

**OPEN NINTH:
CONVERSATIONS BEYOND THE COURTROOM
COVID-19: A SECOND LOOK
EPISODE 131
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HOSTED BY: LISA T. MUNYON**

NARRATOR: Welcome to another episode of “Open Ninth: Conversations Beyond the Courtroom” in the Ninth Judicial Circuit Court of Florida.

And now here’s your host, Chief Judge Lisa Munyon.

CHIEF JUDGE MUNYON: Hello, and welcome to Open Ninth. Joining me today is Director of the Florida Department of Health in Orange County, Dr. Raul Pino. Dr. Pino was appointed to his current position in May of 2019, after many years in the Connecticut Department of Health.

Since the beginning of the COVID-19 pandemic, he’s been the face of the pandemic response for our area. As one of the top medical leaders in Orange County, he has helped us understand how best to navigate these new and difficult times.

I’m thrilled to have you here in the studio today, Dr. Pino. Thanks for joining me.

DR. PINO: Absolutely. You’re welcome, Judge.

CHIEF JUDGE MUNYON: Can you tell me a little bit about your background in public health?

DR. PINO: So, you know, here in America, there is a tendency to see public health separate from clinical care. I was educated as a professional in Cuba where public health and health is just one thing. It just part of our intense training. And that’s when really it started, during medical school.

Later I had the opportunity to work with the HIV pandemic in Cuba at the beginning of it around 1986, and that was at the very, very beginning of the pandemic. And went to practice, you know, medicine, went and got trained in plastic surgery and burn treatment, and that’s what I was doing when I left Cuba.

Coming to the States, English was a barrier at the time. That was 25 years ago, and still learning English. And so the boards to get the license were not a rapid choice for us. You have to pay --

CHIEF JUDGE MUNYON: Right.

DR. PINO: -- we didn't have any family, so I went into public health, was a natural thing to do, was the other piece that I knew. And that's how it happened.

CHIEF JUDGE MUNYON: Yeah. In the United States, if I understand correctly, those that are in public health don't necessarily have an MD.

DR. PINO: Correct. You can get in public health administration without having an MD.

CHIEF JUDGE MUNYON: But you have both an MD and --

DR. PINO: A master's in public health.

CHIEF JUDGE MUNYON: -- a master's in public health. So you are uniquely qualified to do what you're doing here in Orange County.

DR. PINO: Qualified.

CHIEF JUDGE MUNYON: And I will tell you, you speak English far better than I speak Spanish. My Spanish is very rudimentary, so don't apologize at all.

So could you give us a status of the coronavirus in Orange County right now?

DR. PINO: So, right now, we are a very high level of infections and transmission. We had -- since May 22nd, we were able to contain the pandemic for about eight to ten weeks at very low levels; a positivity rate of three percent, four percent. And that what [sic] means, of all the cases that were tested, all the individuals, only about three or four percent will come back positive. And anything below five percent is manageable, except that you can have outbreaks here and there.

So we were in a very good position, and we knew that it was a race against variants. We said it many times prior to the Delta. You know, we have the Beta, the Sigma, the Gamma, we have all those letters that came in, and then came this one, very transmissible, more than ever before. And that combined with a percentage -- a significant percentage of people who are not vaccinated, which we calculate is around 35 percent of our population, then what happened is what we were afraid would happen, that the pandemic will fuel within unvaccinated individuals. And now we are back to the same numbers that we were in January or December the last year, about 600 cases a day.

Just to give you a perspective, when we were at our lowest point, we were having 40 cases a day, 50 cases a day. That's very, very manageable. And what I mean manageable, is the ability to do trace investigation and tracking so that you can isolate and quarantine individuals that may be exposed or positive from those transmissions.

When you get to these numbers, then it's like drinking from a fire hose. You just can't come up with the sufficient resources, even if you have all the money in the world, to do that tracing. And in times what it does is increase transmission because you are not able to isolate and quarantine. And that's why it gets into a cycle where you see this going down and down, you say, when this is going to stop.

