

Episode 87: Hope Is Not a Strategy

Chris Dall: [00:00:06] Hello and welcome to the Osterholm update COVID-19, a podcast on the COVID-19 pandemic with Dr. Michael Osterholm. Dr. Osterholm is an internationally recognized medical detective and director of the Center for Infectious Disease Research and Policy, or CIDRAP, at the University of Minnesota. In this podcast, Dr. Osterholm will draw on more than 45 years of experience investigating infectious disease outbreaks to provide straight talk on the COVID-19 pandemic. I'm Chris Dall, reporter for CIDRAP News, and I'm your host for these conversations. Welcome back, everyone, to another episode of the Osterholm Update podcast. The world is now well into its latest battle with the coronavirus, with many countries, the U.S. included, in the midst of intense surges of new cases caused by the highly transmissible Omicron variant. The number of cases is unlike anything we've seen to date during this pandemic. Hospitals are stretched beyond capacity and the omicron variant's impact is being seen on all facets of our lives. We're all wondering as we deal with this viral blizzard, when the clouds will part and the Sun will come out again. Will the Omicron surge, as bad as it is, in time bring on better days? Or could another variant upend those hopes? That's one of the issues we're going to address this week on the podcast after we get the latest on the trajectory of the COVID-19 pandemic here in the United States and around the world. We'll also talk about how Omicron is impacting U.S. schools, discuss booster shots and what comes next for the COVID-19 vaccines, review the CDC's new mask guidance and share the latest beautiful place mission from one of our listeners. But before we get started, as always, we'll begin with Dr. Osterholm's opening comments and dedication.

Michael Osterholm: [00:01:48] Thank you, Chris, and welcome everyone back to another episode of the podcast. I have to start out again by emphasizing that there is one overriding word that describes today's podcast and that is humility. It is a situation where what we know and what we don't know sometimes is a blurred line, and I'll try to do my best to give you my take on what we know and don't know. And also just a sense of where we're going in the future. This is clearly a very challenging time, and for many of us out there, the question is wait a minute, is this just a mild illness? I have nothing to worry about? Or is this really a crisis that I need to be greatly concerned about? And that challenge of understanding where we're at and what's going on is in fact not often addressed by soundbites and interviews on TV or in newspapers, magazines, etc. So I'll

try to dig a little deeper today and get into where I think we're really headed. But before we begin, I just want to add a couple of points of context. I had several very interesting questions posed to me this week about this podcast and all of you who are part of what we call the podcast family. They asked, Why do I do this podcast? And you know, that was a great question, because in fact, every week the staff will tell you it takes a lot of work and they do it, of course. It takes a lot of consideration about what should we cover, not cover, and it often results in a fair amount of criticism from some for we didn't do it well enough or we didn't cover what we should have. But on a whole, I have to tell you that I'm reminded of a story. I heard the late, great Harry Chapin, one of the greatest songwriter balladeers of our time. And he told the story about a discussion he'd had with Pete Seeger, the famous folk singer, peace activist, environmental leader. And it was a story about Harry asking Pete, You know, you spent all these years for all these causes and you have put incredible effort and time into them. Why do you do that? Does it make a difference? And Pete responded back and said, You know, Harry, I don't know if it's made a difference. I hope so, but I don't know. But I can tell you one thing, when I go to sleep at night and I put my head on that pillow, I know that I spent time with the good people, the people with the good hearts, the good eyes, the good brains. And that is worth everything. And in trying to answer these questions, I'd received this week about why do we do this podcast, I have no doubt that if there is any other reason I need beyond this one, I don't know what it could be because I get to spend time with the good people, and I really want to thank you for that. I want to thank you for the people who take the time to listen to our podcast, who respond to us who provide us lots of feedback. So this is a podcast for the good people. In that regard, I want to start out with something very positive and share with you something I'm sure you're all anticipating. I'm happy to report that today there are nine hours and 20 minutes and 19 seconds of sunlight in Minneapolis-St.Paul area. That is compared to last week of only nine hours and six minutes and 49 seconds. We've gained almost 13 and a half minutes of sunlight in the last week. Yes. And when we consider where we were in the winter solstice on December 21st, we've now gained 34 minutes of light. We are seeing the light. And even as we discussed this surge with Omicron, we are beginning to see the light. So that's great news. Last, I want to provide my dedication. And this is one that is personally very meaningful to me. By the end of 2021, there were approximately 2,300 COVID-19 associated hospitalizations among children under five years of age. Less than 1% of COVID hospitalizations among children were fatal, which is great news, but nonetheless very traumatic for those who experienced a hospitalization and surely a

horrible tragedy for families who have experienced the loss of a child. Back in 1996, my 15 year-old son Ryan was infected with ill cross encephalitis virus as a result of a mosquito bite that he had had. And as ironic that this was a disease I had been studying since I was in high school, and I'll never forget when he was critically ill with that infection, not knowing what would happen, you know, would he make it? Would he have brain damage as a result of this encephalitis? And I remember the helplessness of that. It was horrible. It was horrible. Here I was, somebody who knew all about this virus, and yet I felt helpless. And I can only imagine what these families feel like when their kids are in the hospital, severely ill with COVID. So this dedication this week goes to the parents. It goes to the caregivers. It goes to the families of those children, particularly under age five, who can't get vaccinated right now, we don't have vaccines, who are hospitalized with COVID and in some cases, severely ill. This dedication is for you.

Chris Dall: [00:07:03] Mike, let's start where we usually do with the international situation. I'm particularly interested in what's going on in the countries that have passed their Omicron peak and in what might happen in China, which is struggling to maintain its no COVID approach in the face of Omicron and the upcoming Winter Olympics. So let's start with China.

