inseparable relationship between social and economic conditions and the health and wellbeing of the public are understood. There are no easy solutions, but progress has been made in responding to the challenges.

This year, CDC launched the first ever agency-wide health equity science and intervention strategy called CORE. This bold and innovative approach is framed around the pillars of science, interventions, partnerships, and integral organizational change efforts. The inaugural health equity strategy is catalyzing commitments from the CDC Centers, Institutes, and Offices (CIOs), resulting in over 150 health equity planned action steps. In addition, agency-wide efforts were initiated to address the social determinants of health (SDOH) and to combat the health impact associated with climate change. These efforts are actively underway, tapping the expertise and commitment of CDC's extraordinary staff. A new center was created to provide forecasting and modeling of threats to the public, and the agency's capacity to do genomic sequencing has been strengthened dramatically.

With billions of dollars in new funding, CDC has begun to strengthen and modernize its data, public health laboratories, and emergency preparedness systems. With a \$7.4 billion investment from the American Rescue Plan (ARP), the agency now has a chance to build a stronger more resilient public health system for the future and make sure that the need for health equity informs everything CDC does. These changes and many others are benefitting the public now and will for decades to come. During this meeting, the ACD would hear more from senior leaders about how CDC is responding to COVID-19, advancing data modernization, strengthening the public health workforce, and making sure the agency is considering equity in everything it does.

This work is not done just for CDC. The agency is committed to supporting and strengthening the nation's entire public health system. The work ACD members will do as part of this committee will have a lasting impact far beyond the walls of CDC. More than two-thirds of CDC's funding is awarded to public health organizations at the local, state, tribal, and territorial levels. The last few years have been extraordinarily difficult for CDC's colleagues who have truly worked 24/7 to protect the residents of their communities tracking and analyzing outbreaks; targeting efforts to reach the highest risk populations; developing and implementing policies; hiring, training, and working to retain staff; offering testing at countless sites; and vaccinating, vaccinating, vaccinating, and boosting. It is heartbreaking that some of these folks have been criticized and threatened for their dedicated work and still, they have persevered. Along the way, some of the most experienced personnel have been lost to exhaustion, retirement, and the private sector. It is projected that the public health workforce is at a deficit of 80,000 people. This cannot be allowed to continue.

Dr. Walensky asked ACD to lean in and help CDC with the essential work of the agency. Initially, she requested that they focus their attention on the promotion of equity. The Health Equity Terms of Reference (TOR) document outlines the specific questions for the ACD to address. With the formation of a specialized WG on this topic, CDC requested that the ACD assist in the framing of the agency's CORE health equity strategy, identifying innovative and promising health equity practices that align with its principal pillars. Dr. Walensky stressed that

she looks forward to hearing the findings and observations that come from the ACD's deliberations in the coming months. When they convene again in May, she will ask the ACD to form additional WGs to focus on 2 other prioritized areas: 1) data modernization, which is key to CDC's future; and 2) laboratory quality, safety, and efficacy. At that time, CDC will provide specific questions for ACD's input and guidance on those issues. In addition to these topics, others will arise unexpectedly.

In closing, Dr. Walensky once again thanked each of the ACD members for their willingness to serve in this important capacity. She emphasized that ACD was re-established because CDC and she need their multidisciplinary expertise and deep engagement. Over the next few years, they will come to know each other very well, and she very much looks forward to that.

Discussion Summary

Dr. Fleming thanked Dr. Walensky on behalf of the committee for providing leadership to CDC and CDC for providing leadership to the country during this time.

Dr. Martinez noted that he did not hear much about mental health, pointing out that it will not be possible to achieve true equity without addressing the impacts of mental health issues on the overall population, HCP, and public health personnel.

Dr. Walensky thanked Dr. Martinez for raising the issue of mental health and emphasized that she did not list all of the areas that need to be high priority, and mental health has to be one of them. Issues have been observed throughout the pandemic in the mental health of HCP and youth in being out of school. The *Morbidity and Mortality Weekly Report (MMWR)* has reported high rates of suicide attempts among young women and in emergency departments (EDs); and high rates of depression, suicidal ideation among the public health workforce. The National Institute for Occupational Safety and Health (NIOSH) recently received a \$20 million grant to assess education and mental health amongst the healthcare workforce, which is key. All of that has to weigh into what CDC is doing in the future. It is likely that only the "tip of the iceberg" has been seen in mental health issues and that even more mental health challenges of this country will come to light. CDC collaborates frequently with the Substance Abuse and Mental Health Services Administration (SAMHSA), so that will be a key collaboration in this effort. They agency also will have to work upstream in prevention of adverse childhood events (ACEs) and community and SDOH to try to prevent disease and mental health.

Dr. Goldman emphasized that everyone is appreciative of all personnel at the CDC and state and local health departments who have worked so hard over the last couple of years and have been under-appreciated by the public for their service in her view. She particularly has appreciated the holistic approach that has been taken under Dr. Walensky's leadership, especially with regard to the concerns for children. CDC has shown tremendous sensitivity in that the decision-making has included the situation for all children, especially children who have inequitable access to healthcare and education, to ensure that they still have access to education and many of the social situations that are so important for the development of children. This situation has raised challenges at every level (e.g., mental health, worker safety and protection, environmental protection, communicable disease issues). Moving forward, she appreciates and looks forward to the opportunity to support Dr. Walensky in any way possible in rebuilding CDC. The pandemic has highlighted that the US public health systems has many fissures and did not have the support it needed in the first place.

Dr. Walensky said that as thought has been given to the next phase of this pandemic, it has been interesting that cases, deaths, and hospitalizations related to COVID-19 can be counted. Because these can be counted, they seem to be under the lamppost. Identifying the safest thing for COVID-19 does not necessarily mean it is the safest holistic thing for children and the community. While it was easy to count under the lamppost early on, now a holistic approach is needed to all of the other issues that cannot be done by virtue of the fact that everyone is being so safe for COVID-19. In the COVID-19 domain, they have to look to hospitals as a barometer of how they are doing. Hospitals must be able to function and it must be possible to take care of acute and chronic medical needs. Mental health will be a part of that along with chronic diseases, childhood education, childhood safety, et cetera have to be a major part of what is addressed in the next chapter.

Dr. Valdes Lupi expressed gratitude for the high-level updates and for Dr. Walensky and the amazing team she has had in terms of response. She appreciated that Dr. Walensky also acknowledged local and state public health colleagues who are on the frontlines, as well as the shift in thinking around direct funding of locals. As a former health director in a large city, she can vouch for how critically important it is to get resources directly to local health departments who have been on the frontlines. She requested that Dr. Walensky say more about how she and her team plan to evaluate the value of this change in policy and whether it will be a model moving forward.

Dr. Walensky said that she has reiterated to her team that this has to be a partnership. The first flag of a challenge happens at the local level when something is observed to be not quite right, or a case of something is seen that does not feel quite right, or something is atypical of how it generally goes. It is the local public health departments that provide those signals when they are first seen. They need to be taken seriously and supported in both directions. This has to be a partnership. In the last 10 years, despite numerous public health challenges (e.g., Ebola, Zika, H1N1), it was never possible to form a solid foundation of a public health infrastructure, public health workforce, data modernization, or laboratory infrastructure. That is the infrastructure that will be needed moving forward. As part of the public health workforce, CDC has been talking about scaling up the local public health workforce at various levels to ensure that they are as diverse as the communities that they serve and upscaling the workforce in ways that they have not been before. For instance, genomic epidemiologists are needed in public health departments. The agency is working to ensure that they provide resources, open lines of communication, upscale the workforce, and ensure that the workforce is more diverse. That represents a lot of the work ahead, and they are behind.

Dr. Sachs observed that from his perspective at least, this has been a shocking 2 years of failure in the US. Deaths are at 1 million by account of Institute for Health Metrics and Evaluation (IHME) and 900,000 by other accounts. He recalled when he first heard the prediction that 100,000 deaths would be reached, he thought it was impossible, crazy, insane. Yet, deaths are around 2,500 per day even now. To his mind, this is a massive debacle for which there is no shared social understanding. For a lot of people, the pandemic is behind when in fact, there is currently a wave of tremendous intensity and it is not clear what the next variant, if and when it comes, will bring. He wondered how to get a more comprehensive view of what needs to be done now and what the lessons are of what has happened. He finds this experience to be utterly alarming—not only the shock of the pandemic, but also the incapacity of the US to get ahead of this. When he makes comparisons with other countries, especially the countries in East Asia, they have had a completely different experience with perhaps 1/10 the death rates. He wants to continue to look under the lamppost. There is hardly any discussion about

deaths in this country. The US has had nearly a million deaths and the *Wall Street Journal* has not noticed one as far as he can see. They just want to keep the economy open and everything running, and deaths do not matter in the US. The *Wall Street Journal* editorial of the day focused on excessive restrictions and loss of freedom. It is a horrible insanity in this country in his opinion. A million deaths is a lot of deaths, yet he did not feel that the US was on top of this. It seems to him that CDC will need to take a comprehensive retrospective about what happened and how this got so out of control. Perhaps that should be one of the WGs of the ACD that could be helpful. He recognized that all of the issues Dr. Walensky highlighted are important, but they are still in the middle of a pandemic. He wondered how the ACD could help in real-time.

Dr. Walensky said that one of the things that has been so shocking to her during this time that echoed what Dr. Sachs said is how little regard people in the US as a society have given to one another. The US has more deaths now than it has had since the beginning of February 2021. Yet, she has not been on a telebriefing in the last 3 weeks in which people have not talked about when restrictions will be relaxed. With a reported 600,000 cases per day and over 2,000 deaths, the first question on her last telebriefing was, “When can we take off masks?” The *New York Times* ran a piece the previous day about what happened in 1918 with the influenza pandemic and how the highest number of deaths occurred in 1920 when everybody was tired of it and had a complete disregard for the deaths that occurred when they decided they were done. She thinks they are at risk of repeating that. She would be happy to assess whether there were decisions made along the way or science that was prioritized in one way or another that could have helped inform the response. Certainly, misinformation has been a huge problem in the US. CDC has never been involved in a global pandemic in the way that there was in 1918. Consideration must be given to how to implement the gold standard of CDC and pivot to ensure that decisions are being made and guidance is being provided in real-time, and sometimes doing this in advance of having all of the information they would like to have—going after the most important science in order to make tomorrow’s decisions. The absence of a decision is making a decision.

Dr. Morita echoed the comments regarding the ACD’s willingness and ability to support Dr. Walensky in this COVID-19 pandemic as well. She should not feel that she has to limit the ACD’s support of her for discrete projects like data modernization, health equity, or laboratory issues. As a former Chicago public health official for many years, the value and benefits of direct support to large urban areas was vital in terms of how they were able to respond better and be nimbler. She is glad to discuss any support in that space as well. She applauded Dr. Walensky’s for the holistic efforts related to health equity. In reviewing the health equity TOR provided to the ACD members, she noticed that the WG charge does not include internal organizational change on which CDC is working. She understands and appreciates the need for that as a CORE element, but also requested that Dr. Walensky consider sharing updates on progress with the ACD even though it is not part of the charge.

Dr. Walensky said she would be happy to provide such updates. When CDC announced in April 2021 that racism is a serious public health threat and the call for action and CORE strategies, she emphasized to the agency that she did not want to document the problem anymore. Instead, she wants to know what they are going to do to fix the problem. Everyone knows that everywhere they look the problem can be documented. While CDC has become a tired and battered agency over the last 2 years, people were inspired by the CORE effort. Everybody came to the table and it was interesting to see how unification over this common goal that was universally believed in was something that even in a moment when the agency was feeling hardship, people wanted to do more and do extra.

Dr. Fleming added that there would be a more extensive discussion of the TOR later in the day, and noted that it was nice to hear discussion about the public health system that is protecting this country.

Dr. Walensky said that if there had been a pervasive local public health presence comprised of people who had been working in diabetes, nutrition, blood pressure control, et cetera, vaccination would have been a no brainer. There would have been local, known, and trusted people in place and it would have been easier.

Dr. Shah inquired about Dr. Walensky's vision of how to engage and work with private payers, HCP, and how embracing the larger systems might change over the next 2 to 3 years or even sooner.

Dr. Walensky thought this was a key and important question, which is true at the public level through Centers for Medicare and Medicaid Services (CMS) Medicare/Medicaid. It also is true at the hospital level. The US has the only health system in the world that has such siloed data from public health partners in terms of the inability to link to the hospital system. She has had numerous conversations with Micky Tripathi at the Office of the National Coordinator for Health Information Technology (ONC) about how data can be mixed. This has to be addressed from a finance and data sharing standpoint in terms of how to make the whole thing interoperable.

Dr. Albert emphasized how bright Dr. Walensky's leadership has shined, especially under a fair amount of duress and significant pressures from multiple directions. Thinking about the public health infrastructure and responsiveness toward syndemics like COVID-19, it is important to remember that chronic disease is of major importance and a lot of this is being driven by cardiovascular conditions. In thinking about how to respond to future pandemics and syndemics, it is important to strengthen responsiveness and underlying approaches to dealing with cardiovascular conditions. Related to embedding equity, if maternal health is not a core component of responsiveness, the health of the nation will not be dealt with effectively. The health of women, especially pregnant people and those of childbearing age, reflect overall health and must be dealt with. In terms of strengthening the public health workforce, a successful medical workforce must be re-envisioned. A successful medical workforce also includes moving public health teaching and responsiveness into medical schools and re-envisioning how medical students and trainees across the academic life course of medicine are trained.

Dr. Walensky responded that it is striking in terms of the maternal mortality challenges in this country that even when corrected for almost everything else, there is still a difference by race and ethnicity. CDC is working on scaling up maternal mortality surveillance, which is one of the foundations by which they can then work on surveillance in many other places such as sickle cell disease (SCD). She would be meeting with Tribal Nation, which has not had sufficient surveillance to examine maternal mortality in tribal nations. That also is a key priority for the Secretary. Cardiovascular disease (CVD) intersects with race, ethnicity, and SDOH in an important way. This is evident in terms of the manifestations of long COVID as well. She had a call the previous day with the American Hospital Association (AHA) and echoed what Dr. Albert observed about medical schools. This also is needed in nursing schools, all areas of medicine, preventive health, and public health.

Dr. Medows expressed gratitude to Dr. Walensky and everyone else at CDC, emphasizing that she could not imagine what their days must be like or where the US would be if she were not there leading the charge. She agreed with all of the important issues that were raised and need to be addressed. In addition, they need to talk about people with disabilities. In terms of the departing public health workforce and the incredibly underfunded public health service, she expressed her hope that consideration would be given to which temporizing solutions or fixes that have been built outside of the traditional public health structure during the COVID-19 pandemic can be kept, formalized, and built upon. The effort to fortify public health should be done in way that is not dependent upon old models and focuses on new models that distribute some of the burden to the healthcare industry, HCP, health services, technology, and non-traditional partners.

Dr. Walensky said it had been interesting to watch the coverage. Public health professionals are the ones who are scrutinized for their bad guidance or whatever the sentiment is and the medical workforce are the heroes. She wholly agrees that the medical workforce have been doing heroic work over the last 2 years, but so have the public health professionals. They must make sure that people do not leave the public health profession.

