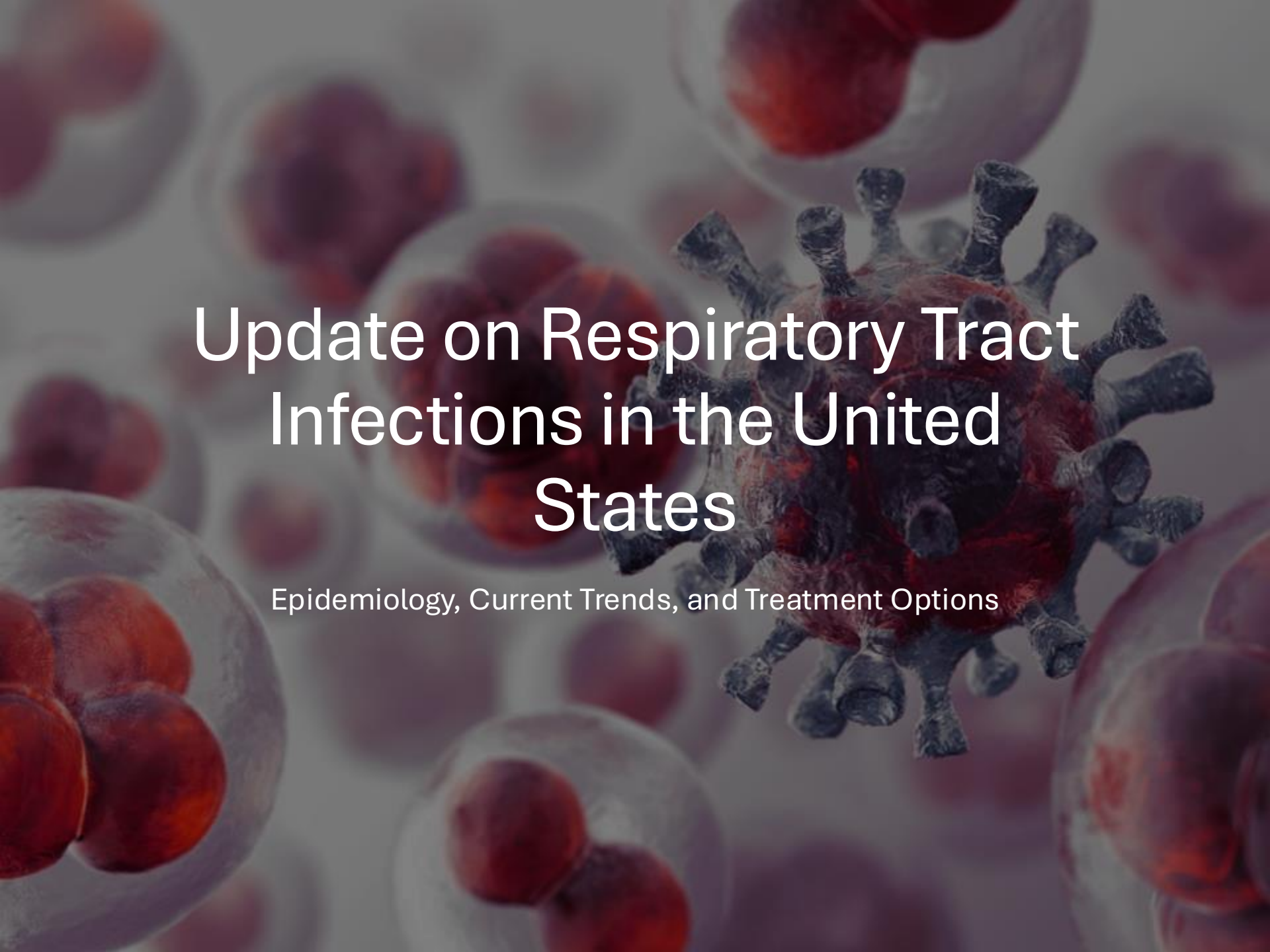


Update on Respiratory Tract Infections in the United States

Epidemiology, Current Trends, and Treatment Options

Masking Consensus Statement for Acute Care and Outpatient Clinics
2024-2025 Respiratory Season
Posted: 10/22/2024
Coordinated by the Northwest Healthcare Response Network (NWHRN)

Summary

This body of work was developed by the NWHRN Acute Infectious Disease Masking Workgroup. This Summary section is a brief overview. For more in-depth discussion see below.

"Universal masking" as defined in this document pertains to staff, patient, and visitor masking in "patient care areas." Because of the wide-ranging variability within healthcare institutions "patient care areas" will be defined by each institution as was agreed upon in the initial consensus statement.

Masking reduces the risk of respiratory infections including COVID-19 and benefits the user and the people around them. The level of protection increases with the level of mask used. For example, an N95 respirator provides a higher level of protection against COVID-19 compared to a surgical mask alone.

Based on review of the recent COVID-19, influenza and respiratory syncytial virus (RSV) ED discharge diagnosis surveillance data, the transmission alert thresholds for the 2024-2025 respiratory season have been updated, reviewed and agreed upon for Snohomish, King and Pierce counties. Participating healthcare organizations (see signatory list below) have agreed to implement healthcare worker masking policies when the following occurs:

1. At least one pathogen (RSV, influenza, or COVID-19) reaches or exceeds the transmission alert threshold for emergency department visits

Facilities should also strongly consider masking for visitors and healthcare workers in non-patient care areas in healthcare settings during periods of higher respiratory viral transmission activity.

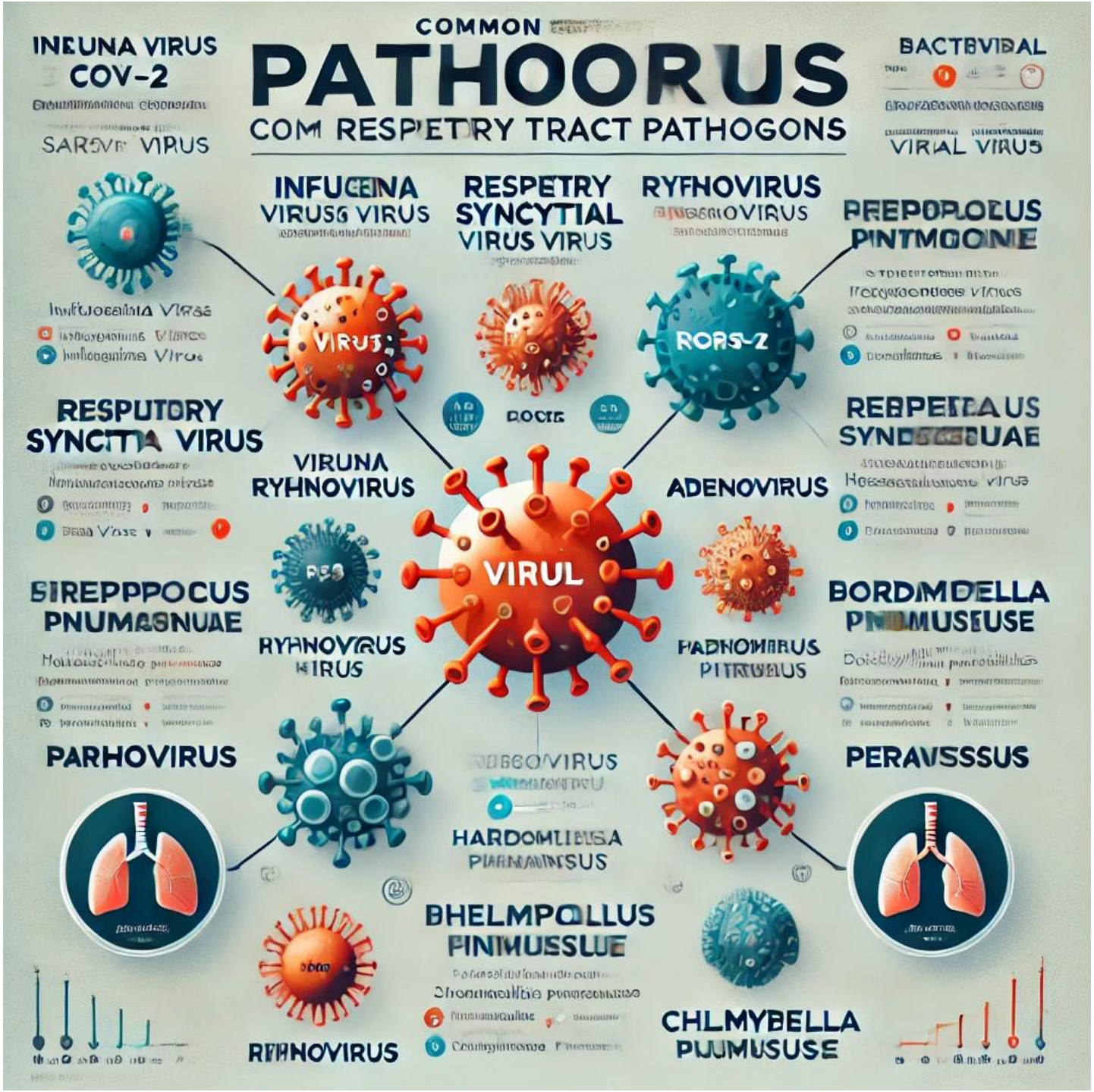
2. Participating facilities agree that universal masking will remain in effect until the ED visits for all three pathogens are below their respective transmission alert thresholds for at least 2 weeks.

