TESTIMONY

OF

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BEFORE THE

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AN UPDATE FROM FEDERAL OFFICALS ON EFFORTS TO COMBAT COVID-19

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Chairman Murray, Ranking Member Burr, and distinguished members of the Committee. It is an honor to appear before you again today to discuss the Centers for Disease Control and Prevention's (CDC) ongoing response to the COVID-19 pandemic. I am grateful for this opportunity to address this committee as well as for your partnership and leadership in responding to COVID-19.

It is my privilege to represent CDC. CDC is America's health protection agency. We work 24/7 to prevent illness, save lives, and protect America from threats to health, safety, and security. CDC is proud of its key role in preparedness and response to public health concerns here in the United States and abroad. Addressing infectious diseases and pandemics, like COVID-19, is central to our mission. CDC's expertise lies in our ability to study emerging pathogens like SARS-CoV-2, to understand how they are transmitted, and to translate that knowledge into timely public health action. By deploying experts on the ground to support our state, Tribal, local, and territorial partners, we translate science into guidance that protects individuals, communities, and populations. In our work with other federal agencies we ensure the safe and appropriate use of medical countermeasures, including vaccines, and collaborate with the academic sector to further our understanding of new diseases.

I've had the honor of being the Director of this agency for over four months, and it is clear to me that all of this work is done by expert staff with great dedication to, and pride in, their work. They work tirelessly to respond to the COVID-19 pandemic, and I am committed to making sure that their efforts to conduct and analyze the data allow science to drive our path forward.

CDC Efforts to Date

While COVID-19 cases have recently decreased, COVID-19 transmission remains widespread across the nation. We are hopeful. We have made significant progress in getting shots in arms. But, given that many people around the country are not yet fully vaccinated and given the threat of variants, we must remain cautious.

It goes without saying, we have been tested over the past nearly year and a half. It has been an extraordinarily difficult time for the United States. And I want to take a moment to recognize the more than 570,000 Americans – mothers, fathers, sisters, brothers, wives,

husbands, grandparents, and children – who have died because of the pandemic. Every loss is felt. By grieving families, by friends who are unable to say goodbye because of hospital mitigation strategies, by communities devastated by the disparate impact of this virus. We also acknowledge the millions of others who have suffered with this disease and recognize there are so many who will require long-term care and support.

As hard as this has been, we can still persevere. If we can just stay the course a little longer by strengthening and maintaining evidence-based prevention measures while vaccinations continue to ramp up, we can prevent a lot of disease and save a lot of lives.

Right now, we are in a race to stop transmission. Variants of this virus that have slight genetic differences from the initial strain have emerged, and available data suggest some are more transmissible. CDC has expanded sequence surveillance across the United States to improve our understanding about the impact of these variants on vaccine effectiveness, severity of disease, transmission, and mortality.

We must continue to use every tool we have to fight this virus: wearing masks, social distancing, handwashing, and administering vaccines.

The scale of this unprecedented public health emergency requires unprecedented action — at CDC, more than 8,500 CDC personnel have been part of our COVID-19 response, both at CDC headquarters and in the field. More than 1,500 staff have taken part in over 3,000 deployments to nearly 300 locations across the United States and around the world.

CDC is working to ensure that public health decisions are based on the highest-quality scientific information.

Since the start of the pandemic, over 250 COVID-19 studies have been published in the *Morbidity and Mortality Weekly Report* (MMWR) on topics ranging from health disparities exacerbated during the pandemic, to prevention strategies, to emergence of new variants. CDC has also produced more than 6,000 documents to provide information and guidance for government agencies, businesses, and the public. CDC is actively studying the epidemiology of post-COVID conditions (often referred to as long COVID), including the prevalence, duration, and severity of symptoms following acute SARS-CoV-2 infection, as well as risk factors for developing post-COVID conditions. This work will help to establish a more complete

understanding of the natural history of SARS-CoV-2 infection and post-COVID conditions, which can inform healthcare strategies, clinical decision-making, and the public health response to this virus that will be required over the long term. A recent MMWR article found that among 3,000 adults with COVID-19 who didn't require a hospital stay, two out of three returned for at least one outpatient visit within one to six months after COVID-19 diagnosis; many with recurring symptoms potentially related to COVID-19.

