Monthly Public Health Webinar

Respiratory Virus Update

January 11, 2024

NH DIVISION OF
Public Health Services
Department of Health and Human Services

Healthcare Provider Resources Website

https://www.dhhs.nh.gov/programs-services/disease-prevention/infectious-disease-control/bidc-resources-healthcare-providers

Watch the webinar on Syphilis

Healthcare Provider Webinar, 12/14/2023: Syphilis & Congenital Syphilis

Agenda for Future Webinars:

February 8th Webinar:

- Melioidosis in the U.S.

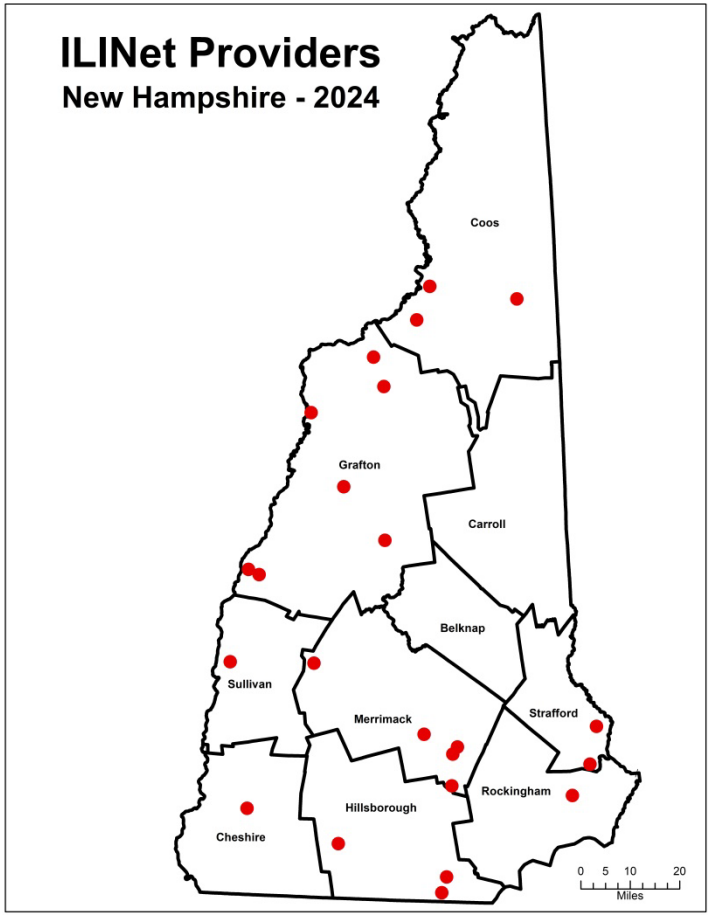
March 14th Webinar:

- Chlamydia, Gonorrhea, and Doxycycline Post-Exposure Prophylaxis (PEP)

Situational Epi Update

Outpatient Influenza Like Illness (ILI) Surveillance Network (ILINet)

- Voluntary outpatient healthcare provider reporting
- Report weekly proportion of patients seen with ILI (defined as fever AND cough or sore throat)
- Send respiratory specimens to the PHL for influenza testing
- ILI is an indicator of general respiratory virus activity



https://www.dhhs.nh.gov/programs-services/disease-prevention/infectious-disease-control/infectious-disease-surveillance-0

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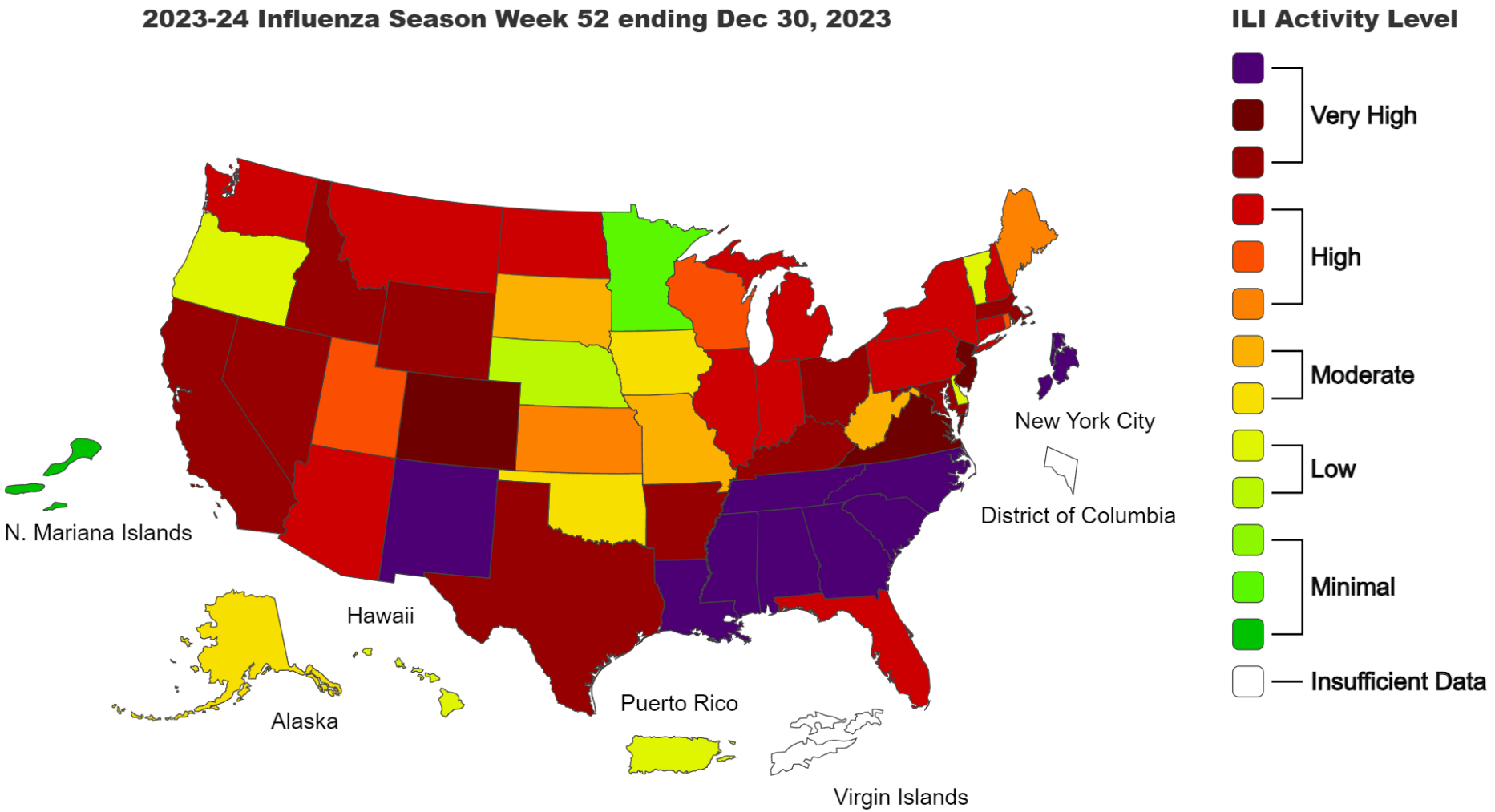
Outpatient Visits for Influenza Like Illness (ILI)



https://www.cdc.gov/flu/weekly/

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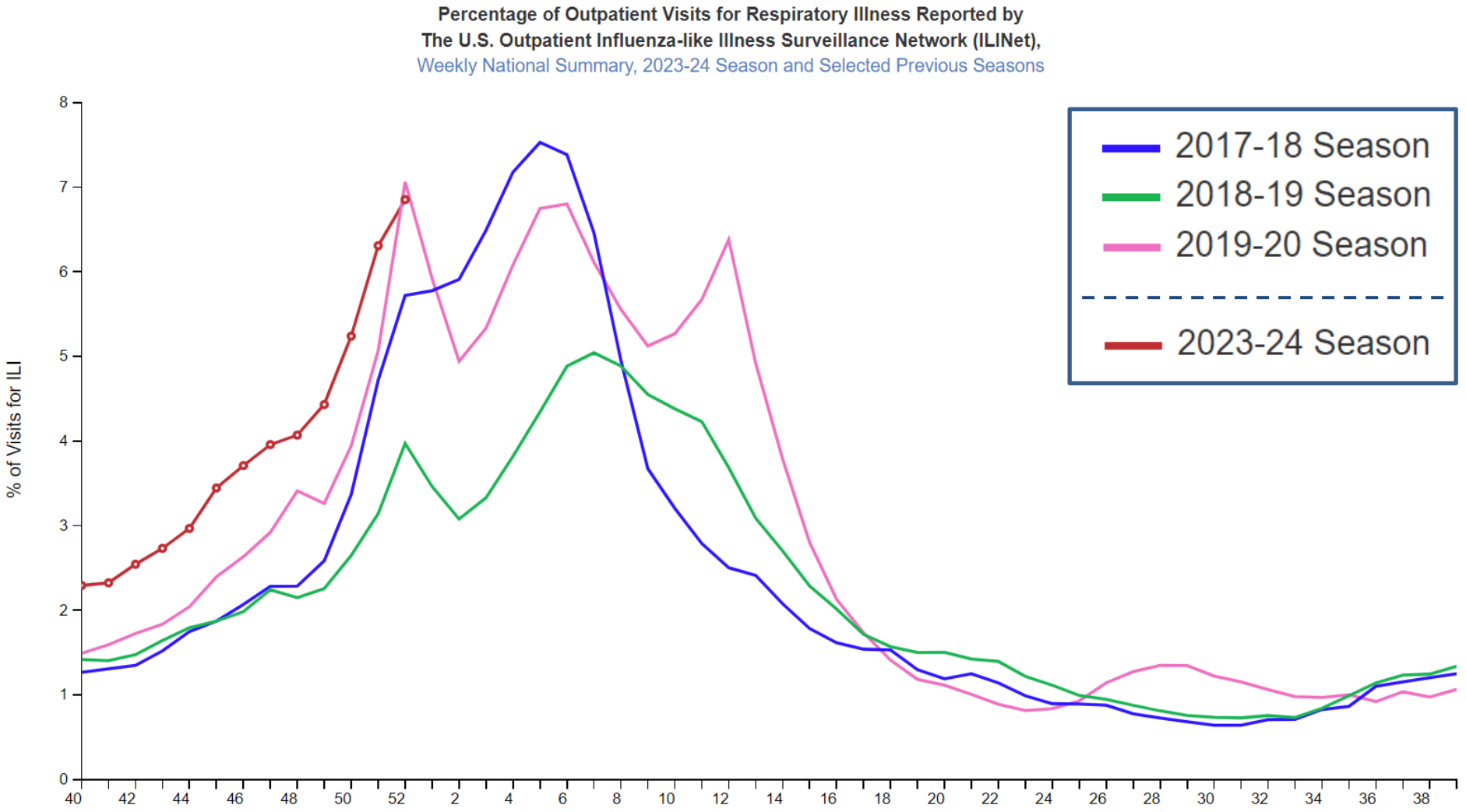
U.S. Outpatient Visits for ILI



