Immunization Updates

2024 Healthcare Best Practices Conference
Sacramento, Ca

May 21, 2024

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California Department of Public Health

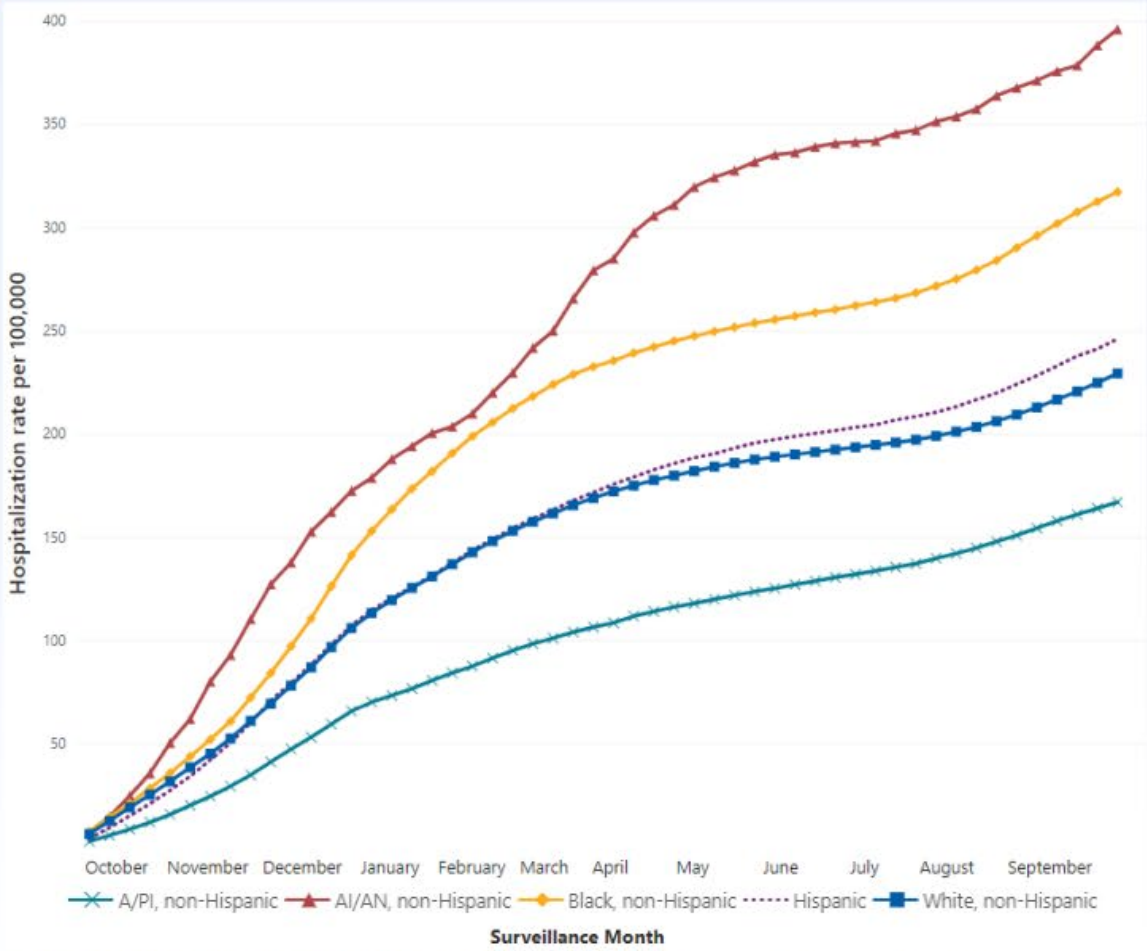
Immunization Updates

- Respiratory Viruses:
  - Covid-19 vaccine
    - New recommendation for adults 65 years and older
    - Timeline for the 2024-25 Covid-19 vaccine strain recommendations and ACIP recommendations
  - RSV Immunization
    - Quick review of recommendations
    - Nirsevimab Effectiveness
  - 2024-25 Influenza Vaccine Strains
- Measles Update
- Links to Resources

Respiratory Virus Season Review & Updates: Covid-19, RSV, and Influenza

Covid-19

Age-adjusted cumulative COVID-19 hospitalizations per 100,000 population by race and ethnicity — COVID-NET, October 2022 – September 2023



