TWiV 1356 Clinical Update

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Vincent Racaniello: *This Week in Virology*, the podcast about viruses, the kind that make you sick.

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VR: From *MicrobeTV*, this is *TWiV*, *This Week in Virology*, Episode 1356, recorded on September 10, 2026. I'm Vincent Racaniello, and you're listening to the podcast all about viruses. Joining me today from New York, Daniel Griffin.

Daniel Griffin: Hello, everyone.

VR: Now, what's on your tie today, Daniel?

DG: It is bed bugs, ectoparasites.

VR: Lovely.

DG: Yes. Nice way to start the day, finish the day. Ectoparasites on your bow tie. I was just putting my iPhone on vibrate, on silent, so it wouldn't make noise. I thought we would start off by discussing the Apple launch event. No, I'm joking. Just joking.

VR: There was an Apple launch?

DG: [laughs] Vincent, you don't put that in your calendar when they come up?

VR: I used to.

DG: You used to?

VR: I used to. I was really into it, but not anymore. I have what I need. I don't think I need anything more.

DG: You don't have to buy every brand-new Apple product?

VR: I used to, but not anymore because we've got a lot of stuff.

DG: I think they've reached a certain point. Now they're coming out with a foldable iPhone, which I do not need.

VR: Oh, really?

DG: No, I don't need that.

VR: The industry wants foldable phones. Other companies have made them, so that's it. Here at the incubator, we just got a new iPhone, actually. Where is it? I can show everybody. I don't know where it is.

DG: It's almost a problem, the quality of the ability of it to record, right?

VR: Now I've replaced my recording on the road with two iPhones, right?

DG: Yes.

VR: I have my own, and I bought one just to have a backup. The recording is better than what I can carry, frankly.

DG: Wow.

VR: It's more convenient. I don't need power. It will last two hours on a full charge, and the image is perfect. I bring little microphones because the sound with them is better, but you really cannot beat the iPhone. You could, but you'd need a heavier camera, and you'd have to plug it in.

DG: Yes, it's amazing where the technology is. That's the idea. We're supposed to be moving forward, and my quotation is right along these lines. It's a Thomas Huxley quotation. "The known is finite, the unknown infinite. Intellectually, we stand on an islet in the midst of an illimitable ocean of inexplicability. Our business in every generation is to reclaim a little more land to add something to the extent and solidity of our possessions."

VR: Does he mean that the unknown unknowns are infinite?

DG: [laughs] I think the idea is there's so much to learn out there that we only know a small amount. The idea- this is the idea behind science and technology and progress- is to just keep expanding what we actually know, just getting a little bit more knowledge. With that comes an improved experience for human beings, improved understanding. As we will be discussing, there seems to be an organized effort to - I don't know. It's almost like global warming. The sea is now rising. We're losing some of our gains.

VR: Well, bring it close to home, infectious diseases in the U.S. are on the rise, and they shouldn't be because we figured out how to prevent that decades ago. It's crazy that this is what's happening here now, right?

DG: Yes, the rising sea of disease. That's where our news is going to start right there. I was talking to my colleagues today. I no longer have to travel internationally to see, for instance, dengue. Dengue cases in Florida. There were 32 locally acquired cases of dengue just last week in Florida.

VR: Wow. That's a lot.

DG: Isn't that amazing? Yes, we're up to over 70 cases of locally acquired dengue in Florida. There's 14 of these dengue mosquito pools in five different counties down there. Rabies, a horrible disease. The CDC, I just got a health alert network today. This was recent reports of increases in human exposures to rabid or possibly rabid animals and rabies post-exposure prophylaxis administration errors. That's what the alert is about. The big thing is that since July 2026, so look at last summer compared to this summer and this July through August,

seeing 17% more rabies-related increase than during the same period in 2025, including reports of mass exposure events. Isn't that crazy?

I don't know if you're familiar with this, Vincent, but there's been a hesitancy United States to have pet owners vaccinate their animals against rabies. Have we talked about this?

VR: I think so. I've heard of this too. It's crazy.

DG: Yes, it's really.

VR: Have you ever been vaccinated against rabies?