https://www.cdc.gov/flu/weekly/

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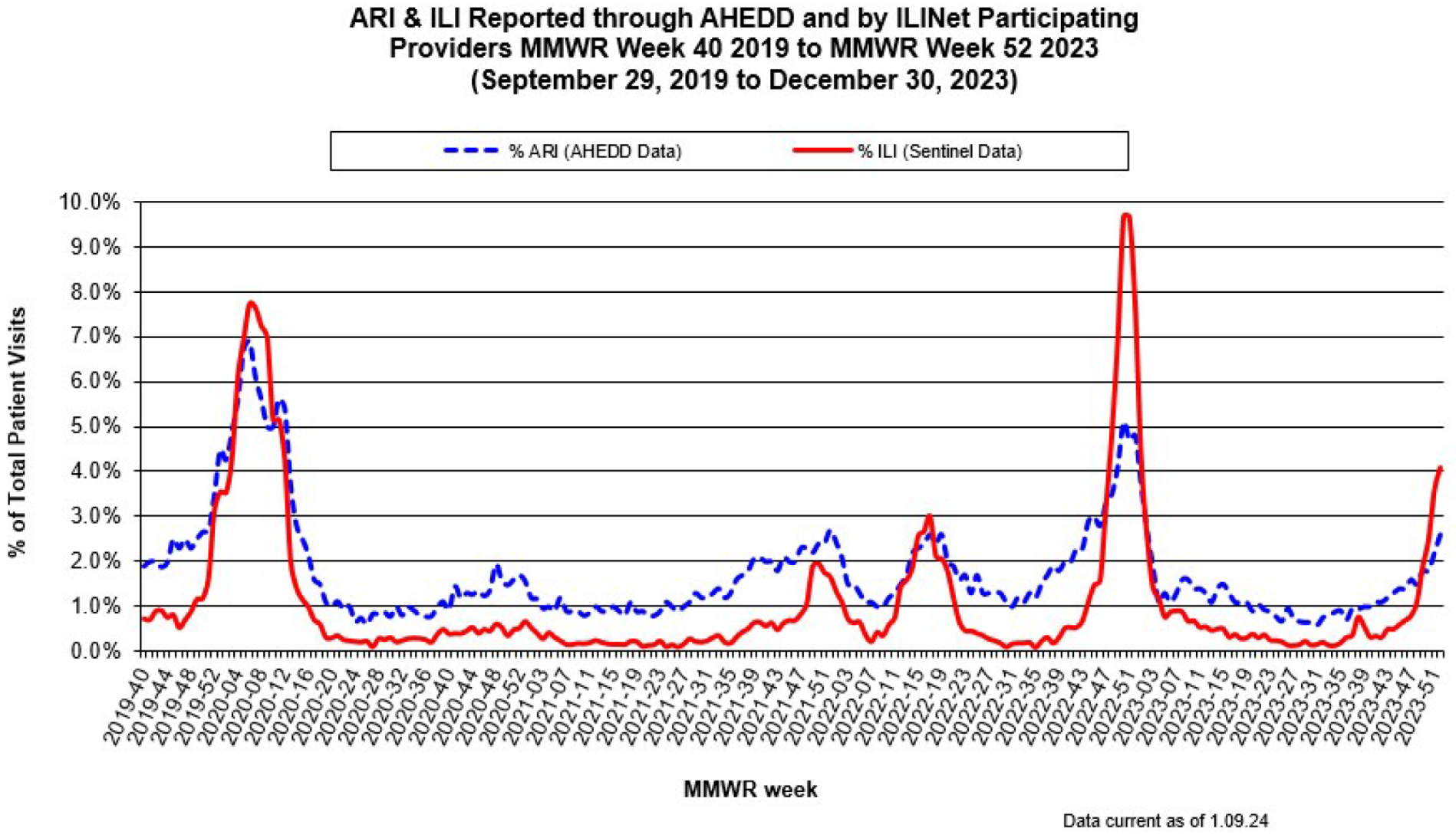
NH Outpatient Visits for Respiratory Illness



https://https://www.dhhs.nh.gov/sites/g/files/ehbemt476/files/documents2/weeklyflu.pdf

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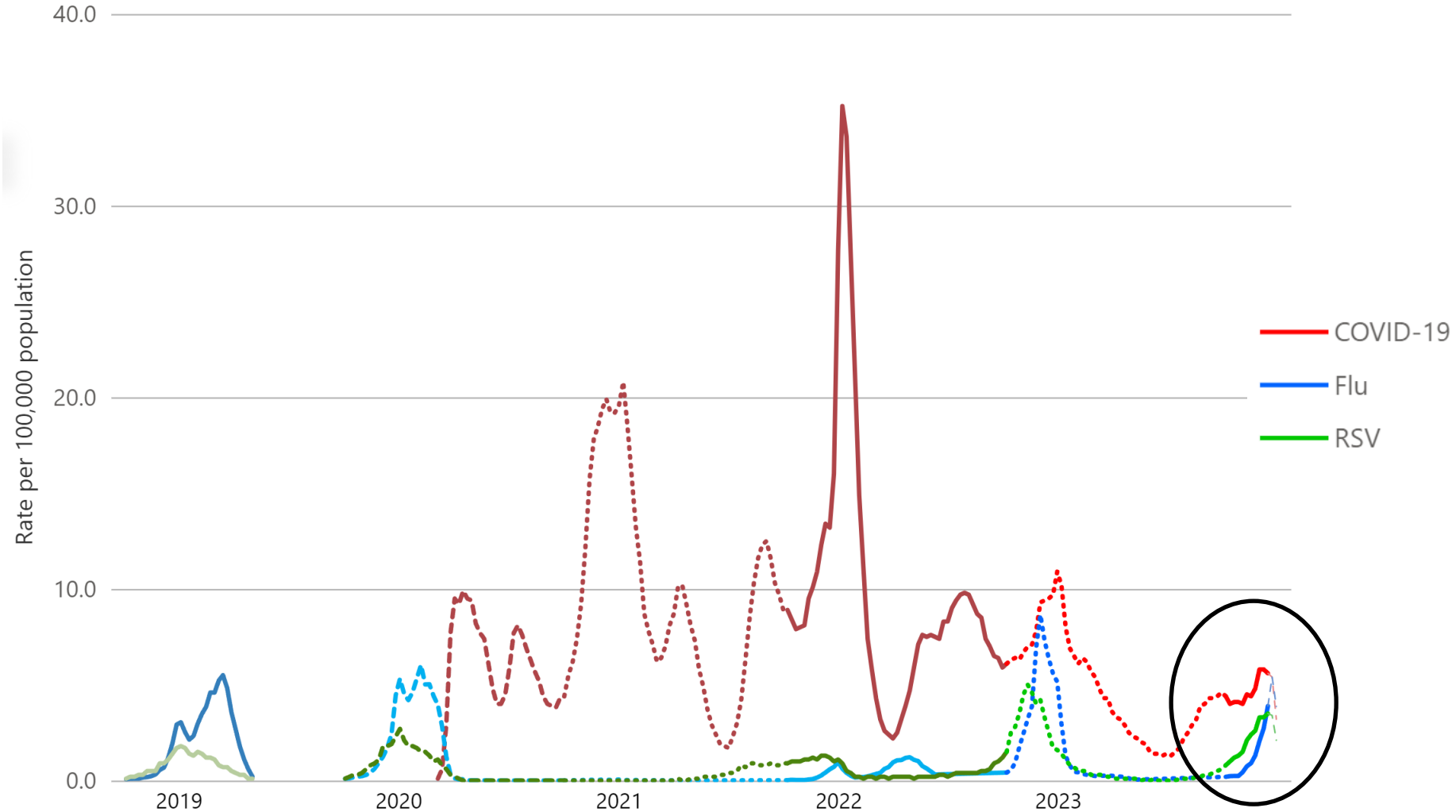
Weekly Rates of COVID-19, RSV, and Influenza Hospitalizations in the U.S., 2020-2024



https://www.cdc.gov/surveillance/resp-net/dashboard.html

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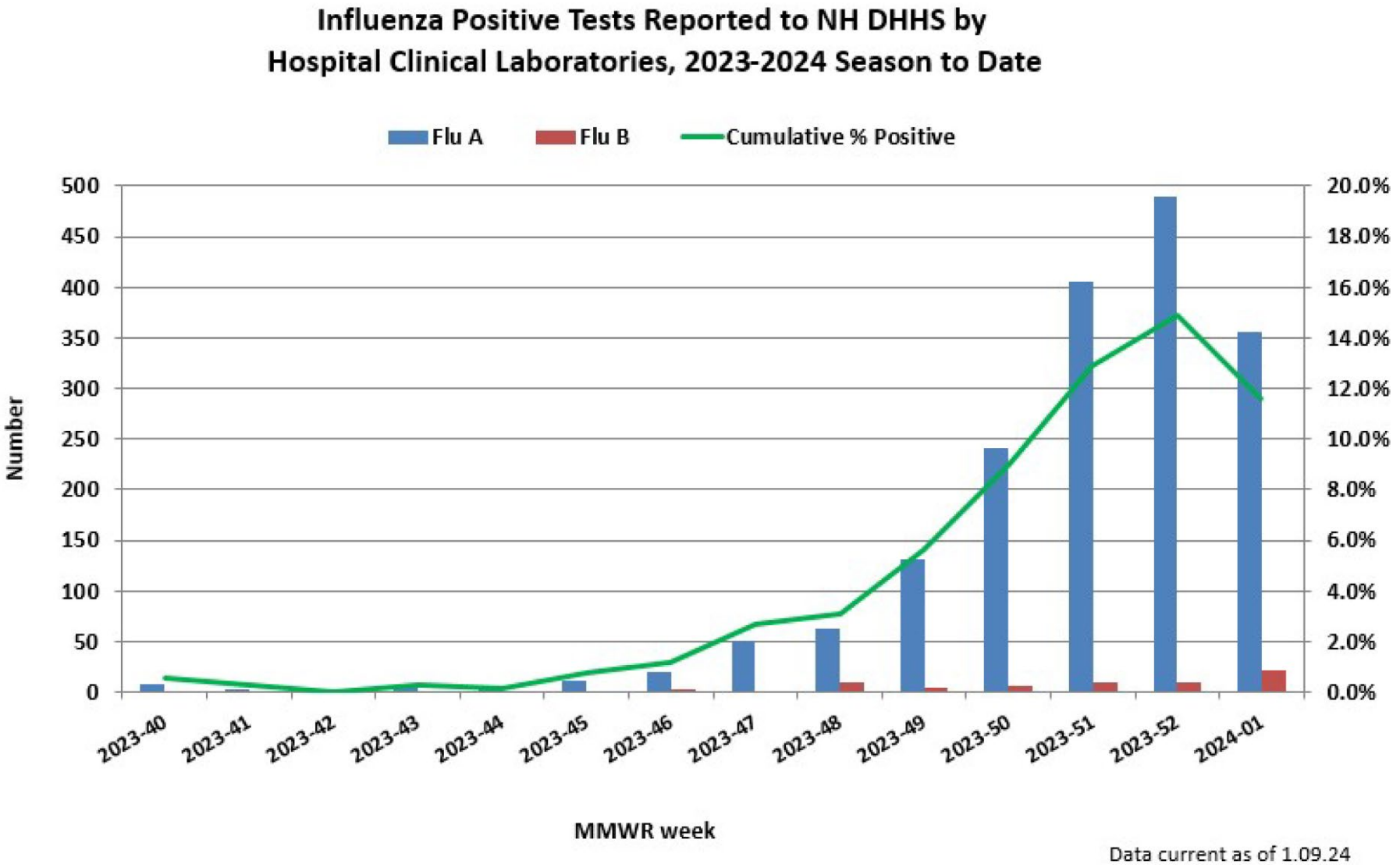
NH Hospital Laboratory Testing for Influenza



https://https://www.dhhs.nh.gov/sites/g/files/ehbemt476/files/documents2/weeklyflu.pdf

