

TWiV 1334 Clinical Update

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Guest: Daniel Griffin

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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 1334, recorded on June 26,(sic) 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: The waning days of June. As June goes, so goes the summer.

DG: It's interesting, right? With school ending for a lot of people, mentally, now is actually the beginning of the actual summer. Looking forward to-

VR: What's on your tie there, Daniel?

DG: Oh, my gosh. Do you want a hint? What are you thinking?

VR: I can't really see it very well. Let me bring it closer to me. I see white circles on a black background. They could be pleomorphic, right?

DG: If they were yellow with the pocket square, a yellow virus? Does that help?

VR: It's yellow fever virus.

DG: That's interesting. I was thinking yellow like the sun, and maybe there's a corona around the edge of the virus.

VR: Yellow like the sun. Yellow fever.

DG: That would work, right? The yellow fever virus.

VR: It's a coronavirus. Is it SARS-CoV-2?

DG: Who knows? I did own this before 2019, so probably not.

VR: Oh, probably not. It's just a generic coronavirus.

DG: Yes, just a generic.

VR: All right.

DG: Let's jump in. I'm going to start off with an Eleanor Roosevelt quote again. This is bouncing off the Maya Angelou quote. I hope this applies to us, actually, and our relationship with you as listeners. "Many people will walk in and out of your life, but only true friends will leave footprints in your heart." I'm hoping, Vincent, that we are leaving footprints in the hearts of all our listeners, that people appreciate. This is a labor of love. We do this because we care. We want to make a difference. Hopefully, because of that intentionality, that caring, that compassion, that gives a lot of what we say credibility.

We're not here to sell you something. We're here to help you. We're here to do everything we can to allow you to live a healthy, educated life.

VR: I think that a friend is a difficult word. It can mean a lot of things to a lot of people. One thing is, if you help someone, even if they never meet you, if you give of yourself, you can be their friend. I think many of our listeners consider us their friends because we are helping them.

DG: They've even used that. They've said, "You've been true friends through the last six years." Hopefully, we'll keep doing that. We've got a bunch to talk about. We'll start off with a news item, "Health and Economic Burden of Emerging Infectious Disease in the USA, U.S. Territories, and Globally." This is from the *BMJ*. Just to give people context, pandemics cause the largest historical and projected unweighted and weighted full burdens in the USA and globally, among non-pandemics across unweighted and weighted burdens. Dengue and cholera impose the largest historical and projected full burdens globally.

West Nile virus imposed the largest historical and projected full burdens in the USA. Dengue imposed the largest historical full burdens in the U.S. territories. Weighted full burdens exceeded five times the unweighted ones. Regionally, the Americas and Africa faced the largest per capita weighted burdens, while the Western Pacific region faced the smallest. COVID-19 had the largest weighted full burden globally, ready for this, \$63.3 trillion, and across all world regions except Africa, where cholera posed a greater burden. The EIDs were the next largest burdens, were cholera, dengue, and pandemic H1N1 flu, whose full weighted costs were \$12.2 trillion, \$8 trillion, and \$4.4 trillion, respectively.

Just giving people this incredible sense of the burden here and the financial impact of infectious diseases. Significantly smaller burdens were West Nile virus at \$18.8 billion, Ebola at a weighted full burden of \$93.2 billion, and all others were weighted full burdens at less than \$8 billion. The United States pandemic, H1N1, made up the second highest full burden, \$235.1 billion, followed by West Nile at \$8.2 billion.

VR: Even though these are big numbers, Daniel, I think people would respond better to the humanity of these. How many people became sick and died.

DG: It's interesting. When you go to a restaurant, you got to have something for everybody. Some people care. Some people are like, "Oh my God, think about -" We'll talk about Ebola soon. We'll talk about over 1,000 people infected, hundreds of people dead already. Then you start talking about - and certain people, we won't mention who they are, they don't

wake up until you start talking about the impact on the economy and the cost. Basically, when you're making these decisions at a national and a world level, it's just bad economic policy not to care about these things.

Vaccine Integrity Project. The Evidence Collective announced projects to improve vaccine policy, restore trust to bolster the U.S. government's vaccine policymaking process, and restore trust and immunization. The Vaccine Integrity Project, VIP, at the University of Minnesota Center for Infectious Disease Research and Policy - that's CIDRAP - and the Evidence Collective announced new research efforts. We'll leave in some links to that. Outbreak of Legionnaires' disease associated with cooling tower systems in Central Harlem. Just to remind people, but this is recently up in CIDRAP, cooling tower systems have been the source of multiple large Legionnaires' disease outbreaks.