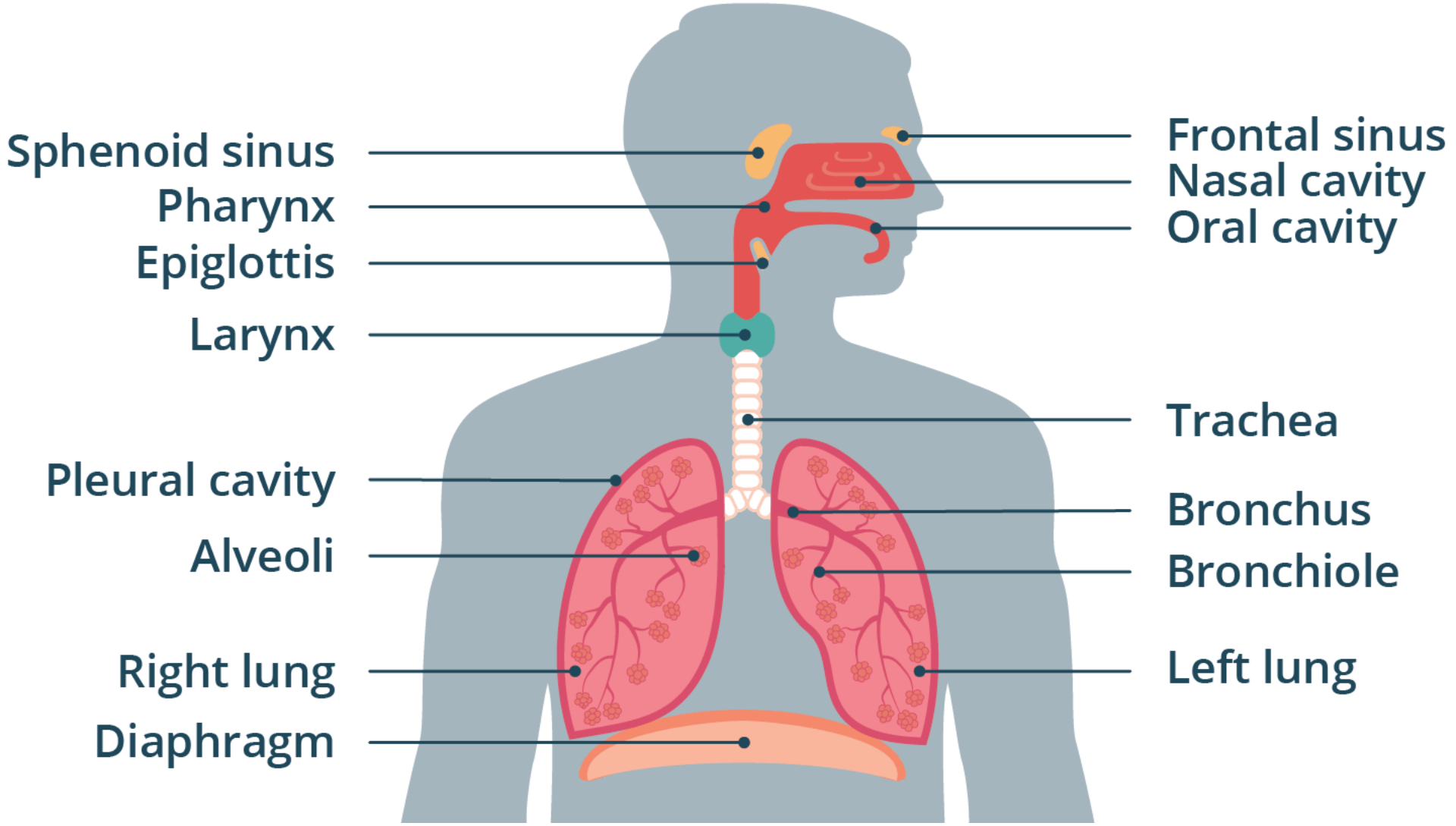
King County

Emergency Department Transmission Alert Thresholds

COVID-19	Below transmission alert threshold
Influenza	Above transmission alert threshold
RSV	Above transmission alert threshold

Data as of 1/25/2025
Updated on 1/29/2025


COMMON
PATHOGENS
COMMON RESPIRATORY TRACT PATHOGENS
INFLUENZA VIRUS
RESPIRATORY SYNCYTIAL VIRUS
RHINOVIRUS
PARAINFLUENZA VIRUS
SARS-COV-2
BACTERIAL
VIRAL
RESPIRATORY SYNCYTIAL VIRUS
VIRAL RHINOVIRUS
ADENOVIRUS
STREPTOCOCCUS PNEUMONIAE
BORDETELLA PERTUSSIS
PARAINFLUENZA VIRUS
HAEMOPHILUS INFLUENZAE
CHLAMYDIA PNEUMONIAE
RHINOVIRUS



https://www.healthdirect.gov.au/respiratory-system

Types of Respiratory Tract Infections

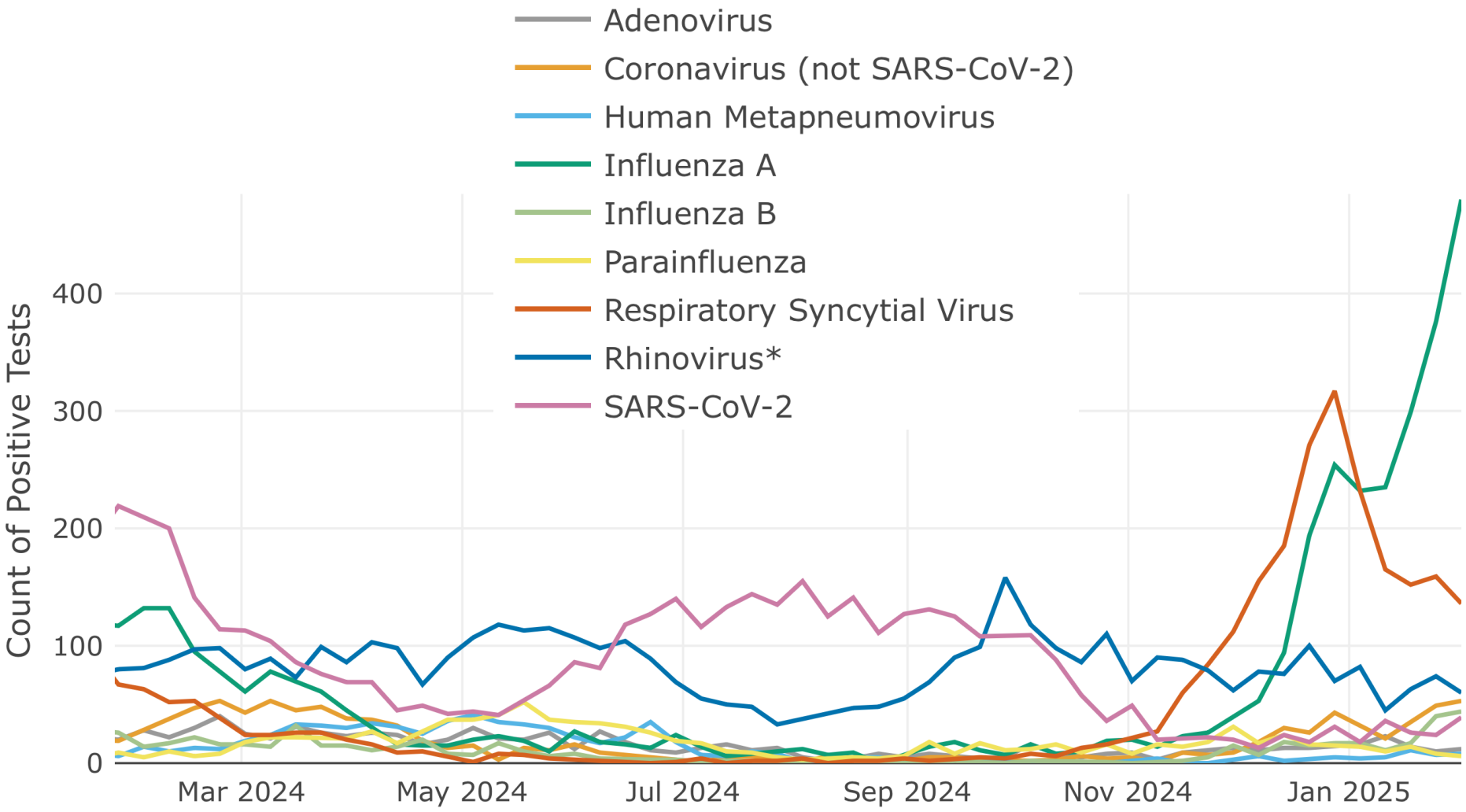
Upper respiratory tract infections (URTIs): Common cold, sinusitis, pharyngitis

Lower respiratory tract infections (LRTIs): Pneumonia, bronchitis, COVID-19

Current Epidemiological Overview

Recent trends in RTIs in the U.S.

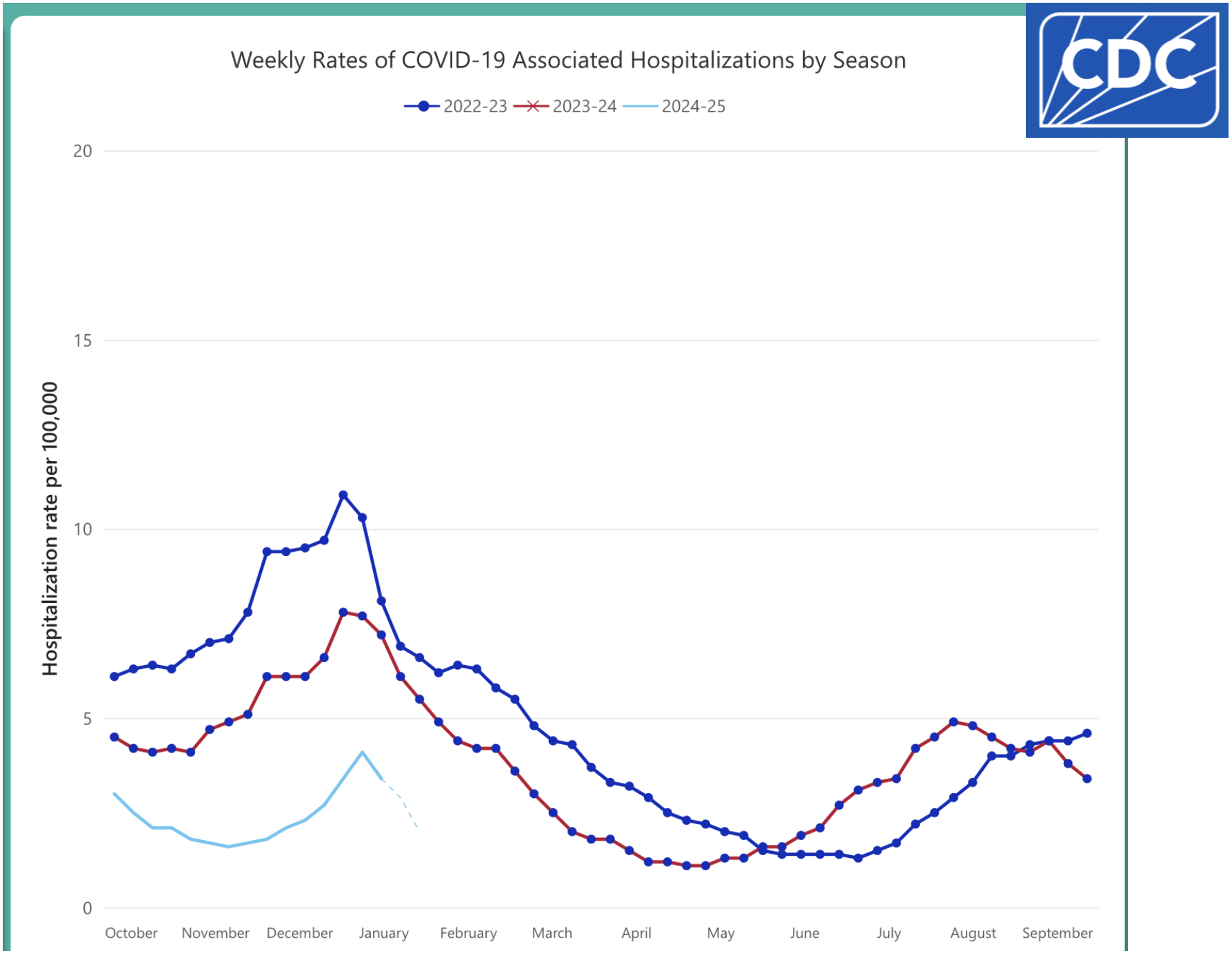
Data from CDC on flu, COVID-19, RSV, and other respiratory infections



