

Episode 67: You Can't Run Out the Game Clock

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 CIDRAP News, and I'm your host for these conversations. Welcome back, everyone, to another episode of the Osterholm Update podcast. Nearly two months after President Joe Biden declared that the worst of the pandemic was behind us at a Fourth of July celebration at the White House, the numbers we're seeing in the United States are hard to fathom. The seven day average of new daily COVID 19 cases is around 160,000. And for the first time since the winter surge, 100,000 Covid patients are in the hospital and more than 1,000 people are dying each day. For many of us, the primary questions right now are how much worse this latest wave can get and when will it peak? But beyond that is the effort to get more Americans vaccinated continues, U.S. health officials consider booster shots for those who were vaccinated earlier in the year, and the country wrestles with the vaccine and mask mandates. There are bigger questions. What is our goal with COVID-19 and how do we get there? On this September 2nd episode of the podcast, we're going to try to answer some of those questions as we look at the state of the pandemic here in the United States and the rest of the world. We'll also provide an update on the latest research on vaccine efficacy and waning immunity and continue last week's discussion on schools and Covid risks for students. And we'll tell you about another beautiful place submission from one of our listeners. But first, as always, we'll begin with Dr.Osterholm's opening comments and dedication.

Michael Osterholm: [00:02:02] Thank you, Chris, and welcome back, everyone, to another edition of the podcast update. As I say, each and every week, we are so appreciative to have you with us. Thank you for spending time. Hopefully we can answer some questions for you today. I'm sure we'll raise some questions for you. And just to know that we are at a time right now when we wish we had a lot more information than we do that you can effectively use every day in responding to this pandemic. If I've spent any time this past week, it's been the time trying to answer questions that I

couldn't. And so today I'll do my very best to share with you what data we do have, what data we don't have, what information we need, and how should that impact what we're doing. Before I begin, though, I just want to acknowledge last week's podcast with Dr. Jena. The response has been remarkable to her comments of what it's like to be an intensive care doctor right now in the world of Covid, what it means for the patients, what it means for their families, what it means for the medical care staff, what it means for the family members of those who are in the medical care taking care of these Covid patients. It was a remarkably honest, painful and frankly insightful description of the world we live in right now. And so that thank you again, Dr. Jena, for sharing that with us. It was a remarkable 20 minutes with you. And I will say that it was a hard 20 minutes listening to what you had to tell us, but also a very beautiful 20 minutes and understanding that there are people like you who are out there doing this work so that many of us who do become critically ill with Covid will survive. Now, in terms of where we go this week on the podcast, I, I just have to keep remembering day after day after day that all of these numbers I going to talk about today are are people's moms and dads, their grandpa and grandmas, their brothers and sisters. This past week, I've actually had, unfortunately, the experience of knowing people who have died from Covid as personal friends. And as much as this is a job that I have, where it's on one hand easy to be in that ivory tower of academia and to come up with all these wonderful reports and graphs and charts. Very quickly, all melts away into a very personal experience when those you know are impacted by this virus. And many, many of you on this podcast today are impacted by that. These are not numbers. These are real people in your lives. They are people you care about they are people you love. And so today I celebrate those in that sense, never forgetting that the numbers I talk about are a lot more than numbers. Now, in terms of today's dedication. This is one that it's a tough world we live in right now. All the people who are getting double whammied. People living in areas that are exposed to the fires, having lost, in some cases, all of your life's treasures. The firefighters who are working so hard to put out those fires. Those who live in the path of a hurricane. Having lost again many of your earthly possessions, in some cases lives. And yet those people who work in the essential areas of our everyday life in those same locations in many instances had to forego taking care of their own personal property for the purposes of responding. And is that nowhere more notable than in the health care area. There's been a challenge not just in the immediate impact areas of the hurricane, but as it makes its way up the East Coast with all the flooding and the flooding that occurred in Tennessee several weeks ago. And then we have

Afghanistan and the painful acknowledgment of the deaths that occurred in our service, men and women just before the final departure. And then on top of all of the deaths that occurred there over the course of the past 20 years, I could go on and talk about what a tough world it is right now. It's really tough. And so I dedicate this podcast in a way that I haven't really done before is the intersection of those who are dealing front and center with Covid right now, loved ones, family members, colleagues, friends who are experiencing the worst of Covid. And at the same time, you're also experiencing the worst that the world can throw at us. You have a double whammy. I can't imagine what it's like to lose your house to a fire. At the same time, one of your loved ones is dying from Covid. So this podcast is dedicated to those of you who are probably at this point searching for any any light in your life, not just a bright light, any light. This podcast is for you.

Chris Dall: [00:07:24] And Mike, just a quick note about the conversation with Dr. Jena, a lot of our listeners have asked if we could post a separate podcast of that. We actually have separated that part out, that conversation, posted it on YouTube, and there will be a link to that on the episode description page for this current episode. So now on to the update. Mike, we're obviously focused on the situation here in the U.S., but let's take a spin around the globe and start with the international situation. What are you seeing?

Michael Osterholm: [00:07:53] First of all, let me tell you the vantage point in which I'm looking at what I'm seeing. I'm reminded myself that we're now 21 months into this pandemic. Many individuals were quite convinced that it would be kind of like a one and out, you know, maybe a few months here and then it's done and we're now recognizing that this is a long haul issue. And even with the advent of amazing vaccines and their availability, the majority of the world will not know the impact of those vaccines for some time to come yet. So when I look at the international picture, I'm looking for trends. Where have we been? Where are we at? Where are we going? What does the past tell us? And what does it not provide in terms of clarity moving forward? I've said this before on this podcast, and for some of you, I'm sure this is not what you want to hear, if you want to believe anything, I have to tell you. But I have gotten much better every morning at trying to scrape off the four to five inches of mud of my crystal ball without causing damage to the crystal ball and hopefully having it clear enough so I can see something. If we look at what's going on globally, we're in what I would call the pattern. And what I mean by that pattern is we are now in a place where we can expect to see these roving

