

TWiV 1302 Clinical Update

Host: Vincent Racaniello

Guest: Daniel Griffin

Aired 7 March 2026

[pdf of this transcript available \(link\)](#)

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

[music]

VR: From *MicrobeTV*, this is *TWiV, This Week in Virology*, Episode 1302, recorded on March 5, 2026. I'm Vincent Racaniello, and you're listening to the podcast all about viruses. Joining me today from the Dutch Antilles, Daniel Griffin.

Daniel Griffin: Hello, everyone.

VR: Now, where is this? Off the coast of Venezuela?

DG: Yes, we're about 54 nautical miles north of Venezuela, so yes. [laughs]

VR: That sound that we're hearing is the ocean.

DG: That's the ocean, yes. That's the waves breaking on the coral.

VR: Nice. You're on an island, is that right?

DG: I'm on an island, and it's right in the trade winds. For some reason, the wind is just howling. It's blowing mid-20s and then gusts 30-plus. I've been enjoying it, but unfortunately, half of the crew with me are injured. I think my wife tore her MCL. My sister-in-law's boyfriend bruised his clavicle.

VR: What's the temperature like there? Is it warm?

DG: It's between 84 and 85 [chuckles] all day, so it's very nice.

VR: Well, it's nice. Here, it's been raining all day. [laughs]

DG: That's what I heard. My neighbor across the street, super nice, texted me, "It's raining. Your dry cleaning is hanging out in the rain. Should I grab it?" "Please, Al. Thank you." Sorry, let's jump in. No bow tie, right? I'm wearing a T-shirt. Oh, my gosh. Do you see this T-shirt? Do you see how it's black? It's the black deaths, just like you.

VR: Yes, we're both black today. Look at that.

DG: [laughs] All right. "To acquire knowledge, one must study; but to acquire wisdom, one must observe." That's Marilyn vos Savant. What do you think about that, Vincent?

VR: I think that makes a lot of sense. You can learn things from books, but to get wise, you have to do stuff. That's how it is in medicine, right? You can learn everything from the books, but then you have to go take care of patients to acquire wisdom, right?

DG: Yes. Osler has a quote very similar to this applying to - You can read all the books, but if you don't actually go to the ward, it's like a sailor who's never set out to sea, right?

VR: Right.

DG: All right. I'm going to start us off, Vincent. Really, I like this. This is our anti-science, but in a good way. I wanted to highlight and leave a link into a piece by Kristen Panthagani, MD, PhD. Dr. Panthagani is actually completing a combined emergency medicine residency and research fellowship, focusing on health literacy and communication up at Yale, right down the street, so to speak.

In her free time - I love this because you've got all this free time, right, as you're an ER resident, all your free time? Apparently, she also doesn't sleep. She's the creator of the medical blog, *You Can Know Things*, available on Substack and youcanknowthings.com. You also find her on Instagram and Threads. I don't know what Threads is. That's showing my age. She has the disclaimer, "Views expressed belonging to KP, not her employer." Maybe if I had been saying that, I wouldn't be in private practice working for myself, but anyway.

She knows Peter Hotez and claims Peter inspired her. She was down at Baylor, so that's a nice connection. She's got this piece that was sent my way by your local epidemiologist. The piece is titled, "5 Logical Fallacies in the Era of RFK Jr.: Common Rhetorical Tricks That are Trending Right Now." She starts off with, "How do we address the fire hose of inaccurate information that is flooding the internet right now?"

"It's tempting to try to play whack-a-mole, tackling one rumor after another, and there is certainly value in addressing individual claims, but emerging research shows a better and less exhausting method, 'pre-bunking,' or teaching people to recognize the falsehood before they encounter them. If you can teach people to recognize the common rhetorical tricks that are used to sell falsehoods, they can identify them for themselves in the wild instead of relying on scientists and doctors to chase down every individual claim, meme, or video, which is impossible."

Now, she, of course, says, this, "the literature shows." Well, I can't let that go. I've, of course, got to go down the rabbit hole. What literature? What are you citing? She references the article, "Psychological Inoculation Improves Resilience Against Misinformation on Social Media," published in *Science Advances*. This article in *Science Advances* is actually the science behind Dr. Panthagani's advice.