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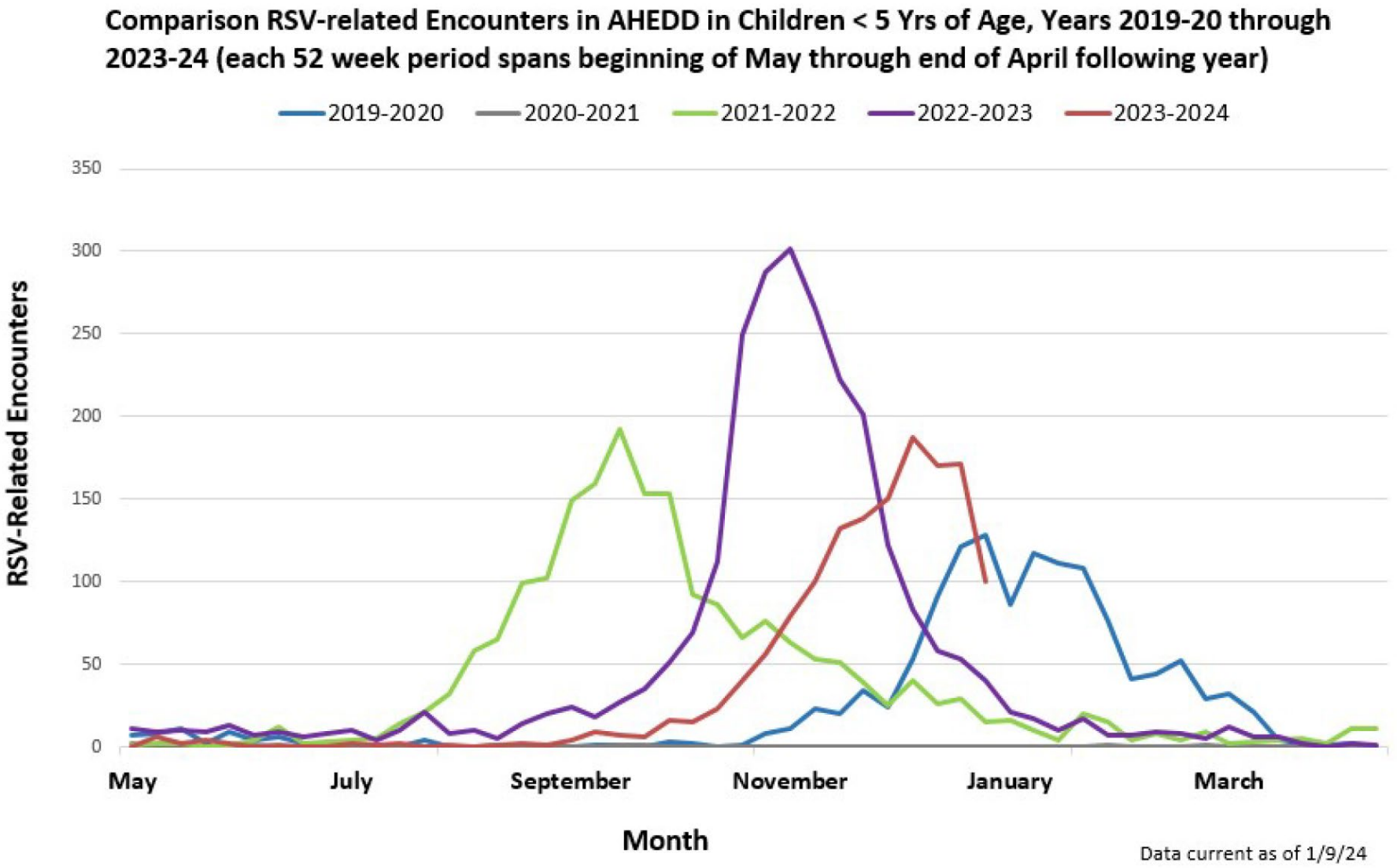
NH RSV Emergency Department Encounters



https://https://www.dhhs.nh.gov/sites/g/files/ehbemt476/files/documents2/weeklyflu.pdf

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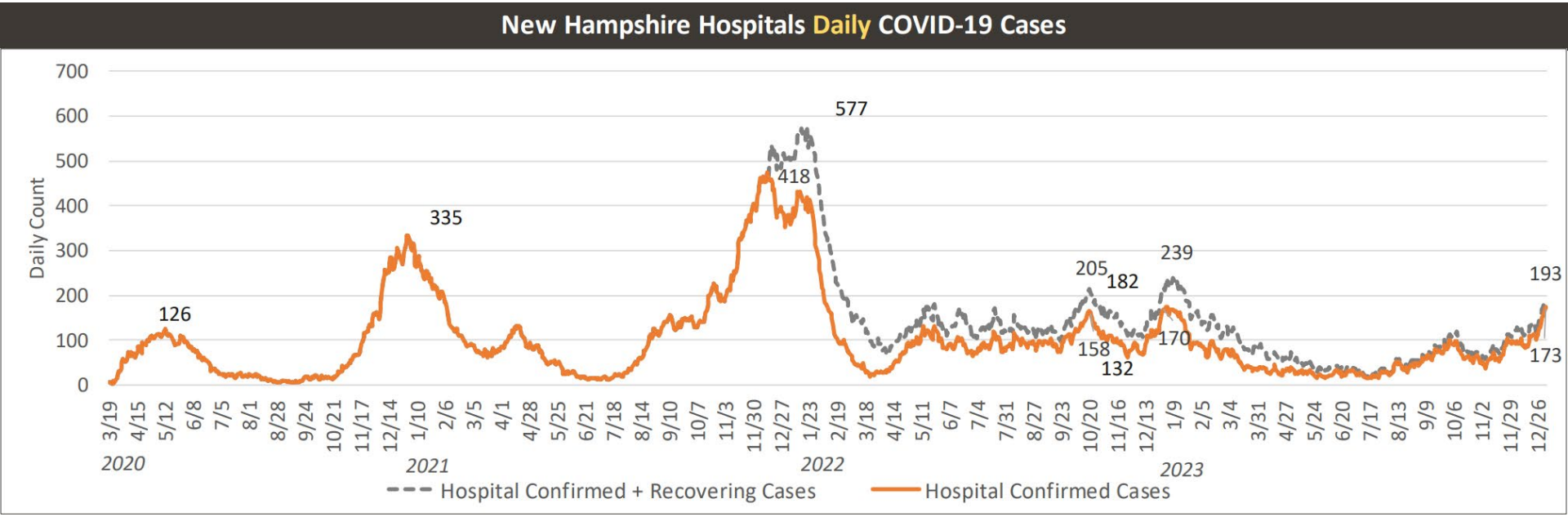
People Hospitalized and Diagnosed with COVID-19 in New Hampshire



https://www.nhha.org/healthcare-priorities/covid19/

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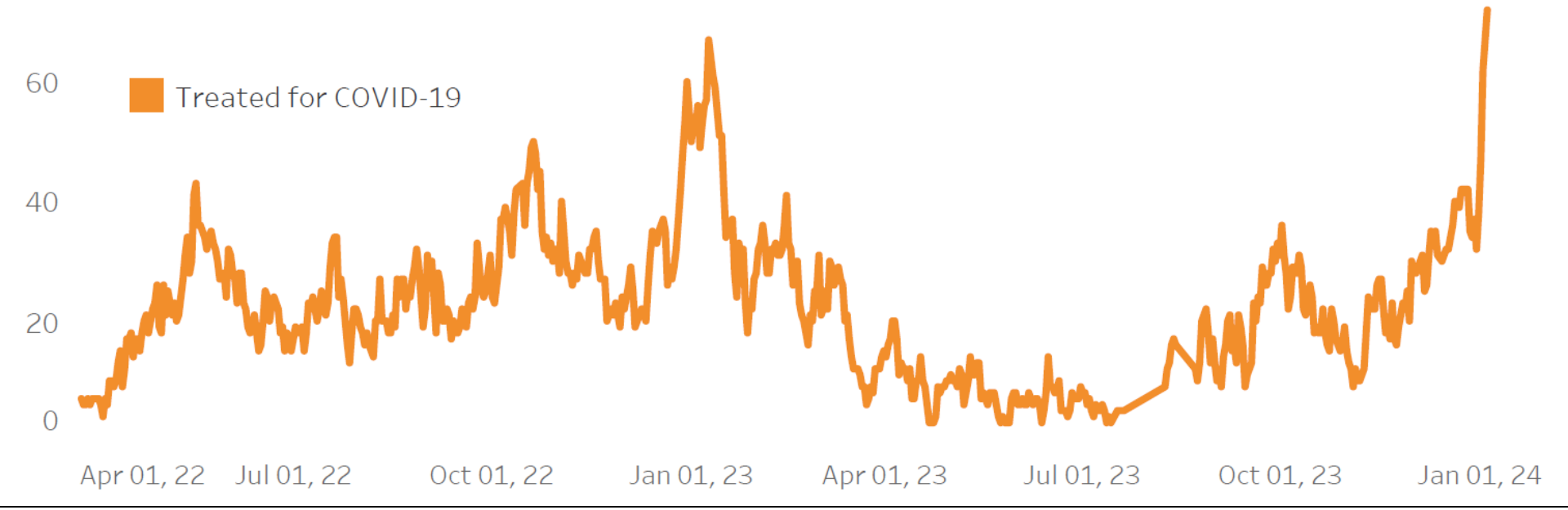
People Hospitalized and Treated for COVID-19 in New Hampshire

