

Episode 64: Straight Talk

Chris Dall: [00:00:00] Support for this podcast comes from Give Directly, a non-profit that lets you send money directly to people living in extreme poverty. Due to the pandemic, global poverty rates are rising for the first time in two decades. In response, Give Directly has delivered countless cash payments to over a half million people in seven countries in Africa. These countries are currently facing their highest covid infection rates yet, and only 1.5 percent of Africa has been fully vaccinated. Giving cash lets individuals invest in what they need the most right now. Visit givedirectly.org/covid and your first gift will be matched up to \$200. 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. If August 2021 is starting to feel a lot like August 2020 to you, you're not alone. Despite the widespread availability of vaccines, the United States is again seeing an alarming summer surge of covid-19 cases, hospitalizations, and deaths fueled by the now dominant, highly contagious Delta variant. And with schools starting in some parts of the country and children under 12 not yet eligible for the vaccine, the nation is once again faced with questions about how to keep children safe. It's a confusing and frustrating time, especially because it seemed like the worst was behind us just a few weeks ago. And while the vaccines will hopefully prevent this latest surge from getting much worse, we know that you, our listeners, have a lot of questions about what exactly is going on right now, where we're going, how effective the vaccines are, and what we can all do to protect ourselves and those around us. We have many of those same questions. So for this August 12th episode of the Osterholm update, Dr. Osterholm will give you an update on the international and national situation. Then he's going to address some of the major questions that our listeners have been asking. But first, before we get started, we'll begin with Dr. Osterholm's opening comments and dedication.

Michael Osterholm: [00:02:33] Thank you, Chris, and welcome, everyone to another edition of the weekly podcast update, I have to start out by saying I can't wait until we can stop these, that they won't happen weekly or maybe ever again. But I think it's fair to say that we all realize we're a long ways off from that. Welcome to anyone who is new to the podcast, and we appreciate your participation. Hopefully, we're going to be able to answer some questions for you. If not, at least you provide various explanations for what we think is going on in this somewhat confusing world right now. For those who have been the regular members of the podcast, welcome back and thank you so much for your many, many emails and text messages, even letters and cards. I can't tell you how much we appreciate them, each and every one are read, shared with the staff. We try to get back to as many of you as we possibly can, but you clearly help shape these podcast in the ways that you're able to give us your sense of the questions that are on your mind, what's going on in the community. And so we're listening. And I just hope that we're able to to meet up with what you need. I also start out today reminding all of us that this is a very, very tough time. It is confusing. We'll talk more about that in a moment. When we look at where I think the American psyche is, if not the entire world psyche with regard to this pandemic. But I just want to repeat something I said last week. If you're confused, if you're concerned in a way that you haven't been before, if you're feeling let down, if you're feeling somewhat frightened, please know that you're not alone, that this clearly is something that we're all feeling and that I in particular and I'll talk more about that this week as it relates to my own family. The other thing I just want to re-emphasize, as I do so often, is just please, we have to remember these cases are people every time I see the news media put a number up or I see another chart from some organization or even me talking as a talking head about numbers. These are people. These are our fathers and our mothers, our grandparents, our brothers and our sisters, our colleagues in some cases, or people that we don't necessarily agree with. But we have watched really over the course of the past two to four weeks just increasing devastation caused by this virus. And so I just want us all to pause for a moment and remember, as we discuss all this today at the very, very heart of it is are real people. It's in that regard that I want to make a dedication today. I'm probably getting very selfish on these dedications because I somehow find a way to include myself in the dedication, which I'm sure is a terrible conflict of interest somewhere, somehow. But, you know, I'm struggling right now as a grandparent. I'm struggling because I'm fully vaccinated and I have five grandchildren under the age of 12. You know, I've chronicled my time with them through the course of this pandemic.

They have been a lifeblood to me. Feeling more comfortable being in close contact with them has been a joy that I can never adequately describe. And now feeling like, wow, Delta is taking over. We're seeing widespread transmission in kids. These kids are in camps. These kids are playing with friends. Will they get infected and bring it home to one of us who are vaccinated but could have a breakthrough case? Or I even think about am I, as much as I know how to protect myself, potentially going to get exposed, get infected and more importantly, transmit it to them? And while we know today and we'll talk about that more later, that kids on a whole, obviously do better numbers wise in terms of the percentage of kids who have severe illness compared to, say, those who are older at higher risk of severe outcomes. But nonetheless, they still do have severe disease and die. And so I think to myself, well am I exposing them, now that we know more about these breakthrough cases and the potential for transmission? So I'm confused. So it's in that regard I dedicate this to all the grandparents, all the people out there who, even if not by biologic reason, are someone's grandparent. They are emotionally, they are in practice someone's grandparent. And I just want you to know that we're dedicating this to you, to the challenges that we face, because in many ways we are like the indicator, you might say, of just how painful this pandemic is because of the confusion, because of our ever, ever present interest in protecting our children, our grandchildren. And because we don't have all the answers, this dedication is to you.

Chris Dall: [00:07:38] Mike, we have another week's worth of data on the international and national trajectory of the pandemic, you'll be providing numbers here in a minute. But overall, are you seeing a discernible pattern here?

Michael Osterholm: [00:07:51] So much of this is coming from what I would call just plain old observation. At this point, put little stock in many of these models that keep getting lots of placement in the media. I think some of the modeling that's gone on has in many ways been a real detraction from good science policy because of misinformation that you just it's just not based on reality. No one today can model the next four months out with any real sense of of a certainty about it. But if they do, they often sell it as if somehow they know the secret when none of the rest of us do. We saw that with regard to this summer season when so many of the models said, you know, it's going to just go away, it'll come back maybe as a surge in the fall. And boy, this is not going away. So as I talk about these numbers today and what I think is happening, this is my 46 plus years in the field of watching bugs do what they do and trying to learn

from them and try and understand what's the pattern they're showing us. Is it so erratic, so, so non predictive that we can't use that pattern to say, well, this might be the next move? Or, in fact, are we missing critical data by not watching close enough what's happening around the world to understand this has a lot of implications for us? So today I look at the global setting, both from a humanitarian standpoint, knowing that this has been a gruesome, gruesome period of time around the world in terms of the damage it's done. But it's also the opportunity as a learning lab to understand what are the implications for us here in the United States. And I know we have many international listeners and I appreciate that. And I'll try to cover the implications for you, too. But I think lessons learned for the United States also have great applicability for the rest of the world. So let me just go through a quick general international update. The world passed a very grim milestone last week with the total confirmed cases now reaching 200 million. Now, I know, as many of you know, that that is clearly a major under-report of cases. But from the standpoint of kind of the relative tip of the iceberg, it gives you a sense that the numbers are not going down. They're going up. The global death toll is now up more than 4.3 million. Weekly for this past week, round 4.3 million cases were reported. That's up from 4.1 million the week prior. This is the seventh straight week of increase in cases. Global deaths are also up from last week with 65,500 reported. You may recall from last week's podcast for those listen to it, I described basically this up and down, up and down, surging kind of activity where it was all overlaid as a global activity under one figure or one chart, but that in fact, some places were going up while others were going down. And then those that were going down will go back up and those that were up will go back down. And it's a combination. But the thing that's most concerning is the trend that they keep overall going up, meaning this pandemic is a long, long ways from being over globally. In terms of of the area reporting the largest decline in case numbers actually is in South America. It's a trend that started in early July. They were hit very hard from that late winter into the late spring time period. However, other than South America, most other regions of the world are reporting either steady or increasing activity. If we think about the continued challenges with Delta right now, as has been discussed on the podcast for the past several months, the Delta variant has created a whole new challenge for the world. This is a brand new game and we have to understand that. And it's not a mystery in the sense that we shouldn't be surprised. It's not somehow lightning struck and oh my, look at it, it's a whole different world. It's evolution, viral evolution. It's classic epidemiology. You know, this didn't go from being a respiratory transmitted virus to something transmitted via fecal-oral or the

