COVID-19 Grand Rounds
Update on Surge, Testing, Treatment
Data related to vaccinating kids

February 15, 2022

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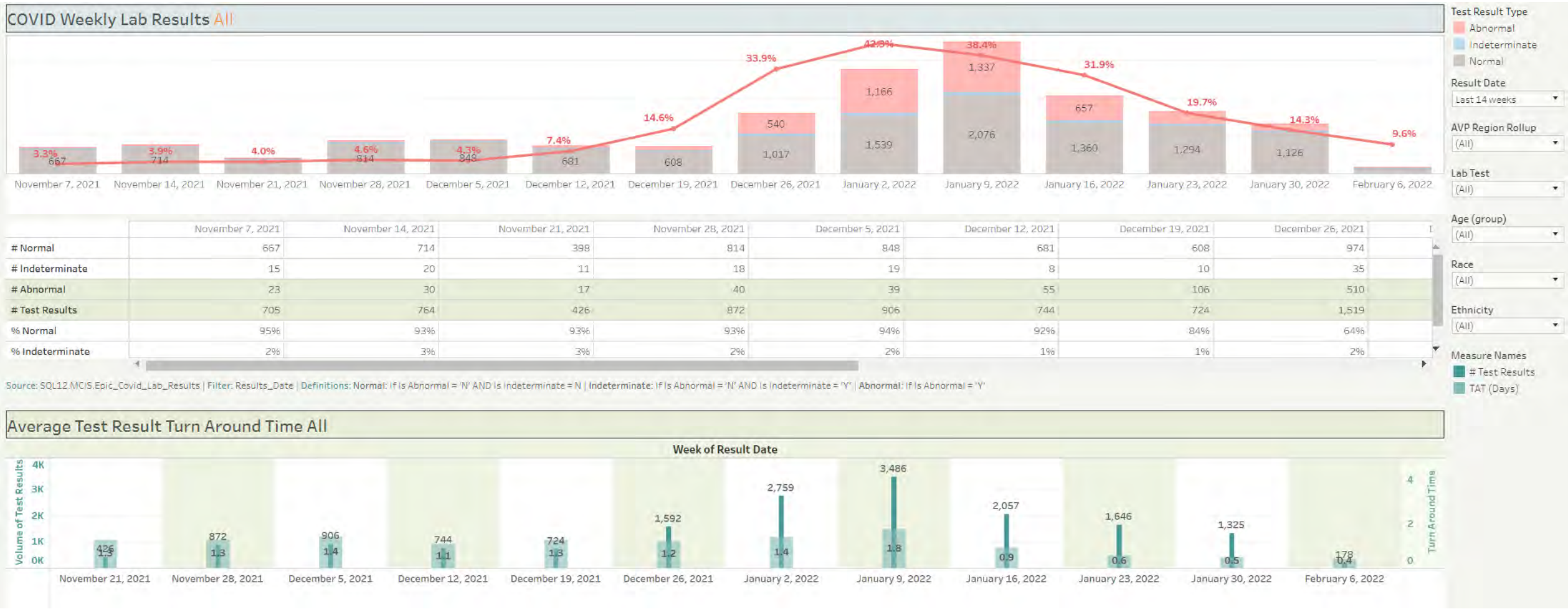
Surge Level Thresholds

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 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** **by 9:0** ❑ Wait t **hours** ❑ Increa ❑ Increa	❑ 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: ne e g

- We can now resume in person meetings/gatherings
- Make sure to observe 6 foot distancing, frequent hand hygiene, masking at all times while indoors and not catering food or beverages for indoor meetings/gatherings.
- People may resume lunch in the break rooms but must observe 6 foots distancing and only remove masks to eat and drink.

COVID Test Results – Patient Dashboard



	November 7, 2021	November 14, 2021	November 21, 2021	November 28, 2021	December 5, 2021	December 12, 2021	December 19, 2021	December 26, 2021
# Normal	667	714	398	814	848	681	608	974
# Indeterminate	15	20	11	18	19	8	10	35
# Abnormal	23	30	17	40	39	55	106	510
# Test Results	705	764	426	872	906	744	724	1,519
% Normal	95%	93%	93%	93%	94%	92%	84%	64%
% Indeterminate	2%	3%	3%	2%	2%	1%	1%	2%

Source: SQL12.MCIS.Epic_Covid_Lab_Results | Filter: Results_Date | Definitions: Normal: If Is Abnormal = 'N' AND Is Indeterminate = N | Indeterminate: If Is Abnormal = 'N' AND Is Indeterminate = 'Y' | Abnormal: If Is Abnormal = 'Y'

Includes both PCR and rapid antigen tests – avg. TAT for PCR alone is 1.8 days the week of 2/7

Data pulled 2/8

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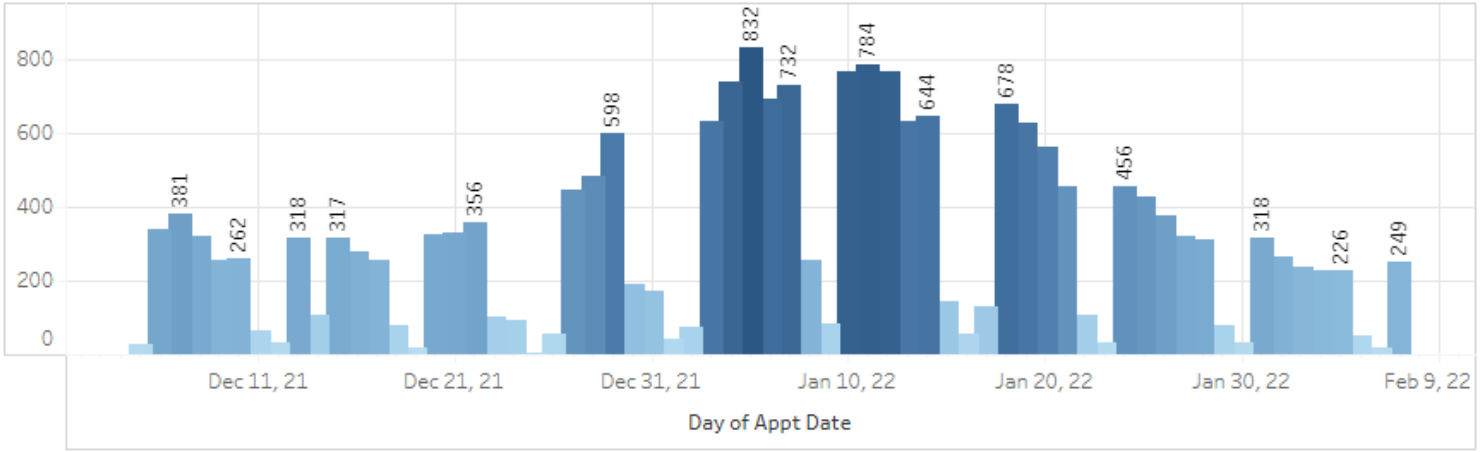
URI Data

URI Diagnosis Dashboard

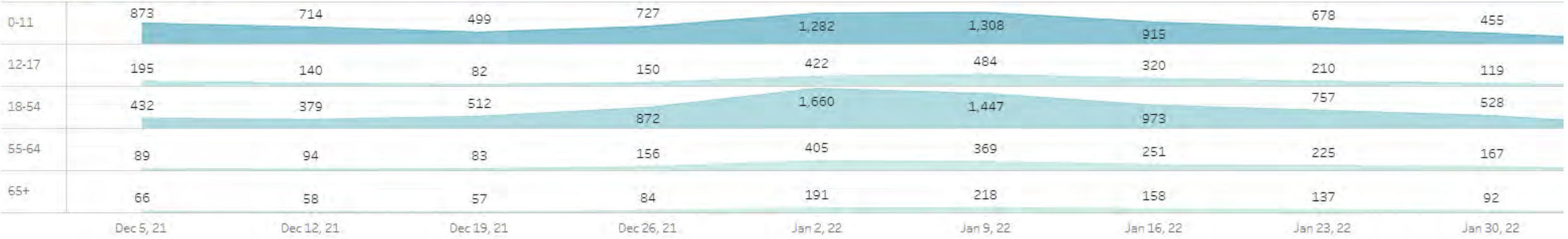
Encounter = Completed, medical, billable visits with URI Dx

