Speaker 1:

Here we go. Recording in progress. So this is being recorded. If you would like to watch it, we will have it on our Healthy Living Series webpage. So again, this is The State We're In An Update on COVID-19, the variants and the vaccines.

At the end of the event, you'll receive a very quick three-minute survey to let us know how you felt about this program, to ask any questions that you may not have had answered, and also to help us with programming in the future.

The Q&A function is what you're going to want to use tonight if you have any questions that we're not answering throughout the program, so if you do have any questions, use that Q&A function.

And then let's see finally, we have on October 25th, we're hosting a healthy living series on women's cancer screenings, so please stay tuned [inaudible 00:00:59] one could register for that event.

So that is all I have. And we're going to get started. So like I said, with me tonight is Dr. Michael Calderwood MD, MPH and chief quality officer at Dartmouth-Hitchcock Medical Center. It's just my printer being weird, sorry. Sorry. The best-laid plans, not [inaudible 00:01:27].

Dr. Calderwood is an active clinician in the section of infectious disease and international health, and is board certified in internal medicine and infectious disease. He has been actively engaged over the last 19 months in the Dartmouth-Hitchcock Health System response to COVID-19.

He earned his medical degree at the University of Chicago Pritzker School of Medicine, and completed his residency in internal medicine at Brigham and Women's Hospital, a fellowship in infectious disease in the combined Brigham and Women's Hospital/Massachusetts General Hospital Program in Boston. He also holds a masters of public health from the Harvard School of Public Health.

Dr. Calderwood thank you so much for being here-

Michael Calderwood:

[inaudible 00:02:13] to be here.

Speaker 1:

... and for helping us to answer some questions. I'm looking forward to this conversation, I'm sure our audience is looking forward to this conversation. So thank you for your time. So I thought we could kick things off by talking a little bit about where we're at with COVID-19. I think I have some slides for you.

Michael Calderwood:

Sure. And I wanted to kind of set the stage. And so I did prepare some slides. And I don't mean to scare folks with these slides, it's just to give a little bit of the state and understand where we've been and where we're going. So if we could pull up those slides.

So beginning in July, this past summer, we began to see a rapid rise in new COVID-19 cases, and this is data from the country, but actually moving into August and September this reflected rise as we were seeing locally in the states of New Hampshire and Vermont as well.

And as we typically see around two weeks after the rise in the cases, we began to see a rise in the death toll as well. There are some encouraging signs. We, at one point in early September, were having about 160,000 new cases of COVID-19 diagnosed daily in the United States, and that is trending down. It's now 95,000.

But unfortunately the death toll is a little bit slower to decline. We are approaching 690,000 individuals in the United States reported to have died from COVID-19 since the beginning of the pandemic.

And we know that there's a fair bit of unreported deaths as well. And the estimates from the University of Washington, who've been tracking this very closely, are that we probably crossed about a million individuals in the US who had died from COVID-19 by early September. Next slide.

But we do have a way out of this. And so we have very safe and very effective vaccines that actually have been estimated to have prevented around 140,000 in US deaths by early May, and about 280,000 US deaths by the end of June. And with the rapid rises through July into early September, that number is most certainly quite a bit higher at this point, although that has not been reported. The latest data we had was through June.

What we're seeing is as hospitals begin to have surges, this has happened over the last two months, these preventable deaths continue to rise. And most of this is amongst those who are unvaccinated. If you look at what's being reported locally in New Hampshire, really nearly everyone hospital is unvaccinated, and that's particularly true amongst our sickest patients in the ICU. Next slide.

We know that there remains some vaccine hesitancy, at present only 55% of the US population is fully vaccinated. Now not everyone is eligible, and that includes at point those under the age of 12, although we'll talk later about what we hope to be soon approval in those of age five to 11.

We know we've done the best in those in older age groups. And so you can see ranging across all the US states somewhere between 74 and 99% of those 65 and older are vaccinated. But once you get down into the younger age groups, that full vaccination status falls off.

And you can see, as is reported weekly by the CDC, in the most recent wave that some are calling the fifth wave of COVID-19, it most certainly has hit the younger age groups who tend to have lower rates of vaccination. And you have blunting, meaning we don't see as robust a rise in cases in those age groups that at least had 75% or more vaccinated.

And we most certainly at this point are seeing more younger individuals, including children, who are hospitalized that we didn't see early on in the pandemic. Next slide.

There are a few things around vaccine hesitancy I do want to highlight. We know that many of the states with the highest ICU occupancy with COVID-19 are in the lowest quartile of vaccination, and that those who are unvaccinated have a 10 times higher rate of being hospitalized, and a higher likelihood of dying in that same range.

I mentioned the shift to younger ages, and even amongst those who themselves are not eligible, the choices of those around them are having an impact. And so children are three times more likely to go to an emergency department, and four times more likely to be hospitalized in US states in the lowest quartile of vaccination. And unvaccinated children, similar to adults, are 10 times more likely to be hospitalized.

We also unfortunately have seen significant health and birth outcomes in unvaccinated pregnant women. We've seen increased messaging around the importance of vaccination in those who are pregnant or looking to become pregnant. We are seeing that number go up, but we still have a lot of education to do. Next slide.

Speaker 1:

I don't have a next slide.

Michael Calderwood:

That might be the end of my slides-

Speaker 1:

I think that's the end.