stool, not blood, but the changes that this variant had brought about in transmissibility, potential for serious illness and the issue around immune invasion are very important. In last week's episode, I covered its impact in Australia and China, two countries that have been successful to date in containing covid for most of the pandemic. And I want to give a quick update on them, because I think they're also demonstrating to us the challenges that we have and what it means to try to control this virus for now. In Australia, the average number of daily cases continues to climb, with most of the activity happening in Sydney. Sydney, which has been under lockdown for the past seven weeks, reported a new single day high for cases this past Monday. Some cases have been reported in other areas of the country, prompting more restrictions. As of this past weekend, more than half of Australia's 25 million residents were under lockdowns as the country works to control the outbreak and vaccinate the population. Now, the reason I want to emphasize what's happening here is because they are trying to do the control of this virus through the kind of mitigation strategies that we once did, the kind of lockdown approach. And they're having challenges. But we'd all agree that their case numbers are far, far below what ours are here in the United States. But even with this kind of effort that they have, it's been a challenge to basically bring this virus activity to a halt. And moving on, China is also facing its biggest obstacle since some of the earliest days of the pandemic. More than a hundred locally transmitted symptomatic infections were reported on this past Monday. Cases of Delta have now been detected in more than half of China's provinces. The country's health director recently stated that "containing the Delta outbreak is of paramount importance and officials must overcome paralysis of thought in their fight against the virus." They're throwing everything they have at this, including the kitchen sink, and it's a challenge. This should be a lesson to us that it's not going to be simple. Our vaccines are going to continue to be tool number one, two, three and four. As we look at other countries out there that have used other tools, such as China is doing mass testing, they're tracing, their travel restrictions, vaccination, masking, etc., and they're still having challenges. So I only want to point that out because we should not misinterpret that our problems here in the United States are just solely because we aren't trying something. Our vaccination efforts are clearly among the best in the world. But you can see how tough this is to deal with even even with vaccine. Now, if we look at countries with low vaccination rates and see what we're learning from them. Let me just briefly go through kind of the regions of the world and what we've learned. In terms of Africa right now, according to the latest WHO report, Africa is still experiencing its third wave with ongoing case resurgence in at least 21 countries. Some

of the countries like Botswana and Morocco are among the hottest in the world. Fortunately, some of the African countries that experienced earlier Delta surges like Uganda and Tunisia are continuing to report case declines and in some cases, very steep case declines. I'm going to come back to this in a moment, when we talk about what we're seeing after a Delta surge and a decline, what would that might say for us? South Africa was reporting declining cases after its record setting third wave, but they've now actually seen a slight increase over the past week. A trend which I'll share with you is happening in other countries, which is concerning. I've talked about the Delta surge architecture, you might say very rapid up, short time at the peak, very rapid down. But now we have enough experience to say, wait a minute, it doesn't come all the way down. What does that mean? And this is going to be a real challenge for us as we move forward, and I'll come back to this point. Overall, a vast majority of Africa remains without access to vaccines. Of the more than four billion doses of vaccine that have been administered globally, less than two percent have been in Africa. I repeat that less than two percent have been in Africa. However, the WHO has noted that vaccine shipments to Africa are becoming more frequent. In July, Africa received 12 million doses of vaccine through COVAX, exceeding the combined total received during the months of April, May and June. This is clearly good news, but a ton of progress still needs to be made on this front. I keep hearing discussions about concerns about variant development in the United States, which is a very legitimate concern, but it pales in comparison to the dynamics of transmission in terms of number of people when you look at transmission in low and middle income countries without vaccine. So this is a key, key issue. If we look at Asia and the Middle East, the region continues to report rising cases and is averaging more than 4,500 deaths a day, which accounts for nearly half of the world's daily death total. A lot of the region's deaths are being reported out of Indonesia, which was hit extremely hard by Delta. The country leads the world in average number of daily covid deaths, accounting for one in six deaths reported worldwide each day. This is not an unfamiliar pattern. We saw this with India. We've seen it with South Africa, and now we're seeing it particularly in Indonesia. Cases continue to skyrocket in Iran, despite being in its fifth wave, the country is reporting record breaking cases and deaths that are already dwarfing previous peaks. The situation in Iran is only expected to get worse in the coming days, with hospitals in multiple cities at capacity and widespread drug shortages are now being reported. Let remind you that Iran, I think, is another example of a country that early on have these large surges. People were convinced they hit herd immunity there and that we wouldn't

see any additional problems. And we've had three major surges since then, with this one being the worst one. So when I talk about herd immunity later today, I'm going to come back to this and just remind us of the Iran experience. Other countries in the region, including Japan, Thailand and Vietnam, are also experiencing record high surges. These increases have already challenged hospitals, leading countries like Japan to send moderately ill patients home to save hospital beds for those with the worst symptoms. Rising activities in these countries are also impacting supply chains. For example, clothing and footwear factories in southern Vietnam have been forced to close due to outbreaks disrupting shipments for companies like Adidas and Nike. Automakers like Toyota and Honda have also had factories close recently. This is the kind of experience that I don't think anyone anticipated at this point in the pandemic we would still be at risk of global supply chain compromise. And I think from an economic standpoint, we all have to be looking at this because these surges are far from done in particularly in countries like those. So this is going to be a major consideration as we look at the economies of various countries around the world. Let me move briefly to discuss the issue with countries with high vaccination rates. There are three of them I want to just cover briefly today and get a sense of what's happening and what this might mean for us here in the United States. Clearly, the United Kingdom has been front and center for us in terms of understanding what they're doing. I continue to salute their efforts to get information out to the public. Public Health England has done an incredible job of getting information out about what's happening in the United Kingdom. To date, more than 75 percent of UK adults are now fully vaccinated. In the last two podcasts, we've described declining cases in the UK following their peak of more than 47,000 cases reported on a day in July 21st. At the time of last week's episode, average daily cases had dropped below 26,000, so from a high of 47,000 to 26,000 and hospitalizations were beginning to decline. However, and this is an important however, the UK is now once again creeping up, reporting an increase in cases, the seven day average now of 28,000, only 2,000 above its dip. But basically it's not declining in the way that we had been looking at as a possibility. This is the same experience that I just talked about in these other countries where we're seeing cases decline with Delta surges, but not coming back to baseline, almost establishing a new baseline. And the challenge is what's going to happen? Is this going to stay at 28,000 cases a day in the United Kingdom or is this going to go up? And we don't know. This is going to be, I think, a harbinger of things to come for us as we follow these. We're going to be monitoring this activity substantially, trust me. Covid deaths in the UK have continued to