UW/Pacific Northwest Respiratory Virus Tracking Dashboard

COVID-19 Trends

- Current infection rates and hospitalization data
- Variants of concern
- Vaccination and booster updates


Weekly Rates of COVID-19 Associated Hospitalizations by Season
2022-23
2023-24
2024-25
Hospitalization rate per 100,000
20
15
10
5
0
October
November
December
January
February
March
April
May
June
July
August
September

Emergency Department Transmission Alert Thresholds

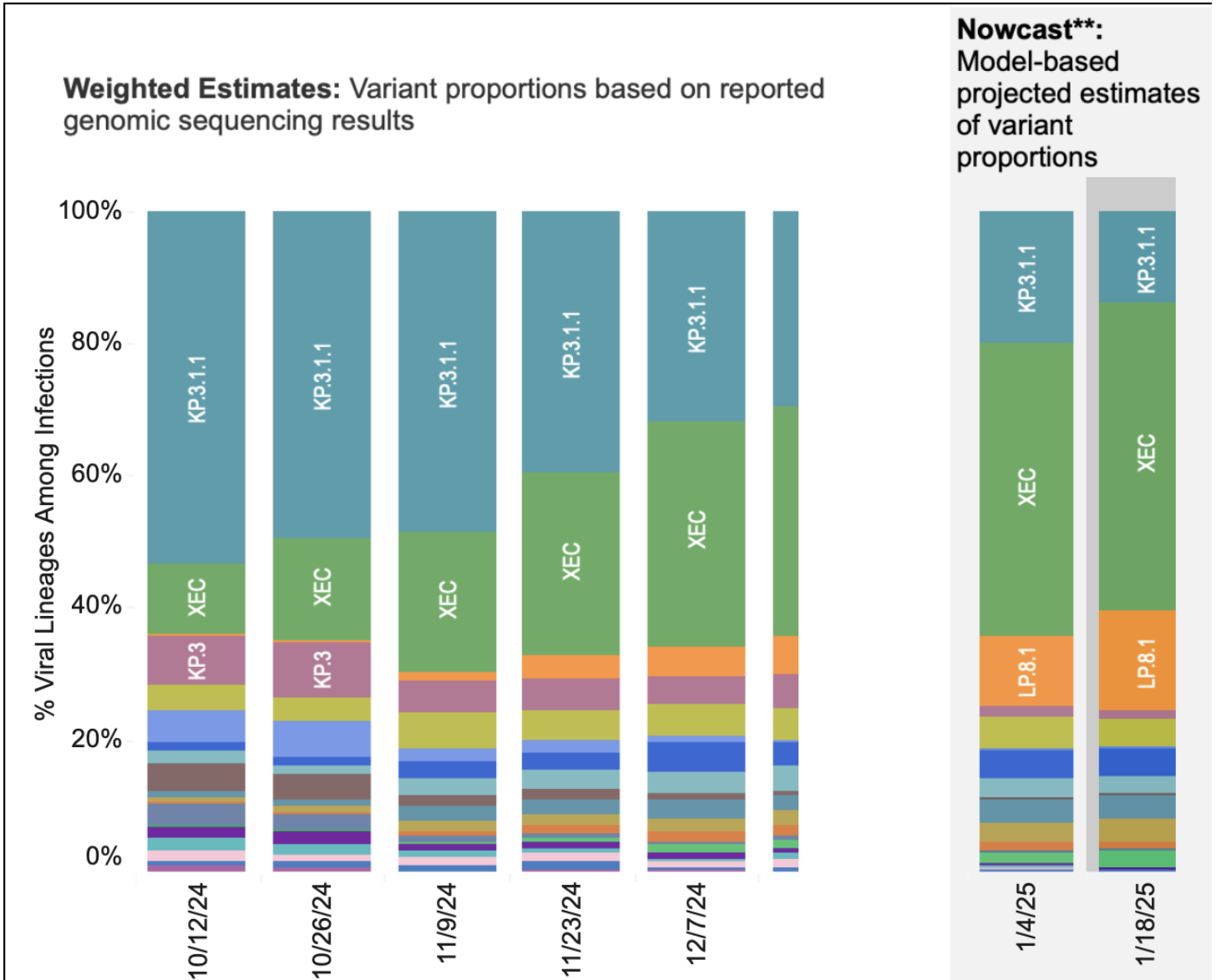
COVID-19	Below transmission alert threshold
Influenza	Above transmission alert threshold
RSV	Above transmission alert threshold

Percent of Weekly Emergency Department Visits with a COVID-19 Diagnosis

Public Health-Seattle & King County Respiratory Virus Tracking Dashboard

Weighted and Nowcast Estimates in United States for 2-Week Periods in 9/29/2024 – 1/18/2025

Hover over (or tap in mobile) any lineage of interest to see the amount of uncertainty in that lineage's estimate.



Current COVID-19 Treatments

Antiviral Medications: Nirmatrelvir-Ritonavir (Paxlovid), Convalescent Plasma, Remdesivir, Molnupiravir

Monoclonal Antibodies: Limited use due to variant resistance (except PEP?)

Supportive Care: Oxygen therapy, mechanical ventilation for severe cases

Corticosteroids: Dexamethasone for severe inflammation

Immunomodulators: Tocilizumab/Baricitinib for severe cytokine storms

https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/#ExecutiveSummaryandBackground

