Grand Rounds 11/29/22
TRI-DEMIC! + MPOX

Sherrill Brown, MD
Medical Director, Infection Prevention

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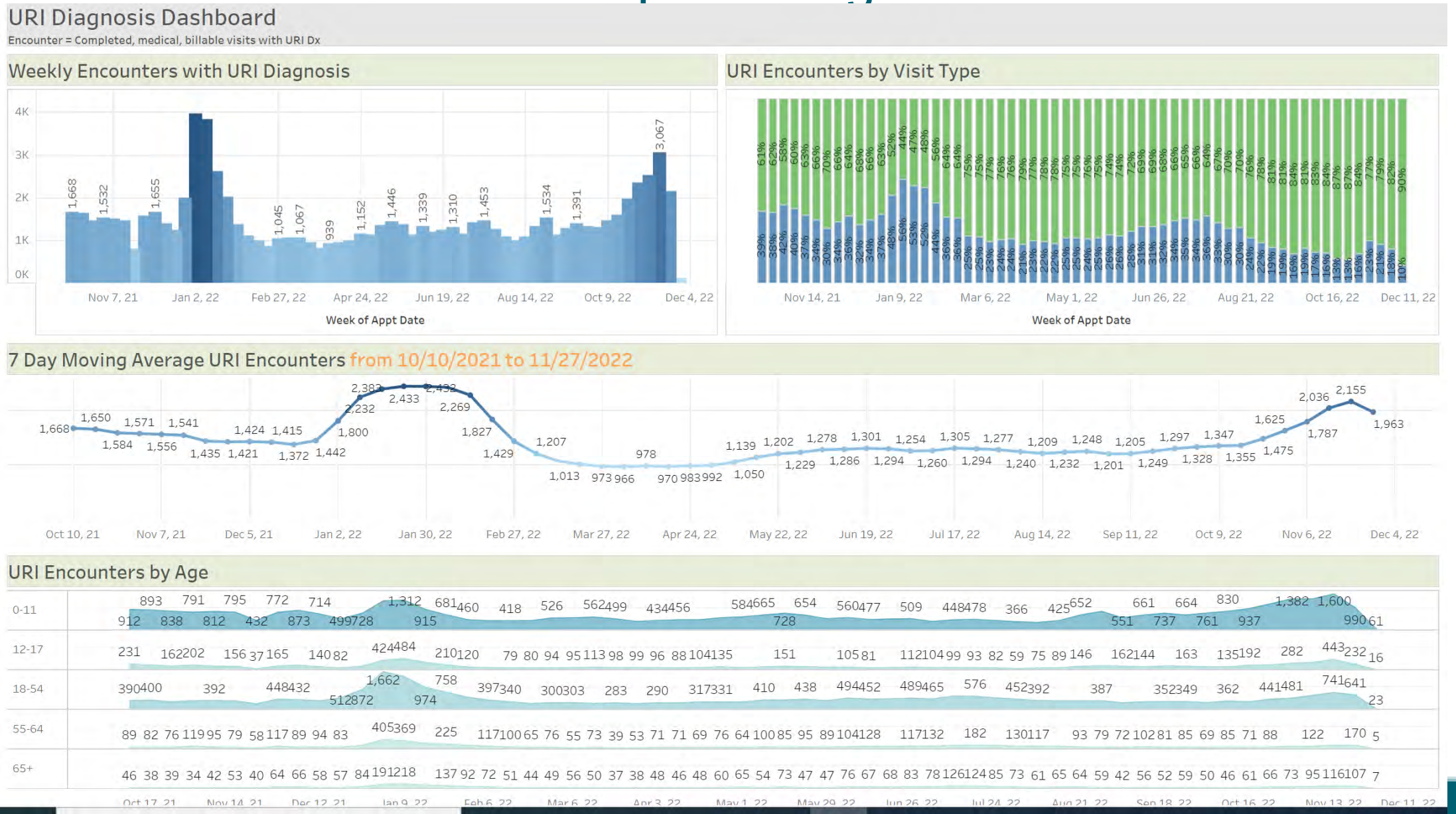
Infectious Diseases Update

- Review Surge Level and Calls to Action
- Updates to Processes
- Flu Update
- RSV Update
- COVID-19 Update
- Monkeypox Update

Surge Level Thresholds

Stage	0	1 (100-115%)	2 (115-125%)	3 (125-130%)
Description	***Demand***	***Increase by 10-15% from baseline***	***Increase by 15-25% from baseline***	***Increase by 25-30%***
Data/Tracking	❑ Productivity measures ❑ URI Symptom Tableau Dashboard ❑ Flu Tableau Dashboard	❑ CDC trends (LA County & OC Public Health data) ❑ Increase in volume/demand for visits w/flu, IFL, URI, cold ❑ Increase in call center call volumes: Appointments and Nurse Advice Line ❑ Same day appointments booked at **80% within 24 hours, 4 consecutive days** ❑ Wait times increased in clinic/UC**>1 hour** ❑ Increase in walk-in volume resulting in struggling to maintain Safe environment requirements ❑ **Site Specific:** Plan to add a provider for F2F visits (dependent on number of rooms available and also provider productivity)	❑ CDC trends (LA County & OC Public Health data) ❑ Increase in volume/demand for visits w/flu, IFL, URI, cold ❑ Increase in call center call volumes ❑ **Same day appointments booked 100% by 9:00am, three consecutive days** ❑ Wait times increased in clinic/urgent care **>2 hours** ❑ Increase in walk-ins ❑ Increase in staff sick calls	❑ CDC trends (LA County & OC Public Health data) ❑ Increase in volume/demand for visits w/flu, IFL, URI, cold ❑ Increase in call center call volumes: appointments and Nurse Advice Line ❑ **Same day appointments booked 100% by 8:00am, daily consecutive week.** ❑ Wait times increased in clinic/urgent care **>3 hours** ❑ Increase in walk-ins ❑ **Increase in staff sick calls, resulting in loss of coverage**

URI Data: Peds driving surge in visits, higher F2F demand than prior surges



Calls To Action

- Please note the call to action below, in efforts to increase access:

1. Adhere to Template Ratios – FM/IM 80% face to face 20% telehealth – PEDs/OB 90% face to face 10% telehealth
    a. Template ratios are critical to respond to the patient demand
2. Same Day Slot Ratios - 50% ratio
    a. Templates should reflect 50% Same Day slots
3. Rescheduling Preventive Appointments
    a. Scrub schedules to move face to face appointments to telehealth, when appropriate
    b. Postpone Well Child Checks (WCC) for children >5
        i. Any slots left vacant due to rescheduling, should be converted to Same Day slots.
4. If you have availability to take an extra shift in Urgent Care or After Hours/Weekend that will help to meet our patient demand.

- As we maneuver through Surge, we will keep you updated. Should you have any questions, please feel free to reach out to Patient Access.
- Please reference email sent on 11/23/22 and/or attached from Kimberley Graham.

Updates to Process

- Please order POC Flu, POC RSV and COVID-19 Fulgent and Antigen tests through central supply
- Make sure to pass out COVID-19 antigen tests to patients that present for testing or URI visit
- COVID-19 antigen tests available for any patient or staff member to take home for home use
- Report staff call outs via the central reporting process.
- Staff should not be working sick, please have any staff member that is sick get in touch with Employee Health for further instructions.
- Staff returning from illness should wear a minimum KN95 or N95 mask at all times when not eating or drinking and keep minimum 6 feet distancing when masks removed until symptoms resolved.
- Be aware that COVID-19 pay is only available for documented COVID-19 illness, other illnesses will go through normal PTO/sick process.
- Keeping oneself and family healthy during this surge and holiday season will be key to a happier life.
  - Mask up when out and about.
  - Wash hands frequently.
  - Encourage kids to wear masks and wash hands in school.

Updates in Process

- **In an effort to increase the access for patient F2F demand we have updated our language for physical distancing.**
- **Physical distancing is still a great tool to reduce risk for COVID-19 and other URI illnesses.**
- **We encourage everyone to use all available clinic space when seated but we will no longer specify a distance required when people are masked.**
- **When unmasked we still recommend 6 foot distancing.**
- **Physical distancing signs should be replaced with updated signs.**

Influenza

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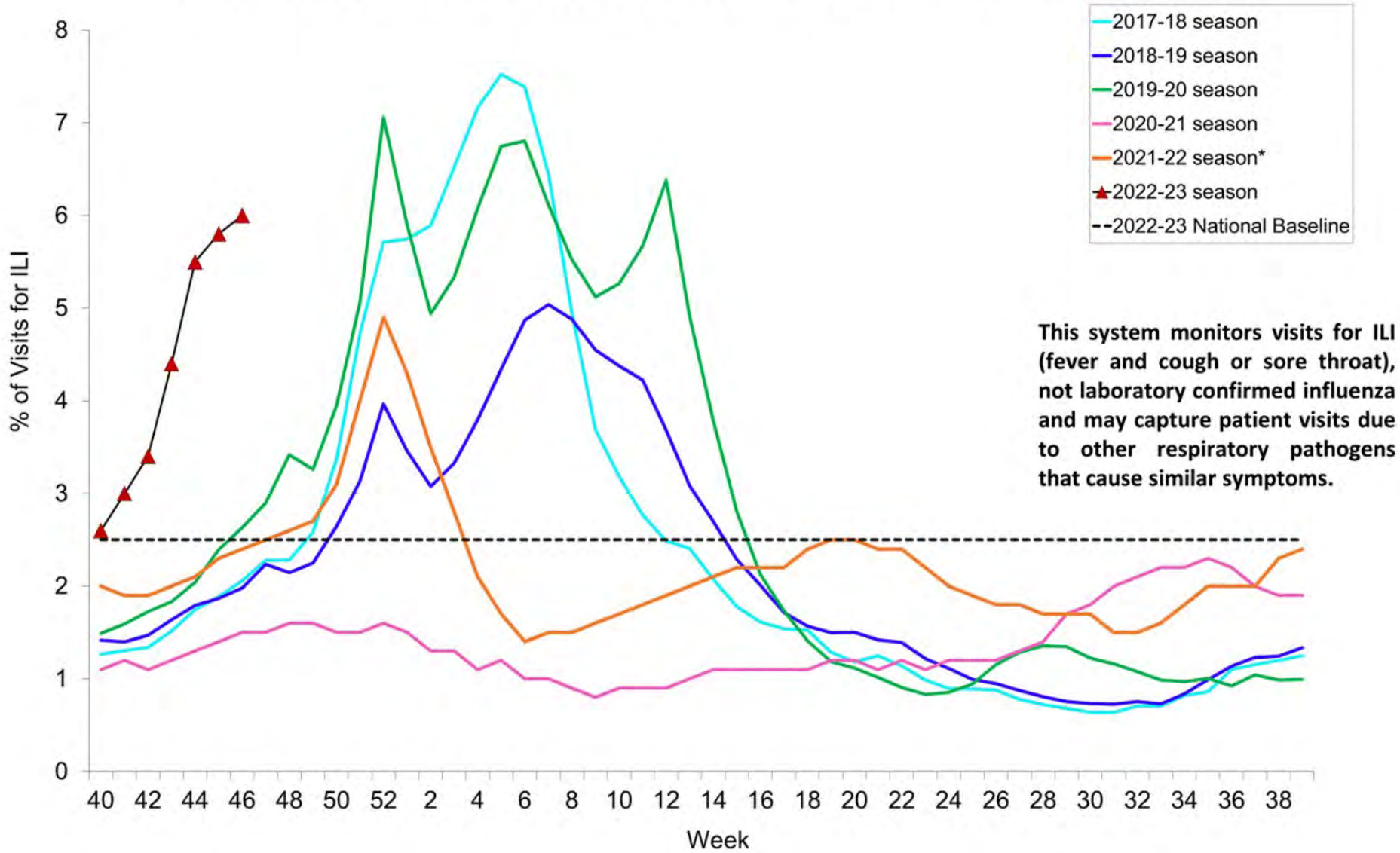
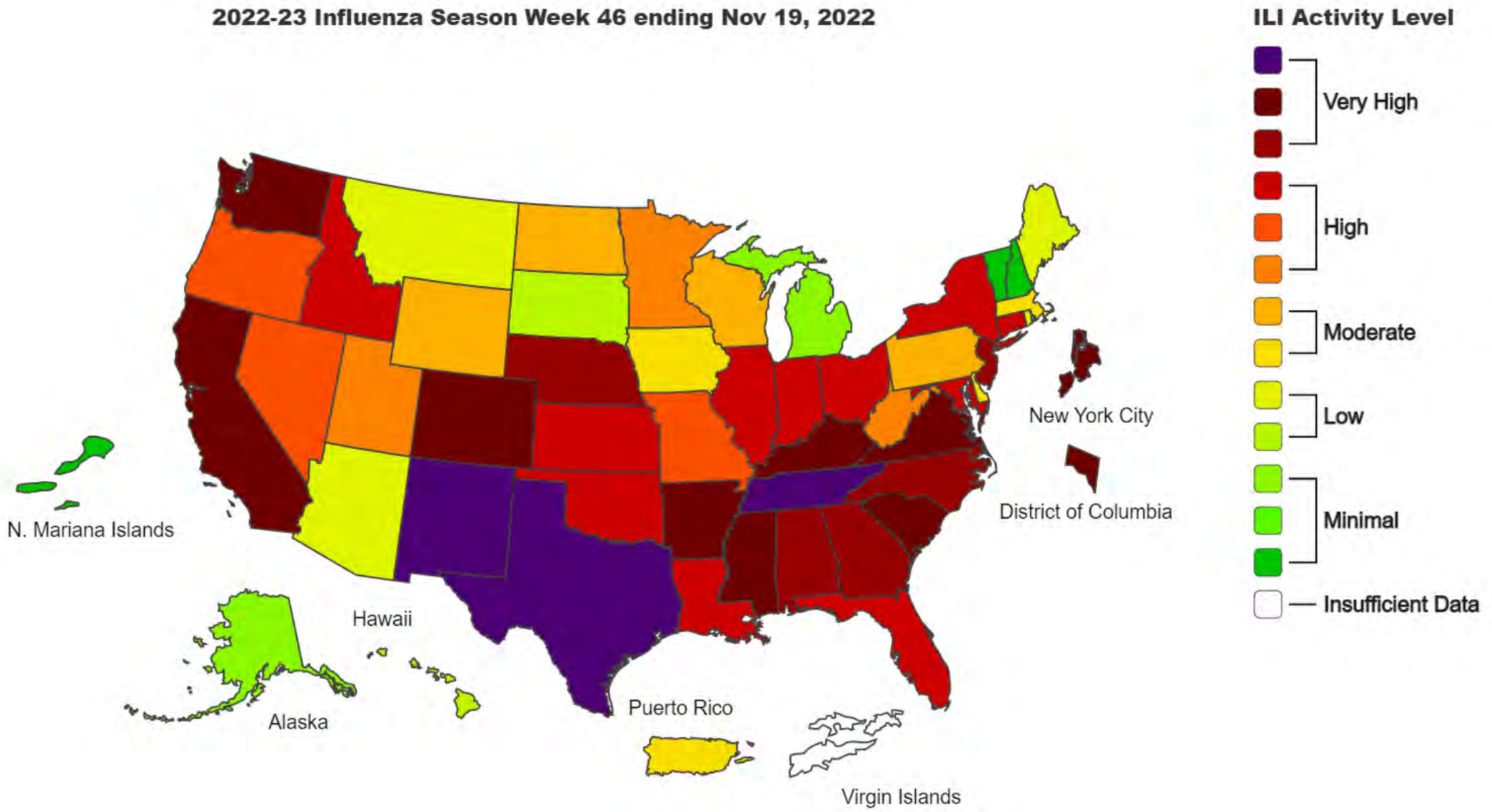
Percentage of Outpatient Visits for Respiratory Illness Reported By The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2022-2023* and Selected Previous Seasons



This system monitors visits for ILI (fever and cough or sore throat), not laboratory confirmed influenza and may capture patient visits due to other respiratory pathogens that cause similar symptoms.