Mr. Dawes echoed words of thanks for her courageous and humbling leadership during this very dark and historical moment, and to the entire team at CDC for their work as well. He was excited to hear that the need for healthy equity informs everything that they do. Part of that courageous leadership was the declaration that Dr. Walensky made about racism being a public health issue that must be addressed. He asked what efforts specifically on anti-racisms are happening at CDC and how she is engaging others to shift the culture at the agency on this issue and health equity at large.

Dr. Walensky responded that there would be a session later in the day to speak to this in detail, but one of the things she thought was important was to be accountable. When they announced this in April, they considered what they would do to show that they are making incremental steps. There is a lot of engagement within the agency. They have to be internally focused, as well as externally focused on health. When she started, the team had been extraordinary in developing COVID Data Tracker, but it was not possible to report race and ethnicity on cases because they did not collect it from the states. Data use agreements (DUA) were put in place allowing for race and ethnicity to now be included from almost all states. Race and ethnicity data are available for vaccinations and boosters. Now they can begin to figure out where the gaps are and what efforts are needed to intervene to make a difference. She said she was proud to say that primary vaccination rates in the US were about the same for all racial and ethnic groups. They are not the same for boosters or children.

Dr. Fleming recapped that CDC is dealing with 3 simultaneous challenges, including the COVID-19 pandemic, fulltime ongoing work, and efforts to rebuild and strengthen the underlying foundation of public health. He assured Dr. Walensky that the ACD will do its best to provide her with good advice.

Data Modernization

Dan Jernigan, MD, MPH (Deputy Director, Public Health Science and Surveillance, CDC) expressed gratitude on behalf of the CDC staff for the leadership, expertise, and guidance they are receiving from Dr. Walensky during this very difficult time. During this presentation, he presented an update on CDC's Data Modernization Initiative (DMI). The ultimate goal or "North Star" of this initiative is "to move our nation from siloed and brittle public

health data systems to connected, resilient, adaptable, and sustainable ‘response-ready’ systems that can help us solve problems before they happen and reduce the harm caused by the problems that do happen.” The DMI is helping to get better, faster, actionable intelligence for decision-making. The DMI is at the center of a lot of the issues being worked on currently, both from a near-term COVID-19 focus and based on the longstanding issues the agency has had. CDC knows that it has had siloed systems, programs, software, activities at state health departments, et cetera. Public health has not been a part of the health ecosystem that was improved over the last several years with CMS support for Meaningful Use (MU). There is a lot of burden on providers, as well a lot of older technologies at state health departments at the local level that make it very difficult to scale. During COVID-19, they simply have not been able to do what they needed to do quickly in order to respond.

Dr. Jernigan noted that he has been at CDC for a while and has seen a lot of progress, but nothing has been like what has occurred over the last 2 to 3 years because of COVID-19. A lot of work had been started, but the acceleration of that work has been incredible. There has been a massive expansion of electronic case reporting. In 2019 before COVID-19, there were 187 healthcare facilities and providers participating. Currently, there are more than 10,300 facilities and providers nationwide that are positioned to deliver COVID-19 case data rapidly from electronic health records (EHRs) directly to state health departments. While there is a lot that needs to be done in order to use those data better at the state health department, the means are now in place to have a scalable way of getting all reportable disease to be automatic and electronic.

The second item in place is COVID-19 vaccination data flow and the development of a cloud-based immunization datalink and gateway. This how the problem was solved of CDC being able to take in, analyze, and visualize incredible volume and velocity of data on vaccine ordering, delivery, and administration. Through this solution, CDC is able to expand vaccine effectiveness (VE) and push data out to the public faster through the COVID Data Tracker. The COVID Electronic Laboratory Data Flow (CELR) allows an enormous amount of data to come into CDC. When this started, Dr. Fauci said, “Sometimes, Dan, when we ask you to do the impossible, you have to do the impossible.” Getting every laboratory result that was positive or negative from all of the healthcare facilities in the US being funneled into a single place to allow assessment of that information in near real-time was nearly impossible, but was done through the work of a number of folks within CDC and all of the state health departments. This is something that they have never had before, but it shows that it is possible to get data to flow in a way that makes it very useful, in real-time, and can help the response.

CDC is currently listening to and connecting with a number of partners. A significant number of reports have been released from various groups and agencies on how CDC and the public health establishment can do better with data. With that in mind, CDC established a new consortium of various partners. They have met with numerous groups over the past year to obtain their input on how best to architect systems, how best to put the data together, and to identify what accomplishable efforts can be made quickly in order to move forward. There is a balancing issue in terms of addressing the COVID-19 response, while at the same time trying respond to longstanding problems that are not going to be easily fixed and will take a while for change to occur.

Given this information, CDC developed and put forward a set of priorities. The DMI Strategic Implementation Plan is available on the CDC website.¹ While DMI cannot do everything, it can touch on every part of public health. Therefore, CDC has identified some specific items the agency can do over the next several years through the plan that includes 5 priorities, which are to: 1) build the right foundation; 2) accelerate data into action; 3) develop a state-of-the-art workforce; 4) support and extend partnerships; and 5) manage change and governance.

Building the right foundation means bringing public health technology to a level that is standard and already in place outside of public health. This involves the 4 areas of automated real-time data collection, cloud-based services, “North Star” architecture, and reduced siloes. Regarding automated real-time data collection, CDC has worked with a number of its partners, including Association of State and Territorial Health Officials (ASTHO), National Association of County and City Health Officials (NACCHO), Council of State and Territorial Epidemiologists (CSTE), Association of Public Health Laboratories (APHL), National Association for Public Health Statistics and Information Systems (NAPHSIS), and Healthcare Information and Management Systems Society (HIMSS) to identify the concept “Data is elemental to health.” This listed the core public health data sources as being electronic laboratory reporting (ELR), electronic case reporting (eCR), syndromic ED reporting, death reporting, immunization reporting, and nationally notifiable disease reporting to CDC. \$200 million have been allocated to states to improve getting real-time line-listed death registry data. Work has been done with CDC’s Immunization Services Division (ISD) on Immunization Information Systems (IISs) to make sure that data can flow in a more seamless and timely way so it can be used more effectively.

In terms of cloud-based services, CDC has moved into the cloud. This was accelerated with DMI early on through immunizations by putting that platform in place that now allows for sharing of de-identified immunization data between IISs, vaccine ordering, and other requirements for the response. A dialogue has been established around a “North Star” architecture, recognizing that there are technologies that will allow health departments to utilize the cloud that will help them to be more sustainable and efficient. There are authorities and policies that may not allow the agency to use that completely, so they are working to identify what architectures can be made available to state health departments during the DMI efforts that will help them and also will account for the variations in policies within those state health departments. By building an architecture that utilizes the cloud and shared services, it will be possible to eliminate the siloes of surveillance systems that CDC currently pushes down to the states by changing the arrangement of how they work so that all of the systems and data are using the same kind of platform.

For the second priority of accelerating data into action, there is a focus on rapid outbreak response. HHS Protect has been used across the United States Government (USG), which is a powerful platform that uses a common operating fixture with data of record, analyses, and forecasts of record that are in one place so that everyone can have access to it and make decisions based on the same data. With DMI, CDC will be able to push that system forward so that these kinds of systems are in place for COVID-19 and other pandemic or outbreak prone programs at the agency so that they can work in that environment in peacetime and when there is a need to go to a multi-state or national response, that same system can scale up without CDC having to switch around, redo things, and start using spreadsheets again. CDC has stood up the new Center for Forecasting and Outbreak

¹ <https://www.cdc.gov/surveillance/pdfs/FINAL-DMI-Implementation-Strategic-Plan-12-22-21.pdf>

Analytics (CFA), with an eye toward using artificial intelligence (AI), machine learning (ML), and other types of predictive analytics that will allow CDC to do more with its data, have a better sense of what is occurring in the near-term, and perform scenario modeling to test a variety of assumptions to better plan for the future. This represents a culture change at CDC.

DMI also is helping the agency to link and integrate data from diverse sources for more actionable insights. The second priority also focuses on connected public health and healthcare data. The previous week, there was a CDC Foundation meeting focused on the future of public health during which a number of efforts were described about what CDC is doing with standards development agencies like Health Level Seven International (HL7) to help build standards that allow for sharing of information in the same way as being able to open an application (app) and share information with other people outside of healthcare. This will help bring public health into the healthcare ecosystem such that insurers, pharmacists, and doctors are able to communicate in a secure environment without complicating problems with patient confidentiality. National, state, and local public health need to be a part of that same ecosystem, which is being addressed with standards in that space. The third priority to develop a state-of-the-art workforce involves recruitment, training, forecasting workforce needs, and state and local support, for which Dr. Simone would provide details during her presentation. The fourth priority involves supporting and expanding partnerships. This is an area in which CDC would look to the ACD to help with the framing of some of the elements and offering suggestions about what kind of policies would allow for better data sharing, what types of authorities might need to be in place, what needs to be done as the end of the public health emergency approaches in terms of ways information is being collected and what can be done with the technology that has been established during the emergency, transparency, DUAs, and collaborations.

In terms of the fifth priority regarding managing change and governance, CDC has completely changed its information technology and data governance policies with a goal to have incentives that encourage people to move to a more shared environment and shared software development. Having an enterprise-wide approach to governance is critical to the overall ecosystem. There need to be rules, agreements, and a trusted network. They are working on efforts with Micky Tripathi at the ONC to help define what a trusted network looks like so that data sharing between healthcare, public health, and between public health will be safe and in an environment that allows for use of the available capabilities for the agency's healthcare partners.

While it is important to understand what has been done within DMI thus far and what the plans are as a part of these strategic priorities, when the next emergency happens the hope is that there will be: 1) a foundation for data sharing across all levels of public health for coordinated, scalable, and timely case investigation, management, and reporting; 2) shared analysis capabilities for rapid identification of trends within and across jurisdictions, including forecasting and SDOH; 3) a prepared data science workforce; and 4) decreased burden on data reporters and public health staff. Potential topics of interest for the ACD Data Modernization WG include the public health data ecosystem architecture; the future of data and surveillance after COVID-19; integration of healthcare and public health; and policies for data reporting, sharing, and use. Dr. Jernigan expressed appreciation for consideration of the creation of an ACD Data Modernization WG.

Discussion Summary

Dr. Taylor emphasized what an incredibly important step data modernization is; however, the role of academia in public health was not mentioned. Academia has played an incredibly important role, especially in terms of sequencing of variants. In addition, there was no mention of global connectivity and whether part of the DMI would be to connect to global data streams.

Regarding academia, **Dr. Jernigan** indicated that a portion of the ARP support CDC received went toward the standing up of the CFA. Some of that funding was distributed to a network of academics to help with evaluation of the best algorithms, new technologies and tools, identification of potential biases in algorithms that might lead to unfair health equity issues, et cetera. With regard to DMI in its general sense, the agency is working through standards development organizations where a number of the academics are participating. A fair amount of CDC's Advanced Molecular Detection (AMD) program funding is going to be supporting a lot of the sequencing component. Work is underway to build the cloud infrastructure for the sequencing data. Part of the effort to broaden public health so that it is not only the public health laboratory or just the public health department is establishing connectivity of data so that data can be shared more easily and considering different ways of doing things. CDC's engagement through the consortium is helping to better understand how to use data that is not thought of as public health data to understand SDOH, how to use wearables, and how to obtain the other part of data that can assist public health. Academics can help CDC with that. In terms of global connectivity, ARP funding has been provided to the Center for Global Health (CGH). CGH is working on an overall plan to improve health system strengthening with not only data systems outside the US, but also compiling data from various countries. The CFA is working closely with the new hub that has been stood up in Berlin, the World Health Organization (WHO), and colleagues in the United Kingdom (UK) and other countries bilaterally to improve the connection of that real-time and situational data and to support some health systems strengthening with the global ARP DMI money.

Dr. Morita noted that this was the second time she had the opportunity to hear Dr. Jernigan's incredibly meaty and impressive presentation, and that she looks forward to working with him through the ACD. She inquired about plans for sharing across federal government agencies, SDOH, and the sources of data and information that could inform that kind of work. There should be a Venn Diagram of where the data modernization work and equity work are, because there is a core element of how the modernized data infrastructure should be built to ensure that it is equitable in terms of collection, analysis, use of data, et cetera.

Dr. Jernigan indicated that across the 5 high priorities in the strategy, 6 use cases or organizing drivers have been identified to pull together all of the elements toward a single view in order to ensure that accomplishments are represented. One of those is examining a collection of data from multiple sources in order to address health equity issues. There are ways to improve the use of other data (e.g., transportation, 211, Google, et cetera). An effort is underway to identify what local health departments currently use, which turns out to be everything. Regarding DMI and health equity and SDOH activities, CDC is coordinated with the CORE program, which has a DMI column in the CORE framework. Standards are being worked on with ONC for sexual orientation and gender (SOGI), SDOH, disabilities, et cetera proposed in new US Core Data for Interoperability (USCDI). Standards, systems, questionnaires, et cetera are a part of the discussion.

Dr. Goldman commented that this is a very exciting area in which to move forward and that she was very impressed with the quality of the planning. After a major pandemic or crisis, the experience often has been that there is something given across the nation to every public health department (e.g., new computer system, internet connectivity, et cetera). However, nothing has been done to create a sustainable system that actually puts in the hands of state and local health departments the expertise that is needed to keep that current and as the cutting-edge. People are sending faxes to each other because that was the cutting-edge 20 years ago when they all were given a fax machine. This is a 2-way street. In the work that she does, there are people in healthcare who really want to address social and environmental determinants of health, but their records do not include variables that are relevant to that. They need public health help with developing standards on how to collect that information, or they will not be able to address it in healthcare. “What you don’t know, you don’t know” is a fundamental issue that she is confronted with when she tries to do things in public health with EHRs. Universities are doing a lot of work in data science and genomics, all of which is supported by the National Institutes of Health (NIH). This provided a platform for what they did during the pandemic, even though it was for NIH research projects. They have not had the benefit of that kind of relationship with CDC, including with training. They are training people in health data science, but not for CDC. This is worth considering.

Dr. Martinez agrees with and supports the points about health equity and SDOH data points. The categories that are used for demographics do not really represent the diversity of the US. This has to be addressed to ensure that when data are aggregated, there also is an ability to disaggregate the data to be able to ascertain what is actually occurring in various Americans across the country.

Dr. Adimora noted that there is great variation in terms of the capabilities within local health departments and even among states. While CDC is going to provide some funding and some training, she wondered how exactly they would bring areas with more basic skills and resources enough up to speed to create the foundation described.

Dr. Jernigan responded that part of that would be addressed by Dr. Simone with regard to the workforce discussion, but there are capabilities now such that something can be built and deployed that lives in someone else’s cloud that can be updated such that they do not have to worry about it. With the “North Star” architecture, the idea is to determine whether there are perhaps 3 types of architecture—one in which someone takes care of everything themselves; one in which CDC provides services but the recipient manages it in their own environment; and one in which there is a CDC-hosted environment for certain parts of the US that do not have the capabilities, people, technology, et cetera.

Dr. Albert noted that she did not hear anything in the presentation about the public as a stakeholder and up front user of data modernization as opposed to being just an end-user. Ultimately, putting data into action requires buy-in. For the equity component, the cost, who is seeing the data, and who is packaging the data are very important elements of this.