surges that occur around the world. And in no country are we there yet where we have eliminated the risk of this virus from being yet a major public health challenge. As many of you know, we've been following the latest news of global activity, which took us from about 2.5 million weekly cases in mid-June to nearly 4.6 million cases in just two months time. And now, for the first time in nine weeks, we're seeing a slight decline in global cases with around 4.4 million reported last week. The U.S. actually accounted for one out of every four global cases reported last week, which is a sad commentary on the state of the virus transmission in this country. Weekly deaths have also dropped over the past week with 67,400 reported. However, that's almost 30,000 more deaths than we were reporting at the same time last year. For more than a month, nearly 10,000 Covid deaths have been confirmed each and every day. There have now been more than 4.5 million confirmed Covid deaths worldwide, although we know that that is a major undercount of all the deaths that have actually occurred directly or indirectly due to COVID. In episode 62, which was one month ago, we noted that in the U.S., Europe and South America all had similar per capita rates of cases, around 18 cases per 100,000 population. That was for the first time in a long time we'd seen that. Well, it didn't take long for these regions to branch away from each other. And they're now continuing to head in very different directions. The U.S. has increased from that 18 to 48 cases per 100,000 population. Europe has remained steady at 18 cases 100,000, and South America has declined from 18 to eight cases per 100,000. We remain the world's hotspot relative to all the other countries. Now, I want to make it very clear that these will change. We will see more surges in other parts of the world. They will take off. They will be substantial. They will make national news, international news. And we have to expect that this is going to continue to occur for some time. That time, I believe, is when we finally have sufficient number of people vaccinated, combined with some protection afforded by the actual infection itself and then ongoing natural protection. Where are we at in terms of containment? Remember, we still have never really articulated an international goal for containing COVID-19. Should it be that we should be at zero cases in each country? Is it some number that is similar in influenza related activity and deaths? Is it one where we're just trying to keep our health care systems from breaking? If they don't, if they just bend, that's OK. We can't let them break. We've never articulated an international goal and for that matter, a national or even a statewide goal. So one of the challenges we have is then so let's just look at different models. You might say, of what's going on. And as you know, I've been talking about the tale of three countries for several weeks now. The first one is Australia and the second is China, and

the third one is New Zealand. These are all countries that have opted to contain the virus. And each of which had a new challenge with the Delta and maybe potentially even changing their approach to what they're going to do going forward with the control of this virus. In Australia, average daily cases are twice as high as they've ever been before. Despite the use of extensive lockdowns, which helped contain previous flare ups in the country, cases have continued to rise in places like Sydney and Melbourne. Last week, Australia's prime minister announced that the country would be moving away from a zero Covid strategy. Let me repeat that they're moving away from a zero Covid strategy, which they had quite successfully carried out for these 20 months. The prime minister has now called it unsustainable. Instead, Australia will now focus on maintaining health care systems and vaccinating its population. Up to this point, Australia has fully vaccinated just over one quarter of its entire population, including one third of the individuals age 16 and older. The country, which is home to 25 million people, recently surpassed 1,000 total Covid deaths. For comparison, Florida, which also has a population of 21.5 million people, has now confirmed nearly 45,000 deaths. So you can see even where Australia is, that they've had a substantially lower impact on the population's health with their approach. But it is notable that they are now looking at the fact that they can't fully contain at a zero level. If we look at China, this is the one country that may be able to continue to approach that zero tolerance for cases. Last week, we mentioned that China had reported no local cases for the first time in a month after their delta flare up, which they did control by a strict lockdowns, mass testing, and tracing. As of Tuesday, they are still reporting no local transmission in the country. I believe they are one of the few of many countries in the world that can continue to do this, but they do it at a tremendous price to society. Finally, New Zealand has been hoping to contain its own Delta outbreak with the national lockdown. Although they're experiencing their highest activity since last April. Cases have been declining in the past couple of days, and the prime minister is hopeful that the trend will continue. While New Zealand has successfully contained Covid for most of the pandemic, their vaccine rollout has been delayed with less than one quarter of the population fully vaccinated. The challenge, I believe, for New Zealand as a democracy, even though it's an island, will be will they be able to maintain that zero case approach or will they be like Australia, where eventually they will come to the point of saying it's only a matter of control? Let's do an overview of the regions of the world and what's happening. In terms of Asia and the Middle East, we're still seeing quite a bit of activity in that region with an average of 250,000 cases and 4,000 deaths being reported on a daily basis. Last week, we

reported that 11 countries were at or near peak highs for cases. This has declined now to eight countries. One of the countries that is no longer on that list is Iran, which is still seeing a tremendous amount of activity, but appears to be past the peak of its fifth surge. Declines in Indonesia are also continuing with daily deaths now two to three times lower than they were just a month ago. Meanwhile, we're seeing cases take off in places like Malaysia, the Philippines, Vietnam and Sri Lanka. Even in India, there is now an uptick reported over the past week. India is one of the countries I'll note in a moment when we talk about what do Delta surges potentially look like for a country. In Africa, cases and deaths have once again declined over the past week, although they still remain at or near peak levels recorded during the region's second wave in January. A handful of countries, including Ethiopia and Togo, are in the midst of major surges. Otherwise, activity in South Africa remains well above its baseline prior to the country's Delta surge. I will come back and talk about South Africa, because, like India, they, too, offer us some guidance on to how adult the surge may look after four or five months. Tunisia is another country that experienced a sharp rise and fall in activity attributed to the Delta variant and once again is also reporting an uptick. Although overall deaths in the region declined slightly this past week the WHO reported that eight African countries saw their weekly deaths grow by at least 50 percent. The continent has seen vaccine shipments increase in August, but their current supply remains well below the levels needed to vaccinate their population. With just 2.5% of Africans fully vaccinated, the majority of the people living there remain highly vulnerable. If we look at countries with higher vaccination rates time and time again in this podcast, we've emphasized how critically important vaccines are as a tool against this virus. They've undoubtedly prevented so much more serious illness and deaths from occurring already and will continue to do so as we move forward. However, now we're just beginning to understand what moving forward actually looks like, particularly in this delta phase of the pandemic. I will say this many times over the course of this podcast and future podcasts, there are two worlds with Delta. There was the pre-Delta and there was the Delta. And I don't know what's going to come after Delta, but Delta by itself is bad enough. This past week, it was announced that Denmark had fully vaccinated 80 percent of its population, age 12 and older, due in part to that accomplishment and recently stable cases, the country's health minister said that Covid is no longer being considered as socially critical disease in the country, a designation that allowed the mitigation measures to be taken at the national level. Meanwhile, Singapore has now fully vaccinated 80 percent of its entire population, prompting officials to loosen