increase with an average of 90 being reported each day. But I'm going to hit this message home time and time again through this podcast. This, however, is a victory. Now 90 deaths are obviously a tragedy, but during the peak activity that they had in January, the UK was experiencing 1,250 daily deaths. So similar activity in the community, hospitalizations, number of people who are ill, yet the deaths are way down. This is more than a 10 to 12 fold reduction in deaths. And this is what's playing out around the world where we have vaccine programs in place and a substantial number of people are vaccinated. So please understand this. Preventing death, letting people live for another day is such an important victory in this pandemic. And I think the UK is demonstrating this. So we're going to talk about case numbers possibly going back up, we're going to talk about more hospitalizations. But this is the important message. These vaccines are incredible in what they're doing and reducing case mortality. If we look at Israel, 60 percent of Israel's entire population has now been fully vaccinated. Delta is still challenging the country, which reported its highest single day total since February on this past Tuesday, over 6,000 cases, pushing their seven day average to 3,800 cases a day. It was just in the teens just a month and a half ago. 662 individuals are currently hospitalized in Israel, up from 426 last week. So you see that trend is changing and going up. 388 are considered seriously ill, up from 229 last week. Israel is now reported an average of 11 covid deaths each day, up from four last week. As we mentioned, though, in last week's episode, Israel is starting to administer third doses to individuals over the age of 60. And to some younger people who are immunocompromised. More than 600,000 third doses have been administered with early data showing some promising signs, although it's too early to draw firm conclusions. The country has gone back to its green pass system requiring proof of vaccination, recovery from previous infections, or a negative test result before entering to places like restaurants or gyms. Lesson here is Delta has surged even in a country that has been heavily vaccinated. The case numbers came down rapidly after hitting that peak. But now, again, just like the UK, it didn't go back down to baseline. It's established a new baseline and may even be going up somewhere. At this point, this is a challenge. What does this mean for us going forward? But the other trend is also very important here, the number of deaths here are substantially lower now in Israel than they were during their surge earlier this past winter spring. And so this, again, is another affirmation of the very good news about the vaccines and let me just add that again, I've mentioned about the United Kingdom and Israel and the case numbers dropping, but now appearing to level off and increasing, the situation in South Africa has been very

much that same picture. So there's a trendline here that's telling us, look at this carefully, this may be the best predictor we have, not some statistical model, but what is the rest of the world's experience with this virus teaching us? And I think that we're going to see this surge go up. It's going to come down, but it ain't going to go down to the bottom. And we have to think about what that means as we go into the months ahead. One last country I just want to mention it to me is one of the most beautiful places in the world. And it's also had a unique opportunity in its island status to teach us something about, again, the effectiveness of the vaccines. Iceland. 71 percent of Iceland's entire population is fully vaccinated, including 90 percent of those 16 years of age and older. Very unique situation. The majority of residents have received Pfizer vaccines, although a notable amount also received AstraZeneca or J&J. Iceland's made headlines over the past week due to a record high surge of cases brought about by the Delta variant. Sound familiar? The country is reporting more than 110 cases a day, surpassing the previous peak of 85 cases a day last October, before vaccines were ever available. The data clearly shows that the vaccines are working in Iceland. While they're only 60 percent effective against infection, they've been 90 percent effective against hospitalization, according to a Reuters article this week, 97 percent of the cases in the country are mild or asymptomatic. As of Tuesday, only 24 individuals in the country were hospitalized with covid and no recent deaths have been reported. Iceland has reported just one death in all of 2020. That was on May 26th. So even with the Delta surge, even with all the activity, the vaccines have had a tremendous impact and outcome. Now, we'd like to get more data from Iceland, you know what's their breakthrough rate and what has happened in terms of age-related immunity? But I think what you're seeing in all three of these examples with high vaccination rate countries is the fact that, no don't expect the vaccines to be perfect. I think we set an unreasonable expectation early on and we talked about 94, 95 percent protection, making everyone assume that this was just a done out of here virus. It's not. But what it is doing right now is critically important. It is fundamentally changing the situation of one deaths, two hospitalizations in the compromise that excessive hospitalizations can play in all of health, and three is the fact that these are mild infections which allow people to continue in much of what they do every day. So from a global standpoint, the lessons learned, this is far from over. This is far, far from over. Number two, vaccines can have a major impact on what's going on. And number three, there are lessons to be learned. And I'm trying to learn them. What will happen with Delta in terms of the surge up and the decline down? What's on that other side of the downside? Will we see a sustained high

baseline for some time of cases, will it actually dropped down to pre-delta surge cases? I don't know. Let me just spend a few minutes on the national trend. Right now, more than half of the entire US population is fully vaccinated against covid. While this is a noteworthy achievement, the Delta variant continues to take full advantage of gaps in our vaccine rollout, just as it has elsewhere. We're now reporting an average of 118,000 cases a day, a figure that has nearly doubled over the past two weeks and continues to climb. Testing is up, reaching levels that are similar to those being reported around this time one year ago. However, the US is still only conducting about half of the total testing it did during the winter peak. At that time in January, we were doing about 1.8 million tests a day. We're literally just doing half of that now. I know we're missing cases. Test positivity over the past week since that 10 percent nationally, with three states having a positivity rate of over 20 percent. That includes Alabama, Mississippi and Oklahoma. Hospitalizations continue to climb and are currently outpacing previous surges. A total of 74,000 Americans are currently admitted for covid. As a reminder that figure was at 18,000 just one month ago, 18,000 to 74,000. An average of 608 Americans are dying each day from covid. Just last week, that average was 371. Where the deaths will go, I'm not sure, but as I pointed out, I believe that they'll be far below that of previous surges. Every state in the country has now reported an increase in case over the last two weeks and all but one, Rhode Island, are now reporting increase in hospitalizations. To me, the real question is, are we achieving our goals? What are our goals in trying to respond to this pandemic? It's been apparent for a while that our goal as a country during this pandemic to me has been maintaining health care systems, a bend but don't break approach, although we've put them through the many stress tests and in some cases they've come very close to breaking, not just bending. Now that we have the vaccines, our most effective tool to date, are we accomplishing that goal? And if you look at the hotspots right now in the southern United States, the answer to that is absolutely a clear no. In Florida, some health care systems are now deferring the non-emergency surgeries as statewide hospitalizations have reached a new record high. And by the way, this is not a seasonal disease situation has been promoted by some elected officials. There are more than 15,000 residents hospitalized for covid right now in Florida, a five fold increase in just the past month. Texas is now also beginning to postpone elective procedures to accommodate their fastest growth in covid hospitalizations at any time up to this point in the pandemic. The state is reporting its lowest number of ICU beds since the pandemic began. Similar situations are playing out in Mississippi, Louisiana and Oklahoma. So where do we go from here? Well, it's

unclear what the US path will be moving forward. As I pointed out, will the hottest activity remain mainly in the southern Sun Belt states, will upward trends in the Midwest, in the far west, in the Southeast continue to mature? What's the ceiling? What impact will crowded events such as Sturgis, state fairs, concerts and festivals play? I'll talk more about that in a moment. What should we expect when schools reopen? We'll learn the answers to all these questions with time. Time, that's what it's going to be unfortunately. Most importantly, all I can keep saying is get vaccinated and make sure your friends and family members are also vaccinated. Even if they get vaccinated now, they won't get immediate protection, but they'll be covered from future surges. I do believe that after this particular surge recedes, however, it may, wherever it may go, there'll still be plenty of people in this country who have not yet been infected or who have been vaccinated. Remember, as we sit here today, over 90 million Americans have not yet been vaccinated or previously infected and are vulnerable to this virus. And it will find them. It will find them. If it's not this surge, it'll be the next surge and there will be more surges. I hope that each time they get smaller numbers, I hope that the number of people impacted is reduced in large part because the vaccine, not because they had to previously have an infection to get there. But we're going to see more. This is not done. We can't celebrate independence from this virus right now for the foreseeable future unless we fundamentally change the number of people who get vaccinated, both in the United States and around the world.

Chris Dall: [00:32:20] Mike, just to follow up on the national situation, a recent Harris poll showed that only 46 percent of Americans now think the worst of the pandemic is behind us, down from over 75 percent in June. Do you think that will have any effect on how we respond as a nation to this current surge in cases?