Michael Osterholm: [00:07:21] Well, Chris, let me first start out by saying, believe it or not, there are some reasons why we spend time each episode covering the international situation. Of course, one of the reasons has to do with the fact that a number of our podcast listeners don't live in the U.S. So to those of you who are abroad, I want to offer a big thank you for joining. Although I admit that a lot of the information we cover each week focuses on issues specific to the U.S. situation, I hope you know that we so appreciate you and certainly have not forgotten about you. Even if we do not routinely deliver COVID updates from the country you call home, we hope the information still has been helpful and no matter the distance, rest assured you are valued members of this podcast family. Having said that, I think keeping tabs on what this virus is doing around the world is simply essential, regardless of where you live. Remember, this is a pandemic or a worldwide epidemic. And while that shouldn't be news to anyone, I think there are many people who have yet to fully appreciate what that really means. Of course, when it's your house that's on fire, it can be easy to develop the tunnel vision and just focus on getting by. But if your house is in the next town over, and although everything seems fine right now, that same wildfire is heading straight towards you, I

hoped you'd be paying enough attention to recognize the threat and come up with a plan. Out of sight, out of mind does no good, particularly at times like now. Well, at this point, I think everyone knows the world is on fire with Omicron. In fact, more than 145 countries have now reported cases of the variant, and many are in the midst of surges, which brought last week's case totals to nearly 19.3 million. So that initial smoke we saw out of the South African coronavirus forest fire clearly had global implications, and we're seeing that play out. However, as I mentioned in last week's episode, we're also seeing China fight Omicron tooth and nail with this infamous zero COVID strategy, and I think this also has worldwide significance. So I'm going to spend a little bit of time on this issue today. Of course, in just a couple of weeks, the Winter Olympics are scheduled to begin in China's capital city of Beijing. I think if I were to read all the precautionary measures the Chinese are using to minimize the risk of COVID entering the country or spreading within the Olympic Village, it would take me an hour to get through the list. So I'm not going to do that. But some notable examples include a completely closed loop Olympic Village, where athletes and employees will undergo daily PCR testing, with the results linked to scannable cards required for entry into certain areas. Participants who aren't fully vaccinated will have to arrive extra early since they're required to quarantine for 21 days. The actual Olympic Games are scheduled for February 4th through the 20th or 17 days from now, meaning that the unvaccinated participants will spend more time quarantining in the days preceding the event than they will spend at the actual games themselves. In addition, any individual granted entry into the bubble are required to use specific transportation options, with Chinese officials telling local residents to avoid all contact with passengers even if they're involved in a motor vehicle collision. Although participants aren't allowed to leave the bubble and freely explore Beijing's food scene, they will have the unique opportunity to be served meals by robot chefs that drop food off from an overhead grid in certain dining halls. Finally, while the games will have some spectators, none will be from outside of Mainland China, and it's invitation only. During the event, spectators are allowed to clap, but they must not cheer or shout. And again, these are just some of the rules. So China's clearly doing everything they can to keep the virus out of the Olympics. However, they're already dealing with the ongoing outbreak in multiple cities, some of which have been linked to omicron. In last week's episode, I mentioned the cases of the variant had been detected in two cities. As of Tuesday, both were still documenting cases. Although the number of new infections in one of the cities, which is home to 14 million residents and a major Chinese port, have reportedly declined over the past week. Still, the restrictions there have interrupted

operations for companies like Toyota and Volkswagen, which have assembly plants in the city. Even Boeing announced that several employees with their China unit were impacted by the measures, although normal operations have appeared to have been maintained. Now, three other port cities in the country, including Shanghai, have reported cases of Omicron, which has triggered narrow and more targeted lockdowns. As of Tuesday, the measures have yet to affect the actual docks in the city, but manufacturers are tracking the situation closely. Recognizing the challenge that growing cases and broadened responses could pose to global supply chains, which are still severely disjointed. And finally, this past weekend, China detected its first case of Omicron in Beijing. Prior to showing symptoms and eventually testing positive, the case reportedly visited several shops in the city. They also had not traveled outside of the city during the two weeks leading up to their infection. In response, Chinese officials have tested more than 13,000 potential contacts, including employees and customers who were in the shops, and have locked down the case's workplace and apartment. On Tuesday, it was announced that two close contacts of the city's Omicron Index case had tested positive, and an unconnected case of Delta were found in a different part of Beijing. Now, obviously, China has dealt with their fair share of COVID flare ups over the past two years and using their zero COVID playbook, they've ultimately snuffed each one out. But Omicron is clearly their biggest challenge to date. It is like trying to stop the wind. You can divert it, but you can't stop it. So we're yet to really know if the same approach what they've used in the past will work here. If it does, I think we're going to see more examples of ongoing humanitarian issues and even global supply chain and economic impacts. Just think, a city of 13 million residents in China has been under strict lockdown since December 22nd, more than three weeks ago to control an outbreak of Delta. Prior to detecting the outbreak, which up to this point had resulted in just over 2,000 cases, the city had fully vaccinated more than 90% of the adult population. Regardless, according to a story in Politico published this past Sunday, only now are some of the restrictions in the city being lifted, allowing residents to leave their homes for a limited time to purchase daily necessities, in some cases return to work. Clearly, the goal is to stamp out the virus in the city, and they appear en route to accomplish that. From what I've seen, none of the 2,000 cases were fatal. However, there have also been widely publicized stories of lockdown residents facing major food shortages, and some cases being denied appropriate medical care, which reportedly led to one man dying from a heart condition and a pregnant woman experiencing a miscarriage. So do the ends justify the means? While most of the world would say no,

