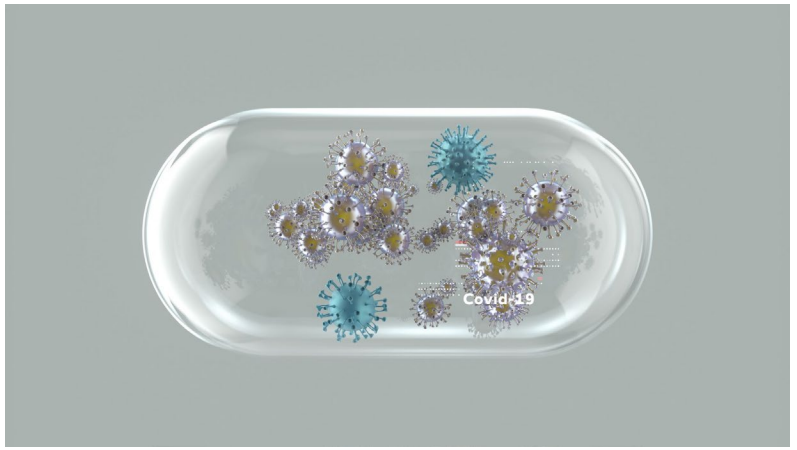
Emerging Infectious Diseases & Winter Respiratory Season

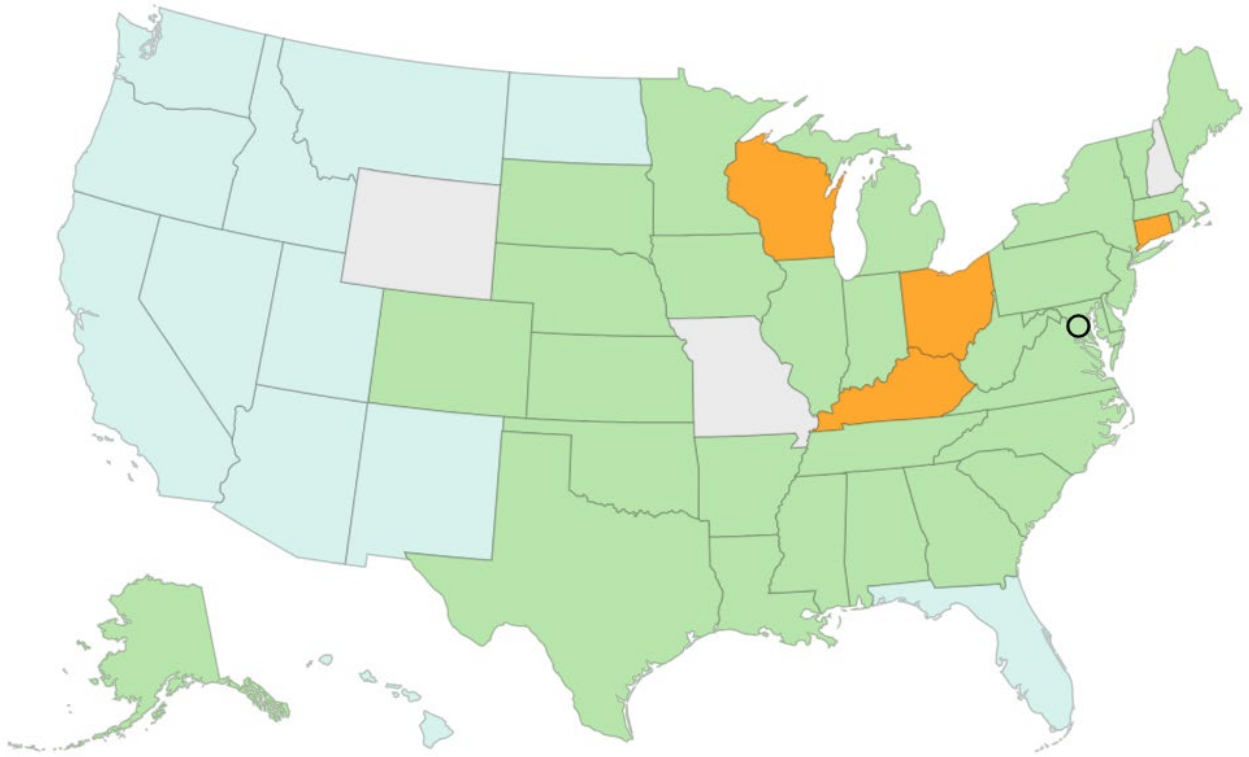


Dr Alexander Kuc

Dr Ammundeep Tagore

Winter Respiratory Season
COVID, RSV, Flu, & Other Seasonal Viruses

- U.S. hospital system prepares for
  - Increase in illnesses
  - Emergency department visits
  - Hospitalizations
- Overall U.S. respiratory disease activity remain low.
- COVID-19 overall numbers are decreasing.
- Flu and RSV activity remained low nationally.



Territories AS GU PR VI

Acute Respiratory Illness

Very High High Moderate Low Minimal

Data Unavailable

Prevalence in New Jersey

Overall respiratory illness activity in **New Jersey**

Low

What it is: A measure of how frequently a wide variety of respiratory symptoms and conditions are diagnosed by emergency department doctors, ranging from the common cold to COVID-19, flu, and RSV.

Why it matters: Summarizes the total impact of respiratory illnesses, regardless of which diseases are causing people to get sick.

Wastewater viral activity level in **New Jersey**

COVID-19	Flu†	RSV
Minimal	Minimal	Minimal

What it is: A measure of how much virus is present in sewage.

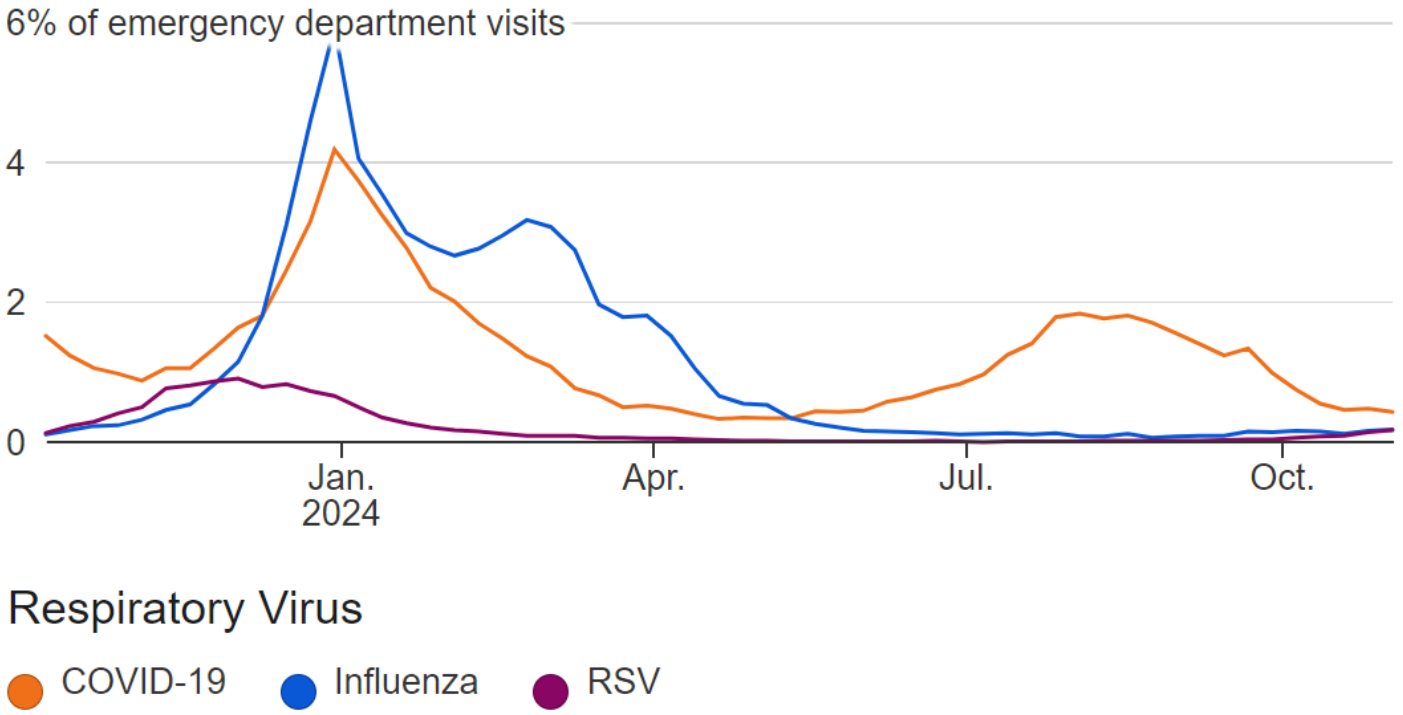
Why it matters: People who are infected often shed virus into wastewater, even if they don't have symptoms. As a result, high wastewater levels may indicate an increased level of infections even when other measures remain low.