Here, they report a July to August 2025 outbreak in the Central Harlem area of New York City with 118 confirmed cases and seven deaths. An investigation was initiated on the day the daily spatiotemporal cluster detection analysis by the New York City Health Department noted eight positive urine antigen test results for *Legionella pneumophila* serogroup 1. To give people context who've worried about *Legionella*, one of the ways we'll diagnose this is we'll send off a urine antigen test. A total of 43 cooling tower systems were sampled by day three.

Pretty rapid. Whole genome sequencing analysis suggested that the available clinical isolates were highly correlated to those from two cooling towers located on the same city block. There it is in the water.

Screwworm. We have our screwworm dashboard, and it looks pretty similar. We're now up to a total animal cases of 20 and it's clustered right in the border region. It's right down there in Texas, the eastern New Mexico border with Texas area there as well.

VR: Do you think these are going to keep going up, Daniel?

DG: I do. We activated the lowest level of our emergency response, and it's not going to cut it. We have this huge border. I'm not optimistic about what's going to happen here, but we'll keep an eye on it. I would like to be optimistic.

VR: Last night on the stream, someone asked how they could protect their pets, and I really didn't know of any way. Do you?

DG: Really, you need to pay attention. When we go hiking in certain areas afterwards, we do a tick check. Just check your dog over. This is still at this point in the border region. After your dog's been out, maybe in the evening when you're petting your dog, scratching him on his head, just check them out because these can very quickly - the screwworm fly is going to lay its larvae on mucus membranes, so nose area, by the mouth., any scratches on the leg, so just check them out because if you do detect this, as we've talked about before, one is mechanically you can clean up and address this, but also there is a now approved generic medicine for it as well.

Do a maggot check. We have tick checks, and now we have maggot checks. All right, Ebola. We're now the second-worst Ebola outbreak in history. That was quick, right?

VR Yes.

DG: As of June 22, the DRC has confirmed more than 1,000 cases, making this Ebola outbreak the second largest on record, and some concerns that this might become the worst. We've talked about a lot of the issues that might be going into that one. It's the Bundibugyo, so it's harder to test for. I think it's only the ability to do a couple thousand tests per day, so not the capacity that we really need. Also, it's in areas where there isn't great security and great government coordination and not necessarily where it's safe for healthcare workers. This has probably been going on for quite a while, so it's really gotten ahead of us here.

I'm going to mention this, but I'm just going to say- let me mention it, and then I'll make my criticism. BBC headline: "France Confirms First Ebola Case." Now, France has set up a dedicated monitoring system for aid workers returning from DR Congo. France has confirmed its first case of Ebola, a doctor who had returned from a humanitarian mission in the Democratic Republic of Congo. The doctor was immediately admitted to a specialized facility, is in stable condition. This is actually what's supposed to happen.

I don't think this is scary. This is historically what we did, is if there were people brave enough, altruistic enough to help, to put themselves in harm's way and attempt to make a difference, and then they would return, they'd be monitored. There's a bunch of people being monitored in different countries. A number here in the U.S., even. Then, if they test positive, this is what you do. You immediately admit them to a specialized facility. Really following this paradigm, we haven't seen issues. In the U.S., this happened. With the big West African, in European and other countries, this happened. People were admitted. There was no spread.

That's one of the nice things, I guess, about Ebola is there isn't a lot of pre-symptomatic or asymptomatic spread of Ebola.

VR: This case in France, they were symptomatic, I presume, right?

DG: That's exactly what happens. A person started to have symptoms, they got tested, and then they immediately were quarantined and treated. The interesting thing too, particularly with Bundibugyo virus, is that if you are diagnosed early, given proper treatment, the mortality is actually pretty low. That's good to know. Hantavirus, the story is ending, Vincent. Again, this is a success of public health. Health agencies signal end of quarantine period for crews linked to Andes virus outbreak. Public health authorities in the U.S., the UK, and the Netherlands have confirmed the conclusion of monitoring and quarantine periods following the fatal outbreak of Andes virus aboard the MV Hondius cruise ship.

The outbreak, which occurred in the Atlantic Ocean, resulted in 13 individuals becoming ill, three deaths. No further cases were detected. I'll leave in links to all that. They went in, they were appropriately monitored, appropriately quarantined, appropriately cared for, and we can wrap this up.