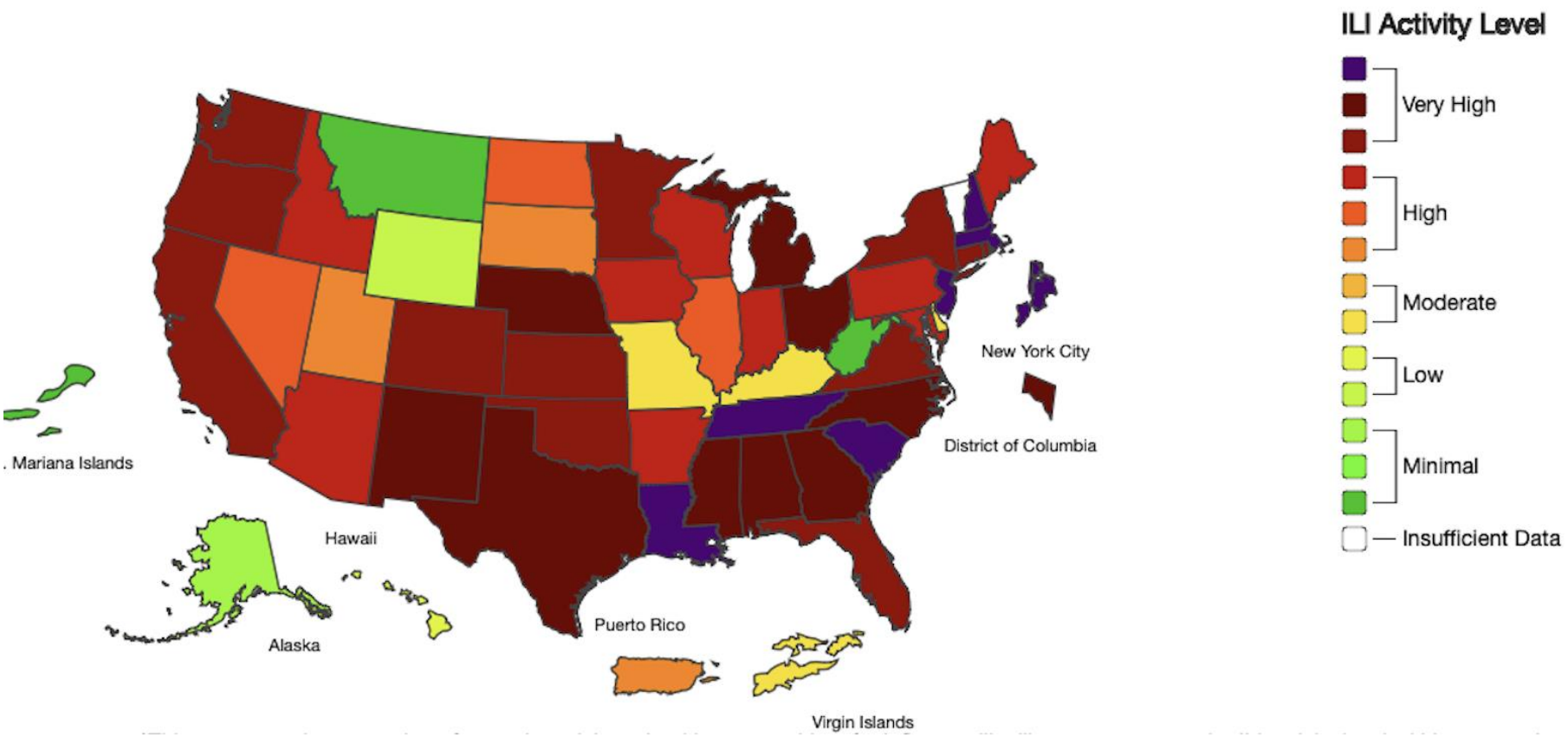
Influenza Trends

Seasonal flu trends and impact

Most affected demographics

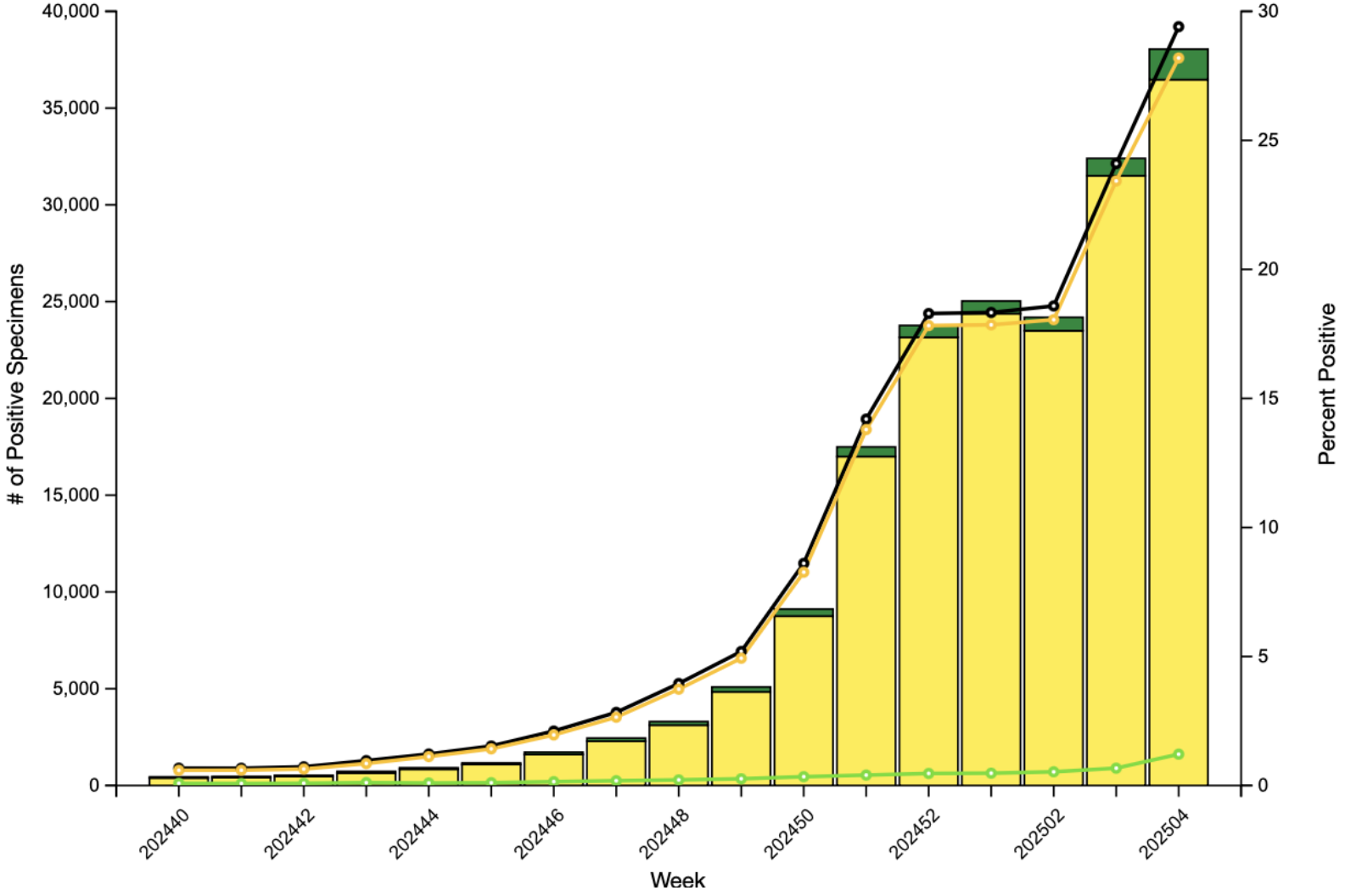
Effectiveness of flu vaccines

2024-25 Influenza Season Week 4 ending Jan 25, 2025



Season: 2024-25 Surveillance Area: National

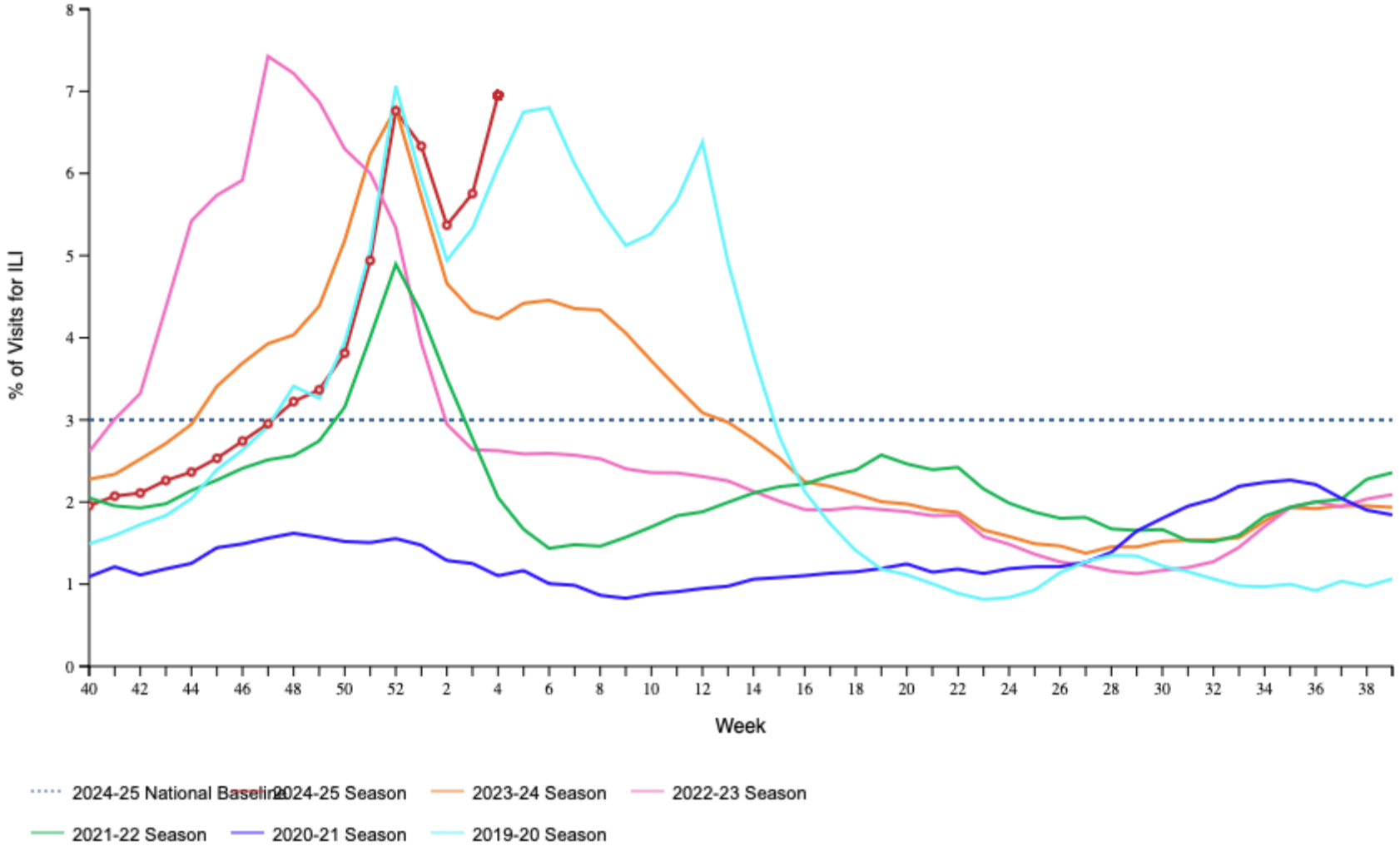
Influenza Positive Tests Reported to CDC by Clinical Laboratories, National Summary, 2024-25 Season, week ending Jan 25, 2025



FLUVIEW interactive

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

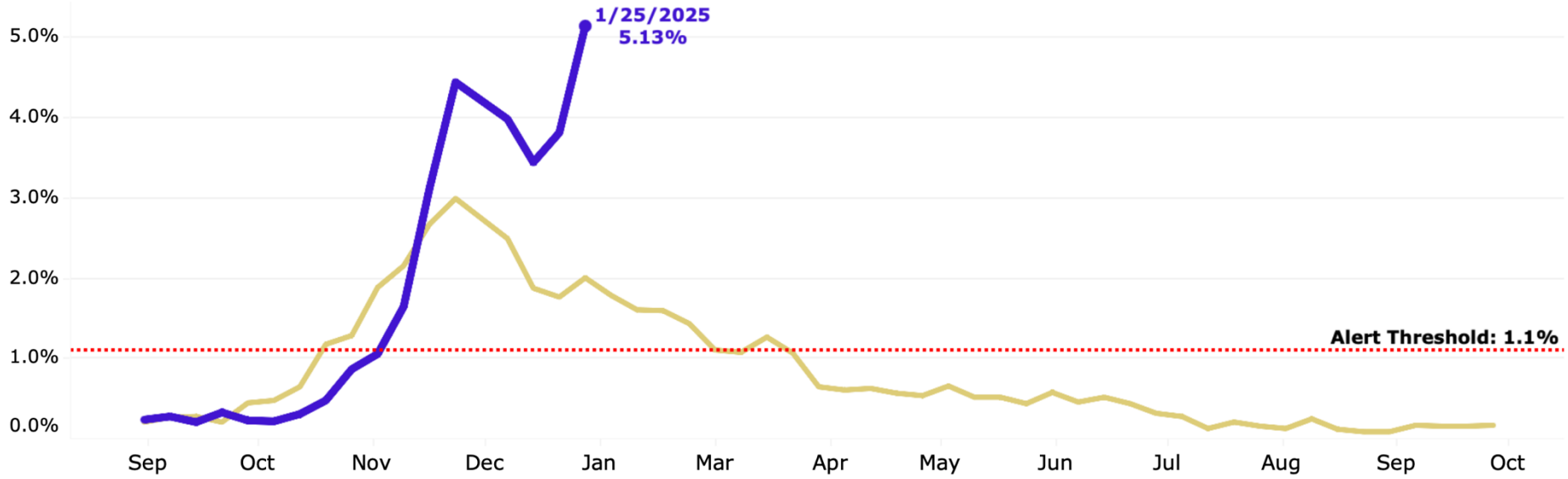
Percentage of Outpatient Visits for Respiratory Illness Reported by The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2024-25 Season and Selected Previous Seasons



Emergency Department Transmission Alert Thresholds

COVID-19	Below transmission alert threshold
Influenza	Above transmission alert threshold
RSV	Above transmission alert threshold

Percent of Weekly Emergency Department Visits with an Influenza Diagnosis



Public Health-Seattle & King County Respiratory Virus Tracking Dashboard

Influenza Treatment Options

Antiviral Medications: Oseltamivir (Tamiflu) PO, Zanamivir inhaled, Baloxavir PO, Paramivir IV