CHIEF JUDGE MUNYON: Right. So what makes the Delta variant different than the original virus or the other variants that we've seen?

DR. PINO: I think people need to look at these with that -- like natural selection, you know, going back to Darwin.

CHIEF JUDGE MUNYON: Um-hum.

DR. PINO: And even if you are not into evolution. But this is what's happening. The virus -- every opportunity that a virus -- anybody that transmit to a person from another person is an opportunity for the virus to mutate. And what it does is that those mutations that are more aggressive are the ones that will survive, because they are the ones transmitting rapidly or faster than we can catch it up.

So what is happening, the less transmissible, we are able to control it, control it, control it and they will die down. But this one right now is about 57 percent of all cases in the United States. And for us, although the last number that I saw was 95, I'm 100 percent sure it's higher than that. It's just that's what we know.

CHIEF JUDGE MUNYON: Ninety-five percent?

DR. PINO: Ninety-five individuals have been identified --

CHIEF JUDGE MUNYON: Okay.

DR. PINO: -- with the Delta variant in our county that we know. But it's higher than that. It's probably about 50 percent of all cases.

CHIEF JUDGE MUNYON: Do -- the tests that we administer to determine if somebody is positive for COVID, do they distinguish between the variants?

DR. PINO: No. Those tests only indicate the presence of the genetic material of the virus. But it depends on what kind of test. But the PCR --

CHIEF JUDGE MUNYON: Is that the rapid test?

DR. PINO: It can be a rapid, it can be -- there's rapid PCR and there's just the standard PCR. A PCR specifically -- that's -- and that's why it's the gold standard, because it takes any amount of genetic material left behind by the virus and amplify it so that the test can detect it.

That's why it takes a little bit longer. It takes a couple of days to get the result, because all that had to happen. That's why that test is the most sensitive and the gold standard.

There are rapid tests. Rapid tests tends to have some falses [sic], positive or negative, depending on the circumstances. And they are better when they are used on symptomatic people. Rapid tests for screening can give you a lot of false results.

CHIEF JUDGE MUNYON: So of the percentage of tests that are administered, what percentage is PCR? Because I would think that would be the more expensive -- you're doing DNA testing, in a sense.

DR. PINO: Yeah, it's the most expensive. I believe it's about \$150 a test. That's the cost right now. They -- yes, the majority of the tests are PCR. Although, in many cases, like Barnett Park, you also give the person the choice. And that's a wise choice to take a rapid so that you have an idea right away. Okay, it's negative, then it's negative. And then if it's positive, okay, it could be or may not be, so let's go then and do a PCR. And that's why places like Barnett Park are offering both the rapid and the PCR for confirmation.

CHIEF JUDGE MUNYON: So from all the times I've watched you on the television giving the press conferences, it seems as if vaccinations are what will get us out of this pandemic, that --

DR. PINO: Oh, yeah.

CHIEF JUDGE MUNYON: Yeah, that it --

DR. PINO: Like this -- I know that there's opposition to the vaccine in some segments of the population for different reasons. But that is it. This is the wall that we were planning to build. This is what will stop this. And it will not stop until we -- the majority of us get vaccinated, or a variant can get aggressive enough that would not be effective to the vaccine.

And that's another concern that we have and that's why it's so important. Because if we get our vaccination higher and higher and higher, what we do is we corral the virus to a very small number of individuals that we can control and prevent the spread of the disease.

CHIEF JUDGE MUNYON: And I would imagine that if we get a small number of people, because a lot of people are vaccinated, then there's less opportunity for the virus to mutate to a form that the vaccine's not effective.

DR. PINO: You are absolutely right.

CHIEF JUDGE MUNYON: So how are we doing with vaccines in Orange County?

