



## **Emerging Infections Newsletter for Clinicians**

*March 1, 2024*

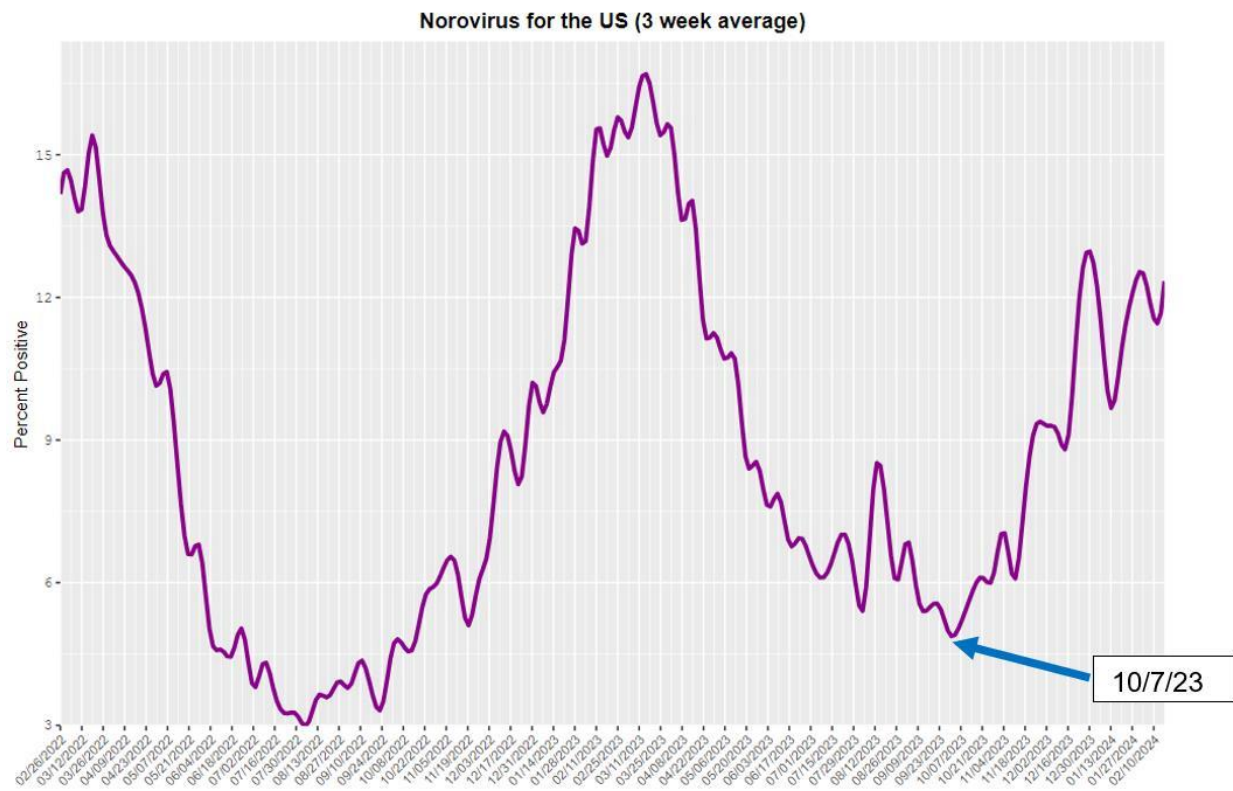
*Written by Dr. Silvers with contributions from Dr. Joan Etzell (Lab), Lisa Rieg (Pharmacy), and Gordon Sproul (Pharmacy). Please use Google Chrome for the best experience.*

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### **Norovirus**

- Norovirus is the most common cause of acute gastroenteritis. Outbreaks are extremely common. It is colloquially known as the “stomach flu” but it is not related to influenza. It is also called the “cruise ship diarrhea” because it makes a lot of news, but only a very small percentage of cruises have an outbreak. Cases can occur year-round but are most frequent during late fall until early spring.
- The high rate of spread of this infection is explained by the infectious dose being less than 100 viral particles, and a gram of stool from infected persons containing as many as 10 billion viral particles.
- Transmission is fecal-oral from person to person, contaminated foods, liquids, or surfaces. [Viruses](#) Jan. 2024 published a nice review of aerosol transmission of *Norovirus* infection secondary to emesis. Recurrent infections are common, but symptoms are more prominent in persons exposed to a new genogroup.
- Norovirus is a nonenveloped virus. Nonenveloped viruses are resistant to alcohol sanitizers. Soap and water should be used for hand hygiene.
- The vessel sanitation program ([VSP](#)) requires cruise ships to log and report the number of passengers and crew with symptomatic gastrointestinal illness. The web site shows that 13 of the 14 reported gastroenteritis outbreaks on cruise ships in 2023 were due to *Norovirus*. That is a very small percentage of cruises per year porting in the United States.
- The [CDC](#) provides surveillance on Norovirus. Their graph below, updated Feb. 22, shows that the 3-week average of pcr positivity rates has been increasing since October of 2023 (blue arrow). Positivity rates are currently over 12% but are not exceptionally high.



- Diagnosis is made clinically and confirmed with a pcr molecular test.

### Take-home Norovirus

- Norovirus is an extremely contagious virus that causes diarrhea, vomiting, nausea, and stomach discomfort. Fever is variable.
- Norovirus gastroenteritis outbreaks are occurring in many regions in the United States. Positivity rates are near previous seasonal levels.

- Hand hygiene needs to be performed with soap and water as alcohol-based sanitizers are not effective.
- Appropriate PPE includes gown and gloves. A mask or N95 should be used if the patient has active emesis.
- Diagnosis can be clinical or via testing for norovirus by PCR.

### **Treatment of Uncomplicated Urogenital Gonorrhea**

- Positive results of the much-anticipated gepotidacin phase 3 randomized controlled trial were announced earlier this week.
  - Investigational gepotidacin is a first-in-class, bactericidal, triazaacenaphthylene antibiotic that inhibits bacterial DNA replication by a novel mechanism of action and binding site.
  - This large, pivotal trial in the treatment of uncomplicated urogenital gonorrhea in 628 patients aged 12 years and older, demonstrated that oral gepotidacin (two doses of 3,000mg) was non-inferior to a standard treatment regimen of a single-dose ceftriaxone 500mg IM with oral azithromycin 1000mg.
  - Primary endpoint was microbiological response (success or failure) at the Test-of-Cure (ToC) visit 3-7 days after treatment.
  - Data on safety and tolerability was reported to be similar to earlier studies, with diarrhea being the most common adverse event.