DG: I have. I go to some of these areas that are pretty remote, where, should I end up with an exposure, there wouldn't be immune globulin nearby. Yes, I end up getting my rabies vaccine. All right. This was a little bit upsetting. Apparently, this was done all out in the open. Everyone was aware of this. This is the article in the news section of *Nature*. "Revealed: Inside the U.S. Military's Plan to Tap Huge Sums from the NIH. An agreement paves the way for hundreds of millions of dollars' worth of projects to be transferred from the NIH's Institute for Infectious Diseases to the Department of Defense."

The NIH is under the direction of the folks who shall remain nameless for the moment. They're seeking to redirect research projects worth hundreds of millions of dollars from the NIAID to military biodefense programs at the U.S. Department of Defense. We hear about this from two NIH employees. The employees told *Nature* that the NIH and DOD, also called the Department of War, have signed a preliminary agreement on this arrangement to basically take hundreds of millions of dollars from our NIH and give it to the Department of War. Now, there was an update after this article was published.

Update. "After this story was published, the U.S. Department of Defense responded to *Nature*'s request for comment with a statement confirming that the department has signed a research agreement with the NIH. The agreement will allow for 'strategic collaboration' on a project-by-project basis. The statement added any assertion that the agreement was made in secret is false."

VR: Look, first of all, an agreement is fine. Strategic collaboration is fine, but they don't even mention about taking hundreds of millions of dollars from the NIH. The Department of Defense has plenty of money. They don't need to steal from NIH, which is underfunded. This statement only says we're collaborating and that that wasn't secret, but what about the money? They didn't address that.

DG: Yes, hundreds of millions of dollars, which are not going to go to, as we talked about, moving forward, learning more, reclaiming a little more of that land. That's all about investing in the future. Instead, we're going to spend it on the Department of War.

VR: I think biodefense is fine, but the DOD has plenty of money to spend on biodefense. They don't need to raid the coffers of NIH. That's it.

DG: All right. Also in this first section, an *MMWR*. We have a few *MMWR*s this week. In the *MMWR*, we have, "Vaccination Coverage Among Adolescents aged 13 to 17 Years - National Immunization Survey Teen - United States, 2025." I have to admit, initially, I was like, "Oh, whatever." I didn't even read it until it was like the second time this came across my desk.

We read that human papilloma virus, so HPV vaccination coverage among U.S. adolescents aged 13 to 17 years, has not increased since 2021. Now, coverage with one or more dose of tetanus, the reduced diphtheria toxoid and acellular pertussis, so the Tdap, and one or more doses of the meningococcal conjugate vaccine has been approximately 90% since 2019.

HPV vaccination coverage did not increase for the fourth consecutive year, varied substantially by geographic area, continues to lag behind the Tdap and the meningitis coverage. Tdap, as I mentioned, remained approximately 90% with less geographic variation than HPV vaccination coverage. The differences in HPV and meningitis vaccination coverage were observed among adolescents living in mostly rural areas compared with mostly urban areas. The rural-urban difference in HPV vaccination coverage was observed across poverty levels, whereas the rural-urban difference in meningococcal vaccination coverage was observed only among adolescents living below the poverty level.

VR: What is the HPV coverage? Do we know? We have the number for the MenACWY, but what about HPV?

DG: We should probably take a look here and see. Let's open that up while we're chatting and see if they actually gave us the coverage, because I think it's less than 90% was the problem. Let's open it up and see if they give us a quick number on that.

VR: I don't know why people would not get HPV vaccine in the correct age group because it prevents cancer.

DG: Yes. Here are the numbers. In 2025, among adolescents aged 13 to 17, I'm going to put an only, only 77.7 had received one or more dose, and only 63.4 were up to date with the full series.

VR: This is HPV now?

DG: Yes. This is HPV there. All right.

VR: All right, so this is really bad, folks. What are you doing? Cervical cancers, anogenital cancers, head and neck cancers, all caused by HPV, these are not pleasant things. The vaccine will 100% prevent them if you get immunized in this age group, 13 to 17 years. What's the problem?

DG: What is the problem? As we know, the HPV vaccine has been a big target of the MAHA folks, right? The anti-vaccine, anti-science folks.

VR: Yes.

DG: Part of the idea is they have this in their head that it's a sexually transmitted infection vaccine. As we've pointed out, and we've shared a lot of the studies, is this vaccine prevents cancer. A dramatic reduction. We've seen studies in Europe, if you really can get people vaccinated here, you're going to stop seeing cervical cancer in these ladies. You're also going to stop seeing a number of penile cancers. You're also going to get a huge reduction, we stated a study, 90% reduction in certain types of head and neck cancer, almost 80%, more than 80% reduction in all head and neck cancers. This is a cancer vaccine. We have the ability to really reduce all these cancers. It is this idea they have that if you give this vaccine, suddenly, the young men and young ladies are going to become promiscuous. That's just

not true.