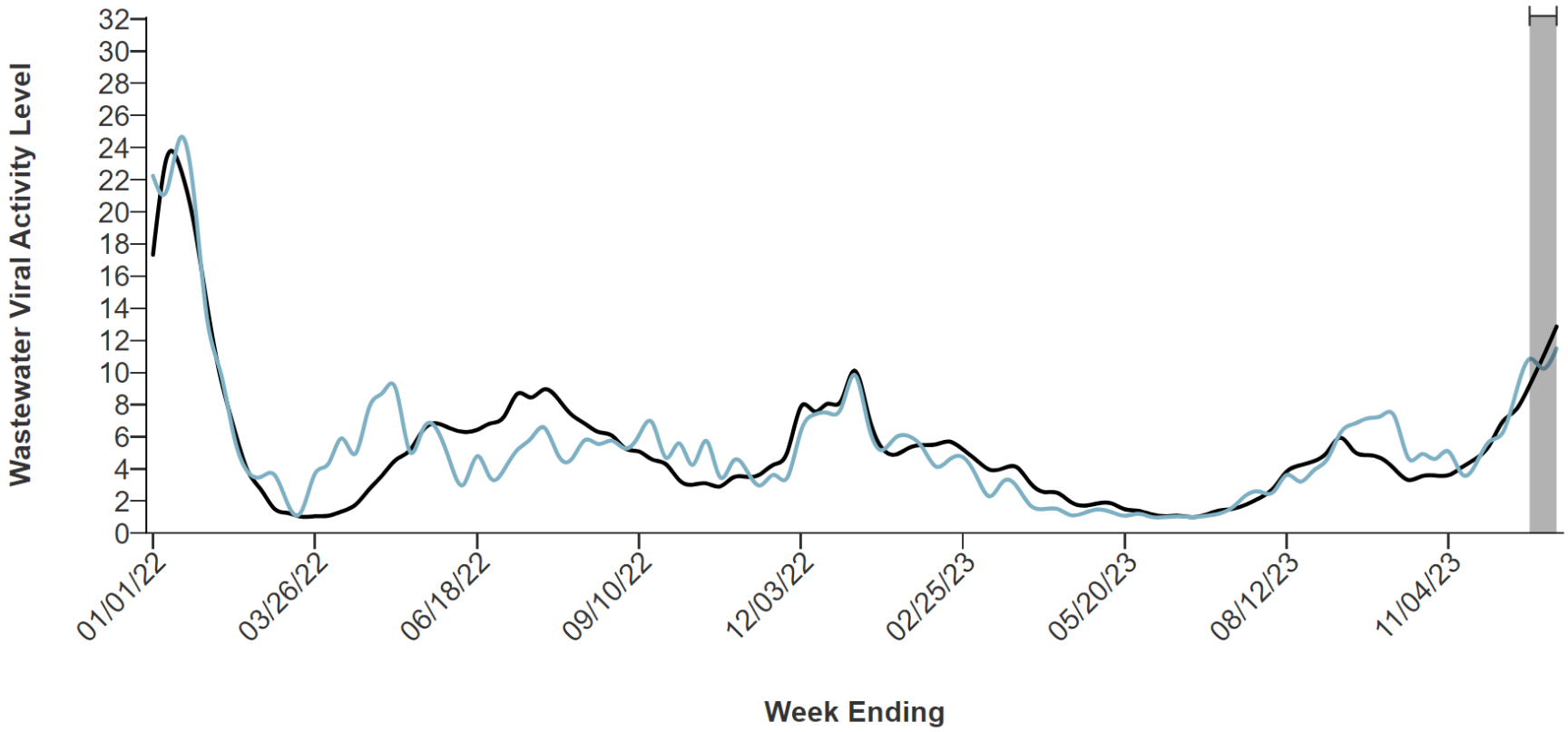
72

Hospitalized Patients Treated for COVID-19 on January 04, 2024

Hospitalized Patients Treated for COVID-19



National and Regional COVID-19 Wastewater Activity Levels



https://www.cdc.gov/nwss/rv/COVID19-nationaltrend.html

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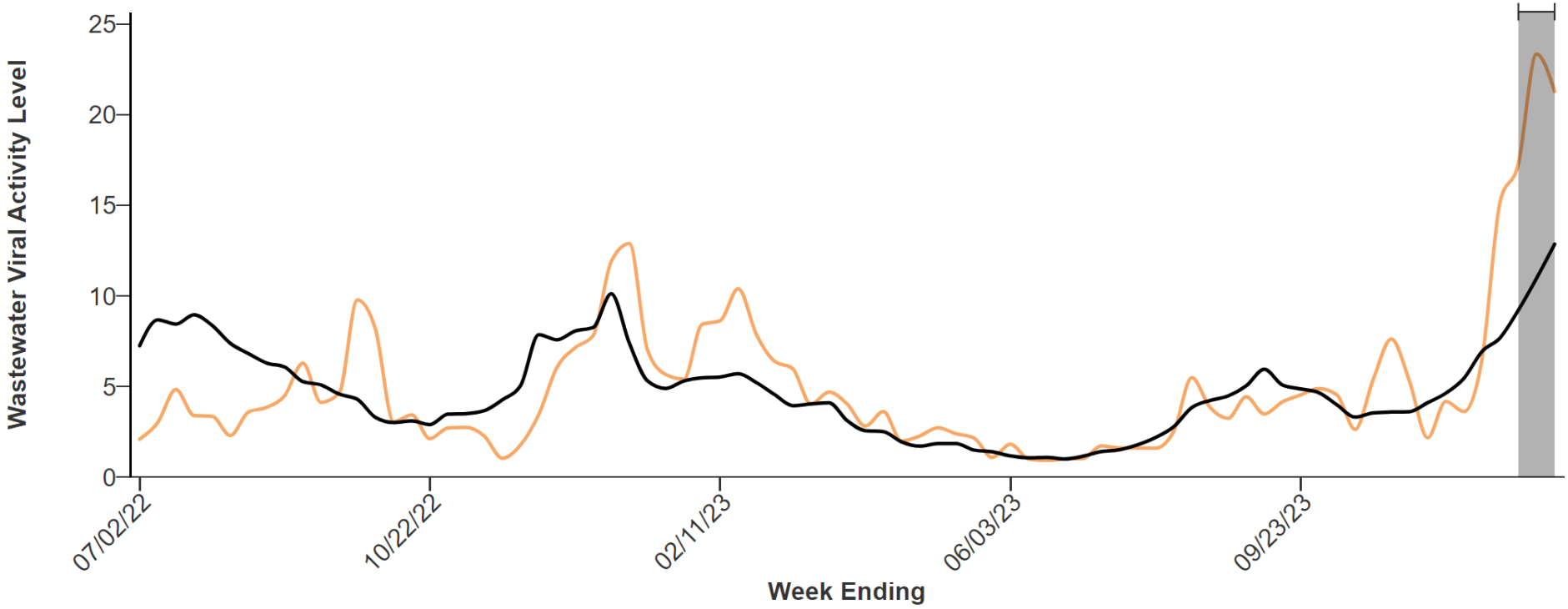
National and New Hampshire COVID-19 Wastewater Activity Levels

State: New Hampshire

Date Period: All Results



Select a geography to add or remove it from the visualization.

RESET

Selected State National Region

https://www.cdc.gov/nwss/rv/COVID19-statetrend.html

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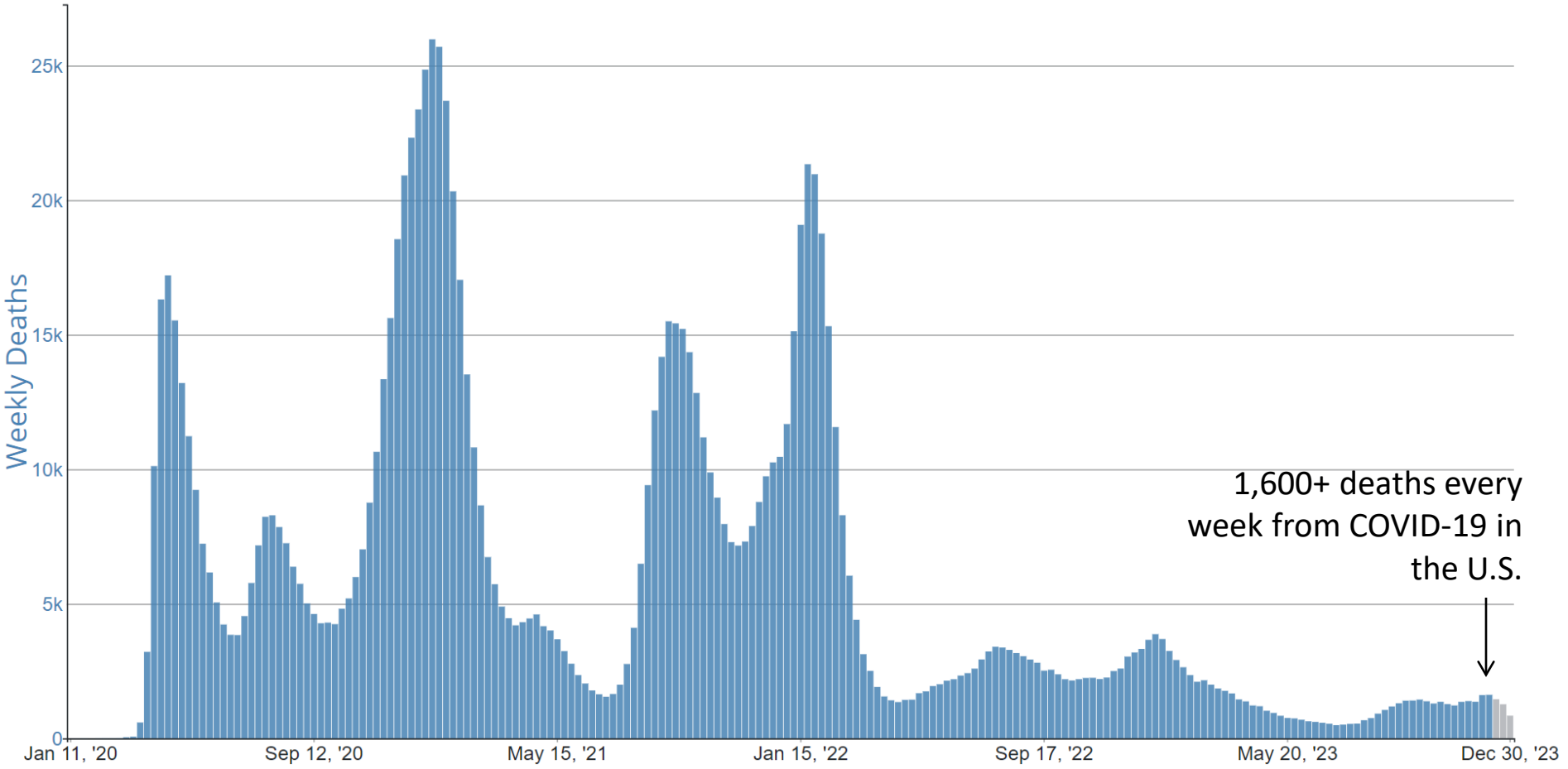
COVID-19 Deaths in the U.S.



https://covid.cdc.gov/covid-data-tracker/#trends_weeklydeaths_select_00

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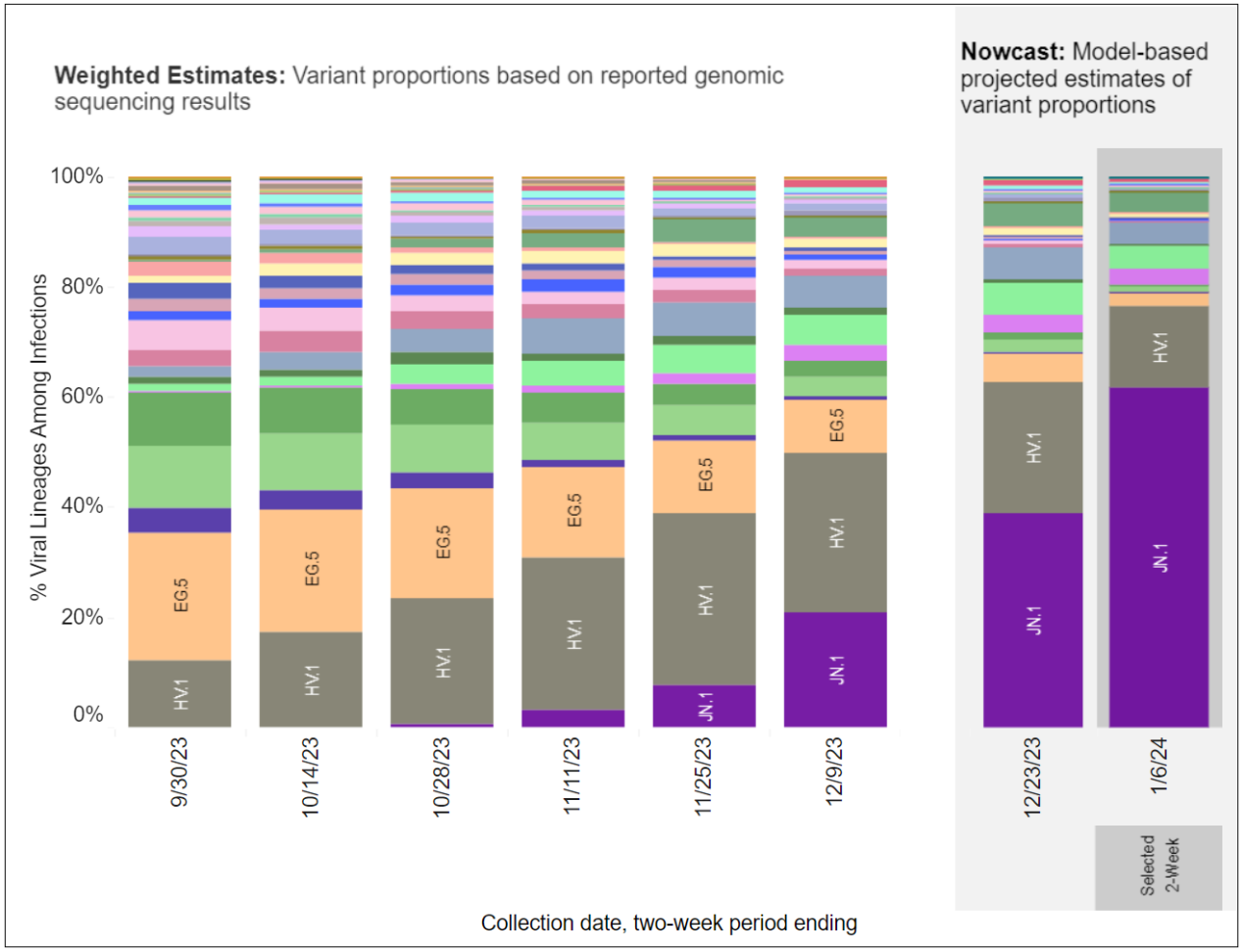
COVID-19 Variant Proportions