### **Take-Home message:**

- Still investigational, gepotidacin will provide a treatment option for uncomplicated urogenital gonorrhea, as rates of reported gonorrhea are increasing in the United States and resistant strains to usual regimen are appearing worldwide.
- No data yet on use of this agent for oropharyngeal or rectal involvement.

### **The Tripledemic**

- The season is on the downslope, but it is not done.
- JN.1 remains dominant over other SARS-CoV-2 strains.
- Although SARS-CoV-2 is not going away, there is continued good news. Nationally, hospitalizations are stable, well off the peak. The hospitalization trend is similar to one year ago at this time. Total weekly hospitalizations with COVID as a diagnosis (severity not indicated) are almost 20% lower than the same time last year.
- Sutter SARS-CoV-2 positivity rates have dropped down to 6-7% in both ambulatory and acute ED settings.
- Influenza is transitioning from predominantly A H1N1 to all three strains (A H1N1, A H3N2, and B).
- RSV season is approaching the end.
- Positivity and testing for all three respiratory infections are decreasing in Sutter, consistent with less illness in the communities.

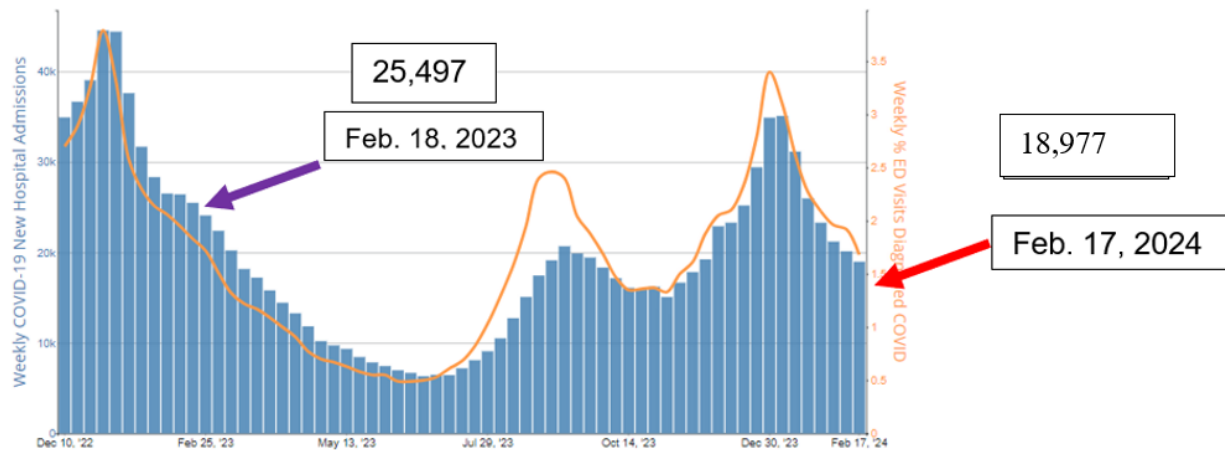
### **COVID-19**

- JN.1 remains the most dominant strain in the world, but is it past the peak? Multiple new subvariants of JN.1 are being identified and followed. These include JN.1.7, JN.1.8, JN.1.18, and JN.1.22. The impact of these new subvariants is still being evaluated.
- [Hospitalizations](#) in the United States are a surrogate for the virulence of the circulating strain. The graph below has been modified to make it easier to see trends from the last 18 months. As before, the blue vertical bars represent the number of hospitalizations per week

and the orange run line demonstrates the percentage of patients being diagnosed with COVID in emergency departments.

- Looking at the trend of the blue bars, the recent drop in hospitalization rates is similar to one year ago. However, there remains a significant difference in the number of patients hospitalized due to circulating variants this year versus last year.
- The week of Feb.17, 2024 had 18,977 hospitalizations (red arrow) compared to 25,497 during the week ending Feb.18, 2023 (purple arrow). Over 6,500 less people in the hospital during this week in 2024 compared to 2023. Emergency room positivity rates were about the same during that 1-year comparison.

COVID-19 New Hospital Admissions and Percentage of Emergency Department (ED) Visits Diagnosed as COVID-19, by Week, in The United States, Reported to CDC

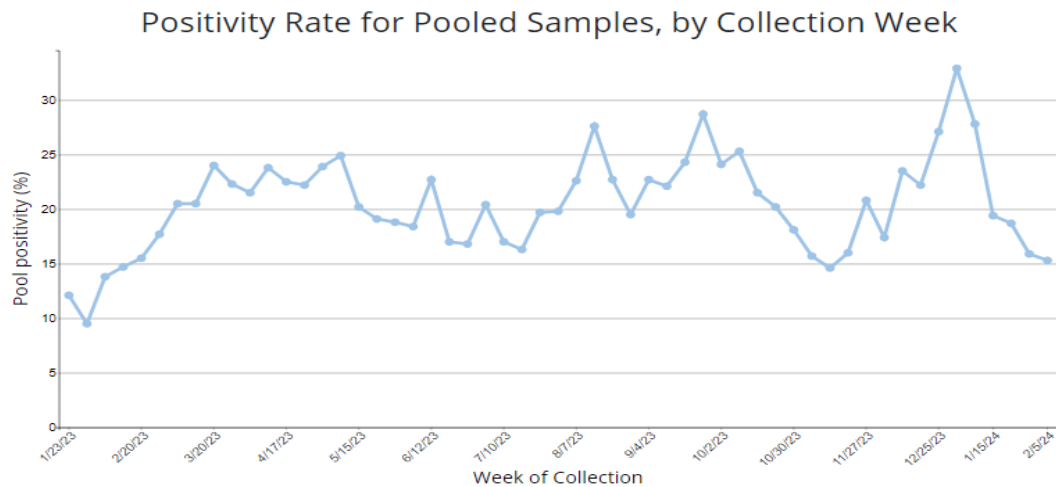


- The CDC tracks hospital admissions per 100,000 county population. Less than 10/100,000 is considered a low number of new hospital admissions. National rates have continued to decline and are down to 5.72/100,000. The table below shows the most recent weekly hospitalizations. The number dropped another 5.7%. This supports decreased virulence of circulating strains and as well as previous immunity and effectiveness of the recent monovalent vaccine.

