

Good afternoon. I'm Commander Ibad Kahn, and I'm representing the Clinician Outreach and Communication Activity (COCA) with the Emergency Risk Communication Branch at the Centers for Disease Control and Prevention. I'd like to welcome you to today's COCA Call, Updates to CDC's COVID-19 quarantine and isolation guidelines in healthcare and non-healthcare settings. All participants joining us today are in listen-only mode.

Continuing education is not offered for this COCA call. After this presentation, there will be a Q and A session. You may submit questions at any time during today's presentations. To ask a question using Zoom, click the Q and A button at the bottom of your screen then type your question in the Q and A box. A video recording of this COCA call will be posted on COCA's webpage and available to view on demand a few hours after the call ends.

If you're a patient, please refer your questions to your healthcare provider. For those who may have media questions, please contact CDC Media Relations at 404-639-3286 or send an email to [media@CDC.gov](mailto:media@CDC.gov). I would now like to welcome our presenters for today's COCA Call. We are pleased to have with us Captain Lauri Hicks, who's the Chief Medical Officer of CDC's COVID-19 Response and the Director of the Office of Antibiotic Stewardship in CDC's Division of Healthcare Quality Promotion. Dr. Alexander Kallen, who's the Chief of the Prevention and Response Branch in CDC's Division of Healthcare Quality Promotion. And Dr. Pragna Patel, who's the Deputy Principal Incident Manager as part of CDC's COVID-19 Response. Now, it's my pleasure to turn it over to Captain Lauri Hicks. Captain Hicks, please proceed.

Thank you, Dr. Khan -- Commander Khan, I really appreciate the opportunity to provide an update on the Omicron variant and what we're learning. And of note, if you attended the COCA call on January 12th, which was held yesterday on antivirals, my updates today will be very similar to that presentation, but I promise that there will be different content from my colleagues about the new quarantine and isolation guidance. Next slide, please.

There are several questions we are closely tracking and working to answer at CDC including how transmissible is the Omicron variant, how severe is Omicron compared to Delta and other variants, how well do vaccines and prior infection protect against infection, transmission, and death due to Omicron, and then lastly, what therapeutics are available to treat Omicron infections. Next slide.

We'll start with some data on Omicron transmission. Next slide.

So, on this slide, you'll see that there are an unusually large number of mutations across the Omicron SARS-CoV-2 genome, 15 of which are within the receptor binding domain, which allow Omicron to be more infectious and transmissible than a Delta variant and also resist neutralization by vaccine and infection-induced antibodies. And so, what does that really mean? Well, people who have been previously infected, even with the Delta variant or ancestral strains are not necessarily protected against infection with Omicron. Next slide.

As I'm sure most of you are aware, US COVID-19 cases have rapidly increased since the first US Omicron case was reported on December 1st, 2021. Case counts are now exceeding peaks from last winter, and the current seven-day daily average of cases is over 750,000 cases per day, which as of today is an increase of about 37% Compared to the previous week. Next slide.

Data suggests that the Omicron variant is associated with higher transmissibility. In this Danish household study, secondary attack rates were similar for both Omicron and Delta infections in

unvaccinated persons. But when we look at fully vaccinated boosted individuals, both fully vaccinated and boosted folks have a markedly higher secondary attack rate comparing Omicron to Delta: 32% versus 19%, respectively for fully vaccinated persons and 25 and 11%, respectively, for boosted individuals. But it's important to note that people who have received their booster have the lowest secondary attack rate for both of the variants. Next slide.

I want to briefly comment on what we're learning about severity of illness. Next slide.

This slide shows you that US hospitalizations are surpassing the peaks and hospitalizations that we experienced last winter. The seven-day average of hospital admissions is about 19,800 per day, an increase of about 29% over the previous week, and the seven-day average daily deaths are about 1600 per day, which is an increase of about 34% over the previous week. We continue to learn more about Omicron with each and every day, including about the severity of the disease caused by this variant. And just this week, a preprint study was released from Kaiser Permanente Southern California, which provides some insight into clinical outcomes among patients infected with the Omicron variant. This study used mathematical modeling to estimate risk of hospitalization and severe disease from a healthcare system that provides care to nearly 5 million people in Southern California, or 19% of the state's total population. They noted substantially reduced risk of severe clinical outcomes in patients who were infected with the Omicron variant compared with Delta. Next slide.

We must also understand how well our vaccines are working. Next slide.

This slide is a summary of data on the ability of sera from persons with different vaccine and infection scenarios to neutralize the Omicron variant, and it compares Omicron neutralization to ancestral and Delta strains. For most individuals who have not been previously infected but have received two doses of mRNA, or one dose of the Janssen or Johnson and Johnson vaccine, neutralization is below the limit of detection, and is 11 to 127 times lower for Omicron compared to Delta and the ancestral strains. Neutralization is above the limit of detection in many vaccinated people who received a booster or who had who were previously infected and vaccinated, but neutralization is still quite a bit lower for Omicron compared to Delta and the ancestral strains. Next slide.