VR: No, it's false. Also, RFK claims that it kills people, has a lot of side effects. It's just not true. It's not substantiated by any evidence whatsoever.

DG: Yes, it's not true. It's just it is a flat-out, blatant lie. All right, don't get your health information off a man who snorts cocaine off dirty bathroom toilet seats. That should be pretty obvious. OK, moving on. Ebola. A couple *MMWR*s in the Ebola section this week. "Notes From the Field: Clinical Characteristics of Patients with Ebola Disease Caused by -"

VR: Bundibugyo.

DG: Every time we get to that word, Vincent, that's your cue. You jump in.

VR: OK. Bundibugyo.

DG: "Virus, Uganda, 2026." A couple here. The first is, this is going to be basically a description of the first 21 cases. On August 26, 2026, the outbreak was declared over in Uganda with 20 confirmed BVD cases and one probable case reported, although the outbreak in DRC is ongoing. We'll talk about that. This report describes the clinical and epidemiological characteristics of all 21 cases. This is in Uganda. The DRC is the one with the thousands we'll talk about. The index patient in Uganda was a man aged 59 from the DRC who traveled to Uganda seeking medical care.

He was admitted to a private hospital in Kampala. That's the big capital, sprawling city, on May 11, fever, respiratory distress, epigastric pain, nausea. Despite receiving supportive care, he dies in the ICU on May 14. At the time of his death, the BVD outbreak had not yet been identified in the DRC. After this patient's death, a Congolese resident in Kampala contacted the Ugandan Ministry of Health officials to alert them about unexplained deaths occurring in the DRC, prompting testing of a stored blood sample from the index patient. On May 15, the Central Emergency Response and Surveillance Lab in Kampala confirmed the presence of -

VR: BVD, Bundibugyo virus.

DG: By PCR. The same day, DRC confirmed the BVD outbreak. I'll leave in a link. They actually go through and describe the demographics, the lab abnormalities, the signs, symptoms, clinical care, and outcomes. Now, the second one is actually the main outbreak. This is the *MMWR*, "Notes from the Field: Characteristics and Monitoring of the 2026 Outbreak of Ebola Disease Caused by -"

VR: Bundibugyo virus.

DG: "Democratic Republic of Congo, August 2026." Basically, what they're doing is they're looking at these different, they call them operational indicator values. These are different areas where you get a sense of is this thing under control. They look at these operational indicator values for the 21-day period, July 31 to August 21. The average percent of alerts investigated within 24 hours was 83%, and the target is to get that over 90%. First, an average of 10.6 contacts were identified per confirmed case. You should be finding more than 20.

They suggest there's under-reporting and under-ascertainment of case contacts. Now, this is

the other. Ideally, you're identifying new cases because you know who the prior person was. The percentage of confirmed new cases previously identified as known contacts was only 15% to 20%. This should be over 90%. This suggests that most cases are occurring outside of known transmission chains. In addition, more than half, so 59% of the Ebola deaths are occurring outside Ebola treatment units. That should be zero. This should all be tracked, identified, taking place within the Ebola treatment units.

A lot of that they say is there's a lot of fear, and there's also issues with capacity. They go through basically, let's just say, the current data we are seeing here suggests that things are far from under control. That is borne out when you follow the CDC updates, where you just see this incredible rise in the number of cases. We're now up to 6,757 confirmed cases, 3,267 confirmed deaths. Not good there.

Measles. I think maybe next week I'll put in the over 1,000 people that have died in a big measles outbreak that's going on overseas. This week, we'll stay focused on what's going on here in the U.S.

There was, I thought, a pretty compelling *CIDRAP* op-ed. I'll leave in a link. We'll just discuss a few of the excerpts from it. The *CIDRAP* op-ed was entitled, " 'Died With, Not From' Was a Real COVID Problem. It's the Wrong Framework for Measles." On August 25 the Pennsylvania Department of Health announced two measles-associated deaths in Lancaster County, the state's first in 35 years. Later that day, the CDC extended condolences to the families and said it was working closely with the state. Then the next day, RFK Jr. suggested on X, because that's the forum, that the deaths may have been fabricated by one of the governor's hopeful staffers.