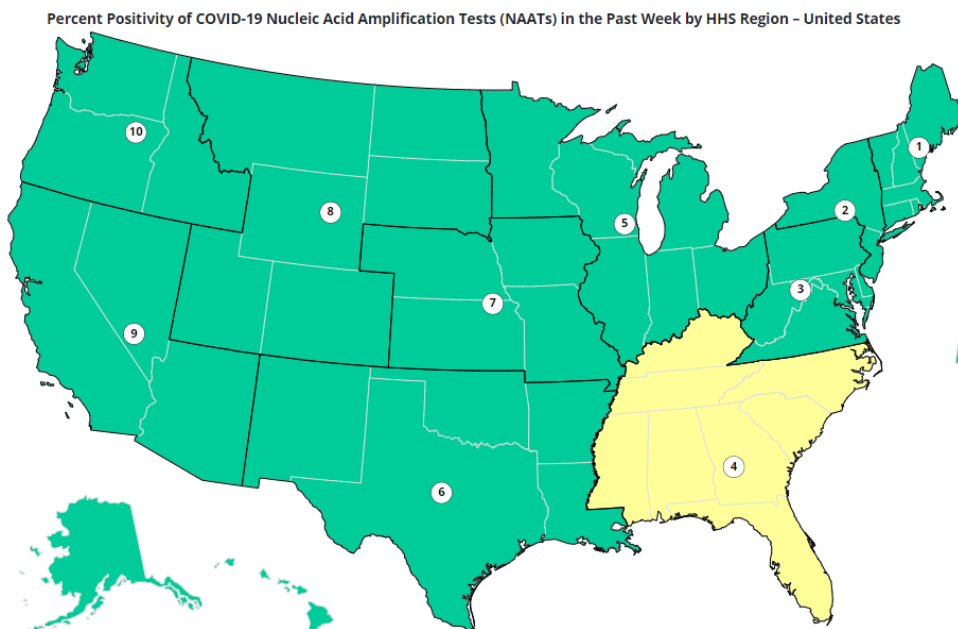
COVID-19 HOSPITAL ADMISSIONS (PAST WEEK)	% CHANGE IN COVID-19 HOSPITAL ADMISSIONS	COVID-19 HOSPITAL ADMISSIONS PER 100,000 (PAST WEEK)
18,977	-5.7%	5.72

CDC | Data through: February 17, 2024. Posted: February 23, 2024

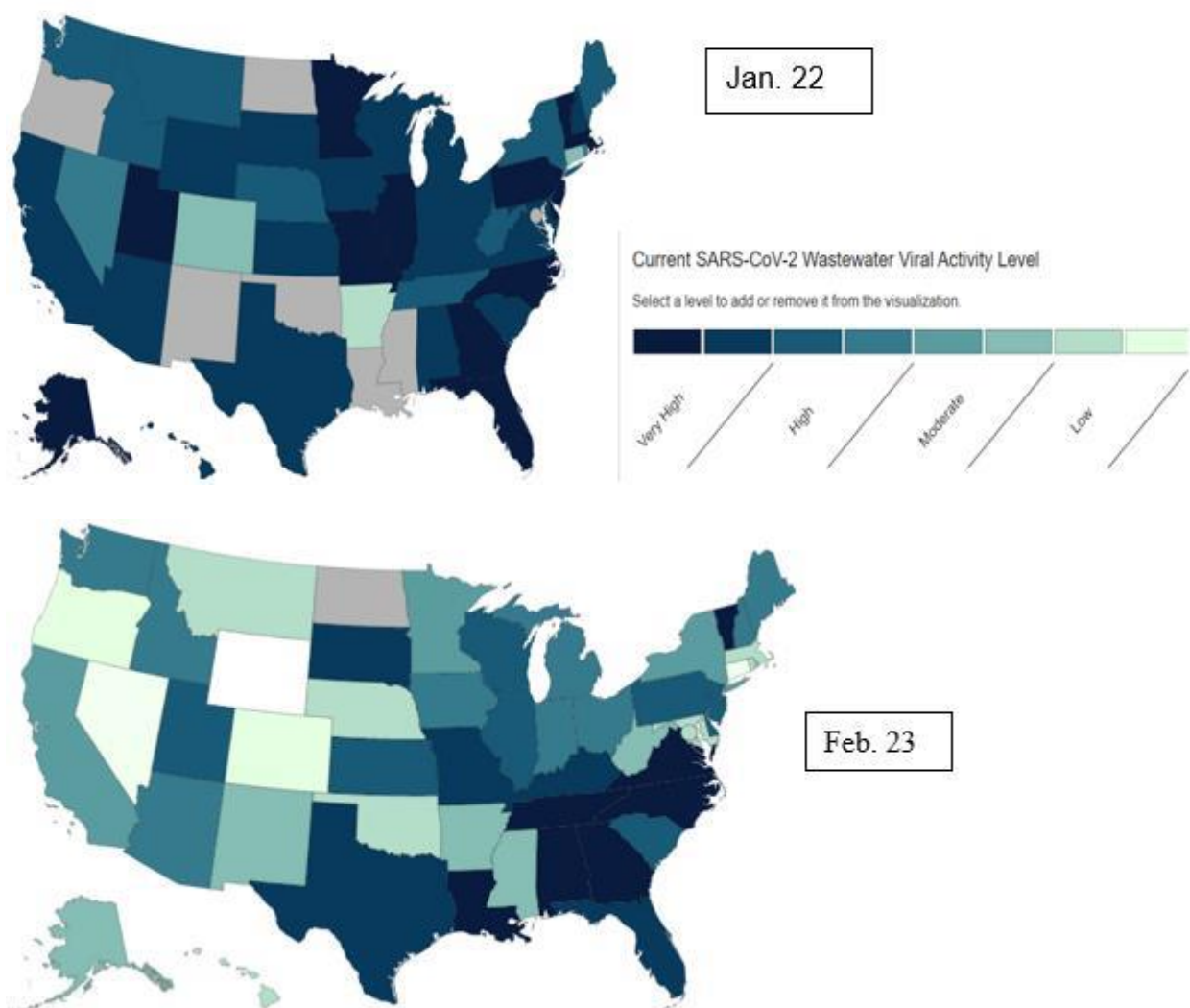
- [National genomic sequencing](#) will be updated next week.
- Surveillance of international air travelers is conducted at several major U.S. airports as an early warning system and to fill gaps in worldwide genomic surveillance. It covers flights from more than 135 countries.
- Traveler-based genomic surveillance positivity rates are on the graph below. Positivity rates for the latest week reported (ending Feb. 15) dropped to 15.3%. This is the lowest positivity rate since the week ending Nov. 1, 2023. Remember that international testing data is at least 2 weeks from collection until reported on the graph.
- Notably, JN.1 identification has decreased from 94% to 88% (data not shown).



