

Episode 119: COVID in the Driver's Seat

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. As we begin our third holiday season of the COVID-19 pandemic, it's noteworthy that SARS-CoV-2, after two years of dominating the respiratory virus landscape, is now being challenged by other viruses. While roughly 43,000 Americans a day are still contracting COVID-19, 35 states are seeing high or very high flu activity in a flu season that began earlier than normal this year in the Northern hemisphere. Meanwhile, children with respiratory syncytial virus or RSV continue to fill pediatric hospitals. Some are calling it a tripledemic. What is different about this year compared with the past two years of the pandemic when flu and RSV activity were minimal? And what does it mean for our hospitals and health care workers over the next few months? That's one of the items we'll be discussing on this December 1st episode of the podcast as we assess the current state of the COVID-19 pandemic. We'll also discuss the growing unrest in China over the government's zero COVID policy, examine who is dying of COVID, take a look at a new paper on surgical masks, answer a COVID query about reusing N95 respirators, and share the latest beautiful place 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: [00:01:58] Thanks, Chris. And welcome to all of you back to another episode of the podcast. For those of you who are new to the podcast, I hope that we're able to provide you with the kind of information that you can use in your everyday life dealing with the world of COVID and as we'll talk about today, other infectious diseases of importance. For those who are members of the podcast family, welcome back. It means so much to have you. Thank you for your ongoing communications with us. They mean so much to the entire team and we very much appreciate that feedback. Today's podcast, for lack of a better way of describing it, is all

about context. And I'm going to share with you today what we know about what's happening with COVID, RSV, influenza, etc., or what we don't know, which actually is more substantial. The challenge that the Chinese government has right now in its hands and why that has implications for you no matter where you're listening to this podcast at. And finally, to discuss another study that got published this week that received a great deal of attention around masks and the fact that it's a study that is severely challenged in its methods, and yet that doesn't come through in the interpretation that many in the media put on the study. If it leaves you confused from what you've heard here on this podcast before, don't be surprised. It's true. You should be confused if you listen to what the media are saying versus what we know to be true. So I will provide hopefully a context to all of that. Let me just be really clear up front. As much as every week we want to be done with this podcast, we want you to be able to contact us and say, we're done listening to you. We don't need you anymore. That's it. We would welcome that because that would tell us all that we're at the end of this terrible, terrible experience. Unfortunately, I got to tell you, today, we're far from that. And I'll give you the information for you to decide for yourself, is that, in fact, the case? But before I begin, I want to dedicate the podcast today, and it will become clearer to you in a few moments as we get into the heart of the podcast, why we're dedicating it to those we are. Today, this podcast is for all of you who are 65 years of age and older. In our society today, being 65 years of age and older doesn't mean much relative to your ability to contribute to our everyday life. Many, many of us over age 65 are highly active, making major contributions who are capable of wonderful relationships with family, friends and colleagues. And yet, when we look at COVID today, that's the group that we're really concerned about. And I will in fact emphasize several times through this podcast what we must do to help protect them. So today I'm really targeting this message in particular to those who are 65 years of age and older, realizing that some are going to be a bit of a different 65 or 70 or 75 by what other underlying health conditions you have. But we really need to focus on this group. If we could, we could greatly reduce the impact that this pandemic is having on everyday lives. So now let me move to another part of the podcast, which is always one of my favorites, not necessarily every one of yours, but that is to talk about light and the amount of sunlight that we're experiencing worldwide. And this is particularly relevant as we are coming to our winter solstice and the summer solstice for the Southern Hemisphere. And today, as I have for a few weeks, continue to follow sunlight in Auckland, New Zealand, one of my most favorite places in the whole world. Today, December 1st, the sunrise in Auckland will be at 5:55 a.m., sunset at 8:23

p.m.. There'll be 14 hours and 27 minutes and 43 seconds of sunlight, about one minute 17 seconds of increased sunlight each day. Now that compares with what it was just a couple of weeks ago of our last podcast when it was at 14 hours and 6 minutes of total sunlight. Just in that time, Auckland's gained 21 minutes. So that surely does beat what it was like on June 22nd in Auckland their in a sense, winter solstice, when it was only 9 hours and 37 minutes of 54 seconds of sunlight, they've gained over 5 hours. Now we are so happy for you because, yes, the days are getting darker here in North America, but we so appreciate the fact that you're sharing that sunlight with us. And with that, a call out to my dear friends at the Occidental Belgian Beer Huis on Vulcan Lane in Auckland. Please enjoy that sunlight. I can imagine you sitting out there on Vulcan Lane drinking beer at those tables, what a wonderful place to be. As the days get darker here, we know that you're sharing your light with us.

Chris Dall: [00:06:42] Mike, let's start our international roundup with China, where COVID-19 cases are climbing and protests are growing over the government's zero COVID policy. Here's the dilemma for China. If the widespread lockdowns continue, that could have an impact on both the Chinese and the global economy and spark more unrest. If the government relents, you could see a huge wave of COVID-19 cases and deaths in a population that doesn't have much immunity and possibly the emergence of new variants. So, Mike, how concerned are you about what's happening in China right now? And is there any middle ground?

Michael Osterholm: [00:07:15] Well, Chris, I think as most of the listeners know, I have been very concerned about China since the very early days of the Omicron surge that occurred worldwide a year ago and in the months ensuing. And this is a really important context because it's what I think is being missed by much of the media and many of the foreign policy experts that are speaking to this issue of zero COVID policy. Clearly, there is a single word that best summarizes the situation in China, and I think it's dilemma. Remember, Zeke Emanuel and I wrote an op ed in The New York Times last January where we actually detailed why China's approach with Omicron was an unwinnable battle. And we are neglecting to understand why they still believe that zero COVID policy may work. With the Alpha and Delta surges, they were able to bring them under control, complete control with the kind of measures they're using now. And the point that I've been making for almost a year is that with Omicron, it's very different than Alpha and Delta. Imagine Alpha and Delta, more like really major forest fire somewhere.