American Indian/Alaska Native

Black

Hispanic

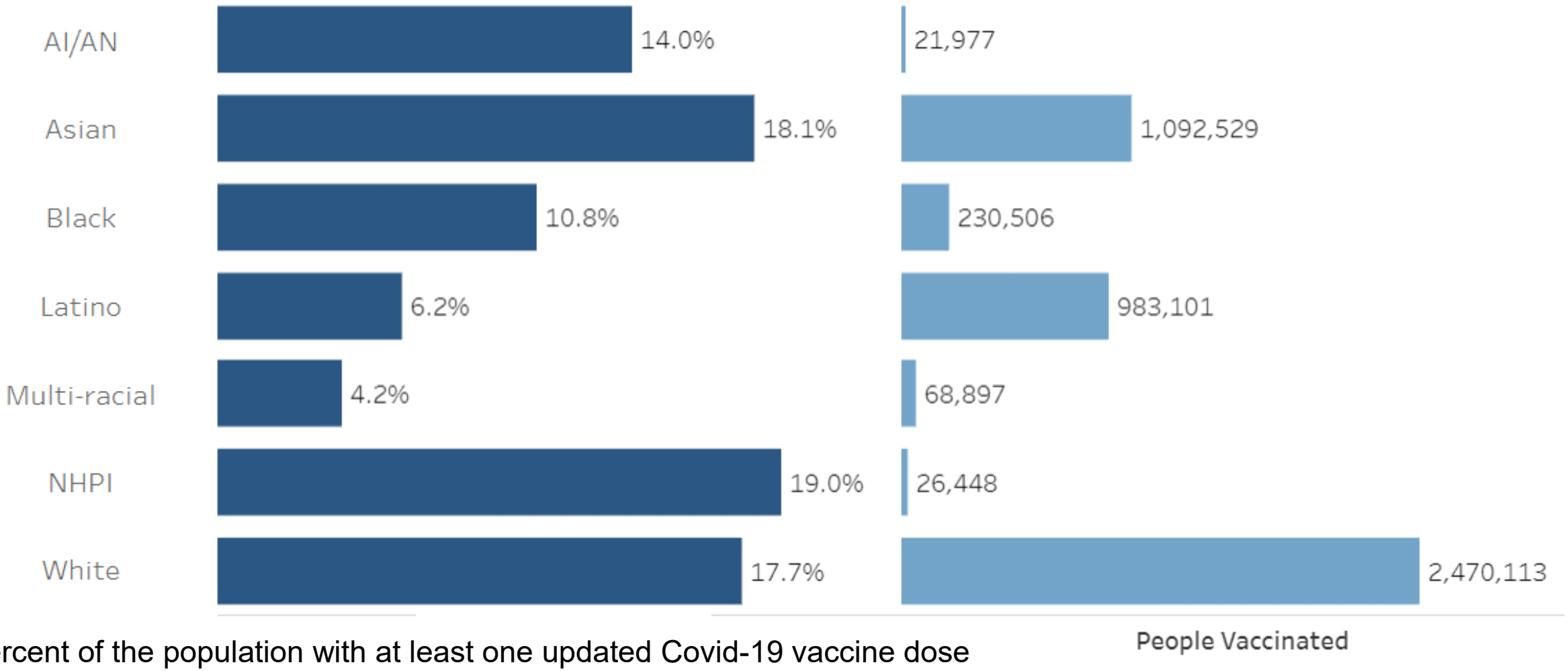
White

Asian/PI

CDC COVID Data Tracker. https://covid.cdc.gov/covid-data-tracker/#covidnet-hospitalization-network. Accessed February 23, 2024

Evidence to Recommendations (cdc.gov)

Covid-19 (2023-24) Vaccination Status by Race/Ethnicity, California (as of 4/30/2024)



Percent of the population with at least one updated Covid-19 vaccine dose

CDC Recommends Additional Covid-19 Dose for Adults 65 Years and Older

CDC recommends that persons **≥ 65 years of age** should receive an **additional dose** of 2023-2024 COVID-19 vaccine, **at least 4 months** after previous updated (2023-2024) COVID-19 vaccine dose

September 2023

- Updated 2023-2024 Vaccine (monovalent, XBB.1.5 component) recommended for all individuals 6 months+
- Recommendation for optional additional doses for all persons with moderate/severe IC

February 2024

- **Recommendation for additional (second) dose for adults 65+**

MMWR, Use of an Additional Updated 2023–2024 COVID-19 Vaccine Dose for Adults Aged ≥65 Years: Recommendations of the Advisory Committee on Immunization Practices — United States, 2024 (cdc.gov)

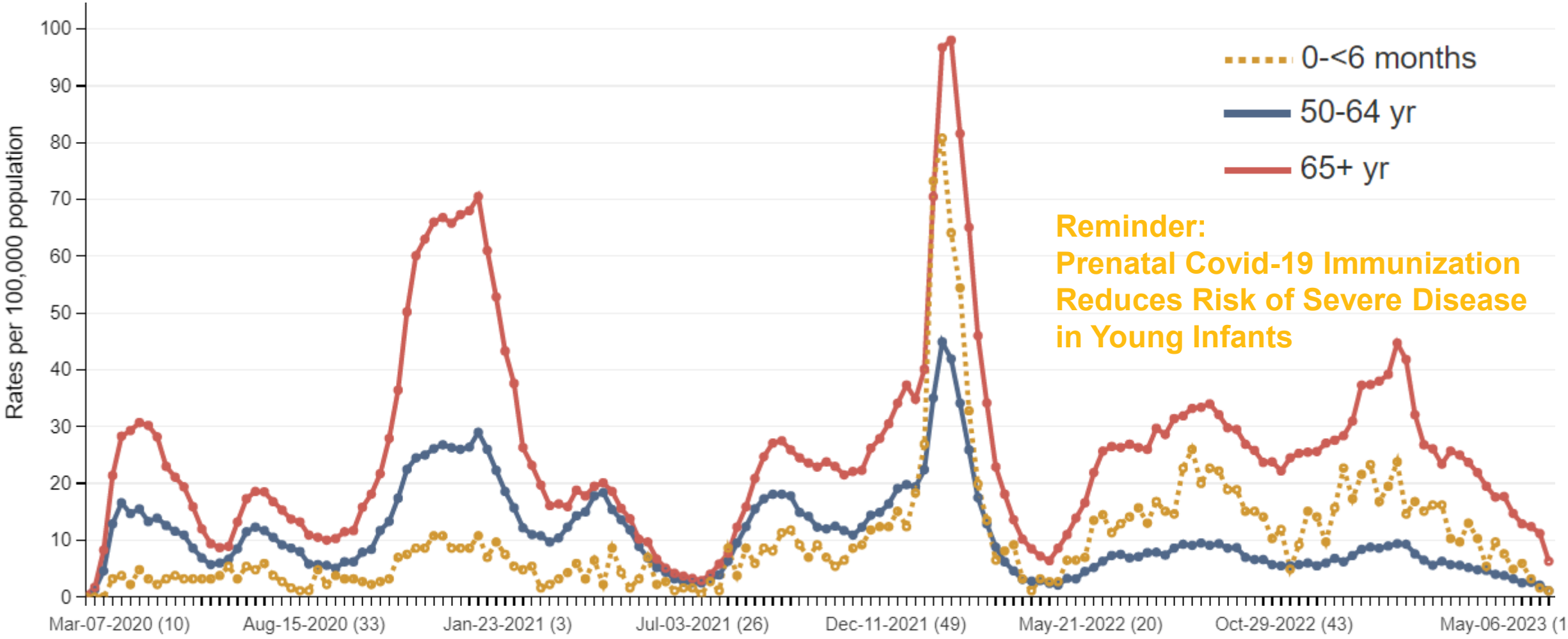
Covid-19 Vaccine Guidance for Persons who are Moderately or Severely Immunocompromised

6 months-64 years	65 years & older
(unchanged) **May** receive additional updated doses at least 2 months following previous updated dose*	~~**May**~~ → **Should** receive 1 additional updated dose at least 2 months after previous updated dose*

*Further additional doses may be administered, informed by the clinical judgement of a healthcare provider and personal preference and circumstances, at least 2 months after the last updated (2023–2024 Formula) COVID-19 vaccine dose.