VR: I think this is a very unusual and rare event. These two individuals had contact with rodents during a long hiking trip, and they brought it onto a ship. If they had gone home,

maybe it wouldn't have been a problem, or if they had just stayed, it would have just been themselves. That would be a problem for them, but it wouldn't have spread to others. I think a lot of lessons to be learned here.

DG: Yes, definitely true. Measles, we are up to 2,196 on the Johns Hopkins U.S. measles tracker. Just to give you a comparison, there to 2,196. Last year, 2,242. We're getting pretty close to surpassing what we had last year. Even if you look at the CDC count, it's over 2,100. Measles outbreak in Cook County, Illinois, September through October 2025, in *New England Journal of Medicine*, evidence.newenglandjournalofmedicine.org. A small community outbreak of measles in suburban Cook County, Illinois, occurred in September through October. This is 2025.

Cook County Department of Public Health investigators identified four measles cases, including one unvaccinated pediatric index case, two vaccinated adult secondary cases, and an unvaccinated pediatric tertiary case. At least 99 individuals were exposed to measles, including 79 people exposed in emergency department waiting rooms on two separate dates. I'll leave a link into this. Now, this got me a little confused when I saw the CDC transitioning away from diagnostic testing for measles and mumps. The agency says it's not needed since state and local health departments have scaled up. The interesting timing on making that decision.

VR: This is the plan, right, to make everything at the state and local level and get rid of the CDC. That was always the plan. I disagree with that. I don't think it makes a lot of sense.

DG: It's going to really require a lot of coordination, a lot of transparency between the states for something like the national CDC to be replaced or to anyway be emulated at a state level. All right, CIDRAP op-ed, "Call It What It Is. The U.S. Has Lost Its Hold on Measles Elimination." The definition of measles elimination leaves little room for interpretation, and U.S. scientists helped write it. Measles is considered endemic in a given region once local transmission runs continuously for at least one year. Cases that are imported from international travel don't count unless that person transmits to others domestically.

A country keeps its elimination status only by interrupting that endemicity for at least a year and requires surveillance systems that are robust enough to detect the difference.

VR: It's a good article. It's a good editorial. They make the point that the U.S. delayed the PAHO committee looking at this, Pan-American Health Organization. They're trying to find data which would suggest it came from overseas. They're looking at that. The sequences tell you that it's endemic. They're just baloney, these people.

DG: Yes, just delay, delay, delay. We read in *Reuters*, "U.S. Military Requires Flu Vaccine for Some after Outbreak in Texas Training Center." The U.S. military has resumed required flu vaccines for some service members in an exception to Defense Secretary Pete Hegseth's guidance declaring the shots voluntary two months ago. The decision follows a flu outbreak among recruits at Joint Base San Antonio-Lackland in Texas, and sharp criticism of the policy from public health experts. More than 220 recruits have been diagnosed with influenza, and four hospitalized in the outbreak this month according to media reports.

VR: I hear one died also.

DG: Did they really?

VR: That's what I've heard.

DG: That's horrible. I think it's important for people to realize it's like, "Oh, it's just the flu." Then people think about maybe a personal experience they have. Here we've got 220 recruits. When you're in the military, they're working you hard. You're not getting a lot of sleep. Your immune system might be down. These are the men and women who are supposed to protect our country. How are they supposed to protect our country when they're sick, when they're ending up in the hospital, when they're dying?

VR: This editorial - no, sorry, this is not it. There's an excellent article. I'll put the link to it, which says basically Hegseth didn't make any scientific decision or talk about pluses and minuses, risks and benefit. He just said it's all about personal decision. This is the meme that this administration is pulling on vaccination, which is crazy because here now, it has caused damage. These people cannot train. That's what they go to boot camp for, to train. If there were a conflict, they wouldn't be able to participate. It's ridiculous to have this as a personal choice.

DG: This whole health freedom idea.

VR: How many people really buy that?

DG: I don't think so. It's a minority that buy into that.

Exciting stuff. Are you ready for this? FDA approves first generic version of Roche's flu drug. I say I think this is exciting as I'm hoping this leads to lower prices and thus better access, but the U.S. FDA approved the first generic version of Xofluza, baloxavir. This is that single dose flu medicine for certain patients aged five and older. It can be used to treat uncomplicated flu in patients who have had symptoms for no more than 48 hours. It also can be used to prevent flu after contact with an infected person. We've got our two indications: treatment uncomplicated, and then post-exposure prophylaxis.

VR: Next time I get flu, Daniel, I'll ask you to write me a script for this. We'll check it out.

DG: The next time someone's hanging out around you with the flu.