Michael Osterholm: [00:32:38] Well, I hope it does. You know, I hate to say this because it sounds insensitive and surely not meant to be, but in our business, it's often referred to as the kind of silver lining to a dark cloud when a crisis happens, never waste a crisis to try to do something right or good. And as I've pointed out already, the vaccination right now will not fundamentally change the dynamics of the surge for at least four to six weeks. But it could have a major impact going forward in terms of trying to reduce the other surges. And remember, I've already shared the data today with the UK, Israel and even Iceland, where they're even more vaccinated than we are. And they still have had severe challenges. You've got to get a much higher level of vaccination.

We'll talk about that in a moment with herd immunity. But so I hope that the public sees that we're not over. Now, I realize that that also has caused a credibility gap with public health because I think the public felt like public health was telling them the vaccines are here, everything's better. Take your masks off, you're fine. And now they feel like they've been whipsawed. I very humbly submit that if you've been listening to this podcast over the course of the last year and a half, I never saw it that way. Never did. I've been talking about the issue over the past months that despite the level of vaccination and the number of people previously infected with some residual immunity, we still had a lot of human wood for this coronavirus forest fire to burn. And so this doesn't surprise me. What we're seeing right now, it again, based on observations, what we saw in places like the United Kingdom, in Israel, we shouldn't have been surprised. I think that was our fault as public health officials trying to paint a rosier picture than we should have. And I think everyone naturally just wanted to get back to what was the old days and a new normal. And so I understand that. But I think now is the time for us to say, you know, look, this isn't done yet. It's not going to be done for a while. And even we get through this surge there are still going to be challenges. And so it's not going to be this easy answer out. And and we have to just level with the public on that. Now, things can get a lot better. The more vaccination we get, they can get better. They can get better. Boy, will, I feel so much differently when all my grandkids are vaccinated? Oh, yes. You know, I'll celebrate that more than I can tell you. But between now and the time, we can get more people vaccinated, if we can, we have to tell people that there's still challenges ahead. Finally, we have to continue to remember the rest of the world. Remember, it's not just humanitarian in nature. It should be that, but it's also strategic. I worry very much about the potential variants that may spin out of this uncontrolled transmission in these low and middle income countries that we're not taking care of with vaccine right now. What happens if one day we have a variant that does begin to challenge the immunity that we have from either vaccination as we now know it or in terms of even having previously been infected? So this is a hard, hard message to get across. You know, people will look at me and they constantly call Dr. Doom, just trying to tell the truth, just being realistic. We're not done. This surge should have told us that we're not done and it's not going to end with a surge. It's going to get better, but it's not done. And so I hope that if nothing else, the message comes out. We've got to double down our efforts. We will get done one day. This pandemic will not go on forever. But in the meantime, it's up to us how much we do about minimizing its impact.

Chris Dall: [00:36:34] So now we're going to dive into some of the big looming questions many of our listeners have about the pandemic and looking through our emails, these are the questions that people are really focused on. We're going to start with covid-19 vaccines. And, Mike, with the data that we have right now and you talked about some of the data from the highly vaccinated countries, what do we know about the effectiveness of the vaccines, how they're impacting the trajectory of the pandemic, and how long vaccine derived immunity lasts?

Michael Osterholm: [00:37:03] Well, it's fair to say that there are still real questions, but I want to go back to a podcast episode of several weeks ago where I talked about the concept of corrected science. You know, one can say theoretically, we have the option of well we'll get all the answers we can for you about these vaccines and then we'll bring them to you. That would have taken us four or five years to understand what happens with immunity over time. You know, what are the issues that come up about breakthrough infections? How how infectious are these people? What does it due to long hauler type disease? If we had done that, that would have been irresponsible. Think how many millions and millions of millions of people would have died if we waited four or five years to have all the answers. So what we do as scientists and public health practitioners is we use the tools we have with the best information we have to have the most impact on improving the outcomes of everyday life for people. With this vaccine, as much as we accelerated the review process, its development. Look how safe this vaccine has been across the population. Yes, we've had the issues that have occurred with the thrombosis. We've had some issues with myocarditis. The questions will come about Guillain-Barré syndrome. If we look at the side effects and the impact that they might have among anyone who's getting vaccinated, we realize that the real risk is in getting infected and having a much, much higher risk of experiencing one of these side effects. So from a risk benefit standpoint, it's no question that we would have been remiss in holding back vaccines, waiting for more safety data. I hear people say, well, I just want to wait and see. Well, you know, there will never be enough time for some people. You know, I want five years data. Well, go for seven. And we in public health don't have that luxury. If we're going to save millions of lives, we've got to be there quick and we've got to be there effectively. So, what I want to share today is the fact you can expect with corrected science, we will learn more. The more months we have of experience with the vaccine, the more we'll learn about waning immunity. We'll learn about how the vaccines work with different variants that emerge. But we're not going to

learn about suddenly new safety problems, safety problems occur early in the vaccine process. We've passed through those. We've already demonstrated time and time again, just even on this podcast, how many deaths have been averted because of these vaccines. It's remarkable. So we are still learning, but I want to make it very clear we're not learning things about whether you should or shouldn't take the vaccine. We're learning how to use the vaccines better. And that's just such an important point. So I hope that that as you hear this discussion about things we're still trying to learn about the vaccines, it doesn't give you pause to question whether you should get it or anyone else should get it. And hopefully today that will become very clear as we talk about these issues. So let me let me just give you a sense of where we're at on the vaccine. As you already know from our discussions, more than 4.5 billion vaccine doses have been administered globally. This number includes the US, which has administered about 353 million doses. Think about 353 million doses have been administered. The safety profiles of these vaccines are incredible. CDC and FDA have high standards of safety for these products and are continually keeping a watchful eye out for the adverse events. Remember the examples of these safety standards? The J&J pause due to the association with clotting, the investigation of the mRNA vaccines in myocarditis, pericarditis? You know, it's abundantly clear, as I just said from these reviews, that the risk from natural infection with covid greatly outweighs the risk from these vaccines. And they're effective. Overall, the vaccines have reduced the likelihood of covid infection substantially. It may not be at that level of 90, 95 percent that was initially laid out there. Something I think I wish we all had tempered a bit. But as we previously discussed, no vaccines are perfect. So although the risk of infection in fully vaccinated persons is lower, it is not eliminated. Understand that we know that that's not a failure. That's the scope of what these vaccines can do. However, if a fully vaccinated individual does have a breakthrough infection, their odds of becoming severely ill and dying are greatly reduced. So what are we still learning about these vaccines? It's an ongoing process. Know that. While it's clear the covid vaccines are both safe and effective, we don't have all the answers. Some examples of important questions include how long do vaccines provide adequate protection? What impact do variants have on their effectiveness? How common is it for breakthrough cases to infect other people? What are the performance characteristics of these vaccines in people who may be immune compromised? As the public has learned all too well over the last year and a half, guidance and recommendations change as new data emerges, classic corrected science. We're going to learn a lot more about these vaccines as time goes on and new evidence will become