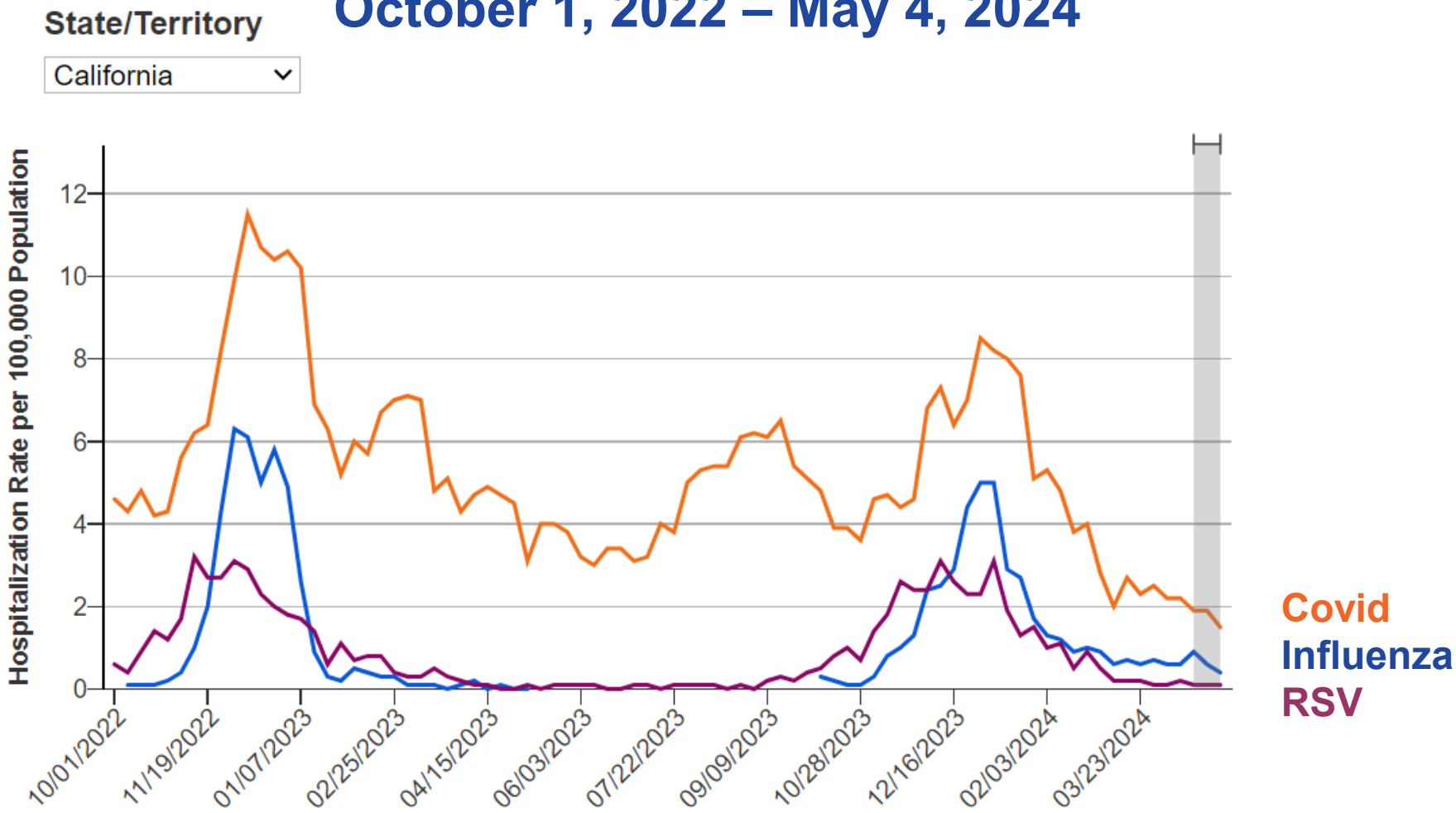
MMWR, Use of an Additional Updated 2023–2024 COVID-19 Vaccine Dose for Adults Aged ≥65 Years: Recommendations of the Advisory Committee on Immunization Practices — United States, 2024 (cdc.gov)

Rates of COVID-19-Associated Hospitalization by Age Group
CDC COVID-NET (March 2022-May 2023)



COVID-NET: gis.cdc.gov/grasp/COVIDNet/COVID19_3.html

Weekly Hospitalization Rate per 100,000 Population, California
October 1, 2022 – May 4, 2024



CDC Respiratory Virus Activity Levels, National Healthcare Safety Network,

Preliminary data shaded in gray

FDA VRBPAC meeting June 5 to discuss and recommend Covid-19 strain(s) for 2024-25 vaccine

- June 5, 2024: the FDA Vaccines and Related Biologic Products Advisory Committee (VRBPAC) will meet to discuss and make recommendations on the selection of strain(s) to be included in the 2024-2025 Formula for COVID-19 vaccines.

- June 2024: ACIP anticipated to review and vote on recommendations for 2024-25 season (earlier than 2023-24)

- Late Summer – Fall: 2024-25 vaccine anticipated to be available for use

Respiratory Syncytial Virus (RSV)

Respiratory Syncytial Virus (RSV) (ca.gov)

RSV Immunization for Infants and Toddlers

- Nirsevimab (Beyfortus®, Sanofi/AstraZeneca), a long-acting monoclonal antibody, helps protect against severe RSV illness, and recommended for:
- All infants aged < 8 months born during or entering their first RSV season*
- Infants and children aged 8-19 months who are at increased risk of severe RSV disease and entering their second RSV season*
  - **Chronic lung disease (CLD) of prematurity** who required medical support (steroids, diuretics, oxygen) at any time during the 6 months before the start of RSV season*
  - **Severe immunocompromise***
  - **Cystic fibrosis** and 1) severe lung disease or 2) weight for length <10%*
  - **American Indian and Alaska Native children** (this group is newly recommended in contrast to current palivizumab recommendations).