Emergency department visits in **New Jersey**

COVID-19	Flu	RSV
Low Decreasing ↘	**Minimal** No Change	**Low** Increasing ↗

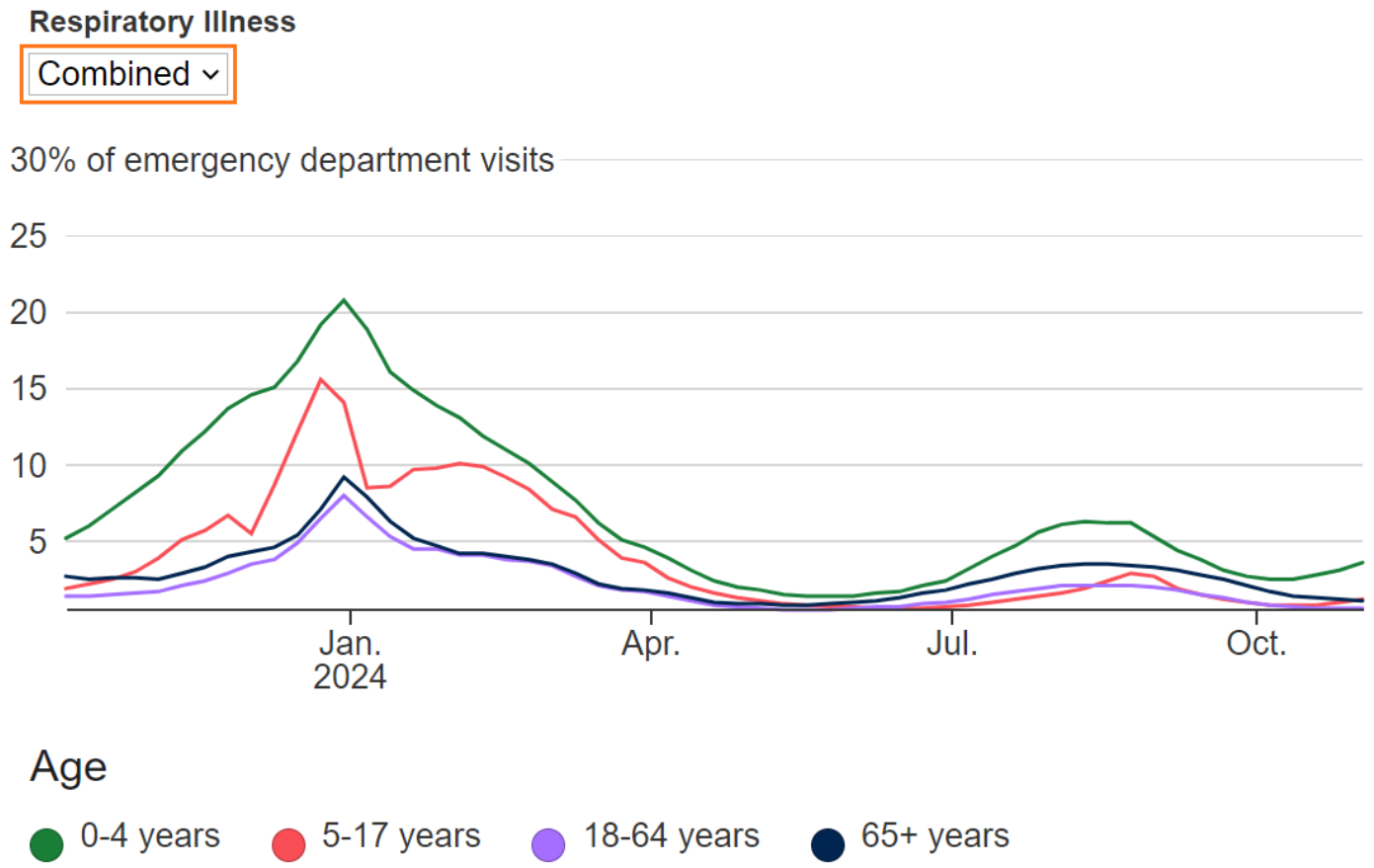
> **What it is:** A measure of how many people are seeking medical care in emergency departments.
>
> **Why it matters:** When levels are high, it may indicate that infections are making people sick enough to require treatment.