The new resources provided by **President Biden's American Rescue Plan** will further scale up the public health efforts needed to contain the virus, through six critical priorities:

- a strengthened national vaccination program,
- increased testing to protect at-risk populations,
- expansion of the public health workforce,
- protection for vulnerable populations,
- a commitment to U.S. leadership in the global response, and
- enhanced surveillance to identify emerging strains.

Now I want to take a moment to give you a more in-depth update on some key areas for the COVID-19 response.

Variants

COVID-19 has brought to the forefront how interconnected we are as a global community and the importance of our international scientific relationships.

In the fall of 2020, several SARS-CoV-2 variants emerged, some of which appear to spread more easily than others. There is also concern with how well the variants are neutralized by antibodies elicited through prior infection or vaccination. The emergence of variants is, of course, concerning, and it underscores the critical need for genomic surveillance and increased vigilance in the implementation of public health prevention measures.

In anticipation of these ongoing threats, the Department of Health and Human Services (HHS) established the SARS-CoV-2 Interagency Group to improve coordination across the CDC, National Institutes of Health, Food and Drug Administration (FDA), Biomedical Advanced Research and Development Authority, United States Department of Agriculture, and

Department of Defense. This interagency group is focused on the rapid characterization of the emerging variants of concern and is actively monitoring the potential impact on critical SARS-CoV-2 countermeasures including vaccines, therapeutics, and diagnostics. This group is also engaging with international partners to improve global surveillance of variants and identify synergies in our collective assessment of the impact of variants globally.

We are monitoring dozens of variants and conducting ongoing and comprehensive risk assessments through the SARS-CoV-2 Interagency Group and in consultation with our international colleagues. Of the emerging variants, five have captured our attention and have the highest risk to public health: B.1.1.7, B.1.351, B.1.427, B1.429, and P.1.

The B.1.1.7 variant, originally identified in the United Kingdom, was first identified in the United States on December 29, 2020. Data from CDC national surveillance project that B.1.1.7 viruses represented 72 percent of the viruses circulating for the two-week period ending April 24. The B.1.1.7 variant is the predominant strain of SARS-CoV-2 in the country now and has likely continued to increase as a proportion of all cases. Importantly, variant proportions are dynamic and are not the same in all parts of the country.

The B.1.351 variant, first identified in South Africa, and the P.1 variant, first identified in Brazil, have also been identified in the United States. Data from CDC national surveillance project that B.1.351 viruses represented approximately 0.6 percent of the circulating viruses, and the P.1 variant represented approximately 5.6 percent for the two-week period ending April 24. The proportion of cases attributed to the B.1.427 and B.1.429 variants, which were first identified in California, have decreased in recent weeks. According to data for the two-week period ending April 24, the combined prevalence of B.1.427 and B.1.429 is 2.6 percent.

Available data suggest that antibodies elicited by vaccination with the currently authorized vaccines are able to neutralize the B.1.1.7 variant but have reduced neutralization against the B.1.351 and P.1 variants. Based on preliminary data from a Johnson & Johnson vaccine clinical trial in South Africa where the prevalence of the B.1.351 variant was estimated to be 95 percent, the vaccine efficacy was 64 percent and had 81.7 percent efficacy in preventing severe disease, and promising efficacy data have been released from the Pfizer clinical trial in South Africa. Studies are currently underway to understand the impact on the real-world

effectiveness of current vaccines against the B.1.351 variant and other variants of concern. Efforts are ongoing to better understand the impact of the variants on medical countermeasures.

