# Episode 36: The Miracle in Brainerd

**Chris Dall:** [00:00:05] Hello and welcome to The Osterholm Update: covid-19, a weekly 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.

**Chris Dall:** [00:00:42] On Monday of this week, the first shipments of the newly authorized Pfizer/BioNTech covid-19 vaccine arrived in hospitals around the country, heralding the start of a new chapter in the nation's struggle against the coronavirus. A critical care nurse from New York named Sandra Lindsey, who works at a hospital that was among the hardest hit during the early days of the pandemic, was the first American to receive the vaccine outside of a clinical trial. "It feels surreal," Lindsey told New York Times. "It is a huge sense of relief for me and hope". The journey from vaccine to vaccination has begun. On this December 17th episode of The Osterholm Update, we're going to discuss the hope that the new covid-19 vaccine brings, the challenges that lie ahead as the federal and state governments prepare to roll out an unprecedented mass vaccination campaign, and answer some listener questions about covid-19 vaccines. We'll also take a look at the current state of the pandemic in the US, talk about the upcoming holidays and how people can celebrate them safely, review some lingering questions about covid-19 in schools, and highlight an act of kindness from The Osterholm Update website. But first, we'll begin with Dr. Osterholm's opening thoughts.

**Michael Osterholm:** [00:01:48] Thank you, Chris, and welcome, everyone, back to our weekly podcast family. It's great to have you with us, appreciate you taking the time. This is a time when we're thinking about many aspects of our personal lives in the holidays. And today, I hope to comment a bit on that as it relates to our ongoing discussions about covid-19. I'd like to dedicate this week's podcast to all those participants who were involved with the vaccine clinical trials that brought us this most amazing information, the data that now allows us to see light at the end of the tunnel with these new vaccines. Thank you for all that you have done to make that possible. And I'd like to actually start the podcast out somewhat in a different way than I have in previous episodes, because there was something this past week that I really took notice of. And I think it almost can serve as a theme through some of the aspects of this podcast. And what I want to do is start by sharing with you something that most of you may have heard about over the last weekend. It made national news. I'm calling it the miracle in Brainerd. I know it's not really a miracle it wasn't that big of a deal, but I do think it reflects the miracle of generosity and caring that we all know exists, that we see during the holiday season and this year more than any in the history of this country, oh how we need it. As it happened at the drive thru of the Dairy Queen in Brainerd during the lunch rush last Thursday, one person in the drive thru said they wanted to pay it forward, meaning to pay for their lunch as well as the person behind them. The next person, when given the news that their lunch had just been paid for, instead of just saying thanks, they insisted on paying for the person behind them. The Dairy Queen folks said this happens sometimes and they've seen it go on for as many as a couple dozen cars. Well, this time it kept going for 50 cars, then one hundred, then two hundred, then three hundred. By the time it was done, it was over 900 people had paid for the lunch for the person behind them. You know, as I said, this event in itself wasn't a miracle. But it says so much about who we are as a people and can be. Most of us are generous. We are giving, we care. This is the theme, really, I think, of the course of this podcast, appealing to those in this holiday season and what we must do to protect the lives of our loved ones. And how we can be generous, how we can give, and how we can care.

**Chris Dall:** [00:04:46] We usually begin the podcast by talking about the trajectory of the pandemic and where we are with US cases. But I want to start today's discussion with the newly authorized vaccine. Mike, I'm just wondering what your initial thoughts were as doses of the Pfizer/BioNTech vaccine began shipping out and heading to US hospitals. And what you're thinking about with the second vaccine, the Moderna vaccine, likely to be authorized shortly.