US Flu Activity



Preliminary In-Season Burden Estimates, 2022-2023

CDC estimates* that, from **October 1, 2022** through **November 5, 2022**, there have been:

2,800,000 – 6,600,000
flu **illnesses**

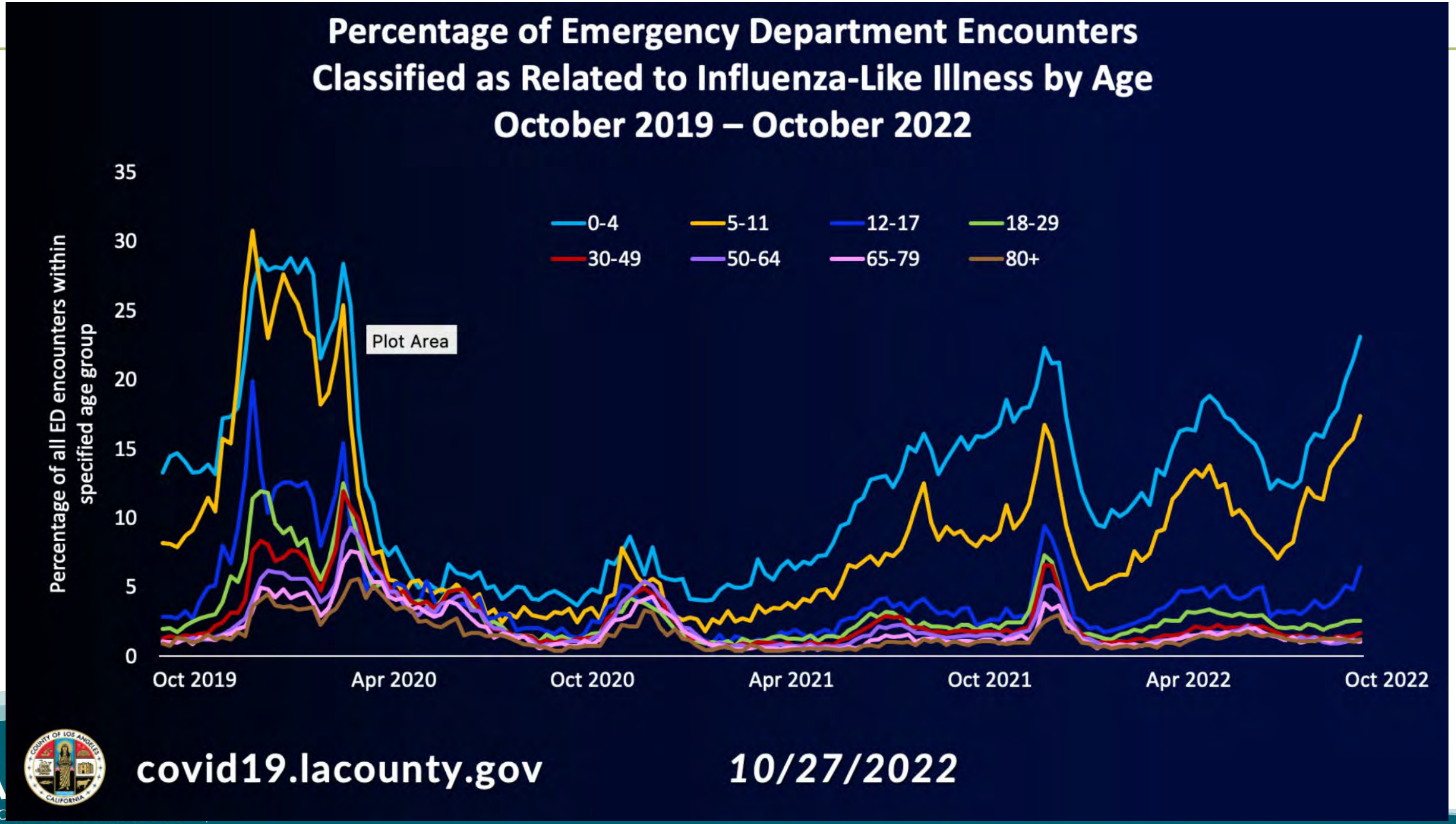
1,400,000 – 3,300,000
flu **medical visits**

23,000 – 48,000
flu **hospitalizations**

1,300 – 3,600
flu **deaths**

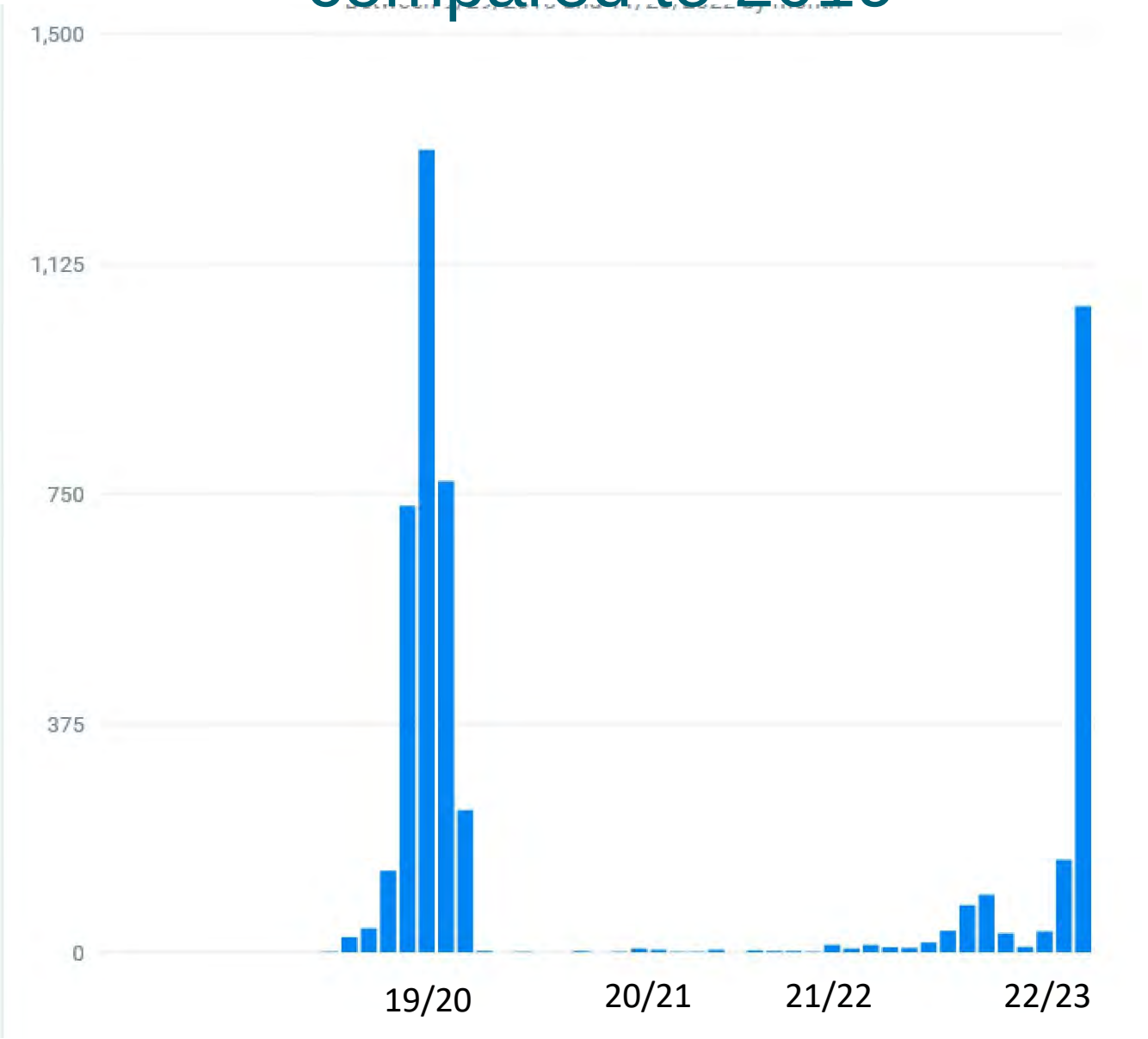
*Because influenza surveillance does not capture all cases of flu that occur in the U.S., CDC provides these estimated ranges to better reflect the larger burden of influenza. These estimates are calculated based on data collected through CDC's Influenza Hospitalization Surveillance Network (FluSurv-NET) and are **preliminary**.

https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm

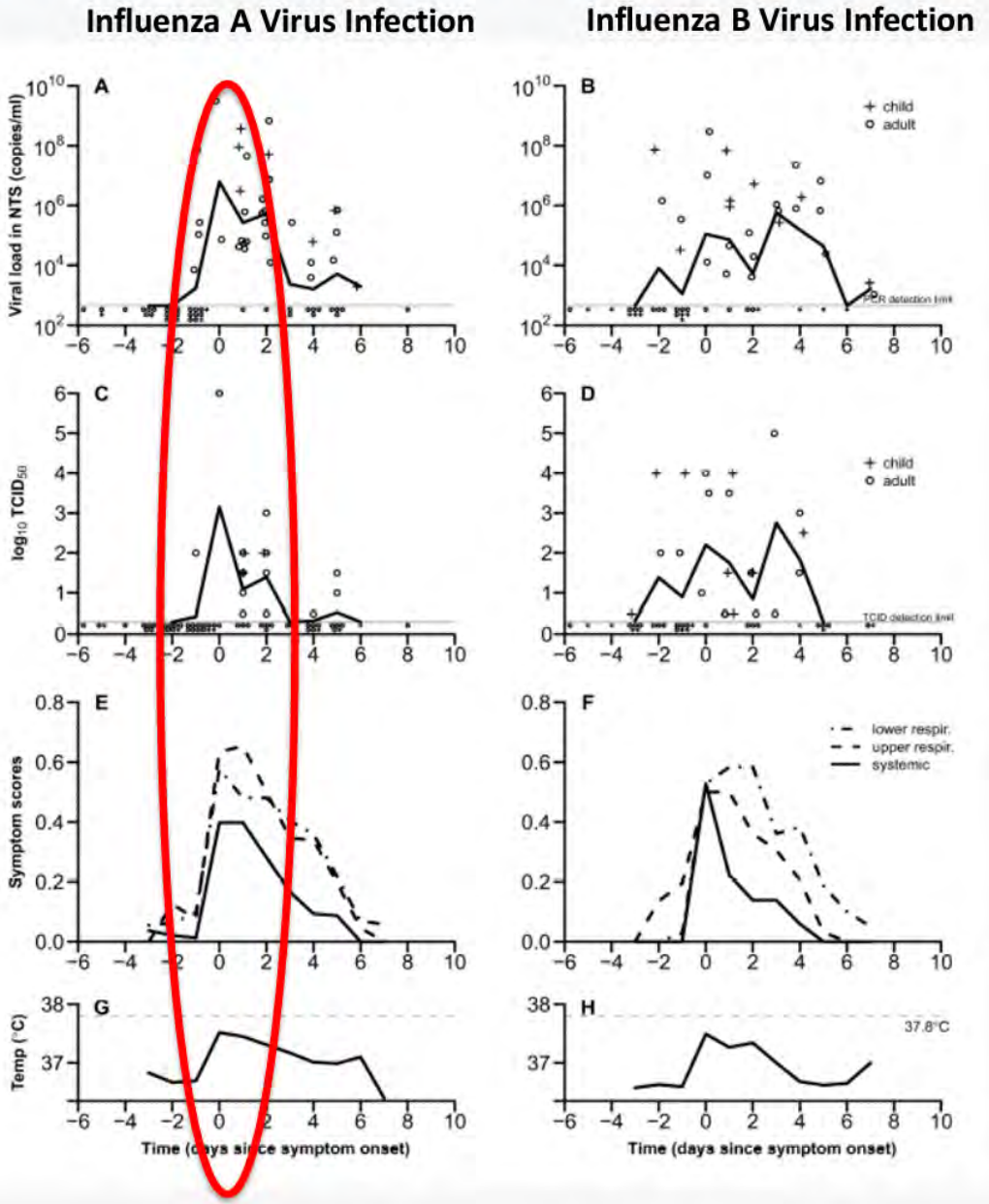

Percentage of Emergency Department Encounters
Classified as Related to Influenza-Like Illness by Age
October 2019 – October 2022
Percentage of all ED encounters within specified age group
35
30
25
20
15
10
5
0
0-4
5-11
12-17
18-29
30-49
50-64
65-79
80+
Plot Area
Oct 2019
Apr 2020
Oct 2020
Apr 2021
Oct 2021
Apr 2022
Oct 2022
covid19.lacounty.gov
10/27/2022