Now, this is borne out in real world data from the UK that show that Pfizer mRNA vaccine effectiveness, or VE, is lower for infections due to Omicron compared to Delta. And I want you to note that the black squares represent VE for delta, and the gray circles represent VE for Omicron. And you can see that in every instance on this figure, Omicron VE is lower than for Delta, and the difference is particularly marked for individuals who are several weeks out from their primary series, and you'll see that group represented on the left-hand side of the slide. Boosting with either the Pfizer vaccine, which is in the middle, or the Moderna mRNA vaccine, which is on the right, does lead to better protection against infection, but we do see some waning. Notably emerging data are suggesting that vaccinated persons particularly those who are boosted, remain well-protected against hospitalization and severe disease. Next slide.

I will finish up with a few slides on the Omicron variant and therapies. Next slide.

The figures on this slide show inhibitory concentrations of monoclonal antibodies in sera comparing Delta, which is shown in green, and Omicron, which you can see in red. Data show that susceptibility to monoclonal antibody therapies that have emergency use authorization for treatment is lower for the Omicron variant compared to Delta, with the exception of sotrovimab.

And sotrovimab is the only monoclonal antibody option that is currently recommended for treatment of individuals infected with the Omicron variant. It's available through an emergency use authorization for non-hospitalized patients with mild to moderate COVID-19 who have certain risk factors for severe disease. And I also want to acknowledge that availability, a requirement for intravenous administration, and the need to administer early in the course of illness can create logistical issues. We also know that there are several other monoclonal antibody options in the pipeline. The hopeful news of this session is that we now have multiple new antiviral options as well. Next slide.

If you weren't able to join the COCA call held yesterday and one to learn more details about the antivirals that are currently recommended, I really encourage you to check out that COCA call for the more detailed information. The slides are available on the website currently. Briefly, there are currently three antivirals recommended for high-risk non-hospitalized patients with mild to moderate COVID-19 illness, including Paxlovid, remdesivir, and molnupiravir. All three of these antivirals are expected to maintain activity against the Omicron variant. I want to just provide a little bit of crosswalk to yesterday's COCA call for a second. I would note that the NIH treatment guidelines provide a preference list of treatment options as of December 30th that starts with Paxlovid, followed by the monoclonal antibody sotrovimab, and moves to remdesivir and molnupiravir as the third and fourth options. Next slide.

To summarize, accumulating evidence suggests that the Omicron variant is more transmissible, but causes less severe disease and currently authorized vaccines offer less protection against the infection due to Omicron compared to ancestral strains and previous variants, but still provide benefit. So, it's important to increase uptake of both the primary series and boosters in all eligible populations to optimize protection, especially against severe disease. Lastly, susceptibility to monoclonal antibodies appears to be lower for Omicron compared to Delta. Sotrovimab is the current monoclonal antibody treatment option, in addition to the three antivirals I shared on the last slide. I will finish there and will now turn over the presentation to my esteemed colleague, Dr. Alex Kallen.

Great, thanks, Dr. Hicks. Hi, everybody. It's great to be able to be on the chat with you today about the recent and soon to come updates to the CDC COVID-19 health care guidance. Next slide, please.

So first, I just wanted to start out by kind of highlighting what has been updated and what updates are pending. So, for those of you that don't follow the healthcare guidance that closely, there are four kind of primary health care guidances. These are two of them. The first is about managing healthcare personnel infection and exposures, and that along with the guidance entitled strategies to mitigate healthcare personnel staffing shortages, which is self-explanatory, were both updated in December 23rd, 2021, to highlight some changes to the isolation and post-exposure guidance that we'll talk about today. Next slide, please.

In addition, there are two other guidance documents that are primary to the series for health care guidance from CDC during COVID. The first one listed there is our general infection prevention and control guidance, and the second one is our only current settings specific guidance, which is nursing homes. Both of these have not been updated, and we recognize that there are some kind of discrepancies between the update from December and what is currently written. Those are in the process of being updated, and we expect those updates to be cleared and posted in the near future. Next slide, please.

So, the question we often get, and I think that has caused some confusion throughout the response, is why do we have healthcare specific guidance? And I think the first thing to realize is that this has been the case, for those of you that have been kind of following along since early the January 2020, there's

been healthcare specific guidance. And it does get a little bit confusing because the healthcare specific guidance often does vary slightly from the community guidance, and I think if you look over time, it generally tends to be a little bit more conservative than the guidance that is provided for the community, and we'll talk about some reasons why that is in a second.

The this can be a little bit confusing when you see things come out in the press because I think you all recognize sometimes when that happens, the press doesn't necessarily clarify whether the guidance that they're reporting on is for the community and health care or health care. So, it is always important when new things come out to check back if you are -- if the healthcare guidance is specific and relevant to you that you check it out their guide is to make sure that those changes apply to those settings as well. The other thing that often is confusing is that -- is why isn't there healthcare guidance for all specific settings. And it's important to realize that unless otherwise specified, and that's really primarily for the guidance that's specific to nursing homes, the guidance that we have is intended to apply to all healthcare settings, and that includes inpatient settings, outpatient settings, home health, etcetera. Next slide, please.