DR. PINO: We are not doing bad, but we can be doing a lot better. Our vaccination rates are -- it varies on age. The older that our population gets, the higher the vaccination rates are. For the older 65-plus, we are about 79 -- 77 percent vaccinated. And that is why we haven't seen right now the hospital demands and the ICU bed usage and the death that we were experiencing in December and January. And it's because the older segment of the population which we vaccinated first is fully protected at this time. So it's happening, and it could happen to an individual here and there. But as a whole, the population is protected at that level.

CHIEF JUDGE MUNYON: And if most of the individuals that are the most vulnerable, at least by age, are vaccinated, then that indicates to me that the current virus is among younger people.

DR. PINO: Oh, absolutely right. They -- more than 57 percent of all cases are between 15 to 44 years old. That's what is fueling.

CHIEF JUDGE MUNYON: And --

DR. PINO: And that's why our concern is also schools are going to start -- starting -- some colleges are going back already. And in absence of a mandate to get vaccinated, it's up --

left to the individuals. And these are younger individuals that feel invincible. We all have one at home and -- either female or male. They are strong, they are young, they exercise, they eat healthy. And if they have it, in most cases it's basically nothing. So from that perspective they have not experienced what the older segment of the population experienced, seeing your friends and family dying.

But what we want this segment of the population to be aware of is that as they return to school and this pandemic fuels on unvaccinated, they are going to go back home, and that mom, grandma and uncle are at home, and that's where you don't want the virus to go.

CHIEF JUDGE MUNYON: And that would explain why the hospitalizations aren't as great, because those are healthier people that might be contracting the virus --

DR. PINO: Um-hum.

CHIEF JUDGE MUNYON: -- and they can weather the virus at home, even if they are miserable and sick.

DR. PINO: Yeah, and you are -- yeah. You are absolutely right. Although we have seen an increase on ER visits which indicates that they are getting sick, that they are feeling it, but it's not translating to hospitalization as much.

CHIEF JUDGE MUNYON: I know we have a -- some segment of the population, the younger segment, that have not been vaccinated at nearly the rate of everyone else. My concern is for those that can't get the vaccine. Those that are medically vulnerable and the vaccine is contraindicated or those under 12 who don't have an approved vaccine at this point.

Can you talk a little bit about the danger that those populations -- if even a young, healthy person that's asymptomatic comes into contact with them.

DR. PINO: What we have tried to drill down in our community's mind is that, in a pandemic environment, you matter and community matters. If it was a disease itself, by itself, with an individual, then you have choices as an individual. But when it gets to a pandemic environment, you have choices as an individual but you also have responsibilities as a community member and what is the ethical thing to do in this case.

And you put an example. I mean, people who -- many people who are immunocompromised, individuals that are going through cancer treatment, a child with leukemia that is going through chemotherapy, or other many diseases, allergies, severe allergies that they cannot get vaccinated. And we have a responsibility because we -- as we vaccinate, those who can, we are the shield that protects this segment of the population against the virus.

And for the younger than 12, that's about probably around 50 -- 60,000 kids in our system. At least the public school system, we have about 200,000 students in our system, so it's a large system. And that's why we're insisting parents that they should vaccinate their child before they go to school. If they are younger than 18, they have the decision -- they have the power to make the decision. If they are older than 18, that conversation have to happen, that grandma and dad and mom are home with high blood pressure, diabetes, whatever the conditions may be at home, and that you have to try to prevent that from coming into your house.

CHIEF JUDGE MUNYON: Or you need to protect your little brother or sister or cousin --

DR. PINO: Absolutely.

CHIEF JUDGE MUNYON: -- because they can't get vaccinated.

DR. PINO: They can't get vaccinated right now.

CHIEF JUDGE MUNYON: Are we seeing a higher percentage of children that are sick with this Delta variant?

DR. PINO: Nationally, they have reported that it's getting younger and younger. In our case it's a little bit younger than has been before but has been consistent. The interesting -- is that we have a group of kids -- babies that are born with the disease transmitted from moms. So that's why you see numbers below one-year-old in our data. But there has not been a significant increase in school age when you look at the whole picture. It actually has decreased for that age group. But it's more in the, you know, 16, 18, 20, 21, 22. But we are expecting that that will change when the schools start.