A
QUALITY C

+Rapid Flu Tests at AltaMed, starting 1 month earlier compared to 2019

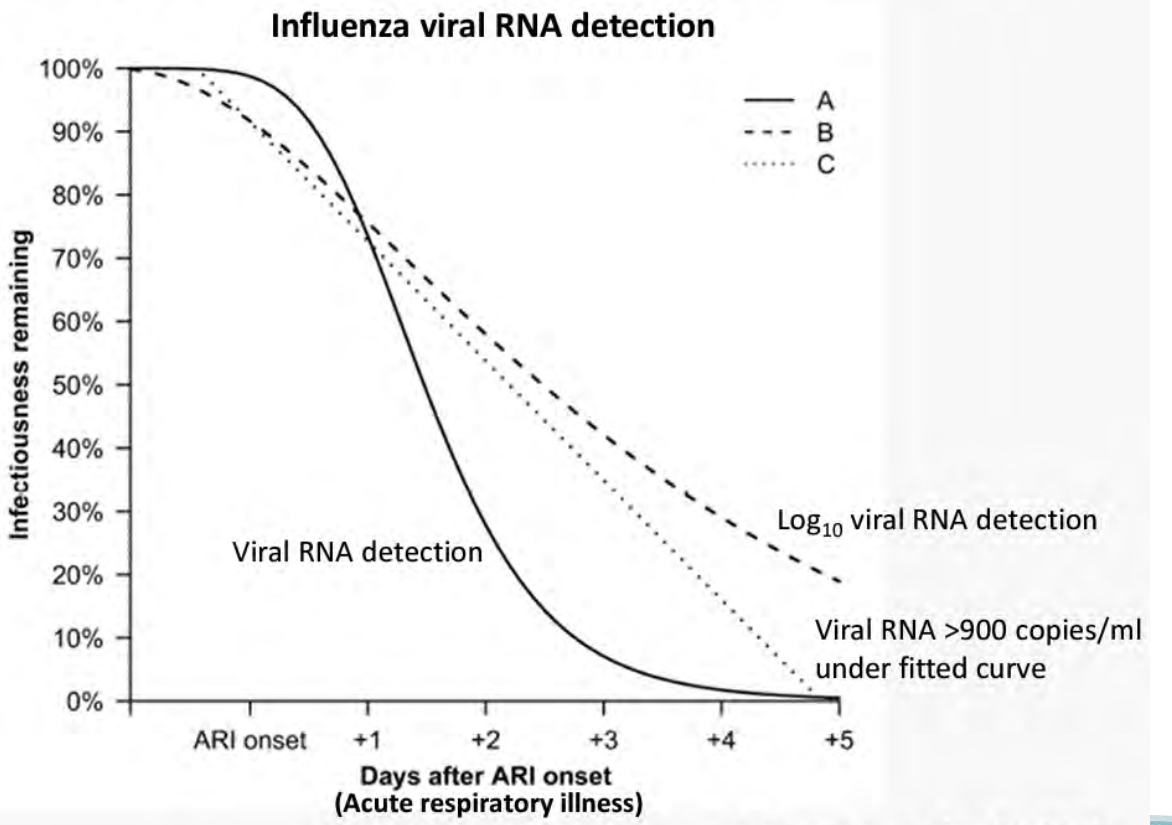


Influenza Viral Shedding Typically Peaks Within 24 Hours of Illness Onset



Influenza virus infection

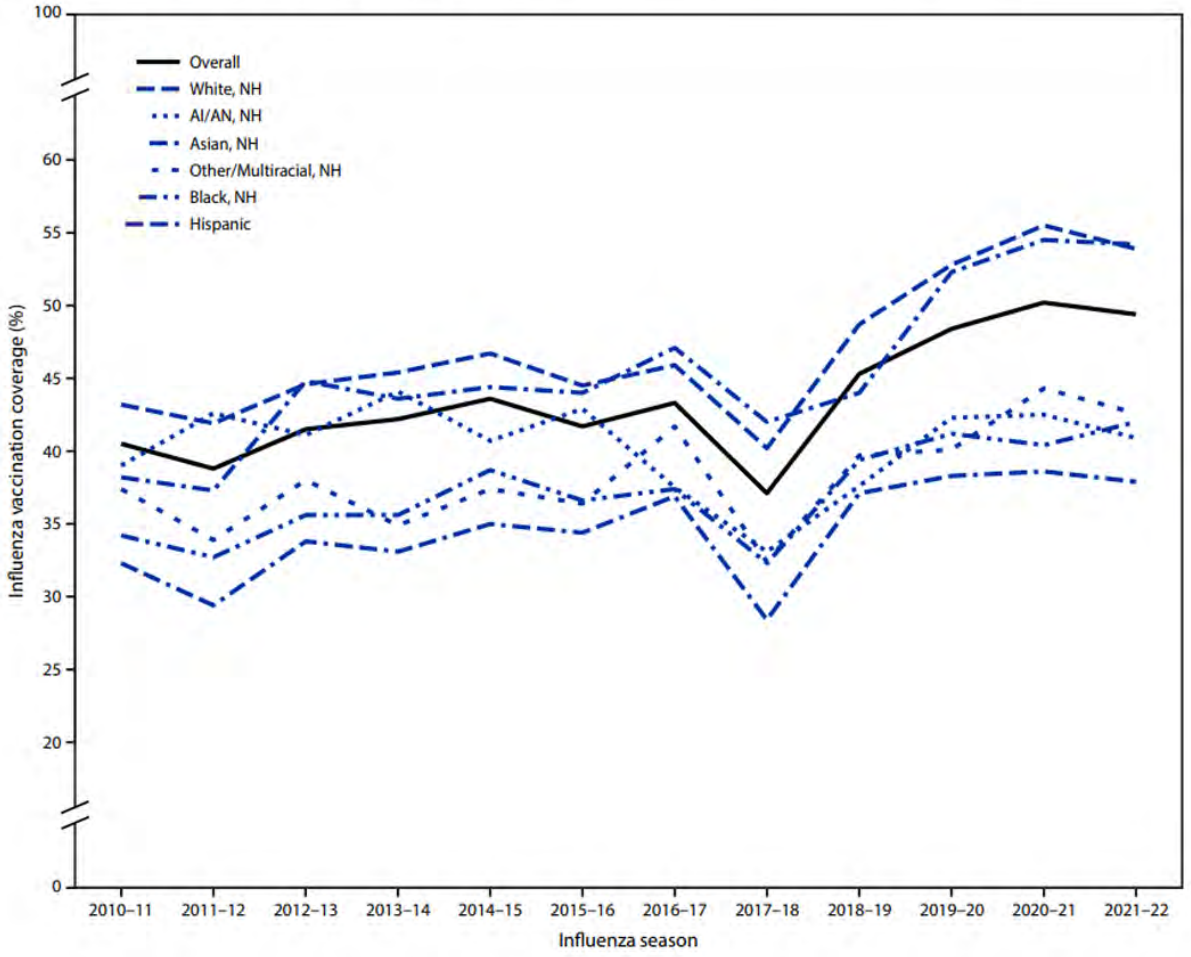
- **Virus can be detected the day before illness onset, virus levels peak within 24 hours after onset**
  - **Highest infectious period is within 3 days after symptom onset**
- Young children can be infectious for longer periods
- Critically ill patients might have longer influenza viral replication in the lower respiratory tract
- Severely immunocompromised persons can be infectious for weeks to months



Lau LL et al., J Infect Dis 2010

Racial and Ethnic Disparities in Adult Influenza Vaccination Coverage, U.S.

FIGURE 3. Influenza vaccination coverage among adults aged ≥18 years, by race and ethnicity and influenza season — Behavioral Risk Factor Surveillance System, United States, 2010–11 through 2021–22



Abbreviations: AI/AN = American Indian or Alaska Native; NH = non-Hispanic.

Black CL et al., MMWR October 28, 2022

Influenza Vaccination Coverage 2022-2023

- Influenza activity continues to increase while vaccine uptake is lagging according to CDC's FluVaxView.
  - So far this season, influenza vaccination coverage in adults and pregnant people is significantly lower compared to this time last season.
  - While influenza vaccination among children is similar to this time last season, coverage among children is down 6 percentage points from two years ago.
- The number of doses of influenza vaccine given in pharmacies and retail locations is similar to last season, but doses given in doctor's offices are down steeply.

Weekly Flu Vaccination Dashboard | FluVaxView | Seasonal Influenza (Flu) | CDC

Everyone 6 months and older should get the flu shot

Group below should definitely get the flu shot and treatment when needed

- Adults 65 years and older
- Children younger than 2 years old[1]
- Asthma
- Neurologic and neurodevelopment conditions
- Blood disorders (such as sickle cell disease)
- Chronic lung disease (such as chronic obstructive pulmonary disease [COPD] and cystic fibrosis)
- Endocrine disorders (such as diabetes mellitus)
- Heart disease (such as congenital heart disease, congestive heart failure and coronary artery disease)
- Kidney diseases
- Liver disorders
- Metabolic disorders (such as inherited metabolic disorders and mitochondrial disorders)
- People who are obese with a body mass index [BMI] of 40 or higher
- People younger than 19 years old on long-term aspirin- or salicylate-containing medications.
- People with a weakened immune system (HIV, chemo, chronic immune suppressing medications)
- People who have had a stroke
- Pregnant people and people up to 2 weeks after the end of pregnancy
- People who live in nursing homes and other long-term care facilities
- People from certain racial and ethnic minority groups are at increased risk for hospitalization with influenza, including non-Hispanic Black persons, Hispanic or Latino persons, and American Indian or Alaska Native persons

Influenza Testing and Specimen Source

- **Upper respiratory tract**
  - **Influenza viruses are generally detectable for 3-4 days by antigen detection; and 5-6 days by nucleic acid detection in uncomplicated disease, longer in infants and immunosuppressed**
    - ***Highest yield: Nasopharyngeal (NP) swabs (ideally collected within 3-4 days of illness onset)***
      - Other acceptable specimens: nasal swabs, NP aspirates, nasal aspirates, combined nasal and throat swabs
  - **Slower clearance of influenza viruses in severe disease**
  - **Influenza viral replication and RNA detection may be prolonged with corticosteroids, immunosuppression**
- **Lower respiratory tract**
  - **Higher, prolonged viral replication in severe lower respiratory tract (LRT) disease**
    - **Influenza viruses may be detectable in LRT specimens when cleared from the upper respiratory tract**
      - **RT-PCR was negative in 10-19% of patients in upper respiratory tract specimens versus lower respiratory tract (BAL specimens) for influenza A(H1N1)pdm09 viral RNA**

Rello J et al., Crit Care 2009; Fleury H et al., Eurosurveillance 2009; Blyth CB et al., NEJM 2009

Influenza Testing Recommendations: Outpatients*

- **Which outpatients should be tested for influenza during influenza season?**
  (Test if the results will influence clinical management)
  - **High-risk persons with influenza-like illness, pneumonia, non-specific acute respiratory illness**
  - **Patients with acute onset of respiratory symptoms and exacerbation of chronic medical conditions** (e.g. asthma, COPD, heart failure) or known influenza complications
  - **Consider testing for:**
    - **Persons not at high-risk for complications of influenza who present with acute respiratory illness** *(ILI, pneumonia, ARI without fever) if the results might change clinical management (support antiviral treatment, reduce unnecessary antibiotic use, reduce more diagnostic testing or time in the emergency department)*

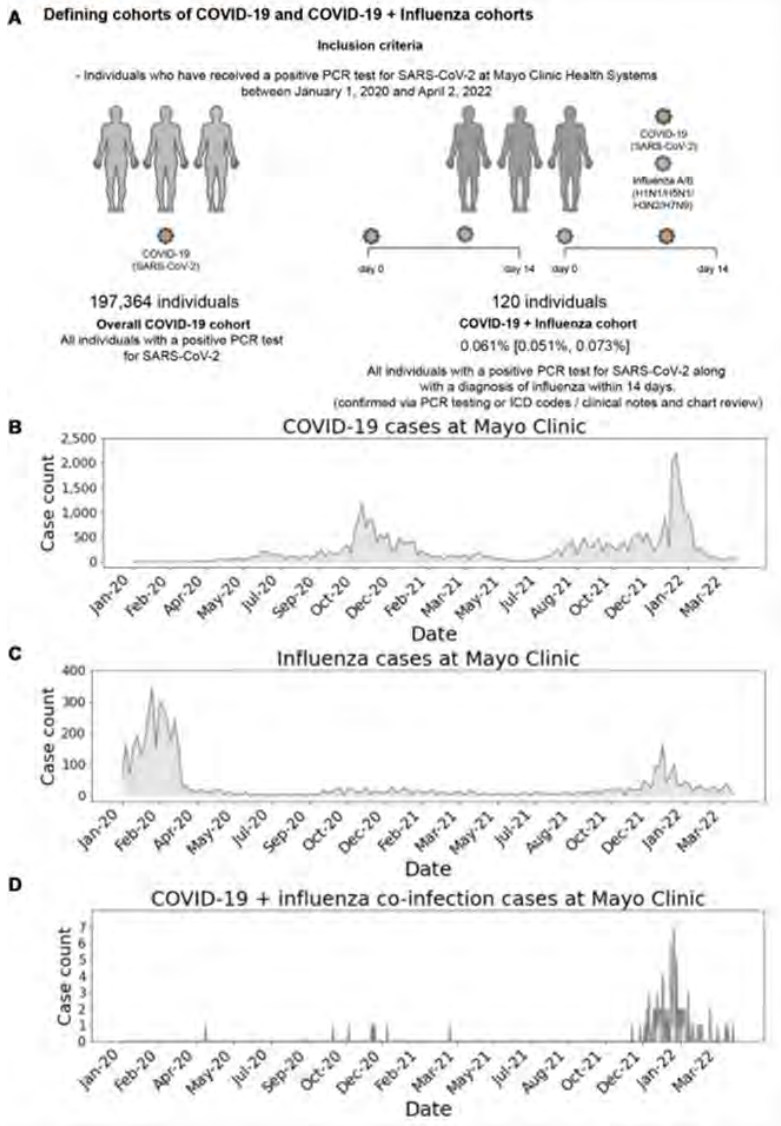
*History of influenza vaccination does not exclude influenza