China is pressing forward with this approach. How long that will be the case is an open question. Remember, China's ability to date to prevent widespread transmission of COVID means very few residents would have protection from recovery following infection. And while 87% of the population has been fully vaccinated, there's still a lot of concern about how well the Chinese vaccines like Sinopharm and Sinovac work against omicron. Data up to this point suggests they likely offer very minimal protection against infection with omicron. As a result, even with some protection against severe disease and death maintained, China could expect widespread infections to threaten the country's inadequate health care system. So they're left with no easy options and because of their massive role in global commerce, whether we're talking about things like manufacturing or shipping, I believe that China's path forward has major implications for us here in the U.S. and for countries around the world. That being said, I'm also keeping my eye on what's happened with Omicron in other countries, since that can also offer some perspective on what we might expect moving forward. As I mentioned in the last week's episode, they're far from perfect comparisons. The South Africa really has been the most complete model we have to see what an Omicron surge might look like. Notably, although cases and hospitalizations there peaked in mid to late December and have been declining ever since, I think it's worth noting that cases there remain 16 times higher than they were prior to the Omicron surge, and weekly new admissions are still more than six times higher than they were also before the surge. In addition, average daily deaths there are six times what they were in mid-November, so there's no denying that the country's declines in cases and hospitalizations this past month is real. You can still see that they're well above the levels they were at two months ago. This surge obviously has a very long tail. As more and more countries move past their Omicron peaks, I think this lengthier tale that might characterize the downhill side of these surges are worth considering. Sometimes it can seem like hitting the peak means we're in the clear, but that's not the case. In fact, if the downward slope is slower than the initial ascent, you can actually see more cases throughout the decline than you saw during the rise. So don't jump the gun and go bar hopping with your friends to celebrate the first signs of a peak in activity. Of course, it's still been less than two months since omicron was recognized as a variant of concern. So while cases in countries like Canada, Iceland, Ireland and the U.K. have dropped, hospitalizations are slowly or just starting to decrease. As a result, we'll only find out if this longer tail is a common theme among most omicron waves, or if South Africa was an exception during the next several weeks. In addition, countries like South Africa, Canada, and Iceland

didn't experience their Omicron surge at a time when Delta cases were already causing upticks, which is what we saw in places like Ireland, the U.K. and even the U.S. So it's hard to know what impact, if any, of these elevated pre-Omicron baselines might have moving forward. In the meantime what we have to understand that this variant brings about massive case numbers and in result causes hospitalizations and deaths to grow. Most countries hit with omicron surges so far have not seen ICU admissions or severely ill patients reach levels hit during the previous peaks. For example, the U.K. saw their average daily cases grow from 45,000 cases a day in early December to just over 182,000 cases a day a month later, a four fold increase. Alongside that increase in cases, hospitalizations more than doubled from 7,500 to nearly 20,000 a day. However, the number of U.K. patients in mechanical ventilation beds has remained virtually the same, basically appearing as a flat line that, if anything, has slowed slightly downwards. In fact, the average number of UK patients in beds went from 900 in early December to 850 in late December, now back up to 900 in early January. But then also has dropped down again to 700, the lowest it's been since July. Now I want to make it clear I'm not saying that these recent levels have been acceptable or even sustainable, especially when you consider that they've been much lower at previous points in the pandemic. But at least in the context of other surges, the omicron wave in cases hasn't been trailed as closely by instances of severe disease and death. Again at the height of the UK's alpha surge last January, cases of 60,000 a day, around one third of what we've seen with omicron. However, last year's wave also led to a record high 40,000 hospitalizations, with more than 40,000 of these patients in mechanical ventilation beds, and the average daily deaths surpassed 1,200. Again, we're looking at the number of patients at the Omicron surge in the range of 700 to 900 in mechanical ventilation beds. With Omicron, hospitalizations reached half the levels reported during Alpha. The number of patients on ventilators remained more than four times lower, and at this point, daily deaths have been also four and a half times lower. So what is this about? What's happening here? Well, undoubtedly the UK has made huge gains to the protection of the population over this past year, with nearly three in four residents fully vaccinated, including more than 83% of the population aged 12 and over. In addition, nearly two thirds of the residents 12 and over have received additional doses. I think that's real progress, and we have to applaud the work that the UK government has done to get their citizens vaccinated and surely their reduced number of severe illnesses has been helped by omicron's reduced rate of severe disease. So has it been easy? No, not at all. Health systems in the UK are still struggling, and with cases and hospitalizations still at

levels higher than they were going into the surge, it is not like they're totally in the clear. But that protection of the population has surely helped. Nevertheless, while there are other countries that have made a lot of progress in the way of vaccination, there are also those who still have noticeably large gaps. The impact omicron could have in these places, especially in areas where health systems are already in trouble and vaccination levels are low cannot be taken lightly.

Chris Dall: [00:20:51] Here in the U.S., there does appear to be a decline in new cases in some of the states first hit by Omicron, while others are just starting to see their surges. Is the omicron wave playing out in the U.S., as you expected?

Michael Osterholm: [00:21:05] It really is, Chris, At least up to this point. Between the clear and consistent rise in activity that we've seen and continue to see in states omicron takes over and the span of time separating those initial increases from their subsequent peaks, which is still around the four to five week mark. If you look back over the last six weeks in our podcast, this virus is acting out exactly as we described each and every week. As you mentioned in your question, those parts of the country that were hit first by Omicron, basically from early to mid-December, are starting to show declines in cases and in states like New Jersey and New York, even hospitalizations. In fact, multiple states throughout the Northeast appear to have reached peaks. In addition, there are a number of states and other regions that went through earlier Omicron waves and could be seeing declines, including California, Colorado and Illinois. However, reports of data backlogs and anomalies in many states across the country have made the interpretation of recent trends difficult. We've talked about that in each and every podcast. How well can we actually count on the numbers we're seeing as an accurate representation of what's happening? For example, if you took Minnesota's numbers from Tuesday at face value, you might come away thinking the cases in the state are declining dramatically. But when you dig into the numbers, it becomes apparent that many of the cases are still being impacted by processing delays and additional holiday weekend. So I'm hesitant to put a lot of stock into a lot of the data until things get ironed out a bit more. Now that being said, some areas of the country are seeing signals of peaks or declines in the levels of virus showing up in the wastewater samples, which can be used to monitor general activity in the population over time if samples are routinely collected and tested. In fact, if it's done effectively, data from wastewater surveillance can offer some early insight on surges or declines, since the