restrictions in a cautious and progressive manner, according to the prime minister, in an attempt to move towards some semblance of normalcy. Remember, for both of these countries, 20 percent of their populations are still not vaccinated. And I'll come back to this in a moment in terms of what they may have prematurely declared and where they may go in the future. We know that the Delta virus takes full advantage of any gaps in protection, as has been made evident in places with plenty of access to vaccines. As you know, we've been covering a few of these places, including the U.S., Israel and the U.K. over the last couple of months. Interestingly enough, all three of these countries are listed among the world's top countries with the highest per capita cases. Israel is ranked number two with 98 cases per 100,000 population. The U.K. is ranked number six with 50 cases per 100,000 population. And finally, the U.S. is ranked number seven with 48 cases per 100,000. Let me take a closer look at Israel and the United Kingdom, because I think that this provides somewhat of a roadmap for what we might expect in our own country in the weeks and months ahead. If we look at Israel, the average daily cases there are around 8,800 have reached a new all time high. The previous peak was in mid-January with 8,400. As of Tuesday, there are 1,122 individuals hospitalized for Covid. That's up slightly from last week when there were 1,117 admitted. A total of 719 patients were considered seriously ill. Up again from 690 last week. Finally, the country is reporting an average of 27 deaths a day. Most of the world has been following what's been happening in Israel, as they've been the first country to broadly administered third doses to their population. All the while fighting this Delta surge. The third dose initiative started in mid-July. Now, over 2.2 million individuals have received that third dose. With most of their population, age 50 and older, having received their third dose, Israel announced that the eligibility has been expanded to people 12 and older and who have gone at least six months since receiving their second dose. Recent studies out of the country have offered support for a third dose with one study finding that the risk of infection was reduced 11 fold and the risk of severe disease was reduced tenfold among individuals age 60 and older who received the third dose versus those that had. I just want to remind people just now, we have a country with very high level of vaccination, including third doses. And yet you see that we just have had an all time high number of cases reported this week. This virus will find even few of you who are somehow thinking you can run out the game clock either not been vaccinated or not previously having had infection. So I just can't emphasize enough, if you think that somehow we are close to having the cases over in this country, we're not. We are not close to Israel in the sense of number of people vaccinated in this country. So we can

expect to see more. We look at the United Kingdom in last week's episode reported the UK was averaging around 33,500 cases a day. That was down from their peak surge number of 47,000 cases a day, some eight to 10 weeks ago. Now, that has grown slightly over the past week, currently sitting at 33,800 cases, hospitalizations have also crept up with just over 7,000 currently admitted, and they continue to report around 100 deaths a day. Now, this is an important point to note here, another highly vaccinated country, more vaccinated than the United States. And after going from one to two thousand cases a day, reported prior to the Delta surge, hitting 47,000 cases a day at the height of the surge, instead of coming back to that one to two thousand baseline, they're still sitting here at this 33,800 baseline. What will happen in the United States? Will our Delta surge go back down to those pre Fourth of July levels or will in fact, are we likely to experience what they are seeing in the U.K. and Israel? This pattern has also played out, as I noted earlier, in South Africa and India, where we're seeing delta surges followed by rapid decrease in cases, but never getting close to baseline again. And I don't know what this means, but it doesn't necessarily look good for what we might expect into the fall and early winter. Let's take a look at Canada, our sister country, to the north. Their cases and hospitalizations have grown throughout most of August, as Delta has become the dominant virus there. With two thirds of Canada's entire population now fully vaccinated compared to our population of just one half of the United States, we can expect activity particularly as relates to deaths to be blunted. But however, we can still expect to see potential surges, as are being seen in Israel, the U.K. and, of course, in the United States. In short, the global picture provides us with two observations I think that cannot be denied. One is Covid is not done with the world yet. This virus has the fuel, humans who are not yet protected against this virus, and it has the way to find those humans. And as such, we can expect to see ongoing pandemic activity. We also can say, though, that where we are able to use our vaccines effectively in a population based approach, we can have a tremendous impact on serious illness and hospitalizations and even the overall number of cases. So at this point, it's us. The vaccines up against this virus and what it continues to do.

Chris Dall: [00:24:53] Here in the U.S., the numbers just keep going up, although it does appear perhaps that the increase in new cases is slowing. But hospitals throughout the south and in a few other hotspots around the country are near their breaking points and deaths continue to climb. Mike, are we anywhere near that peak or are we close to seeing the back end of this current wave?

Michael Osterholm: [00:25:17] My crystal ball is not sufficiently clear today to tell you that. But let me give you some data that may help at least give you a sense of what we might be looking at. First of all, let's just take a look at vaccinations, because that obviously is a very important part of determining where we're going. Around six in 10 Americans who are eligible to get the vaccine are now fully vaccinated. We're administering about 900,000 doses a day, up from just over 500,000 in mid-July. I'm concerned about how reliable this 900,000 doses a day actually is relative to those getting first or second doses because of the fact we have many anecdotal reports of people desiring a third dose, actually presenting to pharmacies in particular suggesting they hadn't previously been vaccinated and getting vaccinated because there is not some cross-check with records. And so how many of these 900,000 doses a day mean that these are new vaccines versus those getting additional doses is still open for interpretation. My sense is that we are not doing nearly as well as we'd like to be doing and getting new people vaccinated. So based on this, let me just conclude that we still have a sizable portion of our population who haven't been vaccinated or previously infected. And Delta is capitalizing on that. And it will. The estimates, while somewhat variable, still suggest that about 80 million people in this country who could be vaccinated covered under the current recommendations have not been vaccinated. Let me make it very clear that this population represents more than enough human wood for this coronavirus forest fire to keep burning for a long time. And in some cases, major, major outbreaks will occur. As a country right now, we're reporting an average of more than 160,000 cases a day, that's nearly four times higher than the daily case average on this date last year. August 31st, last year, 2020 we were at 41,600 cases. And even back then, that seemed like a lot of cases. Testing is going up with nearly 1.4 million being conducted each day now. However, we're still well below the levels reported during most of the winter. We're also hearing many anecdotal reports of at home antigen tests being used more regularly and with concerns that positive test results are not being passed along to doctors or health departments. How much of the underreporting of cases right now can be accounted by this situation is not clear. But I think it's real. I think it's very important that we learn more about this and try to understand how that may result in a really substantial underestimate of how many people are infected. Close to 101,000 Americans are currently admitted to the hospital for COVID. Let me repeat that. Close to 101,000 Americans are currently admitted to the hospital for Covid. Of those admitted, more than 26,000 are in the intensive care