Michael Calderwood:

So why don't we pivot to the questions, and I will answer additional things that I think I meant to get in slides, but I wanted to instead do in a Q&A format.

Speaker 1:

Excellent. Well, thank you for that overview. And I know we have a lot of questions, and I think a lot of the questions that we had come in ahead of time had to do with booster shots. So who should be getting their booster shots, and where should they be going for booster shot information?

Michael Calderwood:

So we've gotten a lot of information over the last week-and-a-half, and we know that there's been kind of approval that has come through the FDA, the CDC Advisory Group had looked at the data, and then Dr. Rochelle Walensky at the CDC had aligned the recommendations that they had released to align with those by the FDA.

That actually is helpful. It was a little confusing when we had two different sets of guidelines, but each state is really making decisions around prioritization. And so the New Hampshire Department of Health and Human Services had released a HAN, or health alert notice, that went out on Friday, and we really have two recommendations. One is a group that should get a booster, and the second is a group that may get a booster.

The focus has really been on those individuals who are 65 years of age and older living in a nursing home assisted living setting. That's where the data is actually best, where we've seen a significant decline in antibody response, as you get to about six months out from your second dose of vaccine, and there's a benefit from a third dose at that period to boost your immune response, similar to what we do with other respiratory vaccines, like a flu vaccine.

There is a second group for at least the state of New Hampshire, and that is going to be those who are kind of 50 to 64, who have underlying health conditions that put them at higher risk for severe illness with COVID-19. And you can actually go onto the New Hampshire vaccine website to click and find what those conditions might be; there's a list of those. Those are also individuals that should get a booster.

There's then a group that may, and it really comes down to individual discussions as well as availability. And this is going to be individuals between the ages of 18 and 49 who have underlying health conditions, and in individuals in the ages of 18 to 64 who don't have underlying health conditions, but maybe because of the work they're in, whether this is a healthcare worker, or a frontline worker, may have a higher risk of exposure, they also may be eligible for a booster.

We know that similar to early on when vaccines started to be released, there'll be a certain amount coming to the state on any given week. And so the state has been working on some of the prioritization, and again, really focused on those at highest risk; and those are those two groups in the, "Should," particularly those who are older, and those who have comorbid illness,

Where you can get your vaccine, your boosters, you can actually go to the state website and look up the sites. And so they're going to be kind of multiple Dartmouth-Hitchcock health sites that will be communicated about later this week in terms of where that will be available. But there are also local pharmacies where you can go do this, and increasingly available in individual provider's offices. As the state stood down its vaccines sites, trying to make a broad range of other available options was important.

Speaker 1:

Great, great. And so is the booster just kind of a third dose of the vaccine that vaccinated people have already gotten? Is that what it is?

Michael Calderwood:

Yeah. So at this time the booster is the exact same messenger RNA, and it is just giving you a third dose at an interval at least six months beyond your completion of the two-dose series. And the idea here is it reintroduces your immune system and reminds them of spike protein so that it can develop immunity.

Speaker 1:

Okay. And so that brings up another kind of question, if someone... So I, for example, got the Moderna vaccine, can I then get a Pfizer booster, or would I have to get a Moderna booster? How does that work? Do you know?

Michael Calderwood:

Yep. So the data that is out is really specific to individuals that got the two-dose series of the Pfizer vaccine. Those are the individuals who currently are eligible for a booster.

The Moderna vaccine is reviewing data, but they have not yet approved a booster. And it is not recommended to get a Pfizer booster if you had completed a Moderna series.

Similar, we have new data that a second dose of J&J is probably beneficial, and we're hoping in the next few weeks that we'll have some information on that as well.

But the booster information that came out over the past week or so was really for those individual that got the Pfizer vaccine.

Speaker 1:

Okay.

Michael Calderwood:

I will say for individuals that got the Moderna vaccine, there is some evidence that that may provide slightly longer term immunity than the Pfizer vaccine. So we'll have to wait and see if they recommend a booster similar to the Pfizer vaccine. They are different, and they may have different long term effectiveness.

Speaker 1:

Great. Just a quick question about, I don't know if you would know this, about people who maybe had a phobia of needles and weren't able to get the vaccine, they tried, but they couldn't do it, do you know if there's any kind of remedies for that, or if there's anybody who's working on figuring that out for them?

Michael Calderwood:

With many vaccines we have looked at alternatives, whether it might be an intranasal delivery, a different type of needle that might be smaller, those aren't available yet for the COVID-19 vaccines.

Thinking through, are there environments, and oftentimes in the large scale vaccine rollout that we had early on, this wasn't conducive to an environment where someone could be allowed time to be comfortable, get calm. Doing that in individual provider's offices might actually allow for some of that to play out for those individuals.

Speaker 1:

Yeah. Anecdotally, it was like the smallest needle I had ever seen. Like, I barely felt it; it was well done.

Michael Calderwood:

There are other vaccines, but this is not like getting the shingles vaccine. Most people have a bit of a sore arm, similar to what people are used to with a flu vaccine. But most side effects are really short-lived and mild.

Speaker 1:

Yeah. So hot topic, the Pfizer vaccine for kids, so it looks like approval for emergency use is on the horizon. And it's a lower dose than the dosage that we get in the 12-plus community. So could you talk a little bit about what parents can kind of expect with that vaccine? Do you think it'll be a similar rollout where it's a state effort, or do you think we'll just be able to go to our pediatrician's office?