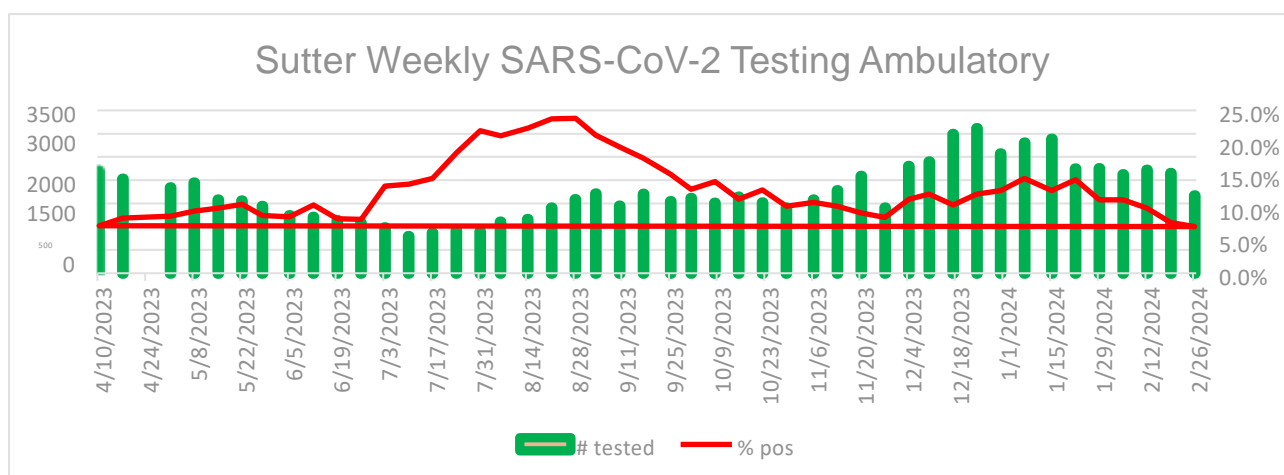
- The map below shows [national](#) molecular test positivity rates by region (updated Feb. 23). Region 4 is the last part of the country that is not green (<10%). Region 6 turned green in the last week. Yellow means a positivity rate of 10-14.9%. Region 4 is down to 10.8% and might be green next week.
- Since the rapid rise of JN.1, positivity rates have continued to drop. This suggests decreased contagion, with some contribution from prior immunity, increased masking of some people and the vaccine.



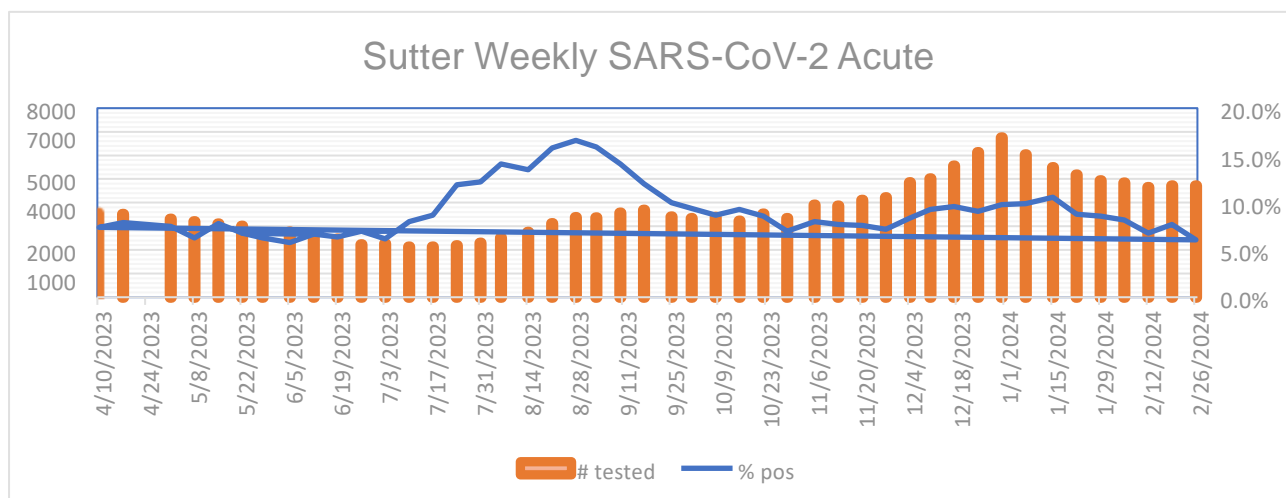
- SARS-Co-V-2 wastewater levels are shown on the two [CDC](#) maps below. The top map was reported Jan. 22 and the bottom Feb. 23. Similar to hospitalizations and testing positivity, wastewater levels have progressively decreased since JN.1 became the dominant strain. Grey (8 states) represents insufficient data. The Southeast still has high to very high levels, but wastewater levels have definitely decreased in most states west of the Mississippi.



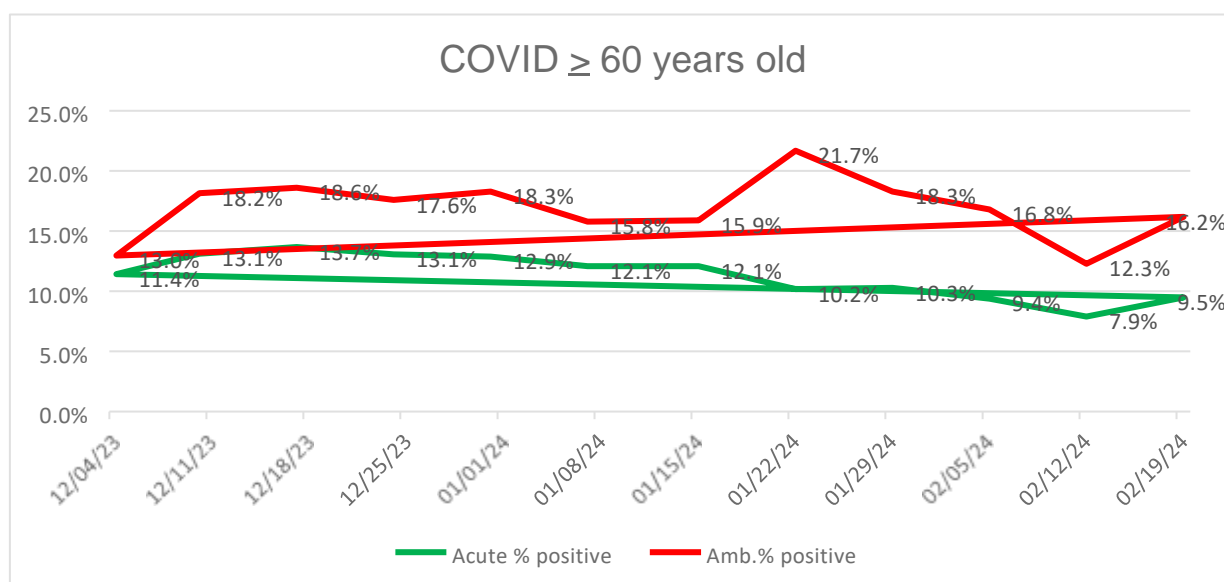
- Updated Sutter testing data below show a continued decline in positivity rates in both the ambulatory and acute ED settings. Acute is down to 6.1% and ambulatory is 7.2%. These are the lowest numbers since June 2023 for acute and April 2023 for ambulatory.







