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The Society for Healthcare
Epidemiology of America

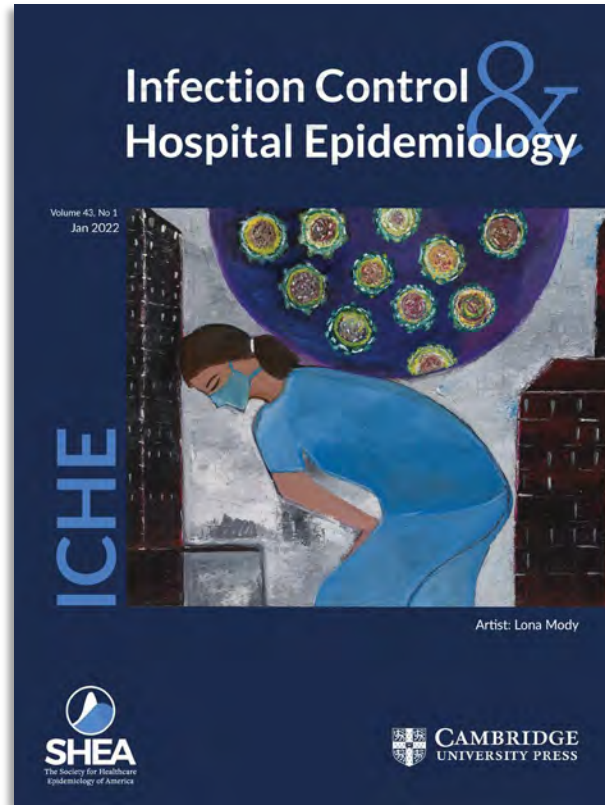
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Infection Control & Hospital Epidemiology publishes scientifically authoritative, clinically applicable, peer-reviewed research on control and evaluation of the transmission of pathogens in healthcare institutions and on the use of epidemiological principles and methods to evaluate and improve the delivery of care. Major topics covered include infection control practices, surveillance, antimicrobial stewardship, cost-benefit analyses, resource use, occupational health, and regulatory issues.

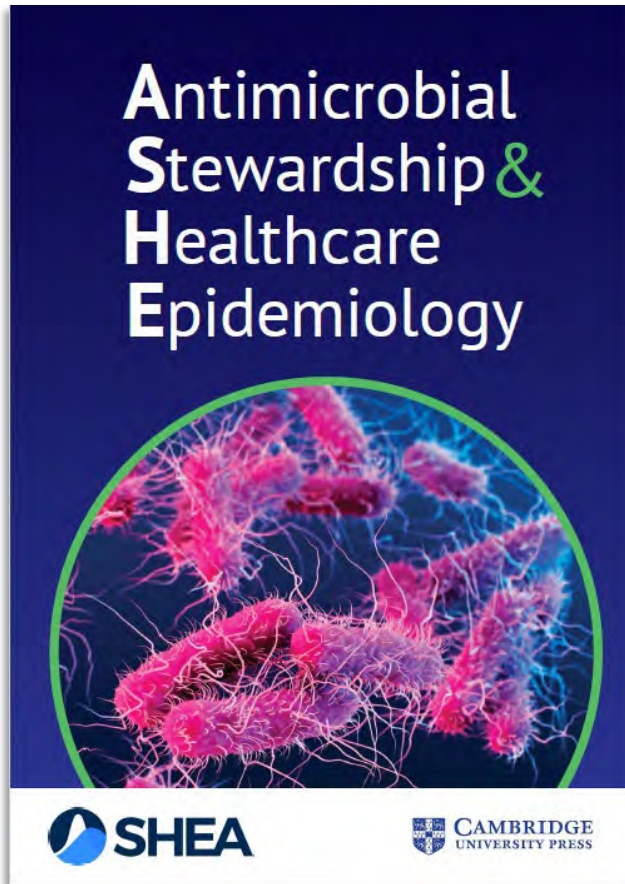
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Virtual Workshop

Quality Improvement Essentials for Infection Prevention and Stewardship Teams



September 25, 2024

10 AM - 5:15 PM ET



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Excellent session today. Dr. Haesler's presentation was very timely. I will be sharing that with my IP managers to ensure preparation for such an exposure which is more likely to happen than not. Thanks to all the panel very much for their continued willingness to participate in these townhall and share their knowledge and experience.

You are doing a great job, very grateful for these meetings. I work as a contractor as the Hospital Epidemiologist/ IC and P Officer/ Director of Employee Health for a small but essential public hospital and all your information is put to good use as I share with my staff. Thank you!

Thank you for being the voice of reason, it is so reassuring.

Superb presentations and candid discussions like today Thanks to all of you for making the efforts!

Thank you! I would like the PowerPoint so I can view the citations. Excellent presentations!

This is very helpful program for everyone of us to understand about COVID-19 treatment. Many Thanks to all the Doctors in the Program.

Excellent team! Thank you!

Thanks for town hall format. This is a good way to keep up with the latest literature - Dr. Weber in particular should be commended for creating the highlights of current trends and topics. All the panelists are well informed and this is a good way to get practical information.

Superb, as usual. Thank you for adding this extra town hall today.



SHEA
100th Town Hall

You are all amazing. As I enter my 4th decade as an infection prevention professional, I am in awe of how dedicated you are to us, your facilities, patients and society. Thank you as always. I have not missed one town hall to date

Terrific, as always, thank you. Will “die on that hill” with you! Thank you deeply for your service to the SHEA community.

These are fantastic and really help me in many ways as i try to lead the IP response in our 10-hospital system

Thanks very much for again, timely information and real life suggestions.

I appreciate the up-to-date coverage of the emerging literature of importance.

Thank YOU! Superb town hall as always, and elegant presentation indeed.

Always on point. Thank you all for the efforts on sundays!

Terrific program, I appreciated all the advices, many thanks.

Continues to be excellent sharing of information that we are all dealing with! Thank you!

It is so gratifying as an Infection Preventionist to get confirmation from the expert panel that you are doing the right things to protect patients and HCWs. We second guess ourselves and our confidence get shaken but listening to these calls has helped to make us feel better and that we are in the same boat dealing with the same questions and issues. Thank you

I am so appreciative of these town halls. Listening to the discussion has helped me keep my CEO and medical director apprised of the pertinent developments during this pandemic. I am an APIC member and I'd love to join SHEA.



SHEA
100th Town Hall

The presentations today were excellent. Thank you Drs. Henderson and Weber et al. for your ongoing dedication to sharing science and expressing compassion throughout the pandemic. I often feel like these sessions help prepare me for facing another week of COVID. Appreciate you all.

As always, extremely helpful. The knowledge that even the experts are dealing with the same issues is supportive and does not make me feel like I am a lone voice crying in the wilderness. Thanks very much. These sessions continue to be extremely helpful and addresses questions I am dealing with serendipitous.

Very relevant information with a surprising amount of backup data. Many thanks

As usual, another exceptional town hall. Whoever decides on the topics is doing an amazing job. Thank you!

I've listened to at least 50 of the 55 Town Halls. Every session has informative information on a variety of Covid related topics. Thank you to all involved in sharing your expertise and what you are experiencing in your healthcare facilities. Just knowing we are not alone in this pandemic is extremely helpful!

Superb - the current reviews and candid discussions by experts are always valuable!

These are so very beneficial to many of us lacking a hospital epidemiologist. Thanks so much for your continued efforts in sharing invaluable knowledge!!

Thank you Team for helping us take care of our healthcare workers and patients. Every session is incredibly practical and helpful!

Excellent Team! I am so proud of them!

The panelists all answered the questions in my mind. They were all great!

Perfect today: superb presentations by Drs. Weber and Haessler, very much needed. Agree, excellent use of time. Commend Dr. Henderson for his outstanding skills as moderator, excellent judgement. Thank you, thank you.