Dr. Jernigan pointed out that this highlighted two stakeholders, the general public and the individual. Moving toward distributive medicine in which someone can get their entire health record on their phone, it is imperative to think about how the individual participates in public health—especially when individuals will be doing testing or other health-related tasks at home. The general public and individuals must be considered in

the ecosystem and in terms of whether data such as this can be used to provide information either to a population or individual that helps them to change behaviors and participate in a way that helps public health better anticipate their needs. The consortium does not currently have a stakeholder representative, but it is a great point that they need to consider how best to ensure that input from the public and individuals is informing what is traditionally a closed group of healthcare and public health representatives.

Public Health Workforce

Patricia Simone, MD (Director, Division of Scientific Education and Professional Development, CDC) emphasized that her presentation followed nicely from Dr. Jernigan's in that the right workforce is needed to support data modernization, and that better data and systems are needed to support workforce development. Like the enterprise approach for modernizing CDC data systems, an enterprise approach is being initiated for workforce development to ensure that the agency has the right people with the right skills to respond to evolving public health issues, both at CDC for its own workforce and for the public health workforce in state and local jurisdictions.

The public health workforce is the first line of defense against disease outbreaks and other health threats, yet decades of under-investment has undermined the public health workforce with both shrinking numbers and capacity. COVID-19 has highlighted the critical role of the public health workforce in responding to emergencies and shown the consequences of that under-investment. There are various estimates of the staffing deficit, including the recent report *Staffing Up: Determining Public Health Workforce Levels Needed to Serve the Nation (2021)* that estimated the need for an additional 80,000 full-time staff just to provide the minimum public health services. However, workforce development is about more than staffing. All components of workforce development must be considered, such as recruitment, hiring systems, fellowships and other pathways, training and upscaling, data to understand what is needed, and diversity. Yet, public health has fallen behind in many important areas of workforce development. For example, skills have not kept up with changes in technology, there are not systems to assess and monitor what is needed. There are issues with diversity and hiring barriers exist at federal, state, and local levels. Even with increased funding, substantial barriers remain.

The ARP specifically addresses expanding the public health workforce.² The ARP policy that was announced in January 2021 proposed to expand the public health workforce by 100,000 to address the needs of COVID-19 and build long-term capacity. The legislation passed in March 2021 provided \$7.66 billion to the Department of Health and Human Services (HHS) for expanding the public health workforce, some of which has been allotted to CDC.³

Now at critical juncture, there is an incredible opportunity to make progress in workforce development moving forward. While it is not possible to make up for 20 plus years of infrastructure erosion overnight, there are critical issues on which progress must be made. The way forward for state and local public health can be thought of as a 3-pronged approach: Bridge, Build, and Sustain. First, it is necessary to bridge with innovative interim solutions to address urgent needs. Building on lessons learned during COVID-19, a combination of interim solutions must be implemented such as through public-private partnerships. Bridge solutions can help in the short-term while more is learned to understand what is needed and solutions for the long-term are identified.

² ARP Policy <https://www.whitehouse.gov/briefing-room/legislation/2021/01/20/>

³ ARP Act Legislation <https://www.congress.gov/bill/117th-congress/house-bill/1319>

Then what has been learned must be applied to build a public health workforce with hiring by state and local jurisdictions to start reducing the staffing deficit. Reliable, ongoing federal funding and a commitment at the state and local levels will be needed to sustain the public health workforce.

Two examples of bridge activities include CDC Foundation funding to hire staff to be placed in jurisdictions, building on a successful smaller program that was done in 2020, and a 2-year agreement for the crisis cooperative agreement to support staffing, including school nurses. Three examples of building the public health workforce⁴ include a 5-year program to fund Disease Intervention Specialists (DIS) in jurisdictions to support contact tracing and outbreak response for COVID-19 and more broadly. The second is the very exciting Public Health AmeriCorps, a new pathway program in partnership with CDC. Grants will be made to organizations that can recruit and place over 1000 members per year in public health jurisdictions and who reflect the communities they serve. Third, the agency also will be expanding some of its most successful CDC internship and fellowship programs, such as the Epidemic Intelligence Service (EIS) and other programs where young professionals are placed in public health jurisdictions to support response activities and help build capacity.

To move to a more sustainable approach, for the first time CDC will have a new grant program focused on the public health workforce. This is a unique opportunity to address workforce needs broadly across the jurisdictions rather than categorically by disease as funding is usually awarded. There will be a focus on building a workforce that represents the communities they serve. Rebuilding and sustaining the public workforce cannot rely on federal funding alone. This also will need a commitment from state and local jurisdictions to develop plans to spend the large amounts of federal funds already awarded, address systemic barriers that have led to the current state, and develop plans to rebuild and sustain the public health workforce long-term.

A series of listening sessions was recently completed to obtain input from jurisdictions and other partners to inform the design and focus of this grant to make sure the program can be successful. There were 6 sessions with external partners comprised of 156 people from more than 100 organizations. Some of the suggestions included the following:

- Flexibility needs to be maximized to allow jurisdictions to determine the greatest needs for their funds in their jurisdiction
- The grant needs to be structured to complement existing mechanisms to prevent duplication
- Retention strategies need to be supported, such as loan forgiveness
- Training should be prioritized for the existing public health workforce
- A central platform or forum should be developed for grantees to share programs, best practices, or other resources in order to facilitate collaborations
- The length of the grant should be extended as long as possible
- Requirements should be streamlined for grant application and reporting to reduce unnecessary administrative burden
- Partnerships should be supported between public health entities and academic institutions, such as the academic health department (AHD)

⁴ Webinar on CDC's American Rescue Plan Public Health Workforce Programs <https://www.cdc.gov/workforce/resources.html>

One challenge is the need to collect, analyze, and use more comprehensive data about the public health workforce. To help address this, CDC is co-sponsoring a new Public Health Workforce Research Center with the Health Resources and Services Administration (HRSA) that will be funded as part of the recent Notice of Funding Opportunity (NOFO) that was posed on January 14, 2022 through the HRSA Health Workforce Research Center (HWRC) Cooperative Agreement Program. The priority topics for the Public Health Workforce Research Center include workforce composition; data and needs; methods and analytics; scientific research, including identifying evidence-informed strategies and interventions. The data on the public health workforce is somewhat more challenging in many ways than the health workforce, which has life insurance certification data. However, this is an important step to address the need for these data, building on some of the recent work of the de Beaumont Foundation and others.

While this is a time of great opportunity, it is not as simple as having money to hire. It is necessary to modernize integrated hiring systems and conduct comprehensive workforce planning. There must be a focus on professional development, mentorship, and training for the needed strategic and technical skills. There must be work with academia to give more students applied learning experiences to better prepare them for jobs in public health, and figure out how to get more public health graduates to choose public services and jobs in governmental public health. Through pathways like Public Health AmeriCorps, it will be possible to reach a more diverse group of students who previously never considered a career in public health. Recruitment must be strengthened, with a focus on diversity and health equity. The important role of student loan repayment and loan forgiveness must be addressed for public service. Opportunities must be provided to hear from jurisdictions that have had some successes in these areas to share best practices and lessons learned with others. As the new workforce grant is designed, it will be important to incorporate those lessons and gather other input to make the grant successful and contribute to sustainable solutions.

In October 2021, the new CDC Workforce Governance Board was launched. This is an enterprise approach to workforce development with the goals to help ensure that workforce development efforts are coordinated, strategic, and based on the best evidence. The efforts should learn from and build upon existing programs and address diversity and equitable access for staff across the agency. Dia Taylor, CDC's Chief Human Capital Officer, and Dr. Simone Co-Chair the board, with members representing a variety of workforce experience and expertise. The initial focus of the board was to solicit proposals and make recommendations for using some of the ARP funds to expand CDC fellowships. The process is now beginning for the Board's strategic work, such as the process for data and systems governance. The ongoing work of the Board will be to provide strategic oversight to agency workforce development initiatives and priorities, including a special focus on diversity, data science, and leadership development; provide best practices for programs across the agency; develop a strategic framework for CDC workforce development; and guide decisions for investments in workforce development programs.

Information and input will be gathered from throughout the agency to inform this process, with a goal to complete development of the strategic framework by the end of the fiscal year. If appropriate, input will be welcomed from the ACD once a draft is completed for review. Looping back to the data modernization theme, there also has been discussion about the need to strengthen the systems that support CDC's supervisors and staff for their workforce development, as well as to develop more robust workforce data and forecasting expertise at the agency to inform scaling and other workforce development activities. While there are a lot of

challenges, there also are tremendous opportunities right now and the future is bright. The steps taken now will have an impact for years to come.

Discussion Summary

Regarding sustaining, **Ms. Valdes Lupi** pointed out that it is not the best environment in which to recruit right now. She thought it was a bad environment during the Great Recession when there were mass layoffs at the state health department. It is even worse now, given all of the hostility and threats that health department staff are facing. One segment that has stepped up during the pandemic response are community-based workers who have strengthened and augmented the public health workforce outside the walls of the state and local health departments. She requested further information about health equity and recruiting and building skills among community members and the workforce that reflects the communities. This includes community health workers (CHWs), as well as everyone else who has helped with testing and tracing and equitable vaccine efforts.

Dr. Simone acknowledged that building skills among community members is a very important part of this work. The grant will be to public health jurisdictions. It will be a competitive grant for which state, local, and territorial entities will be eligible. Although the specifics have not been completely worked out, components are being built in so that some of the funding will be allocated to local efforts. That clearly is an important goal for the grant. This also will complement a number of other efforts for which there are more specific funding for different types of community health work. The nice thing about this grant is that it can help fill in the gaps that other funding opportunities are not filling based on what the jurisdictions think are their most important gaps. The grant will allow for all types of workers to be hired and will not be specific about job categories. Ideally, it should be based on a comprehensive assessment that the jurisdictions have done to determine needs. This includes supporting capabilities such as grant specialists, people to help with communications, or things that do not always get funded with categorical funding.

Dr. Martinez emphasized that this is also about the skillsets needed for the 21st Century, one of which is the skill of community engagement. The public health workforce needs to partner with communities of color.

Dr. Simone agreed that this is critically important and emphasized that this funding certainly would support any efforts the jurisdictions want to implement in those areas. There also will be funding to work with public health partners to provide technical assistance (TA) and other resources.

Ms. Gary asked Dr. Simone to speak to how far down the pipeline they are looking with these efforts (e.g., high schools, colleges, along the pipeline broadly). While she understood the urgency of addressing the immediate workforce needs, it is important that younger people are encouraged to enter the public health workforce to ensure long-term sustainability.

Dr. Simone indicated that the grant itself is focused on either trainees working in the community who could have a pathway to employment, new workers, and/or the current workforce in the jurisdictions. However, many of the other efforts in which CDC is engaged are looking to address such issues. Her division does some work with middle and high school teachers to help with curricula and help them think about and introduce public health at an early age. There are other types of student programs as well, and it is critical to be thinking about pathways and getting people to think about public health as a potential career as early as possible.

Dr. Hardeman said that as someone who sits in a school of public health and educates students in the future public health workforce, she has seen enrollment in the University of Minnesota School of Public Health increase during the pandemic. The “Fauci Effect” has definitely impacted that. They also have noticed that community engagement skillsets and an anti-racist framework for training the future public health workforce are critically needed. Therefore, consideration must be given to how to work with the institutions that are training the public health workforce to ensure that this is occurring. Perhaps this is something the Health Equity WG (HEW) could tackle. She emphasized that exploration of loan repayment is critically important to think about as they do the work of building this pipeline and supporting a diverse public health workforce.

Dr. Simone agreed that having partnership with academic partners will be very important in helping with the curriculum, preparing the students during their education, and helping CDC ensure that they have the right curriculum in their other types of training for community engagement, diversity, and health equity. There is room for that in some of the work that they are doing, and advice from the ACD on all of this would be very helpful as it is an integral part of all of the other diversity and health equity work the ACD will be tackling.

COVID-19 Response Update

Barbara Mahon, MD, MPH (Incident Manager, CDC COVID-19 Response) provided an update on the COVID-19 pandemic response. As of January 28, 2022, there were nearly 365,000,000 confirmed cases and over 5,600,000 deaths globally. This is known to be an undercount, especially in Africa.⁵ In the US, COVID-19 cases have increased rapidly since the first Omicron case was reported on December 1, 2021. Case counts are currently exceeding the peaks from last winter. Hospitalizations also are increasing, but not at the same rate as the cases. Based on data from January 26-27, 2022, the 7-day average of daily case counts decreased 20.5% compared with previous week and the 7-day average of daily new hospitalizations decreased 9.6% compared with previous week. As of January 27, 2022, the 7-day average of daily death counts increased 20.4% compared with previous week. To put that into perspective, national trends compared to the winter 2020-2021 peak were tracking together until the time of Omicron. For the first time since the Omicron surge, there has been a decoupling with cases much higher, but hospitalizations and deaths lower.⁶

In terms of domestic vaccine uptake, three-quarters (75.1%) of the US population have now been vaccinated with at least 1 dose of COVID-19 vaccine, 63.7% of the US population are fully vaccinated, 41.1% of fully vaccinated persons have received an additional dose, and 64.2% of fully vaccinated persons ≥ 65 years of age have received an additional dose.⁷ Though there is a long way to go, these are remarkable achievements that are worth noting and celebrating. There has been a lot of attention, effort, and remarkable success in reaching groups across the US population equitably. While far from perfect, there has been a lot of progress since the beginning of the vaccine program to present. Regarding global uptake, more than half (52.35%) of the total global population has been fully vaccinated. Among the total global population, 60.8% have received at least 1 dose and 10 billion doses have been administered. The US has donated over 1.2 billion COVID-19 vaccines, safely and equitably, to countries most in need. USG support for COVID vaccination was recently identified as “Global VAX.” Additional COVID resources are being directed toward global vaccination efforts. CDC is supporting over

⁵ WHO Coronavirus (COVID-19) Dashboard <https://covid19.who.int/>

⁶ Data are provisional until officially released by CDC; not for distribution

⁷ Source: CDC COVID Data Tracker: Vaccinations as of January 28, 2022

70 countries to receive and administer COVID-19 vaccines. This is remarkable, but uneven, progress as there has been relatively low coverage for low-income countries and in the Africa region.⁸ As the access to vaccine supply has increased globally, CDC efforts have shifted from vaccine preparedness to implementation, planning, improving vaccine confidence and demand in various populations, supporting vaccine safety monitoring, and supporting evaluation of vaccines and vaccination.