*Including those previously recommended by AAP to receive palivizumab

Nirsevimab Updates

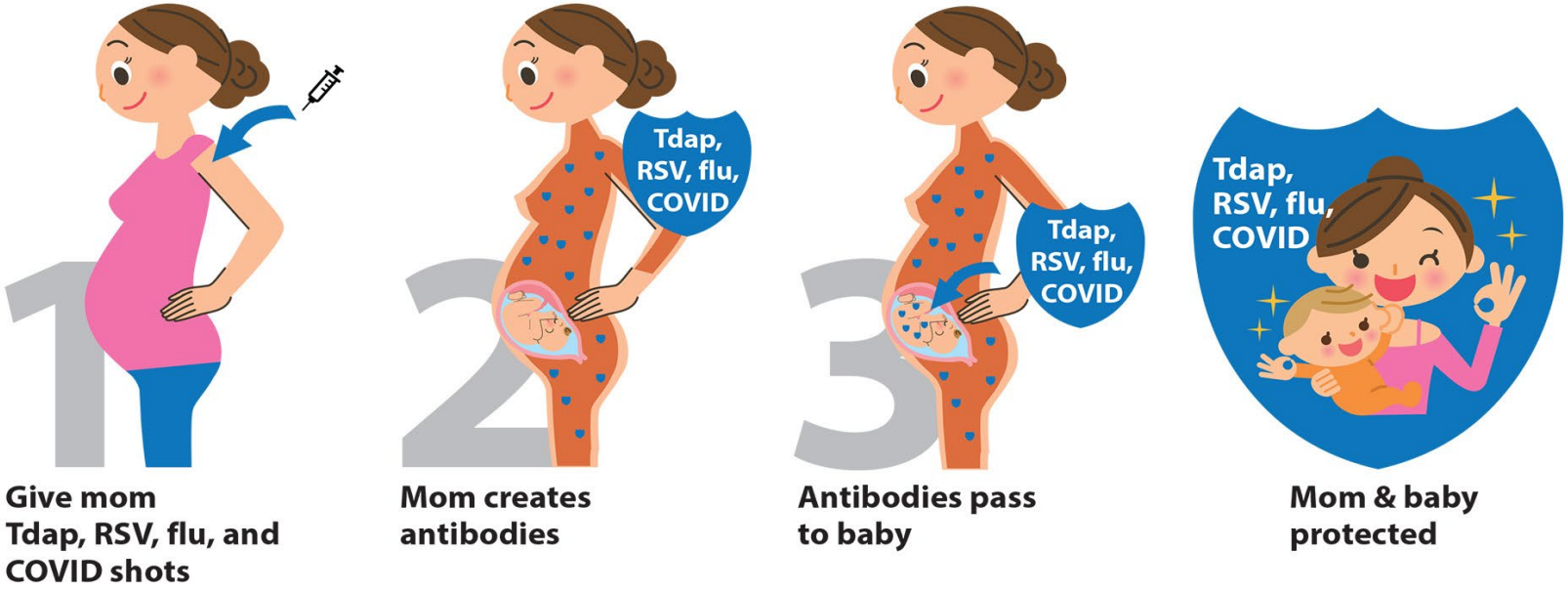
- **Reminder on timing:**
  - Optimal timing of administration is just before the start of RSV season from the **beginning of October** and continuing through the end of March in most of the continental U.S.
  - Newborns born shortly before or during the RSV season, should receive their first dose within 7 days of birth.

- **Early Estimates of Effectiveness* (October 2023—February 2024):**
  - 90% (95% CI: 75-96) against RSV-associated hospitalization
    - Median time to receipt of nirsevimab was 45 days

*Early Estimate of Nirsevimab Effectiveness for Prevention of Respiratory Syncytial Virus–Associated Hospitalization Among Infants Entering Their First Respiratory Syncytial Virus Season — New Vaccine Surveillance Network, October 2023–February 2024 (cdc.gov)

Prenatal RSV Vaccine Recommendations

- One licensed **RSV vaccine (RSVpreF, Abrysvo™, Pfizer)** is recommended at 32 - 36 weeks of pregnancy, September through January.*
- People can receive the RSV vaccine on the same day as other prenatal vaccines.
- Most infants only need protection from prenatal RSV vaccine OR infant immunization, not both.
- Healthcare providers of pregnant people **should provide information on both products and consider patient preferences** when determining whether to vaccinate the pregnant patient.



RSV ACIP Vaccine Recommendations | CDC

*IHS extended this last season through end of February 2024

Older Adult RSV Vaccine Recommendations

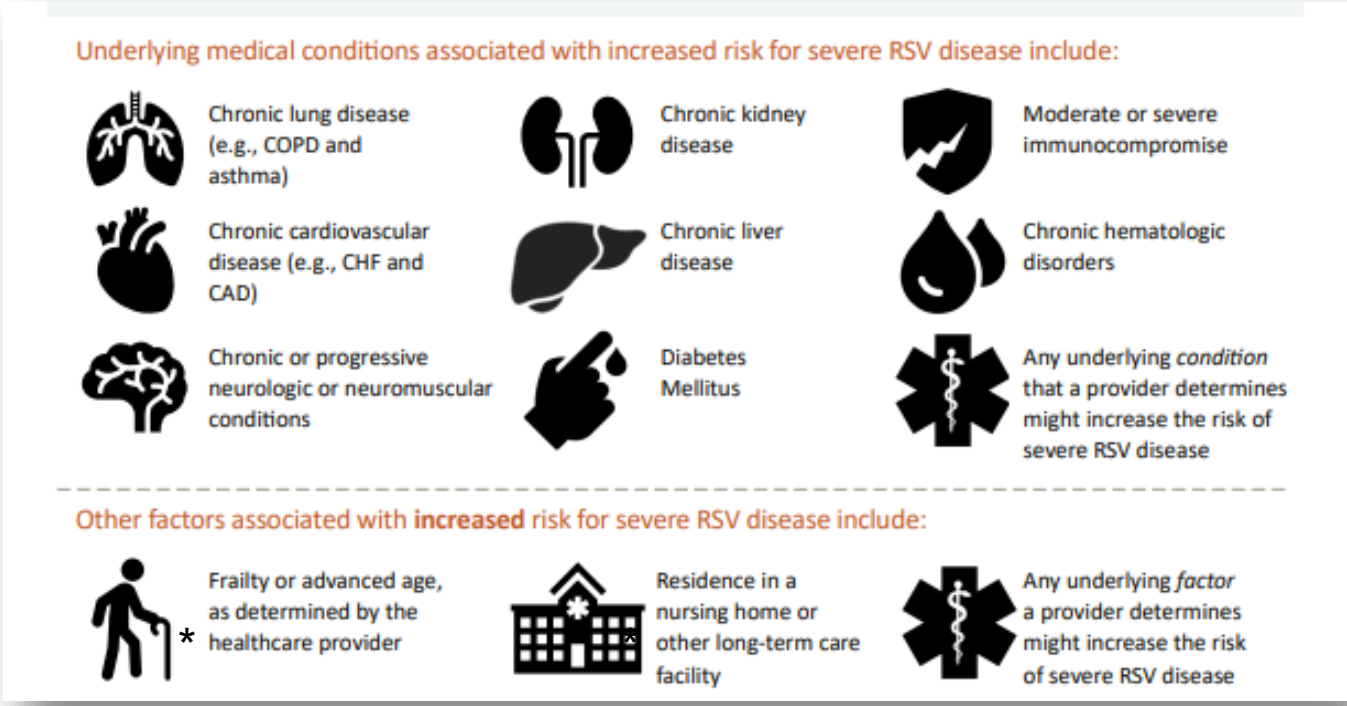
- Adults aged 60 years and older may receive a single dose of RSV vaccine using shared clinical decision-making:
  - Patient's risk for disease, characteristics, values, and preferences
  - Provider's judgment
  - Vaccine characteristics
- Two licensed vaccine options:
  - **RSVPreF3 + adjuvant** (Arexvy™, GSK)
  - **RSVPreF** (Abrysvo™, Pfizer)
- Best time to get vaccinated is in the late summer or early fall — just before RSV usually starts to spread in the community
- RSV vaccine can be co-administered with other adult vaccines during the same visit

MMWR: Use of RSV Vaccines in Older Adults: ACIP Recommendations

Shared Clinical Decision-Making Guidance

- Discussion between provider and patient, guided by:
  - Patient's risk for disease, characteristics, values, and preferences
  - Provider's judgment
  - Vaccine characteristics

- Consider factors associated with severe RSV disease:



*Limited enrollment of certain high-risk populations in trial: Immunocompromised were excluded.