- COVID test positivity rates in persons greater than 60 years old are being pulled out to analyze. Rates in this elevated risk age group remain higher than the total cohort of all ages.



## Is CDC going to relax public isolation guidance?

Rumors are swirling that the CDC is going to update their community isolation guideline for persons with COVID. Although not confirmed and details are not known, it is anticipated to be more similar to the Jan. 19 [CDPH](#) updated guidelines. As with CDPH, these are not expected to apply to healthcare personnel or healthcare environments.

## Vaccine Update

- On Feb. 28, the CDC Advisory Committee of Immunization Practices recommended that all adults  $\geq 65$  years should receive an additional dose of the 2023-2024 XBB COVID-19 vaccine at least 4 months after receiving an initial dose.
  - Sutter will offer COVID vaccine appointments for eligible patients in alignment with these recommendations. Further details to follow.

- The recommendation was made following updated [vaccine effectiveness estimates](#) for receipt of the XBB COVID-19 vaccine against emergency room/urgent care (ED/UC) encounters and hospitalizations in adults ≥65 years between September 2023-January 2024, which includes the JN.1 variant period:
  - Adjusted VE of 49% against ED/UC visits within 7-59 days of vaccination, which declined to 37% up to 119 days since vaccination.
  - Adjusted VE of 54% against hospitalization within 7-59 days of vaccination, which declined to 50% up to 119 days since vaccination.

adults ≥65 years, particularly those with underlying conditions, are more likely to experience hospitalization or mortality due to COVID-19 than in younger age groups. The benefit from receiving an additional dose of the XBB COVID-19 vaccine in the setting of waning vaccine effectiveness was considered critical prior to the likely increase in respiratory illnesses in the summer months.

for immunocompromised individuals are unchanged currently.

### **COVID-19 Take-Home:**

- JN.1 dominates in the United States and in international travelers coming to the United States but may be near a peak.
- Decreasing hospitalizations and emergency room visits suggests decreased virulence of JN.1 Decreased positivity test rates and wastewater levels of COVID support decreased transmissibility of JN.1
- Although the international, national and Sutter data are encouraging, SARS-CoV-2 is not going away. Ultimately, JN.1 will be replaced by another strain. Vigilance remains necessary.
- The CDC vaccine advisory committee recommended a second dose of the present monovalent COVID vaccine in the spring for higher risk groups.

### **Related Links**

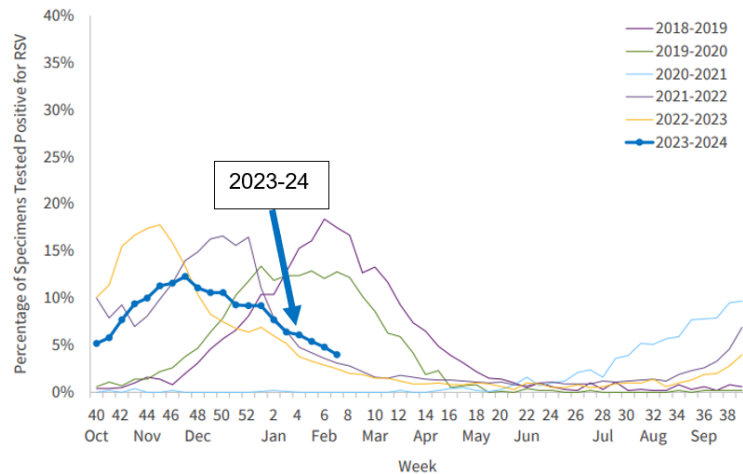
- [CDC Caring for Patients](#)
- [CDC Data Tracker](#)
- [CDC Latest Updates](#)
- [CDC Vaccine Information](#)
- [CDPH Tracking and Vaccination Updates](#)
- [Sutter Health for Clinicians](#)
- [Sutter Health for Patients](#)
- [WHO Table of Contents](#)

### **RSV**

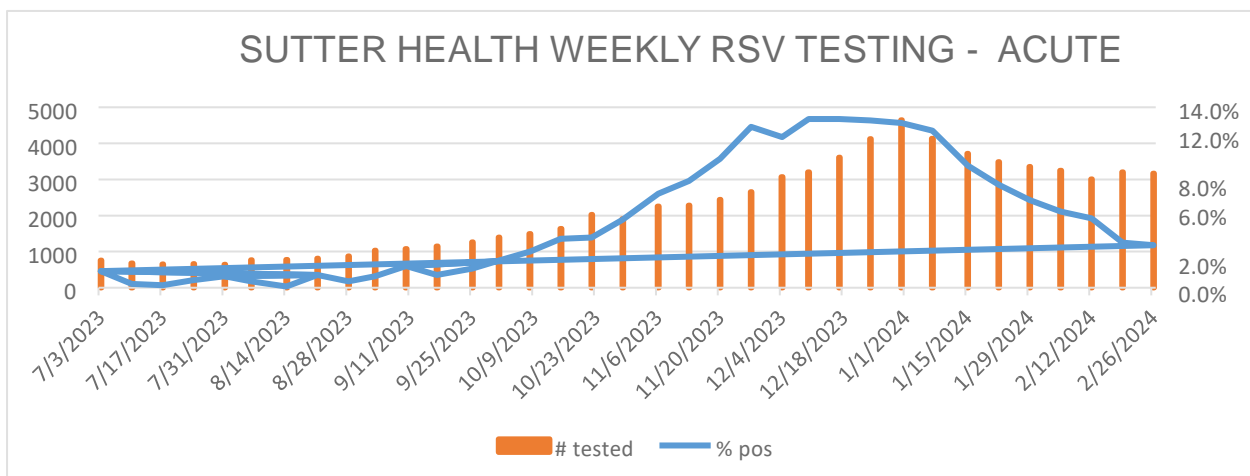
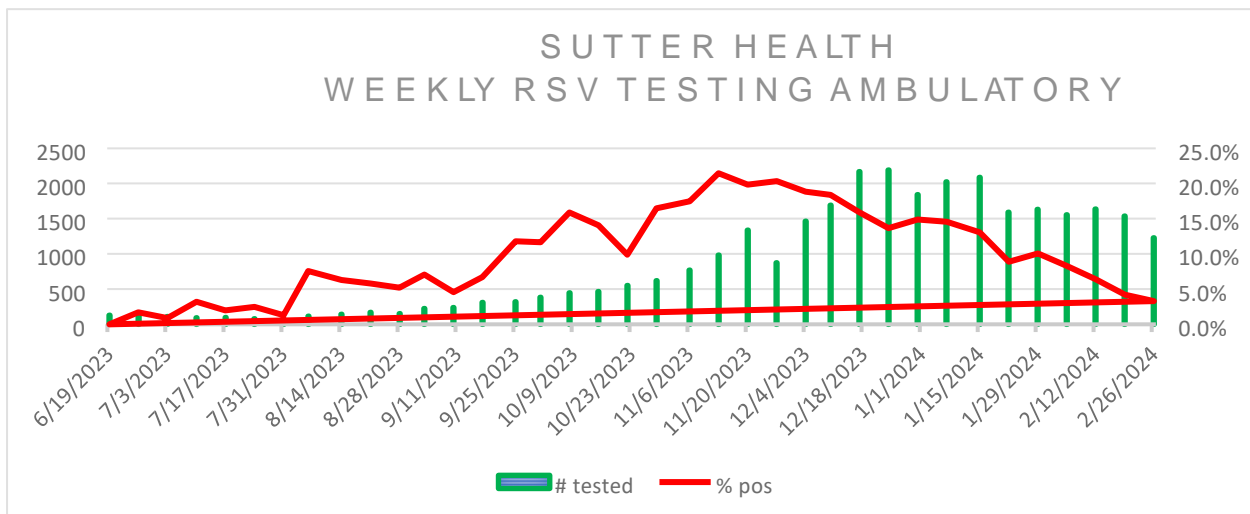
- [CDPH](#) reports RSV data weekly during the season. The CDPH graph below demonstrates the current California RSV season (blue arrow) compared to other seasons since 2018. RSV rates are still elevated, but they are progressively decreasing and are down to 4.0% during calendar week 7 of 2024. The [CDC](#) published a report on the seasonality of RSV over 7 years April 2023. They used ≥3% as the threshold for an RSV outbreak.