CHIEF JUDGE MUNYON: I would think it would be logical that it would change because the Delta variant came into really existence at the end of the school year when kids really weren't in school anymore.

DR. PINO: Um-hum.

CHIEF JUDGE MUNYON: And now, over the summer, it's bloomed and they're going back to school in a couple of weeks and the Delta variant is on the rampage.

DR. PINO: Absolutely. And, you know, schools are congregate environments. They are 20 kids per class. So it's important to, you know, keep hygiene, distance as much as you can. Parents have the choice to mask their children. I think they should exercise that discretion that they have. More likely there will not be a mandate. The Mayor was clear that he felt -- on Monday he said that he didn't have the ability to do that. There are some restrictions placed by the State government to protect individuals. And with that I think it's now up to the individual to collectively make that decision as a community.

CHIEF JUDGE MUNYON: Do you think people should be physically distancing from others that they don't know their -- that they're not in their central, you know, pod, their family, their work, and they don't know if they're vaccinated or not?

DR. PINO: I think keeping yourself from -- so this is interesting. And people -- I always ask people, where was the flu this year.

CHIEF JUDGE MUNYON: It was in our masks. We didn't get it because we had masks on.

DR. PINO: Exactly. And because we kept some distance.

CHIEF JUDGE MUNYON: Yeah.

DR. PINO: And because we wash our hands more than ever. And the flu is another one that we should not play with it. But it is -- so now -- but, you know, even the flu, the calculations are about 60,000 people die a year in the United State from the flu. There are actually more death from flu than there are from gunshots.

And -- but, again, if we have some discretion and we exercise that discretion, having your mask, having some level of distance especially if you don't know if the individuals are vaccinated or not -- because you have a responsibility to protect yourself.

And I've overhear [sic], well, what I -- then what I got vaccinated for. And that's a very good question. You got vaccinated because the vaccine will give you a 95, 96, 93 percent protection two weeks after the second dose. And then any other measures that you take, like continue to wash your hands, like keep some distance from group, especially that you know, and having your mask when you go indoor, that's the other 5 percent. With all that, you are 100 percent protected.

CHIEF JUDGE MUNYON: And the vaccine also seems to protect those that get it from severe illness so they won't end up in the hospital --

DR. PINO: Oh, absolutely.

CHIEF JUDGE MUNYON: -- or die.

DR. PINO: Absolutely. Our death rate have decreased tremendously. We were reporting 20, 25 individual death every week, and that was horrific. Right now it's only about five, six individuals. And one is too many.

And another interesting thing is that in the latest couple of reports, most of it -- more than 98 percent, sometimes even 100 percent of the death are among unvaccinated individuals. And it is sad to see someone in the full exercise [sic] of life to die from something that right now is preventable.

CHIEF JUDGE MUNYON: I've heard people not only say that, you know, I got vaccinated so why should I wear a mask, or, why did I bother getting vaccinated if I have to wear a mask. But I've also heard those say, I don't want people to think I'm not vaccinated because I wear a mask. What do you say to those individuals?

DR. PINO: Those are all such a good point as part of our sociodynamics. I'm fully vaccinated, you are fully vaccinated, we all have a mask. But it's also how you model the behavior for others and to -- it's okay to wear a mask. Because the issue about being vaccinated -- and this is where the different [sic] comes. The issue about being vaccinated is not about having a mask or not having a mask. Being vaccinated as having a mask is not to get sick. We are not getting vaccinated not to have mask or no mask. I wish that it will erase this thing, and we can't.

We can erase this thing in eight weeks. If all of us get vaccinated today -- all of us at once get vaccinated today, in six weeks -- in four weeks we have our second dose, and two weeks after we are all fully immunized. A couple of weeks after that, our numbers will go down to zero. So we have the tool.