Influenza

2024-2025 U.S. Flu Vaccines Expected to Be All Trivalent

- Current influenza vaccines are **quadrivalent** and contain 2 influenza A (H1N1 & H3N2) and 2 influenza B (Victoria & Yamagata) strains.
- B/Yamagata influenza viruses have not been detected in the world since March 2020. Given this, experts have recommended that this strain be removed, resulting in a **trivalent** flu vaccine.
- At the 3/5/24 FDA VRBPAC meeting, it was announced that U.S. manufacturers are expected to transition from quadrivalent to trivalent influenza vaccines by the 2024-2025 season for the U.S.
- **FDA anticipates that there will be an adequate and diverse supply of approved trivalent seasonal influenza vaccines for the U.S. in the 2024-2025 season**.

FDA: Use of Trivalent Influenza Vaccines for the 2024-2025 U.S. Influenza Season
B/Yamagata and Flu Vaccines Summary | CDC

Respiratory Season Resources

RSV Season Immunization Recommendations

	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Jun
Infants & Children (Nirsevimab)* 				October 1 – March 31*								
Pregnant people (Abrysvo)* 			September 1 – January 31 between 32-36 weeks gestation*									
Adults 60+ (Abrysvo, Arexvy) 	Offer to eligible, unvaccinated adults under shared clinical decision-making. CDC encourages healthcare providers to maximize the benefit of RSV vaccination by offering in late summer or early fall.											

Recommended immunization timing

***If continuing to immunize outside recommended timeframe, make sure to:**

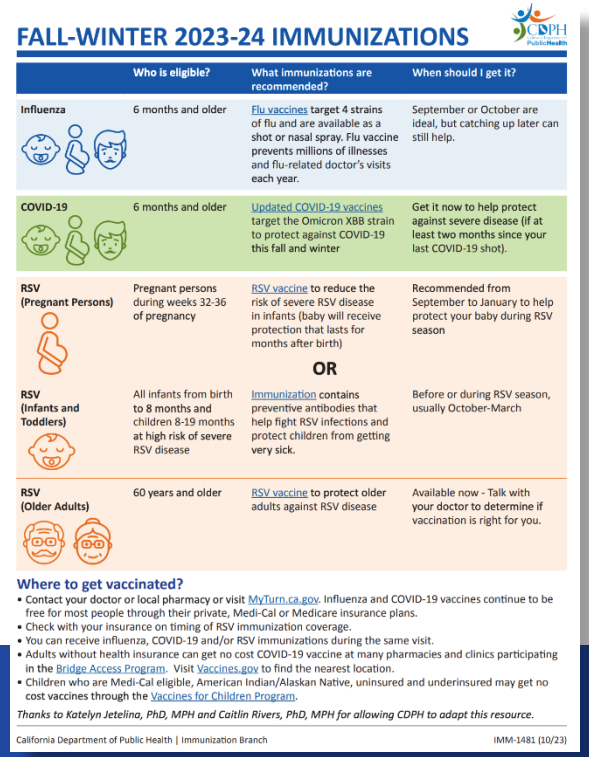
1. **Check with insurers to ensure reimbursement. Keep remaining doses for next RSV season.**
2. **Unused and unexpired supply of VFC Nirsevimab or Abrysvo cannot be returned to McKesson. Label these doses as "Keep for Fall."**

California Department of Public Health | Immunization Branch (3/24)

RSVseasonImmunizationRecommendations.pdf (eziz.org); RSV-FAQs – California Vaccines for Children (VFC) (eziz.org); RSV (Respiratory Syncytial Virus) Immunizations | CDC

Respiratory Season Resources for Providers

- Fall/Winter Immunizations (IMM-1481) | Spanish (Being updated for next season!)
- COVID-19 Vaccine Timing Guide (Routine and Immunocompromised, IMM-1396) | Spanish
- Nirsevimab (Beyfortus) Guide to Prevent Severe RSV in Infants and Toddlers (eziz.org) (IMM-1480)
- RSV webpage (cdph.gov) and RSV Immunization Resources (eziz.org), including FAQs
- Resources for Long-Term Care Facilities (eziz.org)



FALL-WINTER 2023-24 IMMUNIZATIONS

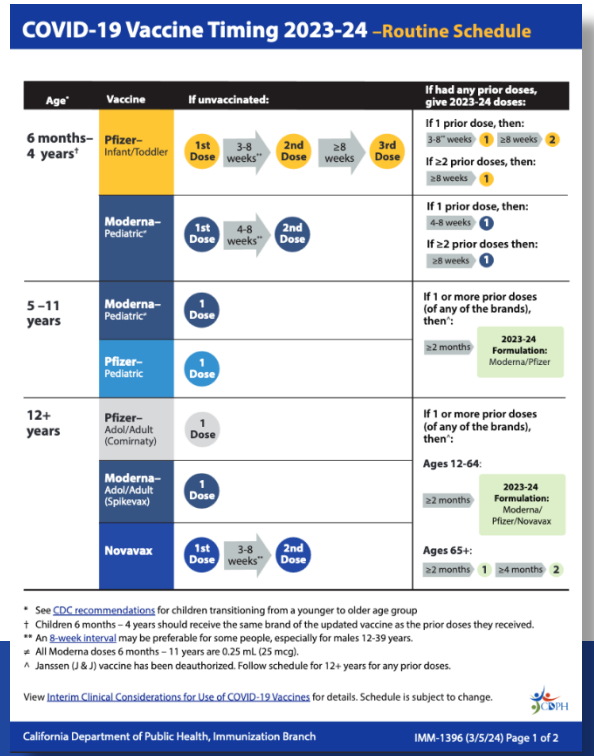
	Who is eligible?	What immunizations are recommended?	When should I get it?
Influenza	6 months and older	Flu vaccines target 4 strains of flu and are available as a shot or nasal spray. Flu vaccine prevents millions of illnesses and flu-related doctor's visits each year.	September or October are ideal, but catching up later can still help.
COVID-19	6 months and older	Updated COVID-19 vaccines target the Omicron XBB strain to protect against COVID-19 this fall and winter	Get it now to help protect against severe disease (if at least two months since your last COVID-19 shot).
RSV (Pregnant Persons)	Pregnant persons during weeks 32-36 of pregnancy	RSV vaccine to reduce the risk of severe RSV disease in infants (baby will receive protection that lasts for months after birth) **OR**	Recommended from September to January to help protect your baby during RSV season
RSV (Infants and Toddlers)	All infants from birth to 8 months and children 8-19 months at high risk of severe RSV disease	Immunization contains preventive antibodies that help fight RSV infections and protect children from getting very sick.	Before or during RSV season, usually October-March
RSV (Older Adults)	60 years and older	RSV vaccine to protect older adults against RSV disease	Available now - Talk with your doctor to determine if vaccination is right for you.