The "Fearsome Foursome" address what is currently going on with COVID. They have covered everything that I can think of but who knows what will happen in 2 weeks. Thank you to all the panelists!!!!

SHEA Webinar
Town Hall 2024



House Keeping Items



- Technical difficulties? Visit: <https://support.zoom.us>
- Webinar recording, PowerPoint presentation, and references available on [LearningCE](#)
- Streaming Live on SHEA's Facebook page
- Zoom Q&A and Chat

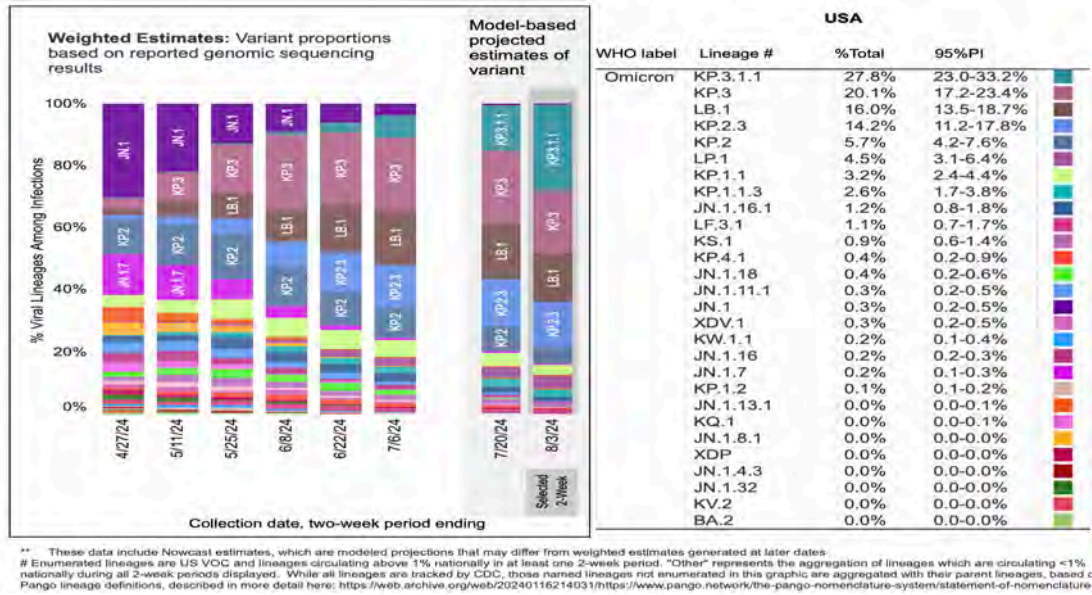


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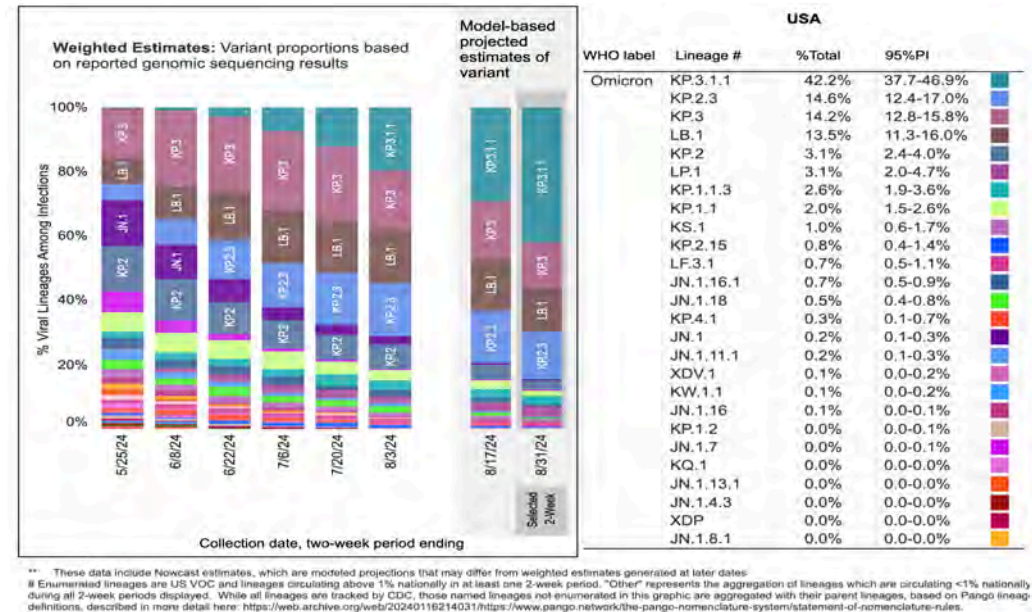
SHEA Town Hall 100 Overview