It's the same experience that we have with HPV, the vaccine that prevents cervical cancer in women but also prevents penile cancer and oral cancer and other forms of cancers. And, you know, we have been craving for years to get something to prevent cancer. I mean, we have spent billions of dollars. We got what prevents cancer and now we are debating if we should get it because it has some sexual connotation to it.

And then in this case it's because it has some political connotation attached to it. So when we attach political ideology and religion to what should be just pure public health intervention, you're always going to get these deniers, and these type of issues are -- come with a divided -- politically divided country.

CHIEF JUDGE MUNYON: We have had, if not pandemic, very serious illness in the past like polio and smallpox that were controlled or eliminated by vaccines. What was different about the rollout of those or the mindset when those vaccines were available than what we see today?

DR. PINO: So I think that's a very interesting point, and many people have brought up that point. I think that we as a society lost memory of what was not having preventable disease by vaccines.

CHIEF JUDGE MUNYON: And polio and smallpox hit children.

DR. PINO: Yes.

CHIEF JUDGE MUNYON: And people were very -- it was disturbing to see children paralyzed.

DR. PINO: Paralyzed or living in a lung -- one of those iron lungs for years. Still some people elder enough that are still alive from the polio pandemic and breathing. They -- so part of the issue is that that memory doesn't exist. We don't remember as a society what it was not to have vaccines.

And the two elements in public health that has elevated a way of life -- the most has been two single events in public health. One is when we decided that we should wash our hands; years and years ago, our age jump. And then when we got vaccines. That was the next jump, and especially in decreasing it from mortality, because the number of diseases that are attributed to viruses and others that affect children, that's where they are the most effective.

CHIEF JUDGE MUNYON: Wow. I didn't realize that washing hands was almost like inventing fire.

DR. PINO: It was. They are so nice, the studies. When people started washing hands, when we discovered that we transmitted germs through our hands by not washing it, that's when our life expectancy increased the first time tremendously. And the second time when -- well, penicillin was another, and then vaccine was another one.

But remember, for example, you know, centuries ago, barbers were the surgeons and --

CHIEF JUDGE MUNYON: Right. And the dentist.

DR. PINO: And the dentist. And they didn't wash their hands. They would actually clean it on the apron, and the dirtier was the apron, the better was the surgeon because he had more cases. So those are the things that we don't remember.

CHIEF JUDGE MUNYON: Right.

DR. PINO: And those small intervention have brought out too where we are living 80, 84, 94.

CHIEF JUDGE MUNYON: Do you think we should all continue to wear masks? I can tell you that if I get on an airplane, probably for the rest of my life, I'll wear a mask just to avoid the cold I always get when I go on an airplane.

DR. PINO: I think that I'm going to, especially during flu season. Maybe in other seasons I may not. But I think that I will keep it around because I always get the flu. It's always -- you know, I get vaccinated so I get a little bit of a break on that, but that's terrible. I don't want to experience every day.

And should we get a mask -- well, you know, people in Asia has been masked for years --

CHIEF JUDGE MUNYON: Yes.

DR. PINO: -- trying to avoid, you know, environmental contaminations. There are other people that do it for religious reasons, not to get live germs or flies in -- or any -- you know, vegan individuals do that sometimes because they don't want any contact with micro-life elements.

And -- but I think it's going to stay. The funny part is that many people now feel unsafe without their mask because now it becomes part of your culture, your routine, and you have that sense of protection when you have it on.

CHIEF JUDGE MUNYON: Right. When I get out of my car it seems like I just automatically grab my mask.

DR. PINO: I -- it's either, where's my mask, where is the phone --

CHIEF JUDGE MUNYON: Right.

DR. PINO: -- that kind of thing if I don't have it in my hand.

CHIEF JUDGE MUNYON: Yeah. Absolutely. So when do you think children under 12 might have a vaccine available?

DR. PINO: The national estimates is that will be early winter, around November and December that we may get the approval for 12 and younger.