Viral Emergency Department Visits

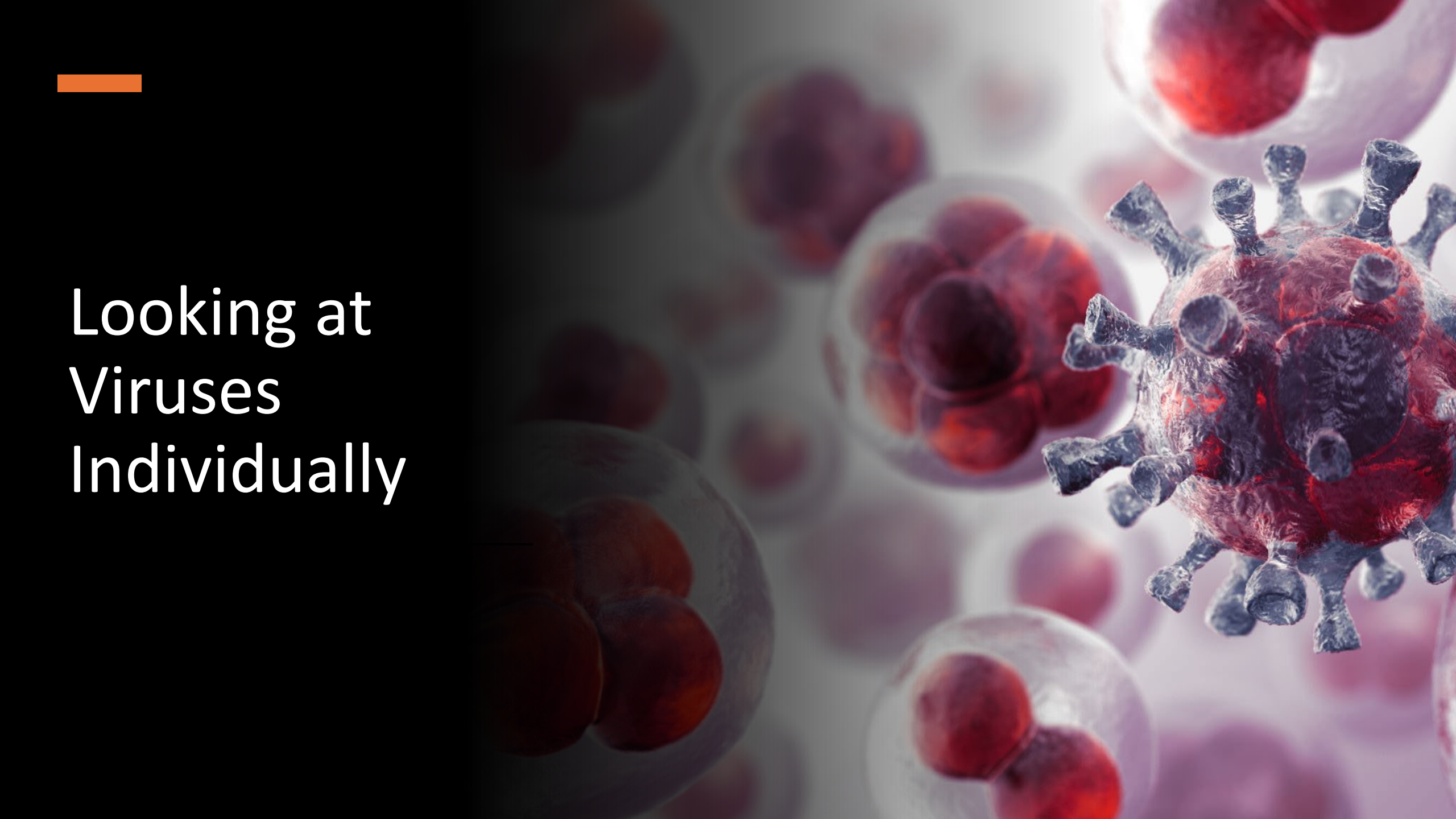


Emergency Department Visits by Age

Weekly percent of total emergency department visits associated with COVID-19, influenza, and RSV. Refer to data notes for more details.