SARS-CoV-2 VARIANTS, US, CDC



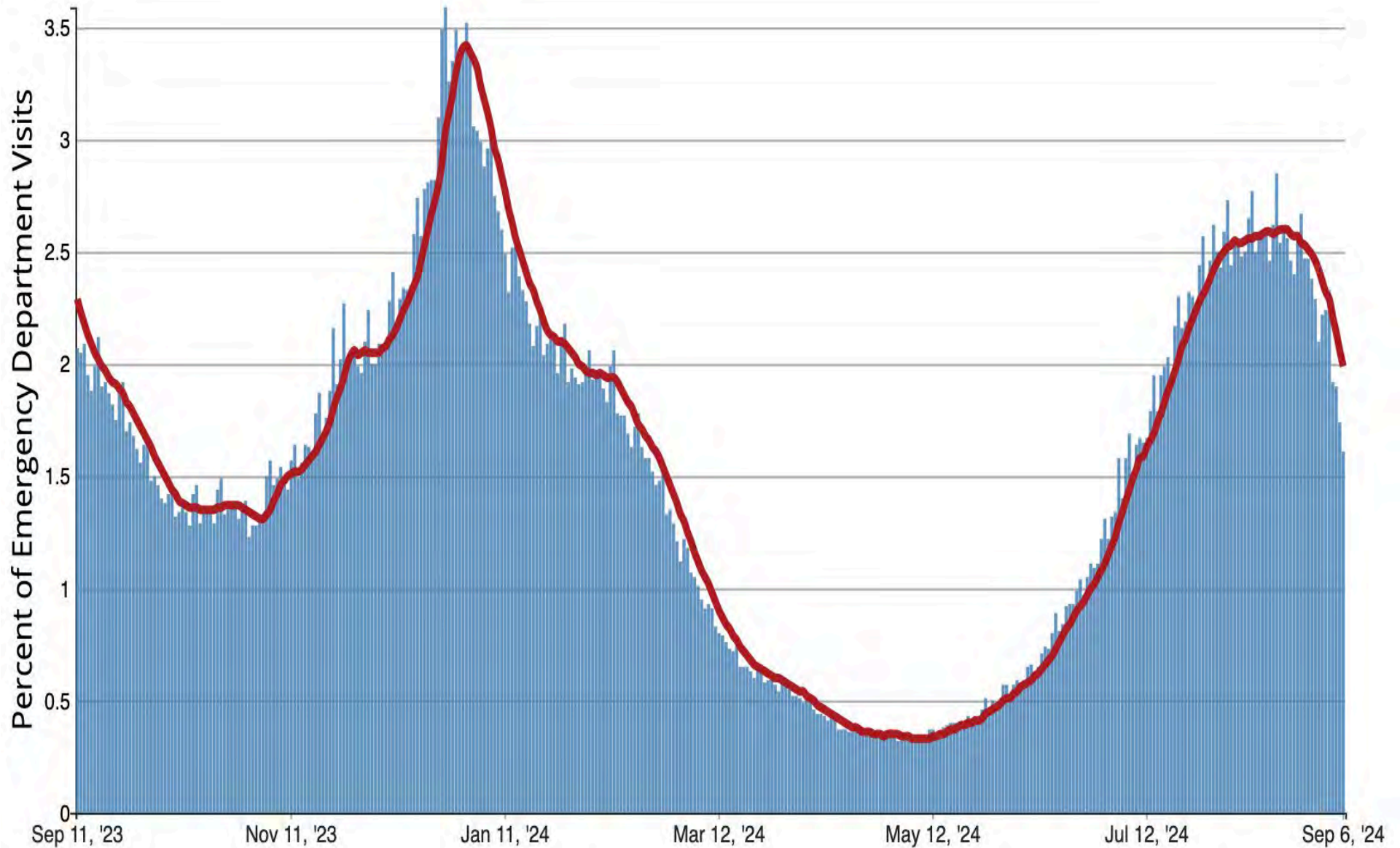
Data from 4/14/24 – 8/3/2024



Data from 5/25/24 – 8/31/2024

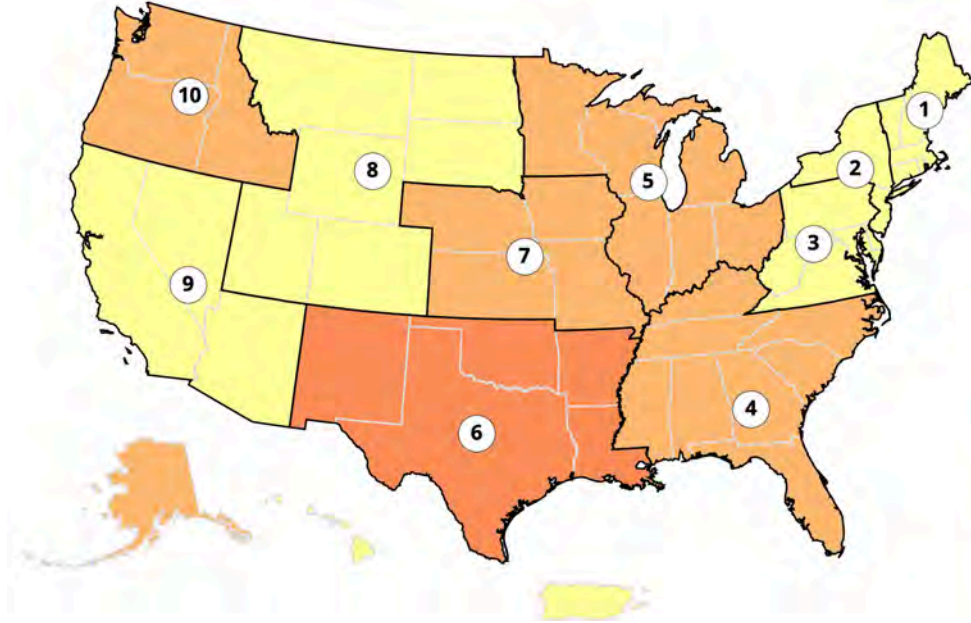
<https://covid.cdc.gov/covid-data-tracker/#variant-proportions> 9-12-2024

EMERGENCY DEPARTMENT VISITS DUE TO COVID-19

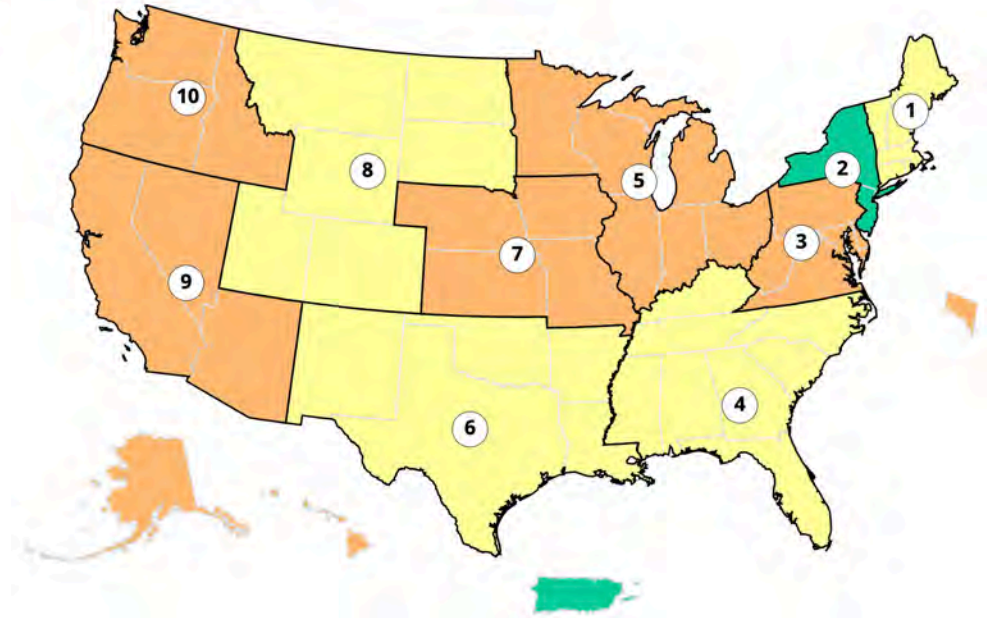


Source: CDC https://covid.cdc.gov/covid-data-tracker/#ed-visits_all_ages_combined 9-12-2024