results aren't limited by things like symptom status, human behavior or access to testing. So you might see signals of these trends from wastewater data a few days or even a week before they'd show up in the local health departments updates. Although this approach has its own limitations, cities like Boston have recently seen cases peak shortly after their detections in wastewater dropped. Notably, the Twin Cities are also seeing signals of declines in wastewater surveillance. So we'll find out what this means for the state soon. But it's a hopeful sign. Regardless, with this viral blizzard you've heard me talk about, it shouldn't be unexpected to see some variation between when peaks occur in different states. Much like with a blizzard storm track, certain locations get hit first, and depending on where you are along that path, you could be the very next in line or even remain several days away. Nevertheless, the span of Omicron and its consistent ability to drive up transmission is as close to a guarantee as this virus has offered us. So the forecast is essentially the same everywhere, with four to five weeks of surging and often record high cases. Of course, the U.S. surges in cases has resulted in more hospitalizations, ICU admissions and deaths across the country. As of Tuesday, just over 154,000 Americans were hospitalized with COVID, a level we never reached during the previous surges. In addition, more than 25,000 of these patients are in an ICU, which is approaching the peaks hit during the first delta wave of 26,000 and the record high last January of 29,000. And finally, an average of 1,900 Americans are dying from the virus each day. Now, if you recall, towards the end of the international update, I mentioned that countries like the UK have seemingly avoided the same levels of hospitalization and deaths that accompany waves prior to Omicron. Well, if you dig into the relationship between cases, hospitalizations and deaths and consider the cases in the U.S. are more than three times higher than they've ever been, I think you can see some hints of the decoupling. But as we've discussed in previous episodes, this variant's ability to transmit can more than make up for any reduction it might have in the rate of severe disease. Yet looking at the UK it's the same virus we're seeing here, what could be the difference? Well, I look at it as the immunity wall that we've hopefully been building up prior to the surge through vaccinations. And as you know, unfortunately, I think the U.S. falls far short in this regard. If you compare our rates of vaccination, as I just noted in the U.K. versus here in the United States, we've got a challenge. We've got only 63% of our population fully vaccinated, where over 83% of the population in the UK is vaccinated. When you look at those here in the United States, the 65 years of age and older, only 88% are fully vaccinated. If you look at the U.K., we have 95% fully vaccinated and over 90% have a booster dose. So while we've made progress, we can

also understand why we are taking a harder hit here in this country with Omicron, because we are not seeing the same levels of vaccination that are seen in countries like the UK. We do know that getting vaccinated and particularly with that additional dose is extremely important with omicron. And we have fallen far short in getting that message across to people. So let me just conclude where we're at in the United States. Hold on. We still have at least four to six more weeks of this surge across the country. Some areas will begin to recover sooner than others. We will still see a tail in each and every local community with Omicron, where cases will continue to occur for the weeks and months ahead. However, I also believe that we will see a period of a greatly reduced number of cases in the next six to 12 weeks. Where it goes after that is still a question, and I will address that issue a little later in the podcast.

Chris Dall: [00:27:03] So, Mike, there's been a great deal of discussion lately about the possibility that the Omicron variant will infect such a large number of people, that it will usher in the transition from a pandemic to a state where the coronavirus is endemic. That presumes, of course, that Omicron is the last major variant of concern. So what do you make of this idea? And can you just lay out again for our listeners, the difference between a virus being in a pandemic versus endemic state and how we'll know when we've made that transition?

Michael Osterholm: [00:27:32] Well, Chris, this is a topic that's near and dear to my heart. As an epidemiologist, words are very important, and I see a number of people using words like pandemic, epidemic, endemic. And I'm not sure that they really understand necessarily what at least the official definitions mean and how that may play out in terms of how we look going forward. Let me be really clear. A pandemic is an epidemic occurring over a wide area, across international boundaries and usually involving a large number of individuals. Now you could argue that that could continue for some time ahead, even if we see a reduction in these surges. We look at that with HIV/AIDs. We considered that a pandemic for the better part of 15 to 20 years before people begin to call it what we call endemic. Well, what is endemic? The term is being used a lot. The definition of it from an epidemiologist perspective is the constant occurrence of the disease disorder or infectious agent in a geographic area or population group. It may also refer to the chronic high prevalence of disease in an area or a group. So it really means is that we don't see necessarily a new emergence. We don't see necessarily big surges and then a drop in case numbers. But what we see is

the occurrence of the disease over time. Even though we don't consider HIV a pandemic agent anymore, it doesn't mean that there aren't millions of cases each year that occur worldwide. It's just that they've become expected. It's endemic. Influenza is an endemic disease, meaning we expect it to see it every year, but we can, in certain winter seasons, see an epidemic of it. Now, when it's worldwide, that is when we call it a pandemic. When case numbers are increased only in one region we'd actually call this an epidemic, not a pandemic, because again, it has to have a worldwide distribution to be considered a pandemic. So what does this all mean to you and to me? Well, as an academician trained in epidemiology, it is important words. But to most people, it's arguing about how many angels can dance on the head of a pin. So we're really trying to do is talk about when does the current pandemic make a transition to where we live with it every day? And I would never call it endemic. For example, if in fact, we see over the course of the next five to six months very low level activity globally because Omicron has kind of exhausted through as a wildfire burning so much of the human wood out there, there's not much left to burn, we would say, you know, we may be in an endemic situation with regional epidemics from time to time. But what happens if a new variant appears? Omicron plus, one that can evade the immune protection of our current vaccines and of natural infection induced immunity? What if it's highly transmissible? We could see another surge like omicron. Now is that a pandemic or is it an epidemic depending on where it occurs? So I think to me, the terminology really doesn't mean much. It's the concept of what do we need to expect. And what we need to expect over the course of the next few years is number one, it's all about the variants. Anybody who's been listening to this podcast knows it's when I talk about the fact that the old 5th Dimension song this is the dawning of the age of the variants. It's why I said last February and March I was so concerned about the darkest days of the pandemic may still be ahead of us when that was not a popular position. But for me it was just clear watching alpha, beta and gamma emerge as variants and what they were doing. Why should we expect that we wouldn't see more variants? This is not influenza. Of course, Delta and Omicron came along. I don't know that there's not going to be another Delta or Omicron down the road. I don't know that there will be, but I don't think we have any choice but to consider that possibility and prepare for it. So the variants are going to drive whatever happens, and we may watch ourselves defining something as pandemic, epidemic and endemic all in the same year. And it doesn't mean anything to me, really, other than to say, we've got to be prepared for these surges that could occur with the development of a new variant. And as I've described in recent podcasts, we now have