USA

WHO label	Lineage #	%Total	95%PI
Omicron	JN.1	61.6%	54.9-67.9%
	HV.1	14.8%	12.3-17.7%
	JD.1.1	4.1%	3.4-5.0%
	HK.3	4.0%	3.4-4.8%
	JG.3	3.7%	3.0-4.6%
	BA.2.86	2.8%	1.9-4.2%
	EG.5	2.4%	1.9-3.0%
	FL.1.5.1	1.0%	0.7-1.3%
	JF.1	0.8%	0.6-1.1%
	EG.5.1.8	0.7%	0.5-1.1%
	XBB.1.16.6	0.5%	0.4-0.8%
	GE.1	0.5%	0.1-1.9%
	XBB.1.16.17	0.4%	0.2-0.9%
	XBB.1.16.11	0.4%	0.2-0.5%
	XBB.1.5.70	0.3%	0.2-0.6%
	GK.1.1	0.3%	0.2-0.4%
	HF.1	0.3%	0.2-0.4%
	BA.2	0.3%	0.1-0.9%
	XBB	0.2%	0.1-0.3%
	XBB.1.16.15	0.2%	0.1-0.3%
	XBB.1.9.1	0.2%	0.1-0.3%
	XBB.2.3	0.2%	0.1-0.2%
	XBB.1.16	0.1%	0.0-0.1%
	GK.2	0.1%	0.0-0.1%
	CH.1.1	0.0%	0.0-0.1%
	XBB.1.5	0.0%	0.0-0.1%
	EG.6.1	0.0%	0.0-0.1%
	XBB.1.16.1	0.0%	0.0-0.0%
	XBB.1.9.2	0.0%	0.0-0.0%
	XBB.1.5.68	0.0%	0.0-0.0%
	XBB.2.3.8	0.0%	0.0-0.0%
	XBB.1.42.2	0.0%	0.0-0.0%
	XBB.1.5.72	0.0%	0.0-0.0%
	XBB.1.5.59	0.0%	0.0-0.0%
	XBB.1.5.10	0.0%	0.0-0.0%
	FD.1.1	0.0%	0.0-0.0%
Other	Other*	0.0%	0.0-0.1%

https://covid.cdc.gov/covid-data-tracker/#variant-proportions
https://www.cdc.gov/respiratory-viruses/whats-new/JN.1-update-2023-12-22.html

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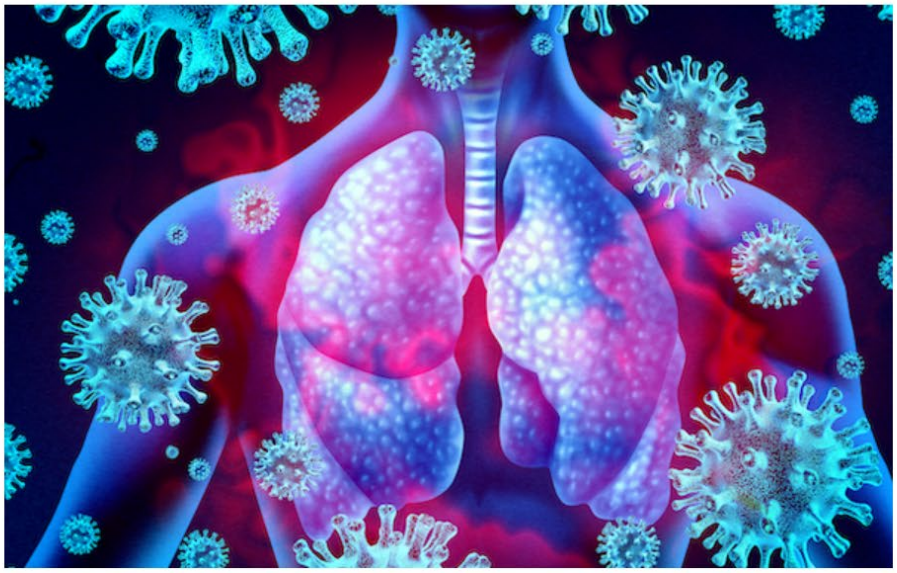
As Respiratory Viruses Increase, Hospitals Report Nearly 100% Capacity



New Hampshire Hospital Association Encourages Vaccination and Other Preventative Measures

January 10, 2024

New Hampshire Hospital Association

https://www.nhha.org/as-respiratory-viruses-increase-hospitals-report-nearly-100-capacity/

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Key Takeaway Points

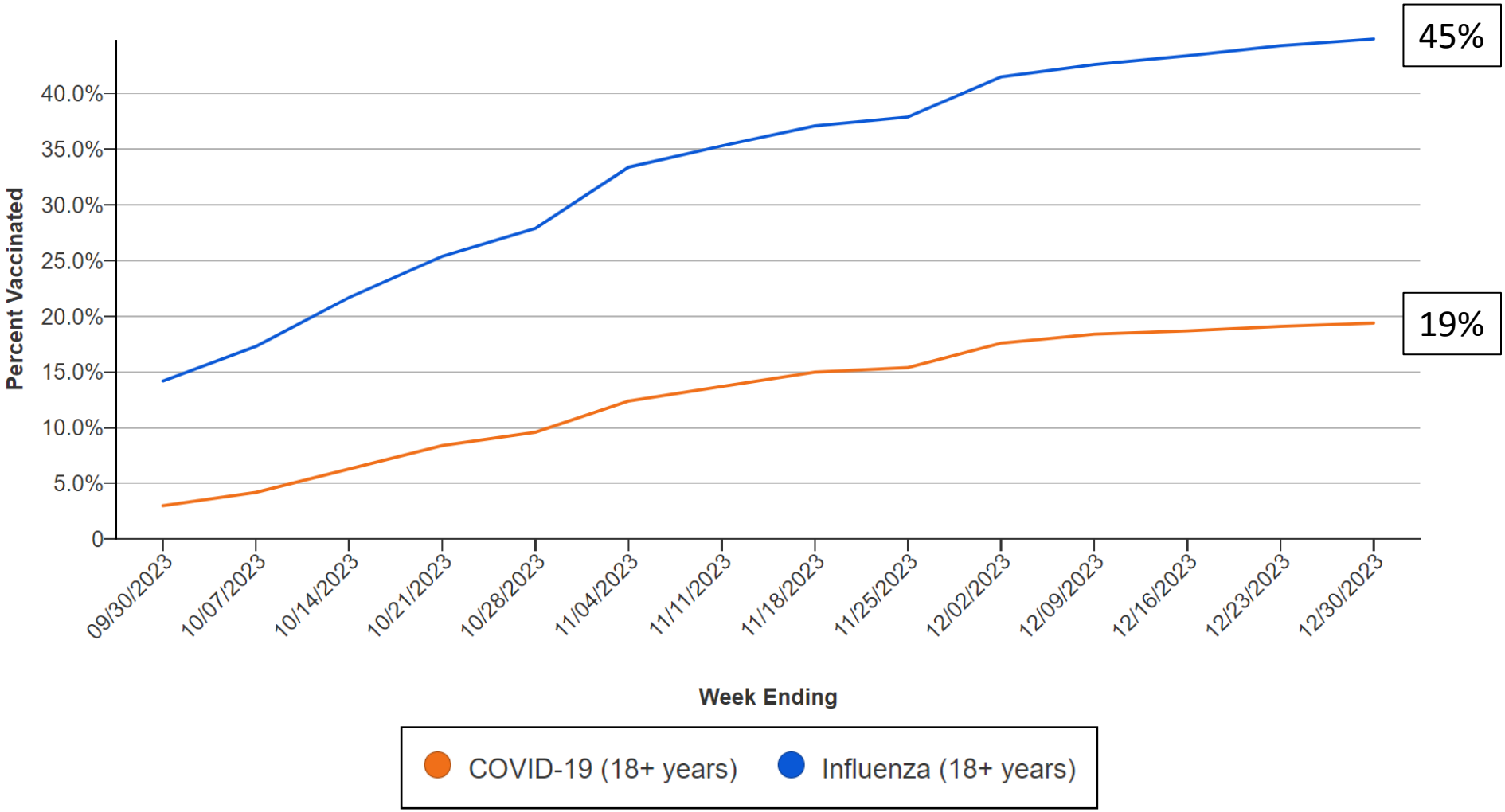
- High levels of influenza, COVID-19, and RSV are converging as more normal seasonal patterns of respiratory virus activity return, which is putting strain on hospitals
- Vaccination rates (particularly COVID-19 vaccination) are very low in NH and nationally, and low vaccination is likely contributing to hospitalizations that could be prevented
- Underuse of oral antivirals (e.g., Paxlovid for SARS-CoV-2 infection) is also likely contributing to healthcare system burden

Key Recommendations to Protect People and Communities

- Discuss and recommend vaccination to eligible patients to protect against severe disease and complications from Influenza, COVID-19 and RSV
- Assess patients and prescribe outpatient antiviral treatments, when clinically appropriate, for patients infected with influenza and SARS-CoV-2 to prevent progression to more severe disease
- Test (or encourage home testing) for COVID-19
  - Informs how long a person should isolate
  - Important to know if COVID-19 is causing a person's symptoms because it can inform treatment decisions

COVID-19 Vaccination

U.S. Influenza & COVID-19 Vaccination: Adults



https://www.cdc.gov/respiratory-viruses/data-research/dashboard/vaccination-trends-adults.html