Weekly Encounters with URI Diagnosis

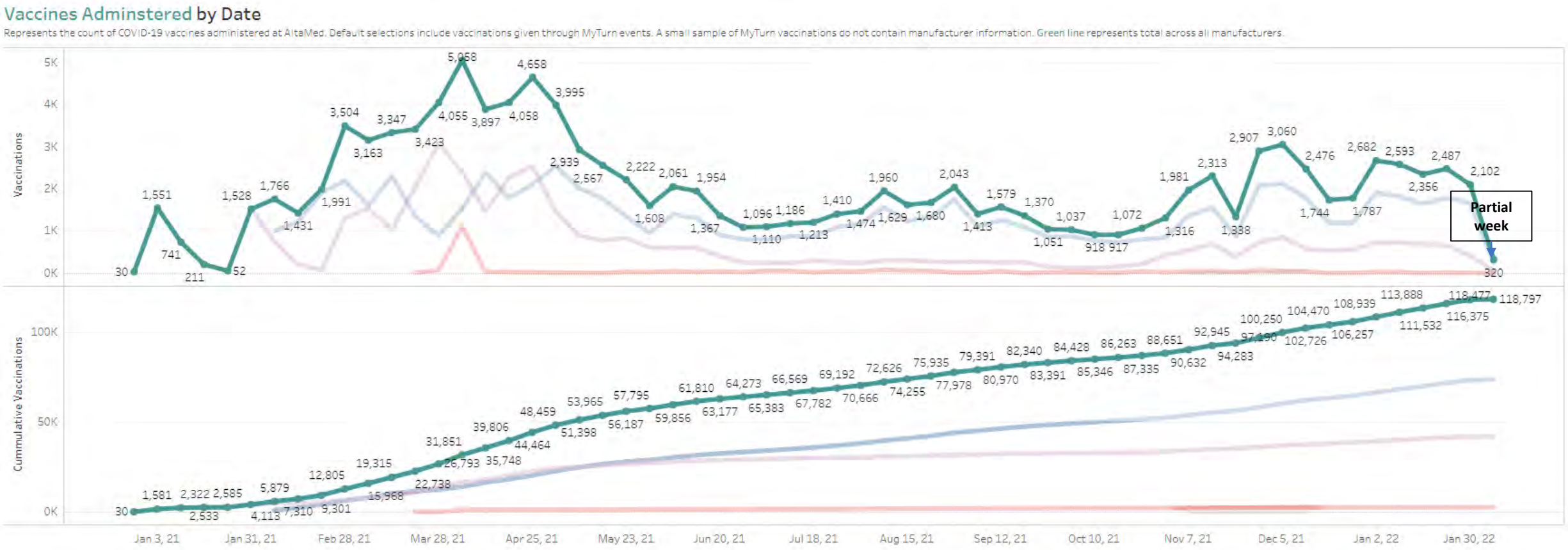


- URI volume is declining
- Highest URI volume continues to be driven by those ages 0 – 11 and 18 – 54

URI Encounters by Age



COVID Vaccines



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Data pulled 2/8

Testing Updates

- COVID-19 Testing Registry no longer in Place
- Patients may get their test results texted to them through m-Pulse
- Providers should still ensure that patients get their test results either via phone or myaltamed message.
- Providers no longer need to report positive tests completed at outside labs to public health.
  - We automatically report positive rapid tests to public health through EPIC.
- Combined COVID-19/Influenza PCR testing is now available to order through EPIC for Fulgent testing.
  - Consider combo covid-19/flu testing in patients with symptoms that may be compatible with Influenza
- Rapid test kits are now covered as a prescription benefit for Medi-Cal patients.
  - Patients may request prescriptions for rapid test kits to be sent to outside pharmacies like CVS, Rite Aid or Walgreens.
  - Of note, AltaMed does not have test kits available at the AltaMed pharmacies.
  - We do not have a list of outside pharmacies with supplies of rapid test kits.

Testing Updates Continued

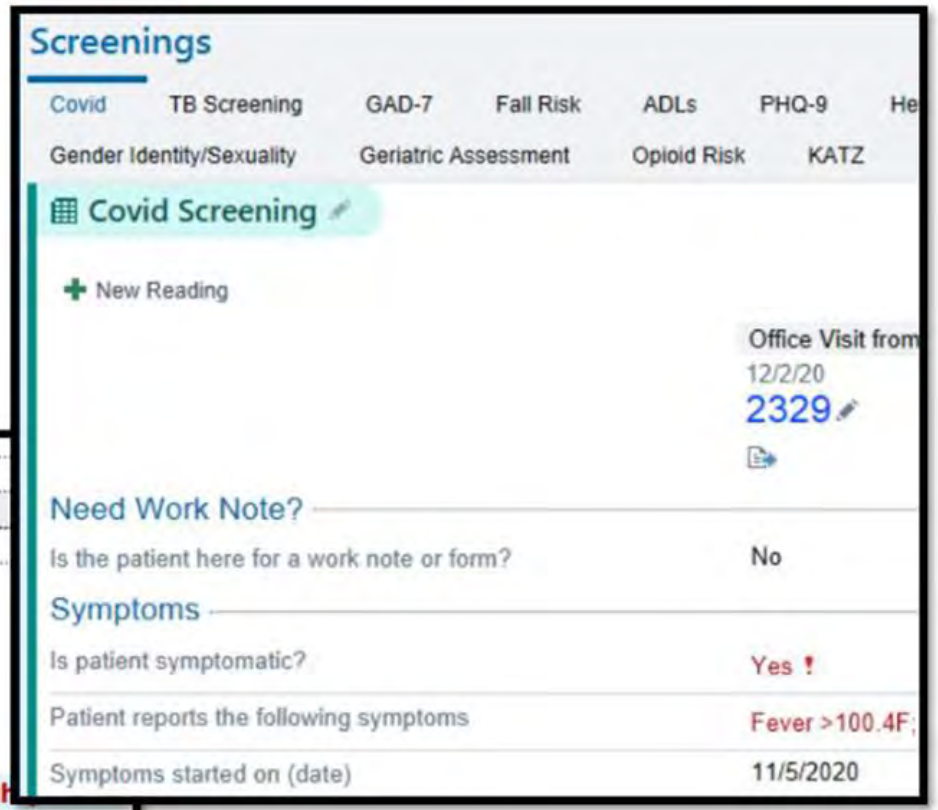
- MD Labs will stop conducting PCR testing soon
  - Garden Grove ended last week
  - Anaheim and Southgate will finish at the end of this week
  - All PCR testing will transition to the clinics starting 2/21/22
- COVID-19 Test standing orders will stay in place but nurses will begin regularly documenting reason for test

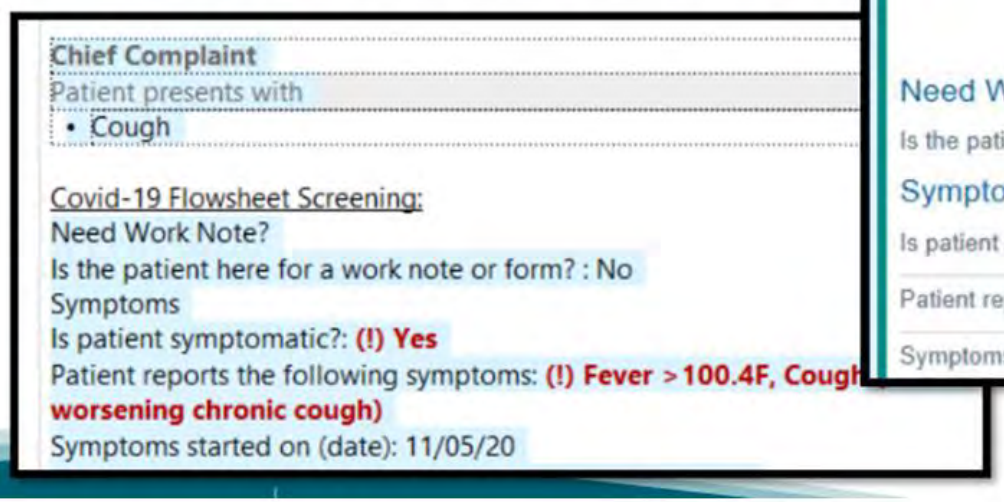
COVID Test Decision Support

Reason For Testing	Antigen COVID Test Do Not Use In Clinic	ID Now COVID Test	Fulgent COVID PCR Test
COVID Like Symptoms <7 days		X	
COVID Like Symptoms >7 days			X
Exposure to Someone with COVID			X
ID Now unavailable			X
Prior positive test in the last 90 days, Retest with Antigen on or after Day 5 to come out of Iso early	X	X (antigen preferred)	
Other Reason not recommended	X		X