That would be very difficult to tackle, but that they could be put out and would be put out just as we do. That's the transmission potential for Alpha and Delta, much less transmissible than Omicron. Now it comes along and it's more like trying to stop the wind. You can't stop Omicron by doing what they're doing right now, but they are playing off the playbook that they used to stop Alpha and Delta surges in China. And so they're still convinced that they can do that. It is simply not possible. Now, clearly, their reliance on zero COVID has limited the direct impact that this virus has had there. I mean, you're talking about a country with a population of 1.4 billion. And meanwhile, cumulative cases there since the start of the pandemic add up to over 1.5 million, while deaths at just 5,200. If you think about what's happening right now, they are seeing about the same number of cases reported per day in China with 1.5 billion people as we're seeing in the United States with our population, many times smaller than the Chinese population. So you could argue what's their problem? They're doing a lot better than we are. Well, the significance of their actions are that they are basically taking their economy to a place where it is severely challenged. And the autocratic approach that they're using is not going to continue to work. The implications are very significant for all of us listening to this podcast. As I've said many times before, as goes China, so goes the world. So there's obviously a whole global economy piece. But what's really played a big role in raising my concern is this continued absence of a clearly defined plan. And while I can say that clear plans haven't exactly been developed or adhered to in many countries, the difference is that unlike other countries, China's approach has involved sticking to this heavy handed measures they've used since day one. Needless to say, I don't think it's one that's sustainable long term. So my question has been, and this is what we tried to lay out in the op ed back last January is what's the endgame? In other words, what's being done to address things for the long term? And I got to say, since writing that op ed, I have yet to understand what China's long term solution is. If anything, things have only grown more confusing since that time. Of course, back in March and April, we saw the outbreak in Shanghai. Single day case totals reached 28,000, the highest they'd ever been up to that point. And the city only managed to turn things around after two months of strict stay at home policies and mass testing. Many looked at the significant costs that came with that Shanghai experience and thought a change in approach was bound to happen. Some thought the Fall would mark a good time with China's Congress set to meet in October. Well, October has come and gone, and in the month and a half that's followed the party's meeting, you could say a lot has changed, but it doesn't have anything to do with China's approach to COVID. Instead,

they've largely stuck with the same zero COVID approach. But case counts have since managed to grow further and further away from their desired target. On October 29th, exactly one week before the congressional hearing closed, China was reporting a total of just under 1,500 local cases. Fast forward to now, exactly one month later, and they're reporting more than 38,400 cases a day. Now, that's actually down slightly from the total reported on Monday, the previous day's total, which stretched past 40,000 and represented a new all time high for the country. But elevated activity in some hotspots that have been dealing with sizable outbreaks over the past few weeks, plus the rise being documented in other areas, including Beijing, makes it clear that the situation is far, far, far from over. To illustrate what's been happening, here are just some examples. In Beijing, the country's capital city cases one month ago stood at 22. At the time of our last episode two weeks ago, cases reached 462. Now they're at 4,400. Now you can argue that's not bad at all. It's a lot better in what we're seeing in most of the high income countries around the world. Yet we don't shut down 20 million people for 4,000 cases. That is the part that is what makes zero COVID policy so complicated. If we look at other Chinese cities in Chongqing, a city with more than 18 million residents, case totals last month stood at 40. Two weeks ago, they reached 2,900 and now they're at 8,800. At this time last month, the Guangdong Province reported more than 200 cases on a single day. At the time of our last episode two weeks ago, that climbed to 5,600 and now they are 8,900. In the Sichuan province, 42 cases were reported a month ago, 330 cases two weeks ago, and now 1,600 cases a day. Even in Shanghai, we've seen cases go from 16 at the time of our last episode to 180 now. So for a country that's looking to completely stamp out any and all cases, it's not exactly the trends they're hoping to see. But when we look at a cutoff of all transmission chains, 40,000 cases a day can in some ways feel like it's closer to 4 million. At the same time, you're talking about a country with a vulnerable health care system. For example, here in the US, we have around 35 ICU beds per 100,000 population. In China, they have a roughly 3.6 per 100,000 population, 1/10th of what we have here. Last month, after the Asian Development Bank reportedly approved a loan to improve public health services in a couple of China's poorest regions, experts from the organization noted that China's state funded health systems had sizable gaps and stated that the country's hospitals were particularly vulnerable to surges. So you would think that they would prioritize actions like embracing better vaccines to help protect the system. But that has not happened. To put it plainly, as things stand, China is not in a position where it can simply ease up and live with the virus, at least if they want to maintain any semblance of

a semi-functional health care system. And it's not just me saying that. According to a study published last week in the Financial Times, a government adviser with ties to China's CDC said there is no way we can open up right now. In a separate story, the head of the European Chamber of Commerce in China was quoted as saying opening up now would be catastrophic. And finally, my dear friend and colleague Ben Cowling, a professor of epidemiology in the University of Hong Kong, says that without a clear strategy, the Chinese health care system could face a situation similar to what was experienced in Hong Kong early this year. He went on to state the following, in Hong Kong, there was no concrete plan for exit. Even in early March of 2020, at the height of the big outbreak, there was still isolation of very mild cases in hospital and in isolation facilities when the resources should have been saved for the more severe ones. The preparation makes a big difference. So that's what worries me. Since I wrote the op ed this past January, even before that, China has had opportunities to fine tune its approach. They've had time to shift their messaging to approve and distribute better vaccines to the population, to increase coverage in their elderly population, to shift away from measures that require all cases, even those that are asymptomatic or mild, to be placed in quarantine facilities, to find the middle road. But they haven't done that. I mean, at the very least, they could have come up with some specific criteria that they might use for a phased reopening. Instead, they've almost seemed to kick the can down the road, and now they're left dealing with the situation where I am not sure there's any easy or good way out. So needless to say, I'm very concerned about what this could mean for the Chinese people who are left dealing with the uncertainty and the often ambiguous policies while at the same time facing a potential wave that could be significant. And alongside that, I worry about what this all means for supply chains and the global economy as a whole. As I've said many times in this podcast, I still am dumbstruck by the fact so few people on the global stage dealing with the economic issues of inflation, etc. around the world have seemed to not fully understand the impact that this pandemic has had on our global economy. You know right here, in our recent election, it was such a focus on US inflation, which surely was important, but it was one of the lower inflations worldwide. If you look at so many other countries around the world who have had very extreme challenges to their economy, why? Because of the pandemic. And if you continue to shut down supply chains, as China is doing to try to stop COVID and particular Omicron or Omicron subvariants, the world economy is going to come to a screeching halt. In the meantime, because of the large number of Chinese citizens who are still vulnerable to this virus because it has only have limited