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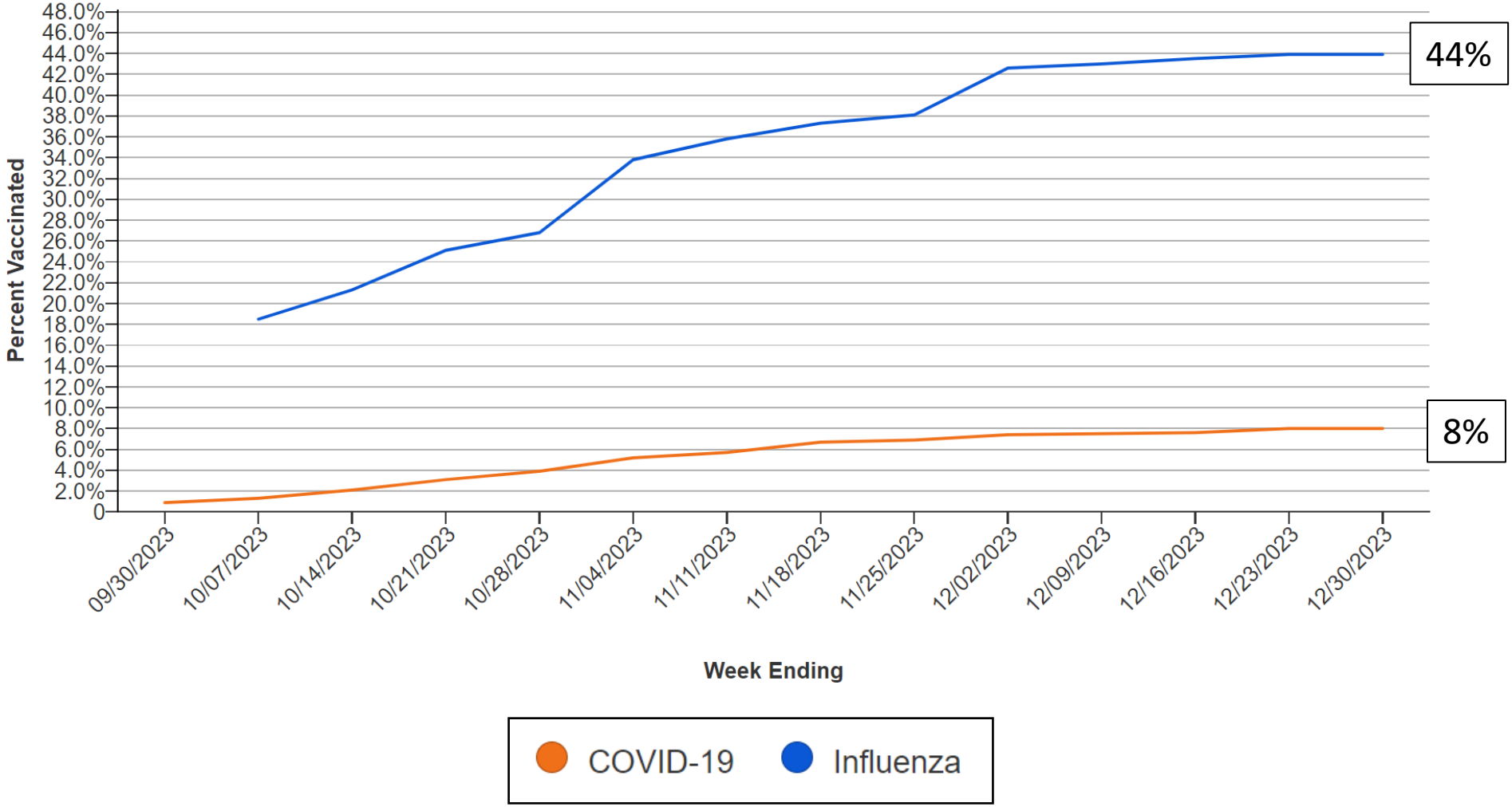
U.S. Influenza & COVID-19 Vaccination: Children



https://www.cdc.gov/respiratory-viruses/data-research/dashboard/vaccination-trends-children.html

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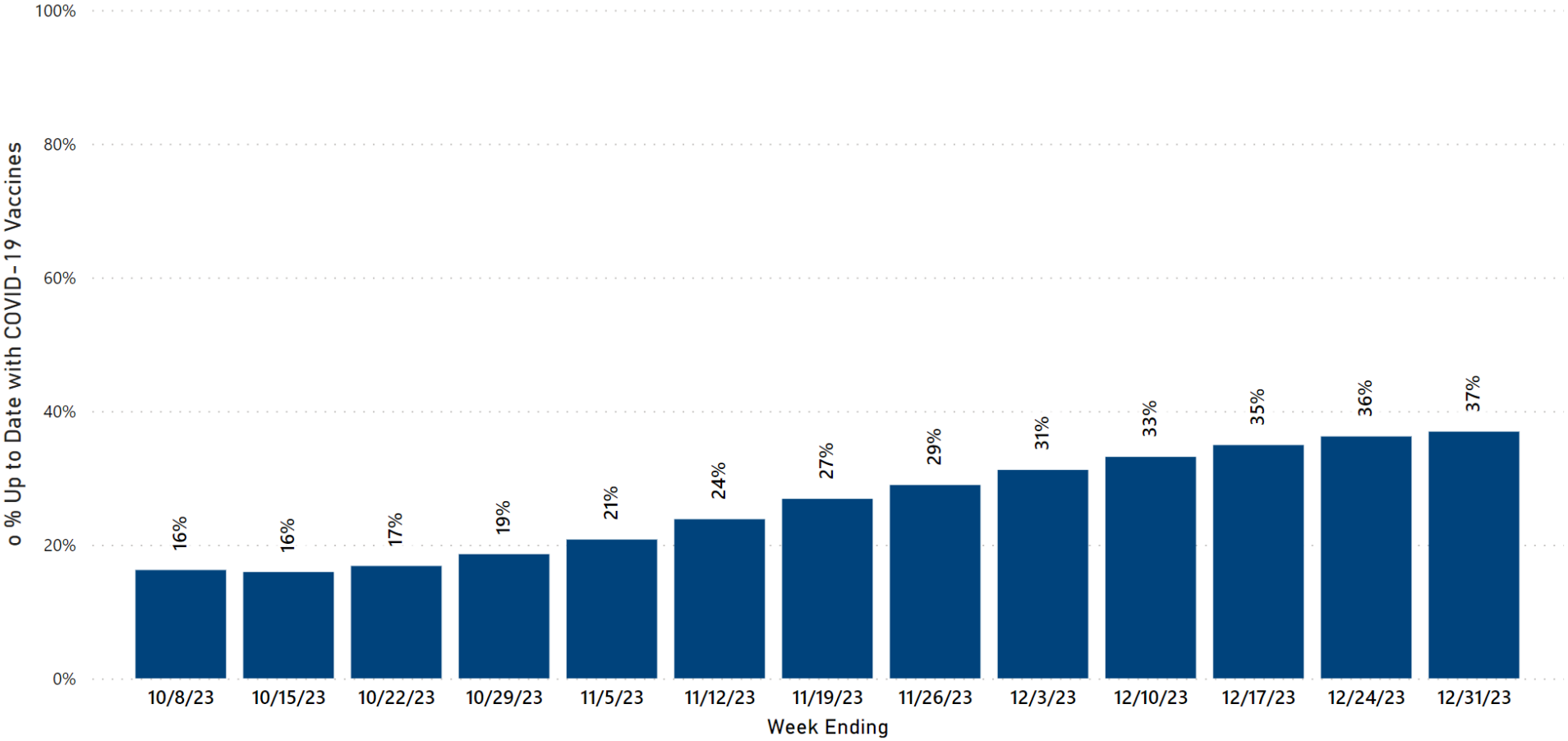
NH COVID-19 Vaccination by Age Group

Age Group	Received Updated 2023-2024 COVID-19 Vaccine No. (% of population)
Total Population	190,498 (14%)
6 months – 4 years	2,795 (4%)
5 – 11 years	4,598 (5%)
12 – 17 years	5,375 (6%)
18 – 64 years	74,878 (9%)
65+ years	102,852 (41%)

% of Nursing Home Residents in the **U.S.** Who Are Up-To-Date on COVID-19 Vaccination



https://covid.cdc.gov/covid-data-tracker/#vaccinations-nursing-homes

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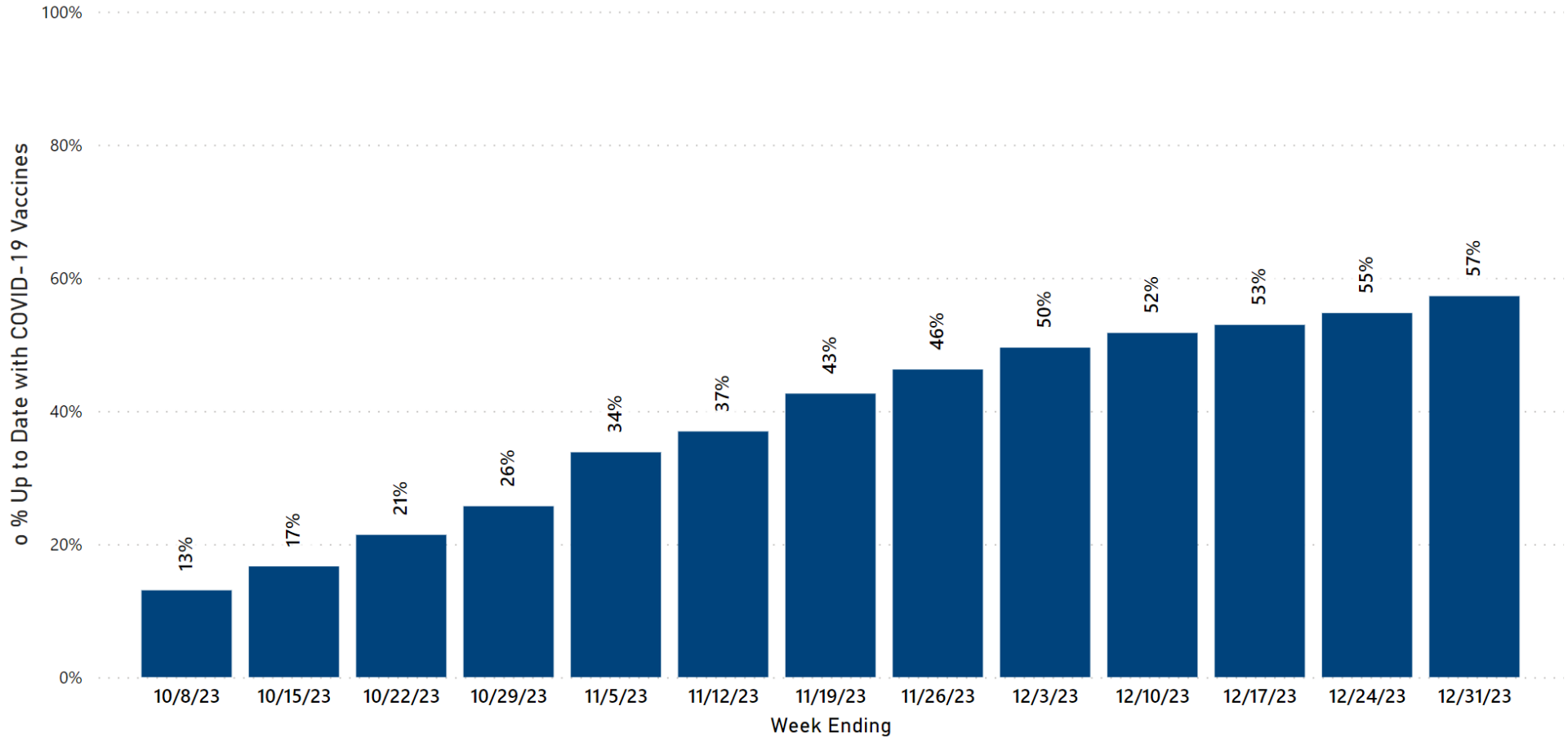
% of Nursing Home Residents in **NH** Who Are Up-To-Date on COVID-19 Vaccination