Jumping a little bit ahead, on August 30, the agency published its weekly measles update late on a Sunday with an asterisk in place of the two deaths, explaining that available information did not establish whether measles caused or contributed to the deaths or whether the individuals died from other causes while infected with measles. *The Washington Post* and CNN reported that this decision came from the new CDC director, Erica Schwartz, who was sworn in last month.

VR: She was told to do that by RFK Jr.

DG: She told us she wouldn't. She made a promise. She said, "I will not put the health of Americans second. They would not ask me to do something like this." They asked, and she said, "How high?" States investigate outbreak deaths, and the CDC compiles them. That is how the system has worked for decades. When New Mexico reported an unvaccinated adult last year who tested positive only after death, CDC counted that death while the investigation was still open. Nothing in the CDC statement identifies an error in Pennsylvania's data.

All of it describes a dispute with the Pennsylvania's governor. This dispute is being argued in a vocabulary borrowed from the pandemic. The county commissioner whose post started it wrote that the coroner had zero reported cases where measles is the immediate cause of death.

As they say, this is the issue. I just want to read that. "Zero reported cases where measles is the immediate cause of death." We've had this discussion, Vincent. Here's the issue as we read in this op-ed. Nobody screens for measles. There's no admissions swab, no routine test

before a delivery or surgery. No reason a lab would look for measles virus in someone without signs of it. CDC guidance for clinicians is to collect specimen from patients with clinical features compatible with measles, and its clinical fact sheet walks a physician through fever, cough, coryza, conjunctivitis, and rash before it mentions a test.

The PCR itself often runs at a state public health lab. In a country in which measles was eliminated, the CDC notes most suspected cases turn out not to be measles. A positive measles result in a death investigation generally exists because there was a clinical or epidemiologic reason to look for it. The probability that an unrelated death coincides with an unrelated measles infection is not zero, but it is small enough that a positive test in someone who died should move a reasonable person's belief hard in one direction. According to the family who spoke to *The Atlantic* and NBC News, the mother became severely ill with measles after her other children caught it and went into labor about a month early.

The baby was born not breathing and could not be resuscitated. Measles virus was found in his lung tissue. This test was not a screen. It was ordered because a newborn died shortly after birth to a mother with active measles, and the literature is unambiguous about what that infection does. Measles in pregnancy raises the risk of pregnancy loss, preterm birth, low birth weight. Pregnant women with measles are more likely to be hospitalized, develop pneumonia, and die than women who are not pregnant. In a cohort of 24 pregnant women with measles during the 2017, 2018 outbreak in Catania, Italy, 25% delivered preterm.

Maternal infection in the weeks before delivery can pass to the baby. Congenital measles usually appears within the first 10 days of life and can be fatal. Much of the confusion turns on the structure of a death certificate, which most people have never had reason to learn. Part 1 lists the chain of events that led to death with the immediate cause on the top line and beneath it the conditions that produced it, ending in the underlying cause that started the sequence. Part 2, in the words of the National Center for Health Statistics handbook, is for other significant conditions contributing to death.

The immediate cause line reads pneumonia or encephalitis, or here, laceration of the spleen. The Part 2 is where you would see the chain of events that sets it in motion, such as measles, which led to the laceration of the spleen, which leads to the death of the child. Vincent, I see you've got some thoughts here.

VR: I do have some thoughts. Measles is a nationally notifiable condition. State and local health departments conduct the case investigation. They apply the case definition. They report it to CDC. CDC has no independent investigative authority in a state and no relationship with county coroners. Now, a former CDC medical examiner, Deb Houry, had an interview in *STAT*, and she said this. "States have always reported deaths, and CDC has always counted them. The coroner in Pennsylvania is upstream of the Department of Health of Pennsylvania. He does not report to CDC. His death certificate is one of the inputs to the state's determination. The state weighs it alongside the epidemiologic investigation, the lab confirmation, the clinical picture, reports. They did report both cases were measles deaths. CDC's role has historically been to receive and tabulate, then reconcile later. The reconciliation is normal. Refusing the state's report at the front end is not."

Two things worth noting about this. Remember, as Daniel said, the two children in West Texas, the adult in New Mexico, they were on a state report with no independent federal adjudication, and Pennsylvania has disputed the federal account of what information was

actually provided, saying both deaths were reported to CDC's measles response team, and the state epidemiologists investigated thoroughly. CDC was actually embedded in that investigation, according to the Pennsylvania State Health Commissioner. Insufficient information rationale is being asserted about an investigation that CDC participated in.