to worry not only about human variant development, meaning transmission between humans, resulting in mutational changes given this new variant, but we're seeing more and more spillover into animal species. The outbreak in Hong Kong right now in hamsters and people, you know, we have to understand that there may be another spillover event which will be a SARS-CoV-2 virus, but very different. So what do we know then? Well, we know we've got to be prepared. I just reject the notion by some that somehow this is just going to become a seasonal virus. It may. It surely could. But this is where humility comes in. I just heard another one of our talking heads. I'll put myself in that same category this past week say, Oh, this is now a seasonal related virus. It's in the wintertime here, OK? And it'll go away in the summer and come back next winter. This is the same person, by the way, who said this one year ago that this was now a seasonal virus. It would go away with the spring and come back, maybe in the fall or winter. Well, you know, you saw Delta, you saw Omicron. Think about now. Omicron is causing major challenges in all kinds of countries in the southern hemisphere countries in southern Africa, Australia yesterday reported their highest number of deaths. We're seeing it in South America. Is that a seasonal virus? It's summer there. So I even categorically reject this definition of saying we're now into a seasonal virus. I don't know. And anybody who tells you they know, be careful. As you've heard me say many times they have a bridge to sell you. So I think right now, what we want to take away from this discussion is the fact that we have to learn to live with COVID and there will be more variants. Now I do believe that we still have tremendous potential to reduce the impact of this virus, no matter what it does with even better vaccines, which our group is working on. And if we look at the therapeutic drugs, I think we have a tremendous potential to actually reduce the incidence of severe disease, hospitalizations and deaths if we can get those drugs to people quickly after the onset of their infection. So I'm not hung up on terms right now. I get asked all the time by the media, Is this an endemic disease yet? And then I say, Well, today, what do you think it is? What might be tomorrow and what could be next month or three months from now? And if we see another surge, is that endemic? Or is that a pandemic? Is that an epidemic? It doesn't matter. What we have to do is be prepared to respond to whatever it decides to do with us.

Chris Dall: [00:34:39] So as you just noted, Mike, one of the elements that will play a role in the way forward is vaccination. And I want to ask you about two issues that have come up recently on the vaccine. One is whether there will be a need for a fourth

vaccine shot for the general public, as they're currently doing in Israel. And the other is whether a booster specifically targeting the omicron variant is needed. Your thoughts?

Michael Osterholm: [00:35:02] Chris, let me start out and address the fourth dose issue because there's been a lot of media attention about it this past week. And I think it's fair to say that I think there's been an overstatement about what it does or doesn't mean. Remember that we have already approved a fourth dose in this country, meaning the three doses, the two dose and the booster and now kind of a second booster for those who are immunocompromised, severely or moderately immunocompromised. That's about 7.2 million people, and laboratory based studies have shown that, in fact, you can get a much higher level of antibody production after that fourth dose than you do after the second or third. So that's already been approved. And I encourage everyone who has any kind of moderate to severe immune suppression to please get that fourth dose. But in addition, the Israelis have been studying this as a fourth dose to increase antibody levels that may actually provide more protection against Omicron. And they are doing studies right now to look at this. And one study that received notable attention this past week was when looking at the antibody production among individuals who in fact were vaccinated with a fourth dose and compared that to what their levels were after the third dose, and they only found marginal increases. And in this preprint, the conclusions were kind of, well, you know, maybe there's not that much benefit. At the same time, the Israeli government is actually doing a study to look at those who got fourth doses compared to those that only got three doses. What happens in terms of their actual incidence of disease? Does it really increase? Does it not increase? What does it mean? And so at this point, I think it's way too early to comment on a fourth dose for the general public, with one exception. And that point is we can't continue to boost our way out of this disease. If it's going to take a booster dose every six months, that's just not practical. It's not going to happen globally. It won't even happen effectively in high income countries like ours. So this is where these vaccines are remarkable tools, remarkable tools, but they're not perfect. And so we're looking carefully at how might vaccines best be used to protect people going forward? Now, it may turn out that there isn't much protection offered with the fourth dose beyond that, if you've had the third dose and it may be due to not only antibody levels that we've been measuring, but T-cell activity. And it may turn out that, in fact, we will conclude that if you go through that initial series, you're covered for some time. We all recognize the concept of waning immunity. It's been very important. And so this is one of those moments of evolving