https://covid.cdc.gov/covid-data-tracker/#vaccinations-nursing-homes

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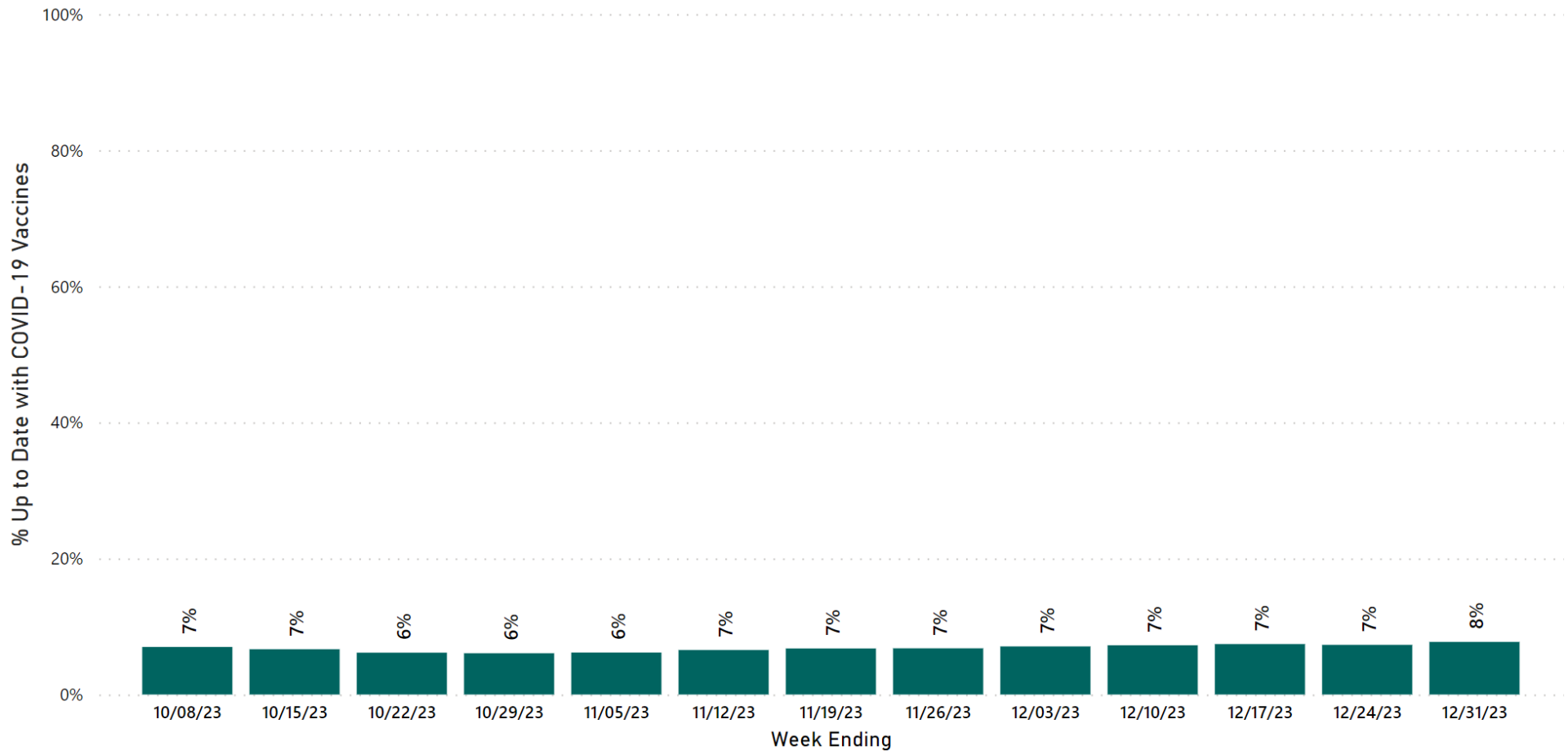
% of Nursing Home Staff in the **U.S.** Who Are Up-To-Date on COVID-19 Vaccination



https://covid.cdc.gov/covid-data-tracker/#vaccinations-nursing-homes

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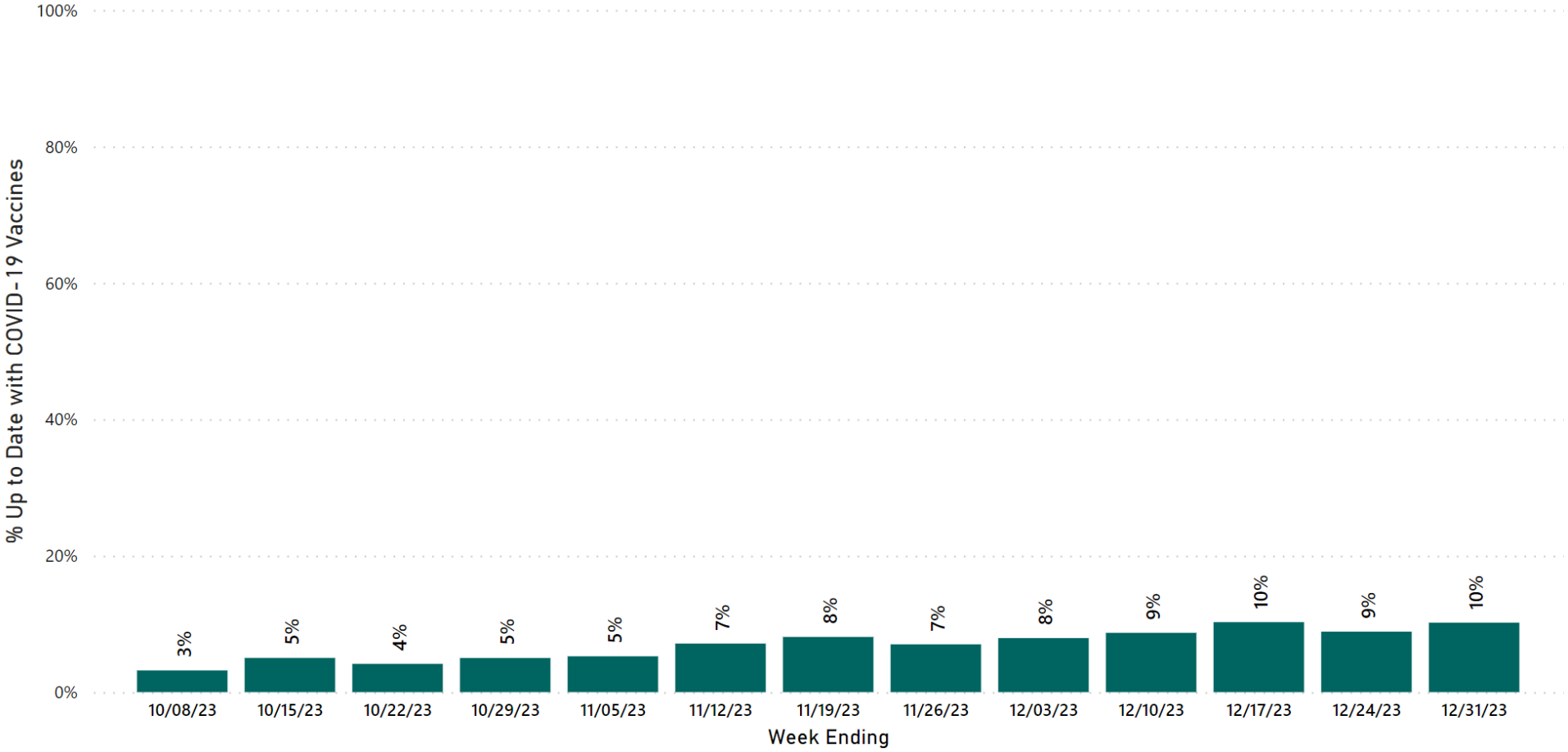
% of Nursing Home Staff in **NH** Who Are Up-To-Date on COVID-19 Vaccination



https://covid.cdc.gov/covid-data-tracker/#vaccinations-nursing-homes

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Early COVID-19 vaccine effectiveness of XBB.1.5 vaccine against hospitalisation and admission to intensive care, the Netherlands, 9 October to 5 December 2023

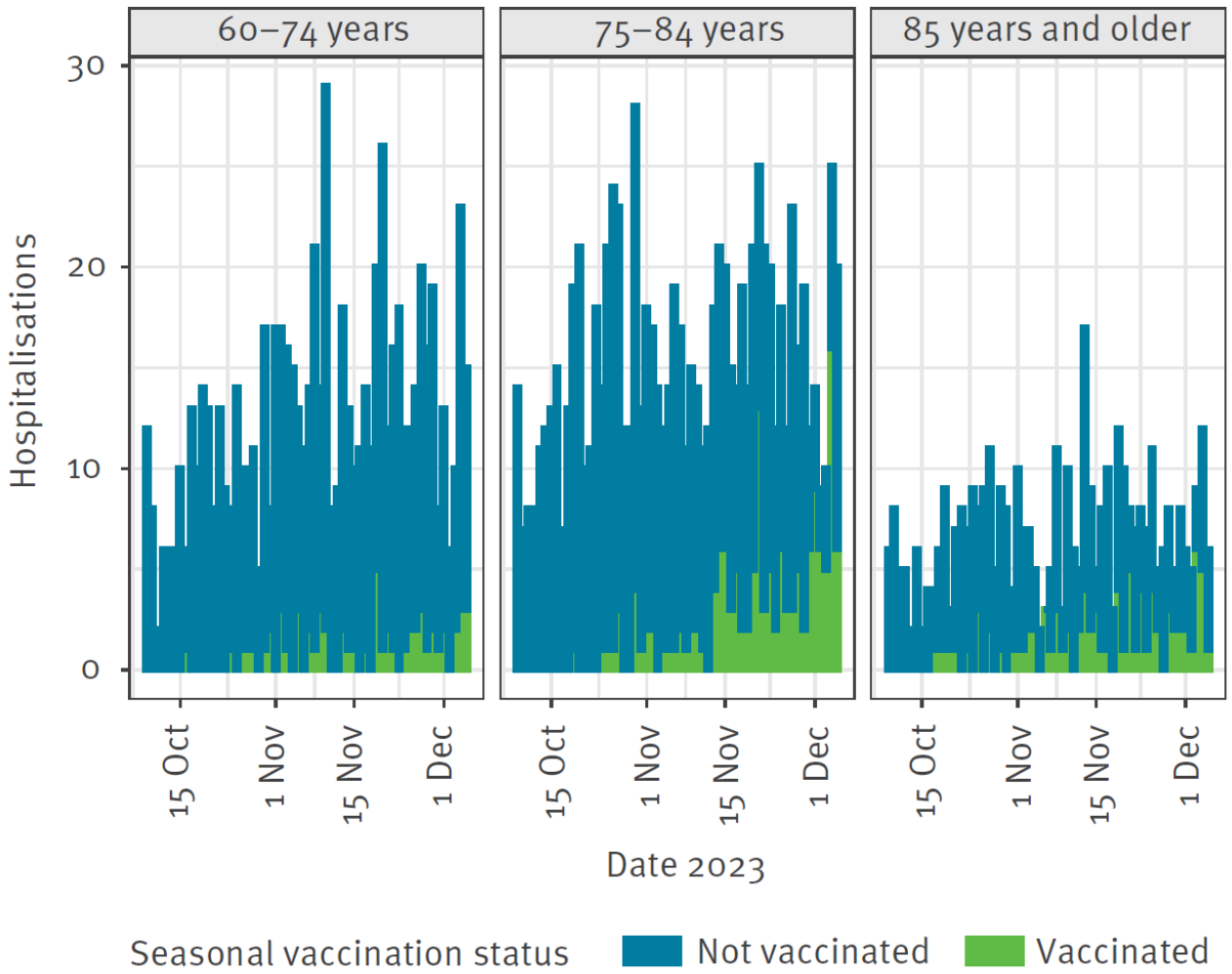
- Compared COVID-19 vaccination status among 2,050 people hospitalized with COVID-19 between 10/9/23 and 12/5/23