**Michael Osterholm:** [00:05:08] I've said before on this podcast that I didn't know if I had any more tears to shed. This has been a really, really tough set of months. But I can say with complete honesty, and most of all great happiness, that when I heard that the Pfizer vaccine had been approved by the FDA under emergency use authorization, and even though I knew in my heart it was coming, I got those tears. When I saw live on television the first health care worker in this country to get vaccinated, I got those tears again. I hope we understand what we have done here. This was a moon shot. To go from a new mysterious infectious agent, to the approval under the strictest and full measured conditions of regulatory science, a new vaccine for this new infectious agent in 11 months is nothing short of remarkable. It's incredible. And I think it represents the very best of our human spirit and the ability to tackle these issues. So from that perspective, I am so excited. I clearly see that light at the end of the tunnel. And, you know, I can't wait to see more and more daylight. But as I said last week, I also still understand that we have challenges ahead with the vaccine distribution, the uptake of the vaccine and the impact that it might have on this pandemic on a global basis. First of all, there's still room for a train derailment between now and the end of the tunnel. That I think we have to be mindful of and plan for. What do I mean by that? Well, first of all, we have to deal with expectations. Right now our best guesstimate is based on the Pfizer vaccine and I believe the Moderna vaccine, which we likely approve later today. We know that between Moderna and Pfizer that we will realize somewhere between three hundred million and four hundred million doses in the United States, which, based on the two doses per person, will mean that we can vaccinate between one hundred and fifty million and two hundred million individuals. Still far short of the three hundred and twenty million residents of the United States. Now, hopefully there are going to be other vaccine candidates that will be approved in the course of the next several months. We know that two of them, Jannsen, or the J&J vaccine, the AstraZeneca vaccine, both are still in the running for approval and may very well be available and supplement our supply. So the first thing is we just have to get enough vaccine out there. And I still believe that in the early days of its availability, the interest in the vaccine will far exceed the supply. And we're going have to manage that and expectations that go with it. As we've also come to realize, we have still a very substantial proportion of our population that are skeptical of the vaccine, what we'd call the vaccine hesitant group. Not the anti vaccine group, but the people who are truly hesitant. In a survey reported out this week by the Kaiser Family Foundation, and a very well done piece of work, they actually provide us with some new and hopefully very positive news in that the number of individuals who said that they would take the vaccine now stands at seventy one percent in the United States, up from sixty three percent in September. And so that at this point we surely see the movement in the right way. But that still leaves some big gaps. About a quarter of the public remains vaccine hesitant, saying they probably or definitely would not get a covid-19 vaccine even if were available for free or for that matter, deemed safe by scientists. And it's interesting, vaccine hesitancy is highest among those age 30 to forty nine, thirty six percent. Rural residents, thirty five percent. And importantly, thirty five percent of black adults, a group that has borne a disproportionate impact of this pandemic, said they definitely or probably would not get vaccinated. So we do have work ahead of us to make sure that these individuals understand the importance of this vaccine and saving their lives and surely reducing serious illness. And we're going to have to address head on some tough issues. The Kaiser survey found that among those who are hesitant to get a covid-19 vaccine, the main reasons are worries about possible side effects, fifty nine percent cited this is a major reason. Lack of trust in the government to ensure the vaccine safety and effectiveness, fifty five percent. Concerns that the vaccine is too new, fifty three percent. And concerns over the role of politics in the development process, fifty one percent. Over the course of my career, I've always just try to call balls and strikes and tell it as I see it. Let the data stand for where it may. And in this case I'll do the same. And at this point, I am quite convinced that overall everything that we've done to bring this vaccine to an emergency use authorization has followed the book in the sense of making sure that all the regulatory science T's were crossed and I's were dotted. I'm very confident in that. And we'll, as we go forward, we're going to learn more about the vaccine. We will learn about the possible side effects that might occur if you vaccinate a million people. None of these are anticipated to be a challenge in terms of serious health outcomes. And we'll learn more about whether people are infectious even though the vaccine may to protect them from clinical disease and then they get infected and could be potentially capable of transmitting the virus. We'll learn all these things. But I think right now the important message is, is this vaccine can make all the difference between life and death for so many. And so we need to move these forward at the same time, really having a very active pharmacovigilance program, the kind of program that can continue to follow the vaccine use in our community. How well is it working, other potential side effects, etcetera. So I just want to say this is a great day for public health in the sense that we have really, I think, achieved a game changing outcome. One piece I will add is that we have to take care of the world. And as much as we're focused on the United States, as I pointed out last week, for all the reasons of altruism where we should care for the rest of the world, as a public health infectious disease epidemiologist I can tell you it's critical from the standpoint of controlling the disease. If we have widespread transmission in many countries around the world, because as low income countries or even middle income countries they couldn't get access to a vaccine, that will challenge us. Those viruses will leak across borders. We've already seen how porous political borders can be. Even when one tries to erect administrative or public health measure walls. Virus will get through. So I do look forward to not just this year in the United States, but we have to know that throughout the course of the upcoming months we must make global availability of the vaccine a top priority.

**Chris Dall:** [00:13:03] Last week on the podcast, you covered health events that are expected to occur during the vaccine rollout but are not connected to the vaccine. And I understand you've received a lot of questions about this, Mike. So do you want to review this issue and what people need to know and be aware of?