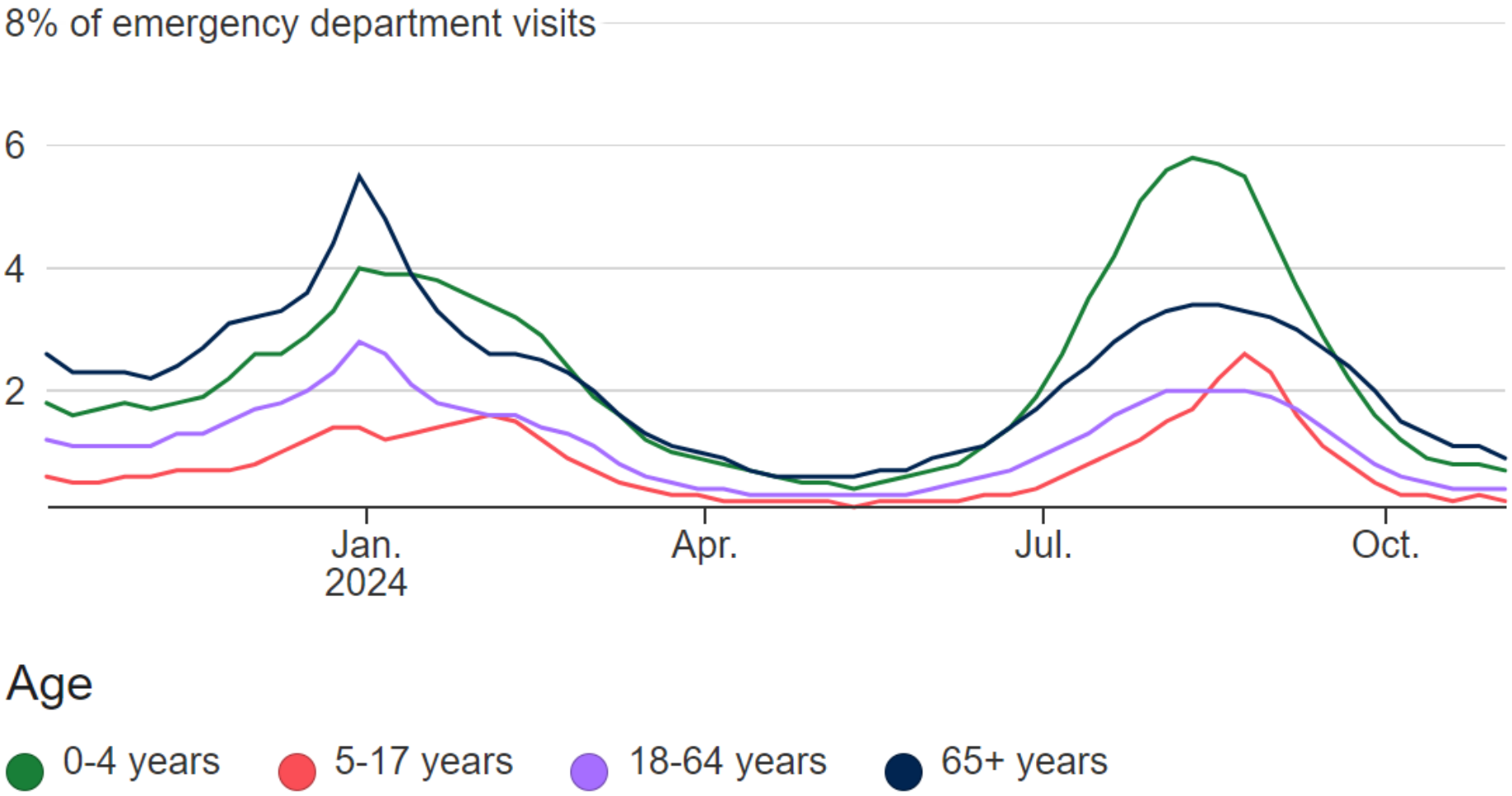


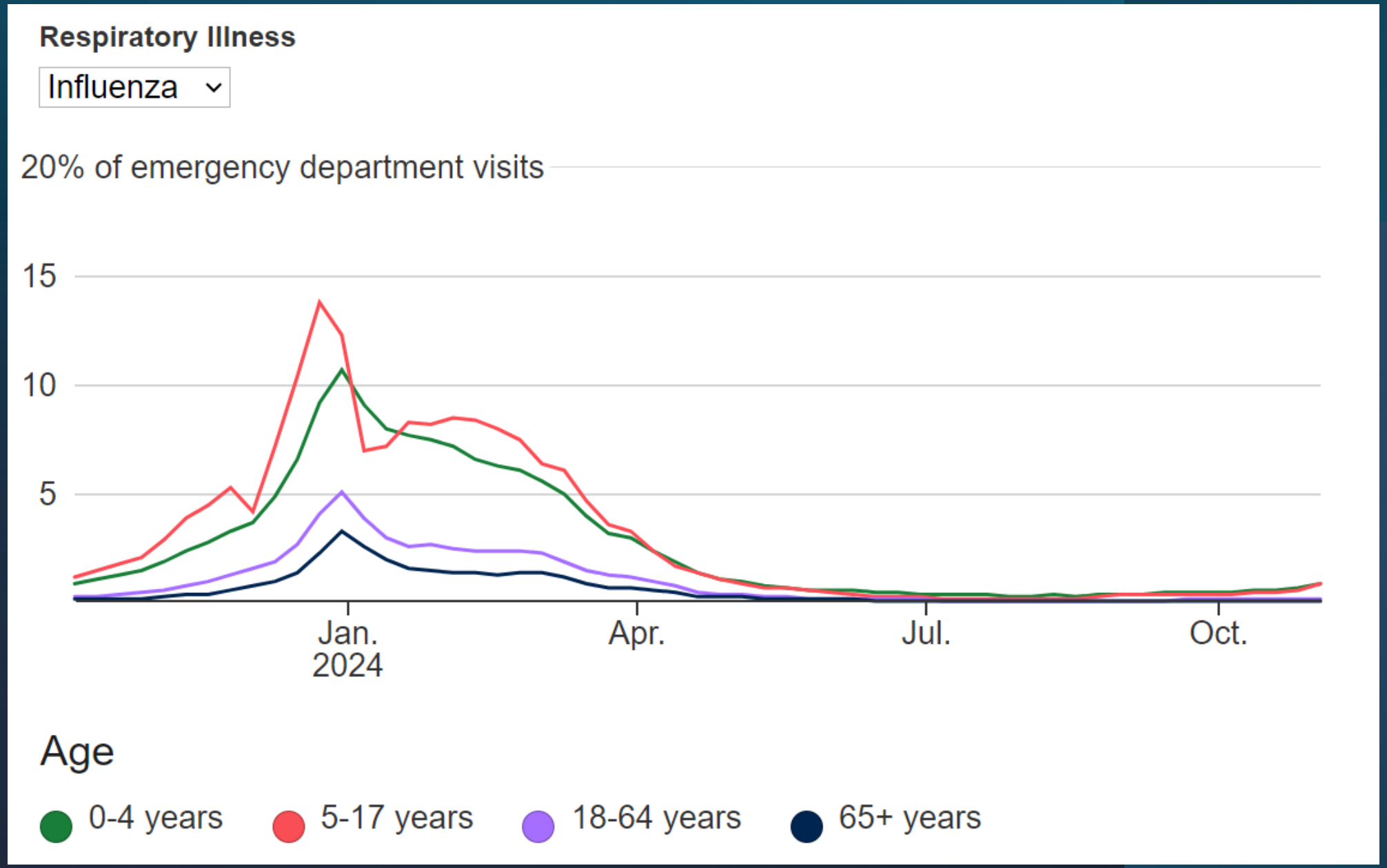
Looking at Viruses Individually

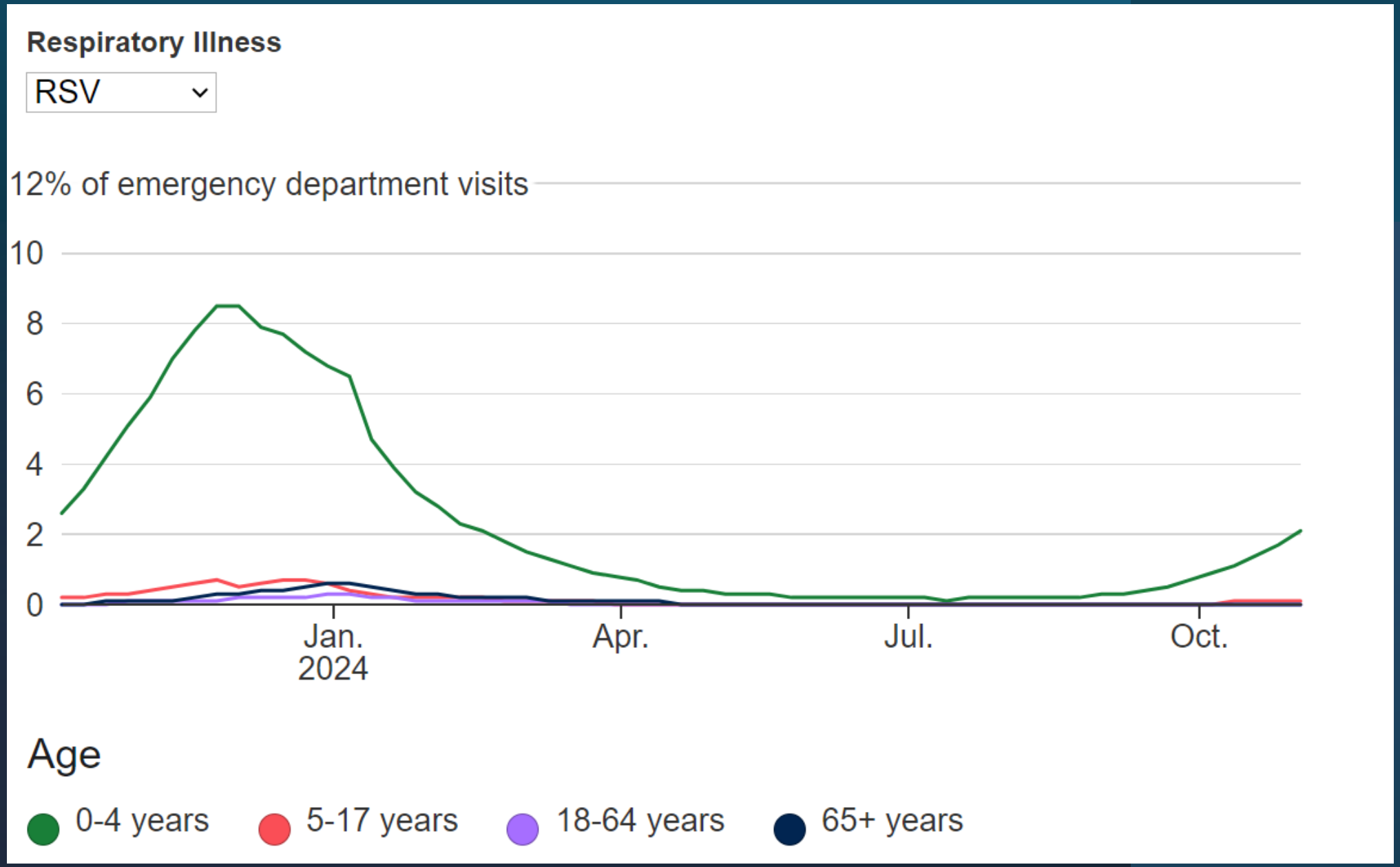


Respiratory Illness

COVID-19

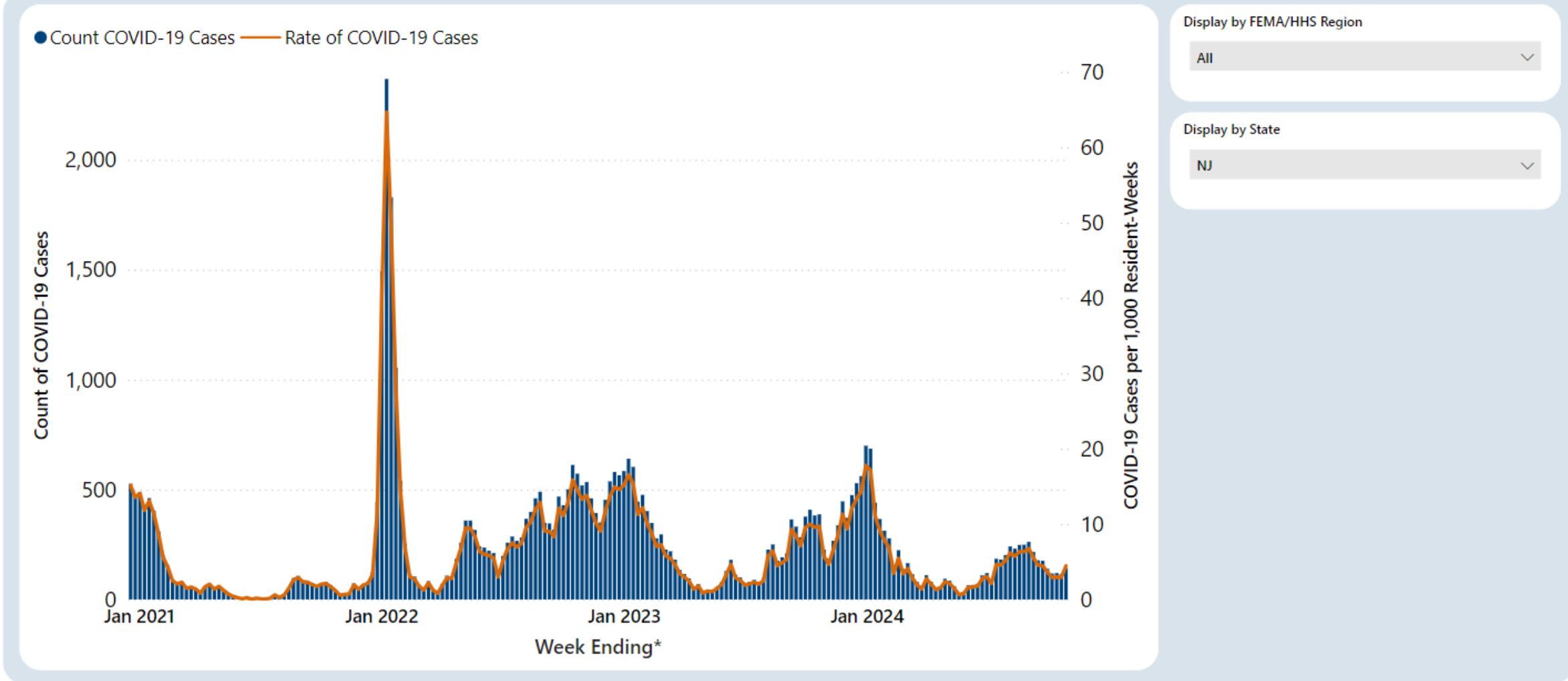



Respiratory Illness
Influenza
20% of emergency department visits
15
10
5
Jan.
2024
Apr.
Jul.
Oct.
Age