Epic Project Updates: **Covid/URI Fast Track**

- "COVID" in *Rooming > Screenings → flows into your Note & Covid lab ORDER!*
- This is necessary for reporting Covid cases
- **Tip:** *.covidflow* brings in the flowsheet answers to your note





COVID-19 Treatment Updates

- Paxlovid can be ordered for patients with a positive COVID-19 test (home test if reliable may be used).
- Given our current robust supply, we may expand treatment to Risk group 1-4
- Prioritize treatment for symptomatic patients that are vaccinated or unvaccinated with additional risk factors for progressing to severe disease (this may be updated as supply increases/decreases)
- AltaMed patients are able to arrange for delivery but keep in mind that patients must start therapy within 5 days of symptom onset and we need to reconcile all meds to eval for significant drug drug interactions that may preclude treatment.
- Prescriptions can only be filled at AltaMed through the AltaMed Commerce Pharmacy or to other outside pharmacies listed on the external database.


CDC/IDSA COVID-19 CLINICIAN CALL
JAN 22, 2022
Outpatient COVID-19 Treatment Strategies for High-Risk Populations
IDSA
WATCH NOW
1:28:09

Comparisons of Recommended Outpatient Therapies

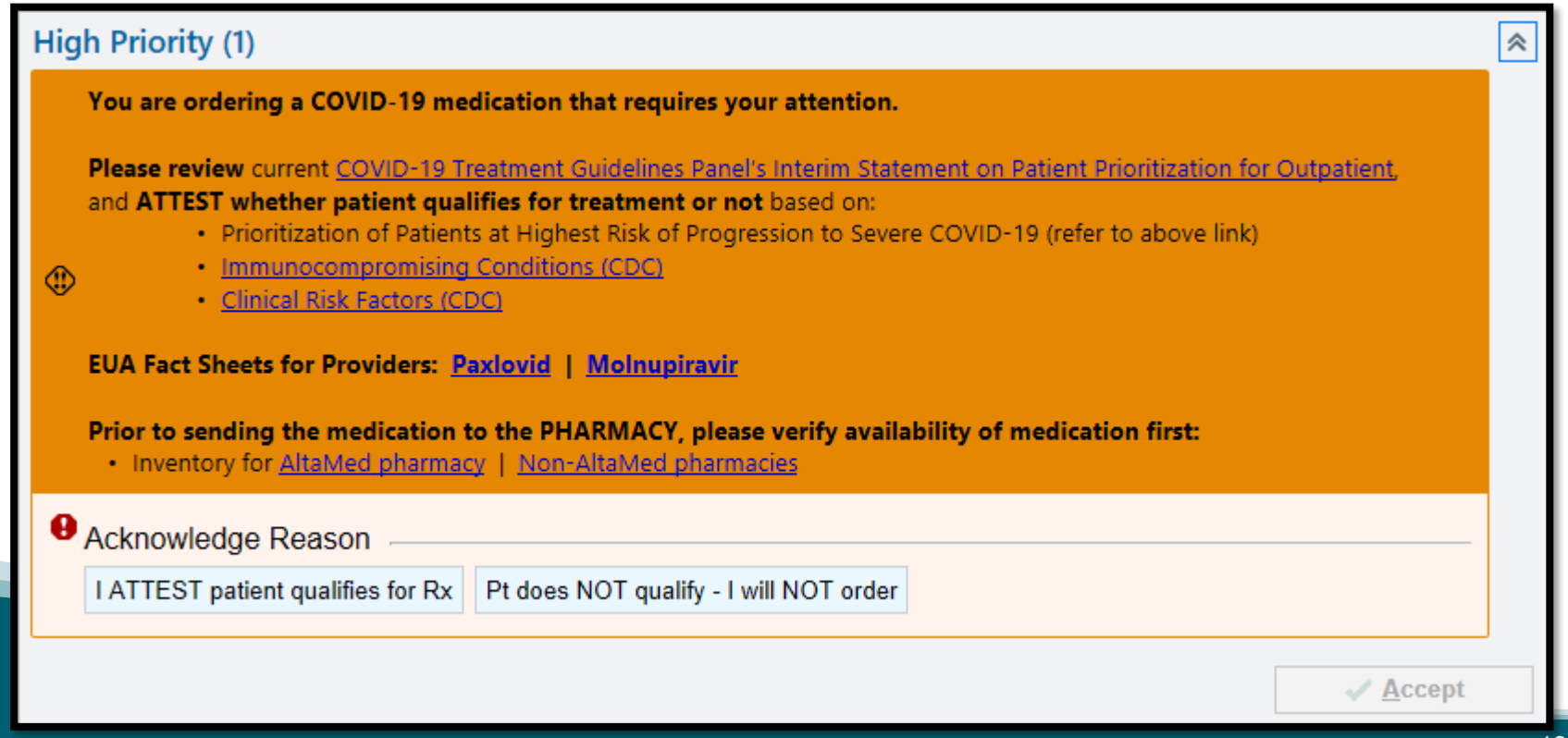
	Paxlovid™ (1)	Sotrovimab (2)	Remdesivir (3)	Molnupiravir (4)
Age allowed for use	≥ 12 yr	≥ 12 yr	>3.5 kg	≥18 yr
Initiate within # days of symptom onset	< 5 days	< 10 days	< 7 days	< 5 days
Route of Administration	PO	IV	IV	PO
Duration of Therapy	5 days	1 time	3 days	5 days
Pros	-High efficacy -Oral	-High efficacy -Single IV infusion	-High efficacy -Greater experience	-Oral -No drug-drug interaction concerns
Cons	Ritonavir-related drug-drug interactions Can only be used for GFR >30 and must be dose adjusted.	Requires IV infusion	-FDA approved for people >12 -EUA Authd for kids >3.5 kg -Requires 3 Days IV Infusion	-Low efficacy -Not authorized for age 12-17 years -Not approved for pregnancy -Concerns for mutagenciity
Supply Availability	Limited supply	Limited supply	Commercially available	More supply than Paxlovid™ & Sotrovimab

Upcoming Updates: Covid Oral Treatment

- During periods of supply shortages, the NIH has provided guidelines for prioritization
- To make it easier for providers to find the information at the time of ordering, a new BPA (Best Practice Advisory) pop up appears when ordering **Paxlovid** or **Molnupiravir**
- Links take you to CDC, NIH and other websites to review more info
- Providers must attest whether patient qualifies for treatment or not

Links:

- NIH Covid-19 Panel Interim Statement
- CDC Immunecompromised
- CDC Conditions
- EUA Paxlovid EUA Molnupiravir
- AltaMed pharmacy
- Non-AltaMed pharmacies



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Upcoming Updates: Covid Oral Treatment

- **Sotrovimab Monoclonal Antibody Treatment**
- **Sotrovimab** (the single monoclonal ab [MAB] therapy approved for Omicron variant) is now intermittently available through Oso Infusion Pharmacy in limited supplies.
    - Please use the smartphrase **.MONOCLONALAB** for directions on how to order MAB therapy for your patients.
        - Outpatient treatment for COVID-19 should be prioritized for those that are unvaccinated and high risk.
    - **For patients with MyHealthLa** insurance, Martin Luther King hospital has a special process for providing Sotrovimab and Remdesivir therapy. Please see next slide.
- **Paxlovid & Molnupiravir Oral Therapy**
    - Paxlovid and Molnupiravir can be ordered through EPIC for outside pharmacies.
        - Check the Public Therapeutic Locator for local pharmacies with stock of these medications.
        - **Paxlovid is now available at AltaMed Commerce pharmacy**! The inventory of available doses will be found on the AltaMed Infection Control site.
        - Paxlovid is the preferred outpatient antiviral treatment but one must watch for drug-drug interactions with this medication. Statins should be held during therapy.
        - Paxlovid must be given within **5 days** of symptom onset
        - Please call the pharmacies to ensure medication is in stock prior to ordering.