Figure 12. Percentage of RSV Detections at Clinical Sentinel Laboratories, 2018-2024 Season to Date



- RSV identification rates continue to decrease. They are down to 3.3% in both the ambulatory settings and Sutter emergency departments. See two graphs below.



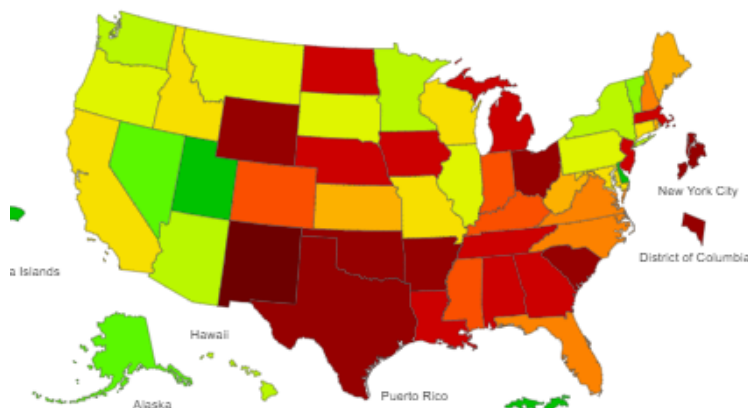
## RSV Take-Home:

- The RSV season is approaching the end in California.

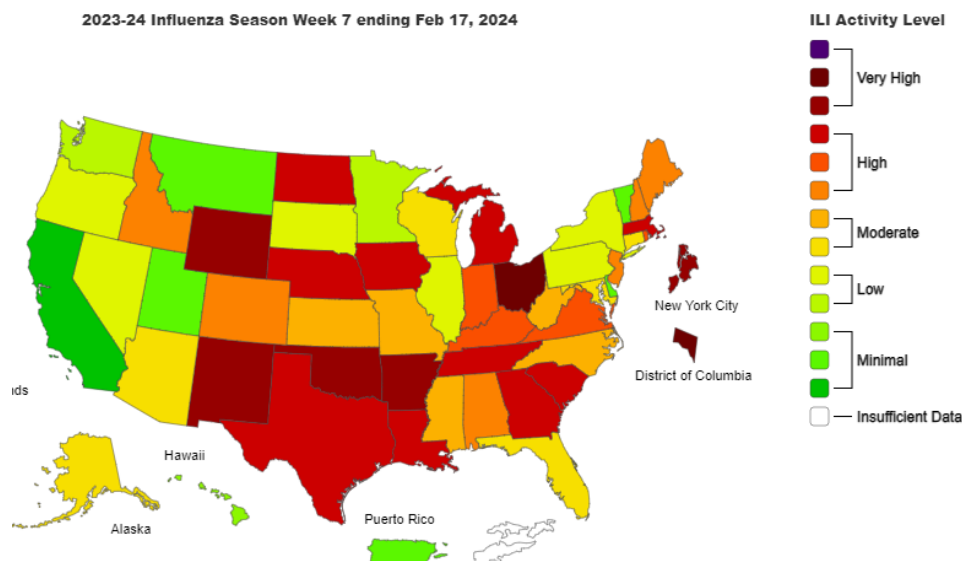
## **Influenza**

- The weekly [CDC](#) Influenza Surveillance Report was released on Feb. 23.
- Influenza B continues to be identified in a larger percentage of isolates, now up to 39% compared to 21% reported by the [CDC](#) in their Jan. 19 report.
- AH3N2 continues towards overtaking A H1N1. A H3N2 now represents 49% of subtyped influenza A isolates.
- Influenza-like illness (ILI), the surrogate for influenza used by the [CDC](#), is represented by the two maps below. This shows the difference over the last reported 3 weeks. The first has data for the week ending Jan. 20 and the second has data ending Feb. 10.
- Notice the color difference between the states on the two maps. This shows variation between states and regions. There are still substantial parts of the country where ILI is still quite high. Remember that this does not measure influenza but measures fever plus either sore throat or cough.

2023-24 Influenza Season Week 6 ending Feb 10, 2024



2023-24 Influenza Season Week 7 ending Feb 17, 2024



- The [CDPH](#) map below of influenza (last updated through Feb. 17), shows that influenza rates remain low everywhere. The state influenza positivity rate slightly increased from 6.5% to 6.8% over the last 2 weeks.