Since January, CDC has dramatically built up our domestic genomic surveillance platforms to monitor circulating variants, increasing the nation's sequencing output 75-fold, with over 36,000 specimens now sequenced weekly. With support from the funding the Administration announced in February as well as the resources provided by the American Rescue Plan Act, we're contracting with several large commercial diagnostic laboratories to get viral sequence data from around the country. These laboratories are providing data on over 22,000 virus samples per week. In addition, public health laboratories around the country are sending CDC samples from 750 cases each week. These samples will allow us to both get the viral sequences and isolate the viruses so that we can do additional laboratory testing to better understand virulence, transmissibility and the potential impacts on diagnostic tests, therapeutics, and vaccines. Moreover, U.S. state and local public health laboratories are also sequencing approximately 7,000 specimens per week and using the data to better understand the local epidemiology and to control outbreaks. In addition, U.S. academic institutions and industry are also sequencing another 7,000 viruses per week. These efforts are coordinated through CDC's SPHERES collaboration, which is a national genomics consortium to coordinate large-scale SARS-CoV-2 sequencing across the country. In all, the United States is sequencing about ten percent of the roughly 350,000 weekly cases. These partnerships with commercial labs, state and local health departments, and academic and research institutions will continue to grow. We are on our way to sequencing an even higher percentage of cases, a tremendous accomplishment. CDC is working with state and local public health departments to use these sequencing data as part of their COVID-19 response strategy. CDC has also made significant strides to make our genomic surveillance data more accessible to the public through an interactive dashboard on our COVID Data Tracker website. This site is updated regularly with the prevalence of SARS-CoV-2 variants at the national, regional, and state levels.

Each new variant can present different challenges. But each can be stopped by the same methods: rigorous and increased compliance with public health prevention strategies such as vaccination, physical distancing, use of masks, hand hygiene, and isolation and quarantine.

Health Equity

COVID-19 has highlighted long-standing systemic health and social inequities. Data repeatedly show the disproportionate impact of COVID-19 on racial and ethnic minority populations, as well as other population groups such as people living in rural or frontier areas, people experiencing homelessness, essential and frontline workers, people with disabilities, people with substance use disorders, people who are incarcerated, and non-U.S.-born persons. Inequities in social determinants of health, such as poverty, housing, and healthcare access, have influenced a wide range of health and quality-of-life outcomes for these groups experiencing disproportionate impacts.

These factors and others are associated with more COVID-19 cases, hospitalizations, and deaths. Not surprisingly, they intersect with higher rates of some medical conditions in these same populations that increase one's risk of severe illness from COVID-19.

Health equity must be a cornerstone of our public health work. CDC's Chief Health Equity Officer has been leading implementation of our Health Equity Strategy to accelerate progress in reducing COVID-19 disparities. The strategy outlines an approach to expand evidence-based approaches to reduce disparities in COVID-19 hospitalizations and deaths; increasing testing, contact tracing, isolation options, and healthcare access in populations at increased risk for COVID-19; prioritizing equity in distribution and administration of COVID-19 vaccines; reducing stigma and bias; and expanding a diverse workforce, equipped to address the needs of a diverse population. We are engaging with community-based organizations and diverse leaders to conduct outreach that is culturally and linguistically responsive to the needs of populations at increased risk of getting sick and dying from COVID-19.

To operationalize the Health Equity Strategy, CDC is supporting activities and interventions with organizations across multiple sectors, including community- and faith-based organizations that have been able to provide more insight about the challenges and needs of the populations they serve. They have also helped us craft and convey tailored prevention messages about COVID-19 to these important populations across the country. With their guidance, CDC has developed toolkits and other resources to address the unique needs of, and to help, communities that have been disproportionately impacted by COVID-19.

We know we need the best possible data to more clearly understand these challenges and measure our progress as we implement solutions. While we have seen big improvements over the last year, we know that there are still critical gaps in these data. For example, race and ethnicity data continue to be missing from almost 40% of the COVID-19 cases reported to CDC. Progress has been slow because there are many data requisition forms and data interfaces in the data exchange pathway that must be updated. Moreover, public health data systems are not set up in a way that captures the underlying drivers for which race and ethnicity are markers. Those drivers include social determinants of health such as occupation, housing, education, access to healthcare and other factors that are the underlying causes for the disparities we see by race and ethnicity. There are multiple barriers to collecting some of these data elements, including at the state and individual level – including reticence to report income or other socio-economic factors.

This pandemic response has illustrated the long-standing need for improvements in the public health data network. Congress has been supportive of CDC and has responded to our partners' concerns about antiquated public health data systems by providing resources to CDC for the data modernization initiative, the first comprehensive strategy to modernize public health data, technology, and workforce capabilities—together and at once. CDC is collaborating with our partners in the field to improve data collection and sharing.