Upcoming Updates: Covid Oral Treatment

1/27/2022

My Health LA patients (only) may be referred MLK via the email mlkcovidmab@dhs.lacounty.gov. The focus is unvaccinated, older individuals.

Patient must be enrolled in My Health LA and have a positive test. No referral form is needed but please include visit note.

MLK will triage the member to offer the most effective available treatment (algorithm)

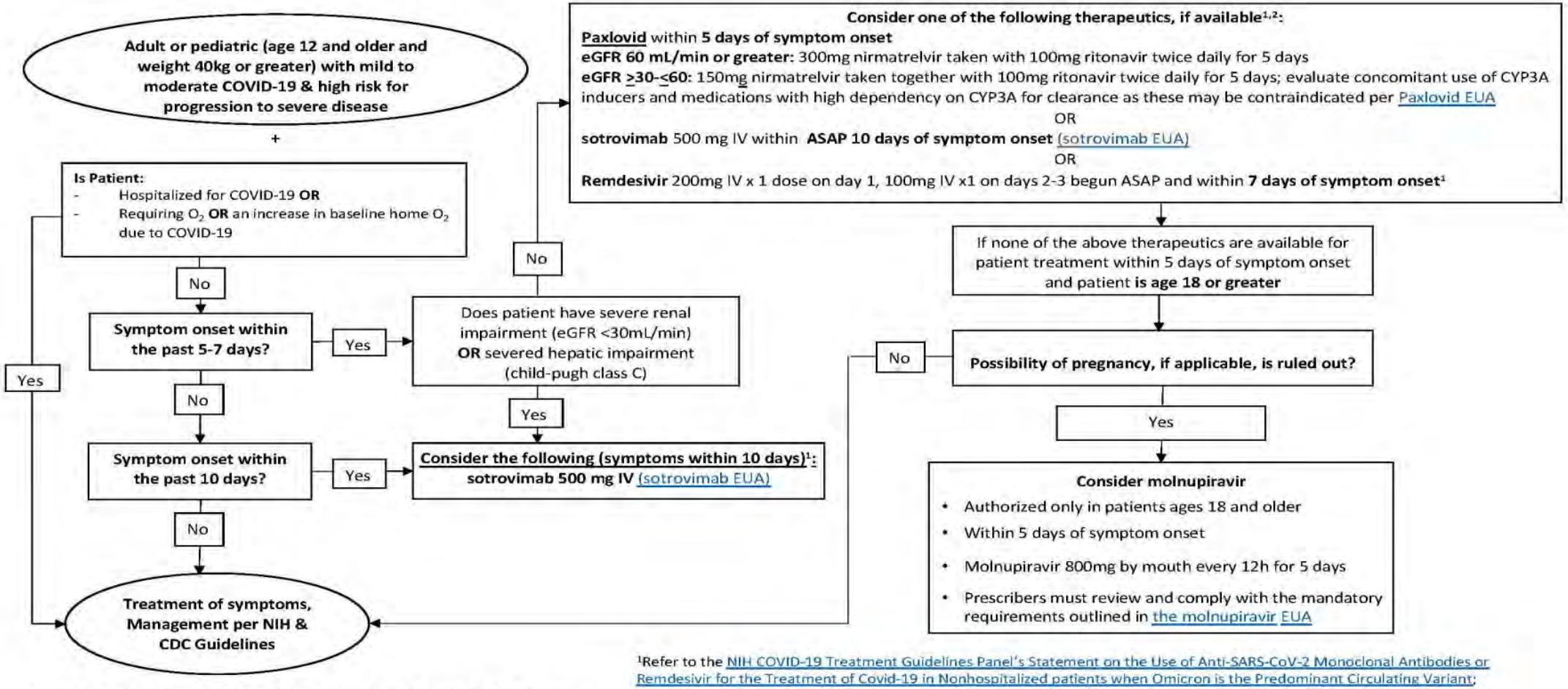
Suggested verbiage below may be copied and pasted into an email to mlkcovidmab@dhs.lacounty.gov.

AltaMed Health Services is referring My Health LA patient (patient name, dob, # MHLA ID) to MLK Services for COVID treatment. The patient PCP is _____. Attached is the patient notes and positive COVID test. The patient meets MLK's inclusion and exclusion criteria for treatment of:

1. Inclusion criteria
   a. Onset of symptoms within 7 days, AND
   b. At least one ongoing symptom consistent with Covid-19, AND
   c. >12 years old and at least one of the following risk factors:
      i. At least 65 years old
      ii. Any immunocompromising condition (cancer, drugs, HIV, transplant, etc)
2. Exclusion:
   a. Needing or expected to need supplemental oxygen
   b. Had prior episode of COVID-19 needing hospital admission
   c. Had received the COVID-19 vaccine recently (within 6 months)
   d. Severe renal dysfunction (creatinine clearance < 30)

If you have any questions about this referral, please contact NAME OF ALTAMED CONTACT, phone # and email

COVID-19 Outpatient Therapeutics Decision Guide



Limited use of bamlanivimab/etesevimab and REGEN-COV as they are not expected to be active against the Omicron variant[1]

December 30, 2021

[1]Refer to the NIH COVID-19 Treatment Guidelines Panel's Statement on the Use of Anti-SARS-CoV-2 Monoclonal Antibodies or Remdesivir for the Treatment of Covid-19 in Nonhospitalized patients when Omicron is the Predominant Circulating Variant; Remdesivir is only approved for hospitalized individuals with COVID-19. Outpatient treatment is based on information from the literature (Dec 22, 2021 Early Remdesivir to Prevent Progression to Severe Covid-19 in Outpatients; DOI: 10.1056/NEJMoa2116846)

[2] COVID-19 convalescent plasma with high titers of anti-SARS-CoV-2 antibodies is authorized for the treatment of COVID-19 in patients with immunosuppressive disease in either the outpatient or inpatient setting (COVID-19 Convalescent Plasma EUA)

Bringing it All Back Home: Outpatient Treatment Options for COVID-19

Option	Patient Population
Paxlovid	• Patient not on interacting medications • As soon as possible and within 5 days of symptom onset
Sotrovimab	• Patient on interacting medication/able to come to health care facility • As soon as possible and within 10 days of symptom onset
Remdesivir	• Patient in health care facility or through home infusion service • As soon as possible and within 7 days of symptom onset
Molnupiravir	• Patient not able to be treated with one of the options above • Not pregnant (if given during pregnancy, shared decision making) • As soon as possible and within 5 days of symptom onset

Nirmatrelvir/ritonavir (Paxlovid™)

- **Recommendation (NEW): In ambulatory patients with mild to moderate COVID-19 at high risk for progression to severe disease, the IDSA guideline panel suggests nirmatrelvir/ritonavir initiated within five days of symptom onset rather than no nirmatrelvir/ritonavir.**
  - **(Conditional recommendation, Low certainty of evidence)**

- **Remarks:**
  - Patients' medications need to be screened for serious drug interactions (i.e., medication reconciliation). Patients on ritonavir- or cobicistat-containing HIV or HCV regimens should continue their treatment as indicated.
  - Dosing based on renal function:
    - Estimated glomerular filtration rate (eGFR) > 60 ml/min: 300 mg nirmatrelvir/100 ritonavir every 12 hours for five days
      o eGFR ≤60 and ≥30 mL/min: 150 mg nirmatrelvir/100 mg ritonavir every 12 hours for five days
      o eGFR <30 mL/min: not recommended
  - Patients with mild to moderate COVID-19 who are at high risk of progression to severe disease admitted to the hospital for reasons other than COVID-19 may also receive nirmatrelvir/ritonavir.