They're saying that that's why they're not putting the deaths up on the website. The precedent is the part that should worry us more than the case. If the CDC can decline a state's notifiable disease report pending its own satisfaction, then national counts become negotiable, and every state's data is subject to federal review on unstated criteria. That's the damage, and it applies to whoever holds the office next. That's like a little editorial, Daniel.

DG: No, I like that, and I agree fully. This, in and of itself, is very upsetting. This was very clear. The mother had measles. She goes into labor a month early. The baby dies. This is horrible. This is a tragedy. We live in this polarized world where certain people who are actually responsible, to be honest, for the growing number of measles cases, for the deaths, they pulled out their playbook. The whole, "Oh, it was with. It was not due to." They wave their hands. This is horrible. If you look at the Johns Hopkins tracker, which we do, we're up to 3,231 cases of measles in the U.S.

We're seeing like a couple hundred cases of measles a week in the U.S. We had eliminated measles in the U.S. In the last two years, it's now becoming something where we see hundreds of cases every week. We see deaths. As we've talked about, forget about the 10% to 20% of little kids who end up in the hospital struggling to breathe. Forget about the fact that this is a horrible disease. We've actually seen increased risk of death for those children in the next two to three years, and then even later issues, immune amnesia, all these horrible things.

Yes, it doesn't matter. If your team is in control right now, at some point, the other team is going to be in control. No team in the federal government should be basically messing with the data, not giving us full disclosure on what's going on. The federal government doesn't go in and basically take away what is the state's responsibility.

VR: No, they can't because they don't participate in the investigation. In this case, they actually did. For them to say there's insufficient information is wrong. What RFK did is just abhorrent because now we have both babies' names, and the second, which we didn't know anything about before, it is on the death certificate, measles caused the death. There's no question about it. The other one, measles-associated, and RFK Jr. is completely out of line by saying they're probably fabricated. He's got evidence from the state.

DG: He is a heartless man. Sorry to personally attack, but his comment there was, "Oh, well, that baby had a congenital issue. They were going to die anyway." Oh, my gosh.

VR: That's horrible.

DG: Oh, my gosh. That's who is the head of HHS.

VR: If measles were not circulating, the child may have died later. Who knows?

DG: Yes. The child would have lived. As a parent, I find this incredibly upsetting. One day, I'll be a grandparent. This just keeps going. Moving on. What are we going to get to? We're

starting to get into the flu season. I scheduled my flu vaccines for tomorrow. When this drops, I'll be having had my flu and my COVID shot.

VR: Very good.

DG: What about you, Vincent?

VR: I got both last weekend, so we'll both be covered.

DG: What did you get? I got to hear. You got one of the mRNA shots, and you got the -

VR: I got a Moderna mRNA for COVID, and I got a high-dose flu vaccine.

DG: You finally did it.

VR: I finally did it. I went early enough, so they had it. I had no reaction, so I'm all good.

DG: OK. I'm trying to get the Nuvaxovid, so the Novavax vaccine. I couldn't do it on the website, so I signed up for the Moderna one. We'll see what happens when I'm there tomorrow. I'll see if I can actually get them to give me because I'm working this weekend. Then sometimes you get the mRNA shot, you feel a little bit under the weather for a day or so. I can't afford to be under the weather for this weekend when I got to go to all these hospitals. The flu shot, I was looking again. I want to get the mRNA flu shot. I want the latest and greatest technology. I may not need a new iPhone, but I do want the latest and greatest vaccine technology.

VR: Great. Good.

DG: We got an article in the flu section, "Early Antiviral Therapy in Pediatric Outpatients and Risk of Influenza-Related Hospitalization," published in the journal *Pediatrics*. It's really been consistent. If you're really going to make a difference in a viral disease, timing matters. You've got to get in there at the right time. You can't wait and see. Part of one of the nice things about this article is they have actually this great video abstract by the first author, so you can actually check it out. The first author is going to walk you through the whole study very eloquently.