Michael Calderwood:

So I'll get to that question in a minute. I think the most important thing is to say that we are waiting on the full data, and the FDA is hoping to review this, I heard today, within weeks.

So hopefully we will be able to see the full data set. Oftentimes things that go before the FDA, within a couple days before that review, they release everything that they're going to review so that can see and review it yourself.

And the reason that's important is the only information that we currently have is what Pfizer has released in a press statement. And so the press statement said that they saw similar antibody levels in those aged five to 11 that they were seeing in adults when using this lower dose vaccine, and that they had similar or even less significant side effects from the vaccine in these younger age groups than in older adults.

So we need to see the full data and make sure it goes through the full FDA review. The hope and the big push right now is to have this available in pediatrician's offices; that's going to really help with the rollout.

PART 1 OF 4 ENDS [00:18:04]

Michael Calderwood:

Well in pediatrician's offices, that's going to really help with the roll-up or the rollout. The one thing that we are addressing is many parents asking, what if my child is 11 or 11 and a half? Should I wait until they're 12 so they can get a adult dose rather than the half dose that you would get for a child? And given that boosters are likely to be necessary, I would say, get the age appropriate vaccine. Get that

protection as early as you can. And then you can think when they roll into an older age group, do they get a booster at a different dose?

Speaker 1:

Yeah. That's a great point. Yeah. And then you touched on it a little bit, and as a parent, it's concerning, the infection rates of children. So how can we protect our kids? Right? So I'm a vaccine person. I go out into the world and I go grocery shopping and I do this, that, and the other thing. I wear my mask, but how do I know that we're really protecting our kids.

Michael Calderwood:

So really making sure those that are eligible in a bubble around those children are vaccinated. So thinking about, are you having a large events in the home where you bring family members over? This is going to be important as we go into the holidays around Thanksgiving, Halloween, and things that are coming up. And we ask a lot of times when people come into the home, it's been a common question. Pediatricians recommend asking about guns in the home. This is a similar conversation making sure that you feel comfortable, particularly if you're going to have play dates and sleepovers.

The most important thing right now is really masks in the schools. And so we know that masks work, masks have been a critical part of making sure we are lowering the risk to individuals indoors, particularly in environments where they are in close proximity and schools are a major one for that. And so as we continue to see community transmission be quite high in our region, masks are really important. Will we get to a point where the community transmission is low and we can have a conversation about backing away from those masks? I most certainly expect that to happen. It's just not today.

Speaker 1:

Not today. Let's talk about breakthrough cases. So I think that there are many people who are fully vaccinated and feel that they've done their part and we'd just like to move on. Right? So could you talk a little bit about what could cause a breakthrough case? And what the risks are, especially with transmittal, like how much transmission can have vaccinated person give, I guess.

Michael Calderwood:

So amongst individuals, and so we have to remind ourselves that about 99% of what is circulating right now is the delta variant. And we are seeing some more breakthrough cases with the delta variant, but it's still amongst those who are fully vaccinated is about 0.5 to 0.6% and say one out of 200 fully vaccinated individuals that will have a breakthrough illness, and those that are symptomatic tend to be fairly mild. You know, they'll stay home from work and they feel sick, like they might with any other respiratory viral illness, but they're not being hospitalized. They're not in the ICU.

They're not having this severe illness. Now you will have some breakthrough cases, particularly in individuals who are older or have co-morbidities that may get severe illness. And so we have to be thoughtful. You know, even if you're fully vaccinated, if you're at risk, you want to be thinking, am I wearing a mask in public? Am I doing things to mitigate my risk? Amongst those that have a breakthrough infection, they are able to transmit the virus at a equal level to those who are un-vaccinated, but they do so for a shorter period of time. And so those who are un-vaccinated are more likely to have severe illness, more likely to have longer-term symptoms, and can transmit for a longer period of time to others probably.

Speaker 1:

Okay. Wow. Well, that's good to know. Well, that's important to know. Like I didn't know that it was a shorter period, so that's important to know. And we touched on it again. So for Halloween, for example, kids going out and trick-or-treating, should they be masking? How should we be handling candy that comes into the home? What's the best way to protect our families around the holidays?

Michael Calderwood:

Right. And again, we really are understanding a lot about transmission outdoors versus indoors. Most trick-or-treating is outdoors and fairly short interaction. Some individuals may choose to leave candy outside to limit some of those interactions. The risk is really not going to be to the children in that outdoor setting. Again, if you're going to have a Halloween party and have people indoors, thinking about what that risk might be. And again, we've learned this over 19 months. It's about numbers. It's about ventilation, about the vaccination status of the parents and others in the home, making sure folks aren't sick. In terms of the [inaudible 00:23:57], the other thing we've learned quite a bit about. So early on in the pandemic, there was a big focus on what might be on surfaces, whether that be candy wrappers and people were worried about things brought home from the grocery store. That really is not a primary source of infection. It really is respiratory in terms of its transmission.

Speaker 1:

Right. Masking, washing our hands, super important still right now. So interesting question I have about vaccines, COVID long haul, and heart issues. So could you just talk about the long-term effects we are seeing with COVID-19 patients, myocarditis? Is that right? And what, if any, is the correlation with some people, and I believe it's younger men who get vaccinated who may very rarely also experience mild myocarditis. So how are these correlated? What is the connection here?

Michael Calderwood:

I think that's actually two separate issues.

Speaker 1:

Okay.