circulation and the fact that, again, over a third of those individuals who are older, over 65, have been fully vaccinated. And even then with vaccines that are not necessarily up to the ones we see here in the Western Hemisphere, we will have continued challenges in China. So let me just conclude by saying that we have to, as a world help China deal with COVID. And if they fail to respond with anything other than they're doing now, this virus is going to win and very well could be a reason why the current Chinese government fails. And in this regard, we also have to understand the one, two and three off impacts of supply chains. It will be dramatic and I don't think people really fully appreciate that yet.

Chris Dall: [00:18:10] Mike, are there any other parts of the world that give us an indication of where this pandemic is headed?

Michael Osterholm: [00:18:17] Well, let me be really straightforward with you and say yes, no, and maybe. You know, I feel like I say this almost every episode, but it still rings true. And that is I think I know less about this virus now than I did two weeks ago, clearly two months ago and for certain, two years ago. Believe it or not, Chris, we've just reached the one year anniversary of Omicron's designation as a variant of concern. And it's been quite the whirlwind for all of this past year. When we first saw it, it didn't take long to realize that it was highly infectious, with case numbers spiking straight up as it took over. In some places, including here in the US the record breaking surge in cases eventually resulted in a significant number of hospitalizations, ICU admissions, and tragically deaths. Now, if someone would have said in October of 2021 that the US would soon see its average daily case numbers hit high levels more than three times higher than the previous record, have hospitalizations reached an all time high of 160,000 a day, including 26,000 people in ICUs and experience the second highest peak in daily deaths since the start of the pandemic, you might think they were one break short of a full load. Well, a lot of people said that about me, as you know. But lo and behold, look what's happened. So the reality is we really don't know where this pandemic is headed. However, notwithstanding that looming possibility, the current situation we found ourselves in feels like this messy mix of somewhat reassuring news combined with an occasional caution sign. Yes, we must admit that we have more people who have experienced this virus, either via vaccination or actual infection than any time since the beginning of the pandemic. And hopefully some of that immunity that we have developed as a result of either of those two exposures will in fact, change the

course, not necessarily of new infections, but for the very least, severe illness, hospitalizations and deaths. But we're still in a big human virus experiment. It's almost like we've been stopped at an intersection for this long red light. Some have decided to ignore it, and proceed ahead. Others have stayed put and waited for it to turn green. Only instead, it's gone from red to yellow. And now we're trying to figure out what that means. So if that's confusing, welcome to COVID. So when it comes to the international situation, here's what we're seeing. First, there's this ongoing plateau with deaths. Basically, for the past three weeks, the average daily death toll has been stuck at around 1,400 a day. Again, better than it has been relative to previous points in the pandemic, but still a very significant toll. At the same time, the world's average daily case totals have been slowly but steadily climbing for the past month, going from 320,000 a day in early November to 530,000 cases a day now. Although it looks like the bump over the past day or two could be partially explained due to backlogs in reporting and anomalies in certain countries. Now, at this point, I couldn't really tell you what case numbers actually mean. So that makes it hard to know what this increase really represents. I've talked time and time again about the under-reporting of cases and therefore the inability to know what a case number really means. But with that being said, I think there are a couple of situations worth keeping an eye on. First, there's the reality of the latest subvariants and whether or not they will end up fueling a global surge. And up to this point, we've mostly been in a position where we haven't seen a consistent pattern of surges associated with variants like BQ and XBB. Remember, these are the subvariants of the original Omicron BA.5 that are all about immune evasion, their ability to infect you, and potentially because even if you had previous immunity from vaccination or infection, this virus could get around that. However, there has been some quirkiness. Remember, sequencing takes time. It requires someone to get infected and ultimately take a test, possibly days later when their symptoms arrive. After the test comes back positive, it might be selected for sequencing. Depending on where that's done, the sample might need to be shipped to a facility. Then it needs to be processed and prepared. Then the actual sequencing happens and ultimately the data would then have to be uploaded and made available. So it's not exactly a real time process. For example, we are still dealing largely with information about the variants from China dating back to last July. Not current as of November, December of 2022. With that in mind, you can sometimes use a sequencing data and the variant growth rates to estimate what the prevalence might look like in a more real time number. In other words, depending on the amount of sequencing that's being done, you can get a

pretty good sense of what variants might be circulating at different levels if they're increasing or decreasing at a consistent rate. Well, with the BQ variants, we've actually seen where the growth rate over BA.5 starts out strong in a country but suddenly start slowing down. And that hasn't really happened before. We've assumed BQ was dominant maybe a week or two or three earlier than it actually was, all because we didn't know the growth rate was dropping until the sequencing data was available. And so that's made it difficult to determine what the real world impact these variants can have. Case in point is France. Again, France has been looked at as a bellwether for BQ due to its early elevated prevalence there. I've talked about this in every podcast for recent months. But it might have overtaken BA.5 weeks later than what was initially expected because the growth rate slowed. So are we now just seeing BQ's impact? It's difficult to say. Since mid-November, cases there have climbed from 20,000 a day to now 48,000 a day, and hospitalizations have also crept up. But in other places where BQ is circulating at fairly high levels, those rises haven't necessarily played out yet. So overall, I still don't know what to make of these latest subvariants. Finally, adding to my confusion is the situation in places like Japan and South Korea, which are both experiencing a second wave from the original BA.5 subvariant. In fact, if you look at Japan, the first BA.5 wave there was their highest since the start of the pandemic, with cases reaching almost a quarter of a million a day and deaths approaching 300. For comparison, their first Omicron wave of BA.1 led to a peak of 95,000 cases and 231 deaths. Well, interestingly enough, the second BA.5 wave there has pushed cases from 25,000 a day to 103,000 a day more than they saw with BA.1. And deaths have gone from 50 to 140. Again, same country, same BA.5 variant, but two distinct record breaking surges. Why? I am not sure. Is it something unique to Japan? Is it a sign of forthcoming surges in other parts of the world, including the United States? I really don't know. And I'll say it with certainty right now, anybody that tells you they do know, be careful. They have a bridge to sell you. If anything, it just goes to show what's happening right now with these viruses around the world, it is the fact that they are still in the driver's seat and we are still trying to figure out where they're taking us. So we don't know what the next few months will look like. Will it stay similar to what we've seen over the last four or five months with this kind of high plains plateau? Could be. Could we see new surges with more immune invasive strains? Could be. We don't know.