#### Influenza Activity Levels\*



#### CDPH Influenza Activity Levels:

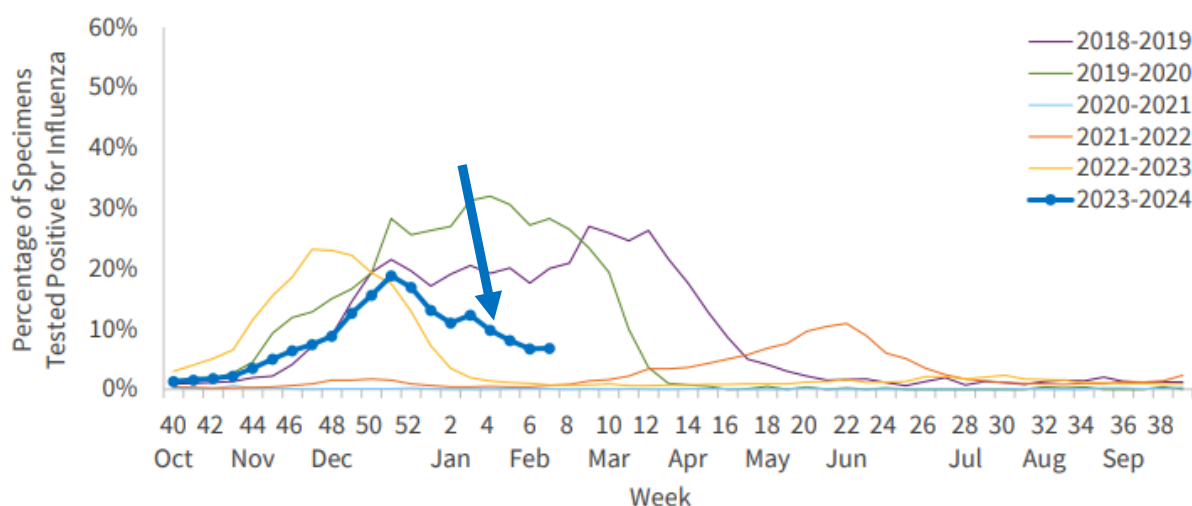
**Minimal:** The percentage of positive specimens is <2%

**Low:** The percentage of positive specimens is 2 - <10%

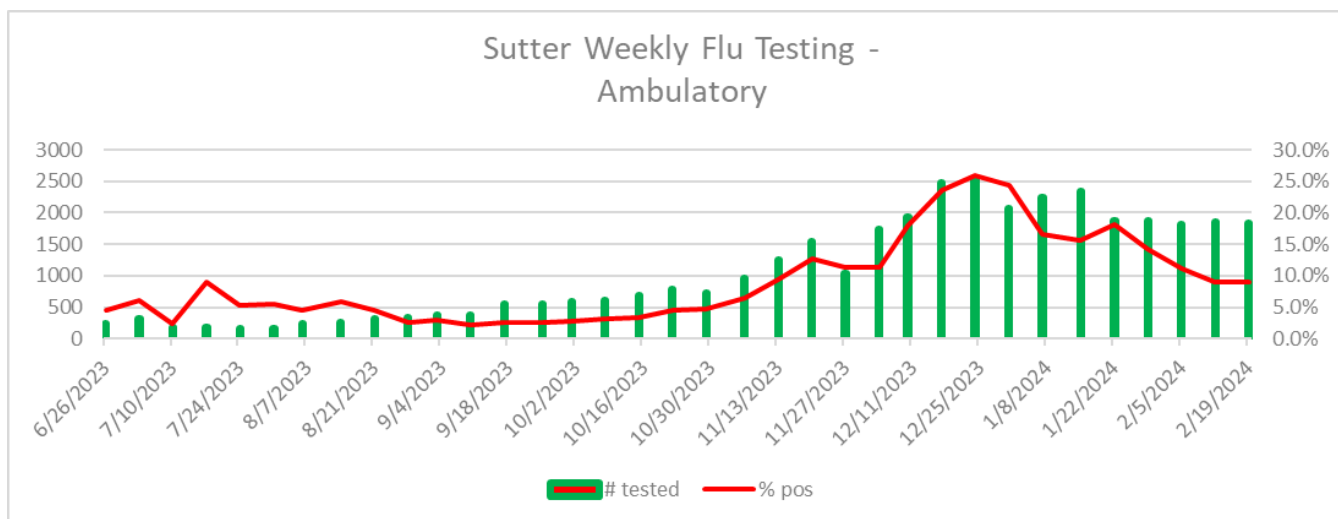
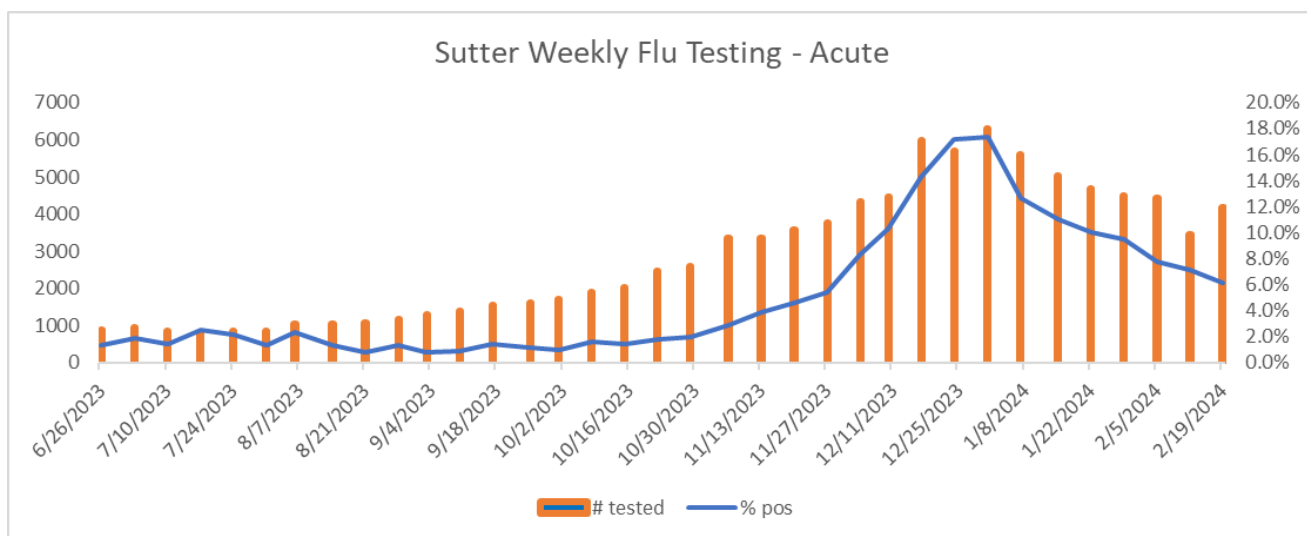
**Moderate:** The percentage of positive specimens is 10 - <20%

The [CDPH graph](#) below demonstrates that present influenza activity continues to drop (blue arrow).