available, expect it, but it will not challenge whether we should be using these vaccines. So what are some of the lessons from the breakthrough cases? If we look at investigating breakthrough cases, meaning you've been vaccinated, you still got infected, is really a key element of staying updated and vaccine effectiveness. By looking into breakthrough cases, we can learn more things like the frequency in which they occur. Are they more common in certain vaccine types? Do certain variants pose more of a risk? Do we see signs of waning immunity? And I think that those questions have to be front and center every day and just expect that we're learning more about them. So where are we at now? Well, clearly, the arrival of the Delta variant has only added more questions. Severe disease overall, real world data continues to show that the vaccines are highly effective in preventing severe disease and death from the Delta variant. For example, as I pointed out before, look no further than the UK. Despite reporting more than 47,000 cases during the peak of their last surge, which was three weeks ago, average daily deaths in the UK stand at 90. 90. This compares to their winter peak when they didn't have vaccine and cases there peaked at 60,000 a day, compared to 47,000, but their average daily deaths rose to 1,250. Look at the difference there. 1,250 versus 90. So clearly that is a wonderfully positive outcome that we cannot ignore. Although we know they're effective in preventing severe disease and death, we still have a lot to learn. For example, when it comes to vaccine type, data from the UK suggests that two doses of AstraZeneca and Pfizer were 96 percent effective in preventing hospitalization from Delta. Meanwhile, a recent study out of South Africa reported that J&J was only 71 percent effective in preventing hospitalization from Delta. We're still lacking a lot of the real world data necessary to know just how effective each vaccine type is against Delta. We need more data. We're learning about these, but it's not going to happen overnight. One of the other questions that come up are severe disease and death from breakthrough infection is most common in certain individuals? Does age play a role? According to CDC, nearly three-fourths of the hospitalized or fatal breakthrough cases in the US occurred in individuals 65 years of age and older, we see that same phenomenon with influenza vaccines. Immunosenescence is a real challenge. Underlying conditions. Data from Massachusetts shows that nearly three-fourths of the state's fatal breakthrough cases, a total of 100, had underlying conditions. The median age was 82.5 years. Is there a risk to the immune compromised? What do we see in terms of breakthroughs there and what does it mean for vaccine coverage? So we're continuing to gain a better understanding of these things over time. And we'll hopefully use relevant insight data to effectively inform our our

recommendations and policies, booster doses for the immune compromised, elderly. Do we need just additional vaccine doses for those who may be immune compromised? Not really doses or excuse me, not really booster doses, but actually just part of a prime series. Let's look at symptomatic disease. Although the effectiveness of vaccines in preventing severe disease and deaths has held up against the Delta variant, data continues to suggest that they're slightly less effective in preventing symptomatic disease from Delta compared to previously circulating variants. A key point, vaccine still reduced the risk of becoming infected. You look at the exact effectiveness against symptoms disease from Delta. It is to be determined with varying results out of the UK and Israel that range from 59 percent to 88 percent. Keep in mind that many factors can impact these numbers, including the population being studied, the frequency of testing, the vaccine type used, etc.. Regardless, the data suggests that Delta appears more capable of causing breakthrough infections compared to alpha. Again, we still have work to do to figure out exactly what this means. Are certain vaccine types better at preventing Delta infections? Are there certain demographics most at risk for breakthrough infections? Finally, I think a key question we're wrestling with is to better understand the risk of transmission from a breakthrough case. Data looking at the viral loads in Delta cases have found no difference between the unvaccinated and fully vaccinated individuals early in the infection period. In other words, breakthrough cases with Delta appear to harbor a lot of virus. What does this mean? How does it apply to the real world setting it's yet to be fully understood? Is using cycle threshold values to measure viral load helpful? Does it always correlate with infectiousness? There's been some preliminary data suggesting that fully vaccinated individuals clear the virus much faster than people who are unvaccinated. Thus, if a breakthrough case does occur their window of opportunity to transmit the virus may be quite small relative to someone who has not previously been vaccinated. So I hope that this kind of information gives you a sense about what's going on in terms of the vaccine. But let me just quickly, just further elaborate on two pieces. One is I want to take these breakthrough infections and just give them some really good definition. And I look no further than our state here of Minnesota. I have such respect and admiration for the group at the Minnesota Department of Health and the work that they do. And they have exhaustively examined the issue of breakthrough infections here in Minnesota. Cumulatively right now, they are reporting 514 such breakthrough cases in terms of hospitalized patients it's 514. Of those what they've looked at so far and have data on, the median age was 74 years of age, much like I shared earlier. If you look at the percent of all covid in hospitalizations,

only 1.6 percent of all the cases hospitalized with covid are breakthrough cases. And this is such an important point. If you look at breakthrough deaths, where they are now working on that and in examining that of the breakthrough deaths, right now, about 1.5 percent are covid deaths related to covid and a breakthrough case, about one third of them have nothing to do with covid, they're individuals who die for another reason and happen to be covid positive at the time. So these data do support very strongly the fact that the vaccines are having a major impact on serious disease.

Chris Dall: [00:49:21] So, Mike, we've heard a lot about herd immunity throughout the pandemic. Given that the vaccines do not appear to prevent transmission of the Delta variant, is the concept of herd immunity still a possibility?

Michael Osterholm: [00:49:34] Well, again, listeners to this podcast know this for many, many, many months, I have been extremely skeptical, if not downright negative, to the concept of herd immunity. I've continued to hear it reported over and over again, but by people who I'm not sure they really understand what herd immunity is or the dynamics thereof. You can have very, very high levels of protection in a population, but with a very infectious virus still see sustained transmission. Do we need any more examples in places like the United Kingdom or Israel or Iceland or for that matter, here in the United States? And so I think that please, let's move on from that. You know, with the concept that we have to have so many people vaccinated by the very highly nature of the infection. In addition, with waning immunity, we surely have a challenge that that could pose a potential risk in terms of people over time still being susceptible to this virus. So I think that then you add that all in with the societal distrust of the vaccine and unwillingness to get vaccinated, to be protected. I just don't think herd immunity is relevant. And so I know that others hang on it and they somehow have this magical magic kingdom on the top of the hill that if they can just get there they're done. And I just don't think that will ever be the case. Same thing is true. Just think about how many new children are born each year in this world and they, too, become vulnerable over time, you know, and and how are we going to keep them vaccinated? We can't get the world vaccinated now. So I hope we move on from herd immunity and just understand it's not there. And please do not assume herd immunity has anything to do in these cycles of surges. Go up and down. We've demonstrated time and time again that's the virus acting. Just like we've seen with influenza pandemics, why, when they occur to all the other viral respiratory pathogens disappear sometimes trigger? Why are we seeing

respiratory syncytial virus activity now, which has always been a wintertime virus? Some people say, well, it's because we're now getting back together, closeness, masks, all that kind of thing. There's no evidence that's the case. It's something in Mother Nature we don't understand about the dynamics of viral fit, viral spread, viral prevalence. We don't understand it. So to me, herd immunity is long gone. Let's move on.

Chris Dall: [00:52:01] So what about respiratory protection? I know we've talked a lot about it on the podcast in recent weeks, but I think many people are still confused about what kind of protection masks offer and what kind of masks people should be using. So how should we be thinking about respiratory protection with the Delta variant?

Michael Osterholm: [00:52:19] Well, this particular issue is without any doubt the most contentious issue of the entire pandemic, I think even more so than vaccination. And no matter what I say, I will be roasted at the stake for it, and all I'm trying to do is tell the truth and I'll do that again today. I've been doing it since April, a year ago. If you go back to this podcast, go back to my public comments. I've not changed since April of a year and a half ago. And it's because we recognized early on then that aerosols played this key role in the transmission of the virus. Aerosols like cigarette smoke, basically as an example of one. If you're in a room, somebody is smoking, you have nothing on, you breathe, you'll eventually smell smoke. That's like getting the infectious dose of the virus. But if you have a lot of different kinds of face cloth coverings on, you'll smell it almost immediately to. And what has happened is this has gotten to be a mask versus no mask issue, and it's gotten to be personalities, one versus the other, and there has been no room for nuancing, for providing really comprehensive public health messaging. If you go back and look at the aerosol issue, ask yourself what you put on your face. Will it keep the smell of that smoke out? One of the things that's been so difficult, this is both the CDC and the WHO were so late to arrive to that scientific conclusion that aerosols play a key role. It's not just droplets. It's not just something six feet away. If you're walking down the street and you're 20 feet behind somebody who's smoking and you smell that smoke, you're breathing that smoke, you're breathing an aerosol. For those who lived in the upper Midwest this summer, you know exactly what I'm talking about. I've had people tell me I've had my face cloth covering on and I could hardly breathe outside because of the smoke was all inside my face cloth covering. So what I have said all along is we do need effective respiratory protection, masking. We