Chris Dall: [00:25:57] Here in the US, the seven day average of COVID-19 cases is relatively stable, but climbing slowly. Hospitalizations are rising and deaths have

remained steady. But as I noted in the introduction and as we've discussed in recent episodes, flu and RSV are now also placing a significant burden on our health care system. Mike, do you think flu and RSV are having any impact on the circulation of the SARS-CoV-2 virus? And what kind of impact is this going to have on our health care system over the next few months?

Michael Osterholm: [00:26:25] Well, Chris, I know this sounds like a broken record, but we're really in a unique stage of this pandemic for several reasons. One of the main reasons being the presence of these three different viruses all at the same time. Some people are calling this a tripledemic, which is wording I don't really like at all and I think is not helpful. But we're watching a dance between COVID, RSV and influenza, and the burden of all three are being reported together when in reality the burden is not equal for all three. So rather than diving into this dance immediately, I first want to describe the COVID situation on its own, and then we can look at the broader situation. The COVID picture remains similar to what we were seeing two weeks ago, as you mentioned in your question. The Southwest continues to see the most activity at the moment. The BQ.1.1 and BQ.1 variants continue to increase in prevalence, now making up a combined 57.3% of the new US COVID cases and BA.5, which was dominant for several months, now makes up only 19.4% of the cases. While the COVID picture shows some change, we're not sure what those changes mean. We have seen, for example, over the past seven days the number of deaths going up to 305 a day for a 24% increase. Hospitalizations are at 33,454 a day, up 2%. And the number of total cases reported is now averaging 43,692 a day, up about 8% over the last two weeks. So doesn't mean that there's big changes, but it surely doesn't mean this is going away. I also want to draw attention to the test positivity rate, which we have seen increase 18% over the past two weeks. We've discussed test positivity rates in the past because there is a number that has fluctuated with previous surges when at home testing was much less common and case numbers were better able to be trusted. This means that as reported cases went up, the test positivity rate also went up. For reference during the peak of the Omicron surge, when cases were the highest they've been at any point during the pandemic, test positivity was also the highest it had been at any point at 29.2%. We're currently seeing this positivity rate rise. I'm not sure what it means given the challenge with understanding testing. I do think it could be indicative of actual COVID cases increasing rather than the stable case numbers that we're seeing reported. Though COVID hospitalizations have remained at the somewhat stable level

over the past few weeks, our hospitals are still overwhelmed. As I just noted in the past week, we've had over 33,254 new hospital admissions a day for COVID. While this is much lower than the Omicron peak of over 151,000 newly reported hospital admissions, it is still enough to challenge our health care system, especially when we are also seeing increased influenza and RSV hospitalizations. Last week there were over 11,000 new hospital admissions for influenza. This is less than one third of the number of new hospital admissions due to COVID, but still far higher than we'd expect to see at this time of year. In addition, RSV hospitalization rates are also much higher than usual for this time of year. In the overall population in the US, we're seeing about half as many hospitalizations per 100,000 for RSV compared to COVID. This is nine times the rate they were being seen at this time in 2018. Now, one of the issues that I think is important to point out with context is if you look at influenza and RSV, there is no question that in fact we are seeing increased activity and we all talk about how severe it must be if you're following the media. And if you're in health care, you can feel overwhelmed. If you're in for example, if you're in pediatrics, you can quickly see the impact that RSV can have where it literally challenges the system in terms of the number of hospital beds available. Let me point out that right now, influenza is not the huge public health challenge that some have made it out to be. Now, what we're seeing happen in week 45-46, which is weeks numbered number one from January to the 52nd week in the end of December. We're in week 45-46. If you actually look at the percent of outpatient visits for respiratory illness reported by a very large US outpatient influenza surveillance system, we're at about for week 45, about 6% positivity. What this means is that about 6% of people reporting for this ongoing surveillance are actually being seen for respiratory illnesses. Now, that is much, much higher than it's been seen in any year in the last decade. What this does not describe is what typically happens with a flu or RSV season, which actually has onset much later closer to week 50-52, well into week two and four of the next year. So let me give you, for example, right now, I just noted that the outpatient percentage of people being seen for respiratory illnesses is 6%. Well, if you actually look in 2019 and 20, it actually hit over 7%, but it didn't happen until week two or the second week of January. If you actually look at 2017 and 18, again, all of these are before COVID, it hit 7.6%, higher than it is now. But that did not actually happen until week 6 to 8. And then even looking at 2018-19, where in fact, it hit at that time right around 4.5%. But that didn't happen until week ten of the year. So what we don't know, is this going to be like what we saw in Australia where the case numbers shot up early and went up to a level that otherwise might be expected but then came