Uyeki TM et al., IDSA 2018 Influenza Clinical Practice Guidelines Clinical Infect Dis 2019

Co-circulation of Influenza Viruses and SARS-CoV-2

- **Co-infection with influenza A or B viruses and SARS-CoV-2 occurs**
  - Documented in case reports, case series
  - Frequency, severity, and risk factors unknown but frequency appears to be uncommon (may result in more severe disease)
- **Overlapping signs, symptoms, some differences**
  - Incubation period is usually shorter for influenza (1-3 days) than COVID-19 (2-5 days)
  - Viral shedding, period of viral RNA detection is generally shorter for influenza
  - Ageusia/dysgeusia, anosmia are more common with COVID-19 than influenza
  - Diarrhea can occur in young children with influenza; at any age with COVID-19
  - Onset of complications/severe disease is earlier with influenza
- **High-risk groups for influenza and COVID-19 are similar**
  - In addition, young children are at increased risk for influenza complications

➢ **Testing for influenza A/B and SARS-CoV-2 can help guide antiviral treatment in persons at high risk for complications and identify co-infections**



Beltran-Corellini A et al., Eur J Neurology 2020; Zayet S et al., Microbes and Infect 2020; Stowe J et al., Int J Epidemiology 2021; Pawlowski C et al., PNAS Nexus 2022

CDC Antiviral Treatment Recommendations

- **Focused on prompt treatment of persons with severe disease and those at increased risk of influenza complications**
- **Antiviral treatment is *recommended as soon as possible*** for **any patient with confirmed or suspected influenza who is:**
  - **Hospitalized** (without waiting for testing results)
  - **Outpatients with complicated or progressive illness of any duration**
  - **Outpatients who are at high risk for influenza complications**
- Antiviral treatment can be considered for any previously healthy, non-high-risk outpatient with confirmed or suspected influenza (e.g. with influenza-like illness) on the basis of clinical judgment, if treatment can be initiated within 48 hours of illness onset; including empiric treatment (e.g. in-person visit or via telemedicine)

https://www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm

Flu Prevention, Testing and Treatment

- **Flu Prevention**
  - Get your flu shot—<u>everybody</u> get their flu shot (give the gift of herd protection)
  - Wear a mask when indoors
  - Wash your hands, especially after touching communal surfaces or shaking hands
  - Avoid shaking hands with people, hugging and kissing
  - Oseltamivir 75qday for prophylaxis of high risk patients w/in 48hrs
- **Flu Testing**
  - Fever, sudden fatigue, headache, bad cough, muscle aches, malaise, sore throat, sometimes GI sx or earache
  - Rapid testing available in clinic for Flu A and B
- **Flu Treatment**
  - Oseltamivir wt based for kids, 75mg po bid for adults
  - Kids <2 and people at high risk of severe flu disease should get treated
  - Ideally within 48 hours of sx but for people below give ASAP:
    - <2, >65, chronic lung, heart, metabolic conditions, immune compromised, pregnant and within 2 wks post partum
  - They need to isolate like COVID

RSV

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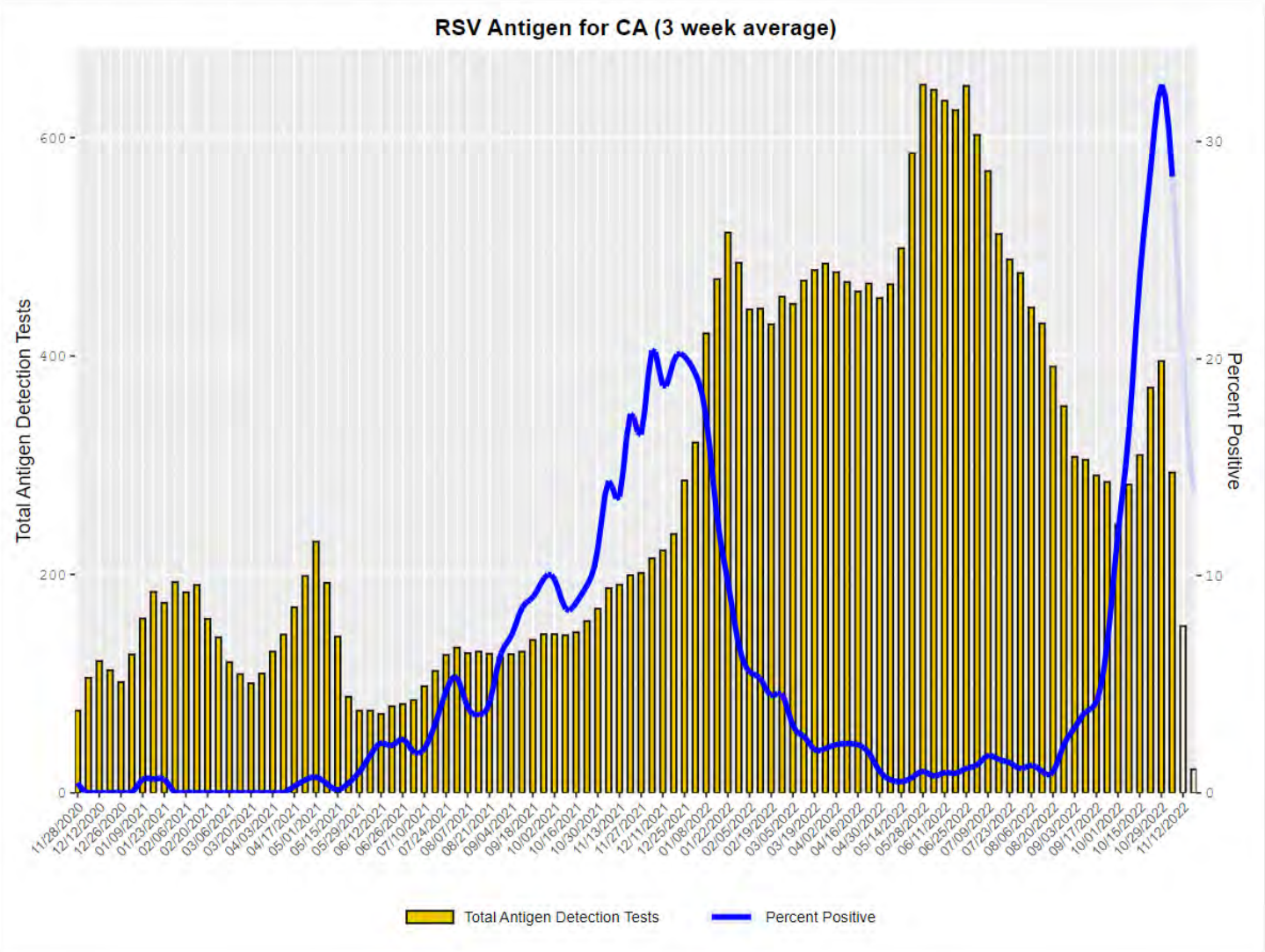
RSV Testing

Total Antigen Tests



The gray line and gray bars indicate weeks when the data may be less complete.

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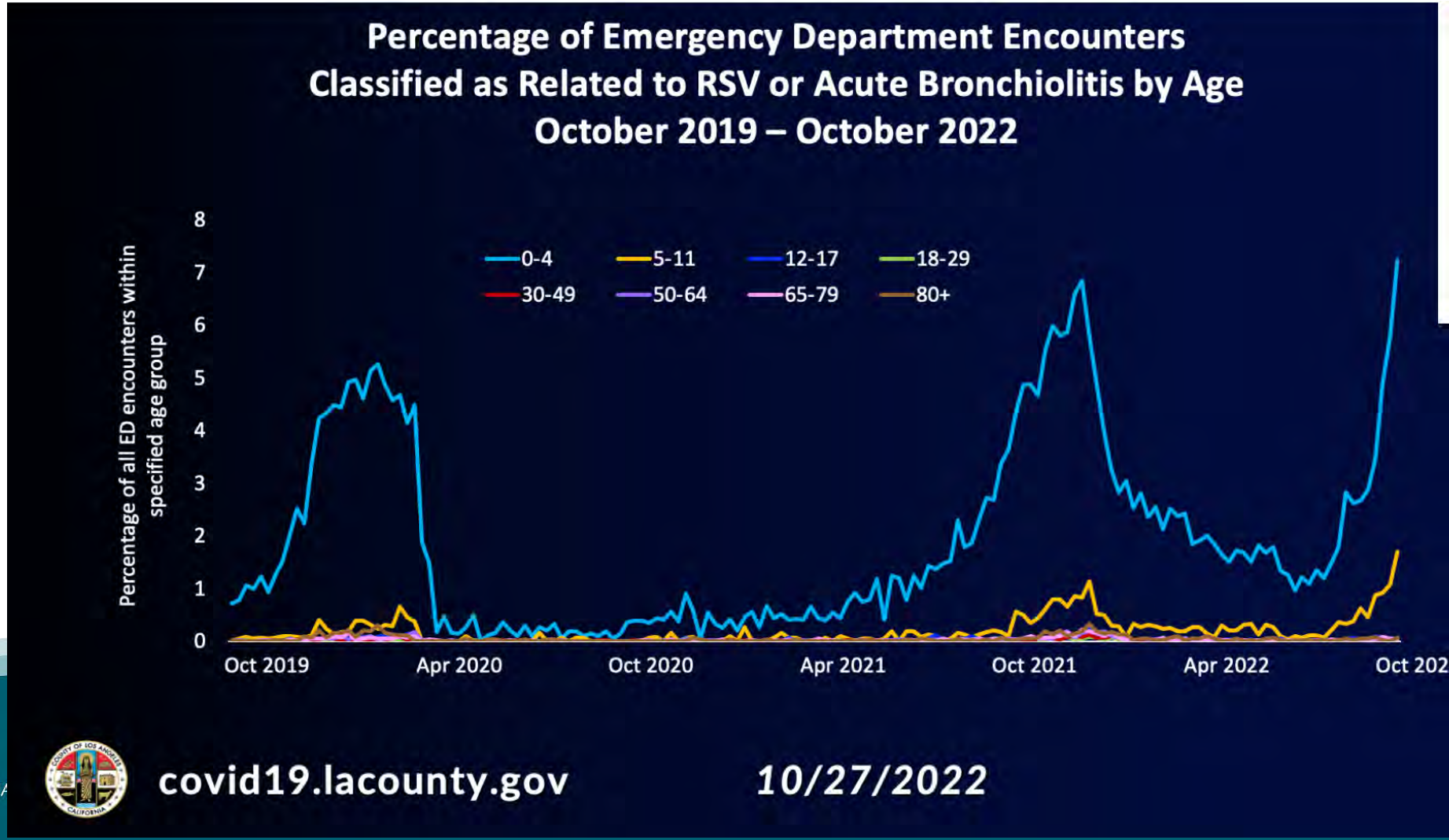

October 4, 2022

CAHAN Advisory on RSV

The California Health Alert Network (CAHAN) has issued a health advisory on early Respiratory Syncytial Virus (RSV) activity and the use of palivizumab.

Key messages:

- Respiratory syncytial virus (RSV) activity is increasing in California.
- Consider testing for additional respiratory pathogens besides SARS-CoV-2, including RSV.
- Administer prophylactic palivizumab to high-risk infants and young children per AAP guidance.
- Encourage parents and caregivers to keep young children with acute respiratory illnesses out of childcare, even if they have tested negative for SARS-CoV-2.
- Discourage health care personnel, childcare providers, and staff of long-term care facilities from working while acutely ill, even if they have tested negative for SARS-CoV-2.
- Encourage patients to receive influenza and COVID-19 vaccines this fall to protect themselves against those respiratory viruses this season.