IDSA Updated 24Dec2021

Renal Dosing Paxlovid™ (nirmatrelvir/ritonavir)

eGFR Range	Nirmatrelvir* Dose	Ritonavir Dose
eGFR ≥ 60 mL/min (mild)	300 mg twice daily x 5 days	100 mg twice daily x 5 days
eGFR > 30 to < 60 mL/min (moderate)	150 mg twice daily x 5 days	100 mg twice daily x 5 days
eGFR < 30 mL/min (severe)	Paxlovid (nirmatrelvir/ritonavir) not recommended until more information available	
* Nirmatrelvir is renally eliminated; Cmax and AUC were 48% and 204% higher in those with severe renal impairment		

Prescriptions should specify the numeric dosage of each active ingredient within Paxlovid™

Paxlovid™
Medication Contraindications and Resources

Drugs highly dependent on CYP3A for clearance and subject to increased concentrations

- Alpha1-adrenoreceptor antagonist: alfuzosin
- Analgesics: pethidine, piroxicam, propoxyphene
- Antianginal: ranolazine
- Antiarrhythmic: amiodarone, dronedarone, flecainide, propafenone, quinidine
- Anti-gout: colchicine
- Antipsychotics: lurasidone, pimozide, clozapine
- Ergot derivatives: dihydroergotamine, ergotamine, methylergonovine
- HMG-CoA reductase inhibitors: lovastatin, simvastatin
- PDE5 inhibitor: sildenafil (Revatio®) when used for pulmonary arterial hypertension (PAH)
- Sedative/hypnotics: triazolam, oral midazolam

Drugs that can speed up the metabolism of nirmatelvir

- Anticancer drugs: apalutamide
- Anticonvulsant: carbamazepine, phenobarbital, phenytoin
- Antimycobacterials: rifampin
- Herbal products: St. John's Wort (hypericum perforatum)

Resources:

- https://www.covid19-druginteractions.org/
- https://www.hiv-druginteractions.org/
- HIV/Hep C literature

Paxlovid™ DDI's in Cardiology

- Statins
  - Lovastatin-not recommended
  - Simvastatin-not recommended

  Hold all statins x 5 days?
- Antiarrhythmics-not recommended d/t risk of arrhythmias
  - Amiodarone
  - Dronedarone
  - Flecainide
  - Propafenone
  - Quinidine
- Clopidogrel-not mentioned in FDA EUA however known interaction in HIV literature
  - Risk of thrombosis s/p stenting; high risk 6 weeks post stent
- Antihypertensives
  - Increased levels of calcium channel blockers
- Increased digoxin levels

Additional* Paxlovid™ DDI's (*not an exhaustive list)

- Oncology agents
  - Various concerns if drug ends in:
    - -ib
    - -clax
    - -tine
- Systemic corticosteroids
  - Cushing's syndrome
  - ? Inhaled steroids
  - ? Injectable steroids
- Women's Health
  - Decreased effectiveness on ethinyl estradiol
  - Counsel on backup non-hormonal method of contraception
- Men's Health
  - PDE5-no warning for use in ED; warnings on max doses in HIV literature

The COVID-19 Treatment Guidelines Panel's Interim Statement on Patient Prioritization for Outpatient Anti- SARS-CoV-2 Therapies or Preventive Strategies When There Are Logistical or Supply Constraints

Last Updated: December 23, 2021

https://www.covid19treatmentguidelines.nih.gov/

Tier	Risk group
1	Immunocompromised individuals regardless of vaccine status **or** Unvaccinated individuals age ≥75 y or age ≥65 y with additional risk factors*
2	Unvaccinated individuals age ≥65 y or age <65 y with risk factors*
3	Vaccinated individuals age ≥75 y or age ≥65 y with additional risk factors*
4	Vaccinated individuals age ≥65 y or age <65 y with risk factors*

Only unvaccinated individuals qualify for Oso infusion referral.

Risk factors for progressing to severe COVID include advanced age, cancer, cardiovascular disease, chronic kidney disease, chronic lung disease, diabetes, immunocompromised, obesity, pregnancy, sickle cell disease, other conditions

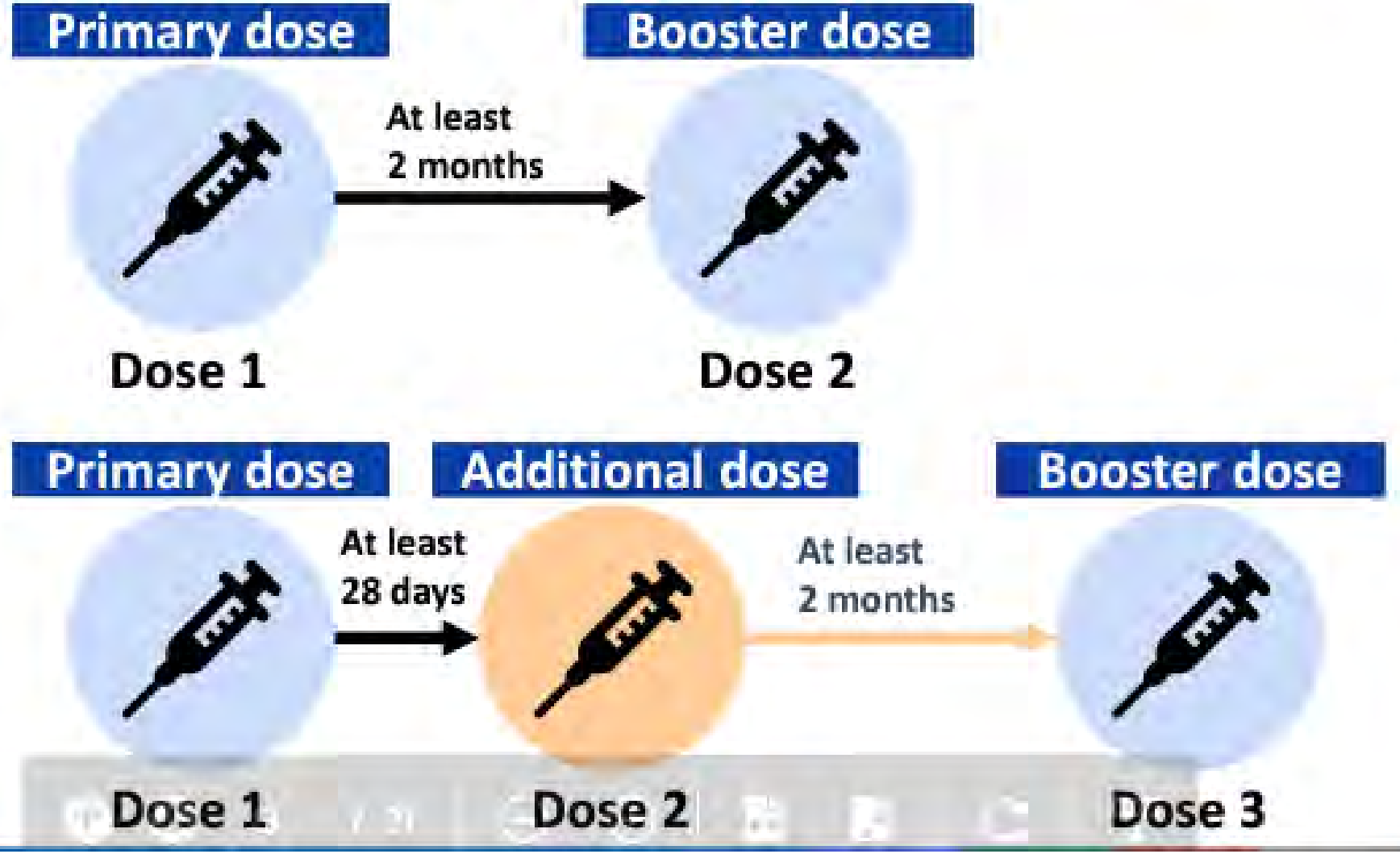
*https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html

CDPH Summary Data

COVID Vaccine Recap

- COVID-19 Vaccine approved for people 5 and older
- 3rd Doses are approved for moderate to severe immune deficiency for people 5 and over
- Vaccine for Kids <5 will not be reviewed until around April 2022 to assess for effectiveness after 3rd dose
- Pfizer and Moderna are now fully FDA approved
  - Pfizer 16 and older
  - Moderna 18 and over
- Johnson and Johnson vaccines now approved for an additional dose and booster doses but mRNA preferred vaccine
- We no longer need to wait after someone has passive monoclonal antibody treatment prior to vaccination