In the last few months, data continue to document ongoing health disparities. In February, CDC's National Center for Health Statistics (NCHS) released data that highlighted disparities in life expectancy between 2019 and 2020, demonstrating the impact of COVID-19 on Black and Hispanic/Latino communities. Additional CDC data¹ released in February noted that racial and ethnic minority groups have experienced disparities in mental health and substance use disorder related to access to care, psychosocial stress, and social determinants of health, exacerbated by the pandemic. Hispanic/Latino adults reported a higher prevalence of psychosocial stress related to not having enough food or stable housing than did adults in other racial and ethnic groups. And more recently, in April, we published a report² that found racial and ethnic disparities in hospitalization rates during the early months of the pandemic, with rates being highest for

 $^{^1\} https://www.cdc.gov/mmwr/volumes/70/wr/mm7005a3.htm?s_cid=mm7005a3_w$

² https://www.cdc.gov/mmwr/volumes/70/wr/mm7015e2.htm?s_cid=mm7015e2_w

Hispanic or Latino patients, although these disparities generally declined later in 2020 as the proportion of cases in White patients increased.

While it is important to document these disparities, we do not need further documentation to take action, and we are making strides toward change using the data we have. These data compel us to do what we do best at CDC – to turn our research and science into policy and action to improve the health of all. CDC, in collaboration with other components of HHS, has made historic investments in the last month to address COVID-19 health disparities and promote health equity.

In March, CDC announced plans to invest \$2.25 billion over two years to address COVID-19 related health disparities and advance health equity among populations that are at high-risk and underserved, including racial and ethnic minority groups and people living in rural areas. This funding represents CDC's largest investment to date to support communities affected by COVID-19-related health disparities. CDC's new *National Initiative to Address COVID-19 Health Disparities Among Populations at High-Risk and Underserved Communities, Including Racial and Ethnic Minority Populations and Rural Communities*, will offer grants to public health departments to improve testing and contact tracing capabilities; develop innovative mitigation and prevention resources and services; improve data collection and reporting; build, leverage, and expand infrastructure support; and mobilize partners and collaborators to advance health equity and address social determinants of health as they relate to COVID-19.

CDC is also investing \$300 million over three years in jurisdictions for community health worker services to support COVID-19 prevention and control, and an additional \$32 million for training, technical assistance, and evaluation related to this effort. This funding will be used to address disparities in access to COVID-19 related services, such as testing, contact tracing, and vaccinations, and it will help address factors that increase risk of severe COVID-19 illness. This effort will benefit populations with increased prevalence of COVID-19 and disproportionately impacted by long-standing health disparities.

Through this funding CDC is committed to addressing these gaps, not only for the COVID-19 response, but across public health. And as we do this work, we will simultaneously take action on what we know – that these disparities exist, and they are unacceptable; addressing them is critical in ensuring success against COVID-19 and future pandemics.

Vaccines

Vaccination is a critical tool in bringing this unprecedented pandemic to an end. In the year since SARS-CoV-2 infections were first identified, the FDA has issued Emergency Use Authorizations for vaccines that meet the expectations for safety and effectiveness for emergency use that are being distributed and administered as we speak. We should all take a moment and acknowledge that this is a remarkable accomplishment and appreciate how vaccine efficacy helps prevent serious illness, hospitalization, and death from COVID-19. As of April 19, every person aged 16 and over in every state and territory is now eligible to get vaccinated, and ninety percent of Americans now have a vaccine site within five miles of their home. The country has exceeded President Biden's goal of administering 200 million shots in the first 100 days of his Administration.

A CDC study reviewing data from the first three months of vaccinations among health care personnel, first responders, and other frontline and essential workers found that both Moderna and Pfizer vaccines were 90 percent effective in preventing COVID-19 infection, two or more weeks after full vaccination. In addition, another recent CDC study³ found these two vaccines were 94% effective against hospitalization among fully vaccinated adults aged 65 years and older. These findings demonstrate the high, real-world effectiveness of these vaccines.