Supportive Care: Hydration, rest, fever management

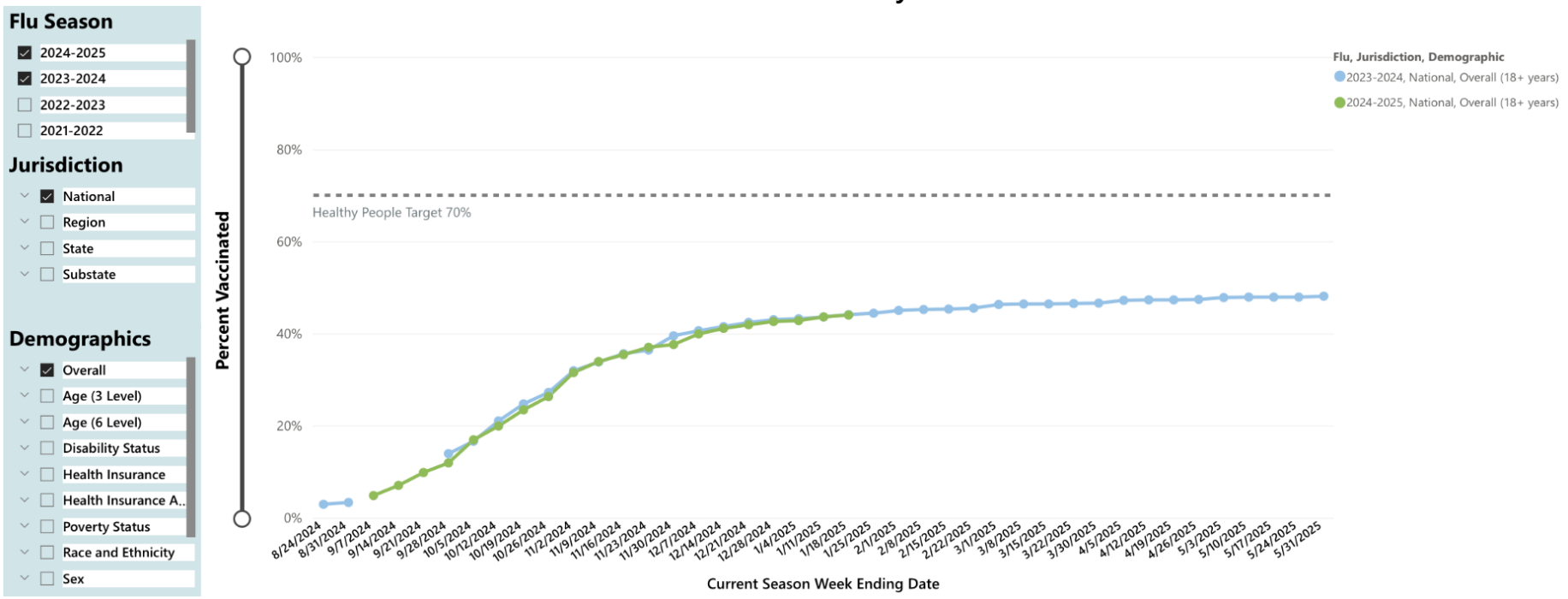
Prevention: Annual flu vaccination, hand hygiene, avoiding close contact with sick individuals

Influenza Vaccination

Fig. 4A: Adult Coverage Line Graph | **Fig. 4B: Adult Coverage and Vaccination Intent** | **Fig. 4C: Adult Coverage Comparison Map** | **Fig. 4D: Adult Comparison Tables**

Figure 4A. Influenza Vaccination Coverage, Overall by Selected Demographics, 2024-25 and Jurisdiction, Among Adults 18 Years and Older *,†,‡,§,±

Data Source: National Immunization Survey–Adult COVID Module



RSV (Respiratory Syncytial Virus)

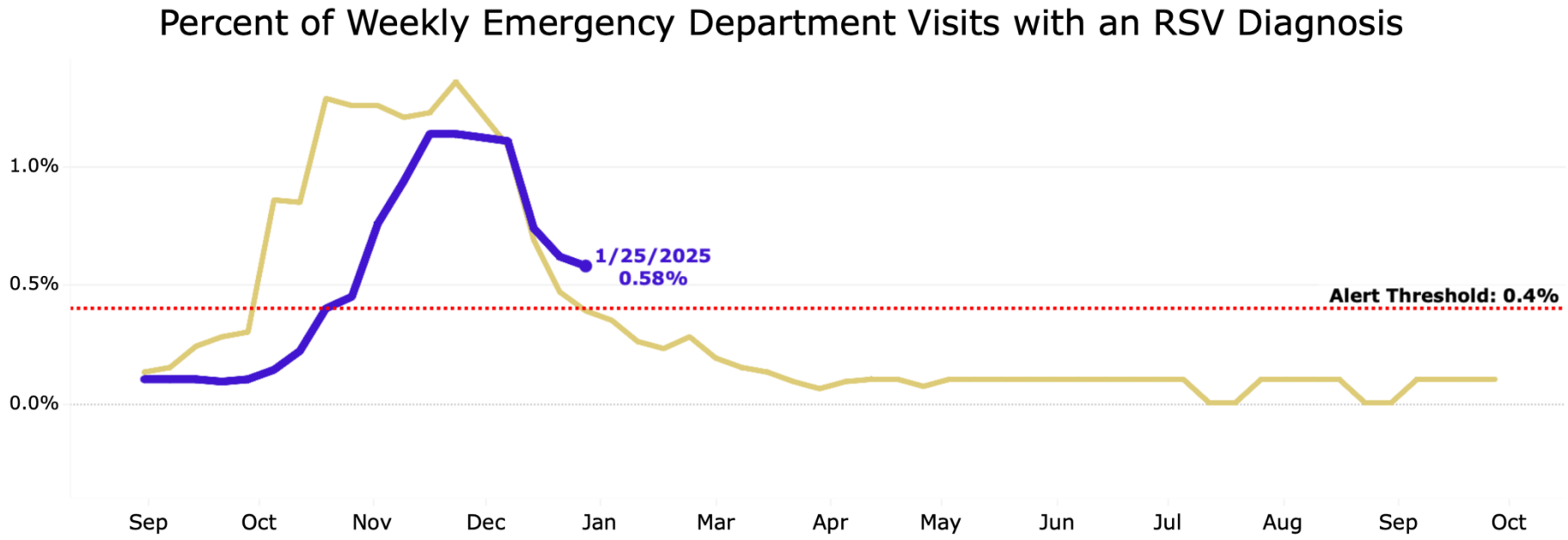
Recent surge in RSV cases

Impact on children and older adults

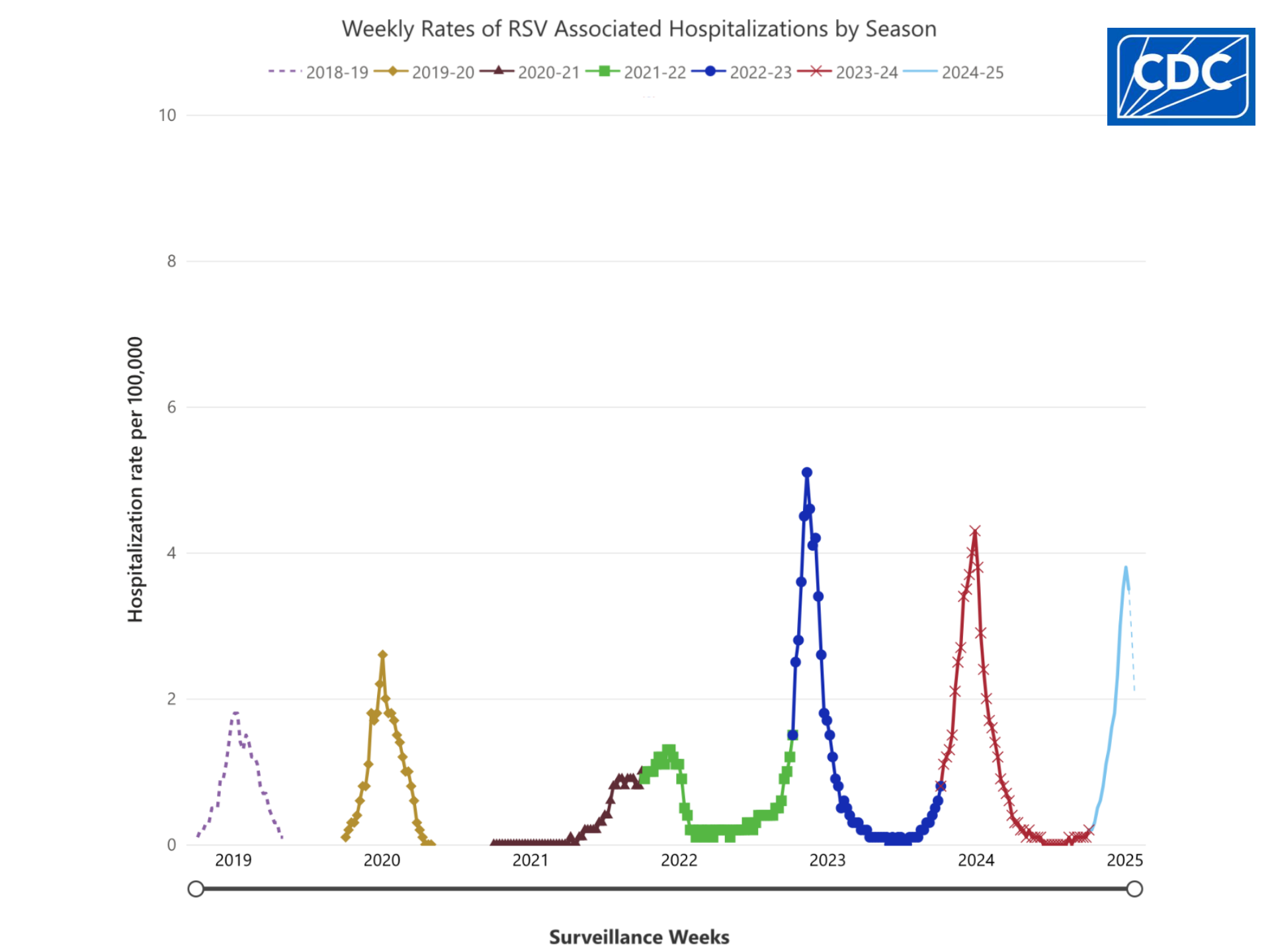
Prevention strategies

Emergency Department Transmission Alert Thresholds

COVID-19	Below transmission alert threshold
Influenza	Above transmission alert threshold
RSV	Above transmission alert threshold