CHIEF JUDGE MUNYON: The thing that's in the news right now is the Olympics --

DR. PINO: Um-hum.

CHIEF JUDGE MUNYON: -- and the discussion about whether the Olympics are going to be -- should be canceled because the -- you know, there has been virus introduced into the Olympic bubble. Do you have any opinion about whether it's wise to hold the Olympics right now?

DR. PINO: So in my opinion, the Olympics should have not been held. I think that in my opinion they should have given to Japan the next cycle so that they can host it. But it is tricky in that sense because I didn't -- so Japan, being such a developed society, I didn't understand why are they going with the Olympics. Even though they are going through this pandemic, even though the country is crying not to. And it's money. I didn't understand. Someone explained that because the way the things are and the Olympic -- International Olympic Committee have control over it. If Japan cancels the plans, they have to pay for everything.

CHIEF JUDGE MUNYON: Oh, wow.

DR. PINO: Because there will not be revenue from transmission -- from TV rights. So the Olympic Committee will not have the money that the Olympics generate to pay for the expenses. And so that was probably part of the consideration.

But, listen, it's thousands of people together in close contact, in many cases, and transmission is high, and they are going to be, as we have seen already 60, 50, and there will be more.

CHIEF JUDGE MUNYON: Um-hum. So with the Delta variant having come on the scene recently, do we know if there are any long-term effects of the Delta variant? Because we've seen long-haulers with the first iterations of COVID.

DR. PINO: I don't -- we don't know yet. And this is the piece that sometimes our society -- we are accustomed -- we are such a developed country that we want everything now, right now, give me all the answers, the protocol, the procedures, everything, and let's do it right, because we always do it right.

And this is a plane that we are learning to fly and build at the same time. And that's why you saw it shaking [sic], and that's why we change a lot. Because I know in politics, changing your ideas is flip-flopping. In science, changing your ideas is adapting to the knowledge that you have at the time, and that knowledge continues to change.

But there are long-haulers, as you mentioned. There's actually a very interesting face group -- Facebook group in Orange County of long-haulers. I have visited their posting, and it's quite interesting and devastating. Some of the symptoms that these people have experienced that are weird. There was a person describing he smells cigarettes at all times.

I mentioned to you that I still experiencing noises in my ears from time to time. There are people with permanent headache. There are children with inflammatory disease. So there are some serious consequences. Not in a high percentage of individual, but there are some people that do experience long-time side effect of the infection.

CHIEF JUDGE MUNYON: Do you think COVID is here to stay? Are we going to be dealing with some form of this forever like we do the flu?

DR. PINO: That -- I have to condition that answer to depends on how many people get vaccinated. As I mentioned to you, we have the ability to kill this and get it out. But we have to do it all at once and do it all together. If we continue to have 40 percent, 30 percent of unvaccinated people, this would be going on for years to come.

CHIEF JUDGE MUNYON: So that's another plug for getting vaccinated as soon as you can.

DR. PINO: Unless we develop a pill or some kind of other medical intervention that people are more willing to take.

CHIEF JUDGE MUNYON: Can someone that's been vaccinated and is asymptomatic still carry COVID and infect others?

DR. PINO: We don't know about the second part of the question, can they infect others. So that's a very good question. They are researching that. So people understand, there are two elements for an infection; the host and the germ. And the germ have to be in sufficient amounts that can cause the disease, and the host, meaning in this case the person, have to be in such conditions that cannot fight that amount of disease. So that -- it's very simplistic, but that's a way for people to understand. So that's what happen.

What we don't know if that people who are vaccinated, and they are called breakthrough cases, and have infection, how much virus they put out. Because it could be that it's very low amount that doesn't infringe on transmission.

CHIEF JUDGE MUNYON: Right. So it may be too low an amount to pass onto others.

DR. PINO: Exactly. And then if you have the mask, that's when you block everything.

CHIEF JUDGE MUNYON: Do people that have been vaccinated need a booster, or is it too early to tell?