**Michael Osterholm:** [00:13:21] Well, imagine this. You listen to this podcast, you get done listening to it and you find out that the lottery ticket you just bought actually is the winner. And you just won four hundred million dollars? Well, of course, you know, that it was listening to this podcast that made that possible. As you're all laughing at me for being so ridiculous, let me twist that in another way and say, what if something bad happened? Hopefully listening to this podcast was not the reason that you drove off the road or that you somehow slipped on the ice. But the point of it is events happen in life. And I just want to raise this again, because I'm concerned that as we roll out these vaccines in large numbers, we're going to see more and more events occur coincidental in time. And I talked about that last week. And I heard from a number of you, that "Well help me understand that. How will we really know if an event is associated with the vaccine or not?" Well, let me just share a story with you that I think helps set some of the tone. A friend and colleague, Dr. Paul Offit, someone who is known to many of you on this podcast as a pediatrician, who's also the chief of infectious diseases and director of vaccine education at the University of Pennsylvania School of Medicine. Paul is a giant in the business. He's written about the whole issue of vaccine safety extensively. His book, Autism's False Prophets, a very important book. And Paul actually tells the story in his writings that I think is very informative relative to what I'm talking about and, he wrote, "There's a story that I tell because I think it's a powerful one. My wife", meaning Paul's wife, "Is a privately practicing pediatrician in the suburbs, and she was in the office one day and there was a four month old sitting on her mother's lap. And my wife was drawing a vaccine into a syringe that she was about to give the child. Well, in this case, but, while she was drawing the vaccine into the syringe, the child had a seizure and actually went on to have a permanent seizure disorder, epilepsy. And there had been a family history of epilepsy, so she was certainly at risk for that. If my wife had given that vaccine five minutes earlier, imagine what would have happened. I think there's no amount of statistical data in the world that would have convinced the mother that anything other than the vaccine caused the seizure, because I think the sort of emotional events are very hard to argue against". That's the kind of event we have to anticipate and plan for. And when I say planned for, I mean we owe it to the public, owe it to me and my family, to know that this vaccine safety is being constantly monitored. As I mentioned last week, and this is where the questions came in, people were somewhat surprised to learn that, in fact, every day in this world, a number of bad things happen to people just by being alive. The examples I gave last week, for example, was if you vaccinated 10 million people in a week, as we are going to try to get very large numbers of people vaccinated. If you look at the incidence of heart attacks in various age populations, it's quite remarkable to find out that, for example, in 55 to 64 year olds, you could expect in the one week after vaccinating 10 million people, that 793 people would have a heart attack just by chance alone. Now imagine, my father, my mother, my friend has a heart attack twenty four hours after vaccination. I put that on social media and say, "I think there's something going on here." And then somebody reads it and says, "Oh, my, I had the same thing happen, it was at forty eight hours," and somebody else picks up out of those 793 and says, "Well, that's nothing. You know, mine happened in 12 hours." And pretty soon you have a story. And pretty soon you have a crisis. Because we know that we would expect to see many, many more heart attacks than just those three or four or five. So one of the things we have to be mindful of going forward is how are we going to address the issues of vaccine safety in this new vaccine world? And among a group that are hesitant, if not skeptical? And so one of the things that will be a very important task of the federal government, the FDA, the CDC going forward, is to help u have the kind of emergency response teams that can address these issues as they come up, that they look carefully at all aspects of what that particular adverse event might be. Could it have had any relationship to the vaccine? I'm convinced, just as I just pointed out on the issue of heart attacks, that the vast majority of these that will occur will be able to show clearly had nothing to do with the vaccine. And for this purpose, I believe at this point there's no reason to think that someone who had had a heart attack would actually have acquired as a result of getting the vaccine. Now, I just want to leave you with one last number, because even this, I think, surprises most people. Take that same 55 to 64 year old age group and vaccinate them again, 10 million of them. And you would expect 1705 of them, making that clear, 1705 of them, to die in the next seven days. All cause death. Nothing to do with vaccine. That's just by chance alone, what you would expect to see in this country. So what we need is patience. We need understanding. We need the media to understand this so that we don't see irresponsible reporting that comes out that leaves people with the sense that somehow, "Oh, my look with this vaccine is doing." And that's going to be a very, very important part of what we're doing going forward.

**Chris Dall:** [00:19:45] So even though it's likely to be a few months before most of the public can start getting vaccinated, the vaccine is on everyone's mind. We've received a lot of e-mail questions, many regarding pregnancy. Nicole writes, "My question is about the new covid vaccines and pregnancy and lactation. I'm a health care worker myself and work exclusively with this population. I also have a vested interest since I am a breastfeeding mother. It doesn't appear there is any safety data about pregnancy or lactation in the vaccine. I'm a huge supporter of the vaccine in general and I would love to be able to recommend them to my patients as well. Is there anything upcoming to determine safety in the special population?" And then a related question from Kelly, who writes, "Our daughter attending college in St. Paul has heard about long term infertility and impotence issues with the covid-19 vaccine. What can you tell us about that?"