COVID-19 TEST POSITIVITY RATES



Week of 8/1/2024

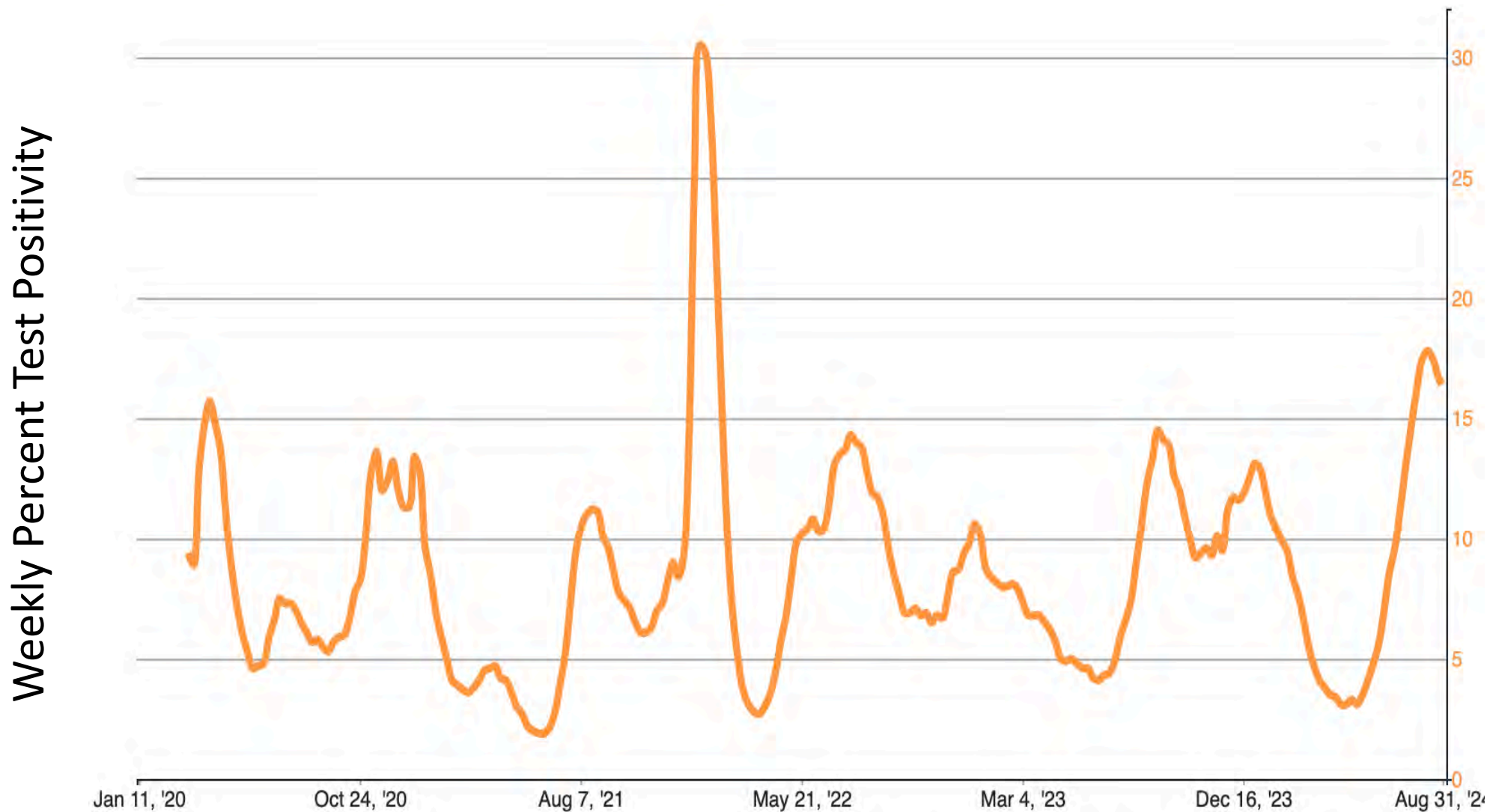


Week of 9/2/2024



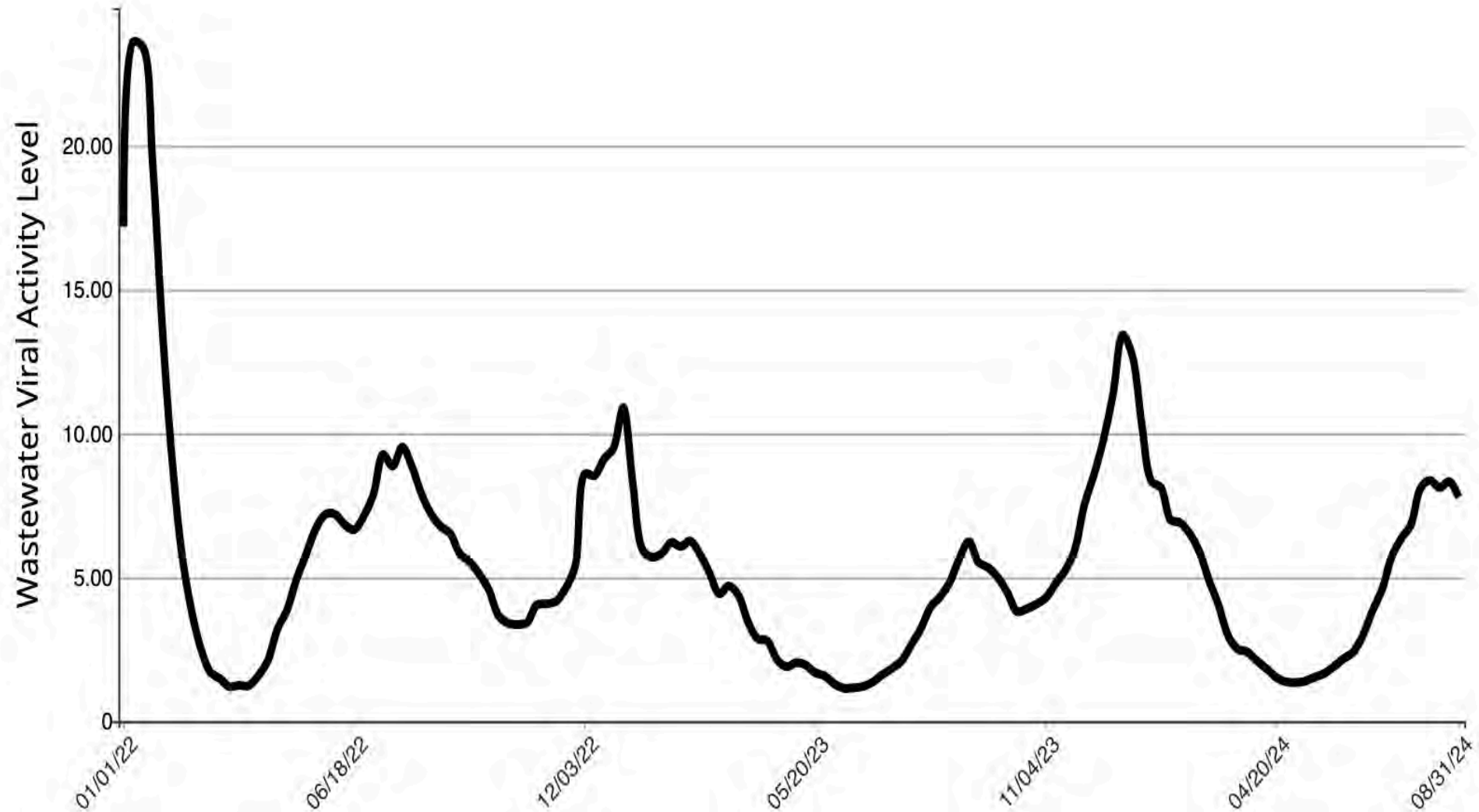
Source: CDC https://covid.cdc.gov/covid-data-tracker/#maps_positivity-week-9-9-2024

COVID-19 RATES OF TEST POSITIVITY



Source: CDC https://covid.cdc.gov/covid-data-tracker/#trends_weeklyhospitaladmissions_testpositivity_00
9/12-2024