So, why is there healthcare specific guidance? And I think some of the reasons are obvious, and including the fact that these settings are a critical part of our infrastructure here in the United States. The other issues that come to mind are the fact that there are obviously hospitals and health cares where the sick people go. So, there are obviously concentrations of potentially infected patients there. That means that we do need to think about ways to protect other patients, visitors, residents, and also healthcare personnel. These settings, too, can't be avoided by patients at higher risk for severe disease. You may, if you have one of these conditions, you may not be you may choose to not go to a restaurant or a movie theater, etcetera, but if you need health care, you know, we need to have safe options available for these folks to make sure that they're protected as well. And then, last but not least, you know, general infection control practices, as many of you realize have been in place in healthcare settings for a long time. These are not necessarily new concepts as they are for some other place settings. So, in general, I think we see a greater level of familiarity with these interventions, including the use of personal protective equipment, for example, and also there is a strong and long-standing foundation of prior evidence from which to make recommendations. Next slide, please.

So, let's take a few minutes to talk about the guidance updates from December 23rd about health care personnel work restrictions following infection or exposure. Next slide, please.

So, we'll walk our way through this slide here in the next few slides, but basically this is a summary that is available to go through the new recommendations for health care workers following infection and restriction from work, and restriction from work for asymptomatic healthcare personnel with exposures. Next slide, please.

So, let's start with work restrictions for health care personnel with SARS-CoV-2 infection, so these are health care personnel who are currently infected symptomatic or asymptomatic, with SARS-CoV-2, and as you can see in this row from the table, vaccination status, these recommendations do not vary by vaccination status, which will be different for the exposure slides we'll go through in a second. And again, we divide these strategies into three big buckets: conventional strategies, which are basically strategies, the routine strategies that we generally recommend, contingency strategies which are not routine strategies and are generally short-term strategies to mitigate imminent health shortages to healthcare personnel that will affect critical parts of patient care. And then crisis strategies are for use in situations where critical shortages already exist and are affecting critical aspects of patient care. So again, just walking through the table, conventional strategies for health care workers, restriction from

work for SARS-CoV-2 infection include 10 days, or 7 days restricted from work with a negative test within 48 hours of that 7 days.

And then it's also important to remember that this applies to folks who are asymptomatic or mild or have mild to moderate symptoms, and also that symptoms are improving, and that fever has been gone for 24 hours. For contingency strategies, and again, these are not routine strategies but are in place to mitigate important shortages, the recommendation is for 5 days. Ideally that is with a negative test, but it is permissible without a negative test if testing is not available, and again applies to the same group of people, asymptomatic, mild to moderate symptoms with improving symptoms, and no fever for 24 hours. And then crisis strategies, again, this is again, no work restrictions, but we do provide prioritization of considerations both on the type of patient that folks who are returning to work should care for and also the types of people that you might consider bringing back to work first. So, just a couple of notes on those recommendations.

Number one, if you're using contingency and crisis strategies, the risk for healthcare associated infection is likely higher. You know, there is some data out there that, you know, at 5 days, the risk for having people remaining potentially infectious could be, you know, a third of patients or so, so these are definitely not routine strategies and should be used with when absolutely necessary, and the same goes with crisis strategies, obviously. Healthcare personnel who have being asked to return to work sooner than the conventional strategies should feel well enough and be willing to work, and these health care workers should practice the practices to help decrease transmission, including the use of source control and physical distancing. And this includes not just among patients, but also among coworkers. Next slide, please.

So, let's shift to the -- one other recommendation to remind you of, too, as I said, these recommendations apply to folks who are asymptomatic or mild to moderate disease. There are different recommendations for release from isolation for healthcare workers who are immunocompromised, or for those with severe to critical illness, and I refer you to the guidance for details there. Next slide, please.

So, let's talk a little bit about work restrictions for asymptomatic healthcare personnel who have SARS-CoV-2 exposures. So again, this is divided between conventional contingency and crisis strategies, but different from the isolation guidelines we just talked about, these are stratified by vaccination status, and the term that is being used right now is up to date. And I will refer you to the guidance listed at the top for details, but in general, that means boosted or a person who's not yet eligible for a booster. So, for example, if you're within the time period for the specific vaccine that you got for which a vaccine is not yet recommended. So, if you're up to date with vaccination status, conventional status strategies for returning to work for following an exposure, a higher risk exposure for healthcare personnel, if you're up to date with vaccination is there is no work restriction and that is the same as it was prior, that does not change. But we do recommend testing at days 1 and then 5 to 7 following exposure. Contingency and crisis strategies don't exist since we do not recommend work restriction. Next slide, please.