down quicker. And that's what we saw in Australia last summer. Their winter was that kids got hit early, they got hit hard in the sense of the number of cases it went up. But it wasn't an unusual flu year and the case numbers came down quickly long before a typical flu season would come down. So we're still trying to understand that. Is that what's going to happen here? We don't know. And I think that is a huge challenge. But what's happening is the media continues to want to focus on this tripledemic. Let me just give you some additional data on influenza that puts it into perspective. Right now, the CDC has a long term care facility surveillance system, which has really been very helpful in pointing out flu in the country in long term care facilities. Last week, 231 of 14,291 long term care facilities reported at least one influenza positive test among residents, only 1.6%. This is not at all elevated. We're not seeing the big impact in long term care with flu. Let me discuss the cumulative rate of laboratory confirmed influenza hospitalizations among cases of all ages and when you compare it to previous years again, we're seeing an earlier uptick in cases, but we're right now at 11.3 per 100,000 population are hospitalized with influenza. When you look at the other previous years and where those numbers went, we're at 11.3. For 2016-2017, we were at 66 per 100,000. And in 2017-18, we were at 60 per 100,000, numbers 5 to 8 fold higher than we're seeing right now in the country. So, yes, there is influenza. Yes, it is important. But again, this is not somehow taking off and I think it really is summarized best while we know that there is a delay in reporting of deaths. If you look at typical years with influenza use, 2019-2020, the year before the COVID pandemic began, there were 199 deaths reported in kids associated with influenza. We saw virtually no activity through the 2020 to 2022 time period. Today, at 2022-23, the season we're in now, we're at 12 deaths. So surely unfortunate, challenging, painful, but very different than the 199 during a flu season that wasn't considered that significant in 2019-20. So again, I think this information just points out that, yes, flu is a problem. On top of COVID, flu can really be a challenge. But when you actually put it all together, it's not as if somehow we're seeing this major increase that would suggest we're seeing this tripledemic that people are all talking about. Now, let me just make one last point. RSV, which has really hit kids and it's kids particularly under six months of age, is a real significant problem. But if you actually look historically over time, at the number of cases of RSV in kids in this country, while it is a challenge, what has been a bigger challenge is the cutback in the number of pediatric beds available to cover kids. And what happens is we hear these horror stories which are real. Trust me, they're real. Pediatrics is stressed beyond all get out right now with RSV. But a large part of this can also be attributed to cutbacks in available

resources. Pediatric experts, particularly in the intensive care units, hospital beds, nursing staff. And so it's not just as if somehow RSV has just taken off. And this brings me to my last point, Chris. We have seen numerous articles published over the past 2 to 3 weeks talking about how somehow by letting up on our mitigation strategies, these viruses are all taking off. I have talked about this many times on this podcast. It's unclear what's happening with these viruses. From a mitigation standpoint, why would we think that masking, as has been done by the public not N95s largely, not well done and often not even done at all would have some big impact on viruses for two years and hold down their transmission, such that now we're primed for having these susceptible people out there. A lot of misinformation there. First, if you look at influenza, even in a bad flu year, only 5 to 15% of adults get it. That means if we miss two bad flu years in the past two years because of mitigation, that in fact, somehow that would make a lot of people susceptible to influenza. Well, I just pointed out the long term care data to you. I've talked about the fact that we're not seeing those big, huge spike in influenza. It seems like it, but we're not. We're just seeing earlier activity that might be expected to be seen in mid-January. Next, we've continued to hear about, well, using these masks for the last two years, in fact, stopped the transmission of the virus and now it's coming back. Well, how in the name of God did 75 to 90% of kids get infected with COVID and almost virtually most adults in this country if our masking was so good? It doesn't, it's not going to selectively just stop influenza and RSV viruses and let COVID viruses pass through. Makes no sense whatsoever. Finally, remember, I pointed out time and time again what happened in 2009 with H1N1. There we actually saw this new influenza virus emerge in February, early March in Mexico, spread around the world. We had a peak of cases, particularly in the northern Hemisphere, in April, May of that year, and then the case numbers dropped precipitously and stayed low through most of the summer. It was in mid-August when we then saw the cases begin to increase again. We had a big peak of cases peaking in late September, early October, and then dropping down precipitously. Vaccine did not arrive till mid or late October. We were doing no mitigations. Nothing was closed, no masking, no nothing. Yet that next winter season, i.e. 2009-2010, we saw no RSV, we saw no other influenza other than H1N1, the new pandemic strain. Influenza B disappeared. Influenza H3N2 disappeared. Why? It had nothing to do with mitigation. And people somehow want to believe public health measures automatically mean this is why it did or didn't do something. That's just simply not true. 2009 proves that point. So I don't know what is happening right now. If everyone were effectively wearing N95 respirators and that was the means that they

did, then I think you could argue that that could have a big impact on transmission, whether it happened or not. But we can't say that over the last 2 to 3 years. So, one, you cannot conclude what's happening right now. And I refer you to a linked article in the podcast site that came from Faye Flam, a writer for Bloomberg Opinion, who is really an outstanding health reporter. And it's entitled "The Dance of the Viruses." And she actually covers this very nicely in this article. I'd urge you to go read it because it basically lays out if people want to tell you is because masking did this, so be it. But we don't have any evidence that that's actually true. So the current situation is, yeah, we got a lot of virus out there, but what's happening with RSV and with influenza is not necessarily indicative of suddenly tripledemic. And number two is the fact that with COVID, we are continuing to see transmission. We are not seeing it go away. And I just don't know what's going to happen over the next 3 to 6 weeks.

Chris Dall: [00:39:59] Mike, as I noted in the last question, US COVID deaths have remained steady, but we're still seeing between 300 and 400 people dying every day in this country. At this point, who is dying from COVID-19? Is it the unvaccinated, the elderly? And how can we bring that number down?

Michael Osterholm: [00:40:16] This is really an important question, Chris. If we want to make a difference in reducing those deaths, our strategy needs to be tailored to the populations most affected. I think we've all agreed that in fact, if COVID infected all of us several times a year but did nothing more than cause a common cold like illness, we'd say, okay, that's fine. What we fear is serious illness, hospitalizations and deaths and of course, long COVID, too. But right now, if we look at where the deaths are occurring, it is in the older adult population. The group that I mentioned in the dedication, Ariana Eunjung Cha and Dan Keating, wrote an excellent piece in The Washington Post this week about this issue. They shared a similar concern that I do. People seem to find these deaths as more acceptable compared to other ages. Let me make it clear. I recognize, as all of you do, we're all going to die. Every one of us. In fact, whoever is listening to this podcast, that gets to be the last one to go. My hat's off to you, okay. And there'll always be a top ten causes of death. If we eliminate the current top ten causes of death, there will be ten new ones. And I'm not sure they're going to be better than the ten we have. But when people talk about COVID and the fact that it is in a sense maybe acceptable that we see these losses in older populations, I have a real problem. For example, as we just discussed, we are seeing deaths now in COVID, particularly in the