What are the results that we have here? The results of a multicenter age- and season-matched retrospective case-control study that included all pediatric outpatients with lab-confirmed influenza who sought care at the participating hospitals between 2020 and 2023. Cases were defined as children subsequently hospitalized or deceased because of flu and were matched to non-hospitalized controls by date of initial visit and age strata. I just want to point out there hospitalized or deceased. Last winter we had almost 200 little kids die. Half of them were completely healthy before. Within 48 hours, they got sick and died of flu.

Flu can be bad. Flu can kill children. Vincent and I are getting our flu shots, but don't forget about getting flu shots for the little kids. The effectiveness of early antiviral therapy initiated within 48 hours of symptom onset compared with delayed or no use was estimated. Subgroup analysis was performed among 1,492 children. Early antiviral therapy was associated with an 81% lower risk of hospitalization overall. Pretty impressive and robust against all their different analysis.

VR: Very good.

DG: 81%. Again, it's getting it within the first 48 hours. You really got to get it in there quick. COVID is on the way up, Vincent. We're starting to see a lot of it despite the fact that they blue-washed the categories. Very high in Texas. It's high down in Arizona. It's high up in Montana. It's high in Mississippi. I like the way they give us the little - It's moderate in the West and the South. Really, if you look at our lines, it's really the West that is driving it. Even with the new categories, it is skyrocketing up into the moderate, which would have been high by the old category. You can see that the whole country, it's on the rise. Good time to get that COVID shot.

VR: The wastewater is clearly spiking now. You can see that.

DG: Yes. Cases are spiking, wastewater is spiking. There's, unfortunately, a solid amount of COVID activity. You got, what is it, four different COVID vaccines to choose from. You've got the Pfizer, Comirnaty, the new one. You've got, from Moderna, you got the Spikevax and the mNEXSPIKE. You've got the Nuvaxovid. You got a lot of choices here. mRNA or traditional protein-based, whatever you want to do. This next article we'll talk about is in line with what I like to talk about. A lot of times, vaccines that do more than prevent viral disease.

This is the article, "COVID-19 Vaccination and Risk of Post-COVID-19 Cardiovascular Disease: A Population-based Cohort and Target Trial Emulation Study." This was published in the *European Health Journal*. These are the results of a statewide population-based cohort study that used linked administrative health data from 2,391,456 adults in Victoria, Australia, 2019 to 2025, and associations of pre- and post-infection vaccination with major adverse cardiovascular events. MACE, M-A-C-E. This is something our listeners should remember in their head.

MACE is going to cover strokes, heart failure, heart attacks, atrial fibrillation, venous thromboembolism. It's going to be all of these major adverse cardiovascular events. Vaccination was associated with lower hazards of all these major adverse cardiovascular events. Estimated absolute risk reductions, 21%.

VR: 0.21%.

DG: Yes.

VR: That's a risk reduction of 0.21%, which is 80% risk reduction.

DG: 80% reduction, yes.

VR: Very good.

DG: Pretty impressive, right? People always say, "Oh, I had COVID. It was no big deal." Every time you had COVID without that vaccination, you're at risk of a heart attack, of stroke, all these horrible outcomes. Vaccination can prevent cardiovascular disease. We've talked about this a lot. There's maybe a temporary few-month reduction in your risk of, I guess, an infection, but there's significant reduction - this is what vaccines are really - in disease. Cardiovascular disease, ending up in the hospital. Pretty impressive. That's going to bring us to our end section here.

No one is safe until everyone is safe. We are in our ASTMNH fundraiser period, August through October. Remember, we're trying to raise money. We're going to do a Dickson

Despommier five-year memorial lecture series. We're going to do this in conjunction with the American Society of Tropical Medicine and Hygiene. We're going to announce that at the president's reception at the fall meeting. Also, we still are going to be supporting basically scholarships so that people can come to this meeting, help them advance their career. We'll be doubling your donations so we can do this American Society of Tropical Medicine and Hygiene fundraiser.

VR: It's time for your questions for Daniel. You can send yours to daniel@microbe.tv. Jill writes, "Hi, I absolutely love your podcast and never miss a weekly update. I'm a retired pediatrician in Nebraska. My husband is 60 and had a stroke seven years ago, two days after a hip replacement." That's unfortunate. I guess he threw a clot, right?

DG: Yes.

VR: "Because he's disabled, he's on Medicare. The Medicare Advantage plan offers annual virtual house call to plan members. My husband has always refused these, but this year he participated because the plan now gives participants $50 to use towards health-related products. The person doing this virtual house call was a nurse practitioner, and I assume her job is to take a risk assessment. She has questions like, does he fall? Is he feeling depressed, et cetera? During this conversation, she asked my husband if he has had the COVID vaccine.