units of those hospitals. In the past week, we're seeing some signs that the growth rate for hospitalizations is slowing down, although we're far from out of the woods. I'll come back to this in a moment. Let me emphasize, we're slowing down, not stopping new admissions. An average of 1,350 Americans are dying from Covid each day. That's up from 1,100 just a week ago. As a country, we've confirmed more deaths in the past week, 9,400, than we did in the entire month of July, 8,500. Again, in the past week, 9,400 people have died from COVID. In all of the month of July we had 8,500. In last week's interview with Dr. Jena, and we were all provided with a glimpse of what's happening in our health care system, which continues to be pushed to the brink. I've talked to several health care administrators or medical directors in health care systems, particularly throughout the south, who made it very clear we are no longer bending. We are breaking. Many people never wanted to believe that could happen. But if you're someone trying to seek health care, even for something other than Covid, in many of these locations, the challenges are immense. On Tuesday of this week, CNN reported that five states Alabama, Arkansas, Florida, Georgia and Texas have less than 10% of all their ICU beds in the state available for new patients. In a tragic note in several reports in the media, we learned that a 46 year old U.S. Army veteran died of a very treatable condition, a gallstone, in Texas because there wasn't a bed open in a hospital equipped to treat him. He waited almost seven hours in an E.R. bed. His doctors called around looking for a place that he could be treated. By the time a bed opened up, it was too late. He died. This kind of scenario is playing out much more frequently in many locations, particularly in the south, and will continue to play out for some time. In addition, morgue trailers are now arriving in Alabama and Florida. And if there is any good news is the fact that there appears to be declining cases and hospitalizations in multiple hard hit states. The past two weeks have brought about declines in places like Arkansas, Florida, Louisiana, Mississippi and Missouri. Now, that's the great news. Those were the early on fire states. But if you add up their population as part of the United States, it's about 12.5% of all residents. That means that basically 87.5% of the U.S. population is still in states where we are seeing in some cases, major increases in cases. For example, if we look at some areas, such as the southeast, where we're seeing major trending upwards in a number of cases, this includes Georgia, South Carolina, North Carolina, Kentucky, Tennessee, West Virginia, southern Illinois and southern Indiana. Well how those states go over the course of the next two to three weeks will be very important just of how does the overall shape of the surge go. We're also seeing increases in the West, particularly in Washington, Oregon, Idaho and

Montana and in the Midwest, including our state here of Minnesota and North and South Dakota, Wisconsin, Michigan and Iowa. Question is again, what will happen there? So when I'm asked where will the surge go over the course of the next few weeks, it will largely depend on these other areas in the country. Will we see them taking off at all like we saw in those southern Sunbelt states that I just mentioned earlier? Or will they hit a moderately high level and then begin to decrease? We just don't know. And as we talk more in a moment about kids in school, I think that has the potential to really reignite transmission in communities where it may already have hit a peak and starting to come down, or it'll surely fuel the increase in cases in those areas, beginning to see increases. So we'll see what happens in these communities with school openings. And then, of course, remember, not far off, the holidays are approaching. And the question will be what might that contribute to the overall number of cases? I just remind everyone, with only six in 10 Americans who are eligible to get vaccinated are fully vaccinated, we still have a lot of human wood for this coronavirus forest fire to burn.

Chris Dall: [00:33:05] Over the past few weeks, we've been talking a lot about the research on vaccine efficacy, waning immunity, breakthrough cases and booster shots and new studies seem to be coming out every day and frankly, they're hard to keep up with. Mike, are you getting a clearer picture on what the data are telling us about how well the vaccines are holding up against Delta?

Michael Osterholm: [00:33:28] Well, Chris, this is an area that, frankly, is going to leave everyone unsatisfied with the information. We are getting information right now about vaccines, how they're performing from many different sources every day. In many instances, it's very difficult to reconcile the data. What does this mean? What does that mean? Let me give you a case in point. Just in the last two weeks, we've had major conflicting results coming forward in studies about does once you've had COVID 19, do you have better immunity as a result of that than vaccination? Or, in fact, is vaccination still a very vital part of protecting you after you had natural infection? And of course, the original understanding was that, in fact, natural infection did not provide an adequate immune response long term in that vaccination following infection was going to be important. Then recent data suggest no, no, no, no, over time actually, the long term protection from infection actually beats out protection from vaccine. And we're going back and forth. So what I hope people hear here is, yes, confusion, but not misinformation. That's a big difference. This is part of that corrected science piece I