older age population of anywhere from 300 to 350 a day. Now, let me compare that to cancer. Imagine if just three years ago I said a brand new cause of cancer was going to show up and 350 people were going to die each day. There would be an outcry. The number one cause of death due to cancer in the United States is lung cancer. And guess what? That is about 350 deaths a day. When you look at that, it's more than breast or prostate or pancreatic cancers combined. It causes two and a half times more deaths than colorectal cancer, a second leading cause of death from cancer in the US. And now suddenly would we accept cancer rates like that and say we're done? So be it. Nothing else to do. Well, imagine we have 350 deaths a day to an infectious agent for which vaccines and drugs could save these people from dying. So that seems to me to put into context the fact that just as we wouldn't accept that for a cancer situation, why should we accept it for an infectious disease? The CDC currently reports that nearly nine out of ten deaths from COVID are in people age 65 and older, the highest rate we've seen throughout the pandemic. In the early spring and summer of 2020, the proportion of deaths among older adults was approximately eight in ten and then dropped to six in ten during the Delta wave in 2021. While it is certainly an improvement to see overall numbers of deaths decrease, this disproportionate impact is quite alarming. The 65 plus age group makes up 16% of the population, and yet now nearly 90% of the COVID-19 deaths. Especially after multiple years of this pandemic, we can become callous when we talk about cases, hospitalizations and death numbers. I've urged this time and time again to never let that creep into our social spirit or vocabulary. And as much as I do try to emphasize this in our podcast, I can't stress enough that these numbers are real people. These are our moms and our dads, our grandpas and our grandmas, our brothers and our sisters, our aunts and our uncles. These are very important people to us. But this isn't new to COVID. It's easier to brush off public health issues when they don't impact the majority of the population directly. Other infectious diseases like malaria or Ebola don't cross into the United States and therefore aren't emphasized for their devastating impact in low and middle income countries. Even in the United States, the health of older adults can be dismissed or simply forgotten. The National Health and Nutrition Examination surveys assessed food insecurity and diet quality across the US. In a study of these data from 2007 to 2016, a ten year period, food insecurity among seniors not having enough food more than doubled from 5.2% to 12.4%. This was most pronounced in lower income older adults. That's a tragedy. A tragedy. People's lives do not decrease in value as they age. I surely want to believe that for myself. I don't want us to become comfortable with the current number of

COVID-19 deaths just because the population was older. What I want to see is an emphasis on booster uptake and access to Paxlovid, two interventions we know are effective in reducing severe disease and death, even in those over age 65. The CDC's latest data on rates for deaths for older adults by vaccination status are very, very clear. The latest analysis reports that unvaccinated adults for over age 80 are dying at a rate of 14.16 per 100,000, compared to 0.00 per 100,000 for those with an updated bivalent booster. Remarkable. Even compared to those vaccinated without an updated booster, the rate was 3.69 per 100,000. The reduction in risk is something we need to emphasize publicly. Right now, the rate of bivalent boosters for older adults is only 25%. And the Paxlovid data are promising as well. From an early release of the CDC's MMWR, being prescribed Paxlovid was associated with 51% lower hospitalization rate for those across age groups, incidence of previous infection and vaccination status. And further analysis of these data by the Epic Research Group, 0.03% of all recipients died compared to 0.12% of those who did not receive the drug. Basically a four times higher risk. Unfortunately, study authors found only 28.4% of those who were eligible received a Paxlovid prescription within five days of a COVID-19 diagnosis. I truly believe many of these deaths are preventable, so we just need to emphasize the importance of taking these actions now. Vaccination, vaccination, vaccination. Treatment, treatment treatment. And I'm not going to suggest that tomorrow will even have a major impact on limiting transmission of this virus. But what if we could really start to make an impact on those who are seriously ill hospitalized and most of all die?

Chris Dall: [00:46:46] As our listeners know, the efficacy of masks has been a major topic of conversation on this podcast. So, Mike, I want to ask you about a study that came out this week in the Annals of Internal Medicine that suggests that in some settings, surgical masks may offer similar effectiveness as N95 respirators for health care workers. What do you make of this study?

Michael Osterholm: [00:47:06] Well, Chris, yes, this is not a new topic to us at all. And in fact, it was almost a deja vu all over again moment for me, okay. Back in October 15th of 2021, we actually published an article, extensive article detailing a number of studies that have been done looking at the protection from using a face cloth covering or procedure mask, a lot of leakage, versus an N95. And these studies were conducted in Bangladesh and California and North Carolina, many different places. And they all had one commonality. They had terrible, terrible, terrible study designs such that if one

of my graduate students had actually proposed such a study, I would have flunked them. And we have provided a link to you to remind you, if you haven't read it before, to go back and look at this October 15th article, because it, in a sense, sets the table for this discussion today. So the study you're referring to, Chris, is the first published, peer reviewed randomized clinical trial that compared medical masks, procedure masks, versus N95 respirators in preventing COVID-19 infections among health care workers. The study included just over 1,000 health care workers caring for COVID-19 infected patients across 29 hospitals in four countries Canada, Israel, Pakistan and Egypt. The study lasted over two years from May of 2020 to March of 2022. Health care workers were randomly assigned to wear either medical masks or fit tested N95 filtering face piece respirators for ten weeks. COVID-19 infections were compared between those randomized to the medical mask group and to those to the respirator group. I'll describe first what the authors conclude, and we'll then describe what we feel are major challenges and limitations of the study. COVID-19 infection was confirmed using reverse transcriptase polymerase chain reaction or PCR and 52 of 497 or 10.5% health care workers in the medical mask group, compared to 47 of 507 or 9.2%, compared with 47 of 507 or 9.27% in the N95 group for a hazard ratio of 1.14 and a confidence interval that included one. The authors concluded that they found surgical masks were not statistically less effective than N95s in preventing COVID-19 infections in health care providers looking after patients with COVID-19. However, the study shows a general trend to N95s being superior to surgical masks at all sites except Egypt, noting that both study arms used the N95 respirator for aerosol generating procedures. We have talked with a number of epidemiologists, industrial hygienists and ID experts who have expressed concern that these conclusions are not justified given the study design. In fact, the opinion is that at best the study is highly inconclusive. Now, we have just published an article on this this week from our CIDRAP news team in which we've interviewed world experts in the area of respiratory protection, which basically debunked the study. I urge you to go take a look at that link and the story from CIDRAP. Rather than go into all the details why it's a problem and that's included in that CIDRAP link, I just want to point out to you, one of the challenges we've had in dealing with respiratory protection has been what I call the miasma theory of modern science. We have unfortunately continued to watch organizations like the World Health Organization, even the CDC deny the existence of airborne transmission. That transmission, like the smoke of a cigarette, you know fine mist in the air from a perfume section of a department store. That's how this virus is transmitted. The data are clear and compelling. And if you