With respect to current COVID-19 vaccination guidance, CDC recommends that everyone 5 years and older protect themselves from COVID-19 by staying up-to-date with their vaccines. In addition, booster eligibility has been expanded. Persons ≥ 18 years of age should get a booster dose of either Pfizer-BioNTech or Moderna ≥ 2 months after initial Janssen vaccine and ≥ 5 months after completion of Pfizer-BioNTech or Moderna primary series. Teens 12-17 years of age should get a booster dose of Pfizer-BioNTech ≥ 5 months after completion of Pfizer-BioNTech primary series. An additional dose of Pfizer-BioNTech is authorized for some immunocompromised children 5-11 years of age.⁹

CDC has updated the definitions of “fully vaccinated” and “up to date” recently for clarity as vaccine recommendations have gotten more complicated and to be consistent with the language used for other vaccines. Consistent with the standard terminology, the definitions are as follows:

<p>Fully Vaccinated: A person who has received their primary COVID-19 vaccine series, which includes two doses of Pfizer-BioNTech or Moderna (mRNA vaccines) or one dose of the J&J/Janssen vaccine, and any additional primary vaccine dose(s) recommended.</p>	<p>Up to Date: A person who has received all recommended COVID-19 vaccines, including any booster dose(s) when eligible. The vaccine history that constitutes “up to date” will differ to some extent depending on age, health status, and date of primary vaccine doses.</p>
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Concerning the emergence of Omicron, the B.1.1.529 or Omicron variant was first detected by South Africa and reported to WHO on November 24, 2021. The first US case was detected in California on December 1, 2021. CDC has worked quickly to answer a number of key questions regarding the Omicron variant in terms of its transmissibility, severity of disease, escape from vaccine or immune protection, and how well diagnostics and therapeutics are working. The S-gene Target Failure (SGTF) marker initially was used in an enhanced surveillance strategy to identify likely Omicron cases. Accumulating evidence suggests that the Omicron variant is more transmissible but causes less severe disease.¹⁰ As of January 22nd, B.1.1.529 (Omicron) was estimated at 99.9% of US cases and B.1.617.2 (Delta) was estimated at 0.1% of US cases.¹¹ Omicron overtook Delta as the primary variant in just a matter of weeks, with the same pattern observed in a number of other countries. CDC is monitoring sub-lineages of Omicron, including sub-lineage BA.2 that has received some media attention in the last several days.

In terms of severity, a number of studies from a number of countries have shown that on a case-by-case basis, Omicron is presenting with less severity than previous variants. Dr. Mahon highlighted a study by Lewnard et al titled, “Clinical outcomes among patients infected with Omicron (B.1.1.529) SARS-CoV-2 variant in southern California.”¹² This study from CDC’s new CFA was conducted in collaboration with academic investigators using data from Kaiser Permanente Southern California (KPSC). This study showed that there is lower probability of

⁸ Data as of January 27, 2022 Source: Coronavirus (COVID-19) Vaccinations - Our World in Data: <https://ourworldindata.org/covid-vaccinations>

⁹ Stay Up to Date with Your Vaccines | CDC: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html>

¹⁰ <https://ourworldindata.org/covid-vaccinations>

¹¹ <https://covid.cdc.gov/covid-data-tracker/#variant-proportions>

¹² <https://www.medrxiv.org/content/10.1101/2022.01.11.22269045v1.full>

symptomatic hospitalization, intensive care unit (ICU) admission, mechanical ventilation, and death in those infected with Omicron versus Delta. There is a substantially shorter length of stay for Omicron than for Delta.

Concerning immune escape, multiple laboratory-based studies have shown a many-fold reduction in neutralization from both vaccine- and infection-induced immunity. One of those studies showed how much lower the neutralization is than for other variants.¹³ Although the currently authorized vaccines offer less protection against infection due to Omicron compared to previous variants, they do still provide some benefit. Thankfully, booster doses restore neutralizing titers against Omicron.¹⁴ Clinical data have borne out that VE is lower for Omicron than for Delta and also that VE improves substantially with a booster dose. Data from one of the initial papers from the UK, whose Omicron surge began a couple of weeks before the US's surge, showed that VE was lower for symptomatic infection due to Omicron compared to Delta. There was increased waning immunity for Omicron (~15%) versus Delta (~60%) at 25+ weeks post-Dose 2. The booster resulted in approximately 65% VE against Omicron at 2 weeks, which decreases to 45% at 10+ weeks.¹⁵ CDC also has released a lot of data showing the same patterns for the US. Based on incidence data collected from 25 US jurisdictions show that throughout the period from August 29-December 25, 2021, while the case rates always have been highest in unvaccinated persons, cases have increased across the population during the recent Omicron period—including in fully vaccinated persons and those who received a booster. There was an even greater difference in death rates of 68-fold lower among those who received the primary series and a booster.¹⁶

Regarding therapeutics, the 3 anti-virals that are authorized for use in the US are all effective against Omicron. These include the antivirals Paxlovid™, Remdesivir, and Molnupiravir; and the monoclonals Sotrovimab and Evusheld™. Evusheld™ is approved for pre-exposure prophylaxis for immunocompromised persons.¹⁷ Among therapeutic monoclonal antibody products authorized for use in the US, only Sotrovimab is active against Omicron.¹⁸ CDC has emphasized messaging around prevention of Omicron. Current vaccines protect against severe illness, hospitalizations, and deaths due to infection with Omicron. However, breakthrough infections in people who are not up to date on COVID-19 vaccines are likely to occur at higher rates than in people who are up to date on COVID-19 vaccines. There is increased emphasis on the importance of masking, improved ventilation, wider and more frequent testing (including self-testing), and adherence to guidance on quarantine and isolation.

With respect to future considerations, continued and improved surveillance is crucial. CDC continues to collect and analyze actionable data about the pandemic, with an emphasis on timeliness and looking ahead to future needs. This includes: 1) monitoring case incidence, healthcare burden, and trends in at-risk or disproportionately affected populations (e.g., children during the Omicron wave); 2) detecting, characterizing, and monitoring emergence and impact of novel variants; 3) updating surveillance strategies to reflect lessons learned from the response and leverage new technologies (e.g., National Wastewater Surveillance System); 4) aligning with the long-term DMI planning efforts; and 5) increasing laboratory capacity.

¹³ Roessler et al. 2021, medRxiv; <https://doi.org/10.1101/2021.12.08.21267491>

¹⁴ Garcia-Beltran et al. Balazs Lab

¹⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1043807/technical-briefing-33.pdf

¹⁶ <https://covid.cdc.gov/covid-data-tracker/#rates-by-vaccine-status>

¹⁷ <https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/nonhospitalized-adults--therapeutic-management/>

¹⁸ <https://www.biorxiv.org/content/10.1101/2021.12.14.472630v1.full.pdf>

Another important focus for CDC is on increasing vaccination coverage, including supporting efforts for all eligible individuals to be up to date on vaccines and preparing for availability of vaccines for children under 5 years of age, which is anticipated to occur in the future. In addition, a considerable amount of effort is going into continual reassessment of mitigation and prevention strategies based on incoming data and adjusting those strategies as necessary in the context of currently circulating variants and case estimates. Just as important is partnering across the USG to ensure that there is ample access to mitigation strategies for everyone in the population.

Given that the ACD will be focusing significantly on equity, Dr. Mahon emphasized in this context that equity has been a major focus for the CDC program response. The agency has a Chief Health Equity Officer with a large and active staff who are engaged across all of the task forces of the response, other USG departments, jurisdictions, and many community organizations. Some of their recent achievements include developing and launching of the “CDC COVID-19 Health Equity Response Strategy” to guide equity efforts in the response¹⁹; creating the COVID-19 Health Equity Action Tracker (HEAT) to serve as a central repository of information for use across CDC and to respond to requests for information related to health equity issues; standardizing the collection of health equity-related data within the COVID Data Tracker to increase the information available to decision-makers and the public; reviewing communication processes to ensure cultural appropriateness for intended audiences and to promote inclusive, non-stigmatizing language; and publishing the findings of these efforts such as a recent *MMWR* on COVID-19 medication/treatments.²⁰

CDC is working to develop and effectively communicate guidance changes to reflect needs at the current stage of the pandemic. At times, the agency has gotten ahead of its communications and this has not always gone as smoothly as they would like. They are working to learn the lessons available and to continuously improve.²¹ At this point in the pandemic, everyone feels that it is time for CDC and public health partners in the country to integrate COVID-19-related activities into routine public health practice. At CDC, this will mean the eventual transition of COVID-related activities to their “home program.” The agency is beginning to plan for when this time comes, though they are certainly not standing down the response. However, this is a huge response and planning for this transition is a journey. CDC is starting on that journey now, with the hope of being able to complete it at some point.

Discussion Summary

Dr. Adimora personally recommended retiring the term “fully vaccinated” as soon as possible and moving to the term “up to date,” given that it is too confusing for the public to hear both terms and the real interest is in people being up to date. She also inquired as to how home testing results will feed into data in terms of case surveillance.

Dr. Mahon emphasized that the terms “fully vaccinated” and “up to date” represent a complex issue that is more complex than for other vaccines, given that a number of regulations have been issued by other parts of the government that depend on that language. While that is outside of CDC’s purview, the agency is focusing on “up to date” language and expects that over time people will increasingly use that term. The broader considerations limit how quickly they can move with changing that language. CDC has had a number of

¹⁹ <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/cdc-strategy.html>

²⁰ https://www.cdc.gov/mmwr/volumes/71/wr/mm7103e1.htm?s_cid=mm7103e1_w

²¹ <https://www.cdc.gov/coronavirus/2019-ncov/your-health/quarantine-isolation.html>

conversations with jurisdictional partners, health departments, and others regarding home tests. States have the ability to allow people to notify the health department of a positive test, but CDC does not think that those data will be particularly useful for national surveillance and believe that they can follow the important trends, burden, and outcomes based on the surveillance strategies that rely on non-home tests. In particular, CDC thinks it will be possible to track the medically-important outcomes such as hospitalizations, seeking medical care, long COVID, multisystem inflammatory syndrome in children (MIS-C), and other outcomes that are of most importance for public health action to try to prevent. It should be possible to track trends using strategies similar to those used for influenza. While CDC is not currently pursuing avenues to incorporate those tests into national surveillance, the most important thing to do for home testing is to inform people about what to do if they have a positive result (e.g., informing contacts, isolation guidance, access to treatment, informing their HCP).

Dr. Goldman congratulated Dr. Mahon for the many things she has accomplished since being in this position. She agreed with the observations about the term “up to date.” She expressed some skepticism about making this more like influenza surveillance. If there could be a consistent way of having sentinel sites tracking trends and basing national data on that, it would be great. However, the data are extremely inconsistent and variable from place to place at this time and it is extremely difficult to determine denominators. The denominator is very important in terms of understanding immunization efficacy. In terms of communication efforts, CDC should share the underlying science when a major change is made in policy. Sometimes it seems that there is a policy change without the science being visible, which results in detractors immediately stating that they do not see the basis and undermines the credibility of the policy. Then a week or so later, the science is unfolded. It is important to see the science in real-time. Sometimes it seems like resource limitations guide policy instead of the other way around. For instance, if CDC thinks more rapid tests or better masks are needed, they should say that even if these are not available. Instead, policy should drive availability.

Dr. Mahon acknowledged that the way some of the communications have rolled out is not the way CDC aspires to roll them out. The agency has put a lot of time and thought into discussions with jurisdictional partners about surveillance strategies going forward. Using sentinel surveillance such as COVID-Net with jurisdictions that are able to do linkage and taking advantage of data modernization in areas where the denominator can be pretty well-enumerated and the numerator can be pretty well-understood can be beneficial. She clarified that when she said “influenza-like” she meant that there is a bouquet of surveillance strategies that provide the information needed about overall case trends, severity in pediatrics, severity in pregnancy, hospitalizations, deaths, effectiveness of vaccines and therapeutics, variability across geographies, et cetera. It is not necessary to count every raindrop to know how hard it is raining, so a more strategic approach to surveillance to answering the questions will serve them well.

Dr. Albert observed that the basic immunology thought is that there is an antibody response and a memory cell response. Much of the focus is on the antibody response. In terms of vaccine messaging moving forward and the sustainability of any efforts, perhaps there is some value in including information about both the antibody and memory cell responses.

Dr. Mahon added that there are also the T-cell and B-cell responses. Measuring T-cell and B-cell responses is substantially more difficult than measuring antibody levels. That is why vaccine manufacturers and others assess antibody responses, which certainly have their use. Studies assessing neutralizing antibodies have been able to yield useful information very quickly, but it is incomplete and studies that look at all arms of the immune system have an answer that is somewhat different than what was thought to be the case from neutralizing or binding antibody studies alone. Those likely will remain very important research tools that need to be continued more than general public health tools. The press sometimes focuses on antibodies even more than the scientists do, which could benefit from a communication piece on the full immune system as well.

Mr. Dawes emphasized that those who have been working in marginalized, minoritized, and under-resourced communities have been dealing with vaccine hesitancy, vaccine access, inequitable distribution, and other issues. While he understands that the vaccination information that was shared is publicly available at the national level, he inquired as to whether there is a plan to release that information at the state and perhaps county levels.

Dr. Mahon said that she sees those data, but did not know whether they are on COVID Data Tracker yet. She will look into this and will report back through Dr. Auerbach.

Dr. Morita indicated that as a pediatrician, she is watching the childhood vaccine coverage levels and is concerned about COVID-19 vaccine uptake in children 5-11 years of age and in anticipating that the vaccine will be approved for use in younger children soon. Based on her past experience with immunizations, she has found it to be incredibly helpful and useful to leverage the pediatrician and family practice relationship with parents. She wondered whether CDC plans to intensify the efforts to leverage those relationships in order to optimize coverage in those age groups.

Dr. Mahon said that CDC thinks that the medical home is going to be absolutely critical for the youngest children 6 months-4 years of age, even more so than for children 5-11 years of age. The rollout will be very different than it was for adults when everybody wanted the vaccine right away, there were mass vaccination sites, and incredible numbers of vaccines were being administered very quickly. For children, it is likely to take more time as parents/guardians may visit their pediatrician, family practitioner, or nurse practitioner to have the conversations—perhaps more than one time. As with all other vaccines, strong recommendations from a trusted practitioner makes a difference. The same is expected with pediatric COVID-19 vaccination.

Promotion of Equity: Current CDC Activities & Proposed ACD Action Steps

David Fleming, MD (ACD Chair) provided an overview of this session in which the ACD would begin to flesh out elements of its work, including the ACD WGs. As they heard from Dr. Walensky earlier in the day, CDC was initially asking the ACD to create 3 WGs: 1) HEW; 2) Data Modernization WG; and 3) Laboratory Quality, Safety, and Efficacy. The presentations for this session focused on the HEW, which was the furthest along in its establishment. ACD members Daniel E. Dawes, JD and Monica Valdes Lupi, JD, MPH graciously agreed to help facilitate the HEW by serving as Co-Chairs.

CDC's Transformative Commitment to Health Equity

Debra Houry, MD, MPH (Acting Principal Deputy Director, CDC) thanked all of the members for serving on the ACD and emphasized that their participation and recommendations would be critical to impacting the health of the nation. Under Dr. Walensky's guidance last spring, CDC launched the CORE Health Equity Science and Intervention Strategy²², which is an agency-wide strategy that aims to integrate health equity as a foundational element across all of its work in science, research, programs, partnerships, and workforce. The CORE aims to: 1) cultivate comprehensive health equity science; 2) optimize interventions; 3) reinforce and expand robust partnerships; and 4) enhance capacity and workforce engagement. This work is instrumental to advancing and protecting the public's health. CDC is committed to bringing together partners from various sectors to gain their collective expertise, inform next steps, and create a shared commitment to reduce health inequity.