Schedule for People Who Received a Janssen COVID-19 Vaccine Primary Series



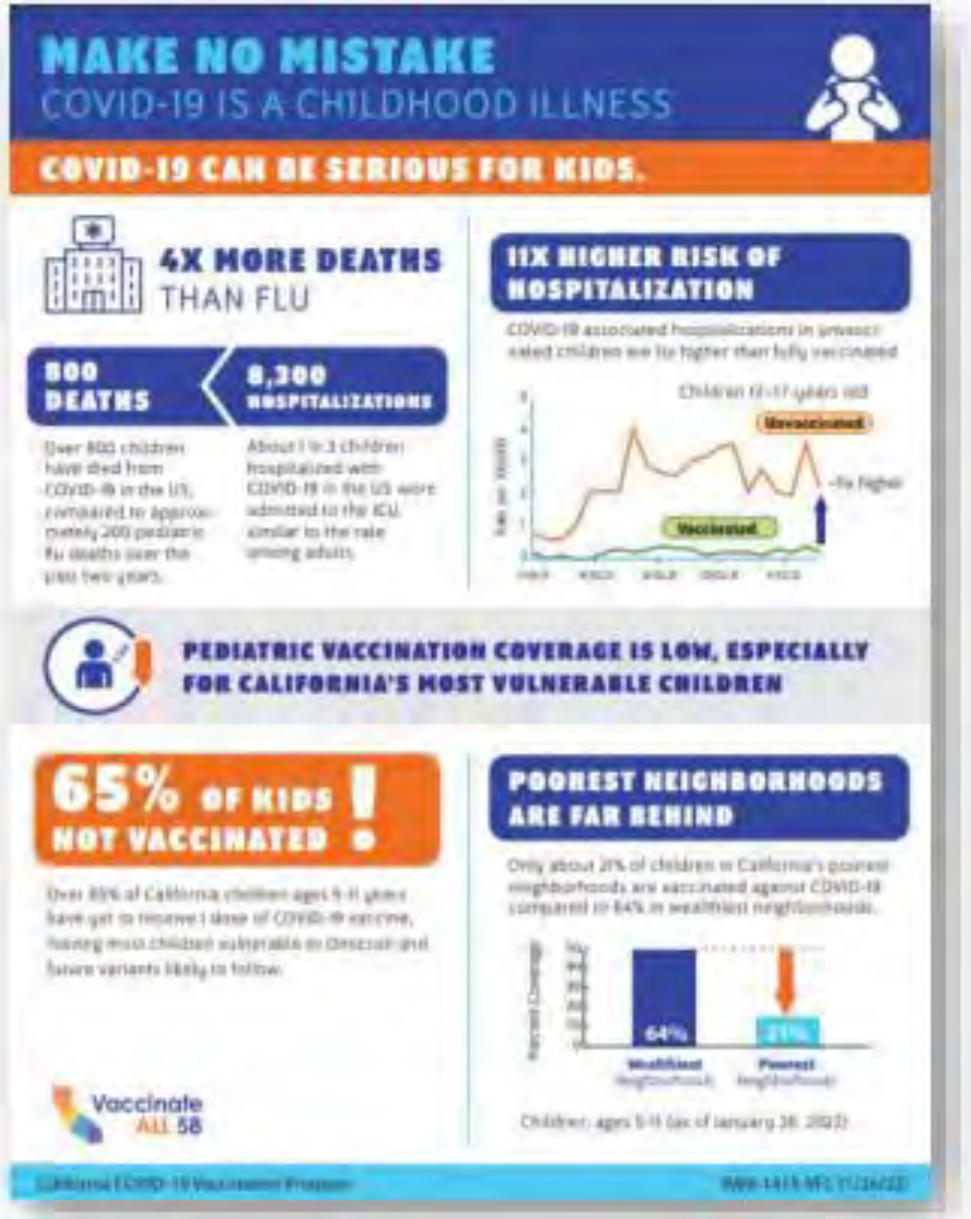
REVISED COVID-19 Vaccination Schedule for People Who Are Moderately or Severely Immunocompromised

Vaccine	Vaccination Schedule				
Pfizer-BioNTech (ages 5 years and older)	1st dose	2nd dose (21 days after 1st dose)	3rd dose (at least 28 days after 2nd dose)		Booster dose* (at least 3 months after 3rd dose)
Moderna (ages 18 years and older)	1st dose	2nd dose (28 days after 1st dose)	3rd dose (at least 28 days after 2nd dose)		Booster dose* (at least 3 months after 3rd dose)
Janssen (ages 18 years and older)	1st dose	Additional dose† (at least 28 days after 1st dose)		Booster dose* (at least 2 months after additional dose)	

*Any COVID-19 vaccine can be used for the booster dose in people ages 18 years and older, though mRNA vaccines are preferred. For people ages 12–17 years, only Pfizer-BioNTech can be used. People ages 5–11 years should not receive a booster dose.
†Only Pfizer-BioNTech or Moderna COVID-19 Vaccine should be used

COVID-19 is a Childhood Illness

- 4x more deaths than flu
- 11x higher risk of hospitalization for unvaccinated children
- Poorest neighborhoods are far behind
- 65% of kids not vaccinated



4X MORE DEATHS THAN FLU

800 DEATHS

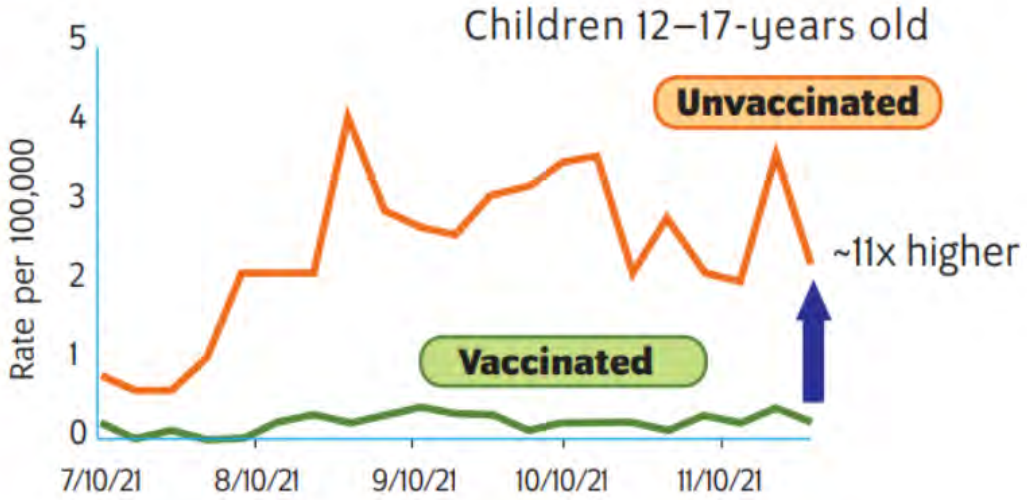
Over 800 children have died from COVID-19 in the US, compared to approximately 200 pediatric flu deaths over the past two years.

8,300 HOSPITALIZATIONS

About 1 in 3 children hospitalized with COVID-19 in the US were admitted to the ICU, similar to the rate among adults.

11X HIGHER RISK OF HOSPITALIZATION

COVID-19 associated hospitalizations in unvaccinated children are 11x higher than fully vaccinated.