For more information:

- See the CAHAN health advisory on RSV for more details.
- Updated Guidance: Use of Palivizumab Prophylaxis to Prevent Hospitalization From SevereRespiratory Syncytial Virus Infection During the 2022-2023 RSV Season (aap.org)
- RSV (Respiratory Syncytial Virus) | CDC

RSV Prevention, Testing And Treatment

- **RSV spread by droplets and contact**
  - Masks and hand hygiene can work well
  - Avoid kissing and hugging, avoid sharing beverages/food
  - Palivixumab (Synagis) FDA approved for prophylaxis is high risk infants (premature or heart lung conditions)
    - Monthly injections in the clinic, BPA alert to help providers order
  - Protect those babies and older individuals
- **Rapid RSV testing in clinic**
  - Consider testing to change management (such as closer monitoring)
  - Most sensitive in young children less than 6, standing order for those 6mo-2yrs
  - Infants less than 6mo and kids with difficulty clearing their airway are at the highest risk of complications/morbidity/mortality
- **Treatment for RSV**
  - Typically children are sick enough to need admission
  - Ribavirin or Paliviximab inpatient
  - Infected need to isolate similar to COVID

COVID-19

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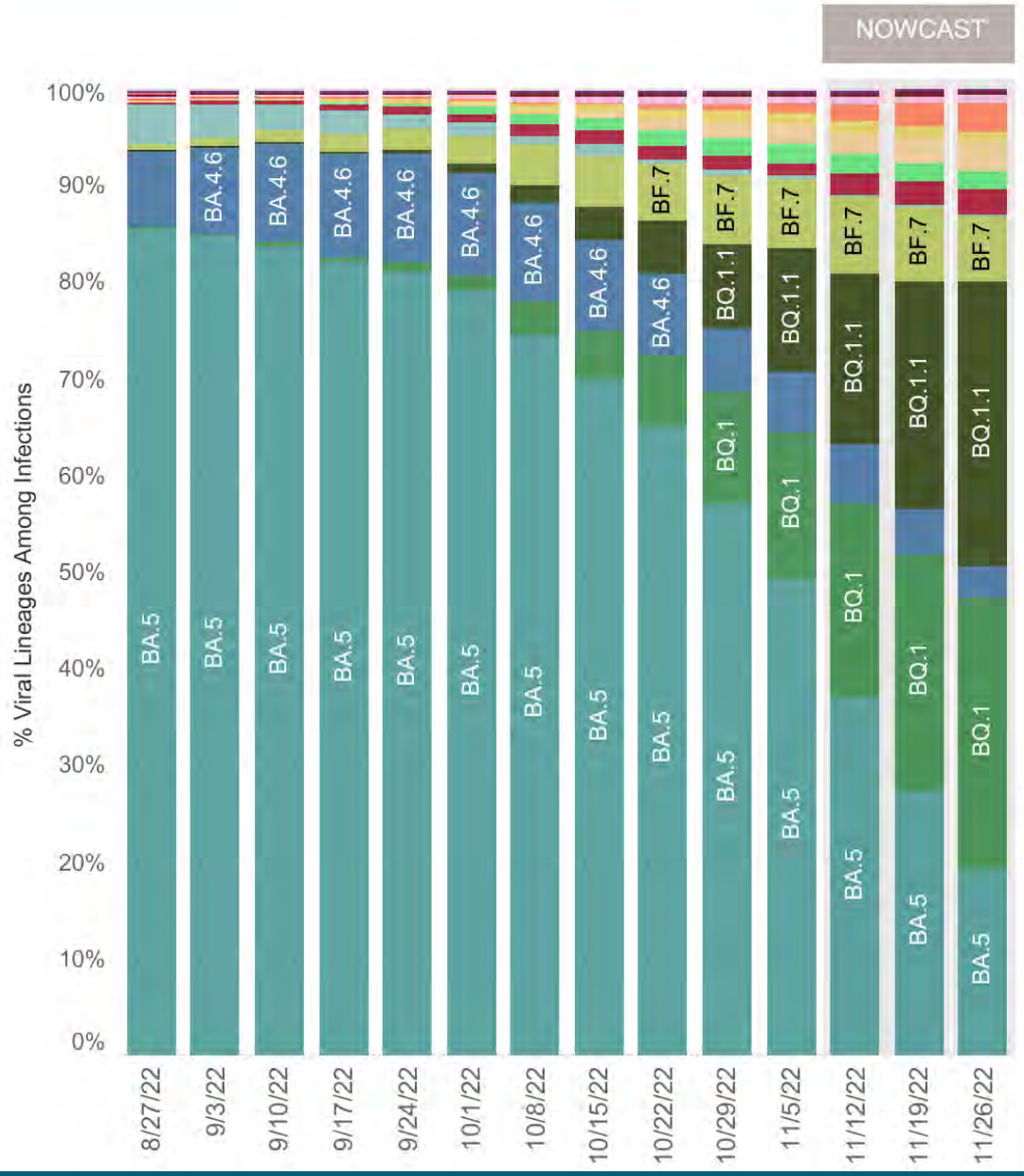
United States: 8/21/2022 – 11/26/2022



United States: 11/20/2022 – 11/26/2022 NOWCAST

USA

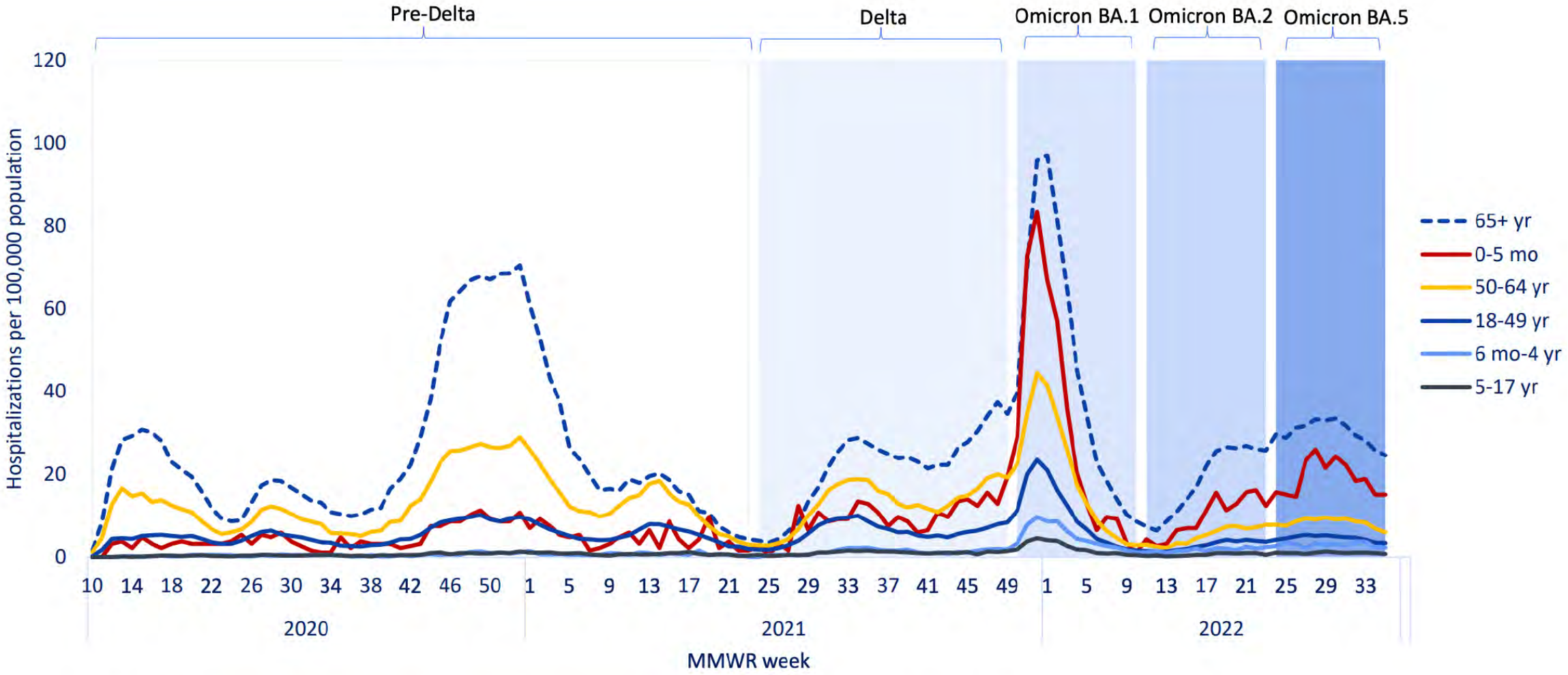
WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BQ.1.1	VOC	29.4%	27.0-31.9%
	BQ.1	VOC	27.9%	25.5-30.5%
	BA.5	VOC	19.4%	17.1-21.9%
	BF.7	VOC	7.0%	6.2-8.0%
	BA.4.6	VOC	3.3%	2.9-3.8%
	XBB	VOC	3.1%	1.5-6.0%
	BN.1	VOC	2.9%	2.3-3.8%
	BA.2.75	VOC	2.6%	2.0-3.5%
	BA.5.2.6	VOC	1.8%	1.5-2.2%
	BF.11	VOC	1.1%	0.8-1.4%
	BA.2	VOC	0.8%	0.5-1.1%
	BA.2.75.2	VOC	0.6%	0.4-0.7%
	BA.4	VOC	0.0%	0.0-0.1%
	BA.1.1	VOC	0.0%	0.0-0.0%
	B.1.1.529	VOC	0.0%	0.0-0.0%
	BA.2.12.1	VOC	0.0%	0.0-0.0%
Delta	B.1.617.2	VBM	0.0%	0.0-0.0%
Other	Other*		0.1%	0.0-0.1%

* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.

** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates

BA.1, BA.3 and their sublineages (except BA.1.1 and its sublineages) are aggregated with B.1.1.529. Except BA.2.12.1, BA.2.75, BA.2.75.2, BN.1,XBB and their sublineages, BA.2 sublineages are aggregated with BA.2. Except BA.4.6, sublineages of BA.4 are

COVID-19-associated hospitalizations by age group, COVID-NET, March 1, 2020 – September 10, 2022



Source: COVID-NET, https://gis.cdc.gov/grasp/COVIDNet/COVID19_3.html. Accessed October 1, 2022.
COVID-NET hospitalization data are preliminary and subject to change as more data become available.

Age-Adjusted Death Rates due to COVID-19 per 100K
November 24, 2022

		Mortality Rate
Los Angeles County Total		311
Race/Ethnicity	Asian	212
	Black/African American	333
	Hispanic/Latino	473
	White	196
Area Poverty	<10% area poverty	186
	10% to <20% area poverty	321
	20% to <30% area poverty	414
	30% to 100% area poverty	551

COVID Test Results – Patient Dashboard

Positivity Rate Increasing AND high demand for testing

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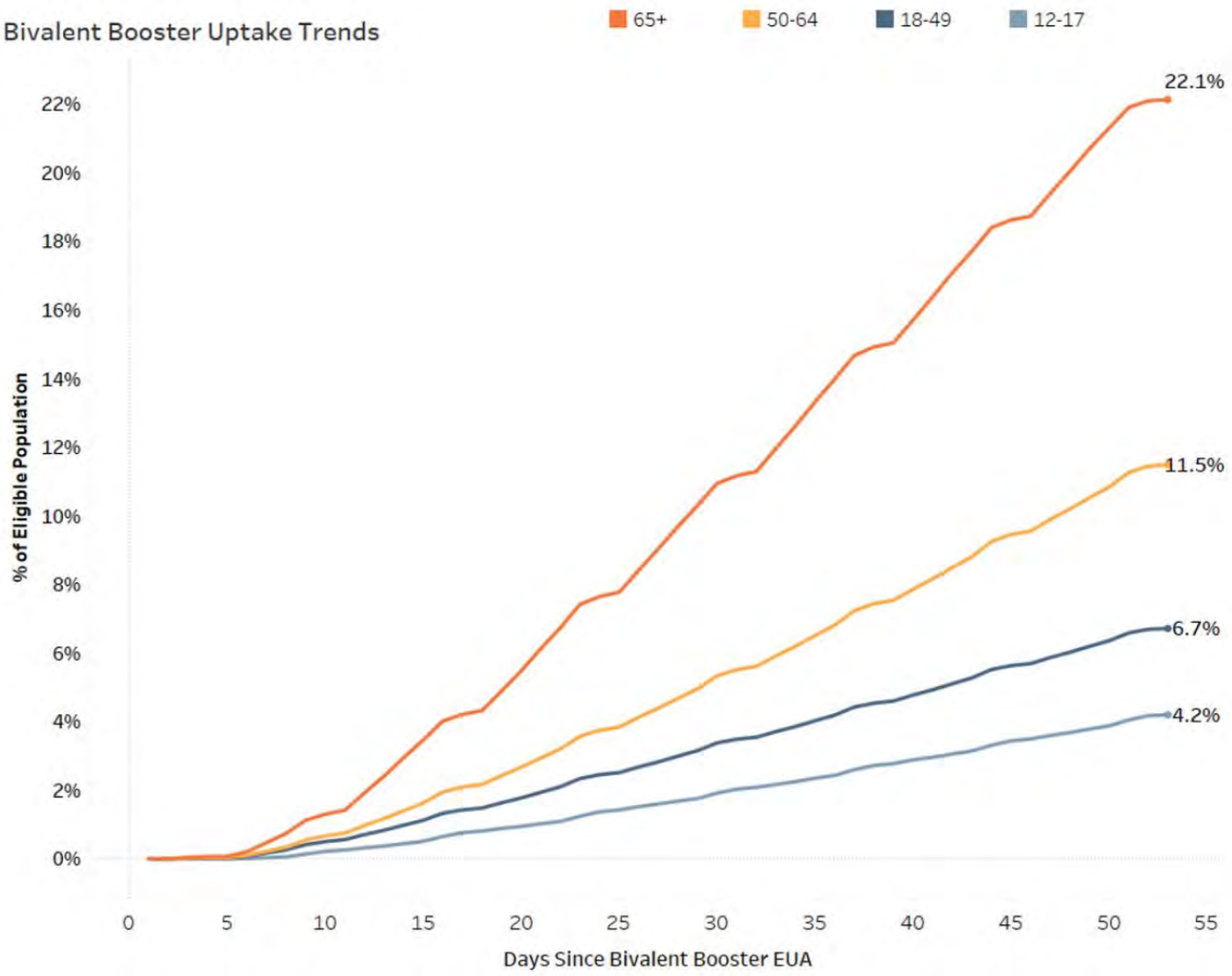
Boosters Uptake Trends

as of October 24, 2022

- Faster uptake among eligible 65+ population compared to other age groups
- Of all bivalent booster doses, 67% have gone to 50+ population



COVID-19 VACCINE SCHEDULES
Immunocompromised Children Ages 6 months – 11 years

Age	Vaccine	Primary Series	Updated Booster
6 months - 4 years	Pfizer	Dose 1 → (3 weeks) Dose 2 → (At least 8 weeks) Dose 3	Booster not currently recommended
6 months - 4 years	Moderna	Dose 1 → (4 weeks) Dose 2 → (At least 4 weeks) Dose 3	Booster not currently recommended
5-11 years	Pfizer	Dose 1 → (3 weeks) Dose 2 → (At least 4 weeks) Dose 3	At least 2 months* → Updated Booster
5-11 years	Moderna	Dose 1 → (4 weeks) Dose 2 → (At least 4 weeks) Dose 3	At least 2 months* → Updated Booster

Children age 5 get the Pfizer booster.