You can read, across seven high-powered, pre-registered studies, including a field experiment on YouTube with a total of nearly 30,000 participants. They found that watching short inoculation videos improves people's ability to identify manipulative techniques commonly used in online misinformation, both in lab setting and real-world environment. I'll leave a link into that article, too. The evidence-based guidance is to avoid playing this whack-a-mole, which, as she points, it's exhausting. I probably have fallen into that. It's endless.

Instead, spend time identifying the logical fallacies at the root of much of the misinformation and pre-inoculate them. I liken this to getting vaccinated before exposure instead of trying to diagnose and treat each misinformation infection. She's got one, two, three, four, five common fallacies she brings up. One is appeal to nature fallacy, right? We've all heard that. The "natural" label is enough to say it's better without additional evidence.

VR: [laughs]

DG: The false dichotomy: Do children need vaccines or a healthy diet? Well, they need both. The ad hominem abusive fallacy, the pharmacy shill, doctors are all corrupt and just want to make money off keeping you sick. The common-sense fallacy, a claim is true because it seems true, or lots of people believe it's true, or it's just common sense without providing additional evidence to back it up.

This one, I enjoy the most. The post-hoc fallacy. If one event came after another, the first event must have caused the second without providing additional evidence. She's got this wonderful graph, right, Vincent? It's the amount of milk consumed relative to the divorce rate in Colorado. You can see as the milk consumption goes down, the divorce rate goes down.

VR: Clearly, it's causative, right, Daniel?

DG: Well, my wife's no longer allowed to drink milk just to be on the safe side.

[laughter]

VR: Well, this is the same thing as saying, "If you get vaccinated and you get autism later that the vaccine causes it," right?

DG: Which is really crazy. I had a patient and wife, and she's explaining to me that she really didn't like the vaccines. Both she and her husband got vaccinated. Then three months later, she had such and such. I'm like, "Oh, my gosh." She's like, "My husband, too. For him, it took a year." I'm like, "Oh, my gosh. It took a year. How are you connecting?"

VR: This is the RFK Jr. thing. He says vaccines cause chronic diseases, right? You have chronic diseases developing 10, 20, 30 years after the vaccine. No, I'm sorry. [chuckles]

DG: Yes, there's no connection. Yes, but that was the same argument like 5G, right? Like, "Oh, we were all fine," and then they introduce 5G. Next thing you know, we have a global pandemic, right? I thought this was really helpful advice. Maybe you and I should create more of these inoculation YouTube shorts or something.

VR: Yes, we can do that. Yes.

DG: All right, yes, because all the free time. We got to burn through the free time. [laughs]

VR: We do whack-a-mole, right? That's what we do. I think somebody has to do that. If RFK Jr. says no hep B birth dose vaccine, I think someone has to talk out against it, right? Somebody has to do that.

DG: Yes, I think it probably needs to be a combination, right?

VR: Yes.

DG: Each specific thing you whack-a-mole, you can actually use it as an example, like, "OK, they say hepatitis B, no birth dose. What's wrong with that?" Then we can go through, like, "It's been tried before. This is what happens. These are the fallacies." All right. Hopefully, that's going to be helpful. All right. Mpox, the article, "Tecovirimat for the Treatment of Mpox," was published in *The New England Journal of Medicine*. You got to get this in front of Rich. I don't know if he's seen this because it's disappointing, right? Tecovirimat looked great in all the animal studies, but these are the results of the STOMP trial with Jason Zucker from Columbia University as the first author. I feel like Jason may have been on *TWiP* at some point.

VR: Yes, I think he was, yes.

DG: Yes, he was one of my mentees. Poor guy. He survived that. Now, he's the first author of a *New England Journal of Medicine* article. These results come from that phase 3 international double-blind, randomized, placebo-controlled trial, where they evaluated the efficacy of oral tecovirimat in adults with lab-confirmed clade II mpox. They did a 2:1 getting treatment versus placebo for 14 days. Then they had a primary outcome, clinical resolution, but they also looked at pain, reduction in pain. They looked at a number of other parameters.