Vaccinate ALL 58

Infographic: MAKE NO MISTAKE COVID-19 is a Childhood Illness

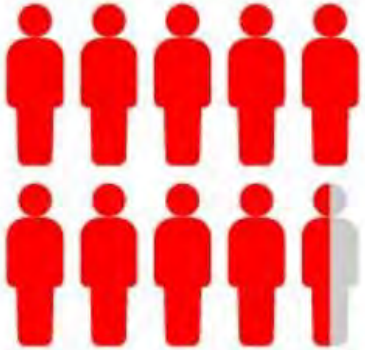
15

COVID-19 vaccination protects against multisystem inflammatory syndrome in children (MIS-C) among 12–18 year-olds hospitalized during July–December 2021

Vaccination reduced likelihood of MIS-C by:

ADOLESCENTS HOSPITALIZED WITH MIS-C

95% unvaccinated



No vaccinated MIS-C patients required life support

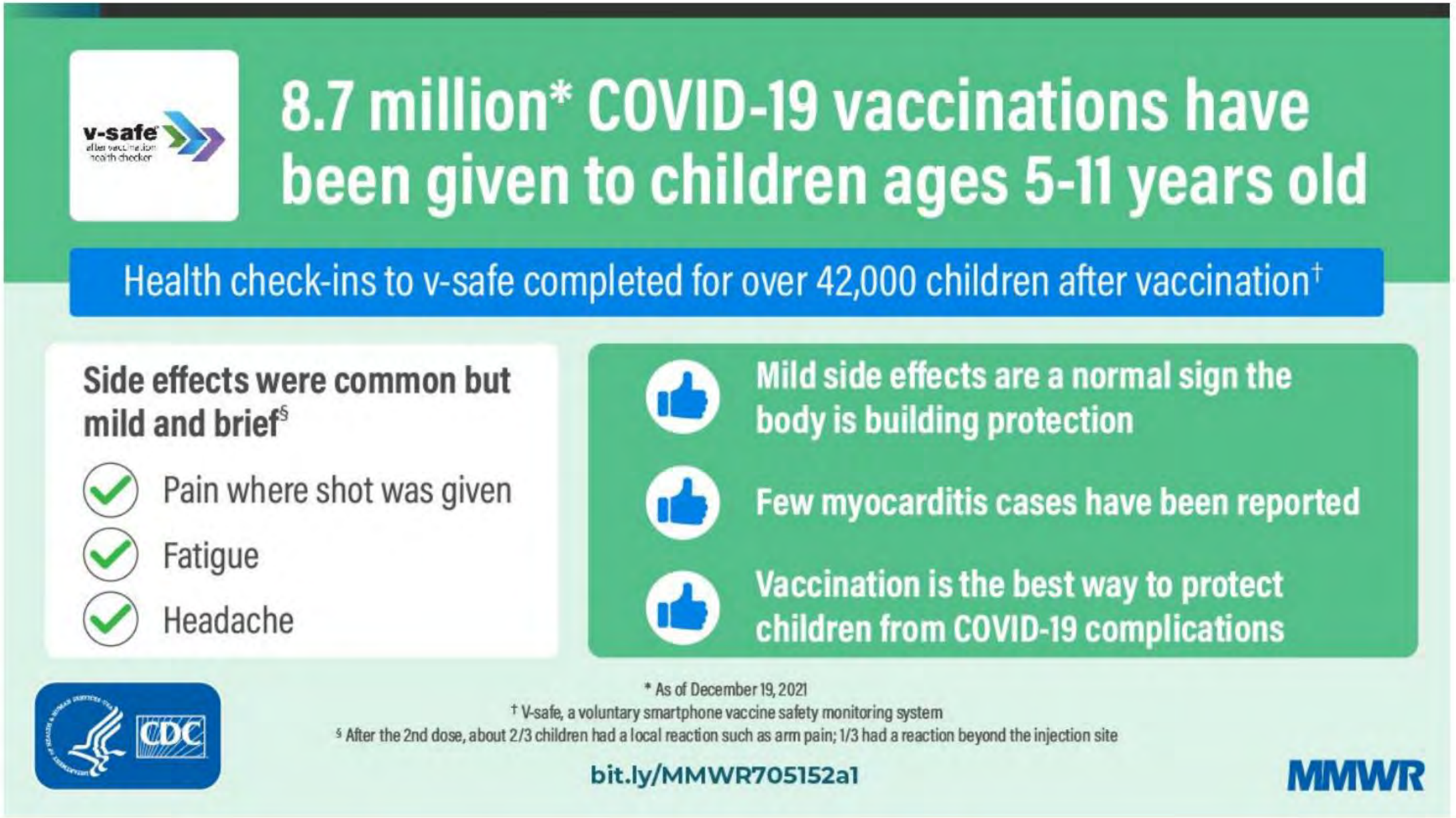
COVID-19 VACCINATION IS THE BEST PROTECTION AGAINST MIS-C

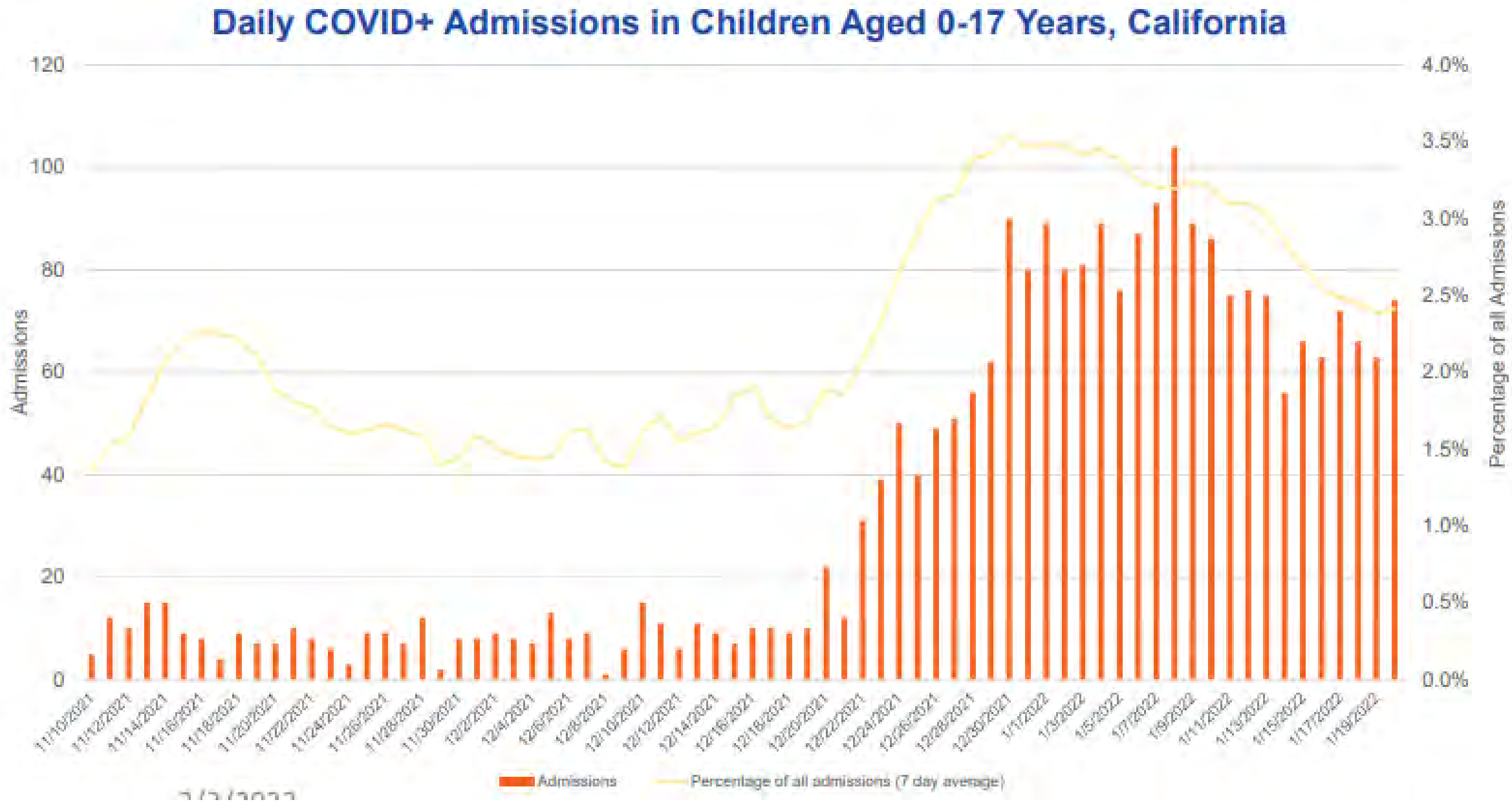
* Case-control study, 238 patients in 24 pediatric hospitals—20 U.S. states
† 2 doses of Pfizer-BioNTech vaccine received ≥28 days before hospital admission