science I've talked about. Don't consider new information coming out as somehow in conflict with old information. It is merely the fact we're learning more. This is that humility piece. Acknowledge it, understand that we have a lot left to learn. But in the meantime, we do know enough to know how important these vaccines are. So I would urge everyone to make sure that they have their two dose approach with the third booster dose, and we'll get back to them on the fourth dose with time. Now you also asked about the current discussion about the need for a Omicron specific vaccine. And I'm actually very concerned about how this discussion is playing out. And what I mean by that is the companies are leading the discussion. That's not how this should happen. This is where the FDA and the European FDA, what we call EMA and other regulatory agencies around the world need to get together and decide what is it that we need for a vaccine. One could argue that if the next new variant that comes out is also we call an ancestral variant, remember, omicron didn't evolve from Delta, it evolved from the original Wuhan strain. Well, who's to say that the next one won't do the same and that the Omicron variant doesn't offer unique protection by vaccinating against it for this new variant? These are decisions that need to be made in a neutral venue by regulatory agencies, not in press releases and by private companies. And so I'm hopeful that we will see over the course of the next several weeks a much more detailed discussion by these regulatory agencies. How are they going to look at what vaccines are needed and when should they be given? No different than we do annually for influenza, where under the auspices of the W.H.O., we bring together experts from around the world to look at what the current strains of influenza virus are circulating in our communities, and then we decide what should be in the vaccine for that winter season, either the northern or the southern hemispheres. That's how this should be decided. So I actually do not support companies on their own making decisions about where to go. They need to be led by clear and compelling leadership of the regulatory agencies that can look carefully across the board as to what we need, when we need it and how much we need.

Chris Dall: [00:40:11] Last week, you and Osterholm update team member, Corey Anderson, a graduate research assistant here at CIDRAP, wrote a piece for The Washington Post on school closings during the omicron surge. As you well know, this has been an incredibly contentious issue for the American public. What was the message you were trying to convey with that piece?

Michael Osterholm: [00:40:30] There are two simple words that describe this whole issue of schools right now. It's called common sense, just that simple common sense. We all, I think, can agree the best place for our kids to be is in school. I got grandchildren I want to have in school. I know how important their education is. I know all the socialization issues, mental health issues, etcetera. Ok. But who in their right mind tries to plant their petunias in a Category five hurricane? You know, what are you thinking? And so the piece that we wrote in The Washington Post was not to say that, in fact, we should be closing schools and somehow doing what we've done in the past of looking at extended long periods of time without in-class education. We're saying we're in the middle of this blizzard. And just like a real snow blizzard, just like a real category three to four to five hurricane, do we want our kids in school at that time? Well, of course we do. But if you don't have any teachers, if you don't have bus drivers, if you don't have support staff, you can't do that safely. And I categorically reject the politicians who have latched on to this as a political issue. Schools must be open at all costs. And I've seen that on both sides of the aisle. So this is not a party related discussion. Nobody wants to be outdone by saying, Oh, we may maybe need to look at whether schools should be open. I'm sitting here saying for the next four to five weeks of this surge of cases, this viral blizzard, if you don't have most of your teachers, bus drivers and staff available to supervise, one, education isn't going to happen, two is it may not be safe to have all these kids in that school building. So I think what our whole point was is just please take a step back, cut the political rhetoric. Let's all agree, we want our kids in school. But we have to do it safely, not just from an Omicron standpoint, but from a supervision standpoint. And that's just common sense. I don't think anybody could deny that. How many people would be critical if I said today, despite the fact we're getting a 30 six inch snowfall with 40 mile an hour winds and subzero temperatures, we want everybody in school today because in-class learning is so important? People would say, Well, of course not. Well, that's where we're at with this. So I do believe that in very short order, we can see a full restoration of in-class learning where teachers, staff, bus drivers will be back. And you know, the challenge we've had and I've heard from many school superintendents and leaders in our school districts out there who have felt really, really pressured to keep the schools open because all the politicians, all the community leaders are saying, there's many parents are saying it and they're sitting there saying, I feel like I'm the bad guy. But how do I hold school when 38% of my support staff and teachers are gone? I don't have busses to bring kids to school if they don't have bus drivers. If you look at what's happened this past week, Burbio, the

service that we follow closely that keeps track of school closures, reported 6,273 in-person school closures, up from 5,500 the previous week. And it wasn't because people didn't want to have school. They didn't have the staff, in many cases, they had so many students out sick. So and these numbers, by the way, did not include closures due to weather or any other reason other than the pandemic. So you see what was happening? So, you know, in this winter weather, let me just tell everybody, chill out, please. I know it's difficult. But we're going to get there in just a few weeks. Now it may be a hardship right now for many families, and it's easy for me to say because I don't have kids in school that I need to go to work. And if no one is going to take care of my kids at school, I've got to take care of them here at home and I can't work. Well, frankly, as many cases of omicron as we've seen in kids right now, a lot of parents are home anyway with sick kids as well as being sick themselves. So that surely isn't for the duration of this entire surge. But the point of it is at this time, everybody just understand we're going to get through this. Use common sense. Open the school when you can do it safely from a supervision standpoint. I do believe kids are going to get infected, whether in school or at home, because when they're home, they're not going to be totally isolated. They're going to be seeing other kids from the neighborhood, from the school, et cetera. Expect this is going to transmit through the kids. So I hope that people can understand this and not make this such a challenging situation. Just remember that blizzard, that hurricane. This is like that, and I hope that people will give us three or four, maybe maybe five, but I think it's going to be less than that weeks to get schools back fully operational and kids back in in-school learning.

Chris Dall: [00:45:35] Late last week, the CDC updated its guidance on masks and respiratory protection. As you all know, Mike, this is an issue we've been talking about on the podcast since April of 2020, and you've had some strong thoughts on it. So what do you make of the CDC's new guidance?