Unfortunately, 412 participants underwent randomization, 2:1, 344 had lab-confirmed mpox. 336 had active skin or mucosal lesions. By day 29, the estimated cumulative incidence of clinical resolution was really the same, 83% tecovirimat, 84% placebo. No substantial differences in pain reduction, lesion healing, viral DNA clearance. You can look at the graphs. Basically, tecovirimat, placebo, you couldn't tell the difference.

VR: It's too bad. Daniel, will this cause you to not use tecovirimat for mpox patients?

DG: Yes, no, I think this just takes tecovirimat off the table. We saw the data from Africa, didn't seem to do anything. Here, we're seeing the data here in this context, not doing anything. I think it's unfortunate because, now, we have no effective treatment for mpox. Stuff is coming out that the vaccine may only have a durability of about two years, so really going to be a problem going forward, having to revaccinate every two years, and then not having treatment options.

All right, bird flu in elephant seals. University of California, Davis, has confirmed the first cases of the highly pathogenic avian influenza in seven northern elephant seals in California. The outbreak marks the first H5N1 detection in marine animals in California, first detection of the virus in northern elephant seals. Seals lived at the Ano Nuevo Natural Reservoir, where researchers were called after reports of sick animals with abnormal respirations, tremors, neurological symptoms. This state park near Santa Cruz is home to 5,000 seals during the winter breeding season. Of the 5,000, researchers say 1,350 seals were on the beach when the outbreak began.

VR: I'm sad. That's very sad to hear that.

DG: It is. Still, the avian flu stuff is still going on. All right, we got a lot on measles this week. We'll start off -

VR: Is there something going on with measles, Daniel?

DG: Oh, my gosh. It's crazy that not everyone knows this, right? We've had over 1,000 measles cases already in the first two months of this year, so we're on track to over 6,000. We'll start off with this week's measles update with a preprint. I haven't done preprints in a while, but this one really caught my eye. I spent a little time. "The Health and Economic Repercussions of Declining MMR Coverage in the United States," was posted on *medRxiv*.

We read that in 2025, the estimated cost per measles case was \$104,629, so a national burden of \$244 million. We could do the math, like 6,000 is what we're thinking this year at \$100,000 a case. We're getting up to \$1 billion. This is not a cost-effective thing. The cost per case varied widely based upon where you were in the country. We actually have this nice map where you can see. Some of the highest costs were down, what is that? Arizona, California, Texas. Maine was actually one of the least-expensive places to manage a measles case. This scenario would result in a cumulative cost of \$7.77 billion over five years. I think that's low.

VR: This is really good because I'm sure that most people are not thinking of this in terms of this, but this is really bad for health care and the financial viability of the healthcare infrastructure. RFK, you're making kids sick, which is the most serious thing. Then, after that, it's costing a ridiculous amount of money. The orange man doesn't like wasting money, I heard.

DG: That's a crazy thing, right? People make this argument. They say, "If they decide they want to do X or Y, I shouldn't be the one paying for that." You're paying. American taxpayers are paying for these bad decisions. They're paying for people to get suckered by misinformation and not realize that the safest thing for their child is to get vaccinated. That's a lot, billions of dollars. All right. This one, a little bit bothered by this. "Expert Meeting on U.S. Measles Elimination Status Delayed to November," This was picked up by several news organizations, but this, I'm going to read from Reuters. I was going to add, "Delayed to November Until After the Midterms." [chuckles] I threw that there.

VR: I think you're right. There's no reason to delay it. It's ridiculous.

DG: There's no reason. It is interesting, right? We are hearing that RFK Jr. has been getting basically told, "You're really going to hurt the Republicans in the midterms if you keep going down this anti-vaccine thing, so start talking about highly processed foods and stuff instead." There was potentially this reprieve. I think what they're trying to do is say, "We don't want this to be an issue, that we've lost measles elimination status," but we have. The fact that this meeting is postponed while the United States says it's got to do a little bit more genomic analysis, and they're claiming to need more time, I don't think that actually really makes any sense.

VR: No. Anything Andrew Nixon says, who's a spokesperson for HHS, is a lie. They don't need more time. It's quite clear we lost the status.