need it. So I'm not anti-masking. Let me be really clear about that. But we need masking as effective. And that is what gets us back to the N95 masks or respirators and the fact that that's what you really need, I've shared with you already before work has been done showing the face cloth coverings and surgical masks give you some additional benefit over time, but very limited, five to 20 minutes of additional protection in a room where the virus is floating around as opposed to an N95 that gives you hours. So first of all, very clear, somebody will take this podcast message, they'll take one sentence out of it and they'll characterize me as anti-masking. And that's not true. I strongly support it. Number two, I strongly support effective masking. And I think this is where the CDC has let us down a lot. The data that they put about cloth face coverings and the double masking that you have on their website. If you look, you can still see major leakage that occurs with that, with aerosols. And yet that's what people see. So who am I to go against the CDC? Well, there's a lot of people in the aerobiology world. I was one of the cosigners of a letter to CDC months ago urging that they update all their guidance and recommendations. Ask any of the aerobiologists or industrial hygienists I work with if they would feel confident going into a crowded room right now, particularly with Delta and wearing only a face cloth covering, they'd tell you absolutely not. So think of a face cloth covering like a common seatbelt, just a seatbelt, old car seat belt. It's better than nothing, but wouldn't you rather have that new cross chest seatbelt harness? Wouldn't you rather have a collapsible body that upon impact basically absorbs a great deal of the energy? Wouldn't you rather have airbags in your car so that should that collision occur, even a side collision, those bags go up, wouldn't you rather have a computer system on board that seeing a coming car to you or you coming to a car automatically breaks the car? That's what I'd want. That's what I want my kids in. But if all they have is a seat belt, where it. And so I think what we've done is a misservice to people, and if you look at these studies that have come out, so many of them are ecological studies are basically because A, then B, so then C must be true. I mean, there was one just published on August 10th in The New York Times as an op ed piece and it's dangerous it's from authors at duke. And and basically this title is we've studied one million students, this is what we learned about masking and they actually state in here, "Masking, then, is one of the best, most readily available methods to protect them from disease, with universal masking being one of the most effective and efficient strategies preventing sars-cov-2 transmission." The study they laid out in here, if this were one of my graduate students, I'd flunk them. I'd flunk them. Now, you know, I don't get personal, but we've got to address this because I read a title that said we studied one

million students and I could go into a long discourse on this. Our entire group at CIDRAP has looked at this and come to the conclusion, how did this get published, particularly as an opinion piece totally going around scientific review. And what really concerned me, they conclude this by saying, "in schools that choose to open without mask mandates with limited vaccine uptakes increased covid is likely until all children get vaccinated masks remain a well researched solution for lowering the risk of getting covid. Children should be in school and we should embrace the measures and keep them safe." If I'm a parent reading this, I come away saying that face cloth covering is really protecting my child. And I'm telling you, as a grandfather of those five kids, we don't have great options for kids, for respiratory protection KN95 masks or respirators from China basically have been fitted to a smaller face with ear loop kinds of attachment. And they're better than anything else we have, unless, of course, you're an older child and you can wear an N95 mask. I'll call them masks so that people don't get confused. And that's what we ought to be promoting. That's what we ought to be promoting right now. And you know, a year ago we were very concerned about people using N95s because of the fact that they were in such short supply and we need them for health care workers. Well this year, even with the fires and all the people using them for fire work or living in smoky communities, even with the current surge of cases of covid where increased N95 protection is needed, there are still ample supplies for the public. We've confirmed that. Why are we not talking about that? So to me, I want to use adequate protection. And I think this discourse about basically, you know, it's too politically hot to disagree. I mean, nothing concerns me more. And I just had this happen where one of my colleagues on a phone call with me was lamenting about how bad these face cloth covering recommendations are and what we need to do to improve upon them. And then three days later, I saw them on a national TV show when asked the question, said, yeah, well, you should wear the face cloth coverings as the CDC says. Even though I know that that person had said to me how troubled they were and please, this does not give any political official license to say I am against face coverings. If that's all you have, use it. It is the single seat belt. But if you can get access to an automobile that has all the safety features, use that. And that's what we're not doing. Let me just add one little piece to this. If we get an idea of how infectious this virus is, we have said for some time outdoor air is much safer than indoor air. And that's true. It just the whole concept of Mother Nature's ventilation and basically how the virus dissipates and in the air and air movement. But we've seen a very disturbing trend in the last month. Again, I'll use my colleagues, the Minnesota Department of Health, who I have

nothing but the greatest respect for. Over the course of the pandemic from its beginning through the end of June, they had investigated four different events, outdoor events, festivals, music concerts, etc., where people were close together outdoors and they've had outbreaks four of them. Since July 1, they've investigated nine. Or for all the months until June 30th, nine in the last month, and it's because Delta is that much more infectious. Look at what happened with the Milwaukee Bucks Post NBA championship public gathering and how many hundreds of cases have occurred with that. We are sure going to see a number of cases spin out of the surge, as you got. I'm watching here in Minnesota what's going to happen in the next month when two million people come to the Minnesota State Fair and crowd together in ways that hard to otherwise create that intentionally? So I think that we're really at a point right now where we do need good respiratory protection, including outdoors. And I think that the discussion on this has to be much more nuanced. Yes there are all these studies that say this works. But I can tell you, if you go through them systematically, you'll see there are major problems with these studies, including a study from CDC. This is a finding, not from me. This is a finding from some of the very best aerobiologists and industrial hygienists in the world. So let's get on with it. It's aerosols. Let's get on with what is the best protection we can find? And know that in some cases we won't have adequate protection for our kids. I mean, it pains me more than I can tell you. Use what we have, use a face cloth covering. But stop thinking that one face cloth covering on a child will absolutely prevent infection transmission. It's not a vaccine. So I hope this clarifies this. I know I will get all kinds of feedback. I will probably, again, be the point of some public event somewhere saying that I support no masking, which is simply not true. I just want to get the most effective protection we can. And we in public health have dropped the ball badly on this one. And and we've confused the hell out of the public.

Chris Dall: [01:03:20] As I noted in the introduction, kids in many southern states are now back in school and kids in other parts of the country will be headed back in the next few weeks. Also, kids under the age of 12 are not yet eligible to be vaccinated. So many listeners are concerned about their children under 12. Previous versions of the coronavirus did not have as much of an impact on kids. Is delta different?