Michael Calderwood:

And so your first question was about individuals that have prolonged symptoms and prolonged recovery after having a documented illness with COVID-19. That's separate from vaccination. We know and it ranges depending on the study that you read, but say one in 10 will have prolonged symptoms. Most of this has been fatigue, some kind of brain fogginess, not processing things as well as they might. We know in some younger individuals that there has been some exercise limitation. Student athletes, for instance, who weren't able to return to their same level of performance for a longer period of time. Most of this seems to wane over time, but takes months. And it takes quite a long time. So we are seeing that people are improving, but it takes a while. And in terms of when you do studies, when you try and do studies with the lungs or studies with the heart, there aren't abnormalities when you're doing imaging of these organs. Some of these have damage from the original infection, but in terms of long-term evidence of things that would explain these symptoms, it's not like we're seeing a lot of prolonged myocarditis.

The myocarditis you asked about with the vaccines is different. And so in a small number, particularly in younger individuals and was seen more in males, there has been some post-vaccine myocarditis or inflammation of the muscle of the heart, again, very rare, but that was why the FDA actually asked for more people. And so people have asked why are there delays in getting vaccines for younger children? And it was because the FDA really wanted to be confident in that issue and ask for a trial to include a larger number of children. So we will get information on that as the FDA does their review. My understanding is that that has not been as significant as they did the larger trial, but again, we need to see the data, and feel confident that we know the risks of these vaccines and weigh that with the true benefit that these have brought.

Speaker 1:

Nice. Yeah. So you mentioned studies and I feel like recently there are many people who are hesitant. We know this, about getting the vaccine or a vaccine and whether it's because they believe that it was rapidly developed, which we know not to be true. It's been around for decades now and or whatever the reason might be. But in any case, people are kind of looking at clinical studies for the first time. Right? And trying to validate what our opinions may be about A or B, right? So could you give some insight on what a lay person, someone who's never written or read really a clinical trial or a study, could you just give us an idea of what we should be pulling out of these studies, and how we should be reading them, and approaching them?

Michael Calderwood:

So one thing about COVID has been that we have on every day, there is just a ton of new information, whether that be in the light press, whether that be in social media, or whether that be in scientific literature. And one thing that has really occurred is that individuals who are really trying to make sure that they are getting their studies out there as quick as possible, have begun to release what they call pre-prints. And so pre-prints are papers that have not been peer reviewed. Typically when you submit something to a journal, it goes to the editor, they look. They may have a statistician review your methods. They'll send it out to a few people that will review, ask questions, ask for further information before it's published. And so there are a few things that have been kind of released at a pre-print, where they hadn't gone through that rigorous review that then never got published or had to be retracted because some flaws were found when further people looked at the data.

The other thing is, as we go to publish a lot of things, we may publish things with very small numbers. And as we get information with larger and larger populations, we learn what originally was released as a, huh, this is an interesting finding, we should study this more, actually turns out not to be true when we do it with larger numbers and in a rigorous format, often what we call randomized controlled trial where you have someone that gets a therapy and someone that gets, we call placebo, to compare the effects of those two. So as individuals are looking at things, you ought to look at, is this in a reputable journal? And you can actually look up how many people tend to look at this journal and has it cited by others? And so that's the impact factor of a journal.

And so journals that tend to be well-regarded have a high impact factor. You want to make sure it's gone through a peer review process. And sometimes that peer review process is actually available. You can look at the journal article and see what questions people are asking on it. You want to look at the numbers and say, was this just reported on a small number of individuals? Or was this a large study? And do they have controls? Do they compare people that received the therapy, didn't receive it therapy? And then you want to actually look over time about whether it's repeated. You know, we know that oftentimes there'll be looked at over multiple studies and you may get different results. And so

there are ways to combine those together in an analysis that actually looks at the overall effect over multiple studies to try and understand where the truth may lie.

And so when you're sent something it's really important to kind of understand, what is it that you've been sent? Is it in a journal that a lot of people are reading and feel is really rigorous and has been reviewed by others? Or is this more of a, oh, we had one patient that had this bad outcome. You want to be a little careful about judging things based on those small numbers. I think we also have to be humble and realize that we don't know everything and things will change over time. This has been a pandemic, well it's now 19 months in, there are things that have changed over time.

What did we say early on about masks? How has that changed? What about masks indoors versus outdoors? We have learned over time and we had a pivot with those changes, and it's important to be able to be humble and recognize that. And so someone may present you something, and it may turn out that with further study that is important and something we need to learn about, but we need to be careful about not jumping on every new bandwagon because actually some of the things being recommended have harm, and we need to balance the potential benefits, and really early on it's potential, versus the true harm. And many of these things as they recommended, do have harm, and we need to be careful about that.

Speaker 1:

Yeah. Yeah. So that kind of segues nicely into my next question, which is probably a little controversial, but I'm really curious about Ivermectin. Okay? So I'm curious. I've never heard of it before. I'm curious about what it is. I have an idea of what it's used for, but where did the notion come from that this could possibly work for a virus like COVID-19? And then what would the risks be from actually using it?

Michael Calderwood:

So Ivermectin is a medicine that we use for certain parasitic worms. We use it for things like scabies and lice. There are forms that you take orally, some that are topical for application. It is widely used in a certain veterinary applications. And so there was a lab that was doing research on Ivermectin at a fairly high dose that outside of humans, actually, basically in what we would call a Petri dish, although it's not quite true because it was viral media and Petri dish is for bacteria, but anyway. We're showing that if you gave a high dose of Ivermectin, it seemed to hamper the growth of the virus.