DG: Yes, we lost status. Just waiting for the pronouncement. All right. A nice, very accessible article. "'Nearly Every' Child With Measles Suffers This Hidden Threat," was published on *Medscape*. This is something we've talked about that I really think it's important for people to get out there. This is an article by Sari Harrar. It focuses on the immune amnesia that is caused by measles infections in unvaccinated individuals.

This is a discussion of how this was discovered, and that infected but not vaccinated children, they're 2.7 times more likely to be hospitalized, three times more likely to receive a prescription anti-infective. The risks remain 22% higher for the rest of the year, 10% to 15% higher for two to five years. This is on top. This issue with immune amnesia that they're talking about is on top of the fact that measles already carries all these well-known risks of complications, ear infections, diarrhea, 20% chance of ending up in the hospital, 5% risk for pneumonia, about one in 1,000 chance of brain swelling.

We're already seeing kids in the hospital in South Carolina with brain swelling, 3 in 1,000 odds of death. We've already seen some deaths. About 1 in 10,000 risk for that sub-acute sclerosing panencephalitis, which is this delayed, often fatal neurological disorder. In a nice turn of events, this is interesting, this has gotten RFK Jr. in trouble because how dare he let Bhattacharya say this.

The CDC acting director, when we talked about this last week, Bhattacharya has got multiple jobs now. Bhattacharya urges use of measles vaccine. The U.S. CDC and prevention new acting director, Jay Bhattacharya, on Monday, urged Americans to get vaccinated against measles, saying, "It was the best protection against the disease. Measles is preventable, and vaccination remains the most effective way to protect yourself and those around you," posted on X.

VR: All right, so I'm not a big fan of Bhattacharya, but this is the right thing to do. How can it be that this guy, who's a buddy of RFK Jr., is saying something the opposite of RFK Jr.? I don't get it. Also, it's a video on X. Why doesn't he get on TV and say this? All the news programs, he should go on all of them, right? It's kind of hidden.

DG: Kind of hidden, and I guess he probably should be on Truth Social, where you don't want to be on the platform where the ears and eyes aren't.

VR: Yes, right.

DG: I think, again, RFK Jr. is getting a lot of pressure. You're really going to hurt the Republican Party in the midterms. People are not happy with the anti-vaccine. They're not happy that you're limiting access to vaccines. They want him to move on and talk about red dye number such and such in our foods.

VR: Well, that's why he's suppressing the infection reports at CDC, right? Because he doesn't want people to know how badly things are going.

DG: Yes. No, I think that's a problem. This was interesting. I went to look at the South Carolina measles numbers, and it said that the access was blocked from my country. Here I'm in the Dutch Antilles. I couldn't access. I had to ask people back in the States, "Can you tell me what's going on?" They're up to, as of March 3, 990 cases confirmed. That's confirmed cases in South Carolina, so we know that there's many more.

Utah, we got a big outbreak going in Utah. We're up to 358 there. We warned about this. Texas, "ICE Sending Sick Migrants to El Paso Hospitals for Quarantine." This is the U.S. Representative Veronica Escobar, Democrat in Texas, federal-elected official, says a U.S. Immigration and Customs Enforcement Immigrant Detention Center in the Greater El Paso area is under medical quarantine.

It's a funny name, Camp East Montana in Texas, which is run by Acquisition Logistics, a private corporation with no prior experience in running immigration detention facilities, is closed to visitors and attorneys until March 19 or 20 because of a measles outbreak. At least 14 active cases. I've heard up to 17. Over 100 individuals are being isolated. Escobar says she worries for the likely hundreds of El Paso residents employed at Camp East Montana and the 56 members of the Texas National Guard that are stationed there.

VR: What the hell is a camp in Texas called Camp East Montana?

DG: I don't know.

VR: Anyway, this is showing how these facilities are just out of control. They don't know what they're doing, this Acquisition Logistics company. All these people are at risk.

DG: Johns Hopkins has a nice map. We're clearly over 1,000. Even by the Hopkins tracker, it's always a little bit behind. We're almost up to 1,200 in the first two months of the year. Again, you can do the math on that. We're going to be 6,000, 7,000 by the end of this year at this rate. CDC, similar, over 1,000 by their account, but we know just adding up each state, that it's much higher. Very upsetting.