**Michael Osterholm:** [00:20:32] Well, this is one of those areas where this week we have a certain amount of information and within the next several weeks, I think we'll have much more. It is clear that we don't have definitive safety information on pregnancy. As was concluded by the advisory committee of immunization practices this past week. It is unclear what risk might be present in terms of pregnancy and the vaccination. And this came up as a very important consideration with the idea that with 70 percent of the US workforce are women in terms of health care. And of those, we estimate that about three hundred and thirty thousand are likely pregnant at this time. That would mean that these individuals each have a choice of what they're going to do. You know, protect themselves from a potentially serious life threatening disease, or might it have a negative impact on their pregnancy? And again, let me emphasize, there is no data to support that this might be a problem. But there are studies going on right now which I wish were done by now, what we call DART studies, animal development and reproductive toxicity studies, looking at the use of vaccine in these animals that are pregnant and following them from all aspects of what does it do in terms of the normal pregnancy of the animal, looking carefully at tissue of these animals over time. And I think that the data on these studies will be available literally within several weeks. And once we have that, that'll help give us the kind of basis for saying that we don't see any increased risk with taking this vaccine in pregnancy. Clearly, getting the infection and being pregnant in of itself is not a good thing, and particularly if you develop a severe illness throughout that pregnancy. So just hold on tight. Just wait a couple of weeks. If you want much more definitive information and go from there. I did find it a little difficult with the recommendation that came out and said, "Well go talk to your provider about it." And I've unfortunately talked to many providers out there who said, "Why would we know any more about what to do?" We do owe the public an explanation based on cutting edge science and the real experts and that'll be coming. A final point on pregnancy is that we now know that we've had thousands of women who have been infected with sars-cov-2, who are also pregnant. And we have not seen at all an increase in spontaneous abortions, any other challenges with the pregnancy other than just the mother being severely ill. If, in fact there was going to be a likelihood for the vaccine to have some kind of cross reacting antibody or some kind of aspect of inducing a challenge to the pregnancy, we surely should have seen that with clinical disease, with the spike protein. And that has not been seen at all. So I feel very confident that the pregnancy issue is not going to be a challenge with the vaccine. But when we get the DART data, we'll be able to answer that with much more certainty. In terms of the other questions that are coming up already, this issue that I raised about the potential social media aspects of these vaccines and their safety has already risen to a relatively important level. Recently, a retired British doctor actually reported that, in fact, the spike proteins that are part of the current vaccine would elicit antibodies against another type of protein that would, in fact, lead to infertility in women of unspecified duration. This thing has been royally panned across the board by established scientists who have studied issues about this, and it has had no credibility whatsoever in the main body of science. However, because it caught on, it's being replayed over and over again in social media. So I would just say right now there is absolutely no evidence of anything to do with sterilization.

**Chris Dall:** [00:25:04] So while we celebrate the hopeful vaccine news, we still have a very severe pandemic situation here in the US. The current seven day average for new cases is around two hundred fifteen thousand. There are more than one hundred and ten thousand covid-19 patients in the US hospitals and we're seeing roughly twenty three hundred deaths a day. Do you expect these numbers to keep rising for the foreseeable future?