It has not been shown in humans. And so again, that was a laboratory experiment at a very high dose that's toxic to humans. And the studies that have been done thus far in humans have not shown a benefit. And we have seen individuals who are presenting with overdoses and rather significant side effects from this medicine. I will say that I think it's worth studying. And I think that individuals that are doing randomized controlled trials and they are being done, that's the way to answer the question. I worry about individuals who are getting Ivermectin sometimes in forms that are not safe in humans or taking doses that are not safe in most adults really are doing more harm.

PART 2 OF 4 ENDS [00:36:04]

Michael Calderwood:

In most adults, really are doing more harm without any proven benefit.

Speaker 1:

Yeah, so it could be dangerous. You can actually overdose on.

Michael Calderwood:

You certainly can. And we have-

Speaker 1:

Oh my gosh. Okay. So if someone does contract COVID-19, at this point, we know we were talking about how everything changes, so what is the best way to treat COVID-19 at home before going to the hospital and, and making all those moves? What is the best thing to do?

Michael Calderwood:

So, there are, kind of depending where you are. And so for individuals that have milder illness and some comorbid illness that make them at higher risk, we have available monoclonal antibodies that actually can help to boost your immune response. You are eligible even if you are fully vaccinated. And so, there are sites around the state where you can get those monoclonal antibodies. They do reduce your likelihood of an ED visit or a hospitalization. Once you are sick enough where you may require a hospital stay, we actually have a number of therapies. And so we have learned effective therapies over time, it's why the mortality over time has gone down. It is still quite high, particularly in those in the ICU, but it is much better than it was early in the pandemic. And that's because of antiviral medicines that help to reduce your inflammatory response or modulate your immune response, that, depending on at what point you are in the illness, or you're requiring ventilation, are you requiring additional support for oxygenation, we have different things that we can offer. And so, we're at a much different spot now, 19 months in, than we were at the beginning, and we have a lot more to offer, which is exciting.

We are always looking at new therapies that are coming along, but, again, my biggest concern, and actually it was the slide that I think we didn't show at the beginning, but I will add here, it is important to recognize that we are at a point right now in the country where between one and three and one in four ICU beds across the country are occupied with someone by COVID-19 and one in 10 hospital beds are occupied by individual suffering from COVID-19. And so, everyone is looking for these therapies and we will run into shortages. We've already begun to have some of that because of all the individuals who are requiring treatment.

And the way to prevent that and make sure that you are protected yourself, and that you are allowing hospitals to remain open and function is to receive the vaccine, because that is going to allow us to both lower the number of COVID-19 patients in the hospital, but then allow care to continue for everything else that's not COVID-19. And that's been the real sad thing about this pandemic, because it's not just impacted individuals infected with this virus, but it's impacted our ability to do so much else because of the limited in those beds across the United States, and even locally.

Speaker 1:

Yeah. Just wide ranging impacts I think too. We've talked a lot about mental health within Dartmouth Hitchcock, about that impact of COVID and, and the hospital beds and on our providers too. How are our ICU beds at Dartmouth Hitchcock and how are our providers doing?

Michael Calderwood:

Well, I'll answer your first question, I'll get to your second question. The, the first one is that we at Dartmouth Hitchcock Medical Center, like all hospitals across the state, are reporting on a daily basis about the ICU occupancy. There are times where that doesn't tell the full story, and part of the issue is once you become severely ill with COVID-19, you have a fairly long hospital stay. And we have people

who are hospitalized for weeks and weeks. They get to a point where they're no longer infectious to others, but they're still suffering from the ravages of the infection itself, and so, how they get counted in some of these hospital numbers isn't always clear, they're not on say the isolation, but they are still hospitalized for what was caused by COVID-19. And so, hospitals are beginning to look at that because it really tells a full story. The true impact of this virus.

All providers across the country are in an incredibly difficult spot, at this point. We know this is a vaccine preventable disease, we are seeing on a daily basis, individuals who come in and are extremely sick, and asking at the point of admission, "Can I get vaccinated now?" And it's too late at that point. And a lot of people regret the decision of not getting vaccinated. There is a lot of moral distress amongst the staff across Northern New England, and across the United States, but it is not uncommon to see individuals breaking down in tears and being just devastated by this. And that is the reality of the pandemic where we are now. It is preventable, but we have too many people that aren't making that choice to prevent the illness. Yeah.

Speaker 1:

Yeah. So we had some, a couple questions about, "If I am exposed to COVID-19, how long should a vaccinated person quarantine, versus an unvaccinated person quarantine?

Michael Calderwood:

So that's a really a good question. And so, it is different and there are many things actually that are different. If you are vaccinated and you are unvaccinated. So if you are exposed and you are unvaccinated, you need to quarantine for 10 days from your last exposure. So it gets a little complicated, for instance, if you are still living with someone and how you might be able to separate and break that exposure. You can test on day seven and if negative, end that quarantine early. So there are ways to do that with testing. Amongst those that are fully vaccinated, they don't need to quarantine at all if they don't have symptoms. It is recommended however that you are tested on day two, and again on day five to seven. And that is understanding that those that are fully vaccinated may have mild symptoms, and not know that they've turned positive and maybe at risk to transmit to other. And so, we are recommending that testing at that day too, and day five to seven, because they're going to continue to be out in the community and going to work, and so that testing can help to think about their risk to others.