COVID-19 vaccine safety is a top priority for the federal government, and we take all reports of health problems following COVID-19 vaccination seriously. On April 23, following a thorough safety review, including two emergency meetings of the CDC's Advisory Committee on Immunization Practices, the FDA and CDC determined that the previously recommended pause regarding the use of the Janssen (Johnson & Johnson) COVID-19 Vaccine in the United States should be lifted and use of the vaccine should resume. The pause had been recommended after reports of six cases of a rare and severe type of blood clot in individuals following administration of the Janssen COVID-19 Vaccine. During the pause, medical and scientific teams at the FDA and CDC examined available data to assess the risk of thrombosis involving the cerebral venous sinuses (large blood vessels in the brain), and other sites in the body (including but not limited to the large blood vessels of the abdomen and the veins of the legs)

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³ https://www.cdc.gov/mmwr/volumes/70/wr/mm7018e1.htm?s_cid=mm7018e1_w

along with thrombocytopenia, or low blood platelet counts. The teams at FDA and CDC also conducted extensive outreach to providers and clinicians to ensure they were made aware of the potential for these adverse events and could properly manage and recognize these events due to the unique treatment required for these blood clots and low platelets, also known as thrombosis-thrombocytopenia syndrome. The identification of this rare complication is an important validation of the sensitivity of vaccine safety monitoring systems to be able to pick up even very small numbers of vaccine safety concerns.

Building on long-standing relationships with state and local partners, CDC has worked tirelessly to ensure that we are getting vaccines into arms as quickly, safely, and equitably as possible. As of May 6, about 325 million doses have been delivered, and more than 251 million doses of COVID-19 vaccine have been administered. Over 70 percent of all Americans age 65 years and older were fully vaccinated by this date, and about 57 percent of adult Americans had received at least one vaccine. This is a whole-of-society effort, and it is inspiring to see people across government, business, and communities coming together to complete this important lifesaving task.

I would like to touch on four core areas that drive CDC's vaccine work: safety, confidence, access, and equity. As shown during the recent Janssen (Johnson & Johnson) vaccine pause, our commitment to safety remains paramount to our work. Vaccines are rigorously studied during clinical trials and there is a vast network of safety systems that monitor vaccines once they are in use and safety protocols to monitor people when they receive the vaccine. It is important that we continually deliver the message that these vaccines are safe.

Strong confidence in vaccines within communities leads to more people getting vaccinated, and to fewer COVID-19 illnesses, hospitalizations, and deaths. CDC is working in coordination with national, state, tribal, and local governmental and non-governmental partners to build trust in the vaccine, the vaccinator, and the vaccination system. We will continue to work with these critical partners to address barriers to vaccinations, including in communities of color and disproportionally affected groups.

Further supporting efforts to prioritize equity in our vaccine strategy, CDC announced an investment of \$3.15 billion to support local efforts to increase vaccine access, uptake, and equity.

In early April, these funds were awarded directly to states, territories, and some large cities, enabling them to support local health departments and community-based organizations in launching programs and initiatives intended to increase vaccine access, acceptance, and uptake. The funding will focus on reaching communities hit hardest by the pandemic, including those with a high social vulnerability index, minority communities, and rural areas.

In order to enhance vaccine uptake among underserved communities of color and to build trust and confidence in the authorized COVID-19 vaccines, CDC has developed a comprehensive program of approximately 20 national organizations that support hundreds of local and community-based organizations to improve both COVID-19 and influenza vaccination coverage among racial and ethnic groups who have historically had, and continue to experience, health disparities.

Improving access to underserved communities and populations who have historically experienced greater barriers to healthcare access is another critical component to prioritizing equity in vaccine distribution. Improving access also requires a multi-pronged approach. To that end, CDC is working closely with the Federal Emergency Management Agency (FEMA) and the Health Resources and Services Administration (HRSA) on two critically important programs with the goal of bringing vaccines to communities and improving access for populations disproportionately impacted by COVID-19. CDC partners with FEMA on the implementation of their Community Vaccination Centers. CDC also partners with HRSA to support COVID-19 vaccinations in select HRSA-funded health centers.

The Federal Retail Pharmacy Program is integral to the work CDC is doing to maximize access to COVID-19 vaccines in all communities, including communities of color and other underserved populations, such as rural communities. CDC is partnering with 21 national pharmacy organizations and independent pharmacy networks that represent over 40,000 locations nationwide – including 45 percent in highest-need neighborhoods – to ensure that the public has access to COVID-19 vaccines in a familiar setting. Almost 90 percent of Americans live within five miles of a retail pharmacy. The retail pharmacy program was also instrumental in attaining the goal of prioritizing Pre-K through 12th grade educators, school staff, and childcare workers for COVID-19 vaccination in the month of March. As a result of this effort, our

estimates show that approximately 80 percent of these essential frontline workers across the United States received at least one shot in March and more than 2 million teachers, school staff, and childcare workers were vaccinated through the Federal Retail Pharmacy Program in March. More than 52 million doses of vaccine in total have been administered through this program.