²² <https://www.cdc.gov/healthequity/core/index.html>

As part of this charge, all CDC divisions were asked to submit their CORE goals over the summer. This resulted in a total of 159 goals. These goals are now being turned into an accountability structure with agency-wide and division-specific metrics and an external communications plan. The 159 goals fit into these 7 overarching health equity themes: Transform Surveillance Systems, Build Health Equity Data Science Capacity, Build the Evidence Base, Build and Scale Program Interventions, Identify Key Multi-Sector Policy Levers, Cross-Cutting Coordination, Bolster Workforce Management.

Through integrating health equity into the foundation of all of CDC's work, several activities have been identified that are needed including leveraging current work, coordinating across the agency, and facilitating transformation. CORE builds off of the vast amount of health equity work already taking place across the agency, including in programs, agency WGs, and CIOs. Although many efforts work deeply in health equity, they may also extend beyond the realm of CORE. There also are different entities around the agencies such as the SDOH WG and the Office of Intergovernmental Affairs (IGA) that help ensure that the CORE work is coordinated internally with other agency players and with key partners.

Cultivating CDC's CORE Commitment to Achieving Health Equity

Leandris Liburd, PhD, MPH, MA (Director, Office of Minority Health and Health Equity, CDC) added her appreciation for and excitement about the reconvening of the ACD and said that she was thrilled to hear about the Co-Chairs for the upcoming HEW. Since its inception, the framing, content, and coordination of CORE has been jointly led by the Office of Science (OS), Office of Minority Health and Health Equity (OMHHE), and the Office of the Associate Director for Policy and Strategy (OADPS).

Leading with health equity science, this is defined as investigating the underlying contributors to health inequities and building an evidence base that will guide action across the domains of program, surveillance, policy, communication, and scientific inquiry to move toward eliminating, rather than simply documenting, inequities. CORE, when fully integrated into the public health system, can transform practices and accelerate progress in achieving health equity.²³

To provide a sense of the timeline over the last year, following the launch of CORE in April, all CDC divisions were asked to submit their CORE goals by the end of July. After a rigorous process of review, feedback, and resubmission, the goals were compiled on a Power BI platform for synthesis and crosswalk. As Dr. Houry mentioned, the 159 goals fit into 7 overarching themes. Building on CDC's strengths, many focused on using the agency's surveillance systems to better understand not only the markers of health disparities, but also the drivers of inequities. Other goals were focused on building CDC's health equity data capacity and leveraging the agency's skills in analysis, statistics, modeling, and predictive analytic approaches. Almost all divisions prioritized building the evidence base for health equity science, and many goals were focused on developing health equity interventions that can be scalable at the national level. Key partnerships were identified, including many outside of the traditional lanes of public health, such as Housing and Urban Development (HUD) and the Department of Transportation (DOT). Some goals focused on enhancing coordination across federal agencies and state and local departments of public health. Other goals focused on building a diverse and inclusive workforce, and improving CDC's internal diversity, equity, inclusion, and accessibility (DEIA) infrastructure.

²³ Office of Science. Working Definition of Health Equity Science. Centers for Disease Control and Prevention. Personal communication December 15, 2021.

CORE goals are ambitious and intended to transform how CDC pursues its mission. Two examples of CORE goals submitted by the Infectious Diseases Community of Practice (CoP) are: 1) Address data gaps and harmonize data systems across the National Center for Immunization and Respiratory Disease (NCIRD) to ensure 100% of surveillance systems include a standard set of relevant health equity data elements aligned with agency standards or are implementing a plan to do so, by December 2024. (Category: Transform Surveillance Systems); and 2) Reduce racial/ethnic disparities for Ending the HIV Epidemic (EHE) key indicators including knowledge of HIV status, living with HIV while virally suppressed, and Pre-exposure prophylaxis (PrEP) coverage for individuals recommended for PrEP among programs supported by the Division of HIV Prevention, by December 2025. (Category: Identify Key Multi-Sector Policy Levers).

The transformative potential of CORE can only be realized if it is “baked into” all that CDC does. Toward that end, the CORE Leadership Team organized and co-led 4 Sprint Teams that were given a relatively short period of time to establish foundational definitions, health equity science principles, measures of accountability and strategies for monitoring, and health equity guidance for NOFOs that structure how non-research programs are designed and funded. Beginning with the Definitions Sprint Team, a group of health equity subject matter experts (SMEs) created a glossary of health equity-related terms to support consistency in how terms, definitions, and criteria are used across CDC. The Health Equity Glossary is a living document drawn from the literature and based on terms and definitions frequently used in health equity discourse. The 85 terms identified were placed in 3 categories: General Health Equity; Race and Racism; and Diversity, Equity, and Inclusion. Many of the terms represent nuanced and complex concepts that are difficult to capture in a single definition. A considerable amount of time was spent reconciling conceptual and practice debates related to some of these terms.

The NOFO Sprint Team was charged with making concrete recommendations for edits and other modifications to the existing NOFO template for non-research programs. The hope is to guide NOFO authors in how to effectively integrate health equity science and intervention in the structure of the program design. Many of CDC’s CIOs have already championed a focus on the integration of health equity in NOFOs, and the work of the NOFO Sprint Team builds upon existing success of these CIOs.

CDC can amplify its program impact through its scientific work, including the agency’s work in surveillance, evaluation, laboratory implementation science, and research. To that end, a CORE Cross-Agency Health Equity Science Sprint Team was formed. From the grounding definition shared earlier, this Sprint Team developed principles and key considerations for health equity science to guide CDC’s scientific work to ensure that it is actionable, distinguishes markers from drivers, employs appropriate methods, and moves toward eliminating health disparities. These are critical at every stage of the scientific lifecycle from conception to implementing public health practice.

To assure accountability and to monitor progress toward the goals, CDC has a 4-component plan for CORE. First, there is a Milestone Monitoring Dashboard that uses a simple red, yellow, green approach for each division milestone. CIOs and divisions will complete their first round of milestone monitoring this spring and then will continue every 6 months. This will be supplemented by qualitative success stories and a small number of annual agency-level metrics. Interactive dialogue sessions are planned with each CoP every 6 months to allow for open dialogue to address barriers and coordinate strategies. A continuous improvement approach will be employed

with this accountability plan, which will be revised as needed after the first round. CDC expects that this plan will provide internal accountability and monitoring, as well as externally-facing examples of CORE progress.

CDC's CORE commitment to health equity positions the agency to pursue new opportunities to eliminate longstanding and persistent health inequities. Achieving such a bold strategy will require pristine coordination and timely communication internally and with partners. Achieving CDC's goal to reduce health inequities will challenge the agency to find new ways of working together and how they think about what they do.

Organizational Change Framework and Actions to Advance Equity

Aletha Maybank, MD, MPH (Senior Advisor on DEIA) presented on the centrality of equity, diversity inclusion, and accessibility in the success of the CORE framework. The Framework for DEIA Organizational Change focuses on driving external change work that CDC does from the inside. If CDC does not look internally to ascertain how the agency potentially is driving inequities and how they can support equity and change mental models around that, they are not going to be able to influence equity. The inside strategy is about the technical pieces of doing the work, as well as the cultural shifts that need to occur at the institution/organization. The work is framed using a DEIA, which is fine but it is important to understand the distinction. This is really driving equity, which is more about power and shifts in resources, allocation of who is making decisions, and opportunities around that.

Diversity and inclusion are absolutely critical and important in terms of belonging and how that feels, but is also important to determine what is driving and where power is happening or not allowed to happen within the institution. The other piece is not just about the technical aspects but is about the cultural shifts and how the agency is driving all aspects of their work beyond just the workforce and in addition to communications, marketing, data, publishing, and policies in terms of how equity is being embedded in those spaces as well. They are leading with the context of race and racism. Last year, CDC announced that racism is a public health problem. While that is absolutely phenomenal, it is not to the exclusion of other identities. It is critical to have an intersection lens in moving forward with this approach, so there is definitely engagement around gender identity, sexual orientation, and disabilities.

The good thing about doing this work at this time is that there are many folks across the country and in governmental institutions who have embarked upon doing this internal work. Dr. Maybank came from New York City Department of Health (NYC Health) and the Suffolk County Department of Health and engaged a lot with the Government Alliance on Race and Equity (GARE) and Race Forward. GARE uses a model that focuses on visualizing, normalizing, organizing, operationalizing, and trauma-informed and healing supports. The model transformation involves normalizing to create spaces within the institution that normalizes conversations about power, privilege, and identity. That means that there has to be some level of training related to knowledge and skill-building and creation of spaces that are more psychologically safe in which to have these types of conversations. It might not be comfortable, but there have to be safe spaces to have these conversations.

The organizing component recognizes that it is clearly going to take more than one person and more than top leadership to drive this work and create change and shifts across the entire institution. This involves the accountability, engagement, and action infrastructure that need to happen to drive change. Figuring this out is absolutely critical and some of it already has been started at CDC. The operationalizing component focuses on the tools that are needed in order to challenge existing mental models on a daily basis. There is a racial equity

toolkit on the GARE website that Dr. Maybank has used extensively²⁴ and CDC has its own data and metrics that can help support and drive changes in the institution. Support as it relates to mental health, or trauma-informed and healing supports, are critical when going through this work at an institutional level because conflicts and trauma already exist, especially in a space like CDC that has been going through so much.

The draft vision for the internal work is that “CDC envisions an empowered and high-performing workforce that thrives in a culture of mutual acceptance and trust that recognizes our differences, where every employee experiences satisfaction, belonging, and just treatment in an environment rooted in equitable and transparent policies and practices, thereby fully enabling us to accomplish our shared public health mission.” The Guiding Principles are taken directly from the Federal Guidance on DEIA that was provided by the Administration, which are to: 1) use data and evidence-based decision-making; 2) focus on continuous improvement; 3) adopt a collaborative whole-of-agency mandate with partnership engagement; 4) prioritize accountability and sustainability; and 5) understand the perspectives of the workforce and the customers. Consideration is being given to what else CDC thinks is important to identify and specific values that are key to make sure that all of CDC is on the same page as they move forward to do this work.

In terms of normalizing, which largely involves learning and professional development, there have been or will be several efforts. Training on equity, diversity, and inclusion has been provided to a cohort of staff champions across the CDC. In the coming week, a 2-day training will be launched for senior leaders and key champions from the Racial Equity Institute/Groundwater Institute. NIH has used the same collaborators as well. Training and written guidance will be created on how to develop equity action plans. Additional training opportunities to build knowledge and skills will be launched through the CDC University.

In terms of organizing, every week a group is engaged and meeting to talk about the various components of the work as it relates to internal organizing and driving change. This includes Dr. Liburd, Dia Taylor from the Human Resource Office (HRO), Reggie Mebane from the Office of Equal Employment Opportunity (OEEO), Senior Leaders Robbie Goldstein and Dr. Maybank, and Executive Sponsors Deb Houry and Robin Bailey. Communications will be engaged as well. In terms of who is doing the across-agency and action planning and planned development, there is a Cross-Enterprise Team that is comprised of representatives from all of the CIOs, HRO, and OEEO that are all engaged in drafting the initial plan. Work is currently being done on revising and strengthening that plan. Ultimate accountability comes from the CDC Director and Executive Sponsors. Senior Leaders and Center Leadership Teams will be responsible for implementation. Each of the CIOs will be responsible for creating their own action plans as well. There are support teams, leads, and accountability within each of the centers. All of this will flow up to the larger HHS DEIA Strategic Plan.

With regard to operationalizing the tools and metrics, there is a Better Together intranet site that supports transparency and communication across the enterprise. The teams need to know what each other is doing, what they can do, where they can learn, where they can access tools, who they can connect with, et cetera. “Health Equity Guiding Principles for Inclusive Communication” was released earlier in the fall. Written guidance is being provided for the development of the equity action plans. The “CDC Internal Strategic Plan to Advance Diversity, Equity, Inclusion, and Accessibility (DEIA)” is anticipated to be completed in Spring 2022, and the CIOs and more local level units will be held accountable for submitting DEIA Action Plans by Fall 2022. Within the action plans

²⁴ https://racialequityalliance.org/wp-content/uploads/2015/10/GARE-Racial_Equity_Toolkit.pdf

and the strategic plans, the 4 areas for which there will be accountability at this time are leadership and commitment, communications, workforce equity, and cultural shifts within each CIO.

Building a Dynamic Culture through Workforce Engagement: Embracing Diversity, Equity, Inclusion and Accessibility in the Workplace

Robin Bailey Jr., MA (Chief Operating Officer, CDC) emphasized that he has the honor and privilege of serving as the Chief Operating Officer (COO) at arguably the world's premier public health organization. While he has been in this role for just over 3 months, he has over 30 years of leadership experience in multiple federal organizations to include the United States Airforce (USAF), Forest Service (FS), Food and Nutrition Service (FNS), and Internal Revenue Service (IRS). It is both an exciting and critical time to be at the CDC. First, he acknowledged the CDC legacy and the important and tireless work of the staff and recognized the CDC as a great place to work. Recognizing that there are always opportunities for improvement, upon his arrival he posed this question, "At this point in our storied history, what can we, this leadership team, do that will have a profound and sustained impact on our organization?" Accordingly, he has spent his days conducting deep dives; listening and learning for leaders, management, bargaining units, employees, and multiple employee resource groups; reading reports; and using other data sources to help inform his thinking around this important question. He concluded that the most important opportunity with the greatest return on investment is deliberately investing in CDC's people.

This fits squarely in his wheelhouse as he has a passion for transforming cultures and developing people. Through his experiences, he has gained an appreciation for the complexity associated with this work and the effort required to sustain this level of change. As reported by his colleagues, CDC has multiple balls in the air and are working to address barriers to their collective success. Mr. Bailey noted that his remarks during this session were limited to the "E" in CORE that is focused on enhancing CDC's capacity and workforce engagement. As Dr. Maybank just shared, CDC will use its DEIA strategy to build an internal capacity to cultivate a multidisciplinary workforce and a more inclusive environment resulting in policies and practices for broader public health impact. From his perspective, this outcome cannot be fully achieved without addressing CDC's workforce and workplace opportunities. His colleagues shared insights about much of the journey throughout the day, highlighted some of the great work the teams are doing, and described how this fits into the CORE Health Equity Strategy. They will transform the CDC's culture through workforce engagement, deliberate leadership, and workforce development.

CDC's DEIA strategy will intentionally roll the work of the OEEO, HRO, CIOs, feedback from the agency's employee feedback survey, and Management Directive 715 (MD-715) into an integrated CDC-wide strategy that will ensure accountability, transparency, consistency in messages and actions, and the best use of strained and limited resources across the agency. This approach will keep CDC focused while addressing many of the cultural practices and procedures that are limiting the agency's effectiveness. This strategy will seek to reexamine siloes of excellence in favor of more enterprise-wide workforce and workplace strategies that will help CDC consistently deliver on its Employee Value Proposition (EVP). CDC is in an intense battle for talent with competencies required to meet the demands of a world-class public health organization. To further complicate this issue, research and experiences indicate that finding top talent has never been harder. The agency must compete and win in this environment, so their strategies and actions must be precise. The strategies will address the needs in development of the current workforce, while attracting a diverse pool of candidates for the future.