talked about is the fact that we're learning more every day. And as we get further out from those very first doses, we're learning about what does the vaccine do it seven or eight months or nine months, which we couldn't have determined in those first three months. And so I hope everyone understands in the world of corrected science, we will get it right. We will learn more. We will come together. There will be consensus eventually. The science methodology helps us approach this uncertainty with continued learning, with continued new data, and the ability to then say, aha, this is what we now know. And so I hope people aren't surprised by this and that they somehow feel like they are not getting the straight scoop or that they somehow have been misled. Not true. Stay tuned on that issue. In terms of the waning immunity issue, I think that the data from Israel are very compelling, that I believe support, that there is an important aspect of waning immunity that we have to take into account. Now, I don't want us to ever think for a moment we should take data from one country and assume that those studies by themselves should define what the rest of the world does. But at the same time, they are important pieces of information. So we'll learn more, we will better understand that. As I talked about in last week's podcast, I think a very important part of this whole discussion is remembering that when we put these vaccines out, there were two buckets of consideration: safety and how to make them work the best. The safety bucket has is clear and compelling. These are safe vaccines. These are remarkable vaccines. So no one should for a moment use any information about safety as a reason not to get vaccinated. On the other hand, how to make the vaccines work the best, meaning what are the dosages? What when should they be spaced out in terms when you get your immunization? Those are things we're still working on. Remember, we came out of the chute with a first dose and then a second dose three and four weeks later. And that was really, in a sense, hurried up to see if we could get protection quickly because we needed to get vaccines out in the middle of a crisis. We have saved many, many, many, many lives because those vaccines were available sooner than later. But we may find out the dose spacing we need is going to be different than one dose than two doses at three or four weeks. And then, will we need a third dose? Today, we've had this ongoing debate about are we denying low and middle income countries vaccine because we're now talking about a third dose for high income countries. And I think ultimately it's going to come down to the fact that the data will support that this vaccine was always meant to be a three dose vaccine and that we needed that initial hit and then that subsequent long term boost. And we'll see. I'm wide open on it. I think that the science has to drive this. But again, you know, if we look at the Israeli data, where they

were starting to see an increasing number of people having serious outcomes who had two doses once they got seven to eight months out, we can't deny that. And so I still look at this as is this a three dose prime series or is this a two dose with one booster? We will have a much clearer understanding of this in the days ahead. So just stay tuned. This is not something, again, of misinformation or being misled. This is learning about how to best use these vaccines.

Chris Dall: [00:38:50] Let's turn now to schools. We discussed your concerns about the school year on last week's episode of the podcast, and we received a lot of feedback from listeners, including a Covid query that you're going to share. We're also getting more reports of school outbreaks, including a CDC report published last week on a Covid outbreak at an elementary school in California that highlights some of the concerns you've raised. Mike, there's a lot to cover here with schools. So where do you want to start?

Michael Osterholm: [00:39:19] So before I get into really the discussion of the public policy issues here, let me just provide a little bit more data on where we're at and how this whole risk picture for kids and schools needs to be considered. In data compiled by the American Academy of Pediatrics and the Children's Hospital Association shows that cases among children is approaching an all time high with 204,000 cases reported the week of August 19th to 26th. Just five weeks earlier, during that week ending on July 22nd, the country reported less than 40,000 cases. Although kids remain at a lower risk for death compared to adults, they're still at risk. And this is clearly a challenge that we have right now. If we look at understanding the surge in pediatric cases, we're seeing more and more children being hospitalized for Covid. According to the CDC, an average of 338 children aged zero to 17 are being hospitalized each day, the highest it's been throughout the entirety of the pandemic. If we look at the issue of where we're at with cumulative deaths, which has often been done with Covid, we will say, well, if you look at through July 22nd, there have been 349 cumulative deaths since the entered of the pandemic. Let me repeat that 349 cumulative deaths up through July 22nd. Now, that seems like a very low number when you understand that that surely fits within what we'd expect to see for influenza deaths in this country. So one can say, well, this isn't really much different. The problem is we're now seeing the Delta surge. Those numbers largely reflected the pre-Delta activity. In the last two weeks, we've had 47 deaths in this country and kids. That compares to 349 cumulative deaths from January 2020 through

the end of July of this year. So you can see what is going to unfold over the course of the next six, 10, 12 weeks could fundamentally rewrite the Covid morbidity and mortality data. And I don't know, none of us do. But what trends we're seeing right now are not good. So we have to understand that what we are looking at Covid prior to Delta could say, you know, this is not that dissimilar from influenza and in fact, it may be the same. What do we do for influenza do we shut schools down? Do we go to totally distanced learning? And my answer is no, we don't. And I'm the first to acknowledge that the data that were available in the first 10 to 12 months of the pandemic supported a very different approach to our schools and the safety of our children. Delta is changing that, and to deny that right now denies the understanding of what we must do to more safely protect our kids. If we look at what's been happening in terms of information, I just give examples. Last week there was a morbidity and mortality report from the CDC about an outbreak in Marin County, California. First of all, my hat is off to the investigation team from the California Department of Public Health and the CDC for conducting this investigation. This occurred in May and June of this past year and did involve Delta. The bottom line message was, is that in a school that had number one most everyone vaccinated in terms of staff and and teachers. Number two is that people were masked, no quality of mask defined. Number three, the environmental controls in the school room are about as good as you can get. Windows were open on both sides. And a question, how many of you have children in school rooms where there's windows on either side of the room that would allow for cross ventilation when the windows were open and they were open all the time? This room actually also had a HEPA filter in it for filtering out the air. Students were spaced six feet apart. And the only thing they could come up with was they had an infected teacher who was in the classroom for two days and took a facemask off when that teacher actually would read to the students. Well, if you look, the transmission occurred throughout the room far, far beyond six feet. Now, of course, I also acknowledge that it's very hard to define a teacher not being a part of the room, walking around, etc. But the point of it was they had a major outbreak. 12 of 22 students were infected in addition there spread inside the school. Now, some of that may have occurred outside the school, but the bottom line is this was about as good as you're going to get. The media reported this story largely as if the teacher had not taken off their facemask, transmission wouldn't have occurred. And again, unless this was an N95 respirator, we know how much face cloth coverings and surgical masks leak. So you can't assume that that was just the answer. But the point of it is this is what happens in an age of Delta. This was in many, many ways a best case example, except