Public Health-Seattle & King County Respiratory Virus Tracking Dashboard


Weekly Rates of RSV Associated Hospitalizations by Season
2018-19
2019-20
2020-21
2021-22
2022-23
2023-24
2024-25
CDC
10
8
6
4
2
0
Hospitalization rate per 100,000
2019
2020
2021
2022
2023
2024
2025
Surveillance Weeks

RSV Treatment Options

Supportive Care: Oxygen therapy, hydration, fever management

Antiviral Medications: Ribavirin (limited use in severe cases), Palavizumab

Preventive Measures: Vaccines, Palivizumab for high-risk infants, good hygiene practices

Immunizations to Protect Against Severe RSV

Who Does It Protect?	Type of Product	Who Is It Recommended For?	When Is It Available?
 Adults 60 and over	RSV vaccine	Adults ages 60-74 who are at increased risk of severe RSV AND Everyone ages 75 and older	Available any time, but best time to get vaccinated is late summer and early fall
 Babies	RSV antibody (nirsevimab) given to baby	All infants whose mother did not receive RSV vaccine during pregnancy, and some children ages 8-19 months who are at increased risk for severe RSV	October through March*
	OR		
 Babies	RSV vaccine (Pfizer's ABRYSVO) given to mother during pregnancy	All pregnant women during weeks 32-36 of their pregnancy	September through January

www.cdc.gov/rsv

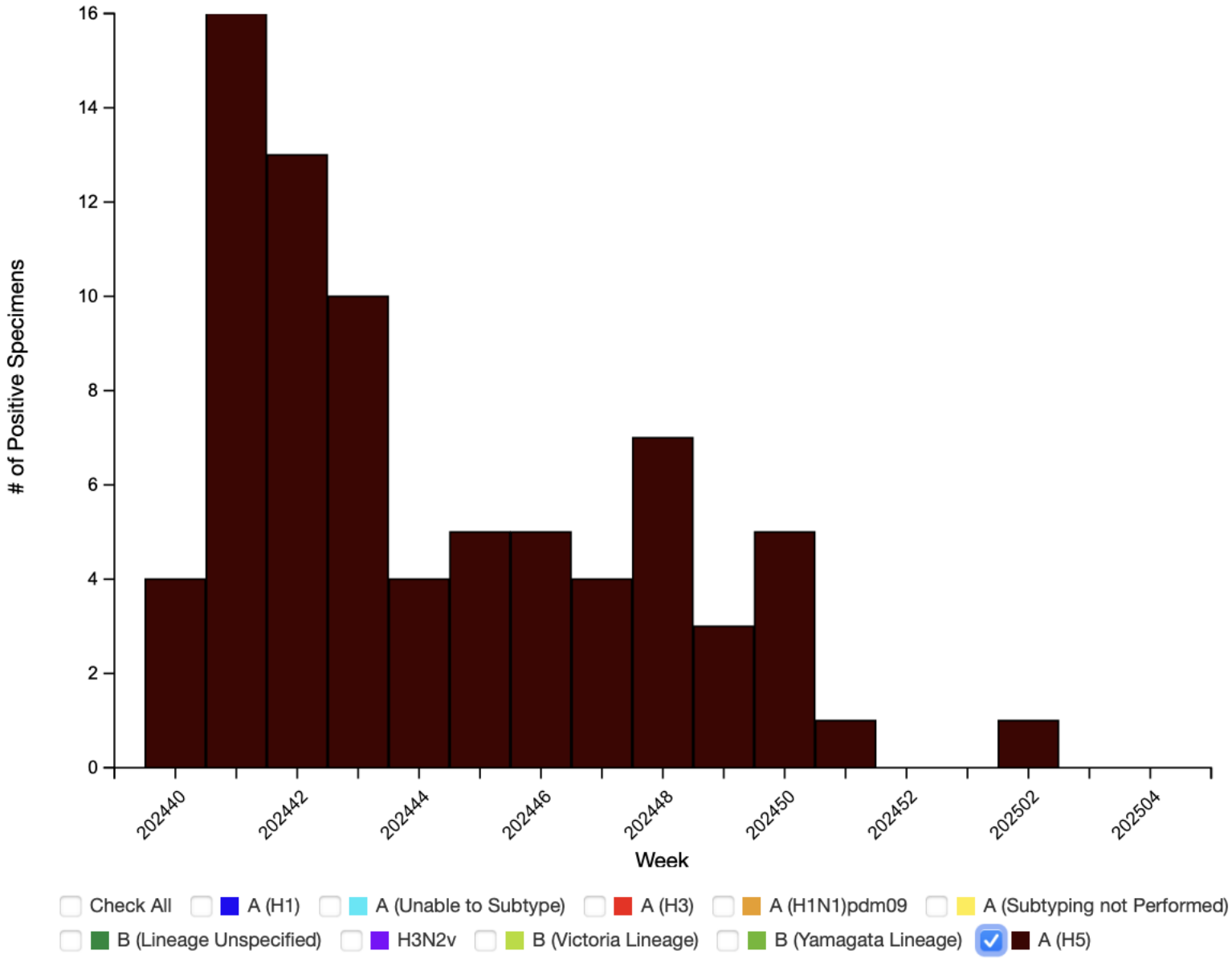
*Recommended timing of administration in most of the continental United States. Recommended timing of administration may differ in some areas, based on state, local, or territorial guidance.

CDC

H5N1

Season: 2024-25 Surveillance Area: National

Influenza Positive Tests Reported to CDC by Public Health Laboratories, National Summary, 2024-25 Season, week ending Jan 25, 2025



H5N1

H5 Bird Flu Detections in USA

- Dairy cattle: Ongoing multi-state outbreak
- Wild Birds: Widespread
- Poultry Flocks: Sporadic outbreaks
- Mammals: Sporadic infections
- Person-to-person spread: None
- Current public health risk: Low

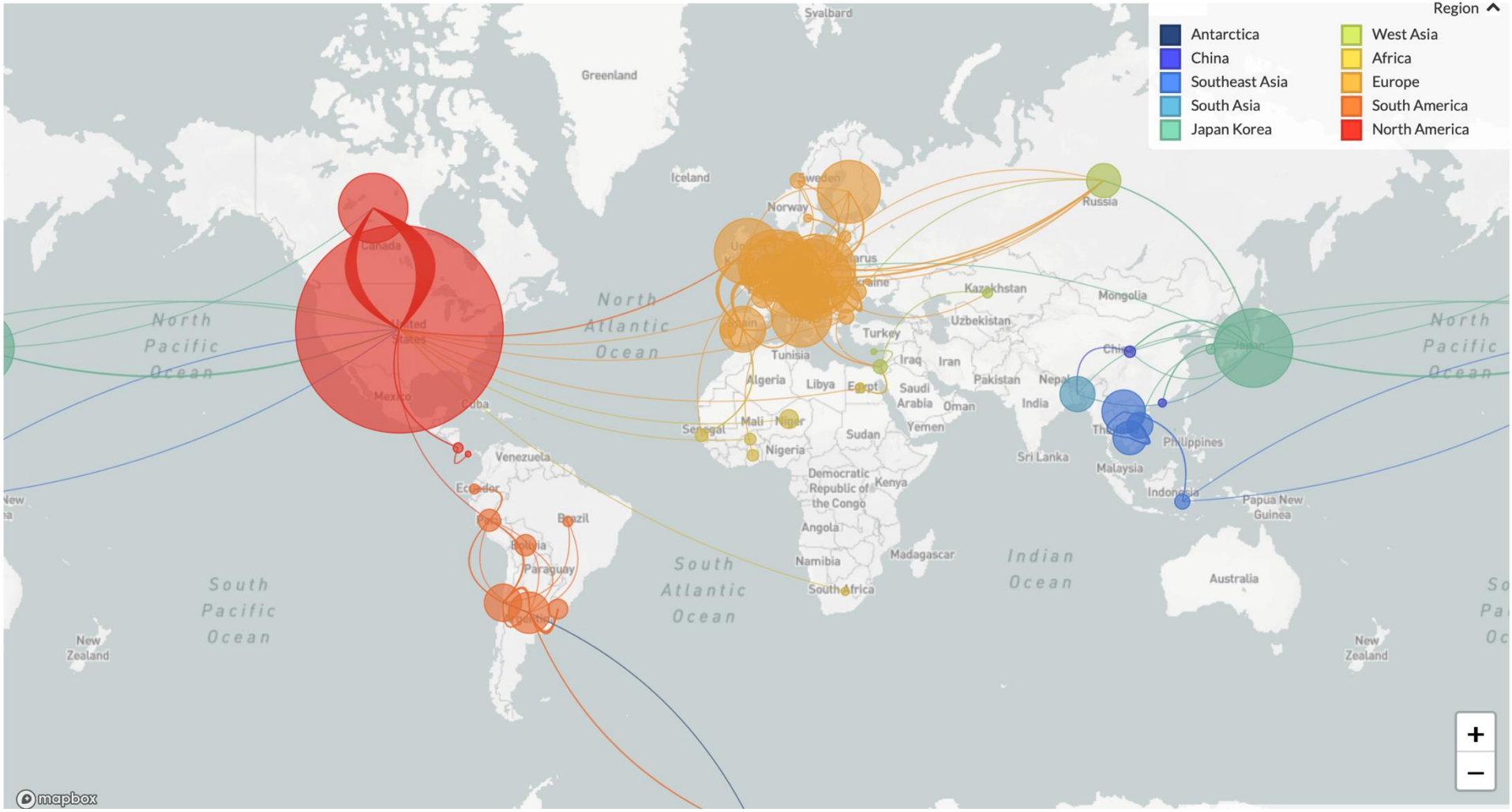
H5N1

Exposure Source

State	Exposure Associated with Commercial Agriculture and Related Operations		Other Animal Exposure[†]	Exposure Source Unknown[‡]	State Total
	Dairy Herds (Cattle)	Poultry Farms and Culling Operations			
California	36	0	0	2	38
Colorado	1	9	0	0	10
Iowa	0	1	0	0	1
Louisiana	0	0	1	0	1
Michigan	2	0	0	0	2
Missouri	0	0	0	1	1
Oregon	0	1	0	0	1
Texas	1	0	0	0	1
Washington	0	11	0	0	11
Wisconsin	0	1	0	0	1
Source Total	**40**	**23**	**1**	**3**	**67**

Real-time tracking of influenza A/H5N1 virus evolution

Built with nextstrain/avian-flu. Maintained by Louise Moncla and the Nextstrain team. Data updated 2025-01-06. Enabled by data from USDA and GISAID.