Last month, CDC also announced a new partnership with certain clinics to provide COVID-19 vaccinations to people receiving dialysis, as well as health care personnel working in these clinics. Dialysis patients are disproportionately affected by COVID-19 and are at high risk for severe illness and death from COVID-19. It is estimated that 34 percent of people receiving dialysis are Black and 19 percent are Hispanic; and that 22 percent of staff in dialysis clinics are Black. People on dialysis who get COVID-19 have a 50 percent hospitalization rate and a 20 to 30 percent mortality rate. This effort is another important step in making sure that vaccines reach the most medically vulnerable communities and that prioritizing equity in vaccination continues to anchor our efforts to end the COVID-19 pandemic.

Looking to the future, we are optimistic that, in collaboration with our state, Tribal, local, and territorial partners, we have built a vaccine implementation infrastructure that will expand vaccination coverage to allow our communities to resume some aspects of a normal life. Active investigations will continue to determine how much vaccines reduce asymptomatic infection and transmission, how long vaccine protection lasts, and to what extent vaccines protect against emerging SARS-CoV-2 variants. CDC recently released updated guidelines for fully vaccinated people, providing guiding principles on how to assess their own risk for COVID-19 and determine what prevention measures, including masks, should be used. We look forward to revising this guidance as the science develops and as more of the population is protected through vaccination.

Schools

Since becoming the director of the CDC, I have stressed the importance of getting children back to school for in-person learning. The safest way to open schools is to ensure that there is as little disease as possible in the community. The lower the amount of disease in the community, the less likely it is that cases will be introduced into the school environment. This means that all community members, students, families, teachers, and school staff should take actions to protect themselves and the community where they live, work, learn, play and worship.

CDC recommends that, among community institutions, schools should be the first to open and the last to close. Because of the benefits of in-person learning and the key support services schools offer, it is critical for K-12 schools to open, and stay open, as safely and as soon as possible. This is especially true in low-resourced communities, which may include large representations of racial and ethnic minority groups and students with disabilities. CDC began working on guidance, resources, and tools for safe school reopening in March 2020 when the first schools closed. As CDC learned more about COVID-19, we continually updated our guidance, resources, and tools for schools, parents, teachers, and other staff.

In February of this year, CDC released new science-based resources and tools to help schools safely reopen and stay open for in-person learning. Specifically, CDC conducted an indepth review of the science and released the Science Brief: Transmission of SARS-CoV-2 in K-12 Schools, 4 which informed CDC's Operational Strategy for K-12 Schools through Phased *Prevention.* ⁵ In developing the K-12 Operational Strategy, CDC gathered input from school superintendents, school officers and nurses, national associations with a focus on education, organizations that represent elected officials, and others. These resources complement CDC's existing guidance and tools for K-12 schools, including a toolkit to assess risks and implement prevention strategies to reduce the spread of SARS-CoV-2 in schools, a quick guide to assist teachers in modifying the layout of their classroom in a way that reduces the risk of virus spread, and updated materials about ventilation strategies in school and child-care settings. In March, CDC updated its school guidance reflecting the latest evidence to recommend that, with universal masking, students should maintain a distance of at least three feet in classroom settings. However, middle school students and high school students should be at least six feet apart in communities where transmission is high, if cohorting (or podding) is not possible. CDC will continue to collaborate closely with our colleagues at the U.S. Department of Education to make sure that all schools have access to the latest guidance, as well as tools and best practices about how to apply this guidance.

Evidence indicates that many K-12 schools that have implemented prevention strategies to reduce the spread of SARS-CoV-2 consistently and correctly have been able to safely open for

⁴ https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/transmission_k_12_schools.html

https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/operation-strategy.html

in-person instruction and remain open. Regardless of the level of SARS-CoV-2 spread in the community, CDC recommends using a combination of five key strategies to reduce the spread of SARS-CoV-2 in schools and help protect teachers, students, and staff. These strategies are universal and include the correct use of masks, physical distancing, handwashing and respiratory etiquette, cleaning and maintaining healthy facilities (including proper ventilation), and contact tracing, in combination with isolation and quarantine, in collaboration with the health department. We also point to the added layers of prevention to be gained from regular testing and vaccination.