As CDC tells its story and hires new talent, the agency will continually enhance its composition by attracting diverse talent at every level. There are ways to make that happen at the entry level, but the ACD's support will be needed through sharing new partnership opportunities and in helping them find more opportunities to encourage mid and senior level public health professionals to compete for CDC opportunities. CDC's premier organizational status and global reach are not enough to meet its hiring objectives. Partnerships are key. As the agency attracts new talent, it must have the right environment to retain them and enhance the agency's DEIA strategy. Internally, CDC will employ a deliberate enterprise-wide system for developing leaders at every level. This framework will include classwork, experimental and developmental science, and a culture to sustain it. This will include career maps and opportunities for those who believe they are at a dead-end or career-limiting opportunities. Where employees start should not dictate where they end or how far they can go in their career. This approach will address many of the issues cited during employee listening sessions and the federal Employee Viewpoint Survey (FEVS). The FEVS is an annual survey that measures employees' perceptions of whether, and to what extent, workplace conditions characterizing successful organizations are present in CDC. The MD-715 requires agencies to take proactive steps to provide equal employment opportunities for all employees and applicants.

The agency has mounds of data to guide its steps and actions. Employing this approach also will help CDC's EVP as the agency seeks to attract and retain a diverse talent pool. Various sources indicate that the most important pillars of an EVP that have proven to attract and retain talent are composition, compensation, benefits, career advancement opportunities, impact, contribution to the world, and culture. These further indicate that the agency is focused on the right levers given its global mission and contribution to the world. CDC will holistically consider all applicant pools, including internships, fellowships, Title 42, Title 38, and Title 5 to devise strategies to attract and retain those investments. Federal hiring can be complex and frustrating for those who have not been exposed to the laws, rules, and regulations. It is quite challenging to navigate and the agency will use this opportunity to drive different DEIA outcomes in CDC.

The agency will carefully study the data and ascertain the return on investments from its various internships and fellowships. Those findings will be used to determine the best options and opportunities for engagement with the Office of Personnel Management (OPM) to secure ways to protect the agency's investments. CDC needs special appointing authorities to help attract and retain segments of its applicant pools. To be clear, the OPM is an independent agency charged with managing the US Civil Service so they have the authority to grant special hiring authorities. These determinations can be made when there is a shortage of candidates and/or a critical hiring need for a position or group of positions. The agency has a strong platform to build on when considering all of its internships, fellowships, and the number of people in leadership roles who were EIS Fellows. CDC is going to be more deliberate about these investments in all opportunities and potential talent sources to make more strategic investments and provide clear expectations to all participating in these programs. Putting potential leaders through a deliberate set of experiences provides the agency with more clarity on what they can expect as an organization relative to the pipeline of talent available for key roles in the agency and what the employees and fellows can expect from a career in CDC.

Mr. Bailey emphasized his experience has taught him that great cultures attract great employees. CDC's employees are the driving force behind achieving a health equity strategy. Nothing of real value happens without the agency's employees. Therefore, this deserves their full attention.

Implementing Equity Work at the Division Level

Demetre Daskalakis, MD, MPH (Director, Division of HIV Prevention, CDC) presented on the work the Division of HIV Prevention (DHP) is doing to advance health equity. The DHP is amid a culture shift as they are working to actively promote and exemplify an anti-racist culture and a culture of inclusion and diversity in all domains and from inside out. The DHP recognizes that as a division, they have to normalize the conversations that they have about race and racism and work diligently to name and address the root causes of the inequities that they experience in their own lives and, therefore, how it affects their work to improve the lives of those they serve who are living with or are otherwise affected by HIV.

It is known all too well from various stories that some groups of people experience a higher burden of HIV than others and have poor HIV prevention and care outcomes. There is higher HIV incidence among gay and bisexual men, Black/African American persons, and Hispanic/Latino persons in the US. There are gaps in the use of PrEP, with Black and Hispanic persons having significantly less coverage than whites. There are lower rates of viral suppression among American Indian/Alaskan Native (AI/AN) persons and Black/African American persons in the US. There is a higher HIV prevalence among men who have sex with men (MSM), other gay/bisexual men, and transgender women. Additionally, people who inject drugs (PWID) are experiencing more HIV outbreaks. HIV does not just stop or end at specific communities. There are also geographic differences in disparities, with the highest rates of diagnoses of HIV infection in the South.

With that said, it is important to be clear that in the DHP's story in HIV, racism is a major barrier in terms prevention, care, and treatment services in the US. That applies to many other programs within CDC. The DHP vision is to address this head-on because public health is and must be anti-racist. While in recent years there has been discussion about the importance of social determinates (e.g., housing, social services, geography, and education), it is also important to acknowledge and get comfortable with talking about systemic racism as a major barrier to assessing the very things that keep people healthy. Addressing the root cause is the first step. Although deep seated issues like systemic racism cannot be fixed overnight, a commitment can be made to creating programs and conducting research that is equitable, focuses on addressing stigma, improves access to healthcare, and sees people as people and not just their infection or disease. A commitment also can be made to monitoring collective impact and holding each other accountable for progress.

To accelerate progress, the federal Ending the HIV Epidemic (EHE) initiative is working to overcome the barriers to HIV prevention and treatment in 57 areas of the country now hardest hit by the epidemic. EHE is, at its core, a health equity intervention that adds resources to areas and communities with greater needs. The EHE areas account for two-thirds of new infections among Black and Latino individuals in the US. Each of the communities engaged in this initiative has created a tailored local plan focused on these populations to help reduce HIV and the disparities that drive it.

In addition to EHE, the DHP encourages the use of a status-neutral HIV service framework. This framework takes into account a whole person approach and puts the patient or the person seeking services ahead of their HIV status. This approach is designed to help eliminate stigma, drive down health disparities, and dramatically decrease new infections in the US. To walk through it briefly, HIV testing opens the door to treatment and prevention regardless of the status. It is wrapped in attention to syndemic infections and other syndemic conditions, thinking about some of the SDOH, and allows the opportunity to deliver services and support services to individuals not only based on their status, but also what their needs are as a whole human and what

their needs are to achieve what they believe to be their optimal health. It is one of the DPH's strategies to address all of equity from the perspective of race, as well as the other priority identities they work with every day in HIV. A status-neutral approach to care is designed to help people achieve and maintain their best possible health, while closing gaps in HIV prevention, diagnosis, care, and treatment. Again, the approach is focused on a whole person strategy and improves health equity by adding services that address SDOH versus just focusing on prevention and treatment. Efforts have to be made to keep people engaged in the biomedical interventions that are known to work and will ultimately end the HIV epidemic. CDC is investing in innovative approaches to delivery of HIV prevention and care services, and that status-neutral framework is going to be a piece of the future in terms of how services are designed.

While health equity is at the core of all of DHP's work, Dr. Daskalakis highlighted several HIV-related activities that are specifically aimed at addressing health equity. One revolves around HIV criminalization. In 2021, the DVP published commentary in *The Lancet HIV* encouraging states to align their HIV criminalization laws with science and/or revise the application of these laws to ensure that they protect the community, are evidence-based and just, and support public health efforts. Policing of these laws often goes along racial lines, so this is a critical step at addressing the environment in states so that people are able to get HIV testing without fear that there could be retribution or other unnecessary threats to their health and wellbeing. Additionally, the DPH's HIV Prevention in Communities of Color Postdoctoral Fellowship Program has a vision to recruit, mentor, and train investigators to conduct domestic HIV prevention research in communities of color. The Minority HIV/AIDS Research Initiative (MARI) builds capacity for HIV epidemiologic and prevention research in Black and Hispanic/Latino communities and among Black and Hispanic/Latino investigators.

Programmatically, the DHP is working to accelerate efforts to achieve health equity through targeted funding, strategic community engagement, and expanding investments where they are needed most. To that end, the DHP awards \$400 million per year to health departments to implement integrated HIV surveillance and prevention programs. Those awards focus considerably on identifying and serving populations in geographic areas of greatest need. Additionally, the DHP has a great history of directly funding community-based organizations (CBOs) that have credibility and experience and are trusted voices in a long history of being responsive to and also meeting the needs of Black, Latino, and other disproportionately affected groups. That is the DHP's flagship CBO opportunity. They also have another they are particularly proud of, which is the Comprehensive High-Impact HIV Prevention Projects for Young Men of Color Who Have Sex with Men and Young Transgender Persons of Color. This specifically funds about 30 CBOs to do this work in populations who are over-represented by HIV from the perspective of their race and their identity as gay, bisexual, or other MSM or transgender persons. This is another great example of an equity intervention of adding resources where there is higher need.

The DHP also works to make sure their messaging reflects this. To illustrate, Dr. Daskalakis briefly highlighted DHP's "Let's Stop HIV Together" program. To help reduce HIV stigma and encourage people at risk for and with HIV to seek out testing, treatment, and prevention service, CDC works with community partners to design and deliver education and awareness campaigns such as "Let's Stop HIV Together." They have a funding opportunity that focuses on community voices that helps the DPH spread this work in a way that is very contextual and appropriate for the folks they serve. This is a culmination of 12 years of research and implementation and "Let's Stop HIV Together" really focuses on integrating resources developed for all audiences to make sure that connections can be made to meet the needs of anyone accessing DPH's campaigns regardless of their HIV status.

This is another example of a status-neutral communication packages that addresses those who are over-represented in the HIV epidemic.

Beyond HIV, Dr. Daskalakis also highlighted some very exciting equity work that is happening in the National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP). While a lot of work has been underway for many years to advance equity, this specific initiative is working to accelerate and break new ground by being intentional and systematic to integrate equity into all that is done at NCHHSTP. In the NCHHSTP initiative, there is work to ensure a workplace culture that is inclusive, collaborative, and anti-racist and one that encourages all staff to engage in dialogue about racism and other systems of oppression. It also is working to establish workplace policies and practices that further increase diversity, work to ensure fair and equitable opportunities for advancement, and has an ultimate goal of eliminating discrimination. It also will work to continue to conduct data-driven staff assessments.

One of the great innovations is a dashboard where all divisions are able to see the demographics of their staffing, which is critical in making a plan at the center and division levels. Additionally, NCHHSTP is conducting internal workforce activities to transform culture and increase workforce diversity. Progress is being tracked and being reported regularly to the staff. NCHHSTP also is working to refine its systems and processes for designing, funding, and evaluating research programs, policies, and partnerships to ensure that they are intentionally systematic and consistent on addressing the social and structural causes of disparities. That is a lot of successful work that is coming together in a strategy to further accelerate and create an even stronger foundation to achieve some bold goals in advancing equity and reducing health disparities.

The DHP also is looking internally at its processes and practices to make sure that they are striving to be a more equitable division. They are committed to working with their leadership and teams to ensure that there are equitable opportunities for advancement and strong mentorship in place for staff seeking to advance their careers. Last year, the DHP launched a series of division-wide Town Halls and Fireside Chats centered on race and equity with impressive participation. They have seen impressive efforts from the DHP branches to normalize conversations and generate actions to address systems of racism, sexism, homophobia, xenophobia, transphobia, and all of the other isms and phobias that are barriers to the DHP's work and beyond. They also have established an internal WG called an Equity Change Team that is comprised of 30 representatives from every office and branch of the DHP. The team is led by the DHP's recently reorganized Office of Health Equity, which already has developed an equity plan that is in close alignment with the NCHHSTP Equity Initiative Plan and concentrates their efforts in 3 focus areas: A) Workplace Culture; B) Workplace Policies and Procedures; and C) Research, Policy, Programs and Partnerships. Additionally, the 3 CORE goals the DHP submitted to the agency are to: 1) reduce HIV-related racial and ethnic disparities through the EHE program; 2) develop and enhance strategic partnerships designed to advance HIV-related equity work in communities; and 3) integrate evidence-based interventions and best practices to reduce disparities into all DHP-funded programs.

This is an iterative process and as Dr. Maybank taught him in New York City, "you have to trust the process." In terms of next steps, DHP will continue to implement its Equity Plan and is working to establish its reporting cycle for the over 60 planned activities that will be summarized in the DHP's progress report. The DHP Town Halls will be continued to address and discuss trauma, challenges, and opportunities as they relate to racism and inequity. In addition, DHP will be using the GARE tools to examine how they can improve their major funding activities and other programs. These tools will help DHP ensure that its activities are examined through a racial equity lens

that checks programs for fitness. This is in the formative stages and there will be more information in the coming months. The first program is going to be the large health department flagship, so they are excited to put that through the acid test to make sure they are moving in the right direction. The DHP also plans to increase leadership capacity to engage in equity work. Last fall, their leadership completed a 3-day training called “Undoing Racism” that addressed the visceral and harmful impact of racism from a historical context and from current lived experiences of the folks who facilitated and participated. While not a perfect training, they are at least supportive of states to have these tough conversations and determine what is next for the DHP. They also plan to expand the training for all supervisors and members of the Change Equity Teams this year to “bake equity” into all they do.

Discussion Summary

Dr. Medows stressed the importance of including all populations impacted in terms of health equity. A lot of emphasis is placed on race and ethnicity, but gender identity, immigrants, PWID, people with mental health issues, and other groups must be included who suffer from similar disparities and some lack of social services. A lot of work that is being done was described in terms of analytics, education, et cetera. However, it also is important when laying out these plans to ensure that there is a heavy focus on interventions, measuring the effectiveness of the interventions, standardizing a way of measuring performance, and sharing best practices so that these do not have to be recreated every time. This may require stepping away from some traditional public health partners to work with healthcare, health services, et cetera. They must ensure that they move beyond the promising words to action.

Mr. Dawes honed in on a point that Dr. Maybank mentioned—operationalizing these frameworks and theories. He stressed that by his count, this country has now entered the fourth period of a great awakening for health equity and justice. Never before has it been possible to address the upstream factors that he heard throughout the day. It is incredible that they are going to work on the root causes of health inequities. He inquired as to what resource challenges there may be in terms of how to operationalize this moving forward.

Dr. Liburd responded that everyone has been heavily focused on building a plan, being comprehensive, and trying to anticipate some of the barriers while never losing sight that this will require some additional resources. Work is already underway in the agency that is being increased, expanded, and enhanced. For example, there is a renewed focus on addressing racism in health. To name a few that are being implemented with current funding, CDC has a Racism and Health website²⁵, training already is underway, and the Racism and Health WG that was established long ago will be reactivated. This year, CDC’s National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) will implement a Reactions to Race Module (RTRM) that 22 states plan to implement. The Pregnancy Risk Assessment Monitoring Systems (PRAMS), one of the surveillance systems in the Division of Reproductive Health (DRH), has added questions about racism into the system. It is anticipated that there will be additional resources in the future to fully implement the CORE strategy.

²⁵ <https://www.cdc.gov/healthequity/racism-disparities/index.html>

Ms. Valdes Lupi recalled that mention was made of the Office of Health Equity within the DHP, which made her wonder how many such offices exist across the CIOs and if that is part of the effort to lean on the internal expertise so that the agency does not have to “reinvent the wheel.” She was excited to see GARE and other tools and resources that many at city and state health departments have used in their own health practices.

Dr. Liburd estimated that across at least 5 to 6 of CDC’s national centers, there are individuals at the CIO and the division levels who have the title of either Associate Director for Health Equity or Health Equity Lead. That role is also emerging in some of the agency’s Deputy Director offices. For instance, the Office of the Deputy Director for Infectious Diseases (DDID) has someone with that fulltime responsibility. Increasingly more of these offices and positions are emerging across the agency.