All right, flu. Flu, we're still sitting with a lot of high and very high activity in a lot of parts of the country, right? Not really seeing a huge difference from last week. If we put a nice graph in the epidemic trend, we can see what's going on with COVID, what's going on with flu, what's going on with RSV. Flu is really sitting on this plateau. We talked about the fact that this happened before. This is something we've seen in past years. I think the one I pasted in here with the multicolors has an RSV blocking it. Basically, the red is tracing the pink. Basically, what we saw, 2023, 2024, we're seeing this year, 2025, 2026, where it just follows this plateau for a while.

VR: Well, it is March, so we still have a month or two more of flu activity, really.

DG: Yes. I think, unfortunately, we're going to keep going for, it looks like, probably another month or so. Maybe end of March, early April, we'll finally get off this plateau. Unfortunately, eight more children died of flu this year. We're up to a total of 79 pediatric deaths already this season. Now, this is interesting, right? I don't know how this works for us. The WHO gets together, right? They make the recommendations for what we're going to do next year with the flu shots already.

We're in March, already making these recommendations. They're recommending updates to all three viral strains to be included in fall flu shots. In CIDRAP, I'll leave in a link, we read that they recommended that vaccine manufacturers completely change the three viral strains included in the vaccines for the Northern Hemisphere's next influenza season. As expected, the WHO recommended that vaccines for the next flu season include a new variant of the influenza virus that started to increase last fall.

This was that H3N2 influenza A subclade K that we talked a bit about. We had a little bit of a mismatch. Here's the issue. The U.S. FDA has traditionally aligned its recommendations with those of the WHO. The FDA recently announced that its Vaccines and Related Biological Products Advisory Committee is going to meet on March 12 to discuss flu shot recommendations. It'll be interesting. Do they just take the WHO advice for free without paying for it, being involved? I'm not sure what will

happen, but I'll leave in a link so people can see.

It's a little different. The egg-based vaccines and the cell culture, recombinant protein, or nucleic acid-based vaccines have slightly different recommendations. The influenza A, H1N1, H3N2, are going to be the same. In the egg-based, there's an influenza B, Tokyo. In the cell culture, recombinant protein, nucleic acid, it's an influenza B, Pennsylvania. They're both Victoria lineage. All right. RSV, we're still at high levels and really concerning, really interesting, really out of normal trends. RSV activity is actually rising in March. Really crazy.

VR: Yes, which it did not do last year. It went down in February.

DG: It's strange. Now, here's an interesting article, just the advantage of having a test, figuring out what to do. This is the article, "RSV Detection and Antibiotic Prescribing Decisions for Pediatric Respiratory Tract Infections," published in *JAMA Network Open Pediatrics*. Retrospective cohort study. They used data from a community-based primary care setting involving family pediatricians in Italy participating in the Pedianet network.

Data were collected between December 2023, May 2024. Kids from 9 to 36 months. Little kids with viral lower respiratory tract infection who underwent RSV antigen testing. Basically, what we're going to see is that among these kids, we're going to see that the groups are pretty similar, but antibiotic prescribing is going to be lower when you get that RSV positive test. It's 0.18 versus 0.29.

We're only going to see that for some of the years because, in some years, it's actually going to be similar. People seem to lose the impact of this. Ultimately, what they're going to conclude is that if you combine universal immunoprophylaxis, widespread RSV antigen rapid detection testing, we're really going to improve diagnostic accuracy, research allocation, clinical outcomes, and we're really going to reduce inappropriate antibiotic prescribing.

VR: It's good. Although, Daniel, with COVID, they still give antibiotics, right? [chuckles]

DG: 80% of the time, kill me now.

[laughter]

DG: All right. All right, so COVID is actually down to medium, right? For the first time, the wastewater has dropped down for the first time in a while. If you follow our multicolored graphs, we're going to get there. This next article, it's the *MMWR*, "Respiratory Virus Activity - United States, July 1, 2024 - June 30, 2025." We read that severe outcomes from COVID and RSV continue to occur, especially among young children and older adults.

COVID was associated with an estimated 290,000 to 450,000 hospitalizations and 34,000 to 53,000 deaths. That's still a lot. RSV was associated with 190,000 to 350,000 hospitalizations and 10,000 to 23,000 deaths. All the viruses remain descendants of the JN.1 variant. This is the first season without a SARS-CoV-2 variant replacement since the beginning of the COVID-19 pandemic.