**Michael Osterholm:** [00:25:26] I don't know. I honestly don't know, but I do fear that they will. And I say I don't know not based on the virus this time, you know, much of what's happened to date has really been the virus doing something to us and knowing that the virus had kind of, you might call, the command position. We now are starting to do more and more to ourselves with regard to transmission, when in fact, we know enough not to let that happen. You asked the question about where is it going? Right now, where we live in the upper Midwest, we're one of nine states where cases are higher but going down. However, the population of these nine states is only twenty nine million overall in the US. If you look at the forty one states and including the District of Columbia, where cases are really high and staying high and going higher, that's two hundred ninety three million people. So compare that to our twenty nine million. And only one state right now where the case numbers are low and going up, that's one point four million. Bottom line is we are in the middle of a coronavirus firestorm in this country. And as evident by the fact that we've had a 31 percent increase in cases over the past 14 days. On Tuesday, we were at two hundred and one thousand plus cases. We've had a 65 percent increase over the last 14 days for deaths. On Tuesday, it was one thousand one hundred and seventy eight deaths. And the hospitalization rate continues to climb, an increase of more than 18 percent over the last 14 days, currently at one hundred and ten thousand five hundred and forty nine hospitalized patients with covid-19. And I remember last week noted that I'm not sure that that number is accurately reflecting what's happening because we have increasing anecdotal data that individuals who would have been hospitalized three, four, five weeks ago are now being sent home on watchful care because there just wasn't room in the inn. They just, the hospitals, are that full. So the challenge we have right now is what are we going to do? Will we learn that we have some control over this virus in terms of transmission if we just stop swapping air? And now that obviously works when you're in a private setting where you have control of the air that you breathe. I do want to emphasize, and I said that last week, and we're working for content on our website about the stop swapping air, that in the workplace this is tough. Essential workers don't often have a choice. They can't avoid air that may have the virus in it. So our job is how do we make it as safe as possible for them? And we'll be hearing more about that from us in the near term. So I would just conclude by saying that with what we see right now and in terms of cases, what we're seeing with the potential for extensive travel during the Christmas holiday, I'll comment on that more in a moment, I think we could be seeing a surge upon a surge upon a surge. And if that happens, I fear the day that we'll look back and say, "Two hundred thousand new cases, wow, wish we were back there again." That would be a terrible, terrible commentary on what is the light at the end of the tunnel. We just got to get to the end of the tunnel. And that's our job right now.

**Chris Dall:** [00:29:29] How about the international situation, is there anything standing out to you?

**Michael Osterholm:** [00:29:33] Let me just make a couple of comments about the international situation, too. This is a real cautionary tale. I don't want to keep belaboring this point, but I think it is so illustrative of the misconceptions, misinformation and almost pixie dust kind of commentaries that have occurred throughout the course of this pandemic about what's going to happen next. Remember how many times we've been told that we had this Swedish miracle? That in fact, they had figured out the Swedish model? And I got beat up pretty good on several occasions where people were upset with me because I wasn't acknowledging this summer how this was exactly the way to do it, what they had done and how they had let people become infected. Well, right now, Sweden is in a very, very difficult place. On November 22nd, Sweden's prime minister called on all residents to cancel any and all nonessential meetings. On November 24th, gatherings of greater than eight people were banned, which led to the closure of cinemas and other entertainment venues. Bars and restaurants can no longer serve alcohol after 10 p.m.. However, it appears that many of these are no longer visited by very many people. High schools in Sweden switch to virtual learning for the rest of the school term on December 7th. And despite these new restrictions, they reported a seven day high average for daily cases on December 9th, with five thousand eight hundred and four cases. As of December 14th, twenty four hundred and six Swedes are currently hospitalized with covid. That matches the spring peak reported back last April 20th. Even more difficult, last week Stockholm's ICU capacity hit ninety nine percent and local health officials called for outside help. Over one hundred staff from children's hospitals have now been redeployed to ICUs in Stockholm to provide relief. Reports have indicated that more and more health care workers throughout much of Sweden are just quitting due to being overworked and the stress that they're experiencing. This is only exacerbating the challenges of staffing shortages much of the country. Let me just conclude with the following is that for the first time since World War Two, Finland and Norway have closed their borders with Sweden. Despite being similar sizes, Swedish death tolls dwarf its neighbors. Right now, if you look at Denmark, one hundred and sixty two deaths per million population. Finland, eighty two deaths per million population. Norway, seventy two deaths per million population. Sweden is now at seven hundred and thirty one. And based on the hospitalizations, we expect that number to go up substantially. They're just short of the nine hundred per million population deaths we see in the United States. And finally, a Wall Street Journal article just noted any presumed economic benefit from avoiding lockdowns in Sweden over the course of the past months has failed. So we follow these situations very carefully. And as soon as somebody tells me they have the answer, how somebody did or didn't do it, I can tell you that that just isn't that simple and is not the case. One other point I just wanted to make, and I'm not advocating here for what we do here. I just want to emphasize, I don't speak for the Biden/Harris transition team. These are my own opinions. But from a standpoint of what we as a country might consider doing if these cases continue to climb substantially really needs, I think, further clarification by governors and mayors and so forth. If one looks at the Netherlands, they have just entered what they call a lock down, closing all non-essential shops and businesses such as gyms, museums, cinemas and theaters for the next five weeks. They also have put into a number of restrictions, such as school closures, limit of two guests a day in a household, with the exception of Christmas, when three guests will be allowed, and they call it the lockdown is expected to last until January 19th. I might add that if you look at their cases compared to ours in what is happening in the Netherlands right now, it is far, far below what we would expect to see per population. The same thing is true whether you look at the Netherlands, you look at Germany right now where all of the same things are happening. They are now in what they call a strict lockdown from December 16th to January 10th. Many of the same issues I just shared with the Netherlands. Their rate of daily cases, if it were the United States, would be at about one hundred and ten thousand cases per day, half of what we're experiencing. And they're already there in that kind of a lockdown. And let's consider England. England announced that London and parts of several areas would be moving into the strictest tier for covid rules in response to increased cases. That move places sixty one percent of England's population in the strictest tier, which involves closing all pubs, restaurants, entertainment venues, etcetera, etcetera. Their case numbers at this point, were they based on the US population, would be about ninety eight thousand cases a day reported. Remember, again, ours is over two hundred thousand. So I'm not suggesting what they're doing is right, what we're doing is wrong, but I think you can see other countries around the world that are struggling with this really have come to the point of saying in order to drive this down, this is what it's going to take for us to do. I don't know what's going to drive down US cases right now. I don't know. It's our behavior. Clearly, we can change that. But will that be enough? And at what point will hospitals begin to collapse so severely, so many, that we're going to have to make and take new additional measures in order to control this virus transmission?