0-4 years
5-17 years
18-64 years
65+ years


Respiratory Illness
RSV
12% of emergency department visits
10
8
6
4
2
0
Jan.
2024
Apr.
Jul.
Oct.
Age
0-4 years
5-17 years
18-64 years
65+ years

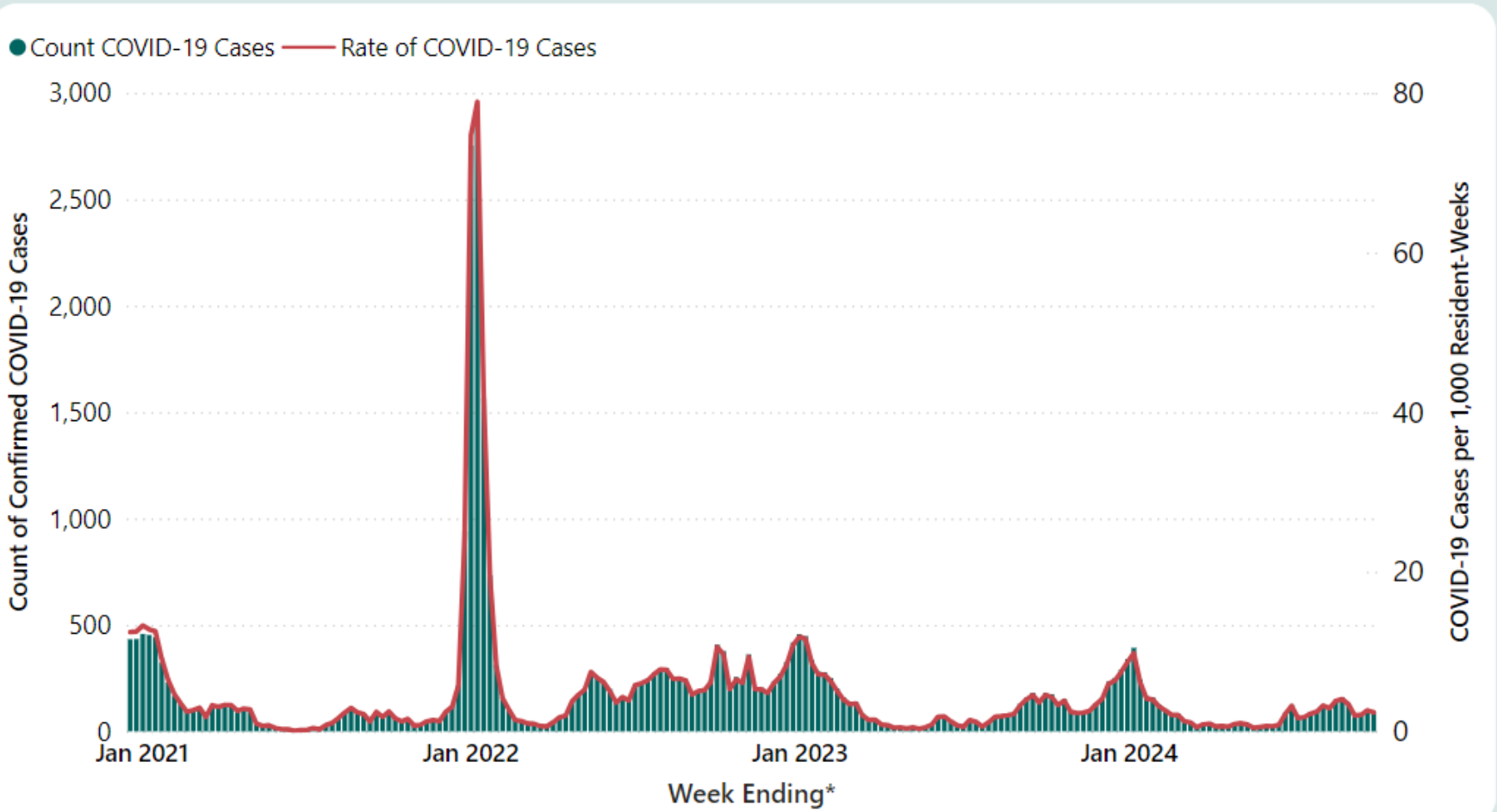
Confirmed COVID-19 Cases among Residents and Rate per 1,000 Resident-Weeks in Nursing Homes, by Week—United States