think about how you're going to protect yourself from that, having a procedure mask that actually has openings around the sides, it's not meant to try to trap anything coming in. It's meant to you not getting splashed with a fluid. Basically, there is no biological plausibility why these should or would work. In another article published on the CIDRAP site and generated by our team, we actually took the National Institutes of Occupational Safety and Health, personal protective equipment information, and calculated what might be the protection from a cloth face covering or a surgical mask with nothing else versus nothing at all. And what we found with a typical surgical mask and not knowing exactly how long you have to breathe in a virus to get infected, clearly it's much less now today with all Omicron variants than it was back with Alpha and Delta. But you might gain only 30 minutes of additional protection of having a surgical mask on your face, as opposed to the 15 minutes would take if you had nothing at all. Or if you looked at the number of hours of protection you would get with a fit tested N95, it's dramatically different. So the point being here is that there's no biological plausibility why we should think that medical masks will will, in fact, be effective. Today, one of the primary reasons that we continue to use medical masks is because health care systems look at this as being an onerous requirement that if they require their workers to use N95s, then they have to do a whole set of OSHA related activities, including fit testing, etc.. Well, let's not confuse the burdensome procedures and so forth that might be part of a plan to use N95 respirators. But let's be clear about the science. If you're not using an N95 respirator, you are not going to get the high level of protection that you desperately need. And we do not need one more bad study to be done to tell us that. And right now, again, the epidemic of studies around masking that have been so poorly conducted, that have not given us the kind of information we need is a real challenge. So I know the study got a lot of publicity, particularly among colleagues I'm hearing about, ha ha, see, they work and again come back and say, no, they don't. This is all the reasons why. And wishful thinking does not make for an answer from a scientific perspective. So please, for all of you out there, stick with your N95s. I wear mine consistently wherever I go in the public settings. All I can hope is that that is the last kind of wall you have against this virus. Your vaccines will hopefully give you initial protection should you be exposed. But wearing that N95 is going to make all the difference in the world.

Chris Dall: [00:53:54] Now for our COVID query segment, which is also about N95 respirators. Here's an email we received from Jeremy, who asked, "Do you think it is

okay to reuse N95 masks if they are clean and set aside for a week or two?" Mike I think a lot of our listeners have this same question. I know I do. What is the answer?

Michael Osterholm: [00:54:13] Well, I do, too. So we're all in the same club. Assuming, Jeremy, that you are asking about wearing respirators in community settings, not in health care settings, you can actually reuse your N95 respirator many, many times. I do reuse mine. There is no need to set it aside unless you've had some significant exposure to someone coughing or sneezing right into your face. As we've talked about quite a few times in this podcast, a well functioning respirator includes both filtration and fit. Fit is important. Just got done talking about that. In terms of filtration, the filter will continue to be effective for many days and even months at the relatively low particle concentration typically encountered in most settings. If the respirator is grungy from wearing for a long period of time or the straps are stretching out impacting its fit, then probably it's a good idea then to leave it out to dry off before redonning. In health care settings, it was recommended that a respirator be taken off and put on again no more than 5 to 10 times because the respirator loses the ability to fit well after that. The straps stretch, the nose clip doesn't form as well, etc. When supplies were limited early in the pandemic, NIOSH recommended giving every health care worker N95 respirators, which would be worn continuously during the day, then put aside into a paper bag or some other open storage for the next four days while the remaining supply was used in a similar manner. This could repeat it up to five weeks if the respirator hadn't been doffed and donned multiple times during the day. Fortunately, supplies of respirators are not limited now, as they were a few years ago. There is some potential for hand contact with particles in the outside of the respirator, though that is unlikely in most settings other than in health care. Health care workers are trained to remove their respirators by the straps to avoid hand contamination. I'm not worried about members of the public being exposed to the stuff on the outside of the respirator. Unless they were spending time close to someone who was coughing or sneezing directly towards them. I will also remind people that if you're wearing a beard, though, N95s are not going to be effective. You won't have the fit. And I see so many men today with beards who will wear some type of respiratory protection with the idea that somehow they think it's working. And it's kind of like having that submarine with three screen doors on. It doesn't work well. And so the good news, Jeremy, is that you can reuse these. I've reused mine over and over again. You can do that, too. The most important thing right now is get people to use them at all.

Chris Dall: [00:56:43] So, Mike, what can you tell us about this week's Beautiful Place submission?