VR: Daniel, let me get this straight. Severe outcomes from COVID continue to occur, especially among young children and older adults. Why have they said young

children don't need a COVID vaccine?

DG: It's not based on the science. It's not based on the data here. This is the data. This is from the CDC. 34,000 to 53,000 deaths, 290,000 to 450,000 hospitalizations. A child under the age of 4 has the same risk of an adult 65 and older. Yes, we have the ability to reduce those deaths and bad outcomes by close to 90% with yearly vaccinations. It's coming from an ideological stance. It is certainly not coming from the actual science. The numbers we'll probably talk about next week. The number of flu deaths are probably going to actually be higher than the number of COVID deaths this year. Another really bad flu season. Is this your favorite part, the multicolored COVID lines, Vincent?

VR: I do like that. Yes, it's very nice. Nice waves going on there.

DG: Yes, Midwest (crosstalk) all over.

VR: The Northeast is on a plateau, and everybody else is going down, it looks like.

DG: Yes, I think everyone else is on the way down. Encouraging there. Hopefully, this is the end of it. We'll have March, and then we get to April and have a really nice spring. All right, so just going to finish this off with a couple of things in our Long COVID, late phase. The article, "SARS-CoV-2 Persistence and Gut Microbiota: New Insights into Long COVID Pathogenesis," was published in the journal *Viruses*. I'm only going to mention it and comment that by persistence, the evidence to date is consistent with viral antigens, but not with replication-competent ongoing infection. I feel like maybe they weren't very clear there, but just worth spending some time on.

Now, this is important. The article, "Neither Metformin nor Ursodeoxycholic Acid Effectively Treats Postacute Sequelae of COVID-19: A Randomized Clinical Trial," was published in *Annals of Internal Medicine*. The reason I point this out is there's some data that maybe this relatively complicated escalation of metformin with acute COVID might have some preventive benefit. This was the question of once someone's already got Long COVID, can I treat them?

Straightforward, double-blind, placebo-controlled, randomized clinical trial conducted at two tertiary hospitals in South Korea, July 2024 to April 2025, 666 adults screened, 396 with a PASC index score of 12 or greater, are randomly assigned to either get oral metformin, up-traded to 1,500 milligrams per day - you don't just hit them, you've got to move up - or ursodeoxycholic acid, UDCA, 900 milligrams daily, or placebo. This is going to be for 14 days, and we've got 1:1:1, so equal numbers each group.

Now, the mean interval from SARS-CoV-2 infection was 9.8 months. The mean baseline PASC score was 19.3, so pretty sick folks. Recovery occurred in 63.6% of folks with metformin, 68% of those with UDCA, and 68% in those that got placebo. Really critical, you got placebo, right? Otherwise, you say, "Oh, my gosh, the majority of people got better. The majority of people got better with placebo." Really, no change in your likelihood of getting better. No change in your PASC scores.

That's OK. We've got a number of other trials looking at different interventions. The RECOVER-TLC trial will be testing four treatments, so the GLP-1 RAs, LDN, so that's low-dose naltrexone, baricitinib, and the stellate ganglion block. We'll leave in links for folks that are interested. The NIH also launched a randomized clinical trial called RECOVER-AUTONOMIC, and they're going to look at treatments for POTS.

They're going to look at IVIG and ivabradine and other different interventions, so I'll leave in some links there.

All right. As we've been saying for years now, no one is safe until everyone is safe, so I'm hoping people will pause the recording right here. Go to parasiteswithoutborders.com. Click on the Donate button. Even if it's a small amount, every bit helps. I say if you like what we're doing or you just want us to keep doing it, please go there. We are in our February to April Floating Doctors fundraiser. Again, doubling your donations. We are going to get up to a maximum donation of \$10,000 to Floating Doctors.

VR: It's time for your questions for Daniel. You can send yours to daniel@microbe.tv. Yosh writes, "I'm at least two years post-RSV vaccination. At one point, you mentioned the declining coverage of the vaccine over time. Should individuals such as myself receive a booster? If so, what do you recommend in terms of the timing of such booster post-initial vaccination?"