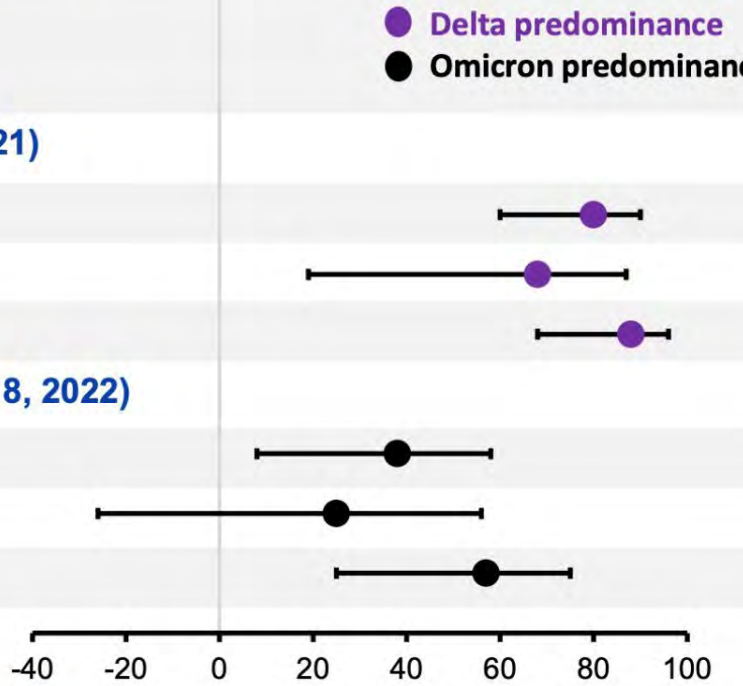
Children ages 6+ get either Moderna or Pfizer booster.

*The updated booster is recommended at least 2 months after the last COVID-19 vaccine (either the final primary series dose or last booster).

- **COVID vaccine dosage is based on age on the day of vaccination, not on size or weight**. Children ages 11 and under get a lower dose of vaccine than teens and adults. For more information, see the CDC webpage, Stay Up to Date with Your COVID-19 Vaccines Including Boosters.
- **COVID-19 vaccines and other routine childhood vaccines can be given at the same visit.**
- **If your child already had COVID-19, they should still get vaccinated.** Wait until they have recovered (if they had symptoms) and finished isolation to get any vaccine, including a COVID-19 vaccine dose. If they recently had COVID-19, you may consider delaying a COVID-19 vaccine dose (primary series or booster) by 3 months from when their symptoms started or when they first had a positive test (if they didn't have any symptoms).
- **For more information**, see the CDC webpage, COVID-19 Vaccines for People who are Moderately or Severely Immunocompromised.

Overcoming COVID-19: Effectiveness of maternal monovalent mRNA primary series in prevention of hospitalization among infants ages 0-5 months by variant period and timing of vaccination during pregnancy

Variant period and timing of second dose during pregnancy	Adjusted VE (95% CI)
During Delta predominant period (July 1, 2021 to December 18, 2021)	
Any time	80 (60 to 90)
First 20 weeks	68 (19 to 87)
After 20 weeks	88 (68 to 96)
During Omicron predominant period (December 19, 2021 to March 8, 2022)	
Any time	38 (8 to 58)
First 20 weeks	25 (-26 to 56)
After 20 weeks	57 (25 to 75)



- Maternal COVID-19 primary series vaccination protected infants ages 0-5 months from hospitalization for COVID-19
- Protection was lower during Omicron than Delta predominance

Halasa et al. Maternal Vaccination and Risk of Hospitalization for Covid-19 among Infants. N Engl J Med. 2022 Jul 14;387(2):109-119. doi: 10.1056/NEJMoa2204399. Epub 2022 Jun 22. PMID:

COVID vaccine during pregnancy

- COVID-19 can cause severe disease in pregnant people and infants.
- COVID-19 vaccination of pregnant people is safe for pregnant people and infants.
- Maternal monovalent mRNA COVID-19 vaccination protects pregnant people and infants ages 0-5 months from COVID-19, including from severe disease and hospitalization.
- Monovalent vaccine effectiveness was lower during Omicron predominance, when there was mismatch between the vaccine and predominant circulating variant.
- Everyone, including people who are pregnant, trying to become pregnant, may become pregnant, and who are breastfeeding, should stay up to date with COVID-19 vaccines and get the recommended updated (bivalent) booster, when eligible

Small molecule antivirals anticipated to be active against new variants

	1) Nirmatrelvir/r	2) Remdesivir	3) Molnupiravir
Efficacy (prevention hospitalization or death)	• **Relative risk reduction: 88%** • Absolute risk: 6.3%→0.8% • NNT: 18	• **Relative risk reduction: 87%** • Absolute risk: 5.3%→0.7% • NNT: 22	• **Relative risk reduction: 30%** • Absolute risk: 9.7%→6.8% • NNT: 35
Pros	• Highly efficacious • Oral regimen • Ritonavir studied (safe) in pregnancy	• Highly efficacious • Studied in pregnancy • Few/no drug interactions	• Oral regimen • Not anticipated to have drug interactions
Cons	• Drug drug interactions	• Requires IV infusion on 3 consecutive days	• Lower efficacy • Concern: mutagenicity • Not recommended in pregnancy/children

Modified from Table in Gandhi RT, Malani P, del Rio C, JAMA, Jan 14, 2022

Choosing the Right Antiviral

FDA Fact Sheets
NIH Treatment Guidelines
Solera et al., AJT 2022
Hedvat et al., AJT 2022
Radcliffe et al., AJT 2022

	Route	Effectiveness*	Patient Considerations	Major Issues	Other Notes
Remdesivir (Veklury®)	IV 3 days, daily	+++	Mild-mod transaminase ↑ common (inpt 5-10 dy course)	Logistics	FDA-approved, inc for infants >28 days **≤7 days** of sx onset
Nirmatrelvir/ Ritonavir (Paxlovid™)	Oral 5 days, twice daily	+++	Not recommended for Child C liver disease or GFR<30	Drug-drug interactions	½ dose N if GFR 30-59 **≤5 days** of sx onset GI AE, rebound?
Molnupiravir (Lagevrio™)	Oral 5 days, twice daily	+	No dose change for renal or liver disease	Lower effectiveness	?Mutagenicity ≠<18yr; + contraception **≤5 days** of sx onset

*Effectiveness data in immunocompromised persons consist primarily of case series

The COVID-19 Treatment Guidelines Panel's Statement on Omicron Subvariants, Pre-Exposure Prophylaxis, and Therapeutic Management of Nonhospitalized Patients With COVID-19. *Last Updated: November 10, 2022*

For Pre-Exposure Prophylaxis

- Tixagevimab + cilgavimab is the only agent authorized by the FDA for use as COVID-19 PrEP ….
- In the absence of an alternative option for PrEP, the Panel
- logistics.
- Individuals who receive tixagevimab plus cilgavimab as PrEP should continue to take precautions to avoid exposure to SARS-CoV-2. If they experience signs and symptoms consistent with COVID-19, they should be tested for SARS-CoV-2 infection and, if infected, promptly seek medical attention and treatment, if appropriate.

Do not use Evushield for prophylaxis right now with the current variants.

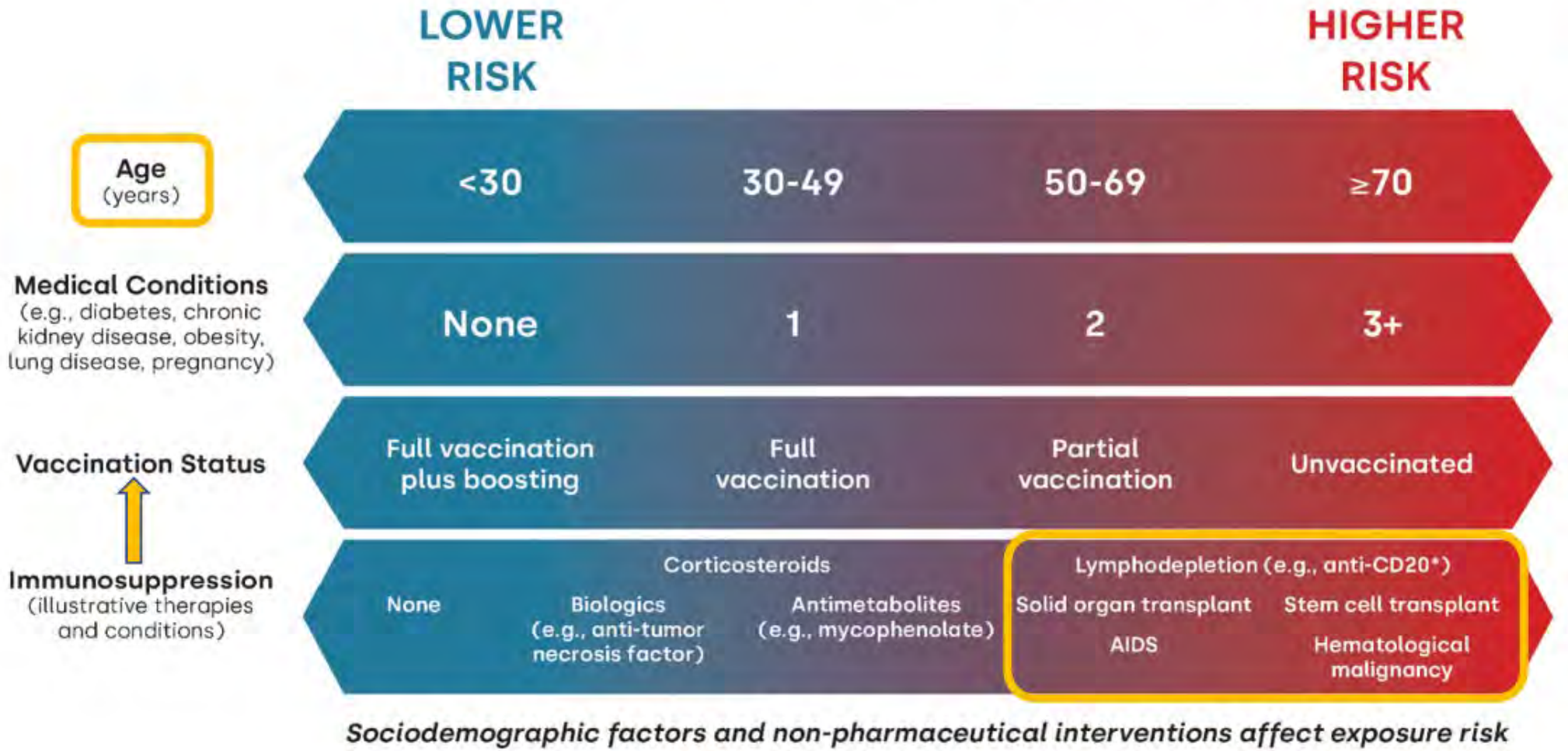
Only prescribe Bebtelovimab or Molnupirivir for treatment if you cannot get Paxlovid or Remdesivir.

For Treatment of Mild to Moderate COVID-19 in Nonhospitalized Adults Who Are at High Risk of Progressing to Severe COVID-19

…wing …atments …er of …(AIIa) …e used …es are available, feasible to use, or clinically appropriate. These drugs are listed in alphabetical order:

- Bebtelovimab, but ONLY when the majority of circulating Omicron subvariants in the region are susceptible (CIII)
- Molnupiravir (CIIa)

COVID-19 Risk Continuum

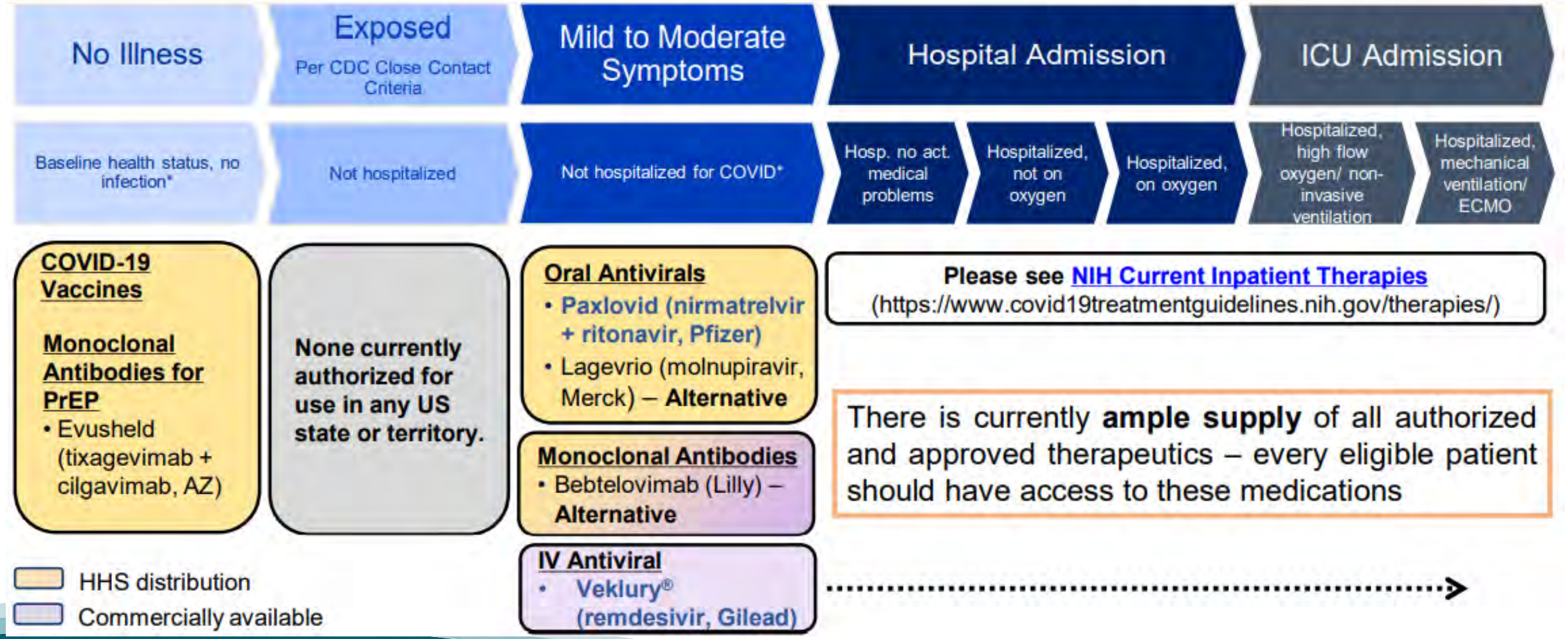


Sociodemographic factors and non-pharmaceutical interventions affect exposure risk