So, if you're not up to date with vaccination, the recommendation is for conventional strategies is 10 days restriction from work or 7 days with a negative test at least 48 hours for that time period. Contingency strategies would include allowing people to return to work immediately, but with testing them ideally at days, 1, 2, 3, 5, and 7, which are the 1, 2, and 3 obviously being the highest risk periods. And then if a shortage of tests exists, prioritizing that testing to days 1, somewhere between day 1 to day 2 and day 5 to 7. Crisis strategies similarly do not have work restrictions, but does recommend testing as available. Next slide, please.

So, lots of questions have come up about the duration of transmission-based precautions for patients and residents. And this is part of the update to the general IPC guidance that I mentioned. But in general, right now, those recommendations have not changed substantially and include for those with SARS -- patients and residents with SARS-CoV-2 infection, in addition to being fever-free for 24 hours and having improving symptoms that from mild to moderate in illness transmission-based precautions be used for 10 days, severe to critical illness, somewhere between 10 to 20 days, and for moderate to severe, severe immune compromised, that you consider consulting with an expert to use a test-based strategy which essentially is two negative tests, but I refer you to the guidance for the specific details. Next slide, please.

A couple of caveats to the things that I just mentioned about isolation and quarantine for healthcare personnel and for residents and patients. If you're within 90 days of infection, testing and quarantine following exposure are not generally necessary, but could be considered in certain circumstances. For example, you know, now that we're in a situation where we're kind of shifting from most people recently potentially being exposed to Delta variant and then moving more to an Omicron, it could, although probably not, you probably wouldn't necessarily require quarantine. You could consider testing healthcare personnel, residents, or patients if you suspect that to be the case. For health care visitors or outpatients, this gets a little bit confusing, but you'll hear in a minute from Dr. Patel about the recommendations for the community. And there could be situations where visitors or outpatients who are coming in for care or potentially even newly admitted patients have met criteria for discontinuing precautions in the community but have not met the health care guidance. In those situations, we do recommend that you follow these healthcare guidance for discontinuing quarantine, isolation, or transmission-based precautions for health care settings for these folks and not the community. Next slide, please.

And lastly, I note that, as I said, some things do differ between the community and healthcare and one of those things is testing. And a note that testing following exposure does differ here, and in healthcare settings, we do recommend regardless of vaccination status testing, and that is generally going to be two tests, while in some community settings it may just be one. And two tests are done immediately and then again at 5 to 7 days. And I will note that there is a little slight change to the recommendation there for immediately. It used to be within -- not sooner than 48 hours after exposure, but now is not sooner than 24 hours after. Next slide, please.

I just wanted to take the last couple minutes to talk about some other guidance that has not changed but remains critically important. Next slide, please.

The first thing I wanted to mention is source control. So again, source control, and you know, there's certainly lots of confusion of this when the guidance in the community changed about source control some months back. Source control has been recommended for everyone in healthcare settings with some very limited exceptions in areas with low to moderate transmission in community, which is probably not anywhere in the United States right now. So, source control, again, which is the use of respirator, well-fitting face masks, or cloth masks that cover a person's mouth or nose to prevent the spread of respiratory secretions. again, is recommended for everyone in the healthcare setting. And then I have listed there the options for healthcare personnel for source control, which includes N95 or equivalent or high-level respirators, respirators approved under standards in other countries, and well-fitting face masks. And again, these are not PPE in this situation or personal protective equipment. These are source control. Next slide please.

And then lastly, I just wanted to remind you that the recommendations for personal protective equipment used for people who are known or suspected to be infected with SARS-CoV-2 infection have not changed. That still includes a gown, gloves, eye protection, a NIOSH-approved N95 or equivalent or higher-level respirator. Next slide, please.

So, I know that was a very quick run through of some very complicated guidance, so I did want to leave you with where you can look for further information. So again, for the health care personnel exposure and isolation guidance, that would be the first document listed there. If you're interested in information on the mitigating staff shortages information that we provided, so crisis and contingency strategies, that guidance is listed as well. The general healthcare infection control guidance, again, is in the process of being updated. So, please do keep your eyes on that and for updates as that comes. And the same is true for the long-term care guidance if you're interested in guidance specific to long term care settings. Next slide.

So, thank you very much for your time, and I will turn it over now to Dr. Patel.

Thank you, Dr. Kallen. So, it's my pleasure to be here today to talk to you about the updated CDC COVID-19 isolation and quarantine guidance for the community. Next slide.

So, I first wanted to talk about why we shortened these periods and what our rationale was, as well as what data we were looking at at the time. Next slide.

So, one of the first things we considered was basically the impact of a large increase in cases. We were hearing from country partners such as South Africa and the United Kingdom, who were affected by Omicron before the US, but they were seeing increases in cases at a very rapid rates. And we had our modeling team sort of take a look at what may happen in the US. And we were anticipating that one of the scenarios could lead to a very rapid increase, and if you look at the graph I've provided on the right of this slide, you can see three lines on the slide.