COVID-19 WASTEWATER VIRAL ACTIVITY



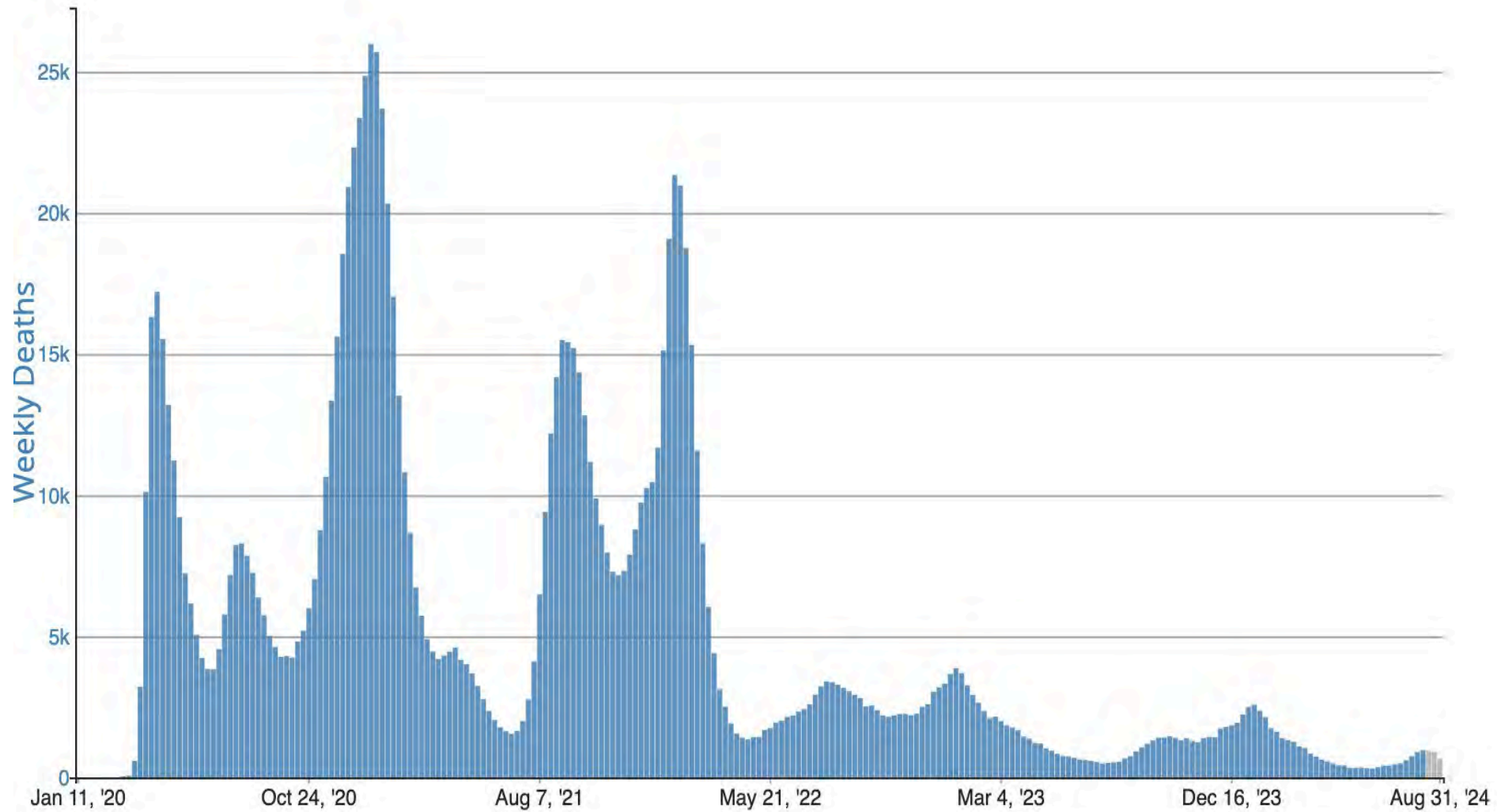
Source: CDC <https://covid.cdc.gov/covid-data-tracker/#wastewater-surveillance> Week ending 8-31-2024

HOSPITALIZATIONS FOR COVID-19 IN THE UNITED STATES

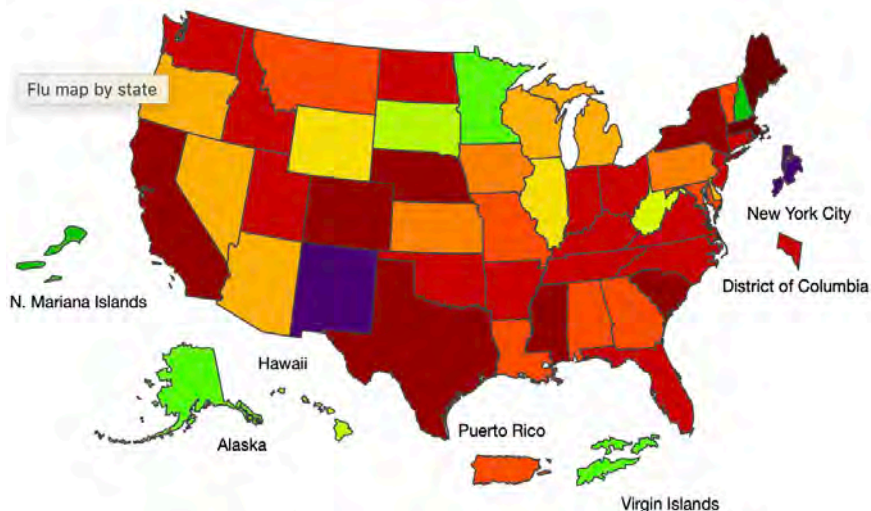


Source: <https://covid.cdc.gov/covid-data-tracker/#covidnet-hospitalization-network> 9-8-2024

WEEKLY PROVISIONAL DEATHS FROM COVID-19 IN THE UNITED STATES



INFLUENZA ACTIVITY BY STATE IN THE UNITED STATES



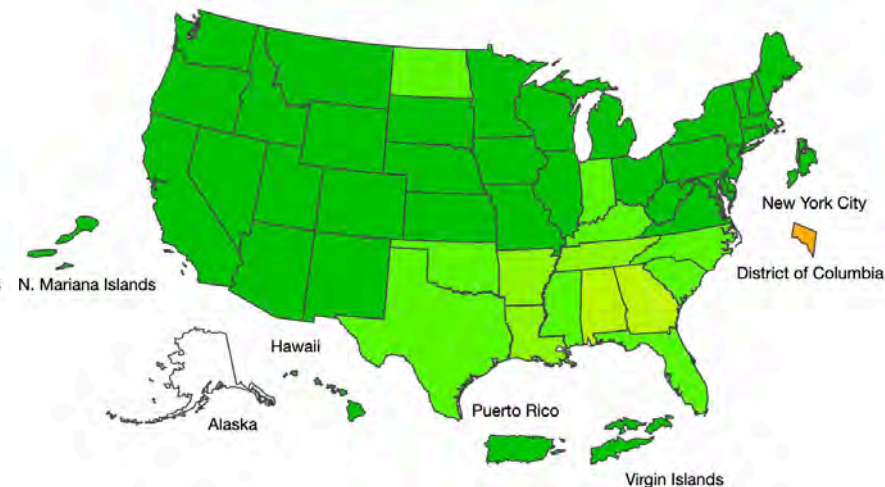
January 8, 2023



July 6, 2024



August 6, 2024



August 31, 2024



Today's Emerging Infectious Disease News

1. A study of host immunophenotypes (monoclonal antibody preparations Casirivimab + Imdevimab) induced anti-inflammatory effect, without an evident impairment of cellular antiviral immunity.
2. Another study published in **eBioMedicine** assessed immunologic responses to vaccination and SARS-CoV-2 infection of patients who have inflammatory bowel disease and/or arthritis who were receiving tumor necrosis factor inhibitors. Following three vaccine doses these patients had T cell responses comparable to healthy controls, despite attenuated humoral responses. Repeated vaccination and breakthrough infection increased the quality of T cell responses.
3. Results of a randomized, controlled trial published in **The Lancet Infectious Diseases** found that patients treated with Molnupiravir, felt better, experienced fewer and less severe COVID-19 associated symptoms, accessed health care less often, and took less time off work at 6 months than patients receiving standard care without Molnupiravir.
4. A **Science Advances** paper described efficacy of a new class of antiviral agents, SARS-CoV-2 papain-like protease inhibitors that demonstrated efficacy in a murine model of COVID.
5. A paper from **The Annals of Internal Medicine** evaluated whether hospital type, classified by capabilities and resources, influenced COVID-19 volume–outcome relationships during Delta wave surges and found that comparably detrimental relationships between COVID-19 caseload and survival were seen across all hospital types.
6. Another paper in **The Annals of Internal Medicine** found no evidence that any of 25 routine laboratory studies could serve as a clinically useful biomarker of the postacute sequelae of SARS-CoV-2 infection.

References available in the chat

Today's Emerging Infectious Disease News

7. A study from CDC published in **Clinical Infectious Diseases** found that breakthrough cases of measles cases tended to have milder disease with fewer complications. A small proportion of breakthrough infections were due to primary vaccine failure.
8. A paper and an editorial published in **Clinical Infectious Diseases** raise the possibility that metformin may have benefit in the treatment of SARS-CoV-2 infection. Both papers fall short of providing definitive evidence of efficacy; however, another larger prospective trial is underway.
9. A CDC **Health Alert Network** posting from August 13 warned of a dramatic increase in human parvovirus B19 activity in the United States.
10. A second CDC **Health Alert Network** posting from August 16 warned of an increase in Oropouche activity in South and Central America, as well as in Cuba.
11. A CDC **Newsroom Release** posting from August 16 confirmed an H5N1 influenza infection in a Missouri resident who had no immediate known animal exposure.
12. A study published in **JAMA Network Open** and an accompanying editorial found that state COVID-19 vaccine mandates were associated with increased vaccine uptake among HCWs in 2021.