Original illustration by Dr. William Werbel. Adapted for the COVID-19 Real-Time Learning Network

Brought to you by CDC and IDSA

Summary of COVID-19 Preventative Agents & Outpatient Treatments



COVID-19

- **COVID-19 Prevention**
  - Up-to-date on COVID-19 vaccine
  - Masking indoors and in crowded spaces
  - Wash hands frequently, avoid kissing, hugging, shaking hands, sharing food
  - Increase ventilation/filtration
  - Evushield not recommended at this time due to variants circulating and resistance.
- **COVID-19 Testing**
  - Have antigen tests at home
  - Repeated Tests if any symptoms or if exposed to COVID-19, prior to gatherings and post crowded gatherings
  - Rapid tests available at AltaMed, automatically reported +
  - PCR tests available at AltaMed, no need to report + unless hospitalized or death from COVID-19
- **COVID-19 Treatment**
  - Paxlovid #1 treatment, must be given within 5 days of treatment
  - Everyone should have a treatment plan
  - Making Test to Treat Program even more robust this year

MPOX

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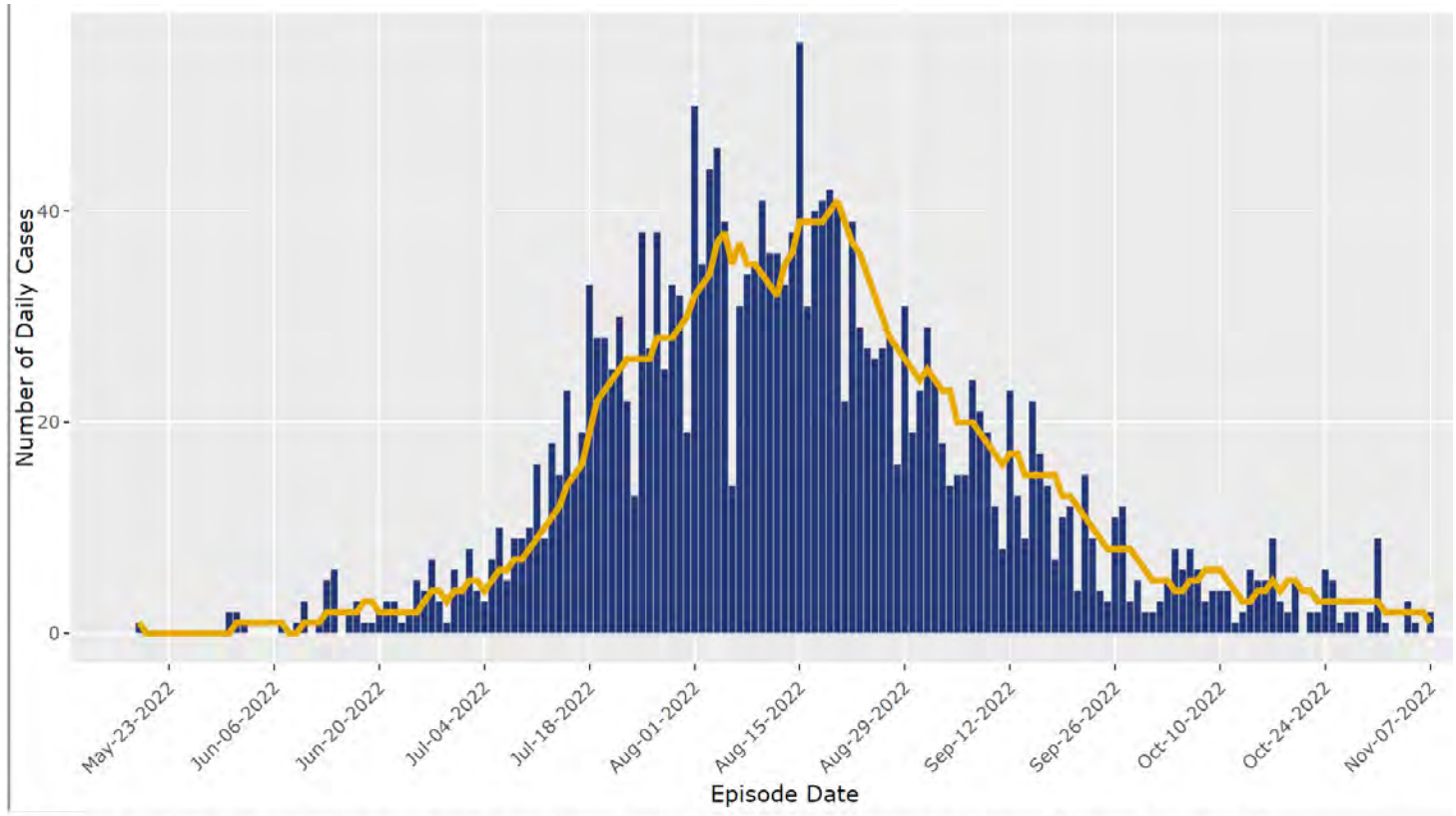
- MPOX cases have declined since Mid Aug 2022
- New cases including clinically severe cases continue to occur
- 96% of overall cases identify as male, 76% reported identifying as gay, lesbian or bisexual
- Tpox resistance has been rarely reported in 2 patients with prolonged severe disease and treatment
- Only about 50% of patient that rec'd their 1st MPOX vaccine have rec'd their second dose



Episode date is defined as the earliest existing value of: Date of Onset, Date of Diagnosis, Date of Death, Date Received, Specimen Collection Date.

Updated Vaccine Eligibility

Updated: October 28, 2022

MPOX vaccine will be available to residents who self-attest to being in the following groups:

- (UPDATE) Any man or transgender person who has sex with men or transgender persons
- (UPDATE) Persons of any gender or sexual orientation who engage in commercial and/or transactional sex or have sex in association with a large public event
- Persons living with HIV, especially persons with uncontrolled or advanced HIV disease
- Persons who had skin-to-skin or intimate contact with someone with suspected or confirmed MPOX, including those who have not yet been confirmed by Public Health
- Sexual partners of people in any of the above groups
- People who anticipate being in any of the above groups

NOTE: When self-attesting to eligibility, you **do not** have to disclose which group(s) you are attesting to being part of.

Update Regarding MPOX Vaccine Admin

- **Patients may opt to receive vaccine subQ instead of intradermal if they are concerned for keloid or excessive scarring**
- **Need to continue to keep track of vaccines administered and wasted to report to DPH**

Remember to Protect Yourself and Patients

- **Any patients coming in with rash, STD concerns, concerns for MPOX, rectal pain, fever, flu like illness, stomach flu, diarrhea needs to be isolated**
- **All staff need to wear a face shield and mask with every patient (anyone in isolation you should wear an N95 mask, gown and gloves)**
- **When rooming a patient protect your skin and clothes from touching patients skin (wear gloves)**
- **If a patient discloses any concerning URI/Flu/Rash Like Symptoms, excuse yourself and put on gown, gloves in addition to face shield and N95 mask**
- **Per CDC and CDPH, we shouldn't be unroofing skin lesions for samples as it increases risk of exposure**

MPOX Workflow For Diagnosis

Patient Presents

- Isolation Precautions (may be presenting with proctitis or STD sx)
- Contact Infection Prevention Dr. Brown or Darlene Dickens-Jeffers
- MPOX Testing

Positive Test

- Contact patient go over isolation recommendations
- Report to Department of Health
- Report to Infection Prevention Darlene Dickens-Jeffers (email ok with situation/pt info)
- Refer to DVL provider for visit Televideo or F2F (can go through PSC or send message to Rina Lara or Michelle Jaramillo-Chavez) if you think they may need treatment

Treatment*

- SHOULD ONLY PRESCRIBED BY DVL PROVIDER
- DVL will follow the patient if needing treatment
- Any pediatric cases should be immediately reported to Dr. Sherrill Brown and Dr. Yvonne Gutierrez via email or text. They will need to be referred to a pediatric provider that can prescribe Tpoxx.

Tecoviramat 200mg tabs, 600mg PO BID for 14 days

MPOX Specimen Collection Update

- **The CDC published an update regarding specimen collection, for the MPOX specimens from the CDC, on September 20, 2022.**
- **The guidance states wet or dry specimens are acceptable, depending on the laboratory.**
- **Quest Diagnostics has updated the specimen collection guidelines, which allow a wet specimen to be submitted.**
- **For Quest, VCM tubes can be used and the specimen swab tip shall be placed in the medium. Please follow specimen storage guidelines.**
- **No longer recommending unroofing lesions for testing. Just vigorous swabbing.**

Responding to a Positive Test

- **Document the call from quest in the EMR.**

- **Ideally same day televisit will be added to the ordering provider**
  If not the ordering provider, same day visit for available provider and that visit provider should complete the below workflow

- **Provider call to notify the patient and go over isolation instructions for staying at home.**
  Public Health Instructions: http://www.publichealth.lacounty.gov/media/MPOX/resources.htm#reduce

- **Patients must continue to isolate until all lesions have fallen off and healthy pink skin shows underneath. May be hypopigmented**

- **Let them know that public health will call them and to answer phone**

- **Get additional details about patient's infection, severity, how many lesions and locations, possible exposures to other family members. Note how they could have been exposed**

Responding to a Positive Test Part 2

- **Notify public health (LA county online form, other counties call them)**
  Info for LA County or Pasadena
  https://dphredcap.ph.lacounty.gov/surveys/?s=DMRYFCC3TM
  Info for Orange County
  https://www.ochealthinfo.com/MPOX
  Info for Long Beach
  Confidential Morbidity Report (CMR) and fax with laboratory results to 562.570.4374 or send by secure email to LBEpi@longbeach.gov.
- **If you are not the ordering provider, send a secure message via EPIC to the ordering provider so they are aware.**

Notify Darlene Dickens-Jeffers in infection prevention, this can be in an email with all the pertinent details, patients name and MRN.

She will conduct exposure investigation.

- **Have the patient scheduled for a follow up televideo visit 3-5 days later to check in with DVL Commerce or Anaheim if treatment may be indicated.**
  Unless the patient is having severe symptoms then schedule an immediate tele visit with next available DVL provider. Rina Lara and Michelle Jaramillo-Chavez DVL Front Office can assist with getting patient scheduled. Secure message them with info and they will call to schedule patient.

Putting It All Together

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Putting it Together for Holiday Gatherings

- **Avoid getting sick at baseline**
  - Get vaccinated (flu vaccine, updated COVID booster, Tdap, Pneumococcal vaccine, be up-to-date)
  - Wear your mask indoors & outside of your home (also kids while indoors at school)
  - Wash your hands for the full 20 seconds, carry hand sanitizer
  - Avoid shaking hands, kissing and hugging (elbow bumps)
- **Test before you go**
  - Test (at a minimum) the day of your event, consider also 2 days ahead as well
  - Stay home if you are feeling ill (Buy your Secret Santa gift early just in case, FaceTime in, binge watch a cool show)
  - No COVID or flu but can't get out of gathering, wear a mask around everyone and don't hug, kiss or shake hands
- **Protect those at risk**
  - Babies, especially <6months old. Keep them at home and or away from hugging kissing relatives
  - Older adults, recommend mask usage, vaccines, hand hygiene
  - Improve ventilation/filtration, decrease crowding indoors
  - If someone gets sick, have a plan for testing and treatment ASAP

Thank you.

Sherrill Brown, MD
Medical Director of Infection Prevention
Darlene Dickens-Jeffers, MSN-Ed, RN, PHN, IP, CIC
Director of Infection Prevention

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Appendix

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COVID-19 Vaccine Update November 2022

COVID-19 Pediatric Bivalent Boosters (5-11 years of age)

On October 12th the FDA approved EAUs for pediatric bivalent boosters and the CDC quickly followed with approval and recommendations for use of:

- Pfizer for 5-11 years of age (dose 0.2ml)
- Moderna for 6-11 years of age (dose 0.25ml)

Bivalent Boosters aka Updated Boosters

*People ages 5 years and older are recommended to receive 1 age-appropriate bivalent mRNA booster dose after completion of any FDA-approved or FDA-authorized monovalent primary series or previously received monovalent booster dose(s). This means mixing and matching of bivalent boosters is permitted for patients ages 6+. *Patient's 5 years of age, prior to 6th birthday can ONLY receive Pfizer(5-11yo) booster **

◦ Can be administered at least 2 months after either completion of the primary series or last monovalent booster dose.

◦ This new booster recommendation replaces all prior booster recommendations for this age group.

◦ Monovalent mRNA vaccines are no longer authorized as a booster dose for people ages 5 years and older.

◦ Only monovalent vaccines are approved or authorized for primary series doses.

COVID-19 Vaccines Currently Available at AltaMed Health Services Clinic

Primary Series Vaccines:

- Pfizer Orange Cap Monovalent Pediatric Vaccines for Patients 5-11 years of age
- Pfizer Gray Cap Monovalent Vaccines for Patients 12 years and older

- Moderna Magenta Border Monovalent Vaccines for patients 6 months to 5 years
- Moderna Purple Border Monovalent Vaccines for patients 6-11 years
- Moderna (Red Cap) Light Blue Border Monovalent Vaccines for patients 18 years and older.

***** Due to the increased risk of Myocarditis and Pericarditis, we are not administering Moderna Vaccines to patients 12-17 years of age.

- Novavax Royal Blue Cap Vaccine for patients 12 years and older

COVID-19 Vaccines Currently Available at AltaMed Health Services Clinic

Bivalent Booster Vaccines:

- Pfizer Bivalent Booster Vaccine for patients 5-11 years of age.
- Pfizer Bivalent Booster Vaccine for patients 12 years an older
- Moderna Bivalent Booster Vaccine for patients 6 years and older (One vial for all age groups/dose varies by age). ***** Due to the increased risk of Myocarditis and Pericarditis we are not administering Moderna Bivalent Booster Vaccines to patients 12-17 years of age.