The very bottom one is South Africa, the middle one in the bluish green color is the United Kingdom, and the maroon slide is the US, and you can see as of last week, we were up to over 600,000 cases that day. So, Omicron obviously became a very dominant variant very quickly, and we had serious concerns about the negative societal impact due to illness as well as isolation and quarantine. And this was partly due to what we were hearing about in the airline industry. We also considered individual factors, what we know about mental health during the COVID-19 pandemic, economic worries for individuals but as well as critical infrastructure being impacted, not just by staffing shortages, but supply chains that would jeopardize systems that were essential. Next slide.

And we also normally consider in a guidance change and so one of the things that we looked at was period of infectiousness. So, if you look at this graph on the right, it basically summarizes the infectiousness of asymptomatic, immunocompetent adults and respiratory tract viral loads. So, viral load is measured by CT value, cycle threshold, which is on the left axis, infectiousness is on the right axis. And as you can see by these graphs, the period of infectiousness essentially last from a few days before symptoms developed to about a week after symptoms develop. And there was a review article that looked at 113 studies from 17 countries that showed that SARS-CoV-2 transmission really does occur mostly in the early part of infection. CDC has been monitoring the science, particularly we were interested in knowing when and for how long a person is maximally infectious with Omicron. Next slide.

So, the other thing that we considered was testing in symptomatic patients. And just to orient you to the graph on this slide, it's very clear that the optimal time to test using antigen tests is early in infection. This slide basically shows the period of infectiousness on the X axis and basically markers of infection on the right axis. And if you look at the orange area of the curve, that is basically when antigen tests are optimal in terms of diagnosing SARS-CoV-2 infection. And as many of you know, RNA is detectable for weeks thereafter, which is depicted by the dark blue line, and then the antibody responses start to emerge after a week of infection. You can see IgG in the teal blue and then IgM in the purple. Next slide.

We also looked at data regarding severity of disease. Some reports suggested that compared to previous variants, Omicron had a shorter incubation period. We didn't know if that would also translate into a shorter period of infectiousness, but it was relevant in our decision making. And then studies from several countries basically showed that it was causing less severe disease with shorter hospital stay hospital stays, 3 to 4 days compared to 7 to 8 days with Delta, and then lower death rates, 0.8% versus 5% compared to Delta, and these data are actually from Houston, so their data from patients in America. And we did look at epi data from South Africa, and South Africa had a unique experience because their delta wave had completed before their Omicron wave took hold. And so, it's clear from the epi curves that you can see on the right, that, you know, the Omicron wave was much milder than Delta. We're uncertain if this was due to a high level of population immunity, essentially Delta being an immunizing event, or if Omicron is a milder variant. Next slide.

And we also considered vaccine effectiveness. I know this is a dense slide, so bear with me, but we'll go through each bullet point, point by point. We looked at infection rates of Omicron among fully vaccinated versus unvaccinated, and I thank Dr. Kallen for going over our definition of up to date. So, an up to date person is somebody who has received a booster if eligible. So, fully vaccinated persons can include persons who are not up to date. I just want to make that clear. And we were seeing that infection rates were similar in these two patient groups. And then we were also seeing that breakthrough cases caused by Omicron are much higher than previous variants, including Delta, among fully vaccinated persons. However, the percent of breakthrough cases went down from 50 to 10 among persons who were up to date or received the boosters if eligible on their COVID vaccines. A study in Denmark reported that vaccine effectiveness against Omicron infection was around 55% with the Pfizer mRNA vaccine. For symptomatic disease, there were reports out of South Africa that Pfizer protected against symptomatic disease about 70% compared to 93% for Delta.

And some UK Data were showing similar results where the VE for Pfizer against Omicron disease was comparable, 88%, after 2 to 9 weeks of the second dose, but dropped to around 49%, much later, 10 to 14 weeks. So, that was a little bit concerning this waning immunity that we know occurs. And when they boosted patients in that study, the vaccine effectiveness increased to 75%. Denmark also boosted their study participants and they saw a rise in their vaccine effectiveness, but not quite as high. Next slide.

And then we considered neutralization after the booster dose. Booster doses do effectively neutralize against Omicron, and I think, just to orient you to the graphs here, for those of you who are familiar, we basically look at geometric mean titers for neutralization. The Y axis on these slides have different scales. I do want to point that out. So, when you neutralize participants who have received two doses, you can see that although the response for wild type is quite good, the dotted line being the threshold, for the other variants really it wasn't that great. But after the booster dose, there was a significant increase in neutralization, including against Omicron. So, there was a significant level of protection against Omicron with booster doses. Next slide.

So, let's just talk about the guidance updates in detail. Next slide.

So essentially, our main update was that we were recommending shorter isolation periods of 5 days followed by continued masking for additional 5 days. And we really wanted to emphasize the importance of continuing to wear a well-fitting mask and take additional precautions for the 5 days after leaving isolation and quarantine, such as people should not travel, they should avoid being around people who are vulnerable, such as the immunocompromised or persons who are at high risk of severe disease, but also avoiding crowded places like restaurants, and places where they cannot wear masks such as gyms. Next slide.