Michael Osterholm: [00:45:52] First of all, let me say that we've made progress, but it's been slow in coming and it's hardly enough on this issue. I truly believe that we could have substantially reduced transmission of this virus with truly a national effort right from the beginning of this pandemic to provide high quality respiratory protection and then to do a major national campaign of showing people how to use this respiratory protection, why it's important, and to move us beyond the ideology issue of masking or non masking is somehow a political statement. CDC updated their website this past week,

and they now say that to protect yourself and others from COVID-19, CDC continues to recommend that you wear the most protective mask you can that fits well and you will wear consistently. Well, that's kind of like saying, you know, I got one foot in and one foot out. What we should have said as they did cover in their recommendations, the best protection by far are N95 respirators or in some cases, KN95s that are tight face fitting that actually have a blown melt material, a kind of material that actually allows air to pass through because of the big pore size, but has an electrostatic charge so it traps the virus coming through something cloth doesn't have. Cloth can't give you a tight, tight fit, and it can't also at the same time, provide you with this electrostatic charge to keep the virus out. So I am challenged as to how to describe my feelings about the CDC data. I think they still have ignored the basic science that is so important about respiratory protection. Make it very clear there is more than adequate N95 and KN95 respirators out there. It is not a cost prohibitive issue. I've just found myself in the past week, NIOSH certified N95 respirators on the internet for 80 cents apiece. This is not some kind of very highly cost prohibitive effort. And so I think at this point, it's fair to say that I'm disappointed that the CDC didn't do more. I still think that they kind of, as I said, fudged the science on this issue. And that's the real challenge. We have to live and die by the science, not by what is a political statement or personal views by some individuals. So everyone, please please use N95 respirators, KN95 that are certified, not counterfeit, and this will give you the best protection. Now, of course, this is on top of being vaccinated. So this is that layered effect, and I think that hopefully CDC will continue to update its information on the website. We've, you know, we've made progress, but we're still not there yet. Next week, the administration is going to be sending out 400 million N95 respirators to people around the country. Now that sounds like a lot, but you know, there's 330 million people in the United States. That's not even, you know, one in a quarter change respirators per person. They can last for some time if handled correctly. I hope we're doing a national campaign to educate people how to use N95 respirators. If we don't, I fear that they will be poorly used, not effectively used. We still see a quarter of the people wearing their masking material under their nose. As you've heard me say on multiple occasions in the past, this is fixing only three of the five screen doors in your submarine. They've got to do much more to educate the public. So it's been a long time coming. For us, it's been almost 20 some months, but we're getting there and people are now beginning to understand the role that aerosols play, the role that respiratory protection can play and how together we can do a lot more to protect our loved ones from COVID.

Chris Dall: [00:49:56] And just to note for our listeners, we're not taking any COVID queries this week, but next week we're planning to devote much of the podcast to the issue of long COVID and I know you have a lot of questions on that. So please send your long COVID questions to osterholmupdate@umn.edu. Mike, where is our latest beautiful play submission from?

Michael Osterholm: [00:50:17] Well, first of all, let me start out by saying this beautiful place, which is just that is something that also means a great deal to me personally, as I'll note in a minute. This beautiful place comes from Nissa. And she writes, "Dr. Osterholm, Chris, and staff, All my life, my dad and I have said our beautiful place was our family cabin on Mink Lake. The original cabin was built by my grandfather and great grandfather as a deer hunting shelter in the 1940s, and now three of the 10 cabins on the lake are owned by family on my father's side. With my father's Swedish roots and our red wooden cabin in the big woods was our nod to our Swedish ancestors Summer Stuka. It sits isolated in the woods, high on the hills overlooking the lakeshore. The calm lake waters are often glass like, providing a mirrored image of the miles of tall pines, logs, wild grasses and flowers that encircle the lake. It is adorned with vibrant green lily pads, iconic Minnesota fishing docks and ripples from jumping fish. Over the years, it has housed a family of loons, otters, deer bear, beavers, eager hummingbirds, majestic bald eagles, dragonflies. We have come across wild raspberries and blueberries. Sunsets are breathtaking, and the amount of stars in the night sky astounding. All experienced with the soundtrack of croaking frogs and the haunting loon calls of the loon. When I post a picture of the landscape, I will brag no filter because the natural color palette is that good. While some lakes are busy with speedboats and water sports, our little lake host dedicated fishermen, enthusiastic cannonballers off our dock. Growing up, I spent many days with my dad swimming, fishing, hiking, catching frogs, picked wildflowers, eating s'mores around a campfire, playing cards and games, cooking up Swedish pancakes and lake fish, and hearing about the value and the hard labor it takes to maintain a lake cabin. Our cabin has the powerful way of reconnecting you to the land and to family. In May of 2020, my dad died suddenly and unexpectedly of a heart attack. He had gone to our beautiful place every one of his 72 years of life. Grieving the loss of one of my most important people during the pandemic has been the hardest thing I've ever done. We didn't have the typical rituals that help us connect during our grief. No normal funeral, no memorial service, no hugging, lots of isolation.

My dad's and my beautiful place has given me a safe place to go and be filled with my 42 years of summer memories with him. It gives my children, his grandchildren, who are the fifth generation to walk the same woods, the opportunity to experience a piece of their grandpa. What was always my beautiful place has given me a deeper comfort and connection in a time when the pandemic created that barrier and has become more beautiful and I am so grateful for our beautiful place. I am so grateful for your weekly updates. I'm a frontline health care worker and I rely on your evidence based information both personally and professionally. Thanks for all you do. Warmly Nissa." Wow. Well, Nissa thank you for this incredible, beautiful place. We all offer our sympathy on the loss of your father. All I can say is as someone who also has a cabin in the north north woods on a beautiful lake, I so understand what picture you've painted from my own personal experience. We are very happy to share the photographs you've shared with us online. And for those of you who want to see these pictures, they are linked on the podcast website today. This is truly, truly a beautiful place and Nissa, thank you for what you do. Thank you for being a frontline health care worker and thank you for so beautifully painting the picture of this beautiful place in words. It means a great deal. Thank you.

Chris Dall: [00:54:19] Mike, what are your take home messages and closing thoughts for today?