We said yes, he got the initial series, and he gets one yearly. She told him to stop getting the vaccine because it's associated with cardiomyopathy in older men, and then mumbled something about two enzymes and more research is needed before the vaccine can be deemed safe. I am a faithful listener of *TWiV*, and don't recall this being an issue in older men. Is it? It's my understanding that illness with COVID is much riskier. If she told my husband this, I assume she's giving the advice to all men on this Medicare Advantage plan with whom she speaks, which of course concerns me. I'd love your thoughts on this. Thank you very much for everything you do to keep your listeners informed."

DG: Jill, we actually just went through a study showing where the major cardiovascular events, including strokes, 80% reduction in these things. This is really tough, I got to say, having this read to me and finding it quite upsetting and what to do. If, specifically, she asked for this information, "Hey, so tell me about the COVID vaccine," seemingly just so she could recommend against it, this is something where I think I would reach out to whatever - I don't know who employs this nurse practitioner, who supervises them. You're a retired pediatrician. Nurse practitioners in most states have some kind of a supervising physician.

I'd reach out to them and give them a heads up. Let them know, here this nurse practitioner is spreading misinformation, discouraging evidence-based preventative care. Yes, this is not great. I don't think the Medicare Advantage wants your husband to end up having one of these issues, which the risk could have been reduced. Yes, this is wrong. It's misinformation. It's dangerous. I would love to have this woman stopped so she doesn't put more people at risk.

VR: Cardiomyopathy, is that myocarditis?

DG: I think that's what she's talking about. Remember, we saw an early signal in young men, but then that was after the first shot.

VR: Young men, yes.

DG: We haven't seen that. We certainly did not see it in the older men.

VR: No, not in this age group. More research is needed before the vaccine can be deemed safe. It's been given to millions of people. What are you talking about?

DG: Billions of doses.

VR: Billions.

DG: Yes, billions. We have more data on this than probably any other vaccine out there. It is not only incredibly safe, but it is so much safer to be vaccinated than to not.

VR: April writes, "I want to thank you both for all the time you spend keeping us informed on a regular basis. I've been listening to Dr. Griffin's clinical updates since the early days of COVID and have never missed an episode. My husband, 59, and I, 53, with hEDS, are currently recovering from our first COVID infection, which started September 1st and 5th. We took maximum precautions during the first five years of COVID, worked from home, don't have kids, which is why we have never had COVID before. We live in Oregon. We're traveling to Argentina and Chile the second week of November for three months.

The travel doctor's report said we need to get several vaccines prior to this trip, including rabies, chikungunya, and typhoid. How long should we wait after our COVID infections to get these vaccines? I'm concerned our immune systems are knocked down or still busy and may not mount a good immune response to the vaccines, or we may have a bad reaction. We are less than two months from our departure. Thank you for your time."

DG: Let's walk through the timing that we recommend. You just had COVID. We'd recommend, it's interesting, the approvals were two months, but most of us say three months after the COVID infection before you get your next shot. Part of that is the whole idea that COVID is going to give you a certain immune stimulation. You get COVID, you're going to have certain memory cells, certain T-cells. Three months later, you get a COVID vaccine. Think of it as a boost after the prime from the COVID infection. The others, so the vaccines prior to your trip, the rabies is going to be a number of shots, so you'll need to look at the timing. You want to complete that two weeks before you go. Think about the runway on that. Chikungunya and typhoid, again, these are things you want to complete before you go.

The typhoid, there's an oral as well as the IM. Again, look at doing those. If you're going to leave, what was it, middle of November, so end of October would be a fine time to go ahead and complete those vaccinations.

VR: End of October.

DG: Yes, end of October.

VR: OK. Brent writes, "Last week I lamented the fact that the COVID vaccine was approved nationwide, but only for 65-plus or those with comorbidity. However, I remembered that my state, Washington, has a standing order recommending the shot for all people over 6 months of age and gives a link for that. Good for you, Washington. This means I can easily get it like I did last year when the same orders were in effect. I'm sure other states, particularly the rest of the West Coast Alliance of Washington, Oregon, and California, offer

the same. Tell your audience because they might see the national news and think they're not eligible."