- Screen for exposure to wild and domestic animals, pets (cats), animal products, contact with another person with probable or known H5N1
- If avian influenza A(H5) virus infection is suspected, probable, or confirmed place the patient in an airborne infection isolation room with negative pressure with implementation by caregivers of standard, contact, and airborne precautions with eye protection (goggles or face shield)
- Test for seasonal influenza A in hospitalized patients with suspected seasonal influenza or novel influenza A virus infection such as avian influenza A virus infection, using whatever diagnostic test is most readily available for initial diagnosis

- If the initial diagnostic test does not subtype [e.g., identify A(H1) and A(H3)], order an influenza A subtyping diagnostic test within 24 hours of hospital admission for patients who tested positive for influenza A.
- Subtyping should be performed with assays available to the testing laboratory, as follows:
  - Subtyping tests should be performed in the hospital clinical laboratory, if available.
  - Alternatively, specimens should be sent to a commercial clinical laboratory.
  - If influenza A virus subtyping is not available through one of these routes, arrangements can made for influenza A virus-positive specimens to be subtyped at a public health laboratory.

Walking Pneumonia and Other Bacterial Infections

Mycoplasma pneumoniae

Bordetella pertussis

Reported Pertussis Cases

2023: **7,063** 2024: **35,435**

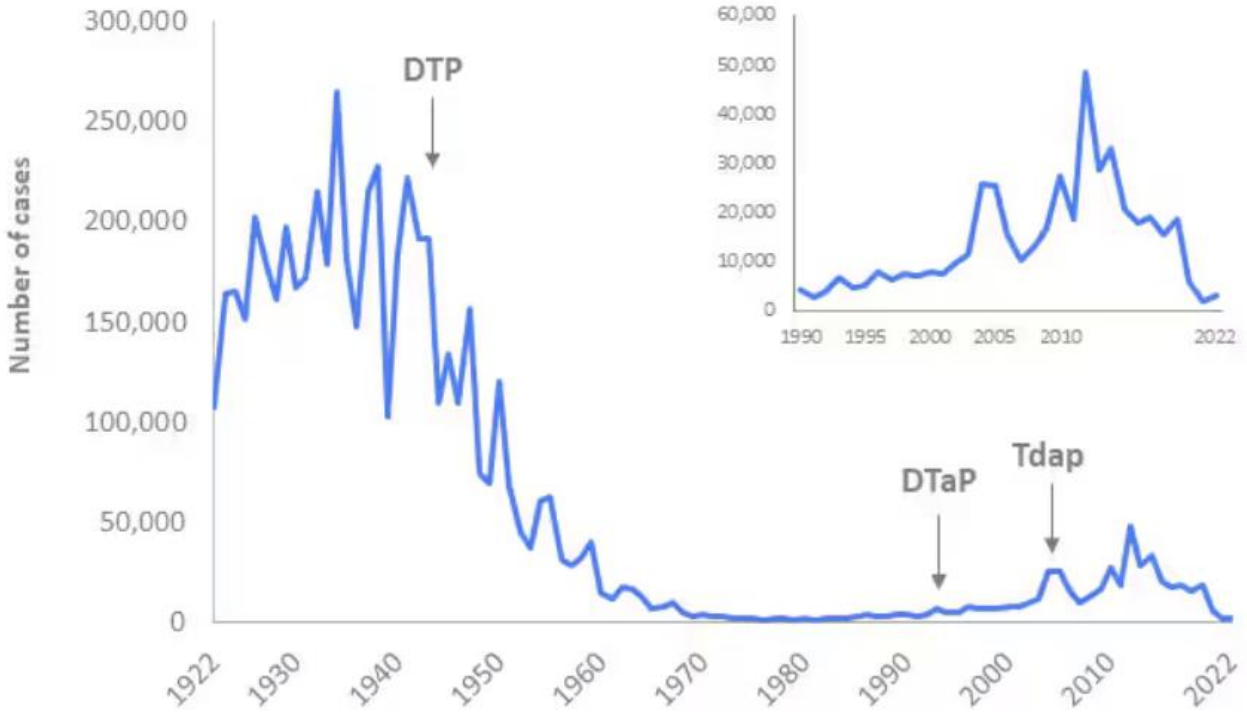
Reported DTaP Vaccine Status of Children with Pertussis, Ages 6 months through 6 years

Age	Vaccine History Unknown	Unvaccinated	Undervaccinated (1-2 doses)	Completed Primary DTaP Series (3+ doses)	Total
	No. (%)	No. (%)	No. (%)	No. (%)	No.
6-11 mo	774 (67.3)	84 (7.3)	103 (9.0)	189 (16.4)	1,150
1-4 yrs	2,992 (62.3)	370 (7.7)	212 (4.4)	1,232 (25.6)	4,806
5-6 yrs	978 (56.4)	118 (6.8)	65 (3.8)	572 (33.0)	1,733
Total	**4,744 (61.7)**	**572 (7.4)**	**380 (4.9)**	**1993 (25.9)**	**7,689**

Reported Pertussis Cases

2023: **7,063** 2024: **35,435**

Reported NNDSS pertussis cases: 1922-2022



Prevention Strategies

Vaccination for flu, COVID-19, and RSV

Hand hygiene, mask-wearing, social distancing (flu B Yamagata?)

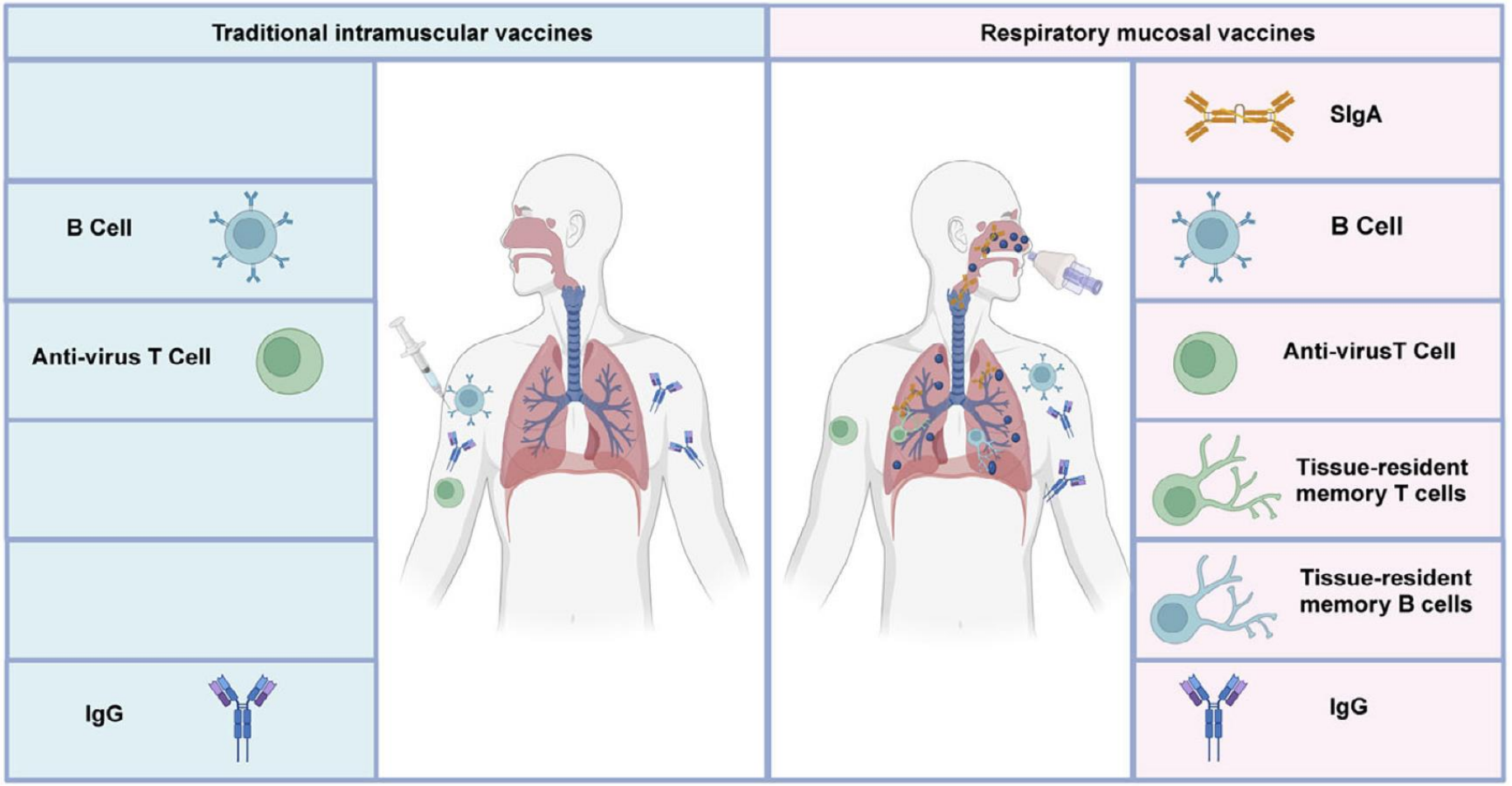
Avoiding crowded places during peak seasons

Public Health Measures

- CDC recommendations and guidance
- Role of healthcare providers in outbreak management
- Community awareness initiatives