**Chris Dall:** [00:35:44] You mentioned the holidays earlier and given the severity of the situation in the US right now, Mike, what is your message to the public about the holidays?

**Michael Osterholm:** [00:35:54] Well, I want to circle back at this point to my opening comment, The Brainerd Miracle. I do believe in people and the goodness of their heart and what they can do. And nothing in this Christmas makes sense to me except for caring about others. And doing whatever I can to make sure they're here for next Christmas. That, to me, is the ultimate Christmas challenge, it's the ultimate Christmas gift. It's the only thing we really can do for Christmas. Now, I realize that there are many people who don't agree with that point of view and believe that I'm trying to steal Christmas away from the world. And I would just come back to the fact that we have watched Thanksgiving deliver us so many painful, painful situations. Personally, in my life, they've been painful. Friends, colleagues who elected on Thanksgiving to get together with transmission, severe illness and even deaths. I am all for anyone getting together, if they can be bubbled in that 10 to 14 days before they get together. And not have 'kind of bubbled', real bubbled. And I actually probably am more optimistic about that than others who said well you can't be certain. You know, if you have a firmly committed family that can do that, that makes sense. Do it. And I think it's a great celebration. Now, I myself can't do that. I've already discussed this before. You're tired of hearing about it. You take my kids. Both of them have children who are in daycare, who are in school. They, by that very nature, can't be bubbled. So it's not that they don't want to, they just can't. So I have to be responsible for my own bubble and what I do with my partner and I, what do we do to stay safe? And as I pointed out before, this year, for the first time in thirty five years, I'm going to be reading the Polar Express on Christmas Eve night virtually, not in the presence of either my children or my grandchildren. And I think others have to look at their Polar Express moment. And say, "You know what, I know how lonely we are. My mom has been alone for the last 12 months. She's desperately lonely. I could fly home from Atlanta to somewhere else or whatever. I could go see her." And, you know, what would be so tragic is she is not around for next year's Christmas. So I've said this before. Out of the goodness, out of the Brainerd miracle perspective, what can we do to pay it forward and know that it is the ultimate act of love? I, for one, don't believe you can have safe family gatherings if you have people who may have been exposed to the virus outside of that circle. You know, you put people in a house and there's no way you keep six feet apart. Even then, we know that that's not really adequate. You know, you're eating, you're getting together. Kids are running around. You know, unless you have that bubble, I just don't believe there's any way you can't swap air with an infected individual if they're in that house during that particular period of time. And is this a chance you want to take? Are you prepared to have to tell somebody from the public health department who else was at that event? Because one of you are now in the hospital critically ill. Are you prepared to do that kind of follow up? Are you prepared to tell the other family members, "Oh my, I was the one that brought the virus home? I didn't know it. I didn't know it." Are you prepared for that? If you're not, this is not a scare tactic. This is the ultimate act of love. This is the Brainerd miracle pay it forward. So I hope people strongly consider this. I know it's hard. Loneliness is terrible. The mental health is absolutely terrible. But by God, it beats being dead. And at this point, I just hope everyone takes this in strong consideration and just again comes back to hear this. If I haunt you with this message, so be it. It's not what I want to do. But if it helps you and your resolve not to put your loved ones in harm's way, I promise you it will be the best decision you could ever make. And you can know when you put your head down on the bed that Christmas night, as hard as it is, as difficult as it was, you loved your loved ones that much that you wouldn't put them in harm's way. So I'm going to elect to believe in Brainerd miracles. I'm going to elect to believe that we will collectively come together. We will gain our senses. We will understand what the challenges are. We will realize this is for this year. And I'm going to do everything I possibly can to help you and to help my family, and to help my colleagues and friends make 2021 the best Christmas ever. And that's what you have to keep your eye on right now. Let's just get to the end of the tunnel. Let's get to that light. Let's get these vaccines. Let's drive this virus down into oblivion and then we can move forward and we'll just have one of the biggest parties you could ever have imagined one day and feel really, really good about it. So that's my Christmas wish to all of you, is a safe, safe, safe Christmas. And with that, I know it'll be a happy Christmas one day.