for the teacher who took their mask off to read, the one factor that was important here was this was teacher was not vaccinated. Again, we need to have all teachers, staff and family members that can be vaccinated, vaccinated to try to minimize transmission. So this is a harbinger of things to come. But I think that if you look at where we're at today around the country, there are very few schools that can do what this school did in terms of all of the conditions they put in place. Another MMWR article that came out that also received a lot of attention last week was about the rates in transitional kindergarten through grades 12 in schools in the Los Angeles County area from September 2020 to March 2021 before Delta. I give the group great credit for the work they did. Well described, but the problem was the basic conclusion from this piece, as was promoted, was that the findings from a large and diverse county present preliminary evidence that schools provided a relatively safe environment during the 2021 school year. Well, if I were to read that, I would assume that that means that they could continue to do that. However, I would acknowledge they did have a sentence in here that says this analysis reflects transmission patterns before the more transmissible SARS-CoV-2 variant became predominant in the United States. But they don't have any discussion about what this means. How could this be different now than before? In addition, I've heard from many school superintendents who have been frustrated with the concept of how do we deal with quarantine and how do we measure whether someone's been exposed. The definition of a close contact by CDC is that someone who is within six feet of an infected person, the laboratory confirmed infection, for a cumulative total of 15 minutes or more over a 24 hour period. This is based on old data pre-delta. I think many of my colleagues would strongly support the conclusion that the 15 minute cumulative time period no longer holds with Delta, that in fact, if you were in a enclosed space in a much shorter period of time, the concentration of virus would be such with what you're breathing in, you would have an infectious dose. So even the 15 minute thing needs to be revisited clearly. But for schools, this is the exception in the K through 12 indoor classroom setting, the close contact definition excludes students who were within three to six feet of an infected student, laboratory confirmed, if both the infected student and the exposed students correctly and consistently wore well fitting masks the entire time. Well, well-fitting mask is not defined you could have a face cloth covering on, and if they had it on, that would be considered well fitting. Well, that's a problem because they are clearly exposed, clearly exposed. And yet for administrative reasons, in a sense, because otherwise how difficult it is to manage this. These kids would all be in quarantine. And so the challenges we have right now is this mindset that kids have to

be in, in class learning. And I want to be clear, I support that. But we have to look at the safety of our students. Now, one thing I just have to say upfront is we need to do much, much more in getting students vaccinated who could be, those 12 years of age and older. In another morbidity and mortality weekly report that came out last week, CDC summarized data as of July 31st. And if you look at the coverage with greater than one dose of COVID 19 vaccine among adolescents aged 12 to 17. The data were 42%, had one dose, 32% had completed the series. So only basically One-Third had completed the series. And like the data for the state's completion, rates vary widely by state, ranging from 11% in some states to 60% in others. And it was 25% for adolescents age 12 to 13, 30% for those age 14 and 15 and 40% for those aged 16 to 17. We clearly need to do a much better job of getting these kids vaccinated. So this all comes back to what can we do right now and how should we be looking at this? And we actually had a very thoughtful email, an inquiry that came into us. And I want to read it for you, because I think this really highlights the situation we're in. This came from Susan. "Dear Dr. Osterholm. My name is Susan. I'm a pediatric ICU nurse. And recently I listened to your podcast. It was Episode 66 that discussed the latest data regarding Covid, especially as relates to children in schools. And as you know, there's a lot of debate about how to make schools, "safe," for kids. One thing that I haven't heard clearly communicated, though, is what is safe? What are our goals here? Without understanding this information, I have a hard time framing the debate in my mind. I think we'd all agree that we hate to see children become sick, need to be hospitalized and especially die of anything, not just Covid. But the reality is that there are amounts of risk suffering from death that we as a society have determined are acceptable in exchange for living a full life, flu and other circulating respiratory viruses for kids come to mind. What degree of that will we tolerate for Covid, because I think we can agree that none is not an obtainable goal. What level of risk is acceptable and what are the data on the true risk we are even dealing with here? I'm just feeling so discouraged with vaccination for kid still a long way of, vaccine hesitancy among eligible populations is so high and seemingly unchanging. Some data showing decreased efficacy of the vaccines, variants like Delta popping up every few months, etc, etc, etc. It feels like the situation is going to be endless. How long is it reasonable to tell people that their kids can't go to school, have to stay physically distanced from their peers, etc.? When all this started, I never considered it would be a pandemic versus an epidemic when my oldest child starts kindergarten in fall of 2022. But it seems like that's where we are headed. I don't even know what else to say. A very logical part of me wants to just be done with all of it. Can

you speak to any of this with kids? Thanks, Susan." Wow. This is clearly a sentiment that we're seeing expressed by many people in our community, a lot of emails in a very similar way. Number one is we do owe to the public, to tell them what we know about the risk of this virus for kids, what it means in terms of their health and safety and what we can do about it. And then from that, how do we best conduct the educational experiences in our community? I'm afraid what we've done is we have first started out by saying we will have in class learning. It was a terrible year last year. We're going to do that and then we'll figure out the rest. Now, I think that Susan asks a very valid question about influenza. As I pointed out earlier, when you look at the number of deaths from cases up through the end of July in kids, it's not that different from influenza, but we're now on a new track. We have to understand, because the recommendations we have and what we're putting in place, whether it be the environmental controls, how much ventilation in a room, what are we doing in terms of using the filters that we talked about? How close are kids? What's the concentration of kids in a room, not just distance, but how many kids in a room in so many square feet? Because that determines if someone's infected, what the actual concentration of the virus in the air will be that I will come in contact with. What are we doing for testing? I don't mean this to be a throwaway comment, because it's worth a lot more discussion. There are no data that anybody has that shows that once a week testing is effective in reducing transmission in an environment, it's almost become a policy of convenience. One could argue how many days a week do you have to test if you're really going to do something effective in reducing transmission and how quickly to the test results come back? We don't have that discussion. We just put it in place if as if somehow it's a fait accompli. What quality of mask do we need? And I covered that last week extensively in the podcast. Rather, we're in a big debate about masking or not masking. So my concern right now is just having an open mind to what's happening in our schools. And Susan, I'll tell you. Delta is handing us a lot of wild cards that we don't know or understand. And I think that the example that I just shared with you from the MMWR story and the California experience says, hey, this virus, even under some pretty ideal conditions, caused a lot of transmission. There are a lot of school districts out there. They're not doing anything close to what they did in California. Are we surprised we're seeing these this big increase in case numbers in the south? I am certain we'll see this spread throughout the country. The next six to 12 weeks could be a real challenge for our kids. And if we think we already are overloaded right now with pediatric hospital care, the school situation could make that a lot worse. So what do we do as parents?