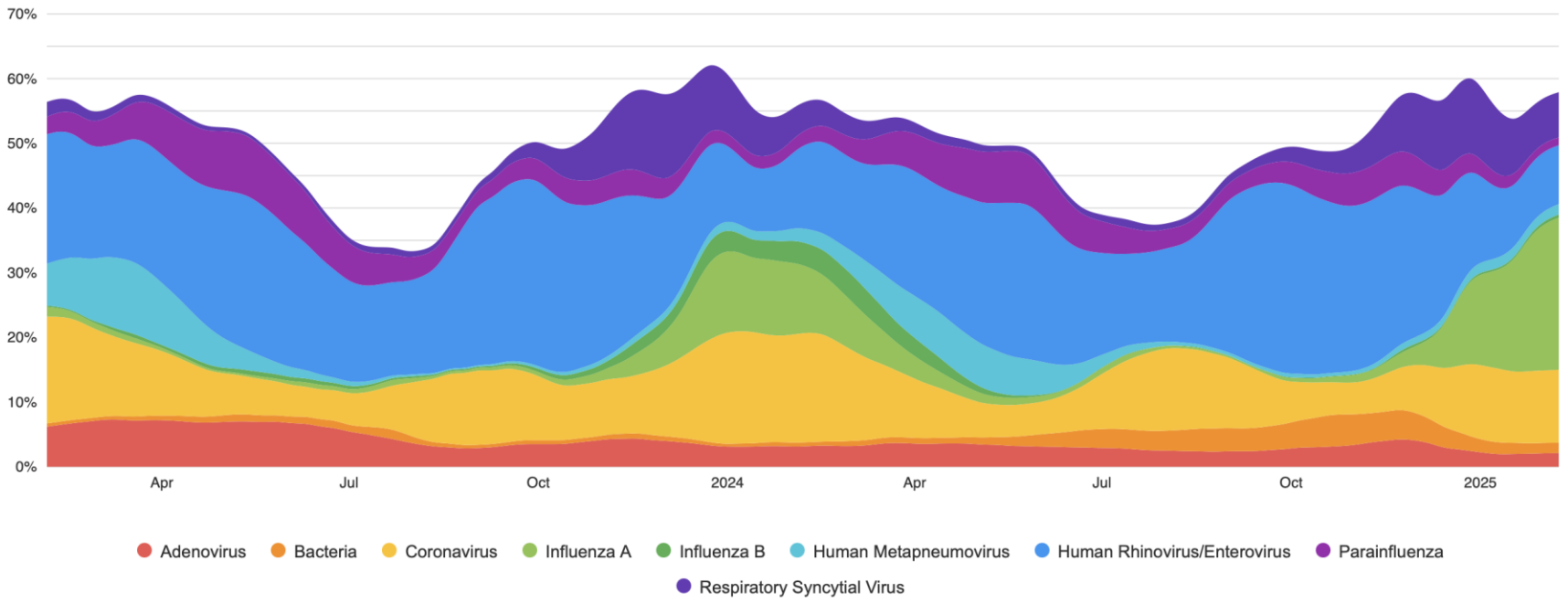
Future Outlook

- Research on new vaccines and treatments
- Potential for seasonal trends and preparedness
- Role of AI and technology in RTI surveillance



Zhou, M. *et al.* Novel vaccine strategies to induce respiratory mucosal immunity: advances and implications. *MedComm***6**, e70056 (2025).

BIOFIRE® Syndromic Trends



Epic Research

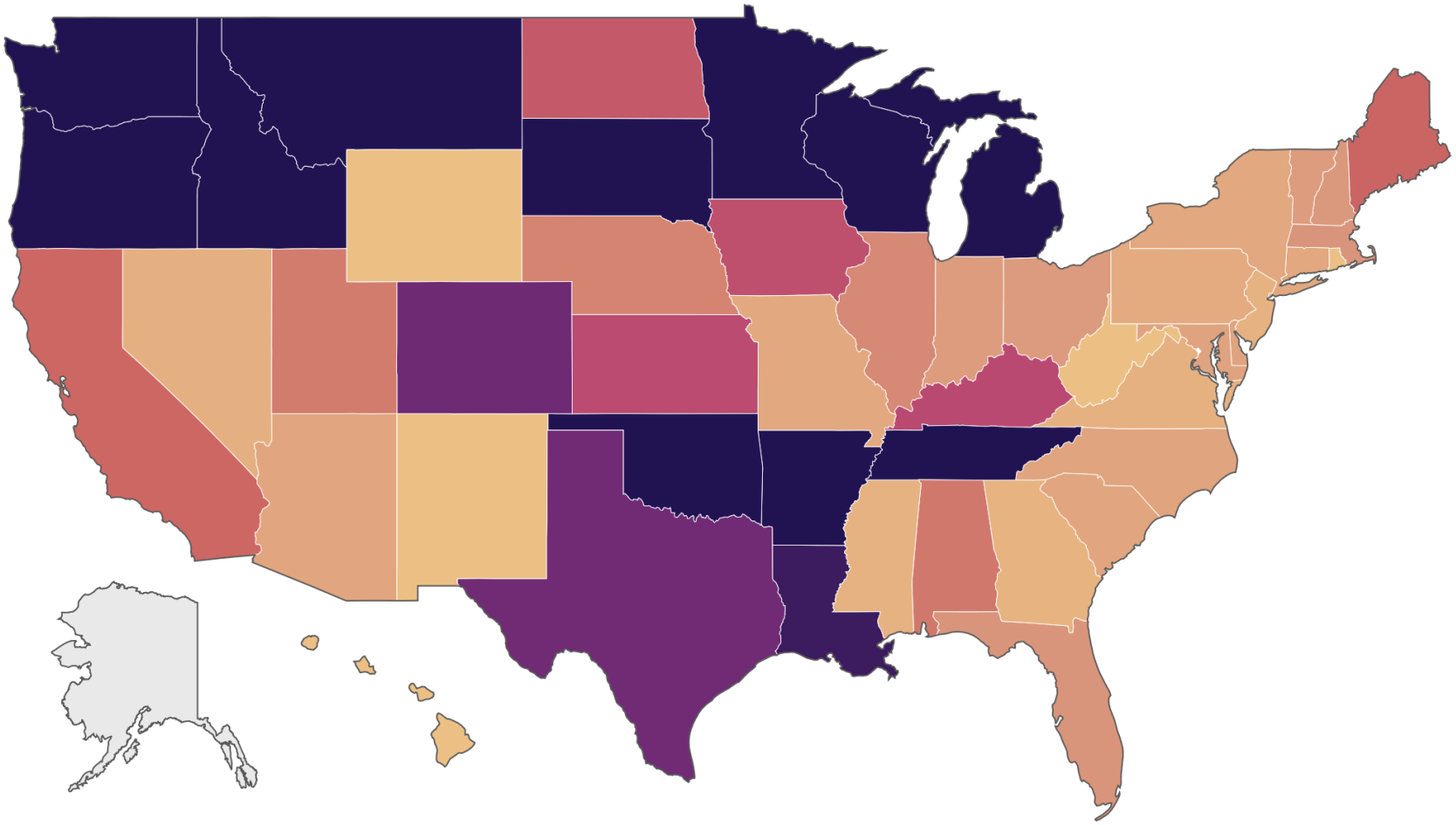
Communicable Diseases by State

Between 1/5/2025 and 1/18/2025

Map | Table

Metric

COVID | HFM | Flu | Mono | Norovirus | Rotavirus | RSV | Strep | Pertussis



Epic Research

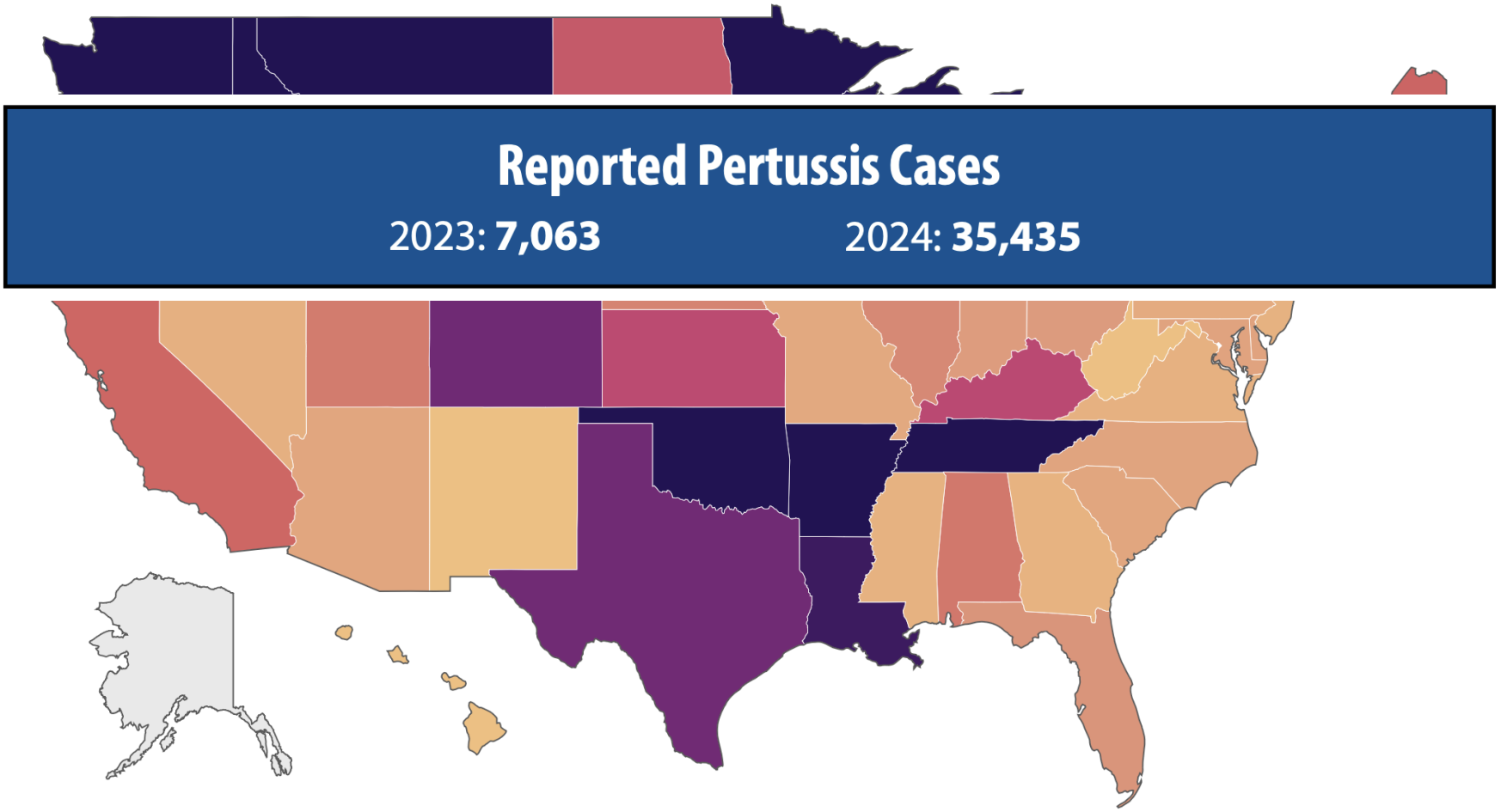
Communicable Diseases by State

Between 1/5/2025 and 1/18/2025

Map | Table

Metric

COVID | HFM | Flu | Mono | Norovirus | Rotavirus | RSV | Strep | Pertussis



Future Outlook

- Research on new vaccines and treatments
- Potential for seasonal trends and preparedness
- Role of AI and technology in RTI surveillance