Dr. Martinez asked how CDC is dealing with the minority text where the work is expected to be done and falls on the shoulders of minorities themselves, often uncompensated and not recognized or truly valued. What is really needed is for the dominant part of the sectors of society where the power and privilege lies to make the changes, and he wondered how CDC is taking this into consideration.

Dr. Liburd said that she assured everyone that CDC is very sensitive to that issue and called upon Mr. Bailey to further elaborate.

Mr. Bailey added that CDC is going to have workstreams that are comprised of individuals in the workforce who have things they want to call out, so that there will be opportunities to change the outcomes. The work that the agency has to do must be centered around its people and what they believe needs to happen in order to feel that there is transparency and that they have opportunities. That is why the deliberate development element of this is going to be so important, because it will provide for opportunities for people who potentially feel that they have not had those opportunities and open it up in a way that has a roadmap so that everyone can see what those opportunities are and how they may guide their career. There will be more engagement around the performance management element so that everyone understands as they are working through a process such as having certain goals or aspirations, what kind of job they should be seeking for developmental purposes and what type of training they will need to achieve that goal. The workforce will have a voice throughout this process and the agency will hold itself accountable for the commitments it makes. The employee WGs will be very much a part of that, with everyone across the board having an opportunity to feel that not only will they have opportunities, but also the opportunity to thrive in the organization. The CDC organization should be representative of those opportunities throughout the agency.

Dr. Taylor said it was fascinating to her listen to Dr. Daskalakis talk about the HIV field. During the first year of the pandemic, New York City did an enormous amount of work building off of what had been learned during HIV to get care and testing into the community. If anything good can be thought to have come out of the COVID-19 pandemic, it has been advances in technology and the proliferation of rapid tests. Rapid tests are not as sensitive as laboratory-based test, but the problem at the moment is that they have not learned to use them properly and in the right context. There are going to be rapid tests for all sorts of diseases beyond COVID-19, which presents an opportunity to focus on the accessibility component of DEIA to build on what has been learned from HIV to improve access to testing and care.

Equity Workgroup: Terms of Reference

John Auerbach, MBA (Director, Intergovernmental and Strategic Affairs, ACD DFO) and **Leandris Liburd PhD, MPH, MA** (Director, Office of Minority Health and Health Equity, CDC) provided an overview of what goes into the WG process and a brief summary of the content of the TOR, the document that identifies the topics on which CDC is seeking ACD's guidance and insights related to equity.

Mr. Auerbach indicated that each ACD member was provided with a copy of the TOR in advance of the meeting. He explained that the rules that govern the formation and activities for WGs are defined within the FACA. These include the purpose of a WG being to provide assistance to the parent committee, in this case the ACD, and in doing its work with regard to topics and questions that the agency, in this case CDC, identifies as part of the parent committee's tasks. Giving a specific charge to a WG is outlined in the TOR document. WGs are generally expected to do a deep dive into a topic, performing tasks that would be challenging for the ACD members to accomplish on their own. This often involves the need to identify SMEs to join the WG to assist in the process. A WG reports to the ACD, not to the agency. Therefore, the observations, conclusions, and/or any work products from a WG are to be considered by the ACD, which will itself decide if and how they will be offered to the CDC. On each WG, there must be at least 2 members of the ACD who will be involved in overseeing and helping to lead the activities of the WG. In addition to that, a DFO must attend each WG meeting. WGs are generally limited in size. The method for selecting these members may vary. WGs can utilize open public meetings or non-public meeting formats, unlike the ACD that must always meet in public.

Dr. Liburd explained that the purpose of the HEW is to provide input to ACD on agency-wide activities related to the scope and implementation of CDC's CORE strategy. CDC's commitment to health equity includes, but is not limited to, refining and establishing national data systems that assess and monitor race and other drivers of health and healthcare inequities; identifying and supporting the implementation of strategies that establish and sustain anti-racist systems of public health; identifying policy levers that advance health equity; and identifying and fostering multisector partnerships that accelerate the elimination of health inequities. The HEW will provide advice and recommendations on the effective execution of the CORE health equity strategy across the agency and ultimately will influence the agency's work with state, tribal, local, and territorial (STLT) departments of public health and its other constituents and partners. To provide some examples, CDC will benefit greatly from the expertise of the HEW in addressing these and other questions:

1. What will CORE need to be successful?
2. What are potential barriers?
3. How can work on health equity at the STLT levels be supported?
4. What categories of partners can be leveraged?
5. How can a Health Equity in All Policies approach be advanced?
6. How might measures of health and of inequity be collected?
7. What are a minimal data elements for surveys and surveillance systems?

CORE is a bold and comprehensive undertaking and CDC wants to have a strong start. The HEW will "roll up its sleeves" with CDC and bring new eyes to aspects of the strategy that the agency may have missed. For example, what are potential unanticipated barriers to CORE implementation and how can they be minimized? The agency also wants to hear from the HEW as they become more familiar with all of the goals that have been shared. What are the best 3 agency-wide CORE goals that can be adopted and changes that need to be made to advance

the CORE strategy? Dr. Liburd thanked everyone in advance for helping CDC move this work forward to cultivate comprehensive health equity science; optimize interventions that tend toward equity; and foster, reinforce, and expand robust partnerships. As already indicated by Dr. Walensky earlier in the day, the agency is happy to provide updates on its progress in achieving a diverse, inclusive, and equitable CDC workforce, which is the “E” in CORE.

Mr. Auerbach provided a sense of the expectations, or at least the hopes, with regard to the formation of the HEW. CDC and the ACD would like to hear back from the HEW during the May 3, 2022 ACD meeting what its work has been to date, the progress it has made, and if it has any observations to share. It is expected that the first meeting of the HEW probably would not occur until March, given the steps that need to be taken to get it off the ground. Overall, a written deliverable would be expected in 6 to 9 months. The thought is that there should be a minimum of 3 virtual meetings between the HEW’s formation and the presentation of a deliverable. Obviously, there would need to be work accomplished in between those virtual meetings. CDC will offer support to the HEW in terms of logistics and knowledgeable staff to take on some of the preparatory tasks so that the HEW can dive into the work most effectively. A number of questions are included within the TOR—too many to take on initially. Therefore, the initial emphasis will be on the first set of 3 questions:

1. What will CDC need to do to be successful in CORE implementation? What are the best 3 agency-wide CORE goals and most important changes to advance CORE?
2. What are potential unanticipated barriers to CORE implementation and how can they be minimized?
3. How can CDC accelerate work on health equity at the STLT levels?

There may be a second phase to address the other 4 questions after the initial deliverable, which would be brought back to the ACD for further discussion. Following this meeting, Mr. Auerbach and Dr. Fleming will survey the interests of the membership of the ACD in participating in any of the 3 WGs mentioned, including the HEW, Data Modernization WG, and the Laboratory WG. As a reminder, there must be at least 2 members of the ACD in each one of those WGs. Regarding the HEW, a process will begin to select the non-ACD members through an open process with an announcement in the *Federal Register* where people can nominate themselves or others to be members of the ACD HEW. That will be done with the identification of the specific skills and expertise that would be needed by the non-ACD members to accomplish the tasks identified in the TOR. CDC drafted the TOR based on its identification of need and encouraged the ACD to make recommendations before the document is finalized. Rather than wordsmithing the document during the meeting, they proposed to make a record of all of the observations and take them into consideration in revising the TOR as needed. CDC also will welcome any additional comments from individual ACD members following the meeting. It is handled this way to ensure that the activities of the HEW will align with the agency’s strategic priorities and mission.

Discussion Summary

Dr. Fleming emphasized that this is a critically important and ambitious area of work and that it was both an honor and somewhat intimidating to take it on, but they can do it because of its importance. There is an ability to focus and prioritize moving forward in getting information and recommendations back to the ACD and CDC.

Dr. Morita requested clarification about whether the order of the initial 3 questions was as presented in the TOR or in the presentation.

Dr. Liburd clarified that it would be in the order shown in the presentation, which she reviewed. In the meeting slide package, this is Slide 100 titled “EMPHASIS INITIALLY ON FIRST THREE TOPICS IN TOR.”

In relation to how the work will be done, **Dr. Martinez** inquired as to how the non-ACD SMEs would be chosen and the rest of the ACD would weigh in on that, whether CDC representatives would be counted as part of the final membership, and if there would be a consulting group. For instance, HHS was able to provide a consulting group to the Presidential Health Equity Task Force to help get the work done (e.g., curating of data and research, writing, et cetera).

Dr. Fleming said he thought one of the most critical factors that makes a WG successful is to have adequate support. He would think of the support that CDC provides at an Executive Secretariat level. It also is critically important, because of FACA rules and what the HEW wants to do, that the recommendations themselves be developed externally by the HEW/ACD members as opposed to any perception that CDC has created recommendations that the ACD then approved them. Clearly, support for preparation of the report is critical. To the extent that ACD members have time and interest, they were encouraged to participate in one or more the WGs. The inclusion of additional outside members will be based in part on the expertise from within the committee who volunteer to be part of the process, followed by an assessment of whether there are critical domains missing beyond the members who volunteer to participate. That will be used as a guide for selection of outside members.

Dr. Auerbach added that the membership cap includes ACD members. CDC wants this to be an open process and to ensure that people have an opportunity to participate in the HEW and other WGs. This is why they want to use the public announcement process and offer an easy way for people to nominate themselves or others to participate. That said, CDC will look to the ACD members to suggest people who may be valuable members of the HEW. A starting point would be to encourage the ACD members to consider who non-ACD members might be who could make valuable contributions in addressing the gaps in the specific skills needed. CDC has not yet determined what the review process will be for the applications that are presented, but it will involve looking at the specific needs of the HEW that have been identified and matching that with the applications. They can discuss whether and how to involve ACD members in reviewing the applications as well if that is the wish of the ACD.

Dr. Fleming said that the ACD is looking very much to CDC to fulfill the Executive Secretariat function and SME. Federal representatives, including those from CDC, are not official members of the WG.

Dr. Shah observed that this work is certainly internal in the sense that it is focused on what the CDC can and will do to advance equity and DEIA. To the extent that it will be informed by external forces given the expertise of the HEW and others who contribute, it might also be an opportunity to influence the outside world beyond the CDC considerably. For instance, corporate boards are considering numerous Environmental, Social, and Governance (ESG) issues that a lot of America is paying attention to in terms of trying to figure out how to take this opportunity to advance equity. The CDC, as experts in measurement, can do this work internally and with a broader lens to create opportunities for others to be fast followers in America and the world.

Dr. Liburd pointed out that CDC first needs to “get its own house in order” and to ensure that the agency has the rigor it needs to be a change-maker in the larger public health enterprise. By definition, the multisector partnerships mentioned throughout the day will be external to the agency and will represent various sectors. As CDC is implementing CORE, there will be opportunities to engage with others outside of the agency. Ultimately, CDC’s work lands well outside of its own walls and doors and around the country in working with governmental departments of public health. CDC also has the CGH that is participating in the CORE strategy and has representatives throughout the world. While it will start with CDC, they want to make sure that what they roll out is good.

Dr. Medows requested clarification about whether the products of the HEW will be reviewed by the full ACD before they are published.

Dr. Fleming explained that the WG process is to develop reports. Perhaps one of the most powerful elements of those reports is inclusion of specific recommendations to CDC. Those are presented to the full ACD and ultimately voted upon by the full ACD before being submitted to CDC. There is a track record for how to do this that has been successful in other WGs, and it also is up to the committee to figure out how to make this work as effectively as possible moving forward. It has been his experience with ACD that less is more. To the extent that the WGs and ACD can focus on and prioritize some of the most important elements of advice to CDC, that oftentimes is a useful way of elevating the items that are of innermost importance.

Dr. Valdes Lupi said that she is excited to served in this role with Mr. Dawes and that they have such a great committee to lean on and she looks forward to following up with everyone. **Mr. Dawes** agreed that this is an exciting opportunity and he is looking forward to getting started.

Dr. Fleming expressed gratitude to Dr. Valdes Lupi and Mr. Dawes for agreeing to serve as Co-Chairs and requested that the other ACD members give thought to their interest and willingness to participate in any of the WGs. Based on his past experience, in some ways, the WGs are the most fun and rewarding parts of being on the ACD. He assured everyone that if they expressed interest in participating, that is what would happen. This is an open opportunity.

Initial Discussion of Future Workgroups

David Fleming, MD (ACD Chair) led a session on the additional WGs that the ACD was requested to create, the Data Modernization WG and the Laboratory Monitoring WG. These WGs are in a much earlier phase, so the TOR have not yet been established. While there was not a lot of information at this point to prompt questions/comments about particular issues, they did not want to move beyond the WG discussion without at least providing an opportunity for members to share high-level thoughts on either the Data Modernization WG or Laboratory Monitoring WG that ACD members had at this point.

Discussion Summary

Dr. Goldman found both of the presentations to be wonderful and it is obvious that the scientific staff at the CDC already have put a considerable amount of thought and effort into these two areas. As people looking in from the outside and giving CDC external advice, she would like to hear input on where the ACD might be able to

add value and have an opportunity to make a difference by providing an outside perspective. They will not add a lot by simply being a “rubber stamp.”

Ms. Gary emphasized the importance of health equity being a through-line across the WGs. As the WGs are being developed, consideration should be given to where equity fits in and how the ACD and WGs might be able to contribute to that.

Dr. Shah emphasized the importance of the cross-cutting issue of funding and sustainable funding. He expressed concern that they would get the next version of the fax machine and would stick with it for the next 20 years. For all of these very important issues, there is a clear need to figure out how to do that at scale in a way that breaks some of the previous barriers that have been faced. The challenges are real. Perhaps a separate Funding/Sustainable Funding WG could be formed or a consistent and thoughtful approach could be established for all 3 of the WGs to ensure that this cross-cutting issue is addressed.

Dr. Fleming observed that this is an odd time given that because of COVID-19, some resources that were not available previously have been made available. Understanding the extent to which those resources are sustainable and determining strategies for creating sustainability will be key issues.

Public Comments

The floor was opened for public comment on February 1, 2022 at 3:45 PM ET. Public engagement and input are vital to ACD’s work. Prior to each meeting, members of the public are invited through a notice in the *Federal Register* to submit written and/or oral comments. The public comments made during the meeting are included below. Members of the public also were invited to submit written public comments to the ACD through the Federal eRulemaking Portal under Docket No. CDC-2022-0001. Visit <http://www.regulations.gov> for access to the docket in order to submit written comments or to read background documents and comments received.

Michael Fraser PhD, MS, CAE, FCPP CEO, Association of State and Territorial Health Officials

Thank you for allowing me to speak. It’s great to see so many colleagues. I am Mike Fraser, the Chief Executive Officer of the Association of State and Territorial Health Officials, or ASTHO. It’s also wonderful to see so many of our alumni on this committee. I wanted to comment on behalf of our organization that represents state and territorial health officials across the country briefly this afternoon, first by thanking the Director and the CDC staff for their unwavering and untiring leadership in this most unprecedented pandemic and to thank the committee members for offering their expertise to the Director to bring CDC all of your expertise and insight. States are a primary partner for the agency and we are extremely invested in the agency’s success as are all of us on the line. At our recent board meeting, our Board of Directors approved 5 priority areas for ASTHO to work on as a partner, advocate, and resource. Almost all 5 of these mirror the conversations that we had today. They include health and racial equity, workforce development, sustainable infrastructure improvements, data modernization and interoperability, and promoting evidence-based and promising health practices in public health practice across the country. These 5 priority areas will be our guide for technical assistance and advocacy on behalf of State and Territorial Health Officials and our partners. I think it is serendipitous, but also no coincidence, that they do mirror the conversation today because these are the most pressing issues, I think, impacting the public health system in our country. We look forward to working with the agency and with the committee on these priorities and with our members.