Where to get vaccinated?

- Contact your doctor or local pharmacy or visit MyTurn.ca.gov. Influenza and COVID-19 vaccines continue to be free for most people through their private, Medi-Cal or Medicare insurance plans.
- Check with your insurance on timing of RSV immunization coverage.
- You can receive influenza, COVID-19 and/or RSV immunizations during the same visit.
- Adults without health insurance can get no cost COVID-19 vaccine at many pharmacies and clinics participating in the Bridge Access Program. Visit Vaccines.gov to find the nearest location.
- Children who are Medi-Cal eligible, American Indian/Alaskan Native, uninsured and underinsured may get no cost vaccines through the Vaccines for Children Program.

Thanks to Katelyn Jetelina, PhD, MPH and Caitlin Rivers, PhD, MPH for allowing CDPH to adapt this resource.

California Department of Public Health | Immunization Branch IMM-1481 (10/23)



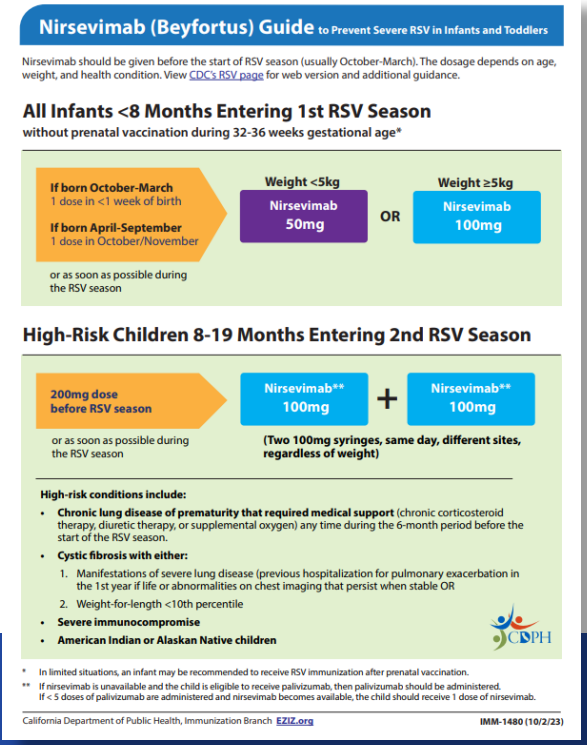
COVID-19 Vaccine Timing 2023-24 –Routine Schedule

Age*	Vaccine	If unvaccinated:	If had any prior doses, give 2023-24 doses:
6 months–4 years†	Pfizer–Infant/Toddler	1st Dose → 3-8 weeks** → 2nd Dose → ≥8 weeks → 3rd Dose	If 1 prior dose, then: 3-8** weeks 1 ≥8 weeks 2 If ≥2 prior doses, then: ≥8 weeks 1
	Moderna–Pediatric≠	1st Dose → 4-8 weeks** → 2nd Dose	If 1 prior dose, then: 4-8 weeks 1 If ≥2 prior doses then: ≥8 weeks 1
5–11 years	Moderna–Pediatric≠	1 Dose	If 1 or more prior doses (of any of the brands), then^: ≥2 months → 2023-24 Formulation: Moderna/Pfizer
	Pfizer–Pediatric	1 Dose	
12+ years	Pfizer–Adol/Adult (Comirnaty)	1 Dose	If 1 or more prior doses (of any of the brands), then^: Ages 12-64: ≥2 months → 2023-24 Formulation: Moderna/Pfizer/Novavax
	Moderna–Adol/Adult (Spikevax)	1 Dose	
	Novavax	1st Dose → 3-8 weeks** → 2nd Dose	Ages 65+: ≥2 months 1 ≥4 months 2

* See CDC recommendations for children transitioning from a younger to older age group
† Children 6 months – 4 years should receive the same brand of the updated vaccine as the prior doses they received.
** An 8-week interval may be preferable for some people, especially for males 12-39 years.
≠ All Moderna doses 6 months – 11 years are 0.25 mL (25 mcg).
^ Janssen (J & J) vaccine has been deauthorized. Follow schedule for 12+ years for any prior doses.

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

California Department of Public Health, Immunization Branch IMM-1396 (3/5/24) Page 1 of 2



Nirsevimab (Beyfortus) Guide to Prevent Severe RSV in Infants and Toddlers

Nirsevimab should be given before the start of RSV season (usually October-March). The dosage depends on age, weight, and health condition. View CDC's RSV page for web version and additional guidance.

All Infants <8 Months Entering 1st RSV Season
without prenatal vaccination during 32-36 weeks gestational age*

If born October-March: 1 dose in <1 week of birth
If born April-September: 1 dose in October/November
or as soon as possible during the RSV season

Weight <5kg: Nirsevimab 50mg
OR
Weight ≥5kg: Nirsevimab 100mg

High-Risk Children 8-19 Months Entering 2nd RSV Season

200mg dose before RSV season
or as soon as possible during the RSV season

Nirsevimab** 100mg + Nirsevimab** 100mg
(Two 100mg syringes, same day, different sites, regardless of weight)

High-risk conditions include:

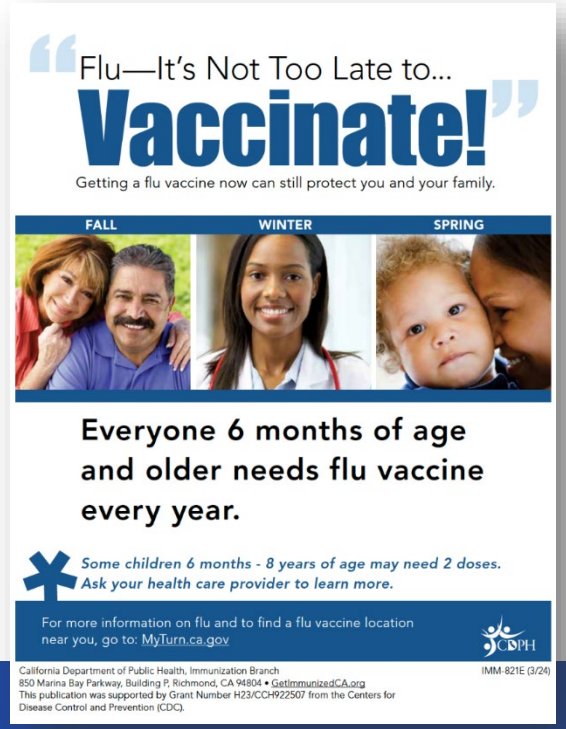
- **Chronic lung disease of prematurity that required medical support** (chronic corticosteroid therapy, diuretic therapy, or supplemental oxygen) any time during the 6-month period before the start of the RSV season.
- **Cystic fibrosis with either:**
  1. Manifestations of severe lung disease (previous hospitalization for pulmonary exacerbation in the 1st year if life or abnormalities on chest imaging that persist when stable OR
  2. Weight-for-length <10th percentile
- **Severe immunocompromise**
- **American Indian or Alaskan Native children**

* In limited situations, an infant may be recommended to receive RSV immunization after prenatal vaccination.
** If nirsevimab is unavailable and the child is eligible to receive palivizumab, then palivizumab should be administered. If < 5 doses of palivizumab are administered and nirsevimab becomes available, the child should receive 1 dose of nirsevimab.

California Department of Public Health, Immunization Branch EZIZ.org IMM-1480 (10/2/23)

Respiratory Season Resources for Patients

- Flu and COVID-19 communication toolkit
- RSV communication toolkit
- It's Not Too Late to Vaccinate! flyer (IMM-821ES)
- Older Adults (60+) vaccines flyer (IMM-1131) | Spanish

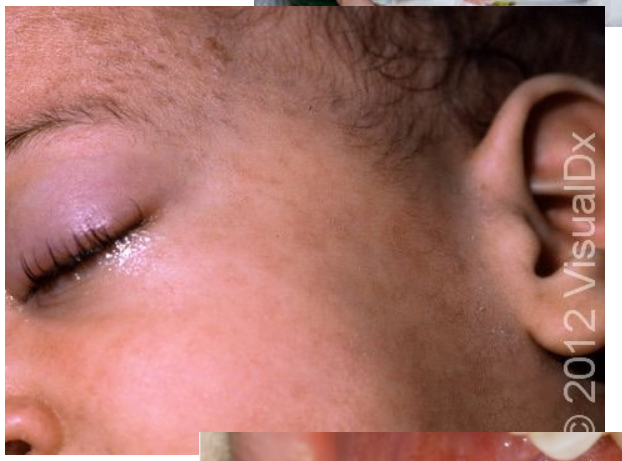


Measles

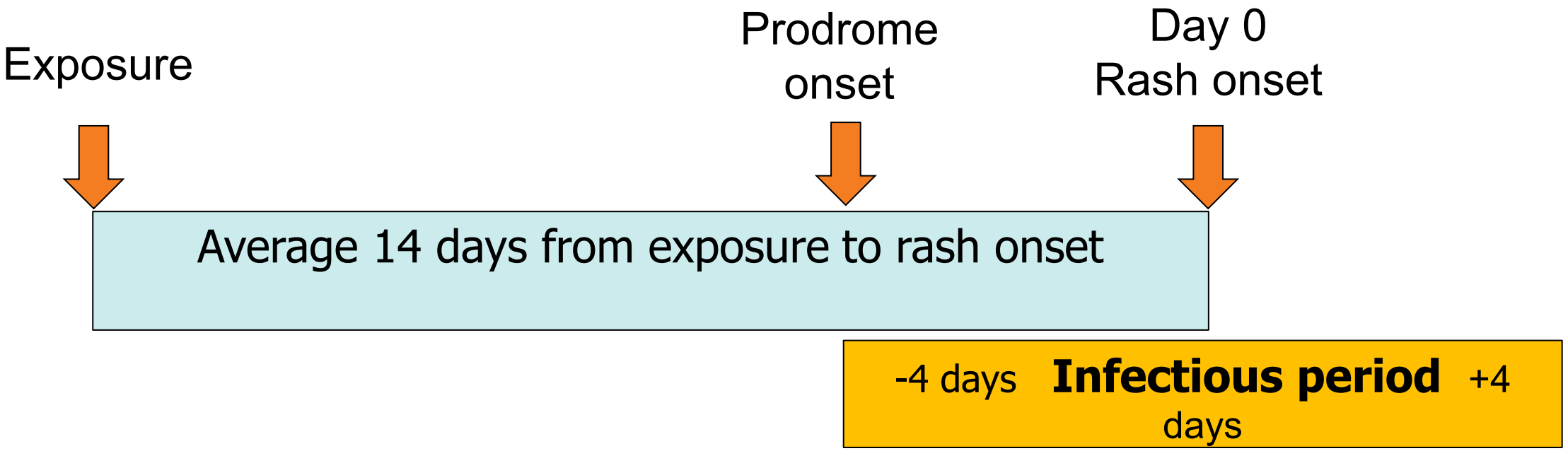
Details - Public Health Image Library(PHIL) (cdc.gov)

Clinical Features - Febrile rash illness

- Spread via airborne route
- Begins with mild-moderate fever accompanied by the “3 C’s:” cough, coryza (runny nose), conjunctivitis
- 2-3 days after onset, Koplik’s spots may appear and fever spikes (may be > 104 °)
- 3-5 days after onset, red maculopapular rash appears and spreads from face/hairline downwards
- Rash may be less apparent in non-white persons
- Rash fades in same sequence it appeared



Measles – Key Parameters



- Time from exposure to prodrome onset generally 8-12 days
- Exposure to rash onset 14 days on average (range 7-21 days)
- **Infectious period: four days before until four days after rash onset** (rash onset is “day zero”) → ISOLATION

Measles Cases and Outbreaks Have Increased Worldwide

- Europe: Over 30,000 cases reported in 2023, 941 in 2022. Large outbreaks have occurred.
- Likely due to pandemic impacts on immunization coverage, as well as resumption of travel.
- Most severe impact in Africa, Asia, and the Eastern Mediterranean
- Exposures abroad have resulted in multiple cases in US among returning travelers

Dec 2023 WHO News Release
Nov 2023 CDC Report

Clinician Reminders about Measles

Increase in Global and Domestic Measles Cases and Outbreaks: Ensure Children in the United States and Those Traveling Internationally 6 Months and Older are Current on MMR Vaccination

Print

HAN HEALTH ALERT NETWORK

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Distributed via the CDC Health Alert Network
March 18, 2024, 12:30 PM ET
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CDPH

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State of California—Health and Human Services Agency
California Department of Public Health

Health Advisory

GAVIN NEWSOM
Governor

Fever and Rash? Consider Measles. Traveling Abroad? Protect Against Measles.