Confirmed COVID-19 Cases among Residents and Rate per 1,000 Resident-Weeks in Nursing Homes, by Week—United States



Confirmed COVID-19 Cases among Staff and Rate per 1,000 Resident-Weeks in Nursing Homes, by Week—United States

Confirmed COVID-19 Cases among Staff and Rate per 1,000 Resident-Weeks in Nursing Homes, by Week — United States



Display by FEMA/HHS Region

All

Display by State

NJ

Vaccination Trend

- COVID Vaccine
  - 7.9%(6.1-9.6) for children
  - 17.4% (15.9-18.8) for adults age 18+
  - 37.6% (34.0-41.1) among adults age 65+
- Influenza Vaccine
  - 30.5% (27.9-33.2) for children
  - 32.1% (30.3-33.8) for adults age 18+
  - 55.3% (51.0-59.6) among adults age 65+
- RSV Vaccine
  - 40.1% (37.3-42.9) of adults 75+ every receiving vaccine

In Summary

- The respiratory virus season remains quiet
- Possibly due to the warm weather
- Possibly community immunity to COVID-19
  - Multiple vaccines
  - Multiple infections that have boosted our immunity
- Possibly virus' behavior has evolved

- COVID-19 reporting very low numbers
- Influenza it has yet to be seen to any significance
- RSV cases are nominal

- Continued monitoring of wastewater and data trends are needed

Emerging Infectious Diseases

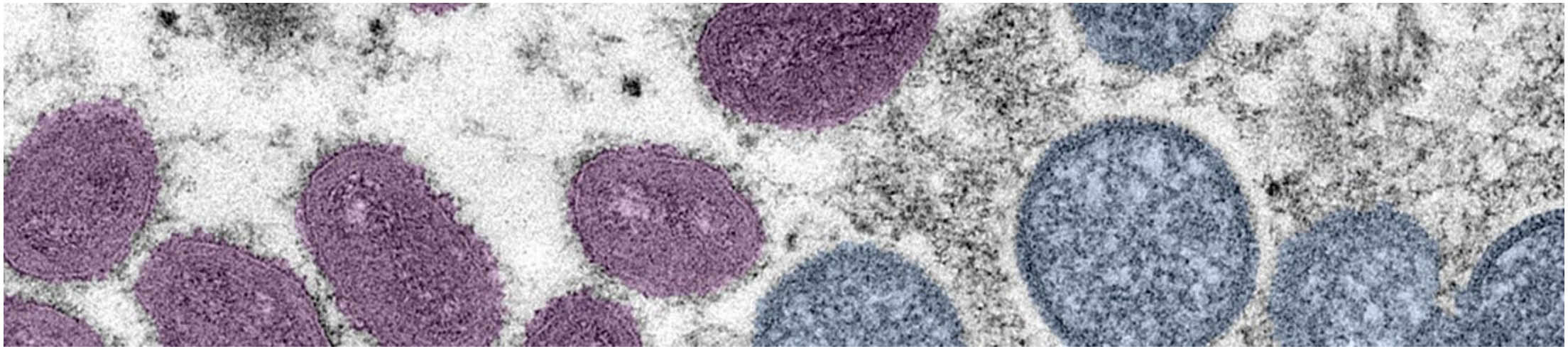
Emerging Diseases

- Outbreaks of new diseases that were unknown before
- Known diseases that are now spreading quickly in number of cases, or in number of areas where people are sick
- Known infectious diseases that are persistent and can't be controlled

JOHNS HOPKINS
MEDICINE

Emerging Diseases Include

- Coronavirus infections, such as COVID-19, SARS, and MERS
- HIV infections
- Lyme disease
- Escherichia coli (E. coli) O157:H7
- Hantavirus
- Dengue fever
- West Nile virus
- Zika virus

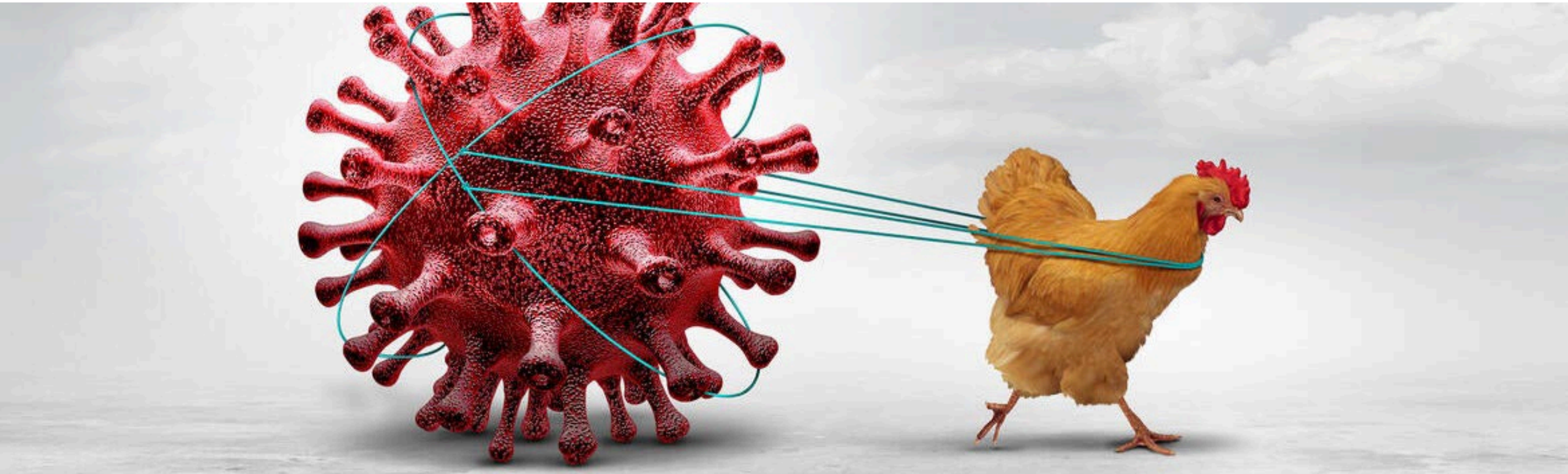


Mpox

- Ongoing outbreak in Democratic Republic of Congo
- Same virus family as smallpox
- Flu-like symptoms, swollen lymph nodes, rash
- Does not spread easily without close contact
- Vaccine available

H5N1 Bird flu

- Novel influenza virus
- Situation currently being monitored by state and federal officials
  - Wild birds
  - Poultry
  - Dairy cows
- Sporadic infections in mammals in US, Canada, elsewhere
- No confirmed human cases in NJ