VR: How do I know if they have flu? That's the problem.

DG: Tell them, "Go take a test. You sound like you have the flu."

COVID. Let's look at our multi-colored lines. What do you think in there, Vincent?

VR: Oh, it looks good. It's pretty flat, right?

DG: It is flat. It is as flat as Kansas.

VR: As flat as it's ever been, as far as I can see. It's July, a year ago, right?

DG: Yes.

VR: I don't know what it would look like before that, but it is very low in all those regions. There will still be a summer outbreak, probably, but it's good now that it's so low.

DG: We'll have to see. What's that joke? It looks like Texas. Texas is really flat, and the whole idea was Texas was going to be the masterpiece. Then, when God tried to do Texas, everything was dry and flat, and He was like, "You know what? I'll just make people that like it that way." I like my COVID line just like this.

This is. "CDC Chief Blocked a COVID Vaccine Study. Now It's in a Top Medical Journal." The study found that the vaccine reduced the risk of emergency department visits and hospitalization among healthy adults by about half last winter.

Here is the article. The article, "Interim Estimated Effectiveness of 2025 to 2026 COVID-19 Vaccines in Adults Using a Test-negative Design," published in *JAMA Network Open*. The results of a case-control study of 85,725 emergency department and urgent care encounters and 26,073 hospitalizations in immunocompetent adults aged 18 and older with a COVID-19-like illness. Estimated effectiveness of the 2025-2026 COVID-19 vaccination was 50% against those ED urgent care encounters, 55% against COVID-19-associated hospitalization, compared to those folks who did not get a booster. Not bad.

VR: No, it's good.

DG: Why not drop that risk in half?

VR: Who was the chief that suppressed this? Was it Makary?

DG: It was the CDC's chief. He was sort of double-timing.

VR: No, that was Bhattacharya. I think Makary was here and now he's out, of course, but this is ridiculous. It's totally ridiculous. You don't do this in science or public health, folks. You don't do this.

DG: No, when you've got information, you share the data, and then people can make informed decisions.

VR: This is what's done in a government run by a dictator. You don't do this in a free society such as ours. I don't know why people are allowing this to happen.

DG: No. Fortunately, they're not. This ended up getting out there. It's published. People can now read it. It's published in *JAMA Network Open*, and I'm glad it's in a network open, so open access, people can look, they can see the data, they can make their own decisions.

No one is safe until everyone is safe. We are continuing our May through July fundraiser for Foundation International Medical Relief of Children. I want to thank everyone because people have really stepped up, and this is great. FIMRC is there. They're in Uganda. They're on the ground. There are Ebola cases in country. People are still there. They're taking care of the children.

Go to parasiteswithoutborders.com, send your donations our way. We're going to double them. We're hoping to send a donation of up to \$10,000, which really goes a long way in that part of the world. Thank you for all of you that have donated, and all of you that will pause the recording and do so now.

VR: It's time for your questions for Daniel. You can send yours to daniel@microbe.tv. Lynn writes, "I was glad to hear from a letter writer in *TWiV* 1328 that a 48-year-old was able to get HPV vaccine from their local independent pharmacy via her gynecologist despite being over 45. I am also over 45, but have not been as lucky. I requested a prescription from my PCP in Kansas, former PCP in Oregon, a local gynecologist, and Passport Health without luck. I even called the helpline at Merck and was turned away. Do you have any advice on where to procure the Gardasil 9 vaccine?"

DG: Wow. Let's see. PCP said no. Former PCP said no. Gynecologist said no. Wow. This is really tough. You're in Oregon. I wonder if reaching out to the academic center might be the next step at this point. Then what I'm going to say, Lynn, is once you find someone who actually appreciates the data, who understands that this makes sense, write us back. Let us know because we'll definitely share that, and then hopefully that provider will get some referrals.

VR: I don't know why Merck turned her away.

DG: I think from them, they have to follow the, this is the FDA-approved indication. They may not be able to step into that.

VR: It's off-label. People do off-label all the time, right?

DG: Yes. They can't encourage it. They probably can't direct or facilitate it. It puts them in a -

VR: John writes, "I hope you've been doing well. I haven't written as much as I formerly did, especially with *TWiP*, due to new caretaking responsibilities for my father starting last July. I'm hoping to get back to that when time is less scarce, and hope both of you are doing well." There's 24 hours a day. It doesn't get any more. It doesn't get any less. You just have to reapportion it.