Important Reminders/Information:

- Patients 5 years old (up to their 6th birthday) may only receive the Pfizer Bivalent booster.
- Mixing and matching is approved for patients 6 years and older for the bivalent boosters. As a result most clinics will only have the Moderna Bivalent Boosters available but we have Pfizer Peds Bivalent doses available at Corporate if you have a demand for it.
- Pfizer Peds Bivalent Boosters will be available at **CHLA, Westlake Peds, Anaheim and Goodrich.**

Where are Pediatric COVID-19 Vaccines Available?

The following clinics are administering Pfizer 5-11 year old monovalent vaccines (2nd and 3rd doses only), Moderna 6 months- 5 years monovalent vaccines, Moderna 6-11 years monovalent vaccines and Moderna Bivalent Boosters for 6-11 year olds.

CHLA	First Street
Westlake Peds	Boyle Heights
SouthGate	West Covina
Goodrich	Pico Slauson
Anaheim	El Monte-Valley

Our goal is to move towards all Moderna COVID-19 pediatric vaccines by the end of 2022, so we are only using Moderna for patients starting their primary series. In addition, we will continue to expand these vaccines to the rest of our Health Services Clinics.

Where are Adult COVID-19 Vaccines Available?

Novavax monovalent primary series are available at Anaheim and Goodrich

Anaheim on Wednesdays from 12-6PM

Goodrich on Tuesdays from 1:30-2PM and 3-6:30PM and Fridays from 10AM-12:30 and 2-3PM

* **Novavax Booster** dose has been approved for patients:

- At least 18 years of age **AND**
- Completed a primary COVID-19 vaccine series with any FDA-approved or FDA-authorized monovalent COVID-19 vaccine **AND**
- Has not received any booster doses of COVID-19 vaccine **AND**
- Unable (e.g., mRNA vaccine contraindicated or not available) or unwilling to receive an mRNA vaccine; would otherwise not receive a COVID-19 booster dose.

Timing

Administer a booster dose of Monovalent Novavax COVID-19 Vaccine at least 6 months after completion of a primary series.

*** We are currently working on updating the Standing Orders and providing education to the staff so these boosters are not being administered yet.

Where are Adult COVID-19 mRNA Monovalent and Bivalent Vaccines Available?

Boyle Heights	Moderna and Pfizer
CHLA	Pfizer (Monovalent) and Moderna (Bivalent Booster only).
Commerce ELA	Moderna
Goodrich	Moderna and Pfizer
El Monte	Pfizer
El Monte (SA)	Moderna
First Street	Pfizer
Huntington Park	Moderna and Pfizer
Pico Passons	Moderna and Pfizer
Pico Slauson	Pfizer

Where are Adult COVID-19 mRNA Monovalent and Bivalent Vaccines Available?

South Gate	Moderna and Pfizer
West Covina	Moderna and Pfizer
Westlake Adult	Moderna and Pfizer
Westlake Peds	Moderna and Pfizer (Bivalent boosters only)

*** The plan is to expand COVID-19 vaccines to the remaining 3 clinics (Florence-Firestone, Huntington Park-Rugby and Pasadena) by the end of the year. These clinics will have Moderna products only.

What's Next in COVID-19 Vaccines?

Information provided by the California Department of Health indicates:

- Pfizer Bivalent Boosters for patients 12 years and older will be available in single dose starting the week after Thanksgiving
- Single dose vaccines will be available for the pediatric populations at the end of 2022 or early 2023 (Not confirmed yet).
- Bivalent mRNA vaccines will be used for primary series vaccines starting in early 2023 and monovalent vaccines will no longer be used (not confirmed yet).
- We will likely see these vaccines switch to private sales, VFC already has plans to add the pediatric vaccines to their inventory.

COVID-19 Vaccine Product Guide

Vaccinate ALL 58

Check vaccine labels and EUA fact sheets before use to avoid mix-ups.
EUA fact sheets supersede info on vials and carton. Refer to CDC Product Guide for more information.

	Pfizer				
	Infant/Toddler 6 months–4 years*	Pediatric Primary Series 5–11 years	Bivalent Booster 5-11 years	Adol/Adult Primary Series 12+ years	Bivalent Booster 12+ years
			 "Bivalent" on label		
Packaging	Maroon Cap	Orange Cap	Orange Cap	Gray Cap	Gray Cap
Doses Per Vial	10 doses	10 doses	10 doses	6 doses	6 doses
Carton Size	100 doses	100 doses	100 doses	60 doses	60 doses
Min. Standard Order	100 doses	100 doses	100 doses	300 doses	300 doses
NDC-Unit of Use (vial)	59267-0078-01	59267-1055-01	59267-0565-01	59267-1025-01	59267-0304-01
CVX Code	219	218	301	217	300
Storage Limits Before Puncture: Label vaccine with expiration and use-by dates.					
ULT (-90ºC to -60ºC)	Until expiration				
Thermal Shipper	⛔				
Freezer	⛔				
Refrigerator (2–8ºC)	Up to 10 weeks (write the date on carton)				
Expiration Date	12 months from manufacture date printed on vial and carton or check product website.				
Administration					
Diluent (supplied)	2.2 mL per vial	1.3 mL per vial	1.3 mL per vial	**Do not dilute.**	**Do not dilute.**
Dose Volume–Primary/Additional	0.2 mL† (3 mcg dose)	0.2 mL† (10 mcg dose)	N/A	0.3 mL (30 mcg dose)	N/A
Dose Volume–Booster	N/A	**Do not use for boosters.**	0.2 mL† (10 mcg dose)	**Do not use for boosters.**	0.3 mL (30 mcg dose)
Refrigerator Thaw Time (2º to 8ºC/ 36°F to 46°F) (Do not refreeze)	Up to 2 hours in carton	Up to 4 hours in carton	Up to 4 hours in carton	Up to 6 hours in carton	Up to 6 hours in carton
Room Temp Thaw Time	Vial: 30 minutes at up to 25ºC (77ºF)				
Total Time at Room Temp (Do not refreeze)	Up to 12 hours (including thaw time) at up to 25ºC (77ºF)				
Storage Limits After Puncture: Record puncture and use-by time on vial label.					
Use-By Limit (Discard Time After 1st Puncture)	Discard after 12 hours at 2°C to 25°C (35°F to 77°F)				

* Labels for Pfizer 6 months-4 years product may not reflect expanded age ranges. Refer to Provider Letter.
† Syringes in ancillary kits may require estimating volume between lines, or using private stock.

https://eziz.org/assets/docs/COVID19/IMM-1425.pdf?msdynttrid=uhqkW7kicWtuHPXJiEVudoxQnTmm6AEEa3l6iKYagSs#page=73

COVID-19 Vaccine Product Guide

Vaccinate ALL 58

Check vaccine labels and EUA fact sheets before use to avoid mix-ups.
EUA fact sheets supersede info on vials and carton. Refer to CDC Product Guide for more information.

	Moderna			
	Infant/Toddler 6 months–5 years	Pediatric 6-11 years*	Adol/Adult 12+ years	Bivalent Booster 6+ years
	 Magenta Border	 Purple Border	 Light Blue Border	 Gray Border
Packaging	Dark Blue Cap	Dark Blue Cap	Red Cap	Blue Cap
Doses Per Vial	10 doses	5 doses	10-11 doses	5-10 doses
Carton Size	100 doses	50 doses	100 doses	50-100 doses
Min. Standard Order	100 doses	100 doses	100 doses	100 doses
NDC-Unit of Use (vial)	80777-0279-05	80777-0275-05	80777-0273-10	80777-0282-05
CVX Code	228	221	207	229
Storage Limits Before Puncture: Label vaccine with expiration and use-by dates.				
ULT (-90ºC to -60ºC)	⛔			
Thermal Shipper	⛔			
Freezer	Until expiration at -50ºC to -15ºC (-58ºF to 5ºF)			
Refrigerator	Up to 30 days (write the date on carton) at 2–8ºC (36-46ºF)			
Expiration Date	Check product website or QR code.			
Administration				
Diluent	**Do not dilute.**			
Dose Volume–Primary/Additional	0.25 mL† (25 mcg dose)	0.5 mL (50 mcg dose)	0.5 mL (100 mcg dose)	N/A
Dose Volume–Booster	N/A	**Do not use for boosters, despite label.***	**Do not use for boosters.**	**Ages 12+:** 0.5 mL **Ages 6-11:** .25 mL†
Refrigerator Thaw Time (2º to 8ºC/ 36°F to 46°F) (Do not refreeze)	2 hours (Let vial stand at room temp for 15 min before administering.)	2 hours (Let vial stand at room temp for 15 min before administering.)	2.5 hours (Let vial stand at room temp for 15 minutes before administering.)	2 hours (Let vial stand at room temp for 15 minutes before administering.)
Room Temp Thaw Time	45 minutes at 15º to 25ºC (59º to 77ºF)	45 minutes at 15º to 25ºC (59º to 77ºF)	1 hour at 15º to 25ºC (59º to 77ºF)	45 minutes at 15º to 25ºC (59º to 77ºF)
Total Time at Room Temp (Do not refreeze)	Store up to 24 hours at 8°C to 25°C (46°F to 77°F)			
Storage Limits After Puncture: Record puncture and use-by time on vial label.				
Use-By Limit (Discard Time After 1st Puncture)	Discard after 12 hours at 2°C to 25°C (36°F to 77°F)			

* Labels for early shipments of Moderna 6-11 years (dark blue cap/purple border) product do not reflect authorized age ranges. Refer to Provider Letter.
† Syringes in ancillary kits may require estimating volume between lines, or using private stock.

https://eziz.org/assets/docs/COVID19/IMM-1425.pdf?msdynttrid=uhqkW7kicWtuHPXJiEVudoxQnTmm6AEEa3l6iKYagSs#page=65

COVID-19 Vaccine Timing

Vaccinate ALL 58

Routine Schedule

Age*	Vaccine	Primary Doses					Booster Dose
6 months–4 years	Pfizer–Infant/Toddler	1st Dose	3-8 weeks*	2nd Dose	≥8 weeks	3rd Dose	
6 months–5 years	Moderna–Infant/Toddler	1st Dose	4-8 weeks^	2nd Dose			
5–11 years	Pfizer–Pediatric	1st Dose	3-8 weeks*	2nd Dose			
6–11 years	Moderna–Pediatric	1st Dose	4-8 weeks^	2nd Dose			
12+ years	Moderna–Adol/Adult	1st Dose	4-8 weeks*	2nd Dose			
12+ years	Pfizer/Adol/Adult	1st Dose	3-8 weeks*	2nd Dose			
12+ years	Novavax	1st Dose	3-8 weeks*	2nd Dose			
18+ years	Janssen (J&J) Pfizer/Moderna preferred**	1st Dose					

≥2 months

Bivalent Booster

Pfizer: Ages 5-11
Pfizer: Ages 12+

Moderna: Ages 6+

(For people who previously received a monovalent booster dose(s), the bivalent booster is administered at least 2 months after the last monovalent booster dose.)

* See schedules for children in transition from a younger to older age group: Pfizer | Moderna.
** Although use of mRNA COVID-19 vaccines is preferred, the Janssen vaccine may be offered in some situations.
^ An 8-week interval may be preferable for some people, especially for males 12-39 years.

View Interim Clinical Considerations for Use of COVID-19 Vaccines for details. Schedule is subject to change.

COVID-19 Vaccine Timing

Vaccinate ALL 58

Schedule if Moderately or Severely Immunocompromised

Age*	Vaccine	Primary Doses					Booster Dose
6 months–4 years	Pfizer–Infant/Toddler	1st Dose	3 weeks	2nd Dose	≥8 weeks	3rd Dose	
6 months–5 years	Moderna–Infant/Toddler	1st Dose	4 weeks	2nd Dose	≥4 weeks	3rd Dose	
5–11 years	Pfizer–Pediatric	1st Dose	3 weeks	2nd Dose	≥4 weeks	3rd Dose	
6–11 years	Moderna–Pediatric	1st Dose	4 weeks	2nd Dose	≥4 weeks	3rd Dose	
12+ years	Moderna–Adol/Adult	1st Dose	4 weeks	2nd Dose	≥4 weeks	3rd Dose	
12+ years	Pfizer/Adol/Adult	1st Dose	3 weeks	2nd Dose	≥4 weeks	3rd Dose	
12+ years	Novavax	1st Dose	3 weeks	2nd Dose			
18+ years	Janssen (J&J) Pfizer/Moderna preferred**	1st Dose	4 weeks	2nd Dose of Moderna/ Pfizer			

≥2 months

Bivalent Booster

Pfizer: Ages 5-11
Pfizer: Ages 12+

Moderna: Ages 6+

(For people who previously received a monovalent booster dose(s), the bivalent booster is administered at least 2 months after the last monovalent booster dose.)

* See schedules for children in transition from a younger to older age group: Pfizer | Moderna.
** Although use of mRNA COVID-19 vaccines is preferred, the Janssen vaccine may be offered in some situations.

View Interim Clinical Considerations for Use of COVID-19 Vaccines for details. Schedule is subject to change.

Co-Administration of Vaccines

- Flu + Any Vaccine= Yes Please
- Flu + Bivalent Booster= Yes Please
- Flu + Monkeypox Vaccine= Yes Please
- Monkeypox + COVID-19= Ok for All Women and Men >39
  - 12-39 (risk of myocarditis/pericarditis)
  - Wait 4 wks for now from last vaccine

Question: I didn't get my second Monkeypox vaccine after 4 weeks. Can I get it now?

Yes, they should be scheduled for their 2nd dose+Flu shot.

Question: Can I get the Bi-Valent booster if I've had COVID-19?

Yes, they can. May be worthwhile to wait for 1-3 months post infection.

Thank you.

Sherrill Brown, MD
Medical Director of Infection Prevention
Darlene Dickens-Jeffers, MSN-Ed, RN, PHN, IP, CIC
Director of Infection Prevention

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