So, who does this guidance apply to? It applies to the general population in the community, and that does include workplaces and schools. But it does not apply to healthcare settings. Dr. Kallen reviewed that guidance for us. It does not apply to correctional institutions or homeless shelters. CDC is providing separate specific guidance for those settings. Next slide.

And who is this guidance not suitable for? So, there are certain folks that the guidance isn't suitable for such as children who are less than 2 years of age, and other individuals who are unable to wear a mask. People who have moderate to severe illness -- so I want to stress that the guidance is really for people who have mild illness and who are asymptomatic, that includes asymptomatic individuals. People who are immunocompromised, we prefer that they isolate and quarantine for longer periods because they shed virus for longer periods, and then some people in the high-risk congregate settings. Next slide.

So, we've gotten some questions about, so, when does the clock start? You know, when do we start counting for the 5 days and so the way you calculate your 5-day isolation period, day 0 is the first day of symptoms. Day 1 is the first full day after your symptoms develop. And so, you can start isolating also if you have a positive test result. So, if you have symptoms, that's your day 1, if you're asymptomatic, you have a positive test result, your day 1 is your party positive test result. And then you can stop isolation on after day 5, you have to be isolating for a full 5 days, if your symptoms improve and if you're fever free for 24 hours without the use of fever reducing medications. Otherwise, we ask you to continue your isolation for the full 10-day period. If you leave isolation, we asked you to wear a well-fitting mask on the subsequent days 6 to 10. Next slide.

So, on this slide, I'm just going to go over who should isolate, so that's the left column here. We've already reviewed the recommendations. So, these guidances basically apply to people who have a positive viral test for COVID-19 regardless of whether or not they have symptoms.

People with symptoms of COVID-19, including people who are awaiting test results or have not been tested, and people with symptoms, even if they don't know if they've had a close contact with someone with COVID-19. Next slide.

And before we move into the quarantine section, I wanted to just go over some of the definitions, how CDC defines exposure. That's basically contact with someone with SARS-CoV-2 in a way that it increases the likelihood of getting infected with the virus. And then more specifically, a close contact with someone who was less than 6 feet away for a cumulative total of 15 minutes or more over a 24-hour period. For example, 3 individual 5-minute exposures for a total of 15 minutes. Next slide.

So, our quarantine guidance really focuses on that close contact, and it really applies to whether you had a close contact. And who it does not apply to, so who does not need to quarantine people who are up to date, and again, up to date means a person who has received all their recommended COVID-19 vaccine

doses, including boosters and additional primary doses for some individuals. And then people who have been confirmed with COVID-19 within the last 90 days. I will mention for that last point, we are getting a lot of questions about this because we're seeing an increase in reinfection with Omicron and we're examining the data to see if that's something that we need to reconsider, that 90-day period. So, our recommendations for these groups, people who do not need to quarantine, is to wear a well-fitting mask around others for 10 days from the date of your last close contact. And then to get tested at least 5 days after your close contact, and if you test positive follow the isolation guidance. If you have symptoms follow the isolation guidance. Next slide.

And so, what are the recommendations for people who are not up to date on their COVID-19 vaccines? So, we ask those people to stay home and away from others for at least 5 days after their last close contact and then consider that their last close contact day is considered day 0 in terms of when to start the clock. Wear a well-fitting mask when around others at home if possible. And for 10 days after your last close contact with someone, watch for COVID-19 symptoms. If symptoms develop, get tested immediately and isolate until you receive your test result. If the test result is positive, follow the isolation recommendations. Next slide.

And if symptoms do not develop, get tested at least 5 days after you had your last close contact. If that test is negative, you can stop quarantine but continue to wear a well-fitting mask until 10 days after your last close contact. If it's positive, follow the isolation recommendations. And if somebody is unable to get tested, then stop quarantine after 5 days if you're symptom free for the entire 5 day period, but continue to wear a mask until 10 days after the date of last close contact, and we want you to wear a mask at home and in public. Next slide.

So, conclusion these are just overarching thoughts. Essentially, we feel like these updates facilitate individual social wellbeing needs, return to work, and maintenance of critical infrastructure. The shorter isolation quarantine periods focus on a period when a person is most infectious, and we're examining these data and will make updates as needed. We want to emphasize that it's important that people wear a well-fitting mask and take additional precautions after day 5 of isolation and quarantine to reduce transmission. If an individual has access to a test and wants to test, the best approach is to use an antigen test, because towards the end of the 5-day isolation period and to use 2 tests 24 hours apart, because they perform the best during that time period. And then staying up to date on COVID-19 vaccines is critical for protection against Omicron, and so we are recommending those booster doses. Layered prevention strategies are being emphasized as well. So, not to forget the handwashing, social distancing, ventilation, all of those help to prevent transmission of SARS-CoV-2. And lastly, this is the best available information currently, and CDC is monitoring the evolving science, and we'll make updates to the recommendations as needed. Next slide.