Speaker 1:

Yeah. And is there a difference with the Delta variant, are the symptoms different for some who might have Delta versus COVID?

Michael Calderwood:

They are, and early on we were seeing a lot of cough and shortness of breath. We're seeing a lot more upper respiratory illness, kind of running nose, muscle aches, GI symptoms. So it's not as easy. You can't just focus on that cough and shortness of breath. It's more a wide variety of things you might see with all sorts of respiratory illness. That's what gets difficult, particularly as we go into flu season, it's going to be a lot [inaudible 00:44:34].

Speaker 1:

Yeah. So people should be thinking, and people are thinking, I think about getting their flu shots. So people should definitely be getting their flu shots this-

Michael Calderwood:

Most certainly get your flu shot, you can get the flu shot actually at the same time that you get, if you new to getting your vaccine, or whether you're getting a booster, that idea of spacing the vaccines, at least 14 days apart was something we did early on. It was mostly because we wanted to understand the side effects and not be confused about what might be attributable vaccine one or vaccine too. That's all gone away. We actually now have enough data to say you can safely get multiple vaccines at the same time.

Speaker 1:

Excellent. Yep, that's coming around. Flu shot season. So another question that came in is about allergic reactions to vaccines. So those are the people who really haven't been able to get the COVID-19 vaccine at this point, is that right?

Michael Calderwood:

So the individuals that it's recommend to get the COVID-19 vaccine are actually fairly small. It's individuals that have had a reaction to say the first dose of vaccine, and that's a severe reaction; mild reactions you most certainly can get the second shot. Or if you've had a previously documented allergy to one of the vaccine components. But apparently, when you look at the actual ingredient list, a lot of these are things that are in common grocery products. I mean, these are not strange ingredients and we're happy to kind of provide an easy to read breakdown. The problem is when you read these ingredients, they have these scientific names and people don't really understand what they are, but these are common components well beyond vaccines that people are exposed to on a regular basis. So there shouldn't be a lot of fear about the things that are in the vaccine; they're mostly there for stability.

Speaker 1:

Okay. Great. All right. So we do have some questions coming in through the Q&A. So I'm going to try to kind of go through them and vet them and then kind of get them to you. The first one I think is kind of interesting and it came in. "So what is the effect on a nursing baby when the mother receives the vaccine?" I know I nursed after I got vaccinated, but just this person's son's wife, daughter-in-law I guess, was advised by her medical provider not to receive the vaccine because she's nursing.

Michael Calderwood:

Yeah. And so actually is something that again, we over time get more and more data. And so, we now have a lot of experience with vaccines amongst individuals who are trying to get pregnant, individuals who are pregnant, and postpartum amongst those who are breastfeeding, and we have good safety data in all of those populations. So that concern about whether it is more difficult to conceive, whether there's harm to the child in utero, or harm after birth, we actually have good data that none of those are true. What we do know is, and so I'll focus on those who are pregnant, the likelihood of requiring an ICU stay, having a pre-term delivery, having complications in the child are much higher amongst those who are unvaccinated, and so all of the major obstetric societies really are strongly advocating vaccination amongst all who are trying to get pregnant, amongst those who are pregnant themselves, and amongst those who are lactating or breastfeeding, and the pediatricians feel the same way.

Again, the mRNA that people are thinking about is very short lived. It helps your body present a spike protein to your immune system to develop an immune response, and like many things, you can have some of that immunity passed on to a child. That's actually a real benefit to children from breastfeeding, is things that the mother may be immune to, they can pass on some of that immunity to their child. But again, none of that is harmful to the child, and I want to focus on that.

Speaker 1:

Right. Thank you. So I just wanted to know, could you elaborate a little bit on what it means, "A shorter period of time of transmission of the Delta variants for those of us already vaccinated," sorry.

Michael Calderwood:

And so this really has to do with viral load, and so how much virus you have and are secreting. And so, your ability to transmit to others depends on how much virus you have in your nose and upper airway and can spread to others. We know that it can in a very short period of time, over 24 to 48 hours reach levels similar to those who are unvaccinated, but because of your immune response, it actually drops down quite quickly to a level where you're less likely to transmit to others. And so there's a lot of discussion of, "Well, if you're vaccinated, you have the potential to transmit at the same rate, as someone who is unvaccinated." That might be true for around 24, 48 hours, around when you first are infected. But we know for those who are unvaccinated, your ability to transmit to others really goes out to 10 days. And some had even argued out to 14 days, although it seems to weigh most in kind of that day seven to 10 period. So that's what I mean by a shorter period.

Speaker 1:

Okay. So someone has a 12 year old unvaccinated grandchild and has tested positive, but has no symptoms, does he have to wait a certain amount of time to get vaccinated, or can he get vaccinated anytime?

Michael Calderwood:

That's a great question. So no, soon as you are clinically recovered and mostly this has to do with when you are ill from COVID, you aren't feeling that great, and so is that the time to give you a vaccine that might make you a little tired for 24 hours? So, we typically wait for individuals to have recovered, but then there's really no time period at which you can't get the vaccine, and sooner rather than later is what we recommend.

Speaker 1:

Yeah. So if you're asymptomatic-

Michael Calderwood:

Oh, with asymptomatic, no, they can get the vaccine.