Michael Osterholm: [01:03:43] Let me give you some historical context for this. This is a very, very critical issue. And as I speak these words, I have this mental image in my mind and sitting here in my desk, a picture of my five grandchildren. So everything I'm

talking about here is very personal with me, very personal. As a reminder, the initial sars-cov-2 virus circulated in the US wasn't nearly as infectious as alpha, and then, let alone now, Delta, although many kids did become infected with that wild type virus in the earliest days of the pandemic up through alpha arriving here early this year, they didn't seem to readily transmit the disease to their contacts as effectively as adults did. That was especially true for younger children, those zero to 12. Based on this data, we supported the idea of kids, particularly those who are younger, returning to the classroom settings for in-person learning. Assuming mitigation measures were in place and community transmission was reasonably low. That was the basis. However, the arrival of Alpha, as we called it then B117, changed the game. Alpha was at least 50 percent more infectious than previously circulating viruses and kids did appear more capable of becoming infected and transmitting the virus itself. This was supported by data from the UK showing higher secondary attack rates across all age groups and further confirmed by major outbreaks in schools and related activities in both Minnesota and Michigan. But now Delta is here and it is 50 percent more infectious than Alpha, and it is changing the game yet again. It's evidence that kids are being impacted by the current surge. Across the country, pediatric cases of covid-19 are skyrocketing alongside cases among unimmunized adults. Child hospitalizations have now reached an all time pandemic high. In the last week of July, nearly 72,000 new coronavirus cases reporting kids, almost a fifth of all the total known infections in the US and a rough doubling of the previous week's stats. It's the biggest jump in the pandemic so far among children. Last week, the same statistics now climb to 94,000 new cases. The CDC is reporting that an average of 225 children between the ages of zero and 17 are admitted to the hospital each day. This is the highest seven day average reported up to this point in the pandemic. There are numerous stories of children's hospitals in covid hot spots like Arkansas, Florida and Louisiana reporting record high admissions. Now factor in the return to classrooms, that situation will get even worse. For example, a USA Today article from Tuesday reported that most counties in Florida are reporting four times higher cases than they were at this time last year. But kids now return to the classroom. At this time, there is no clear and compelling evidence that Delta is causing more severe disease in kids. Yes, there is severe disease and deaths occurring, but it's a function of just that many more people who are infected. What we are seeing is clearly increased transmissibility of Delta. And if you think about it, there are 48 million children under the age of 12 in the US who aren't yet eligible for vaccines. This is a very, very large group of people lacking protection. The only silver lining to this topic is that kids

are at a lower risk for severe disease and death compared to older age groups. However, as I just said, absolute numbers will inevitably rise if the virus keeps circulating widely in the population, which I'm sure it's going to do. So let me just summarize where we're at with kids. It's going to be a problem. It's going to be a real problem. Schools are going to be part of the problem. We will see transmission there. There's so much more we could have done and haven't. We know that many schools have not yet been able to consider and reconfigure their ventilation systems to minimize the potential for transmission of viruses like covid-19. We also know that we could go a lot further in getting kids protected with vaccines. Remember, kids 13 to 17 years of age are approved for vaccination, and yet only about forty one percent of those kids have received even a single dose of vaccine. So we have real challenges here in terms of protecting these kids. If, in fact, we're not able to get the older kids vaccinated and we are limited in our ways to actually provide respiratory protection for our younger kids. I wish I had better news on the issue with kids. This is a real challenge. What do we do in terms of their risk and preventing them from becoming infected? How do we interact as adults with these kids? Again, I come back to the more people vaccinated around them, the more you can bubble them and protect them. I think schools are going to be severely interrupted by quarantines. I know already schools that do not want kids to get tested because they don't want to find positives, because they don't want to deal with the quarantines, assuming that this is going to be a mild disease in the kids. And I've already heard of two examples with football team players who they've made a pact that unless they're severely ill, they will not report any symptoms because they don't want to take the whole football team down in quarantine. That's a high school event, but it's one that gives you a sense of where we're at with people's mindset. So I at this point will just say that, you know, I think we're going to have to be prepared for distance learning. I know people don't want to hear that. I don't want to have it happen. I'm not for it. But I think you're going to see so many people in quarantine over the next month, let alone becoming infected and ill, that we are going to have a very disrupted school situation. And if people want to get bogged down into mask mandate debates, it's unfortunate. You know, we need to protect our kids the best we can. Face cloth coverings will provide very limited but some protection. But we could provide much better protection to our kids if we prioritize getting N95s to those that can use them, KN95s to those that are younger, that are needing a smaller face-fitted protection. And we're not doing that. We're debating whether or not we should have a mask mandate and not about what kind of protection really works best in our kids.

Chris Dall: [01:10:19] Well, so that brings us to mandates. A lot of our listeners have questions about vaccine mandates and mask mandates, and it's become a huge political issue, as you've noted. So what is your position, Mike, on vaccine and mask mandates?

Michael Osterholm: [01:10:35] Well, let me just start out at the very beginning here and say, ironically, the vaccines and testing have been very contentious issues and I've received a lot of mail over the course of the past 18 months about that. But nothing, nothing compared to the mandate issue. And it's been tough. It's been very tough. And I'll explain why. Let me first take the issue about the mandate on vaccination. I have long supported the need, particularly with children, for mandate. I helped write and very much supported through testimony a 1989 law in Minnesota when I was state epidemiologist here to put in place a higher ed mandate for routine vaccinations like mumps, measles, rubella, etc for kids. And in passing that, we actually had to add a provision for exclusion called philosophical differences. So it was medical exclusions, if you somehow couldn't medically take a vaccine, whether you had a religious exemption or this philosophical exemption, and it was the reality of what it took to get passed. Well, now is we're considering a mandate at the University of Minnesota, amongst other institutions, of higher learning. As a public institution, you could say we should be covered by the state law 135A and in fact, we're not because the State Health Department never went through the process to basically get it to be part of 135A, which means they had to go to the legislature, etc. So we don't really have that. But initially the university was going to apply the same criteria and I oppose that because I didn't want to see a philosophical exemption. You could drive three semis for that and not scratch the paint. We can see a lot of people get through that exemption. And I felt like that was counterproductive and more importantly, wouldn't be just a vaccine hostile people. It would be the vaccine hesitant that hadn't gotten there yet. The pregnant women, the members of the of the BIPAC community, etc., where we were seeing challenges to them getting vaccinated. Not that they were against it. They just had many questions. So in light of that, I said, you know, until we can deal with that, I'm not supportive of it. Well, many of my colleagues, it's amazing how many of them took that to mean I was against a mandate. But I was totally surprised by the number of colleagues and professors who came forward who basically suggested now I was going to be the person responsible for not having a hundred percent of their students vaccinated in their

class. They had no concept that with religious and and philosophical and medical exemptions, if they put that mandate in place, they'd have potentially all kinds of and they would never know. And that was the very thing I was against. And the university, to their credit, came to the conclusion that they did not need to add the philosophical exemption in the change in the mandate and went forward with one where that's not there. And I am one hundred and ten percent supportive. That's all I was trying to get to, is a real mandate that really had an impact and didn't give people so many off ramps that they never had to stay on the highway of vaccines. And yet I watch those kinds of divisive debate discussion go on and on and on, so I have been and will be for mandates. I know that's very unpopular with some, but this is about protecting the community. This is not just you. You know, we don't tell you not to drink and drive or be drunk and drive, so it's just protecting you. It's also to protect the other person on the road. And this, to me, is very much in keeping with community and protecting everyone else, and because of the safety of these vaccines and because of the impact that these vaccines can have, I'm so very, very supportive of these. But at the same time, there will be a lot of places putting in place mandates by name. But when you go look at them, they have no teeth. And if they have no teeth, what are they accomplishing except to make people feel good? Again, I'm coming back to that point. I want to make a difference. I don't care about feeling good. And that's been really hard for people to understand. So I've seen major medical centers who have said, oh, we're going to put in place a mandate. And they've been heralded for doing that. But when you look at it, there are so many exemptions or outs in it that in the end, if somebody doesn't want to get vaccinated, they're not gonna and they don't have to and they won't be punished for it or they won't be impacted in any way. So I think from that standpoint, with the vaccine mandates, go for it, I think the private sector is going to be very important in this. And I wish we had more in the way of passports, as we discussed last week, so that we can track this issue. I know I'll get a ton of mail and people will be really upset with me for this position. I don't really care, frankly, and I don't mean to sound insensitive. This is about our friends, our families, our kids, our colleagues. We have got to protect them. In terms of the mask mandate, you know I, I think this is again another challenging issue with the discussion I just had. I wish every child in school could wear an N95 or a KN95 and be protected to the extent that we possibly can. I know the limitations of all of that, and if we can't do that, I'm for whatever protection we can get. I just don't want people to count on it as being the same as a vaccine. I just think that would be really, really unfortunate. So go for mandates. I think that they are a part of what the public health

response has to be right now. And and it's not taking away your personal liberty. It's basically putting the community's best interest above your best interest. And I will always opt for that.