References available in the chat

Today's Emerging Infectious Disease News

13. A paper published in **JAMA** and an accompanying editorial characterized long COVID in children and adolescents.
14. A paper describing French national health system data published in **JAMA** evaluated all individuals aged 12 to 49 hospitalized for myocarditis between December 27, 2020, and June 30, 2022 and found that patients with post-COVID-19 mRNA vaccination myocarditis, but not those who had post-COVID-19 myocarditis, showed a lower frequency of cardiovascular complications than those with conventional myocarditis at 18 months.
15. An **FDA News Release** announced the approval and authorization of updated mRNA COVID-19 vaccines designed to better protect against contemporaneous variants.
16. A **JAMA Network Open** paper found that autoimmune sequelae after Delta or Omicron SARS-CoV-2 infection suggested that booster vaccination mitigates the risk of long-term autoimmune sequelae after Omicron variant infection.
17. A research letter published in **JAMA** demonstrated substantial efficacy (>75%) of the RSV vaccine among adults 60 years and older during its first year of clinical use.
18. A review published in **JAMA** provides detailed information about the pathophysiology, clinical presentation, assessment, diagnosis, treatment, and prognosis of scabies, bedbug and body lice infestations.

References available in the chat

Panelists:

100th TOWN HALL



Dr. David Henderson
NIH



Dr. Kristina Bryant
University of Louisville



Dr. Sarah Haessler
Baystate Health



Dr. David Weber
UNC School of Medicine



EMERGING INFECTIOUS DISEASE UPDATE:

COVID-19, MEASLES, CONGENITAL SYPHILIS, H5N1, MPOX,
CANDIDA AURIS, OTHERS

David J. Weber, MD, MPH, FIDSA, FSHEA, FRSM (London)
Sanders Distinguished Professor of Medicine, Pediatrics and Epidemiology
Associate Chief Medical Officer, UNC Medical Center
Medical Director, Hospital Epidemiology, UNC Medical Center
University of North Carolina at Chapel Hill



UNC
SCHOOL OF MEDICINE

Thanks to Brooke Brewer, Lauren DiBiase and Zin Lyons for review of slides
Some slides curtesy of Dr. Zack Moore, State Epidemiologist

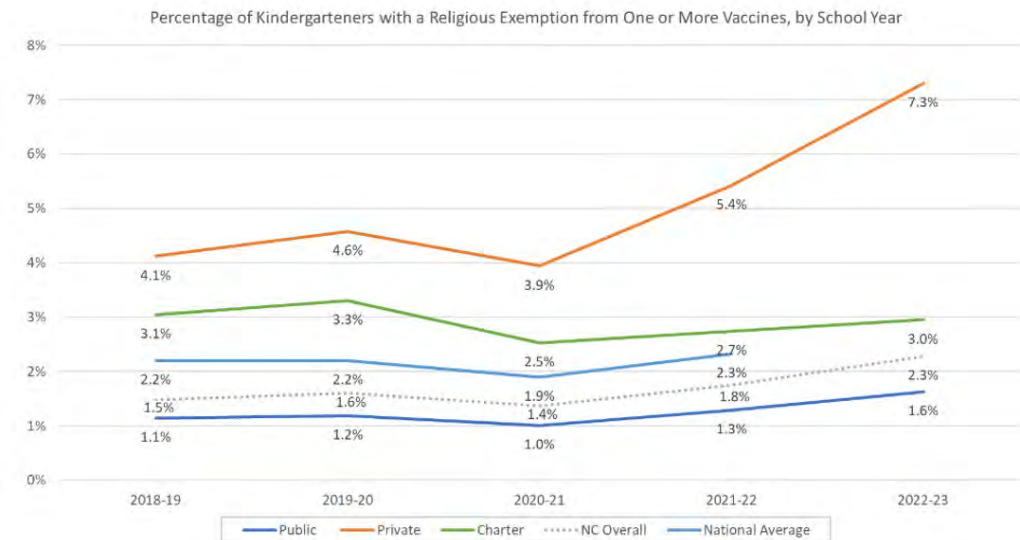
MEASLES

- Current epidemiology (Sept 13): 251 measles cases were reported by 31 jurisdictions in US in 2024 (58 cases in 2023); 13 outbreaks in 2024 (70% of cases); large increase in cases in Europe; US = unvaccinated, 88%; 1 dose 8%, 2 doses, 4%; Ages = <5 yrs, 41%, 5-19 yrs, 30%; 20+ yrs, 29%; **42% hospitalized for isolation or management of complications**
- Large increase in cases in Europe;
- Transmission: Airborne (infection may occur entering a room up to 2 hours after the source patient left)
- Symptoms: 10-12d incubation period followed by conjunctivitis, coryza (runny nose) and cough (3 "C"s), then rash
- Complications: Pneumonia, 1-6%; encephalitis, ~0.1%; death, 1-3/1000
- Prevention: MMR vaccine, 2 doses (97-99% effective)
- Post-exposure prophylaxis: MMR vaccine within 72 hours, immunoglobulin within 6 days
- Isolation: Ideally, airborne isolation room
- PPE (healthcare personnel): N95 respirator
- Treatment: Supportive; vitamin A for severe disease in children
- New CDC Occupational Health Guidelines



Face of boy after three days with measles rash.

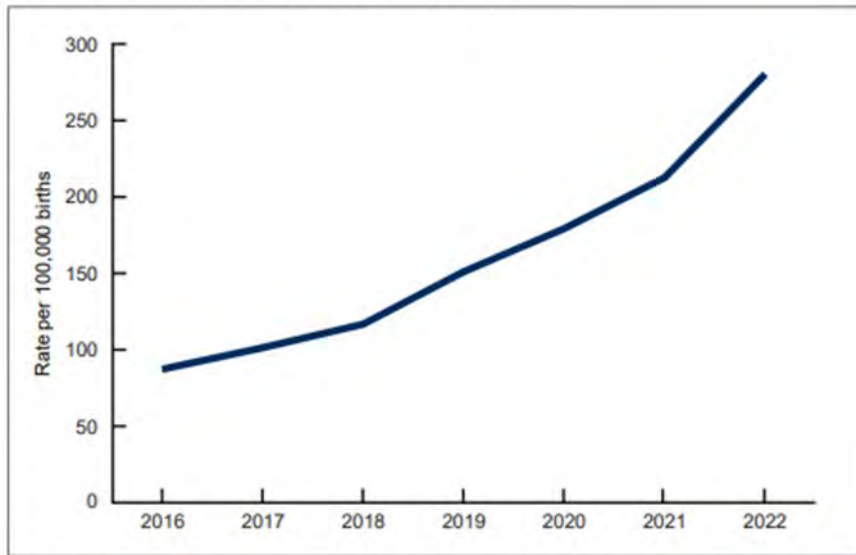
Source: [CDC/PHIL](https://www.cdc.gov/phil)



CONGENITAL SYPHILIS, US AND NC

US: Massive increases in chlamydia, GC, syphilis over past decade; congenital syph increased ~1000% since 2013 with increased infant deaths. Reasons for the uptick in congenital syphilis include lack of prenatal care or syph testing; no adequate maternal Tx, late identification of disease in pregnancy. Currently with PCN shortage (slowly resolving) - impact of this likely yet to be fully seen.