**Chris Dall:** [00:41:58] Last week on the podcast, you discussed what we know about covid-19 transmission in schools. You've heard back from some school administrators over the past week. What have they been telling you about their experience?

**Michael Osterholm:** [00:42:10] Well, thanks to the number of school administrators, teachers and others who have communicated with us, you know, you enlighten me. As I've said many times on this podcast, the older I get, the more vulnerable I am to learning. And you have clearly helped illustrate that. This is an email I got from a school board member of a school district here in Minnesota. I'm not going to identify the individual or the name of the city, although this individual did give me permission to use this email. And I think it illustrated a point I was making last week about the challenges of school reopening. Let's make no mistake. We want our kids at school, particularly our younger kids, relative to their learning, relative to their mental health, to their socialization, to the otherwise healthy meal availability, all the things that we really want that to be there for our kids. And this individual wrote and said, "Dr. Osterholm, I listened with interest to your take on school being open for five to nine year olds. I agree. And we TRIED to do this here in my town starting in October. We first brought back kindergarten and first grade in a hybrid scheme where they were in classes for two days and online for three days. Desks spaced out, masks worn, etc. About half the families signed up to do this, the rest stayed distant. Two weeks later, we brought back pre-K and grades two to three. Initially, things seemed to be going quite well, but soon we had real trouble. And I think we would have had similar trouble had we tried to do it again with the case rate where it was in October, those halcyon days, let alone what it promises to be for the rest of the winter. The problem was that the staff would become infected, testing positive and then whole classrooms would have to quarantine for two weeks. Or a child would test positive, usually we think from family or community exposure, and then the whole class would have to quarantine for two weeks. Our staff would simply have had close contact with a known case in the community and then would have to isolate. Substitute teachers were, of course, very hard to come by. This went on for about a month. One of our elementary schools had to shut down because of lack of staff. By mid-November, our bellwether statistic, fourteen cases per 10000 in our county, was approaching one hundred. Twice the criterion for forcing distance only schooling. So we're distance only for the foreseeable future. The Minnesota Department of Education and Health have not been strict about this, but the logical difficulties, along with the guidance we were given back in the summer caused us to stop the in-person learning. So the elementary schools should be open. They are very difficult to run under the current conditions. A large proportion of teachers are in high risk categories to begin with, and those who aren't are at a significant risk of infection in the community. I write this because your recommendation that we get those kids back in the classroom, while rigorous on the face of it, does not address the difficulties of keeping them, nor of keeping our excellent teachers in front of them in their classrooms. Thank you for your work." Well, thank you for that very thoughtful email. And actually last week I was talking about the very problems of the issue of keeping teachers, support staff in the schools. And so, in a sense, your point is an excellent one. This is one of those times where I have been in so many meetings at national, regional and local levels about school openings, what we mean by it, which kids, at what age, what other social events play a role here, and the bottom line is this is a tough issue. The data are still out. We're learning as we go. We surely don't want to do things where we're putting our kids in harm's way if we know that that's the case. But we also know not being in school every day puts our kids in harm's way, particularly our younger children. So I think we just have to continue to have this ongoing conversation. We have to keep trying different models to see what works. We have to be cognizant of not just the students' health, but also the the faculty and staff health. And so thank you for this. And we're learning as we go. I wish we were going to be as informed today as we will be a year from now. We're not. But at this point, school should be a priority, but only when we can do it safely and when adequate staffing can make the learning experience a productive one in the schools.

**Chris Dall:** [00:47:04] Mike, do you have an act of kindness that you'd like to highlight from The Osterholm Update website this week?