Universal and correct use of masks and physical distancing are two prevention strategies that are most essential to reducing SARS-CoV-2 transmission, but a layered approach that uses all five of these strategies will provide the greatest level of protection.

In April, CDC provided \$10 billion to states and jurisdictions to support COVID-19 screening testing for K-12 teachers, staff, and students to assist schools in reopening safely for in-person instruction. In addition to ensuring diagnostic testing of symptomatic and exposed individuals, serial screening testing will help schools identify infected individuals without symptoms who may be contagious so that prompt action can be taken to prevent further transmission. With this funding, states can support the critical testing and testing supports schools need to implement screening testing programs. Recognizing that establishing a testing program is new for many schools, CDC and state and local health departments will support technical assistance to assist states and schools in standing up and implementing these programs. A recent article in CDC's MMWR found participation in a free, in-school COVID-19 testing program within Utah elementary schools was higher among students belonging to a racial or ethnic minority group and among students living in areas with higher rates of COVID-19. Inschool testing could help reach underserved populations and reduce the spread of COVID-19 across the community.

SARS-CoV-2 is still a relatively new pathogen, and we are learning more about it and how it impacts different people and communities all the time. CDC's K-12 Operational Strategy presents recommendations based on the best-available evidence at the time of release. As science and data on SARS-CoV-2 and COVID-19 continue to evolve, we will update our guidance and recommendations to reflect new evidence. CDC stands committed to providing the best, most

current data and scientific understanding available to protect the health, safety, and well-being of our communities, including our students, teachers, and school staff.

Looking to the future

As I've said before, I'm cognizant that over the last 12 years, the United States has faced four significant emerging infectious disease threats – the H1N1 influenza pandemic, Ebola, Zika, and COVID-19. While urgency demanded rapid and unique responses to each of these threats, none resulted in the sustained improvements needed in our nation's public health infrastructure.

This lack of preparation continues to present significant challenges in our ongoing fight to tackle COVID-19. These experiences have proven that public health emergencies and, specifically, infectious disease threats are here to stay.

Looking to the future, I want to work within the Administration and with you to address long-standing vulnerabilities in our core public health infrastructure, including data, workforce, laboratory, domestic preparedness, and global health security.

To avoid the substantial economic costs associated with both large-scale emergencies and chronic public health concerns, we must be willing to make investments in our public health system. We also must offer up our technical expertise to support efforts to advance global health security.

Conclusion

In closing, I want to emphasize that, while COVID-19 cases remain widespread, there are reasons to be hopeful. I am looking forward to seeing more kids in school, more families able to connect with one another safely, and our nation beginning to move forward and heal. We are committed to continuing to advance the science around COVID-19; moving more vaccines into more communities – especially those communities most at-risk for COVID-19 infection – and working to improve health equity.

Ending this pandemic requires more equitable access to affordable and timely testing, treatment, and vaccination. Looking forward, we will continue to take a health equity approach, not only in future emergency responses, but in everything we do at CDC. And even when this crisis is over, we will still need a strong public health system. The COVID-19 pandemic has

illuminated long-standing inequalities in health among racial and ethnic minority groups; demonstrated the need for resilient, fast, and accurate data systems; and showed the essential role a robust, skilled, and diverse public health workforce plays in protecting Americans.

The next few weeks and months will be critical, and we need everyone to continue to wear masks properly, practice social distancing and handwashing, and get vaccinated. I recognize that everyone is fatigued after a very long year. It is as critical as ever to continue these lifesaving efforts.

I look forward to working together to address both the immediate challenges ahead in our fight against COVID-19, along with the weaknesses in our public health infrastructure that left our country vulnerable to this pandemic. CDC is grateful for your support.

We cannot strengthen the public health infrastructure our nation needs to combat public health emergencies – like pandemics and other infectious disease threats – overnight or in the middle of an emergency crisis. We must work together over the months and years ahead to reinforce the foundations, partnerships, modernizations, and innovations that we have initiated during this pandemic – ensuring robust public health systems continue to be grounded in science. It is one way we can turn tragedy into lasting progress and improved health outcomes for all. Thank you again for the invitation to testify today and I look forward to answering your questions.