DR. PINO: It's too early to tell. Immunity is still relevant at this point. We don't know. These mRNA [sic] vaccines may be a little bit different than the other ones. So for people to understand, Moderna and Pfizer are mRNA [sic] vaccines which use -- doesn't use the virus. It uses the genetic information of the virus to deliver immunity. Johnson & Johnson use another virus. I know the adenovirus that is being modified to develop immunity, but it cannot reproduce the virus itself.

CHIEF JUDGE MUNYON: Okay.

DR. PINO: That ability was taken so people don't get sick when you get that adenovirus. And so what we don't know is if the immunity is the same and in each different type of vaccine how long it lasts. So far the indication is that no boosters are needed, although some of the makers are getting ready to get authorized in case that a booster is needed.

CHIEF JUDGE MUNYON: If someone got the Johnson & Johnson, which is a different underlying technology than the other two, should they consider getting Moderna or Pfizer?

DR. PINO: That's such a very, very interesting question. There are some people that are scientists that are advocating for the booster to be from a different type of vaccine. And you mentioned the Pfizer, Moderna, and then J&J. Those are two different, as we explained. And I don't have an answer, but I think it's a very, very interesting question.

And probably if I was to get a booster myself, I may get it from a different vaccine than the one that I got initially.

CHIEF JUDGE MUNYON: Do you think we'll have an answer to that question in the near future?

DR. PINO: Oh, absolutely.

CHIEF JUDGE MUNYON: They're doing research on it as we speak?

DR. PINO: Yeah, yeah, yeah, yeah. It's hundreds and hundreds of research. Everything will come out in due time.

CHIEF JUDGE MUNYON: Do you think between the vaccination rate in our county right now and the -- those that have been infected with the virus, can we get to herd immunity? And what is herd immunity really?

DR. PINO: So what is herd immunity? So herd immunity is different for different diseases, the amount that you need. Because -- and it could be different for different variants.

CHIEF JUDGE MUNYON: Okay.

DR. PINO: That's part of the trick. And also could be different in this case of a pandemic for different areas of the country depending of the rate of infections that they have.

CHIEF JUDGE MUNYON: Okay.

DR. PINO: Because they -- herd immunity is calculated -- excuse me, and I don't know the formula -- but it's calculated, and other elements, by the rate of infection, by the number of new cases that you have in exactly a period of time, and how transmissible that disease is depends on what level immunity you have.

It was safe to say that we were hoping to get around 70 percent for the entire country, although initially the conversation was about 79 percent of the people vaccinated to get that herd immunity.

Herd immunity refers to the concept that the more people you have vaccinated -- let's say you have 100 people in a room and only 50 are -- 50 percent are vaccinated, you have 50 percent not vaccinated. So what are the chances of that virus coming into that space to get transmitted?

CHIEF JUDGE MUNYON: Yeah, they're greater, obviously.

DR. PINO: Yeah. If you have 60 percent, then it decrease that ability. If you go 70 percent, it decrease that ability. Because the chances of the virus jumping from a unvaccinated individual to a vaccinated individual increase when you increase the rate of immunizations. So that's that shield. It dies there. It doesn't transmit anymore. So the more vaccinated people that the jumps happen to, the quicker we eliminate the transmission because it cannot go any farther.

CHIEF JUDGE MUNYON: So if we have 100 people in the room and 70 of them are vaccinated, even if you have 5, 6, 7 people in the unvaccinated population that are -- you know, have the virus, it is likely -- if it's going to jump, it's going to hit somebody that has vaccine and they're not going to --

DR. PINO: And that's over.

CHIEF JUDGE MUNYON: -- and it's going to die.

DR. PINO: That transmission is over. And what you're trying to do is to curtail the ways and the pathways for transmission of the virus so that it continues to find immunized people.