**Michael Osterholm:** [00:47:10] Yes, and I just want to thank all the listeners who continued to send these acts of kindness. I am very happy to report with absolute certainty that any PhD candidate could take to the defense room that we have a pandemic of kindness going on. It's very evident and clear by the mail we're getting and what we hear from people. And this one's from Jean from Denver and she writes, "I have an entry for your kindness during covid collection. My daughter Olivia, 15, has Down syndrome, which puts her at higher risk. The isolation of covid has been incredibly challenging. Her school has been remote since last March and her in-home therapies moved to telemedicine as well. All the activities we used to enjoy suddenly disappeared and we're stuck at home. Even the playground closed during our lockdown last spring. She eventually understood on some level. We walked past the playground and she'd say "Park closed coronavirus." Hearing her sweet voice say coronavirus made it sound all the more ominous. It broke my heart. Highly social, Olivia found a way to safely connect with people. She loves her daily bike ride in the neighborhood. During the rides, she rang the bell on her handlebar and called out to people, "What's your name? Hello. Have a nice day." Over the course of the summer, she learned neighbors names. One day a neighbor had his camera ready and waited for Olivia and her daddy to ride by. He held up the camera and asked to take a photo. The photo was attached," by the way, a beautiful photo. "They dropped off a large print for us with a kind note which included an invitation to get together once the pandemic is over, their note read, "We are thrilled every time we see John and Olivia ride by, we are big believers in getting kids out on bikes and Olivia's smile often brightens up a dull day." Making connections is something Olivia has always done, I love that she found a way during a pandemic. It warms my heart that her neighbors reciprocated. The photo is framed and is hanging in our breakfast nook. It will be a reminder of a bright spot during a very scary time. In gratitude, Jean." Thank you very much for sharing that act of kindness. Olivia, you were beautiful in that picture. It was so wonderful to see you with your dad. It was a real gift. And thank you.

**Chris Dall:** [00:49:43] And just a reminder to our listeners that if you want to share your acts of kindness and any photos or videos, please email us at osterholmupdate@umn.edu. Your closing thoughts today, Mike?

**Michael Osterholm:** [00:49:58] Thanks, Chris. It is my pleasure today to share a bit of holiday cheer and share with you a song that was written about Christmas. Have Yourself a Merry Little Christmas, which a number of you had recommended we use as a closing song, was written in nineteen forty three by Hugh Martin and Ralph Blaine and was introduced by Judy Garland of the nineteen forty four MGM musical Meet Me in St. Louis. Frank Sinatra later recorded a version with modified lyrics. And I might add that James Taylor did a very memorable version of this in 2001 for that Christmas following the 9/11 event. The song first appeared in a scene in the movie in which the family was distraught by the father's plans to move to New York City for a job promotion, leaving behind their beloved home in St. Louis, Missouri, just before the long anticipated 1904 World Fair begins. In a scene set on Christmas Eve, Judy Garland's character, Esther, sings a song to cheer up her despondent five year old sister Tootie, played by Margaret O'Brien. Since this time, the song has come to mean for many, many people a sense of looking to the future and realizing that today does not define our life. But the future will. So, Have Yourself a Merry Little Christmas. 'Have yourself a merry little Christmas, let your heart be light. From now on, our troubles will be out of sight. Have yourself a merry little Christmas, make the Yuletide gay. From now on, our troubles will be miles away. Here we are, as in olden days, happy golden days of yore, faithful friends who are dear to us gather near to us once more. Through the years, we all will be together if the fate allow. Hang a shining star upon the highest bough. And have yourself a merry little Christmas right now. Faithful friends who are dear to us gather near to us once more. Through the years, we all will be together if the fates allow. So hang a shining star upon the highest bough. A merry little Christmas now.' I can't wish anymore for any of you then the hope, the belief and the dream that we will be together. And that we will be here for many, many, many more years to come and that if we just keep hanging in there, our troubles will be miles away. So today, today is the light. Today is the idea of thinking about that miracle, thinking about what we can do and how we can do it. And rather than seeing this Christmas as the Christmas of pain and suffering, which it will be for many, particularly for those who have lost loved ones, also think of it as the Christmas that will spring us into the future. We'll never take Christmas for granted again. Ever. Never. That's what this Christmas is. So I thank all of you for, again, spending time with us. I can't begin to tell you how much it means to us at CIDRAP, all your notes, your messages and so forth. And thank you for being the reason that we can all look to the Brainerd miracle and say, you know what, we can do this, we can do this, we have to do this. So with that, I wish you a very merry Christmas. I wish you a very, very safe next week. And I just wish that you continue to share that kindness around the world and make a difference in someone's life. Thank you very much.

**Chris Dall:** [00:54:14] 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. The Osterholm Update is produced by Maya Peters, Cory Anderson and Angela Ulrich.