So, I mentioned a lot of things during the course of the presentation and I just wanted to provide these resources. They're essentially links to the actual quarantine and isolation guidance, as well as the rationale or an FAQ related to it. There's information here for schools and other settings, and also our updated guidance on vaccines, and a guide for moderately and severe immunocompromised persons. Next slide.

Well, thank you for your attention, and with that, I will pass this over back to Commander Khan and we'll take questions. Thank you.

Thank you very much, and a note for our audience, if you want access to the references and the links and the guidance that were shared, please note that all of that material as well as the slides for today's

webinars can be found on the COCA call's landing page that we will share momentarily. So, thank you presenters for providing our audience with such timely information. We will now go into the Q and A session. For the Q and A session, we would also like to welcome Captain Marie de Perio who's a Senior Medical Advisor at CDC's National Institute for Occupational Safety and Health. And Captain de Perio will be joining us for the Q and A along with our presenters.

So, for our audience, please remember to ask a question using Zoom, click the Q and A button at the bottom of your screen then type your question. So, for our speakers, the first question we have is are there some formal definitions for the strategies you refer to such as contingency strategies and crisis strategies?

Hi, this is Alex Kallen, I'll take this one. So, there are definitions included in the mitigating staff shortages guidance that I mentioned. They are fairly high level, obviously it's really complicated to think through definitions and have one standard definition that fits all the myriad of different health care settings. As I mentioned during the my portion of the talk, in general, you know, contingency strategies are, you know, for use in situations where staffing shortages are imminent if action is not taken, and these, you know, are would interrupt normal care functions, while crisis strategies are more -- are for use in situations where these shortages already exist. The other thing I will mention is if you actually go to the mitigating staff shortages document and look through it, you know, although we concentrate a lot on the this many days and that many days type of thing, it is important to remember that there are lots of strategies that are listed there. And they go from the less obtrusive, less kind of hazardous or risky to the potentially higher risk approaches. And there they are meant to be taken in a -- in kind of a, you know, not jumping around, but moving straight through. So, do look at that and remember that, you know, there are lots of other things that you might be able to do and contingency strategies before we get to the idea of releasing healthcare personnel, you know, at day 5 with or without a test, which is, you know, obviously one of the strategies but potentially lower down.

Thank you, Dr. Kallen. Our next question that we've seen quite a bit is the new guidance that you discussed, does it apply the non-healthcare side -- the new guidance for non-healthcare settings, does it apply to non-healthcare workplaces as well?

Sure. This is Marie de Perio. I'll take this one. So, the guidance presented by Dr. Patel applies to the general population in the community and this includes most workplaces and also K through 12 schools. As Dr. Kallen mentioned, this guidance does not apply to healthcare settings and he walked us through that. And it also doesn't generally apply to correctional institutions or homeless shelters, and we provide separate specific guidance for those settings. So, we continue to emphasize using a layered approach to reducing exposures to SARS-CoV-2 in the workplace, and these include things like vaccination, improved ventilation, wearing well-fitting masks, physical distancing, hand washing, cleaning and disinfection, and then also testing. And I think it's important to note that employers should be aware that other federal or jurisdictional laws, rules, or regulations may apply, including those promulgated by OSHA.

Thank you very much. I appreciate that. Our next question asked, who is not included in this shorter isolation and quarantine recommendations that you shared?

I'll take that one. So, essentially, the folks who are not included or not suitable for shorter isolation periods or quarantine periods are people who can't wear a mask, and children under 2 we know have a hard time with that, but there are other individuals who may be unable to wear a mask. People who have moderate or severe illness, folks who are immunocompromised are not suitable for shorter isolation and

quarantine periods. We're looking at people who are either asymptomatic or have mild illness for those isolation periods to be shorter and really counting on them to wear masks for the additional 5 days when they leave isolation.

Thank you very much. Our next question is regarding PPE, and it's a question we're seeing a lot, what sort of PPE do you recommend healthcare personnel use when caring for people without SARS-CoV-2 infection, but in areas with high levels of community transmission?

Right, this is Alex Kallen. I'll take that one. Right. So, that's a great question. I think, as Dr. Patel said, there is lots of things that are going on here now to kind of look at some of these questions. So, I can certainly say what is currently recommended, but I will point out that you should keep your eye -- I think this is something that could change in the near future, depending on discussions and some of the data that's being looked at here. But as you all know, we have a recommendation for healthcare settings that we call universal PPE. And this is, again, intended to protect healthcare workers in situations where they're in very high transmission areas. So generally, areas that have substantial to high community transmission.