Well, first of all, think about the safety of your child and say, number one, if I'm asking my school, what do we do for ventilation, what are we doing for testing? What are we doing for concentration of students in a class? What are we doing for air filtration? What are we doing for follow up with quarantine? What quarantine standards are we using? And I think that those by themselves help inform you that you can feel more comfortable sending your child to school. What I have said all along is we are in this uncharted territory and what we need to do is have a plan in place. When do you pull the plug in a school? How many days or how many people being out do you have to have before you finally say we can't continue in class learning? And how acceptable will that be to your community in terms of making that a reality? So I think at this point, we in public health are not providing nearly the kind of information we need to. We are still on this bent of we can do this safely based on pre Delta data, which is absolutely not correct. And I believe that the current situation with pediatric beds in this country, intensive care beds specifically, are such that we can't have widespread outbreaks in school and expect that our kids are going to get the medical care they need. That brings it back down to the bending/breaking issue. Remember, the original discussion we had about Australia is this zero policy or is this bending/breaking. We will, I believe, break a fair amount of the pediatric medical care system in this country if we see widespread transmissions from daycare over the course of the next six to 10 weeks. So I have my five grandchildren who I've talked about many times on this show. I want them in in class learning. I want them there badly. But I want to make sure that that school is doing all it can to reduce transmission, and if the problems emerge that I think are going to happen, we've got to pull the plug as quickly as we can, and we've got to try to protect these students and not live on dogma of data from past. Let me just two last quick comments here. Also, you're going to hear about a paper that is receiving a lot of publicity in the media. It's one that as a pre-print, this kind of early publication, without being reviewed from a group in different locations in University North Carolina and Georgia Institute of Technology entitled COVID-19 Projections for K-12 Schools for Fall 2021 Significant Transmission Without Interventions. Now, from the title, you'd think it sounds like what I've been talking about here. But in fact, what they do is they do a modeling, something that I have been challenged with, as you know, on this podcast, and make up numbers about how much protection occurs from mask and how much protection occurs from testing. They are wildly, wildly out of touch with reality. And and I only say this because I want to be clear that these modeling studies can be dangerous, because it basically says with these interventions in place, you can really greatly reduce transmission in schools. So

when you hear about papers like this, please be suspicious. You know, if it's too good to be true, it is just too good. And so I just share this one with you. And I just want to conclude with one last input. As you'll recall, in episode 38 back in January 7th and episode 49 in April 1st, I included a letter from Dr. Teresa Thayer Snyder about the issue of Covid in schools and our students. And some of you may recall that Dr. Snyder is truly one of the country's true experts in public education. In a distinguished career spanning 40 years in public schools throughout New York's capital district, she has emerged as an articulate voice of reason at the statewide level, impacting a number of areas of education. And I could go on and read all of her qualifications, which are available if you go back and look at those previous episodes 38 and 49. But I just want to read for you the piece that she wrote back in April of 2021, and then one that I received from her this week. And I think they really had important context. She wrote back in April of 2021. "Dear friends, I am writing today about the children of this pandemic. After a lifetime of working among the young, I feel compelled to address the concerns that are being expressed by so many of my peers about the deficits that children will demonstrate when they finally return to school. My goodness, what a disconcerting thing to be concerned about in the face of a pandemic which is affecting millions of people around the country and the world. It speaks to one of my biggest fears for the children as they return. In our determination to catch them up, I fear that we will lose who they are and what they learned during these unprecedented era. What on earth are we trying to catch them up on? The models no longer apply. The benchmarks no longer valid. The trend analyses have been interrupted. We must not forget that those arbitrary measures were established by people not ordained by God. We can make those invalid measures as obsolete as a crank up phone. They simply do not apply. When children return to school, they will have returned with a new history that we will need to help them identify and make sense of. When children return to school, we will need to listen to them, let their stories be told. They have endured a year that has no parallel in modern times. There is no assessment that applies to who they are or what they have learned. Remember, their brains did not go into hibernation during this year. Their brains may not have been focused on traditional school material, but they did not stop either. Their brains may have been focused on where their next meal is coming from or how to care for younger siblings or how to deal with a missing grandma or how it feels to have to surrender a beloved pet or how to deal with death. Our job is to welcome them back and help them write that history. I sincerely plead with my colleagues to surrender the artificial constructs that measure achievement and greet the

children where they are, not where we think they should be. Greet them with art supplies and writing materials and music and dance and so many other avenues to help them express what has happened to them in their lives during this horrific year. Greet them with stories and books that will help them make sense of an upside down world. They missed you. They did not miss the test prep. They did not miss the worksheets. They did not miss the reading groups. They did not miss the homework. They missed you. Resist the pressure from whatever powers that be who are in a hurry to fix kids and make up for lost time. The time was not lost. It was invested in surviving a historic period of time in their lives and in our lives. The children do not need to be fixed. They are not broken. They need to be heard. They need to be given as many tools as we can provide to nurture resilience and help them adjust to a post-pandemic world. Being a teacher is an essential connection between what is and what can be. Please let what can be demonstrate that our children have so much to share about the world they live in and helping them make sense of what for all of us has been unimaginable. This will help them and help us achieve a lot more than can be measured by any assessment tool ever devised. Peace to all who work with the children. Teresa Thayer Snyder." Well, that very meaningful piece still holds true. But this past week, Teresa, a dear friend now and most respected colleague, wrote and shared with me an additional thought about what it means. This past week, Dr. Snyder sent me the following. "I have to tell you, I'm more concerned for our children this year than last year. I'm almost afraid to say it, but I have serious reservations about having children in school even more than I worried in the past. Our grasp on this potential virus has been so tentative. We have done nothing to mitigate the ventilation issues in our schools. We have done nothing to ensure that teachers are vaccinated. And I won't even touch the craziness of some of our state leaders who threaten and bully schools into submission. Even here in upstate New York, a local school board meeting in a district I once worked was up ended by insane anti-vaxers and anti-maskers. One guy insisted that if we mask the children, they will be raped and won't be able to ask for help. Good Lord. I'm also at my wits hands over the discussion of learning loss. Always deficit based, never asset based. We act as though we are done with the virus and don't seem to realize it's not done with us. Please keep being a voice for the children. It's good to hear you speaking about the realities. Teresa Thayer Snyder." I hope this empowers us enough. To say take a step back. Yes, we have our plans in place, yes, we were hopeful that schools could open again and everything would be OK. But Delta has come along. School districts, local and state health departments and the CDC need to get on the same page about understanding