2/2/2024

TO: Healthcare Providers

Immediate Respiratory Isolation Recommended for Persons with Suspected Measles

3/14/2024

Key Messages (CAHAN) to Providers

- Multiple measles cases have been recently confirmed in the US. Cases linked to overseas travel, reflecting a global rise in measles cases.
  - 7 cases in CA since January 1, 2024*
- Consider measles in persons presenting with a febrile rash illness and other symptoms consistent with measles.
- Immediately institute airborne precautions to prevent nosocomial spread.
- Suspected measles cases should be promptly reported by telephone to LHD before laboratory confirmation.
- Ensure that patients are up to date with measles vaccinations, especially if travel abroad is planned.

*as of May 14, 2024

Measles (ca.gov)

MMR Doses Before International Travel

Infants under 12 months old who are traveling	Children over 12 months old	Teens and adults with no evidence of immunity*
• Get **an early dose at 6 through 11 months**[#] • Follow the recommended schedule and get another dose at 12 through 15 months and a final dose at 4 through 6 years	• Get **first dose immediately** • Get second **dose 28 days after first dose**	• Get **first dose immediately** • Get second **dose 28 days after first dose**

* Acceptable evidence of immunity against measles includes at least one of the following:

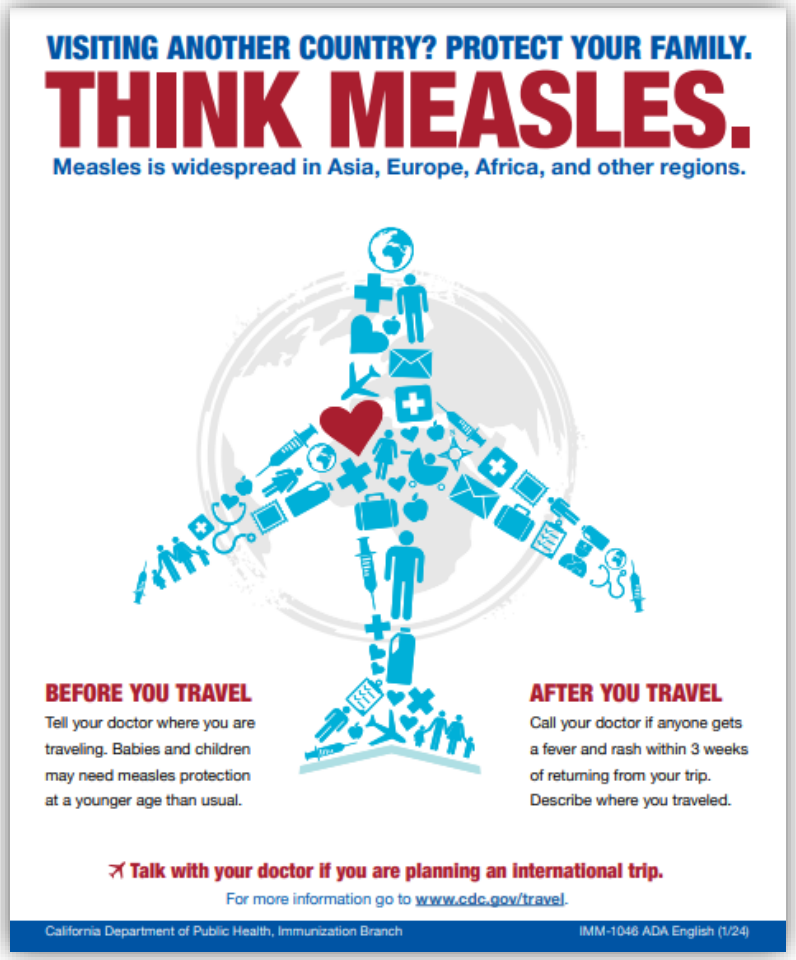
- Written documentation of adequate vaccination
- Laboratory evidence of immunity
- Laboratory confirmation of measles, or
- Birth in the United States before 1957

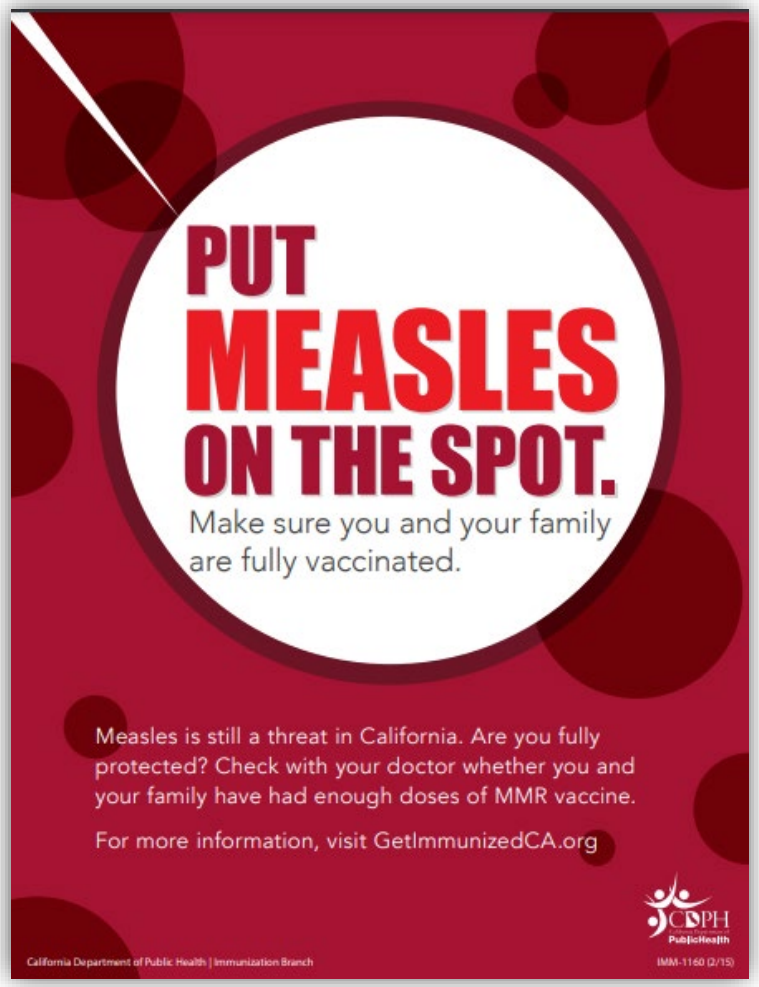
[#]FDA licensed for 12 months and older

CDPH

CDC measles vaccine travel guidance

Measles Resources





Thank you!