Outcome	Age group (years)	Number of cases with 2023 seasonal vaccination	Number of cases without 2023 seasonal vaccination	VE (95% CI)
COVID-19 hospitalisation	≥ 60	295	1,755	70.7% (66.6–74.3)
	60–74	59	681	68.3% (58.3–75.9)
	75–84	150	756	73.9% (68.5–78.4)
	≥ 85	86	318	66.0% (56.4–73.5)
COVID-19 ICU admission	≥ 60	8	84	73.3% (42.2–87.6)

https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2024.29.1.2300703

FIGURE 1

COVID-19 hospitalisations included in the analysis, the Netherlands, 9 October–5 December 2023 (n = 2,050)



https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2024.29.1.2300703

CORRESPONDENCE | ONLINE FIRST

THE LANCET
Infectious Diseases

Short-term effectiveness of the XBB.1.5 updated COVID-19 vaccine against hospitalisation in Denmark: a national cohort study

- Cohort analysis using national health registry data
- Compared COVID-19 hospitalization in October 2023 among persons in Denmark older than 65 years of age - VERY short-term follow-up
- **76% reduced risk of COVID-19 hospitalization** in persons vaccinated with the updated XBB.1.5 monovalent vaccine (updated 2023-2024 COVID-19 vaccine)
- Analysis was restricted to persons who received the previous year's bivalent booster – this estimate is the added benefit of vaccination in people with existing immunity from past COVID-19 vaccination and infection

	Population	Cumulative follow-up time, years	Average follow-up time, days	Events (rates per 100 person-years)	Adjusted hazard ratio (95% CI)
COVID-19 hospitalisation					
Vaccinated 7 or more days ago	442 247	12 019	9·9	21 (0·175)	0·239 (0·152–0·377)
Not yet vaccinated	867 645	35 023	14·7	243 (0·694)	ref

https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(23)00746-6/fulltext

Summary

- Vaccination rates (particularly COVID-19 vaccination) remains very low
- The updated 2023-2024 COVID-19 vaccines are expected to boost protection, especially against severe disease and complications from SARS-CoV-2 infection
- Early data indicate vaccine effectiveness (VE) of ~70-75% at preventing COVID-19 related hospitalizations in older adults
  - This reflects the additional benefit of vaccination in people who previously have been vaccinated, including with last seasons bivalent vaccine
  - Protection is expected to decrease over time, however, vaccination still provides a high level of protection when administered to coincide with periods of greater viral activity
- Providers should continue to discuss and recommend vaccination (influenza, COVID-19, and/or RSV) to eligible patients who are not yet vaccinated

COVID-19 Oral Antiviral Treatment

Paxlovid is first-line outpatient therapy for people 12 years of age and older

Management of Non-Hospitalized Adults

Table 2a. Therapeutic Management of Nonhospitalized Adults With Mild to Moderate COVID-19 Who Do Not Require Supplemental Oxygen

Patient Disposition	Panel's Recommendations
Patients Who Are at High Risk of Progressing to Severe COVID-19[b,c]	*Preferred therapies. Listed in order of preference:* • **Ritonavir-boosted nirmatrelvir (Paxlovid)[d] (AIIa)**; see footnote on drug interactions[e] • **Remdesivir[d,f] (BIIa)** *Alternative therapy. For use when the preferred therapies are not available, feasible to use, or clinically appropriate:* • **Molnupiravir[d,g,h] (CIIa)**

[b] For a list of risk factors, see the CDC webpage Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19.

[g] Molnupiravir appears to have lower efficacy than the other options recommended by the Panel. Therefore, it should be considered when the other options are not available, feasible to use, or clinically appropriate.

[h] The Panel recommends AGAINST the use of molnupiravir for the treatment of COVID-19 in pregnant patients unless there are no other options and therapy is clearly indicated.

https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/nonhospitalized-adults--therapeutic-management/

Management of Non-Hospitalized Children

Table 3a. Therapeutic Management of Nonhospitalized Children With COVID-19

Risk of Severe COVID-19	Panel's Recommendations	
	Aged 12–17 Years	Aged <12 Years

High Risk[a,b]	• Use 1 of the following options (listed in order of preference):[c]
	  • **Ritonavir-boosted nirmatrelvir (Paxlovid)** within 5 days of symptom onset **(BIII)**
	  • **Remdesivir** within 7 days of symptom onset **(CIII)**
		• Ritonavir-boosted nirmatrelvir is not authorized by the FDA for use in children aged <12 years.
		• There is insufficient evidence to recommend either for or against the routine use of remdesivir. Consider treatment based on age and other risk factors.

Intermediate Risk[b,d]	• There is insufficient evidence to recommend either for or against the use of any antiviral therapy. Consider treatment based on age and other risk factors.	• There is insufficient evidence to recommend either for or against the routine use of remdesivir.
Low Risk[b,e]	• Manage with supportive care alone **(BIII)**.	• Manage with supportive care alone **(BIII)**.

[b] See Table 3b for the Panel's framework for assessing the risk of progression to severe COVID-19 based on patient conditions and COVID-19 vaccination status.

https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-children/nonhospitalized-children-therapeutic-management/

Clinical Infectious Diseases

BRIEF REPORT

SARS-CoV-2 Antiviral Prescribing Gaps Among Non-Hospitalized High-Risk Adults

- Evaluated EHR data from two health systems in Minnesota, Wisconsin, and northern Nevada
- Included non-hospitalized patients 18+ years of age who tested positive for SARS-CoV-2 between April 2022 – June 2023
- Cohort of 3,247 patients, ALL with risk factors for progressing to severe COVID-19
- **Only 32% were prescribed an antiviral medication**
  - Paxlovid (88%)
  - Molnupiravir (12%)
  - Remdesivir (<1%)

https://academic.oup.com/cid/advance-article-abstract/doi/10.1093/cid/ciad796/7505381?redirectedFrom=fulltext

Clinical Infectious Diseases

BRIEF REPORT

SARS-CoV-2 Antiviral Prescribing Gaps Among Non-Hospitalized High-Risk Adults

- Proportion prescribed an antiviral based on age and selected underlying medical conditions:
  - 65+ years old: 40%
  - Diabetes: 41%
  - Immunocompromised: 38%
  - Chronic lung disease: 38%
  - Cardiovascular disease: 38%
  - Obesity: 35%
  - Malignancy: 35%

https://academic.oup.com/cid/advance-article-abstract/doi/10.1093/cid/ciad796/7505381?redirectedFrom=fulltext

Potential Reasons for Sub-Optimal Prescribing

- Patients experiencing (initially) minimal or mild symptoms
- Patients not aware of treatment options or do not think treatment is necessary
- Providers don't think their patient qualifies for treatment – no provider recommendation for treatment
- Patients unable to reach providers (healthcare system capacity)
- Concern for drug-drug interactions
- Concern for Paxlovid rebound (i.e., recurrent symptoms and viral shedding after stopping Paxlovid)

Resources to Manage Paxlovid Drug-Drug Interactions

- University of Liverpool: COVID-19 Drug Interactions Website
- NIH COVID-19 Treatment Guidelines: Drug-Drug Interactions Between Ritonavir-Boosted Nirmatrelvir (Paxlovid) and Concomitant Medications
- IDSA COVID-19 Treatment Guidelines: Management of Drug Interactions with Nirmatrelvir/Ritonavir (Paxlovid): Resource for Clinicians

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 72 / No. 51
December 22, 2023

SARS-CoV-2 Rebound With and Without Use of COVID-19 Oral Antivirals

- Literature review of studies comparing COVID-19 rebound in persons who received and did not receive oral antivirals (7 studies included)
- Frequency of rebound among persons treated vs. not treated:
  - Similar frequencies (4 studies)
  - Higher frequencies among treated (3 studies)
- Among 22 patients (from 3 studies) who received treatment and experienced rebound:
  - Median time to negative test result was 6 days (IQR: 5-7 days)
  - Median time to rebound after initial diagnosis was 9 days (IQR: 9-13 days)
  - Median time to resolution after initial diagnosis was 16 days (IQR: 16-19 days)
- No hospitalizations or deaths reported in persons who experienced rebound because rebound symptoms were mild

Morbidity and Mortality Weekly Report

Evaluation of SARS-CoV-2 RNA Rebound After Nirmatrelvir/Ritonavir Treatment in Randomized, Double-Blind, Placebo-Controlled Trials — United States and International Sites, 2021–2022

- Retrospective analysis of data submitted to the FDA on viral RNA shedding from two randomized, placebo-controlled, double-blinded clinical trials of outpatient adults with mild-moderate COVID-19 (EPIC-HR and EPIC-SR clinical trials)
  - Randomized 1:1 to receive 5 days of Paxlovid or placebo
  - Viral RNA levels measured in NP swabs collected on days 1, 3, 5, 10, and 14
- Viral rebound rates were compared in treatment and post-treatment periods

Morbidity and Mortality Weekly Report

Evaluation of SARS-CoV-2 RNA Rebound After Nirmatrelvir/Ritonavir Treatment in Randomized, Double-Blind, Placebo-Controlled Trials — United States and International Sites, 2021–2022

- SARS-CoV-2 rebound occurred in patients with or without antiviral treatment
- “Analyses… did not identify a consistent association between virologic rebound and nirmatrelvir/ritonavir [Paxlovid] treatment”
- In EPIC-SR trial (SR=Standard Risk patients), virus rebound rates were not significantly different between Paxlovid vs. placebo recipients
- In EPIC-HR trial (HR=High Risk patients), one analyses found a statistically higher rate of viral rebound in Paxlovid recipients vs. placebo (8.3% vs. 5.7%, p=0.036), but this analysis did not account for differences in viral clearance while on treatment

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Responses	% (no./No.) Nirmatrelvir/ Ritonavir	% (no./No.) Placebo	p-value*
EPIC-HR, total no.†	**1,038**	**1,053**	—
Posttreatment viral RNA rebound			
Day 10 or day 14	8.3 (77/925)	5.7 (53/922)	0.036
Among day 5 virologic responders			
Day 10 or day 14	8.1 (69/849)	6.5 (50/772)	0.22

Summary

- Paxlovid is first-line outpatient therapy for treating patients (12+ years of age) who are at high-risk for progression to severe disease
- Oral antivirals are under-utilized
- SARS-CoV-2 rebound can occur in both treated and untreated patients, although it remains unclear if there are certain patient populations who may have a higher likelihood of rebound after Paxlovid
- Providers should continue to assess and prescribe outpatient antiviral treatments, when clinically appropriate, for patients infected with influenza and SARS-CoV-2 to prevent progression to more severe disease

Key Recommendations to Protect People and Communities

- Discuss and recommend vaccination to eligible patients to protect against severe disease and complications from Influenza, COVID-19 and RSV
- Assess patients and prescribe outpatient antiviral treatments, when clinically appropriate, for patients infected with influenza and SARS-CoV-2 to prevent progression to more severe disease
- Test (or encourage home testing) for COVID-19
  - Informs how long a person should isolate
  - Important to know if COVID-19 is causing a person's symptoms because it can inform treatment decisions

Q&A