what's happening, reporting it quickly and taking actions that were not anticipated, such as having to go back to distance learning or hybrid models. And I fear that we are so hell bent on election to have kids in school. We will make them the pawns in this experiment with regard to infection from a delta world. And I hope that's not the case. I hope that's not the case. And if you're a parent, I can understand why you'd be at this point so concerned. If we don't have a delta problem at school, the kids should be in the school room, they should be there, making sure the schools are doing all they can to limit transmission. But I would have no hesitation as a parent pulling my kids out of a school if there is an outbreak of delta in that school. And until that outbreak is completely put to rest, I would not send my kids back. Now, that's a hard statement. I know, but this is what leadership is about, addressing the difficult and taking responsibility for it. And when it comes to our kids, I just see no other answer at this time.

Chris Dall: [01:06:13] So on a lighter note, Mike, you received a great, beautiful place submission this week, because it's not about a physical place and wondering if you can share that with our listeners.

Michael Osterholm: [01:06:22] Yes. Thank you, Nancy, for submitting this. It surely touched all of us at CIDRAP and one that many of us can relate to directly. You wrote, "Retreating to memory of eyes, my daughters and my grandmothers is my beautiful place. Soon after her natural birth, my daughter was placed on my chest and I marvel at the intensity of life in her big brown eyes. Those eyes were alert and seemingly curious, taking in light, sensations, fuzzy images and love. Thirty years later, my daughter and her husband gave me the priceless gift of being allowed to attend my first grandchild's birth in a hospital room with a water birthing pool. My daughter labored in this room and in the pool with an ever attentive husband, as well as a midwife, nurse and doctor checking on her regularly. And then that miracle of life, this baby, with her hair flowing around her head and eyes wide open, seemed to swim, mermaid like to the water surface. The first glimpse of her face with those large brown eyes is seared into my memory. The eyes were like her mother's years before such a jolt of life energy. For the first month of both of these babies lives, their eyes drew you to and connected you with them. Those intense eyes didn't like to sleep much, but rather were content to watch and absorb the world. Ten years after that birth, the granddaughters now big blue eyes and the daughters big brown eyes are still superb observers and have a deep lifeforce

intensity. I pop these images into my mind as I read more CIDRAP news, listen to Dr. Osterholm's podcast or talk with friends and families who have lost a loved one to Covid. The birth images will sometimes be followed by the image of my dying mother's eyes so many years ago. And then I think of all the current medical personnel and loved ones around the world who are seeing life leave so many eyes. I weep for all of them. It takes an effort sometimes to bring the positive images back into focus, but they are there in memory. I don't have to go anyplace, and they're always there to bring me a big smile with a sense of wonder, joy, gratitude and love. Do you know anyone with eyes like my daughters or granddaughters? I hope so. Nancy."

Chris Dall: [01:08:56] You're closing thoughts today, Mike.

Michael Osterholm: [01:09:01] Well, it's been another tough day. I'm really looking forward to the day when these podcasts aren't so tough. You know, I know the entire podcast crew feels this way that sometimes we feel like we we leave it all on the field after we get done doing one of these. So today, out of what will surely seem to be the inconsistency of Mike Osterholm, I picked a closing song that I think needs to be that additional focus in our lives right now. I have a choice, is the glass half empty or the glass half full? Well, I sure gave you a lot of half empty messages in this podcast. So today I'm going to leave you with the half full. To me, that's an important part of struggling through this time is never forgetting that the half full also exist. So I'm going to pick a song that I've used before. It gives you a sense of how much I love it. It was included as a closing for Episode 32: Stop Swapping Air in November 18th of 2020. I use it also on episode 55: Mother Nature Strikes Again this past May. It's a song, What a Wonderful World. It was written by Bob Teale and George David Weiss. It was first recorded by Louis Armstrong and released in 1967 as a single which topped the pop charts in the United Kingdom. Though it performed very poorly here in the United States because Larry Newton, the president's ABC records, disliked the song and refused to promote it. But after appearing in the film Good Morning Vietnam, the song was rereleased as a single in 1988, and it rose to number 32 on the Billboard Hot 100. Armstrong's recording was inducted into the Grammy Hall of Fame in 1999. Since that time, many other artists have recorded this song. So here it is today. The glass half full closing to this podcast. What a Wonderful World. "I see trees of green, red roses, too. I see them bloom for me and you and I think to myself, what a wonderful world. I see skies of blue, clouds of white, the bright, blessed mornings, the dark, sacred nights. And

I think to myself, what a wonderful world. The colors of the rainbow. So pretty in the sky. Are also on the faces of people going by, I see friends shaking hands saying, how do you do? They're really saying, I love you. I hear babies cry. I watch them grow. They'll learn much more than I'll ever know. And I think to myself. What a wonderful world. Yes. I think to myself, what a wonderful world." So thank you again for being with us. I hope this information was helpful. I'm sure it is challenging. This is a challenging time. The surge that we're experiencing right now is by itself a tragedy day after day after day. But as it now begins to involve our kids even more, as we all recognize, there's something about caring for our kids that becomes easily the most important thing we can do in this world. And now we've overlapped this with this virus. And I hope we can all remember it is still a wonderful world. Now is the time to be thoughtful, be kind, be kind to parents with young kids. It's stressful for them right now. Be kind to grandparents with young kids it is stressful for them, too. I hope that we all can find it this next week in our hearts to share kindness, to share our understanding, to share support, whether it be a parent or grandparent of a child about to enter into the school system for the year. Thank you for spending your time with us today. I hope it's helpful. Please keep sending us your emails, your letters. We read them all. It means a great deal to us. It surely helps us understand what you're looking for and information from this podcast. And most of all, just remember to be kind, be thoughtful, be safe. Be kind. Thank you.

Chris Dall: [01:13:43] 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](https://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](https://cidrap.umn.edu/donate-now). The Osterholm update is produced by Maya Peters, Cory Anderson, and Angela Ulrich.