Michael Osterholm: [00:54:24] Well, let me start out, first of all, with really two overriding themes today. One is humility. We got to have it. I don't know what's going to happen over the course of the next six to 12 months. I think I know pretty well what's going to happen over the next three to six weeks. All I can hope for is that Omicron is the last of the major variants to hit upon us and that we will see a new normal come out of that. But I can't be certain of that. And therefore, we have to prepare for the future, we can't hope it won't happen. You've heard me say time and time again, Hope is not a strategy. So we have to be prepared for another Omicron surge. And this is why I feel so honored to be part of the President Biden's Transition Advisory Group on COVID that still continues to meet, even though we're not an official advisory group to the administration any longer. And the articles that we've been published over the last several weeks about how do we get to the new normal. So we still got to do that. And that does include the possibility that in fact, we will continue to see surges with variants that are going to be challenging. We have to understand the concept of this viral

blizzard that it will be over, I think relatively soon, soon, meaning weeks here in this country and in many countries around the world that will present us with an opportunity to see a reduced transmission in our communities we've not seen in many locations for months and months since we have had Delta and Omicron back to back. Last, I just want to emphasize the fact that we have to continue to promote vaccination as the best way we have of reducing serious illness, hospitalizations and deaths. I realize people who have not been vaccinated yet are likely to get vaccinated. I feel badly about that because I know what their likely outcome could be. For those who have been partially vaccinated, please finish out your series. You're obviously not vaccine hesitant. You're not vaccine hostile. You've already gotten one or two doses. Finish out that protection, get it done and have a level of protection that may not keep you from getting infected, but it will have a big impact on whether you get seriously ill, need hospitalization or die. And every health care worker who listens to this podcast can tell you what a gift that is to them because they don't have to sit there and look at you in a hospital bed and wonder, How am I going to provide the care you need today when we're so stretched so, so, so badly? Finally, respiratory protection, your N95s, your KN95s use them, and that'll be an important piece of protection for you on top of your vaccines. So bottom line message is we're going to get through this. We are going to get through this. Finally, I just always have to close because in this week is very meaningful to me because I know individuals who have become infected this week and who have died. These are not numbers. These are real people. These are our loved ones, these are our family members. These are our brothers and sisters, our moms and our dads, our grandpa and grandmas. Never, never let these numbers become just numbers. And I know that I say this week after week, and you're probably tired of hearing it, but to me, it's almost like a prayer each week. We can't forget this. This is really, really important. And that's what should drive all of us to try to get through this pandemic with as much kindness, with as much hope, as much support as we possibly can. Well, let me close now with my final words for you. You all come to expect at the end of this podcast that I try to tie it together with some hopefully thoughtful message. I want to share the words to a song that I've shared with you twice before, but I think right now it is so timely and so needed. I first shared the lyrics of this song with you on Episode 15: "A Coronavirus Forest Fire" on July 10th, 2020. I shared these lyrics with you a second time in Episode 43: "A Realist Adjusts the Sails" on February 10th, 2021 and now today I share it with you again. The song is "A Bridge Over Troubled Waters" composed by American singer songwriter Paul Simon and, as you well know, recorded by Simon and Garfunkel. The

song was written in 1969 and was produced and released in January of 1970. The song is featured on their fifth studio album, "Bridge Over Troubled Water," again released in 1970. The song became Simon and Garfunkel's biggest hit single and is often considered their signature song. It was a number one hit on Billboard Hot 100 for six weeks. And it also topped the charts in the United Kingdom, Canada, France and New Zealand. It was a top five hit in eight other countries as well, eventually selling over six million copies worldwide. It became one of the most performed songs of the 20th century, with over 50 artists covering the song. It ranked number 66 on Rolling Stone's 500 greatest songs of all time. As many of you are aware, it has a very interesting ending to it, and it's one that actually does not fit the earlier part of the song was of note of it this suggestion of Art Garfunkel that Simon wrote an extra verse and a bigger ending, though it felt it was less cohesive with the earlier verses. The final verse was written about Simon's then wife, Peggy Harper, who had noticed her first gray hairs, i.e. the reason sail on Silver Girl. So today I share with you a timeless song, timeless lyrics "Bridge Over Troubled Waters." "When you're weary, feeling small, when tears are in your eyes, I will dry them all. I'm on your side. Or when times get rough and friends just can't be found like a bridge over troubled water, I will lay me down. Like a bridge over troubled water, I will lay me down. When you're down and out, when you're on the street, when evening falls so hard, I will comfort you. I'll take your part or when darkness comes and pain is all around. Like a bridge over troubled water, I will lay me down. Like a bridge over troubled water, I will lay me down. Sail on silver girl. Sail on by your time has come to shine. All your dreams are on their way. See how they shine. Or if you need a friend, I'm sailing right behind. Like a bridge over troubled water, I will ease your mind. Like a bridge over troubled water, I will ease your mind." Paul Simon. Thank you again for joining us for this podcast. We're all helping each other be a bridge over troubled water. Everyone who's not a health care worker thank a health care worker today, somehow somewhere for what they're doing, it's remarkable. And as I have said so often now is the time to be kind, more than ever. It is a challenge, but this is a group that can do that. So thank you for being with us. I hope the information was helpful today. Thank you to the podcast crew again for all you do. Chris, thank you to you. And we'll be back next week with an update, and I hope we have better news. As I said, just keep your eye focused on the end of this viral blizzard. It's going to come and now we just have to get through it. Thank you. Be kind. Be safe.

Chris Dall: [01:02:09] Thanks for listening to this week's episode of the Osterholm update. If you're enjoying the podcast, please subscribe, rate, and review, and be sure to keep up with the latest COVID-19 news by visiting our website CIDRAP.umn.edu. This podcast is supported in part by you, our listeners. If you would like to donate, please go to CIDRAP.umn.edu/donate-now. The Osterholm update is produced by Maya Peters, Cory Anderson, Angela Ulrich, Meredith Arpey, and Sydney Redepenning.