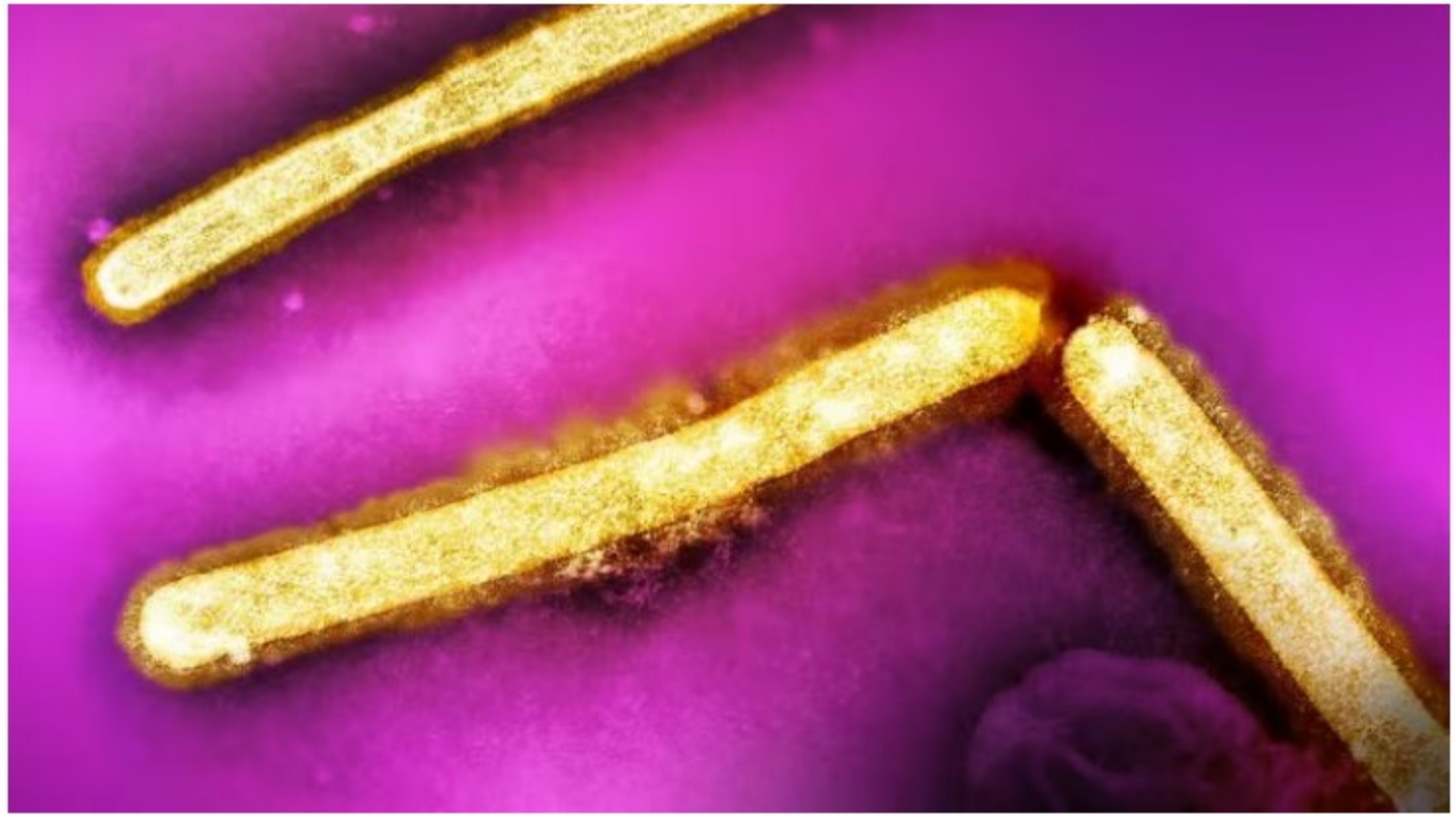


British Columbia

B.C. teen with avian flu is in critical condition, provincial health officer says

Teenager from Fraser Valley is 1st person to have contracted virus in Canada

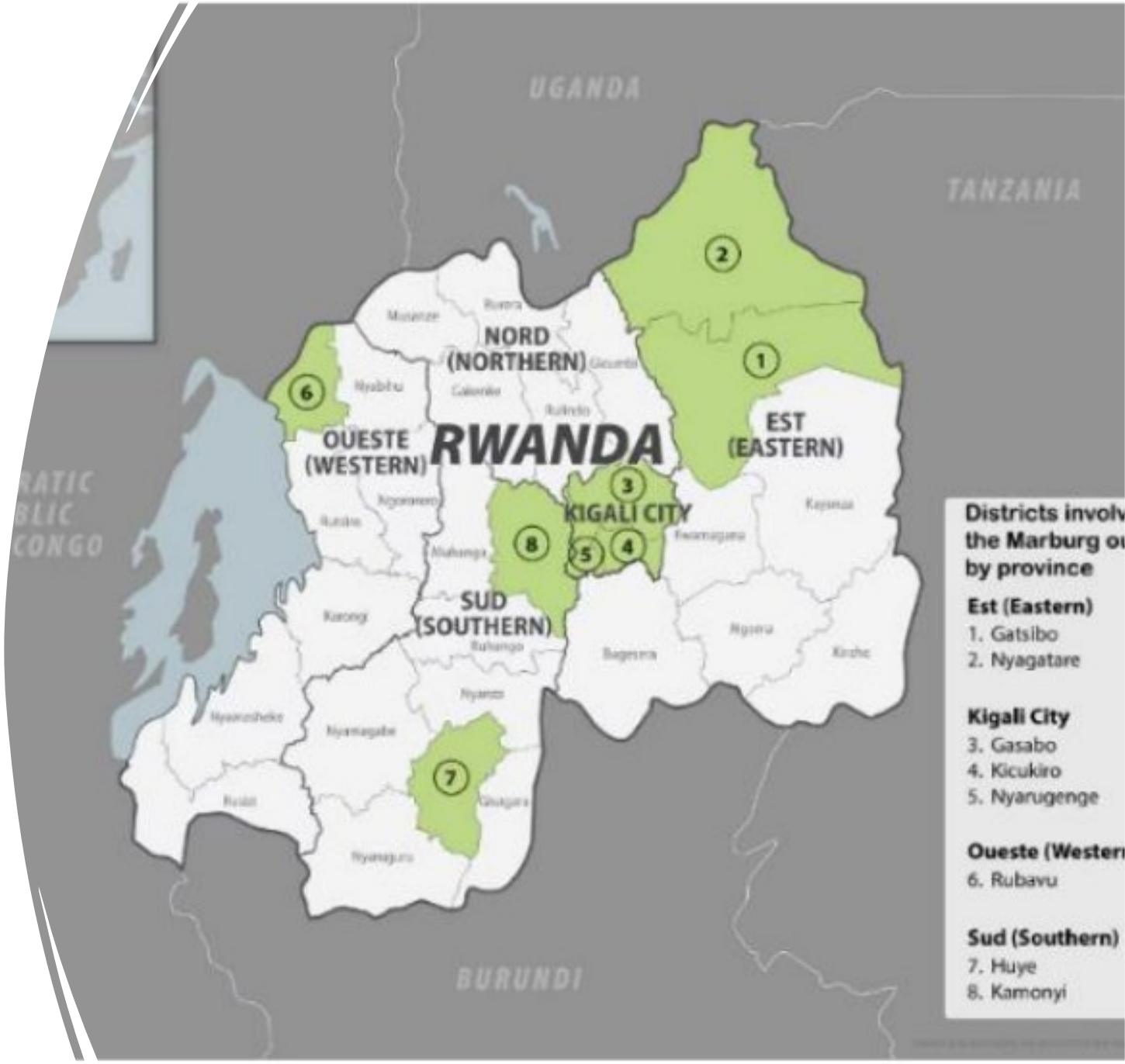
CBC News · Posted: Nov 12, 2024 3:00 PM EST | Last Updated: November 12