"I stumbled across what looks like an ingenious contraption that a grandma figured out to reduce mosquitoes in a small area, and wondered if Daniel had ever seen anything like it. Unless there are some critical flaws I'm not thinking about, it seems like putting this around sleeping areas or just in the home in general might lower the mosquito density, and that made me think of malaria and similar diseases. I actually bought four head nets, which were all of \$10, to try this out myself with a small fan. I'm not sure what to use for an LED light, but those are cheap.

I also have a portable power station and can make it mobile for a pretty long time, thinking of patio weather in Minnesota evenings. If the video doesn't play for you or gets blocked, the grandma put a mosquito net on the front side of the fan. It blows like a windsock at an airport in front. There's a light attached on the rear to attract mosquitoes, and it just runs at normal speed. The air flow prevents the mosquitoes from escaping once they are in the vortex, and you see a big pile of them in this video that are stranded. I hope this is

interesting, and looking forward to Dr. Daniel. Thank you, as always, for the great content.

P.S. All this stuff I've learned on *MicrobeTV* has come in handy with my father's ailments, and I became the translator of some medical stuff to my family when he had an infection, thanks to your programming. He's doing better in recovery, too, now."

DG: This is great. For those, it's described well. You've got this fan, and there's the LED, and you've got the mosquito net going out like a triangle, like a sock. Apparently, I guess what's happening, mosquitoes are attracted to the light, and then they get sucked, and then basically, there's a pile of mosquitoes. It's amazing.

VR: How do you get the mosquitoes out? You turn the fan off. They're all going to fly away, right?

DG: You just leave it on. [chuckles] Eventually, they die in there.

VR: Then they'll die because they don't have any food or water. It's very cool. Good job, Grandma.

DG: That's awesome.

VR: Stasa writes, "I'm an avid listener of *MicrobeTV* and clinical update, even though I'm just a pianist." No, you're not just, you are a pianist. "I think that in an alternate universe, I would probably have become a scientist. I have some questions that have been bothering me for some time. My daughter was diagnosed with third-degree AV block, probably congenital, two years ago. She's almost 12 years old and is, to the doctor's surprise, asymptomatic. She only has a low average heart rate around 51 beats per minute measured over a 24-hour period.

She's vaccinated according to vaccination schedule of our country, Slovenia, and additionally against rotavirus when she was a baby, tick-borne meningitis, practically a must in our part of the world, and HPV. She is not on any medication. Here's what I would like to know. Does AV block itself change the body's response to vaccines or diseases? Are there any vaccines that would be contraindicated in her case? Would you recommend any additional vaccines other than flu and COVID? Wishing you the best from beautiful small country of Slovenia, currently in a grip of a heat wave."

DG: Thanks for writing. For our listeners, what is this third-degree heart block? You've got first, second, third-degree. A very simple third-degree heart block is when there's a complete block between the upper part of the heart, the atria, and the lower part, the ventricles. In this case, what's happening is there's an intrinsic pacemaker activity either at the junction, maybe that's what's happening here, or in the ventricles. The reason I say maybe at the junction here is just looking at this 51 beats per minute. That's probably a junctional rhythm. Right there at the junction, you're getting this firing about every second, just a little bit longer than every second.

In a fit young person, yes, this can actually be asymptomatic. Now, this should not have any impact upon vaccination and vaccine response. No vaccines would be contraindicated in this case. I would just recommend all the normal vaccines, as you point out, including flu,

including COVID.

VR: Dorothy writes, "Thank you and Dr. Racaniello for your excellent show. I am a monthly supporter of *TWiV* and also donate regularly to Parasites Without Borders. Money well spent. I am an 84-year-old woman. I have had COVID three times: July '22, December '23, January '25, and I have balance and peripheral neuropathy issues brought on by Long COVID. Challenging, but so far not serious. I will have my COVID shot on June 29. I believe you recommended that seniors get COVID vaccine in June and November, though I could be wrong, but I see online that Pfizer recommends every six months. Should I get my next shot in November or wait until December 29?"

DG: Dorothy, this is a great question because I think a lot of people here we are, June, we should be thinking about this. There's this issue where we have, so far, for many years now, had two peaks. There tends to be a peak in July, August. There tends to be a peak that really, December, January, February. You think about the fact that the vaccines have this six-month boost, and it tends to be waning after that six months, but the peaks are not exactly six months apart. It's roughly every six months. I think that's reasonable. Ideally, what you want to do is get that shot before the surge. Here we are in June, perfect time for that July, August that we're predicting.

Then again, we're probably going to get something in December, January, so early November, before holidays and other things get us into that next peak.

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

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

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