bit.ly/MMWR7102

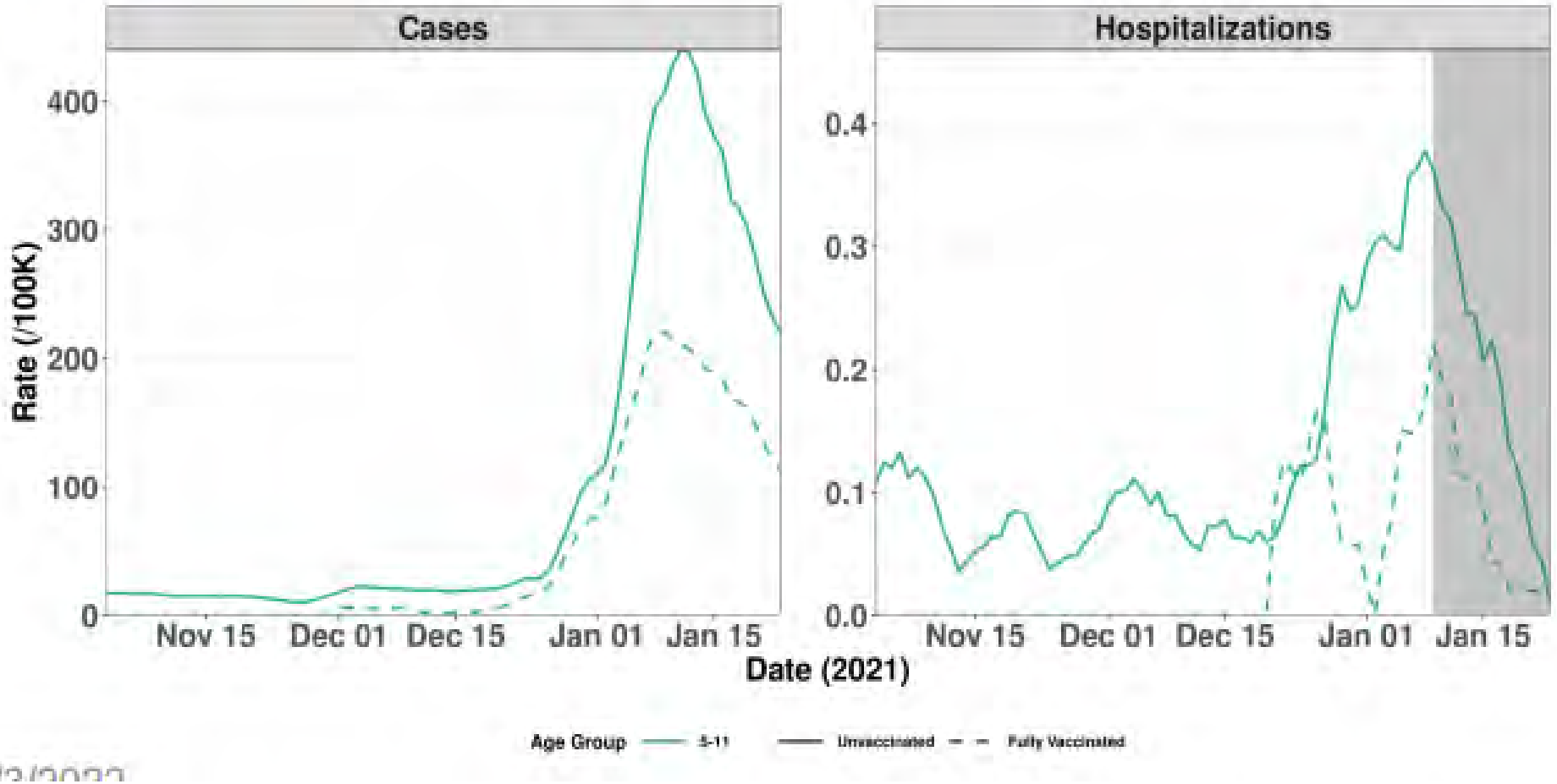
MMWR

MMWR (1/14/22): Effectiveness of BNT162b2 (Pfizer-BioNTech) mRNA Vaccination Against Multisystem

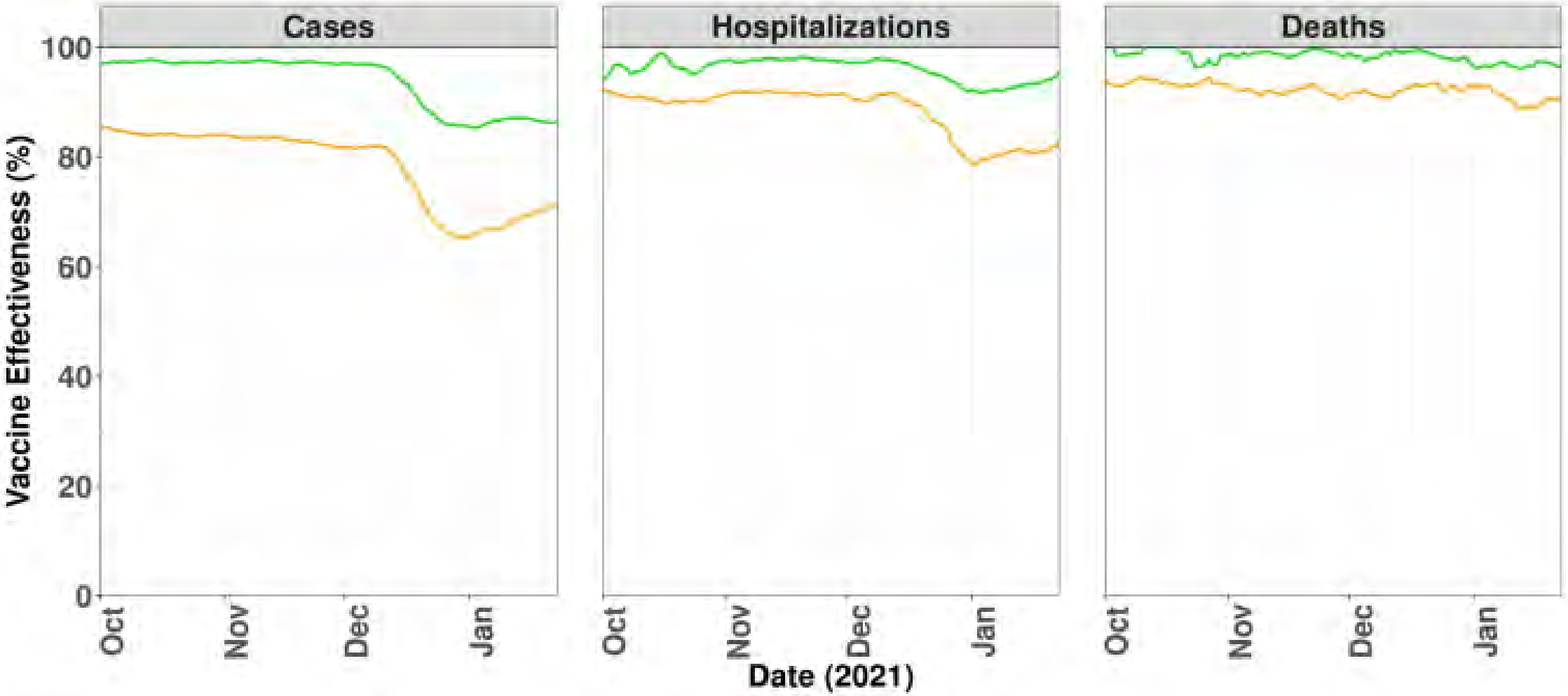

v-safe
after vaccination health checker
8.7 million* COVID-19 vaccinations have been given to children ages 5-11 years old
Health check-ins to v-safe completed for over 42,000 children after vaccination†
Side effects were common but mild and brief§
Pain where shot was given
Fatigue
Headache
Mild side effects are a normal sign the body is building protection
Few myocarditis cases have been reported
Vaccination is the best way to protect children from COVID-19 complications
CDC
* As of December 19, 2021
† V-safe, a voluntary smartphone vaccine safety monitoring system
§ After the 2nd dose, about 2/3 children had a local reaction such as arm pain; 1/3 had a reaction beyond the injection site
bit.ly/MMWR705152a1
MMWR


Daily COVID+ Admissions in Children Aged 0-17 Years, California
Admissions
Percentage of all Admissions
120
100
80
60
40
20
0
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
Admissions
Percentage of all admissions (7 day average)

Rates of Cases, Hospitalizations, and Deaths by Vaccination Status Among Ages 5-11 - November 3, 2021 to January 23, 2022



COVID-19 Vaccine and Booster Effectiveness in California



- Vaccination status groups are mutually exclusive

Appendix

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