DG: Yes, when you go even on some of the pharmacy sites, they've got different boxes you can check. For instance, when I was going in and doing my vaccines, it has the high-risk conditions. I'm like, "Oh, I don't have any of those, do I?" Then I saw one of them. One was over the age of 50. I'm over the age of 50. The other was prior or former smoker. I tried cigarettes. I don't know how much, but I can check that box too. I was never actually a smoker, but I did try a cigarette. We all smoked a cigarette once. Check that box if you need to.

I think it's difficult that they're putting up barriers here just across the board, whether it's reducing your risk of cardiovascular issues, reducing your risk of Long COVID, reducing your risk of just getting sick with COVID. I don't know why there should be barriers that impact our ability to access vaccines. We were promised, they say repeatedly, "There's no barriers." Yes, there are barriers.

VR: Don writes, "Thank you, Drs. Griffin and Racaniello, for everything you do to keep us informed and healthy. Your podcast is invaluable in my humble opinion."

DG: Oh, that's what IMHO is? I didn't know what that was.

VR: Yes.

DG: OK.

VR: "Regarding your comments about the COVID increases in Texas, I'm wondering if the weather is playing an outsized role. August in Dallas had the second-most 100-plus degree days in history, which means everyone is staying inside, breathing in whatever others who are or were in the same room are breathing out. Just a thought. Thank you. Don in Dallas."

DG: No, that's a good point, Don. We've talked about the different ways things are transmitted. Clearly, it could be flu, it could be COVID, any of these diseases where it's transmitted by infectious respiratory particles. If you're indoors with poor air exchanges, yes, you're going to put yourself at increased risk. Yes, the more time people are collected indoors in these poorly ventilated spaces, that can drive the transmission.

VR: Eli writes, "In 1948, when I was 10 years old, I had measles. The city where I lived, Newark, New Jersey, sent an inspector who looked in on me, I assumed to verify the disease, and then posted a red warning sign on the front of our house to keep people away. Back then, public health knew measles was dangerous."

DG: Yes, Eli, back in the '40s, we had thousands of people dying each year. We had hundreds of thousands of cases of measles. People were well aware. This is, I think, the expression people talk about, when the dog catches the car. This is what RFK is having issues with. Now that we have thousands of cases of measles, we're having little babies die. Somehow, he's got to explain why that's not actually really happening. They're fabricating. Those children never existed. They never really died. Measles is bad, and it kills children.

VR: Carol writes, "Greetings to my favorite doctors. A while back, Daniel discussed a paper regarding the waning of maternal measles antibodies. Not sure if I'm reading the same

paper. If I am, then the conclusion was that the reliance on maternal antibodies for protection until age 9 months or later leaves most infants with insufficient direct protection against measles between ages 6 and 9 months. With a 10-month-old granddaughter, I began to wonder if it would be reasonable to give babies three doses of MMR, starting at 6 to 8 months, and then complete the two MMR vaccines where scheduled. Your thoughts. Thank you both for all you do to educate us during these challenging times."

DG: Carol, what we've talked a little bit about is this timing window. There's two factors here. One is the idea that if you get a vaccine too early and your mother has passed maternal antibodies, there's a blunting of response. The other is the idea that if you do it too early, there may be this tolerance that can develop. There is this concern, and it seems to be that nine months or later is great, good to go, good response, good protection. Earlier than that, you may run into these other issues where, even when you later on get an MMR shot, you may not get the boost and the levels that you would get if you had waited till 9 months before you started this series. Vincent, do you remember? We've talked about these things.

VR: Yes. That's the thing. If you go too early, then even subsequent boosters are blunted. That's why the 12-month was picked. Now, I found another paper where they talk about this issue. They say that this depends on birth rate, vaccination coverage, and patterns of access to care in a community. They think locally age-targeted strategies at both national and subnational scales tuned to local variation in birth rate, seasonality, and access to care may substantially decrease case numbers. What she's suggesting is probably not a bad idea, especially with measles circulating.

DG: Yes, it might make sense just across the board to just say 9 months of age is when you get that first shot. That should be fine. Also, extra three months earlier, starting to get the protection. Unfortunately, thanks to our friends, the friends of measles, we're now seeing thousands of cases, and our little kids are at risk.

VR: That's *TWiV* weekly clinical update with Dr. Daniel Griffin. Thank you, Daniel.

DG: Oh, thank you. Everyone, be safe.

[music]

[00:47:31] [END OF AUDIO]