Michael Osterholm: [00:56:48] Well, you know, Chris, I love this section. This is my one of my most favorite sections of the entire podcast. And thank you to all of our listeners who continue to share with us your beautiful places. They really are remarkable. And this one is no less beautiful and remarkable. It comes from Cynthia. And Cynthia, thank you for this very kind note and the picture that you sent with it. She starts out by saying, "I wanted to share my beautiful place with you. It's a hike along the Mayfield Ranch Trail in the Rancho Cañada del Oro Open Space Preserve, about a half an hour away from my home in San Jose, California. We are blessed to have a wonderful network of community and state parks and open space preserves so close to the heart of Silicon Valley. I've been an avid hiker since my long ago Girl Scout days and in normal times have eschewed going on the same trail too many times in a season, preferring to try as many different trails as I can. That all changed with the pandemic. I found myself wanting to hike this particular loop trail over and over, month after month. There is something about the diversity of the flora and fauna there that speaks to my soul in a very deep way. I've also been struck by the beauty of this area, whether we are in the rainy season or the dry season, California's two seasons. It is also a trail that I enjoy hiking alone, or that I can invite my husband or adult children to as a safe place to bond during the pandemic. I've included a bonus picture of my husband helping me construct a Corsi Rosenthal box as per the instructions you referred us, the listeners, to last year. I'm the director of a before and after child care program, and we have Corsi boxes running every day for the children and the staff's benefit. Thank you again for all you do, Cynthia." Well, Cynthia, thank you for that incredibly kind note. A beautiful picture, and congratulations on constructing that Corsi Rosenthal box. We do know that they can actually be very effective in reducing the amount of virus in the air as it goes through those filters in those fans that you've used. So if others have questions about Corsi boxes, don't hesitate to let us know and we'll put a link on the site to how you can approach making your own Corsi box. So thank you, Cynthia. It's a beautiful place and we appreciate you so much.

Chris Dall: [00:59:07] Just a reminder to our listeners that if you want to tell us about the beautiful place that has helped get you through the pandemic or share a celebration

of life for a loved one friend, neighbor or coworker who died during the pandemic, please email us at osterholmupdate@umn.edu. Mike, what are your take home messages for today?

Michael Osterholm: [00:59:25] Well, I'll start out with a common refrain that I think everyone has come to expect from me. But it's the truth. I don't know what COVID will look like in the next 3 to 6 weeks in the United States, or for that matter, in many parts of the world. If anyone does tell you that they can predict more than a couple of weeks out about what might happen, as I said before in the podcast, be careful because they probably have a bridge to sell you. Stay tuned. We will keep you current on what's happening, but I just don't know. Number two, China is a real mess right now. A real mess. Zero COVID policy will never work against Omicron. We told them that 11 months ago, they wouldn't believe it. And so that they have to learn that lesson and they're going to have to then incorporate it into how they're going to control the number of cases in their country, how they're going to, in fact, implement strategies to continue their economic pursuits. We don't know what's going to happen there. And it could be a much larger issue than just the number of COVID cases. This is a huge, huge challenge going ahead. And finally, the last piece is we can do so much more to reduce deaths in this country. I'd love to see that 350 deaths a day get down to 35 a day, maybe lower. And as I pointed out to you, using bivalent vaccines, keeping current on your vaccination status, particularly as new recommendations might come out recommending additional boosters and finally making certain you have access to Paxlovid if in fact, you become infected with COVID. So this should be a time when our strategy is to protect as many lives as possible. And I think that we can do that.

Chris Dall: [01:01:08] And do you have a closing song or poem for us today, Mike?

Michael Osterholm: [01:01:12] Again, this is one of those enjoyable parts of the podcast and the sense of thinking about what the audience is listening to or might want to listen to and what we as the podcast team sense is important. I have picked a goodie but oldie again for this week's podcast. This is one that we've used in three previous episodes in Episode 12, back in June 17th of 2020: A Tale of Two Cities. We used it in Episode 51: A Balancing Act, on April 15th of 2021, and we used it in Episode 91: The Decline of Omicron back in February 17th of 2022. It's one that the words mean so much to me, and I know that they mean so much to all of you. And in particular, having

come off of the Thanksgiving Day holiday, remembering what we all have to be thankful for or why we should be thankful. And I can say with absolute certainty, absolute certainty, one of the things that is most important to me is the gift of kindness and sharing kindness. And so today I picked the song "Try a Little Kindness," a song written by Curt Sapaugh and Bobby Austin, first recorded by American country music singer Glen Campbell. The song was a hit on three different music charts. It peaked at number two for one week on the country chart. "Try a Little Kindness" went to number one for one week on the hot adult contemporary chart, as well as peaking at number 23 on the Billboard Hot 100. It was released in October of 1969. It was a very difficult time with the Vietnam War and many of the challenges that we had in the United States. And I thought this song was quite an anthem for what we really wanted and needed at a time like that. And it seems very relevant today. So here it is. "Try a Little Kindness." "If you see your brother standing by the road with a heavy load from the seeds he showed. And if you see your sister falling, by the way, just stop and say you're going the wrong way. You've got to try a little kindness. Yes show a little kindness. Yes shine your light for everyone to see. And if you try a little kindness and you'll overlook the blindness of the narrow minded people on the narrow minded streets. Don't walk around the down and out. Lend a helping hand instead of doubt. And the kindness you know you show every day will help someone along their way. You've got to try a little kindness. You've got to try a little kindness. Yes, show a little kindness. Yes, shine your light for everyone to see. And if you'll try a little kindness and you overlook the blindness of the narrow minded people on the narrow minded streets. Yes. You've got to try a little kindness. Yes show a little kindness. Yes shine your light for everyone to see. And if you try a little kindness and you overlook the blindness of the narrow minded people on the narrow minded streets." Well, thank you again for joining us this week. I hope that we've given you some information that can be helpful to you in your everyday lives and dealing with this pandemic. Again, we welcome your feedback, your input, your beautiful places, your questions, your queries. We surely appreciate all of those. I want to thank the podcast team for again, helping put together another episode. And I just want to remind all of us out there that this is not done, but there is much we can do to continue to reduce its impact, vaccination, being treated. And also again, the issue of aging. Do not ever accept any of these COVID deaths just because of someone's age. And again, as I come back to the example I gave of lung cancer, can you imagine people just saying today at 350 deaths a day, we should just accept lung cancer where it's at? That would never be acceptable. We cannot say that 350 COVID deaths a day is acceptable. So I

hope you have a good two weeks here. We'll be back in two weeks, getting close to the rest of the holiday season. And thank you so much for being with us. It means everything to us. We appreciate it. Be kind. Be kind. Thank you.

Chris Dall: [01:05:23] 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. The Osterholm Update is produced by Cory Anderson, Meredith Arpey, Elise Holmes, Sydney Redepenning, and Angela Ulrich.