CHIEF JUDGE MUNYON: We have -- because we are a tourist mecca and we have people from all over the world coming here, and many other areas of the world have not been as fortunate as the United States and haven't had the opportunity to get a vaccine, does that increase the danger in Central Florida for spread of COVID because we have so many people coming from other parts of the world?

DR. PINO: You know, I think the industry that surrounds us is our blessing and our curse, like everything else in life. It is a blessing because it's a wonderful industry, has done what it has done to this community to be a world class destination, that there's no question. And that's part of the issue, that we are a destination.

Now, we can't really attribute the infections that we've seen to non-residents --

CHIEF JUDGE MUNYON: Okay.

DR. PINO: -- because we don't know that. But it's safe to assume that because of the large number of individuals that visit us, they may come -- unvaccinated people or people carrying infection.

But it's the same for New York, Los Angeles, Miami, many other destination. What is particularly interesting about us is the parks. That's what is a little bit different. Because those are congregated settings where you have thousands of people from thousands of places at the same time. And from public health, that's a challenge. That is a challenge in your pandemic environment.

But I have worked very closely with the three major parks, and the parks that they have, because they all have more than one. And they are excellent, excellent partners. They have implemented everything. And we have tracked -- it's not to say that there has not been infections in the parks. It's that we have not seen major outbreaks that you should expect because of -- I mentioned it before that will happen in the parks, and we have been able to do that, to track that.

And the parks did -- you know, they took very seriously the masking. People got really aggressive with employees when they enforcing the masking. And they took it so serious. I went to take the Harry Potter rollercoaster. I took my mask -- in the rollercoaster while it was

going up to scratch my nose. When I got off the car they told me, if you don't place your mask, you will be escorted out. And I was in the ride. So that's how seriously they took it.

There were handwashing stations everywhere. There were people monitoring. But that had changed too because we were in a more relaxed environment, so --

CHIEF JUDGE MUNYON: Right. And I think they also encouraged their employees and had some incentive programs for their employees to get vaccinated.

DR. PINO: Yes, absolutely. They -- I don't know about the other parks, I don't know the number. But Disney was mentioning to me that they had vaccinated about 14,000 of their employees, and that was a couple of weeks ago, so --

CHIEF JUDGE MUNYON: Yeah. Because their employees, obviously, are at risk --

DR. PINO: Oh, absolutely.

CHIEF JUDGE MUNYON: -- you know, seeing so many different people from so many areas of the world every day.

DR. PINO: Yeah.

CHIEF JUDGE MUNYON: Well, what else do you think we should know about COVID as we move into schools opening, universities opening in person?

DR. PINO: Because I want people to know that this is still real, that this is still out there. That we will continue to return to normalcy. How fast? It depends how many of us get vaccinated. I think the best gift that we can give to our families is to protect ourself [sic] or protect them.

It has been -- and this is not a fear strategy. It has been devastating. And there has been some testimony in public media, it has been devastating for people who were rejecting to get

vaccinated to get the disease and have someone in the family that dies from something that is totally preventable.

And I want people to realize that is a level of guilt that one carry when that happens. And we can prevent that tragedy in our families. It is absolutely preventable. And we want our families, especially those with preexisting condition, to have a long, healthy life. And we can do it. It's not impossible.

CHIEF JUDGE MUNYON: So even if you think you're strong enough to withstand the virus, do it for those you love.

DR. PINO: Exactly. Because you become a vector of the disease when you get it, and sometimes without knowing it. And that's the sad part. Because someone could say about what I just said, okay, but you just said that I can be vaccinated and still get infected and maybe transmit. True. And I will always tell the truth. That is true. Very, very unlikely. And if that happens, you know that you did everything you could to prevent it.

CHIEF JUDGE MUNYON: Well, Dr. Pino, thank you for being here with me today to talk about COVID and our current state of affairs in Orange County. I appreciate your willingness to come and answer my questions.

DR. PINO: Thank you. And thank you for giving me this platform. Everything that we can do to inform our public is part of what we are doing around.

CHIEF JUDGE MUNYON: Thank you.

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