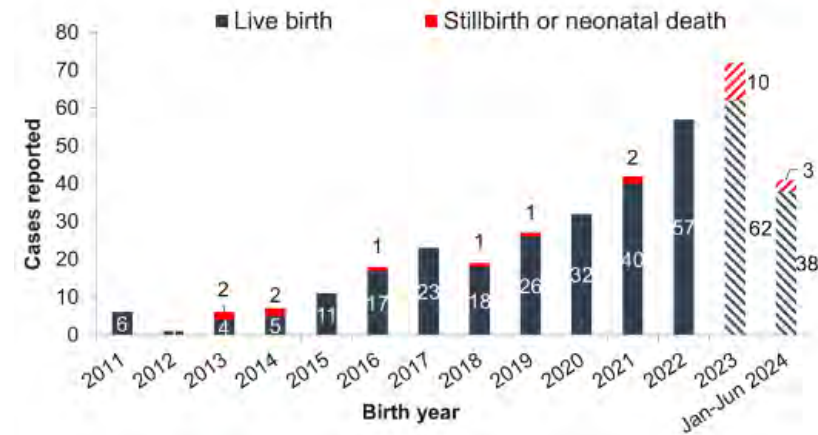
Figure 1. Maternal syphilis rate: United States, 2016–2022



NOTES: Significant increasing trend from 2016–2022 ($p < 0.05$). Access data table for Figure 1 at: <https://www.cdc.gov/nchs/data/databriefs/db496-tables.pdf#1>.
SOURCE: National Center for Health Statistics, National Vital Statistics System, natality data file.

28% Increase in congenital syphilis cases

From 2022 to 2023



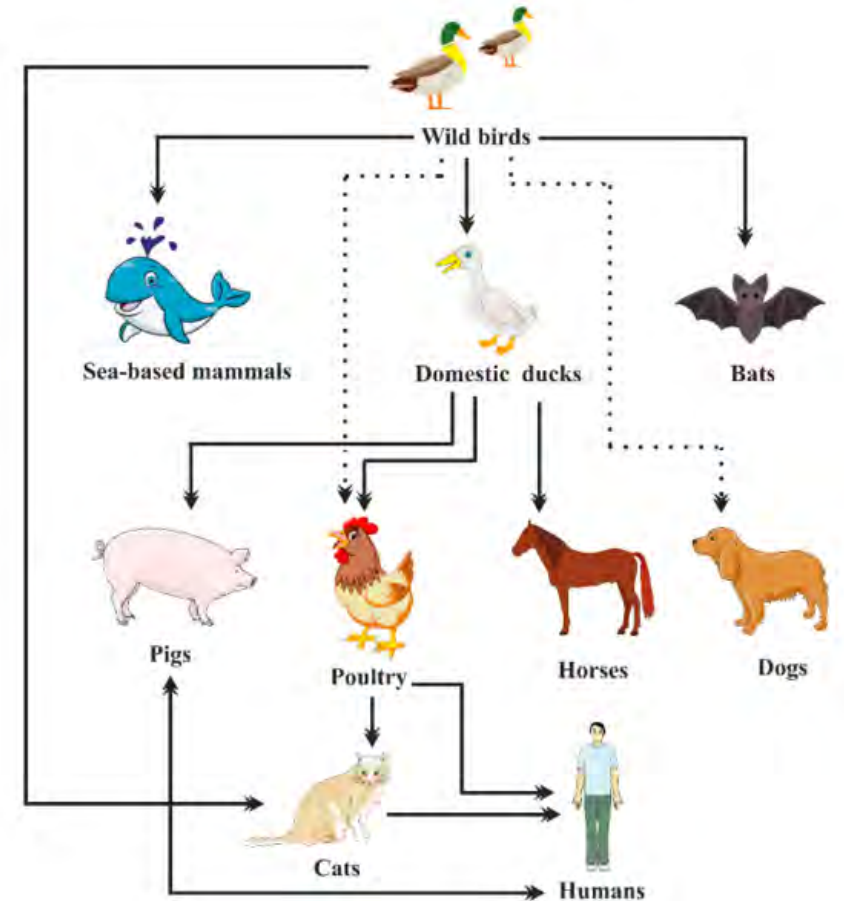
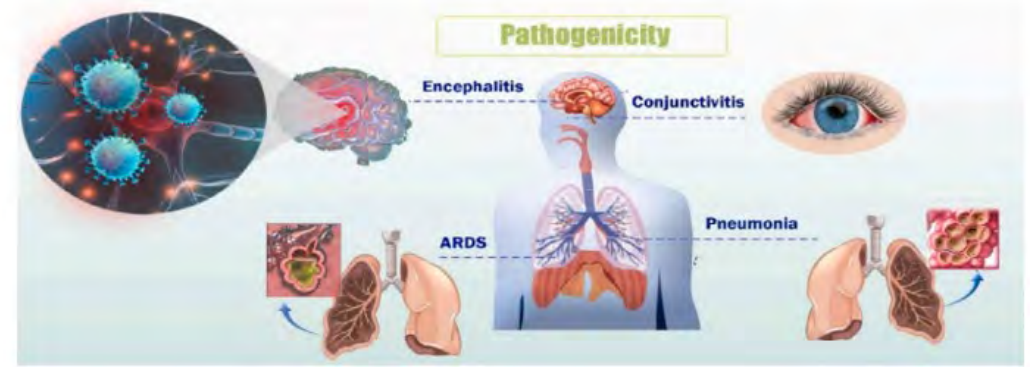
NC

HIGHLY PATHOGENIC INFLUENZA A (HPAI)

- Epidemiology: HPAI also known as Avian Flu or Bird Flu; natural hosts are migratory birds (geese, ducks); may infect multiple mammals (domestic birds, cattle, dogs, cats, etc.); transmission via direct or indirect contact with ill animals or aerosols; **human-to-human transmission very rare**
- Virus: Influenza A(H5N1) but HPAI strains include multiple H5 and N7 viruses
- Over past few decades, spread of N5N1 across the globe, increasing number of different mammals
- >900 humans infected with H5N1; mortality, ~50%; high facility frequency likely due to ascertainment bias
- **US: Animals = 100 million poultry (48 states), 202 dairy herds (14 states); Humans = 4,800 exposed, 240+ tested, 14 human cases (1 with no animal exposure); humans may present only with conjunctivitis**
- Diagnosis: UNC-MC arranges for NC DHHS to type influenza A non-typable stains; consider with consistent symptoms and poultry/cattle exposure
- Isolation: Airborne isolation room*
- PPE: N95 respirator, eye protection, gown, gloves*
- Treatment (plus post-exposure prophylaxis): Antiviral
- Vaccine: Being developed

*First case may be managed in special containment unit; ^NEJM; May 8, 2024

<https://www.cdc.gov/bird-flu/situation-summary/index.html>



MPOX

- Epidemiology US: Clade 1b; cases part of worldwide outbreak; total US cases = 32,063 (deaths 58)
- Epidemiology NC: Total cases, 762; **past 6 mo, 51**; most ages 18-49 (no children); Black (67%), Hispanic (13%), HIV+ (53%)

-
- Ongoing outbreak of a different clade (1b) in Democratic Republic of Congo (Level 2 travel alert) with cases from travelers in Sweden, Thailand, Kenya; Clade 2 generally more severe than Clade 1
 - >27,000 cases; >1,300 deaths
 - Transmission: **Direct contact (skin to skin)**, indirect via fomites, droplet; cases in households, sexual contacts, and nosocomial
 - Prevention: JYNNEOS vaccine, 2 doses; 80% effective (1 dose, 73% effective)
 - Isolation: Single patient room/private bathroom; airborne room for AGP
 - PPE: N95 respirator, eye protection, gloves, gown
 - Treatment: Antivirals (but recent study did NOT find tecovirimat effective against Clade 1; 1.7% mortality in both treatment and placebo groups)