DG: This is tough, and I'm glad you bring this up. They've looked at when we should get boosters, what benefits there might be to boosters. We still don't have a booster recommendation for RSV vaccination. At this point, you get your one shot. When we know more, we'll let folks know if it makes sense to get another one. The reason we're not recommending, it wasn't clear that getting another shot was really going to give you any advantage at this point.

VR: Yosh continues, "A minor point. I think that what Disraeli was talking about in your quote from last week was well-covered in a book that was mandatory reading in my business statistics class called *How to Lie with Statistics* by Darrell Huff. Thanks again for all you have done for me and my patients." You have to watch out with statistics. You can get fooled.

Gail writes, "Daniel, do you have any links to reports about Pemgarda's continuing efficacy? My doctor told me that the university hospital, which I use, will no longer offer the vaccine. I told him about what you said on your podcast, and he said the decision is made far above his head. If there are any links you can include in your show notes, I'd like to forward them to him and whomever is involved in the decision-making, if I can find out who that is. Hopefully, that might have some kind of impact on their decision, although I realize that, unfortunately, it could be based strictly on the bottom line."

DG: Gail, it's crazy, right? Your doctor apparently is not the one who makes decisions about what the best care for you is. It's some administrator, right? That's basically what we're reading here. I think that folks in Invivyd who make Pemgarda may listen. I'm going to make them do the legwork. Send me some of those continuing efficacy studies, and then I'll make sure to share them on the next *TWiV*.

Vincent: Jemima writes, "Thank you for remaining two of the last standing strong voices continuing to honestly communicate the science and evidence-based clinical advice with your comforting blend of humanity, compassion, and correctly directed outrage, which I find provides a grounding tether of sanity in this increasingly illogical and brutal world. You may not be aware because there has been almost no media coverage or public discourse around it, nor any rationale provided."

"Since mid-2024 here in Australia, healthy children that are not considered to have a medical condition that may increase the risk of severe disease or death due to

COVID are not able to receive a vaccination against SARS-CoV-2 until they reach 18 years of age. As a mother of a young child, I have discussed the available data with my toddler's GP. Although they thoughtfully considered my questions and did some further research, they have been unwilling to administer a vaccine outside of the Australian Technical Advisory Group on Immunization guidelines on eligibility, unless the direction of a pediatric specialist."

"While all vaccines are shockingly under full frontal attack in your country under RFK Jr., with devastating consequences, it seems that it is inexplicably presently more difficult for a healthy child to access vaccination against COVID in Australia than it is in the U.S., where it is my understanding that COVID vaccines are still accessible through shared decision-making between parents and their child's doctor."

"This is, despite vaccination against all other transmissible diseases that can cause severe illness or death that we have effective vaccines for, still being either compulsory or free and recommended for young children under Australia's national immunization program, including seasonal influenza vaccines with pediatric morbidity and mortality due to influenza occurring at very similar rates to severe disease and death of children due to COVID."

"I remember in a clinical update last year on this topic, you talked about how COVID-19 quickly became the seventh leading cause of death for 1 to 17-year-olds in the U.S. in the first couple of years of the pandemic before we had vaccines. As healthy Australian children are effectively now back in this pre-vaccine COVID world, is there anything in your experience or knowledge of the currently circulating variants that means the situation is now different for children under 18 years old, apart from almost complete societal abandonment of public health measures and uncontrolled viral transmission? Many thanks again, Jemima, a veterinarian and longtime listener in Australia."

DG: Yes. This is tough. We mentioned just a little bit earlier in this recording, the fact that the kids, particularly in the first four years of life, they haven't been through the pandemic. For them, it's time zero. It's 2020 all over again. This is the first time they're seeing this. We're seeing the same hospitalization rates. We're seeing the same risk of severe outcomes in the 0 to 4 that we're seeing in the over-65. This is not based on the science. This is based upon this really pervasive messaging that, "Oh, it's not a problem in children." We had over 1,000 children die in the U.S. from COVID. That's a problem.