I just want to offer 3 other comments before I conclude. First, we urge the Director and the agency to quickly identify a sustainability pathway for the \$2.25 billion through the CSTLTS (Center for State, Tribal, Local, and Territorial Support) mechanisms to states for vaccine disparity work. This is a grant program—one of the only grant programs to address disparities in health equity that’s available to states. This grant expires after 2 years and without a sustainable funding strategy for the future, we fear that this important work, a lot of which involves community engagement and the employment of community health workers in states, will stop. That would be a shame given the priority we’re all placing on equity work. Second of all, we urge the Director to consider opportunities to collaborate with national associations like ours in support of a formal, structured, official either in-progress review or hopefully after action review of the COVID response for the last 2 years. There has not been, since the beginning of this pandemic, any structure, formal engagement between the national associations, our members, and CDC specifically on the COVID response and the issues we need to address in a state/federal partnership anticipating the next one and debriefing on the current one. We believe this is urgent. It shouldn’t wait until the pandemic is “over.” Certainly, the agency has been listening to states. Certainly, the agency has had listening sessions with states. Certainly, the agency speaks daily with states. But, there is a formal process to facilitate and to stage these reviews. We believe that it is really important that we commit to that together. Finally, in considering the WGs that the committee is forming, we would like to suggest that priority be given to at least one or two current state health practitioners to help inform the work that is going on on the ground today, in addition to the wonderful and very talented alumni who stay current and engaged with ASTHO. We believe this will provide a voice of the field that would be important for the committee to include in its recommendations to the Director. Thank you all. It’s wonderful to work with you. It’s wonderful to work in public health at this historic time.

Stephanie Mayfield Gibson, MD, FCAP
Director, US COVID-19 Response Team
Resolve To Save Lives Memphis

Thank you Dr. Fleming and advisory board members for allowing me to present some comments today. I’m here as a senior advisor to Resolve to Save Lives with US partnerships. Resolve to Save Lives is a global organization focusing on saving 100 million lives from cardiovascular disease and preventing epidemics. Much of what I have to say aligns with what we talked about earlier about how COVID-19 highlighted the stark inequities in the United States and across the globe. Now we must address the gaps COVID illuminated and transform our public health system to meet our current and future challenges. Three points, please. First, we must have sustainable and equitably distributed funding for core public health systems to prevent, detect, and respond to public health threats here at home and abroad. It is vital we establish a budget exemption for these critical public health functions through a Health Defense Operations (HDO) designation. Current supplemental appropriations are, by nature, temporary. We must ensure that the investments made in our core public health infrastructure and health security programs are maintained and used to prevent the next pandemic. This HDO designation would exempt critical health protection funding from the spending caps so our public health agencies, especially CDC, can protect us. Second, we should strengthen and expand public health infrastructure through a Whole-of-Government Approach (WGA) that addresses not only pandemics and infectious diseases, but chronic conditions such as hypertension. Improved blood pressure control saves more lives on a population basis than any other clinical intervention. Moreover, hypertension is a leading cause of premature death and a leading contributor to changes in life expectancy, and hypertension is a leading cause of Black and White health disparities—1 in 4 Blacks 18 years and older has uncontrolled hypertension compared to 1 in 7 Whites. All are too high. There are many levers that the federal government can pull to address hypertension, ranging from implementing inter-agency salt reduction strategies to increasing support to state and local groups for community-led programs that address hypertension across diverse public and private sectors. Third, work with the Centers for Medicare and Medicaid Services on two areas: 1) support an all-payer, including Medicaid, sustainable, quality-driven, comprehensive team-based primary care model consisting of integration of pharmacists and community health

workers to address hypertension; and 2) collect and report local jurisdiction blood pressure control demographic data for equity-based interventions. Thank you for this opportunity to present comments.

Adriane Casalotti, MPH, MSW
Chief, Government Public Affairs
National Association of County and City Health Officials

Hi and thank you all. I want to reach out and thank the Director for her comments, the wonderful presentations from other CDC staff, and the engaging conversation of the advisory committee today. We are incredibly pleased that this group has been reconvened and to see former NACCHO members on the committee and active. I am Adriane Casalotti, Chief of Government Public Affairs for NACCHO. We represent the leaders and staff of our nation's nearly 3000 local health departments. I wanted to associate myself with the comments that were made previously and reiterate Dr. Fraser's comment about incorporating and better incorporating current local health officials from different sized communities in the work of the advisory committee and task forces to ensure that it is informed by the current moment. We appreciate the conversation today and the focus on public health partnerships across CDC, state health departments, and local health departments. This peer-to-peer-to-peer relationship has never been more important. To be honest, there have been a lot of challenges at local health departments stemming from decades of disinvestment, but also the polarization and sheer workload of the pandemic response, with which you are all so familiar. That being said, we're excited with many of the initiatives discussed today and really see equity as a through-line. NACCHO's key policy efforts are workforce; public health infrastructure, including sustainable disease-agnostic funding to fill the gaps left by disease-specific siloes; and data modernization, which line up so well with what you've been talking about. Each of these pieces can lead to health departments that are better able to respond to health disparities and promote health equity—both in having the data that you need to target your programs and make them efficient and effective, as well as to have the people in the seats who can build relationships and sustain those relationships with different corners of their communities, so that we're not trying to build those up in the middle of a crisis, but we have trusted messengers and trusted methods of communication. In all of these areas, there is so much new that we can do. I wanted to lift up that fact that we need to put a priority in for those health departments that are most under-resourced. We know there are needs everywhere, but the pandemic has shown us we really are only as strong as our weakest link. Often the health departments that are the hardest to help are the ones that we kind of say we'll get to later and we never get there. But, we really won't be moving our nation forward in health and safety without addressing this piece. We stand ready to work with you and to engage public health practitioners in this work, and also to ensure that the local health department perspective is included in not just the outcomes of the work, but also in the strategy in how to get there. Thank you very much.

Meeting Wrap-Up / Adjourn

David Fleming, MD (ACD Chair) said that his overwhelming reaction was "wow!" He emphasized that this had been a fantastic meeting and a great way to start off and reinvigorate the ACD. It was good to hear from Dr. Walensky and CDC staff about some of the agency's current priorities, which they will continue to hear about over time. It was great to start on the actual work of the ACD and begin to discuss the creation of the WGs. He expressed his gratitude to his fellow ACD members and to CDC attendees who participated in the meeting. He thought this was a good start to a partnership between the ACD and the CDC to be able to move them forward.

John Auerbach, MBA (Director, Intergovernmental and Strategic Affairs, ACD DFO) expressed gratitude to the ACD members, recognizing that it was not easy to get to this point. He thanked everyone for being so patient about all of the preparations that go into an appointment to a Federal Advisory Committee Act (FACA) group, their dedication to completing this process, and their rich and deep involvement in the discussions throughout

the day. He thanked the CDC staff who worked so hard behind the scenes to bring this meeting to fruition, including Kerry Caudwell, Bridget Richards, Heather Dennehy, and Tiffany Brown. In addition Gladys Lewellen and Dee Gardner from the Strategic Business Initiative, provided the training and the expertise. CDC took very good notes about the areas to which the ACD expressed an interest in paying more attention to, and will incorporate that feedback into the planning of the next two meetings. While they have learned not to predict through COVID-19, the expectation is that the next meeting in May 2022 will be in-person. The hope is that the ability to travel to Atlanta for the next meeting would be beneficial in terms of creating an esprit de corps, everyone getting know each other better, and operating as a very effective body of experts. CDC will follow up on all of the action steps mentioned, including soliciting members' interests in the WGs, solidifying the members for the Equity WG, and planning the first meeting. In addition, the TOR will be developed for the Data Modernization and Laboratory WGs. Draft TOR will be sent to the ACD members in approximately the next month or two. He extended special thanks to Dr. Fleming, who spent countless hours on the phone with CDC in the planning and various preparations that go into recreating a FACA ACD. He said he knew he spoke on behalf of Dr. Walensky in thanking Dr. Fleming and each ACD member. CDC is very grateful and knows that the ACD's contributions will be significant in terms of advancing the priorities of the agency.

With no further business posed or questions/comments raised, the meeting was officially adjourned at 4:30 PM ET.

Certification

I hereby certify that, to the best of my knowledge and ability, the foregoing minutes of the February 1, 2022 meeting of the Advisory Committee to the Director, CDC are accurate and complete.

Date

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

John Auerbach, MBA

Director, Intergovernmental and Strategic Affairs
Centers for Disease Control and Prevention

MEMBERS

Adaora Alise Adimora, MD, MPH

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

Michelle A. Albert, MD, MPH, FACC, FAHA

Walter A. Haas-Lucie Stern Endowed Chair in Cardiology Professor of Medicine
Director, CeNter for the StUdy of AdveRsiTy and CardiovascUlaR DiseasE (NURTURE Center)
Associate Dean of Admissions
Division of Cardiology, Department of Medicine
University of California, San Francisco School of Medicine
San Francisco, California
Term: 09-27-2021 – 06-30-2024

Daniel E. Dawes, JD

Executive Director
Satcher Health Leadership Institute
Morehouse School of Medicine
Atlanta, Georgia
Term: 09-28-2021 – 06-30-2024

Cristal A. Gary, MPH

Chief Advocacy Officer
Amita Health
Chicago, Illinois
Term: 09-30-2021 – 06-30-2023

Lynn R. Goldman, MD, MS, MPH

Dean and Professor of Environmental and Occupational Health
Milken Institute School of Public Health
George Washington University
Washington, District of Columbia
Term: 09-28-2021 – 06-30-2023

Rachel R. Hardeman, PhD, MPH

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

Octavio N. Martinez, Jr., MD, MPH, MBA, FAPA

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

Rhonda M. Medows, MD

President
Providence Population Health
Renton, Washington
Term: 09-27-2021 – 06-30-2024

Julie Morita, MD

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

Jeffrey D. Sachs, PhD

University Professor and Director
Center for Sustainable Development
Columbia University
New York, New York
Term: 09-29-2021 – 06-30-2025

Nirav R. Shah, MD, MPH

Chief Medical Officer

Sharecare

Palo Alto, California

Term: 09-27-2021 – 06-30-2025

Jill Taylor, PhD

Senior Advisor for Scientific Affairs

Association of Public Health Laboratories (APHL)

Silver Spring, Maryland

Term: 09-28-2021 – 06-30-2023

Monica Valdes Lupi, JD, MPH

Managing Director for the Health Program

The Kresge Foundation

Troy, Michigan

Term: 09-27-2021 – 06-30-2024

Attachment #2: Acronyms Used in this Document

Acronym	Expansion
ACD	Advisory Committee to the Director
AHD Model	Academic Health Department Model
AI	Artificial Intelligence
AI/AN	American Indian/Alaskan Native
AMD	Advanced Molecular Detection
APHL	Association of Public Health Laboratories
App	Application
ARP	American Rescue Plan
ASTHO	Association of State and Territorial Health Officials
ATSDR	Agency for Toxic Substance and Disease Registry
CBO	Community-Based Organization
CDC	Centers for Disease Control and Prevention
CFA	Center for Forecasting and Outbreak Analytics
CGH	Center for Global Health
CHW	Community Health Workers
CIOs	Centers, Institutes, and Offices
CMS	Centers for Medicare and Medicaid Services
COI	Conflict of Interest
COO	Chief Operating Officer
CoP	Community of Practice
CSTE	Council of State and Territorial Epidemiologists
CSTLTS	Center for State, Tribal, Local, and Territorial Support
CVD	Cardiovascular Disease
DDID	Deputy Director for Infectious Diseases
DEIA	Diversity, Equity, Inclusion, Accessibility
DFO	Designated Federal Officer
DHP	Division of HIV Prevention
DIS	Disease Intervention Specialists
DMI	Data Modernization Initiative
DOT	(United States) Department of Transportation
DRH	Division of Reproductive Health
DUA	Data Use Agreements
eCR	Electronic Case Reporting
ED	Emergency Department
EHE	Ending the HIV Epidemic
EHR	Electronic Health Record
EIS	Epidemic Intelligence Service
ELR	Electronic Laboratory Reporting
ESG	Environmental, Social, and Governance
ET	Eastern Time
EVP	Employee Value Proposition
FACA	Federal Advisory Committee Act
FEVS	Employee Viewpoint Survey
FNS	Food and Nutrition Service

Acronym	Expansion
FS	Forest Service
FY	Fiscal Year
GARE	Government Alliance on Race and Equity
GW	George Washington University
HDO	Health Defense Operations
HEAT	COVID-19 Health Equity Action Tracker
HEW	Health Equity Workgroup
HHS	(United States Department of) Health and Human Services
HIMSS	Healthcare Information and Management Systems Society
HIV	Human Immunodeficiency Virus
HL7	Health Level Seven International
HRO	Human Resource Office
HRSA	Health Resources and Services Administration
HUD	(United States Department of) Housing and Urban Development
HWRC	Health Workforce Research Center
ICU	Intensive Care Unit
IISs	Immunization Information Systems
IRS	Internal Revenue Service
ISD	Immunization Services Division
KPSC	Kaiser Permanente Southern California
MARI	Minority HIV/AIDS Research Initiative
MIS-C	Multisystem Inflammatory Syndrome in Children
ML	Machine Learning
<i>MMWR</i>	<i>Morbidity and Mortality Weekly Report</i>
MSN	Men Who Have Sex With Men
MU	Meaningful Use
NACCHO	National Association of County and City Health Officials
NAPHSIS	National Association for Public Health Statistics and Information Systems
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion
NCHHSTP	National Center for HIV, Viral Hepatitis, STD, and TB Prevention
NCIRD	National Center for Immunization and Respiratory Diseases
NIH	National Institutes of Health
NIOSH	National Institute for Occupational Safety and Health
NOFO	Notice of Funding Opportunity
OADPS	Office of the Associate Director for Policy and Strategy
OEEO	Office of Equal Employment Opportunity
OMHHE	Office of Minority Health and Health Equity
ONC	Office of the National Coordinator for Health Information Technology
OPM	Office of Personnel Management
OS	Office of Science
PRAMS	Pregnancy Risk Assessment Monitoring Systems
PrEP	Pre-Exposure Prophylaxis
PWID	People Who Inject Drugs
ROI	Return on Investment
RTRM	Reactions to Race Module
RWJF	Robert Wood Johnson Foundation
SCD	Sickle Cell Disease

Acronym	Expansion
SDOH	Social Determinants of Health
SGTF	S-gene Target Failure
SME	Subject Matter Expert
SOGI	Sexual Orientation and Gender
STDs	Sexually Transmitted Diseases
STLT	State, Tribal, Local, and Territorial
TA	Technical Assistance
TOR	Terms of Reference
UK	United Kingdom
US	United States
USAF	United States Airforce
USCDI	US Core Data for Interoperability
USG	United States Government
WG	Workgroup
WGA	Whole-of-Government Approach
WHO	World Health Organization