And again, if you have questions about that, there is the CDC COVID Tracker, which if you Google, you can find, and then I'll look for your county and it tells you that your level of community transmission. Most places the United States are high now. And this includes use of a -- well, some sort of source control, so well-fitting mask or similar device similar the devices that I recommended previously for source control as well as eye protection. We do, however, have certain situations where N95 or higher-level respirator equivalents or higher-level respirators are recommended. So, that would include, again, this is for people who don't know have SARS-CoV-2 or don't suspect have SARS-CoV-2 infection, we do recommend an N95 in situations where you're doing aerosol generating procedure, and you also, if you're doing a higher risk procedure, so high risk surgical procedures, such as one that might involve the upper respiratory tract, etcetera.

They also could be considered in situations where there are higher risks for transmission, and that could include situations including, you know, long duration of stays with a particular patient. It could include situations where the patient that you're dealing with or resident is not able to wear a mask, things like that. And then I would also say it could also apply to situations where there are outbreaks or transmission going on in it, within a particular facility. So, in those situations, you could consider using N95 respirators for people that are, you know, in that unit or potentially in that whole facility. So, those are our current recommendations, and again, I encourage you to keep your eyes peeled for any potential changes in the near future. Thanks.

Thank you, sir. Our next question asks are PCR cycle threshold values the best proxy for infectiousness?

I'll take that one. So, you know, PCR cycle threshold values are not the best proxy for infectiousness. The best proxy really is viral culture. However, there have been studies that looked at the correlation of cycle threshold values with viral culture. There's actually a nice paper in Euro Surveillance that I can include in the resource materials that go out with other materials following the call. But that study showed that in the immediate 0 to 10 days of infection, there is a fairly good correlation between cycle threshold values and viral culture. And so, you know, to essentially depict, you know, what is going on in the very early part of illness, many studies have shown that in the early days we can take cycle threshold as a proxy for infectiousness, but just because you have a high viral load, which is actually a low CT value, it doesn't mean you're infectious. You really need to check the viral culture to know for sure. I just want to remind you of the slide that I showed with the curve of the peak of infectiousness,

and the peak of infectiousness based on all of those studies, and some of them did conduct viral culture was right around the time when people develop symptoms. So, a couple of days before and on the day of symptom onset in that 3 to 4 day window infectiousness is highest.

There was a study recently published out of Japan, they looked at the duration of viral shedding due to the Omicron variant specifically and showed that the median range, the median day of viral shedding is about 6 days. So, 3 to 6 days we think people are most infectious, and then it trails off pretty significantly after day 8. After day 8, approximately 11% of people are still infectious, and by day 10, it's down to about 5%. And it just seems like after 5 days, the residual risk of transmission is much lower than early in the period of infection. Over.

Thank you, Dr. Patel. Our next question asks, and this is one we've seen multiple times as well, why didn't CDC recommend testing out of isolation?

Yeah, so this question has come up a lot. But essentially, the test for detecting SARS-CoV-2 infection are best used early in the course of illness and they're tests for diagnosis of COVID-19. They're not authorized by the FDA to evaluate duration of infectiousness. And we know that some people may remain positive by RT-PCR or nucleic acid amplification tests, long beyond the period of expected infectiousness. And so, we felt like we couldn't require testing. The significance of a positive or negative antigen test late in the course of illness is less clear. While a positive antigen test likely means that a person has residual transmissible virus and can potentially infect others, a negative antigen test does not necessarily indicate the absence of transmissible virus. And so, these tests are designed for diagnosis and not necessarily the purpose of testing out of isolation, so we didn't feel comfortable requiring testing to discontinue isolation. But again, we are saying that regardless of your test result, wearing a well-fitting mask and practicing other precautions for the additional 5 days is really important and recommended to reduce further transmission. Over.

Thank you very much and we have time for one last question, and the question asks the CDC require visitors to be vaccinated and or tested before entering a nursing home or other healthcare settings?

Hi, this is Alex Kallen. I can take that. So, not right now. There is no specific recommendation from CDC in that regard. I would point out that there are certain states that have stricter recommendations in that regard for nursing homes. So, you should definitely keep an eye out for that in your state. And also there's guidance from the Centers for Medicare and Medicaid services about nursing home visitation that also does not require testing but does suggested it as a potential if it -- for unvaccinated folks if that is something that the facility would like to do -- provide that is. So, I would point out, though, there are lots of recommendations in the long-term care guidance that I mentioned about how to handle visitors to try and decrease the risk for transmission, etcetera and still ensure that, you know, people in nursing can still get that ability to interact with folks, their loved ones that are outside of facility.

Thank you very much. I want to thank everyone for joining us today with a special thanks to our presenters and subject matter experts. Today's COCA call will be available on demand a few hours after the live webinar. You can find the video recording of today's COCA call at [emergency.CDC.gov/COCA](https://emergency.CDC.gov/COCA). The guidances, the documents that were discussed and the resources, you can find all those links at that address which again is [emergency.CDC.gov/COCA](https://emergency.CDC.gov/COCA). Please continue to visit the web link to get more details about upcoming COCA calls as we intend to host more COCA calls to keep you informed with the latest guidance and updates on COVID-19.

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Have a great day.