VR: Matt writes, "I had a thought today while listening to last week's update about how, as someone born in the early 1980s, I received only the single MMR vaccine dose rather than the two required today. While that level of protection is likely sufficient to protect against severe disease, you have reported on cases of vaccinated individuals getting mild cases of measles. This leads me to my question, does a mild case of measles in a vaccinated adult lead to a loss of immune memory?"

"I've been stacking COVID shot after COVID shot over the years, and it would be a shame if some of that protection was lost because measles gave my immune system a virological concussion. If so, it would be good motivation for us '80s kids to get a booster. Thanks so much for all that you do. I hope you find some pleasant things to do to bring down your blood pressure after reading all the bad news. Wishing you a nice rest of your day from a partly cloudy Chapel Hill, 62F16C."

DG: Okay. Matt, at this point, we do. In fact, that measles is back, if you are an '80s kid, we do recommend that you go ahead and get that second shot. I would go ahead and do that. Your question here, if you got one shot and then you get exposed, we don't actually think that you're going to be cursed with that impact, that immune amnesia. People quote these different numbers, but what we're seeing is a couple of things. One is that by getting that second shot, we were starting to see a rise in number of cases in measles. We started recommending that second shot, provides a little more protection, seems to really help at a population level as well. If you're in the '80s, go ahead and get that second shot.

VR: Yes, the question about mild case of measles and immune- yes, in the original study, mild measles still resulted in immune amnesia.

DG: Yes, I think that's important, but it was mild cases and unvaccinated. I think once you have one vaccine, yes.

VR: Yes, it was unvaccinated. That's correct. All right. Marvin writes, "I seek clarity about first-time HPV vaccination for those older than you or your colleagues. I listened to *TWiV* 1267 and several subsequent *TWiVs* in which you seem to refer to that topic. I do not fit into the population addressed there, but I found myself wondering whether there might be benefits to me of an HPV vaccination." This is a man probably in at least 70s or 80s, I'm guessing, Daniel.

DG: OK.

VR: "As an elderly male, I am unconcerned for myself about cervical cancer." [chuckles] It's a good point.

DG: Yes, that is true.

VR: Well, you can get penile cancers, though, Daniel.

DG: Yes, so he can't, a man can't get cervical cancer, but a man could get head and neck cancers. A man could get penile cancers, yes.

VR: "In *TWiV* 1267, Dr. Condit explained that HPV has been linked to head and neck cancers. He found a reference and maybe others. The focus of the review paper was on cervical cancers. Last year, I was successfully treated for bladder cancer, so I'm now willing to take any reasonable precautions against cancer spread. I understand that there are numerous variants of the HPV virus. I know that I have been exposed to at least one type, as I clearly recall episodes of warts on my hands as a young boy." Yes, but those are benign. Those are not going to cause cancer.

DG: Yes, those are different non-cancer-causing HPV types.

VR: "I asked my doctor about HPV vaccination, and he indicated that he would not prescribe it for me, even if I would pay for it myself. Possibly, if I was entering a new sexual relationship, it could be prescribed. Now, I wonder whether to reduce my risk of cancer by seeking a new partner, one willing to interact with me, even if my doctor resists my HPV vaccination, presumably someone old enough to be ineligible for her own vaccination. I live in British Columbia. In Canada, health is a provincial responsibility. I do not expect specific medical advice. I merely seek theoretical input. I appreciate your *TWiV* podcast. Is HPV vaccination likely to reduce my risk of further cancers?"

DG: This would be a great study to do, right? Marvin, as you point out, as Rich Condit discussed, HPV is linked. We think the majority of head and neck cancers are HPV-associated. If you extrapolate, you say, "OK, so there's this study and cervical cancer, and it looks like getting it even after the fact is helpful." A lot of us were exposed to HPV when we were younger. We potentially could end up with a head and neck cancer.

Particularly, I don't know if you were a smoker at any point. Is there a potential benefit to an HPV vaccination reducing your risk of head and neck cancer? It all makes sense. Yes, I know you're an older individual, but I do encourage you to have intimate relationships going forward. Good luck finding an age-appropriate partner and maybe going down this road that leads to you getting vaccinated.

VR: Daniel, if I asked you for an HPV vaccine, for me, would you give it to me?

DG: That's fine. I would not have a problem.

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

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

[music]

[00:45:33] [END OF AUDIO]