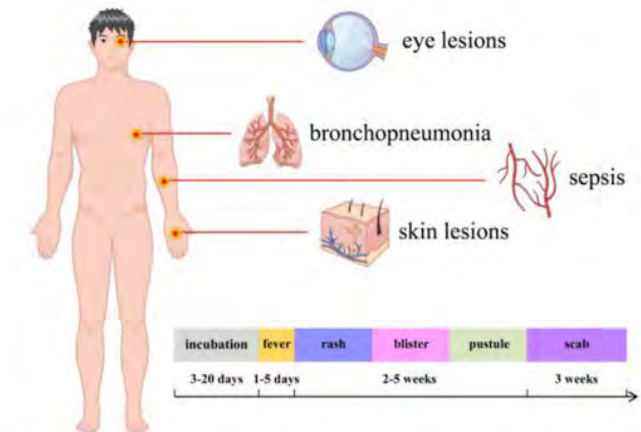
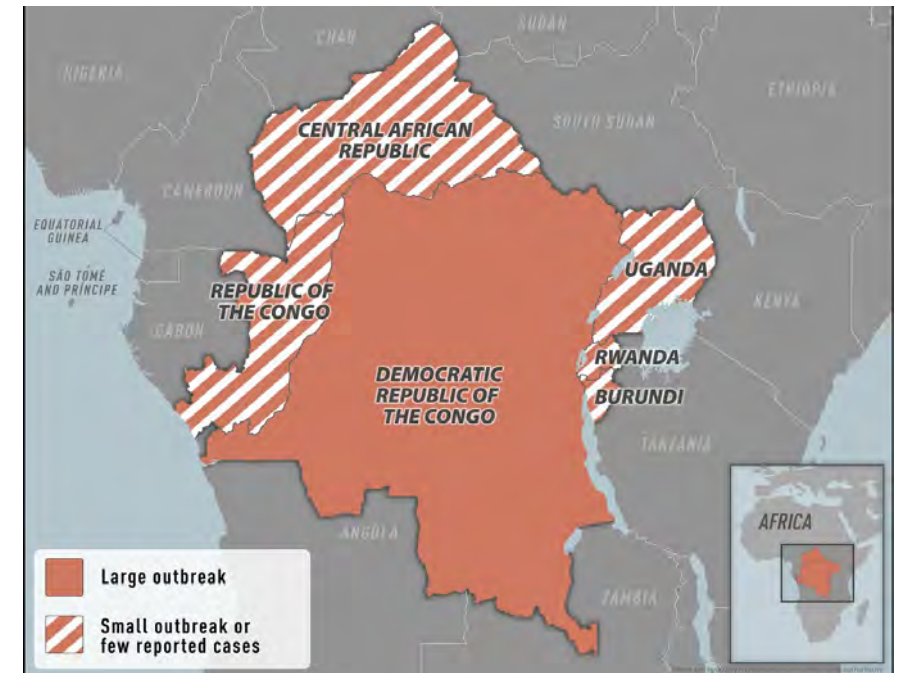


Figure 1. Clinical symptoms, complications of monkeypox, and progression of monkeypox symptoms.

OTHER THREATS

- ***Vibrio vulnificus***: *V. vulnificus* is primarily transmitted through open-wound contact with salt water or brackish water, but occasionally (in approximately 10% of cases) the bacteria also can infect people if they eat raw or undercooked shellfish. *V. vulnificus* wound infections have a short incubation period and are characterized by necrotizing skin and soft tissue infection. *V. vulnificus* infections in the Eastern US increased eightfold from 1988–2018, and the northern geographic range of infections has increased 48 km per year.
- Diseases with increased prevalence in South America and Caribbean:
 - **Oropouche virus disease**: Transmitted by mosquitoes and biting midges. The incubation period is typically 3–10 days; 60% symptomatic. Initial clinical presentation is similar to diseases caused by dengue, Zika, and chikungunya viruses, with acute onset of fever, chills, headache, myalgia, and arthralgia. Other symptoms can include retroorbital (eye) pain, photophobia (light sensitivity), nausea, vomiting, diarrhea, fatigue, maculopapular rash, conjunctival injection, and abdominal pain. May cause fetal infection/death. ~70% may experience recurrent symptoms after resolution of initial infection. **21 cases in US from returned visitors to Cuba (FL, NY)**. Testing (plaque reduction neutralization) only available at CDC (PCR under development). No vaccine and no therapy.
 - **Dengue**: Global incidence of dengue in 2024 has been the highest on record for this calendar year; From January 1-June 24, 2024, countries in the Americas reported more than 9.7 million dengue cases, twice as many as in all of 2023 (4.6 million cases). In the United States, Puerto Rico has declared a public health emergency (2,700 cases; tip of the iceberg). Cases reported in continental US (FL, NY, CA, MA).
- Increases in **Parvovirus B19** activity; **invasive meningococcal infections** {especially serogroup Y, ages 30-60 years (65%), Black Americans (63%) – resistance to quinolones described in parts of NC}; **group A streptococcal disease** including bacteremia and sepsis, necrotizing fasciitis, and streptococcal toxic shock syndrome (STSS) (2023, 20 year high); increase in ***Mycoplasma pneumoniae*** infections (young children); **pertussis** (3-fold increase over 2023); EEE (average year = 11). 2024 = 5 cases (all in New England); West Nile (average year, 700-3,000), 2024 = ~500 (neuroinvasive = 342, states = 39)

CONCERNS

- **COVID-19**

- Low coverage of recent vaccines
- Short durability of mRNA vaccines
- Continued development of variants

- **Measles**

- Increasing susceptibility due to vaccine hesitancy
- Increasing cases and outbreaks
- Rash later manifestation (2-4 days after onset of fever) – may lead to late diagnosis
- Delayed diagnosis due to testing delays
- No therapy

- **H5N1**

- Increasing cases in US (but still small)
- Infectivity of non-pasteurized milk unknown
- Unavailability of rapid testing at clinical center
- Lack of adequate surveillance
- Lack of vaccine (under development)

- **Congenital syphilis**

- Failure to follow public health recommendations for diagnosis and treatment during pregnancy

- **Mpox (US)**

- Now endemic
- Poor vaccine coverage among high risk persons

- **Mpox (Africa)**

- Increasing outbreak in Africa: Increasing cases and spread to neighboring countries
- Lack of surveillance
- Cases occurring outside of Africa in travelers
- Lack of availability of clade specific diagnostics
- Lack of effectiveness of tecovirimat
- Inadequate immunization

- **Oropouche virus disease**

- Lack of testing
- No vaccine and no therapy

AUTOCHTHONOUS INFECTIONS, US

- **Plague:** *Y. pestis* endemic in SW US ground squirrels and prairie dogs (but recent case in OR from cat scratch); 1-17 cases in US each year; usually bubonic form
- **Leprosy:** Hot spots in US are CA and TX plus Gulf Coast; may be acquired from armadillos; usually lepromatous form
- **Rabies:** Endemic throughout continental US in a variety of mammals; most US acquired cases from bats; most traveler cases acquired from dogs
- **Malaria:** US acquired cases Southern and East Coast (especially CA and FL)
- **Leptospirosis:** Hot spots (Puerto Rico and Hawaii) but widespread in US
- **Melioidosis:** *Burkholderia pseudomallei* found in soil of Gulf Coast/Southwest (TX) but also MI
- **Chagas disease (American Trypanosomiasis):** Endemic through much of the US (Southern US); >200,000 infected people currently living in US (hot spot = TX)
- **Leishmaniasis:** Occasional cases of cutaneous leishmaniasis have been acquired in TX and OK
- **Chikungunya:** Since 2014 occasional cases acquired in FL, TX, PR, and US Virgin Islands
- **Dengue:** Locally acquired cases reported from FL, TX, HI, AZ, and CA (Puerto Rico declared an outbreak in March 2024)
- **Anthrax:** Spores still present and infective; imported contaminated hides and animal products