Speaker 1:

Get the vaccine. Okay. And then they also ask is should an unvaccinated adults who came down with a virus and was very sick for two weeks, get the vaccine, or are they now immune because they had COVID?

Michael Calderwood:

There is a period of immunity, and it appears to actually wane quicker than those that received the vaccine. It depends a little bit upon the severity of illness and so we have seen that some individuals who are quite severely ill may have some immunity for a longer period of time; it depends a little bit upon their own immune system, their age, some of their other illnesses. But it is truly recommended even for those that have recovered, that they get the vaccine, because that provides the longest duration of an immune response, longer than those who've recovered from the active illnesses.

Speaker 1:

Great. So I don't know what this acronym is, but to, we have a 49 year female who got the J&J in early March and to avoid TTS risks, do you know what that is? TTS risk?

Michael Calderwood:

Yeah. So this was this idea of blood clotting risk with the J&J, yep.

Speaker 1:

Oh, okay. Should they get a Pfizer or Moderna booster? So, is there a J&J? Is that just Pfizer at this point?

Michael Calderwood:

So the only thing we have right now is a Pfizer booster, and it's for individuals that had received a two dose series of Pfizer. There's a lot of discussion amongst those that got J&J; should they receive a booster with an mRNA vaccine? Should they get a second dose of J&J? And we will get information on that, likely in the next month, but as of today we have no recommendation and people need to kind of wait for that information to come out.

Speaker 1:

Yeah. Okay, we have lots of questions coming in. Thank you, everyone. Let's see, are medical health providers and workers expecting to get booster shots at some point as well?

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Speaker 1:

... to get booster shots some point as well.

Michael Calderwood:

So again, they are in the group that was recommended in the FDA review, as well as the final recommendation from CDC. ACIP, which is the advisory group to the CDC had originally, in a split vote, kind of said that they did not recommend amongst all healthcare providers. They were focused on those that had either by age or other illness risk factors. They were going to focus in on that group. We have seen over time the healthcare workers with a group that were really at the beginning in December of 2020 and January of 2021. So they've had a long period of time and you can see the antibody levels going down. It did not reach statistical significance, which is why the advisory group, in thinking through the need to prioritize the highest risk groups, were focused on those who were older and those who had comorbid illness.

At the same time, those were healthcare workers, similar to others, grocery workers, teachers, who may because of their profession be at higher risk. It was decided that they should be offered a booster because the trend was going down, even if at that time, it hadn't reached statistical significance. The general feeling was it would over a few more months time and they wanted to make it available for those that felt they were at risk.

Speaker 1:

Okay. Someone's just looking for clarification on when we start. What is day one of a quarantine period, when we find out that we are COVID positive or when we're feeling sick, like what's day one?

Michael Calderwood:

Okay. So that actually is a separate question. You were asking about isolations. I want to be careful about that. For individuals who test positive themselves, they are on isolation. For those who are exposed but not known to be positive, they're on quarantine. That's a waiting period to see if you might turn positive or develop symptoms. So isolation is either your first day of symptoms or if you're asymptomatic, the date of your positive test.

Speaker 1:

Okay. I hope that helps. Let's see. How do we know about these cases that are Delta variant? Does the test... When you test, does it tell you this is the Delta variant versus COVID or is it just, you just have COVID?

Michael Calderwood:

No. So the test is just telling us that you have COVID. So the CDC has kind of regional laboratory networks and they're doing a sampling kind of each week to look at what percentage of the cases fall into the different variants. And they publish that on their website. And it has, again, it has been really through the summer 99% Delta variant.

Speaker 1:

Okay. So somebody wants to talk about monoclonal antibodies. So we have someone who's 33 years old, fully vaccinated with booster, as well as immuno-compromised and has COVID, treating symptoms at home. They've been offered the treatment, but they want to know is it safe? What does it entail? Is it new? Like, what is it?

Michael Calderwood:

No. So there have been a variety of different monoclonal antibodies. And so to date there, technically four, although some of them are combinations of similar monoclonal antibodies. And depending on the variants, and so there was a period when we had more circulating Beta variant and Gamma variant, and so some of the monoclonal antibodies were no longer effective. The Delta variant, actually, really three of the four remained very active. And so we have good access to monoclonal antibodies.

And so individuals who are at higher risk for progression on to severe illness, and there's a lot of discussion, maybe this is someone who has immunocompromised, but is younger, has received vaccination, including a booster, is that really truly high risk? I think it really comes down to a risk benefit discussion. There are plenty of people that would opt to get that monoclonal antibody. They're very safe. In terms of their effectiveness in reducing trips to ED's and hospitals, they're effective. I mean,

they're not a game changer. I think that in one individual, it's going to be a fairly small reduction. Across a population, they've had a big impact. I think that's what we're trying to understand.

Speaker 1:

Okay. So speaking of risk benefit, we talked a little bit about the holidays coming up and how people should kind of decide to congregate with their family and friends. I know one unvaccinated adult and then young children, how would you approach that and how would you [inaudible 00:59:58]?

Michael Calderwood:

I think this is time for some real serious family conversations. Many people are opting not to include people in large indoor gatherings if they are unvaccinated, particularly if they've got higher risk individuals in that home or children who may not be eligible for vaccination. I can't make that decision for anyone's family, but I will say that that is a conversation that is going on in families across the country.