A teenager who tested positive for bird flu is in critical condition, B.C.'s provincial health officer said Tuesday. (NIAID/Flickr)

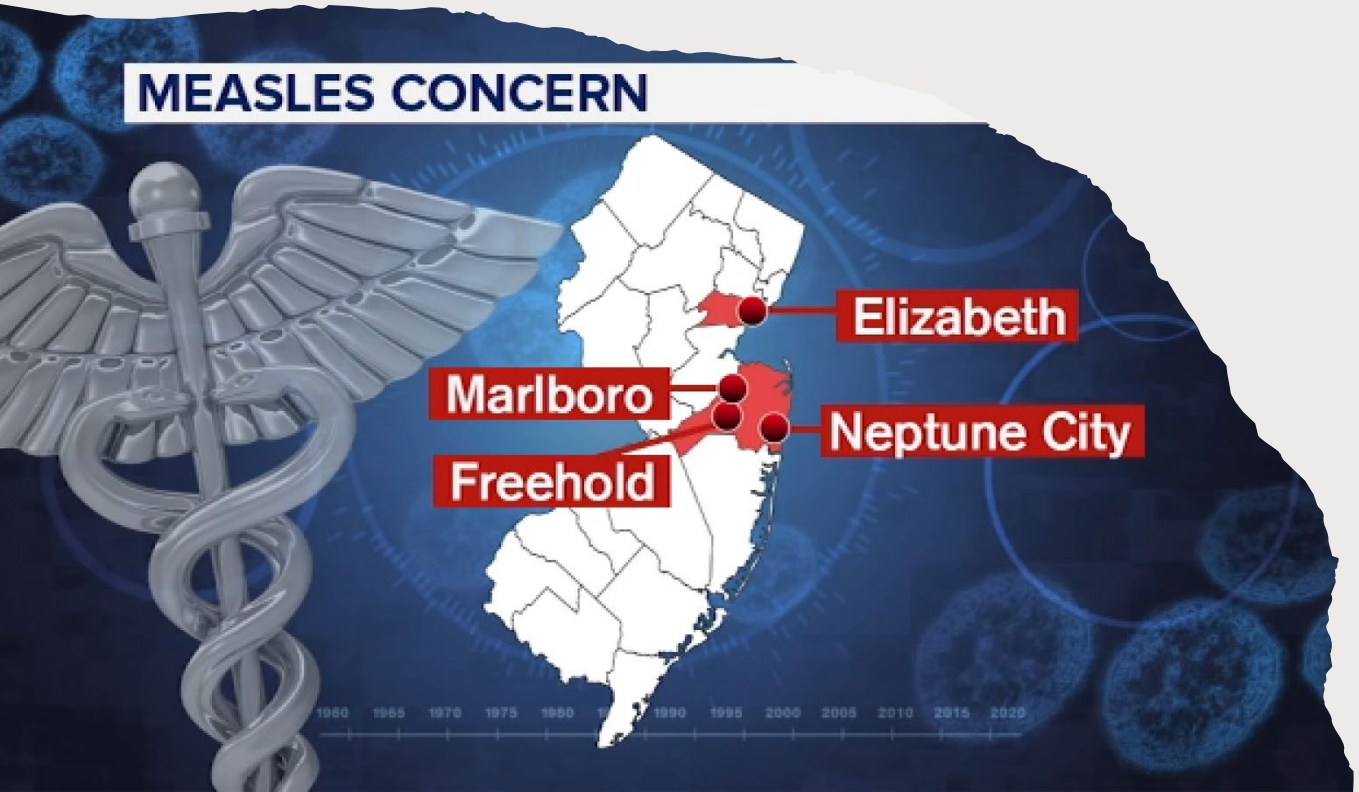
Marburg

- Rare but severe hemorrhagic fever
  - (similar to Ebola)
- Fever, chills, headache, rash, nausea/vomiting/diarrhea
- Progresses to bleeding, organ failure, shock and delirium
- Spreads from infected fruit bats to people
- Can then be spread through direct contact with blood/bodily fluids of infected person



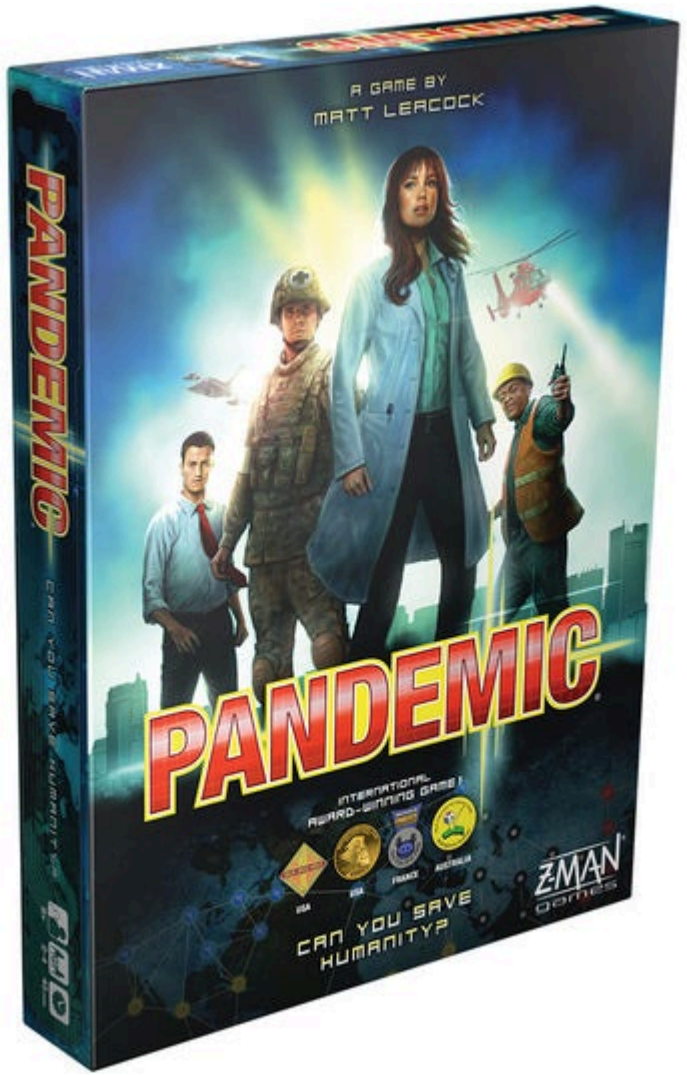
Marburg outbreak, by province

Measles



- Very contagious respiratory disease
- 90% of people with close contact to infected person will get measles (if not vaccinated)
- High fever, cough, runny nose, red watery eyes
- Serious complications, encephalitis
- 1-2 deaths/1000 infections
- 5 cases in NJ (all unvaccinated)

Thank you!


A GAME BY
MATT LEACOCK
PANDEMIC
INTERNATIONAL
AWARD-WINNING GAME!
USA
FRANCE
AUSTRALIA
CAN YOU SAVE
HUMANITY?
Z-MAN
games