Chris Dall: [01:16:41] So now to our covid query segment, this is where we try to answer questions about the decisions that you as listeners are trying to make, the situations you're trying to navigate, and the risks you are assessing on a daily basis in this post vaccination covid world. And since you dedicated this episode to all the grandparents out there, Mike, we have this question from Sally. She writes, "This summer, we were very happy to return to somewhat normal lives, and we saw our young grandchildren who are ages four and seven and unvaccinated. They've been with other kids in daycare all summer. Now we feel that we're pushing our luck if we plan to see them in person in the coming weeks. We are both in our 70s and have some health issues. So, no more hugging grandchildren?"

Michael Osterholm: [01:17:23] This is a tough one. Oh, is this a tough one. I, I struggle with it myself. I would say as long as the surge is going on right now, whatever you can do to avoid contact with them, which isn't covered by both vaccine and you being fully protected with as much as possible, at least an N95, then I'd say go for it. And I'm struggling with that because I myself, when case numbers were way down, transmission was much more limited, I felt that comfort of being around them and not experiencing that same kind of need. So my answer is right now you are representative of what is being experienced by millions and millions of people. And I wish I had a better answer to say although I think it's OK. Remember, you're trying to do one of two things. One is prevent you from transmitting the virus to them when you don't know that you're actually transmitting it or they may be infected and potentially transmit it to you, where hopefully, again, if the very worst would happen is a mild breakthrough cases and hopefully the worst would happen is for the most kids to have a mild infection, but we can't guarantee either one. So that's where I come in with the N95, go back to that, hug them, you know, be by them, enjoy them. I know that it'll seem odd, it'll seem awkward and frustrating, but I think that's what I would do right now until, at least till this surge is over and we really are beyond the increased risk we're seeing in our communities. Any one of us could get infected from someone that we don't realize we're being infected by and then in turn potentially transmit to one of them. I personally, and this is my personal opinion, it's not a scientific fact. But if I was the reason why one of my grandchildren got infected

and they had a serious illness, I don't know how I could live with myself. That would be so hard, given what I know. So I'm opting for better protection and going that way. But don't give up on your grandkids. That's what's going to get you through this in the end.

Chris Dall: [01:19:32] And to our listeners, please keep those questions coming, you can email us at osterholmupdate@umn.edu. Mike, where is this week's Beautiful Place?

Michael Osterholm: [01:19:43] Well, this particular beautiful place submission comes from Angela, and Angela thank you so, so much. I appreciate it. It's from Colorado and Angela writes a long, nice message to us, but then puts in as a P.S.. She says, "I love the shift to a place of inspiration. I will note mine is our backyard. We have worked as a family over the last 18 months to transform it from a neglected plot of weeds to a thriving garden. We still have more to do, but the pandemic has given us a blessing, time together without the business of the before. We have built and planted and built and planted and sit and talk and dream and watch the thousands of bees bumbling by, a suburban Eden and a respite from the battering." Well, I just want to thank you, Angela, for the pictures you sent and for that very thoughtful, a beautiful place description. I we chose this one, particularly because what it also is all about, is taking a place in your life right now that may not be the optimal place, may not be what you would like it to be, but doing something about it to make it become that beautiful place. And I think this was the best example. The pictures really clearly point out how you've changed this. You know, so we've been given a set of circumstances right now that are far from ideal, incredibly challenging, in fact. But what can we do to make them our beautiful place? What kinds of things can we find in that turbulent world that gives us beauty? And when I look at your pictures from July of 2017, and I look at your pictures from July of 2021, I see someone who has intentionally found a beautiful place and I hope we all can do that. So, Angela, thank you so, so much for sharing that with us. It's special. Thank you.

Chris Dall: [01:21:45] Your closing thoughts today, Mike.

Michael Osterholm: [01:21:48] Well, this is another tough podcast. I've just tried to tell you the truth is I best know it. What I know and don't know, as I have shared with you on multiple occasions, I should always put a disclosure at the beginning of each podcast that I probably know less about this virus today than I did six months ago. But I think

also it's a situation today where it's not just about the virus, it's about how we as humans interact with each other. I've tried to share with you some of the more difficult discussions that are going on right now, whether it be mask, whether they be mandates, our cases and our children, how the vaccines are working or not working, who is taking them, and who's not. And I recognize that at this point I am going to upset a lot of people with those comments. They will be taken out of context, I guarantee it. And you know what? It would be wrong for me to say I don't care. I do care. I'm human. I'm like everybody else. And when I get the kinds of notes that I just mentioned to you, they hurt. But by God, most important thing I can do right now is tell the truth. Just tell the truth as I know it and think about what impact this will have on my kids and grandkids, my colleagues and my friends, my family. And I think that's why we all have to do right now. And so you know, if I appear to be challenging the norm and trying to nuance a message is not going to be easy, but I'll keep doing it. And I'm just lucky to be at a University of Minnesota which supports me in those efforts and keeps me going. So thank you for that. Today I'm coming back to close with something I've closed with twice before, and it's something that I come back to because I think it speaks to the very essence of what I was trying to do today and sharing information with you. This is the lyrics to the song "Letter to You" by Bruce Springsteen and the E Street Band. I first used these lyrics to close episode 24 on Long Haulers on September 17th, 2020. I then used it again on March 23rd in 2021, which was our live episode that evening. "Letter to You" is the 20th studio album from Bruce Springsteen. It was released in October 2020. It was Springsteen's first new studio album with the E Street Band to be released after the 2014 "High Hopes." "Letter to You" was met with widespread critical acclaim. Critics responded favorably to the album's treatment of issues of aging and mortality. The song "Letter to You," for which the album is named, I think says so much about where we're at today and what I've attempted to do, at least with this podcast. So let me share that with you again. "Letter to You" by Bruce Springsteen. "Neath the crown of mongrel trees, I pulled that bothersome thread, got down on my knees, grabbed my pen and bowed my head, tried to summon all that my heart finds true, and send it in my letter to you. Things I found out through hard times and good, I wrote em all in ink and blood, dug deep in my soul and signed my name true, and sent it in my letter to you. In my letter to you, I took all my fears and doubts. In my letter to you, all the hard things I found out. In my letter to you, all that I found true. And I sent it in my letter to you. I took all the sunshine and rain, all my happiness and all my pain, the dark evening stars and the morning sky of blue. And I sent it in my letter to you and I sent it in my letter to you.

In my letter to you, I took all my fears and doubts. In my letter to you, all the hard things that I found out. In my letter to you, all that I found true. And I sent it in my letter to you. I sent it in my letter to you." Today, I close with that, I've given you what I can. I hope it's enough. I hope that it is helpful. I know it won't be satisfying. And all I say is, thank you for sticking with us here. Thank you for listening to this podcast. Thank you for all that you share with us. It means so much to our our group at CIDRAP. And again, I come back and the dedication of the grandpa and grandmas. I hope you heard today that we will get through this and our grandkids will help us do that, but it's not going to be easy. And I tried to say that in the letter I sent to you. Be kind, be good. You know, as tough as it gets, you can't let them get you down at the same time. Smile when you can. Find that beautiful place, whether it be that weedy spot in your life that you can now make a garden. Do it. Be kind, be good. Have a good week. Thank you.

Chris Dall: [01:26:56] 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, and Angela Ulrich.