Speaker 1:

Yeah, for sure. Let's see. So we have one... I want to dive into this question about the study about natural immunity. And maybe we could talk about it briefly. I haven't read it. So, but they're asking why it hasn't been taken more seriously in the United States. I'm not sure about this. Maybe we can talk about this one offline and post it to our website if that's okay.

Michael Calderwood:

Sure. There's a lot of discussion around natural immunity and this has been a discussion point when we have talked about flattening the curve. You can expose a lot of people and you will end up with higher rates of infection, higher rates of hospitalization and higher rates of death. And you can quickly overwhelm a healthcare system, but individuals have had that discussion about, do you try and get a large enough number of people exposed so that you reach herd immunity through natural infection?

I think one thing that doesn't take into account is that that will lead to an increased number of variants. And some individuals that were infected early on may not have less immunity against some of these new variants. And this is the reason that we're going to have to keep monitoring and thinking about, do we develop new vaccines as part of these booster efforts? The benefit of the MRNA vaccines is that it's very easy to actually swap in a new piece of MRNA. And so if you saw changes in the spike protein with a new variant, you could boost with a new vaccine, with a new piece of MRNA that would provide protection. And so people are beginning to look at that. We don't have that yet, but that is something people are looking at.

Speaker 1:

Yeah. So it really comes down to your exposure though, right? And just not having the capacity to handle all the hospitalizations and such. Yeah. Let's see. Let's see what else we have here. So this is a great question. I think what it'll kind of help us kind of close out the pro [inaudible 01:02:54]. Again, if we didn't get to your question, we will take a look at them and try to answer those and put them on our healthy living series webpage at dh.org. So when asked are the daily case counts in New Hampshire close to a plateau, which kind of brings me to the question of will we see the sun again? When can we breathe easier?

Michael Calderwood:

So we are seeing encouraging trends. So again, you can look at individual case counts, you can look at hospitalizations, you can look at deaths. If you look at the US as a whole, we are beginning to see a decline in daily case counts. I kind of showed that data at the beginning. There tends to be about a two week delay. So we are beginning to see the daily death count turn the corner as well and trend down. Unfortunately, it's still very high numbers of individuals on a daily basis who are dying from this virus. And in the state of New Hampshire, we are really seeing the daily case counts come down and so we are seeing some improvement. But again, the number hospitalized is not coming down yet. And on some days continuing to go up and that really has to do with these long hospital stays.

And so it's not like someone leaves and someone else comes in, we have the same set of patients who are hospitalized and we add on top of that, which is the real impact of these long hospital stays. So I'm encouraged that we are turning a corner. We've turned this corner before. Again, it depends on the region you're at, but many people are referring to this as the fifth wave. The only thing that is really going to halt a sixth wave is for us to improve the rates of vaccination. We most certainly have not vaccinated enough people in this country and the risk from those who are unvaccinated, both for themselves and to those in the community is quite significant. And so we have to think about how we have these conversations and how we help people to think about why it is that they themselves are not open to the vaccine and listen. Listen and try and understand how we can bring them to a different decision, help them to make a decision that is going to be beneficial to their health and the health of those around them.

And at the same time, we might have to think about policies and we're at a point where the risk is truly different if you're vaccinated and unvaccinated. And so you will increasingly see, for instance, I've been going out to various events. If you don't have a vaccine card, or you don't have a negative test, you can't enter. And that is the reality of where we are. It truly is a lot safer for those who are vaccinated. And they're going to be able to do more things than those who are unvaccinated, and that's just accepting the reality of the risk.

Speaker 1:

Yeah. That's all I have. Let's see if we have maybe one more question. Well, we got a lot of thank you's. Someone did ask about groceries, which we talked a little bit about the surfaces.

Michael Calderwood:

We did.

Speaker 1:

We don't have to worry quite so much about the surfaces of things, is that right?

Michael Calderwood:

No. The videos that were out earlier in the pandemic about wiping down all your groceries, really, it's not necessary when we've looked at the true risk from transmission on surfaces.

Speaker 1:

And then we have someone who might be exposed to COVID, which they do. And we talked about that as well.

Michael Calderwood:

We did.

Speaker 1:

Isolate, get tested, and then if you're positive, quarantine, right?

Michael Calderwood:

And again, we do have monoclonal antibodies and there's information on that on the state site. You can also go to the DH website to read about these therapies.

Speaker 1:

Great. So I think we do have some more questions that I would really love to answer offline and get them answered for you on our webpage, again, that's healthylivingseries@dh.org, and this whole event is being recorded and it will be posted so you can refer back to anything you'd like to. It should be on YouTube as well. Hopefully, what's today? Monday? Hopefully by Wednesday at the latest. So Dr. [inaudible 01:07:59], thank you so much for your time and for everything that you have done in response to COVID-19 over the last 19 months. We appreciate everything you've done. And thank you so much.

Michael Calderwood:

I appreciate the opportunity to chat with you and really wonderful questions. So thank you for all that were listening and submitting questions. I'm sure we will have other opportunities to engage.

Speaker 1:

For sure. For sure. But hopefully we won't have to talk about COVID for too much longer.

Michael Calderwood:

That would be my hope as well.

Speaker 1:

That would be great. So thank you so much everyone for tuning in. Again, we will answer any questions that we weren't able to tonight, and we will put those on our healthy living series web page, but for now, we're going to sign off. Thank you. Stay safe, stay healthy, and have a great night.

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