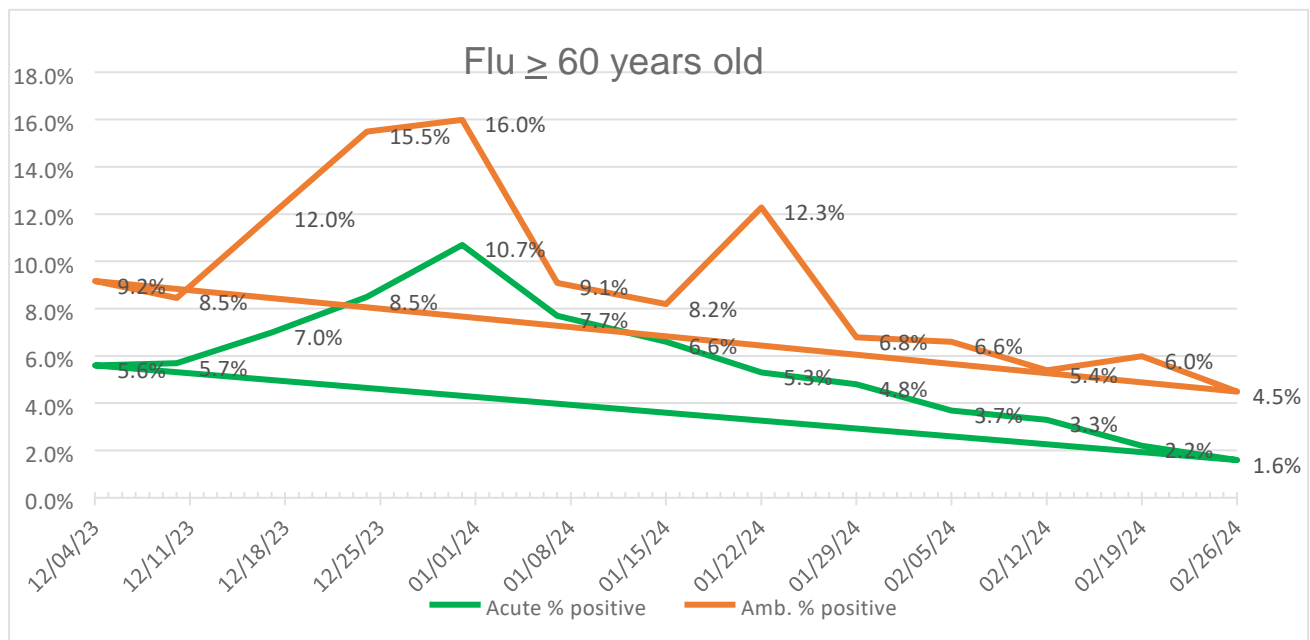
**Figure 1. Percentage of Influenza Detections at Clinical Sentinel Laboratories, 2018–2024 Season to Date**



- The graphs below show Sutter emergency department and ambulatory influenza positivity rates. In the acute setting (emergency departments), positivity rates decreased to 5.2% in the last week, but the ambulatory setting rate is still 8.8% Ambulatory testing is a little higher than state rates. Acute testing numbers increased last week.



- The positivity rate in persons  $\geq$  60 years old is shown on the following graph. Rates are down to 1.6% in the acute ED and 4.5% in ambulatory setting. This is consistent with mild disease in the older age group, likely because of increased vaccinations in this population, and the good vaccine match to circulating strains.

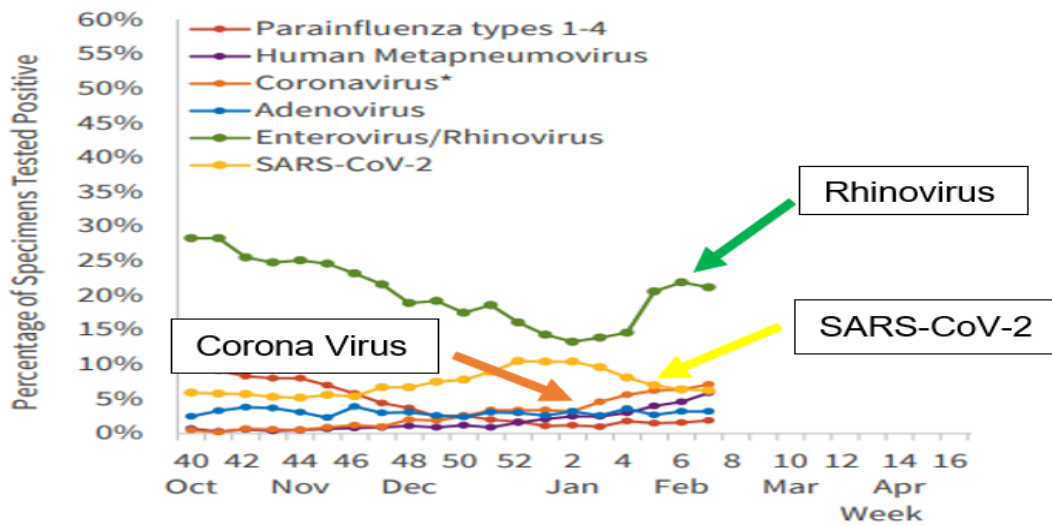


### Take-Home Influenza:

- Influenza B now represents almost 40% of all influenza isolates. Out of the 60% influenza A, A H3N2 is now being found almost as much as A H1N1. ILI and positivity rates remain significantly elevated in parts of the country, especially east of the Mississippi. Because of the transition from predominantly A H1N1 to A H3N2 and B, the season is anticipated to continue.
- The influenza vaccine is a good match to circulating strains. Vaccination of everyone 6 months and older should continue to be recommended.

### Other Respiratory Viruses

- [CDPH](#) tracks respiratory viruses beyond SARS-CoV-2, influenza and RSV. They started reporting again last October. SARS-CoV-2 (yellow run line), included in the graph below, has reached a plateau and is decreasing as shown by other data earlier in this report.
- Enterovirus/Rhinovirus (green arrow) remains the one most commonly identified as a percentage of positive tests and continues with over 20% of tests being positive for the last 3 weeks. The common human Coronavirus is also being reported more frequently (orange arrow).
- Positivity rates of the common human Coronavirus and the SARS-CoV-2 are the same. These last two organisms are usually identified on large multiplex respiratory panels. Usage of these panels varies because of their high cost.



### Take-Home Other Respiratory Viruses:

Common “cold” respiratory viruses (e.g., rhinovirus and corona virus as a percentage of isolates) are increasing while COVID, RSV and influenza are decreasing.

- There may be opportunities to decrease the ordering of the expensive multiplex respiratory panels.