Maine CDC Clinician Update: COVID-19 Vaccines and Therapies

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Key Updates

Prevalence of COVID-19 Variants Nationally

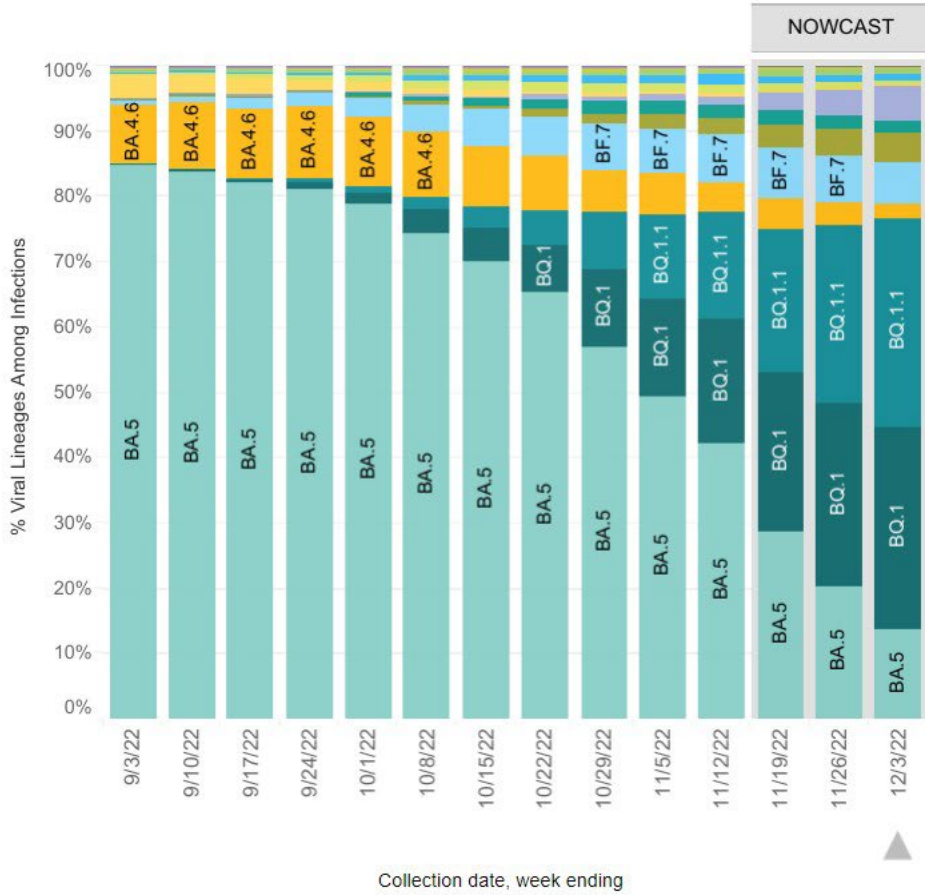
- HHS and CDC actively monitoring variant prevalence nationally & regionally
- BA.5+BN.1+BA.2+ BA.2.75*+BA.4 = ~20% (no resistance)
- BQ.1+BQ.1.1+BF.7+ BA.4.6+BA.2.75.2 + BA.5.2.6+XBB = ~80% (Evusheld resistant)
- BQ.1+BQ.1.1+XBB = ~68% (bebtelovimab resistant – not currently authorized for use)

United States: 11/27/2022 – 12/3/2022 NOWCAST

USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BQ.1.1	VOC	31.9%	29.7-34.3%
	BQ.1	VOC	30.9%	28.7-33.3%
	BA.5	VOC	13.8%	11.9-15.8%
	BF.7	VOC	6.3%	5.4-7.3%
	XBB	VOC	5.5%	2.7-10.6%
	BN.1	VOC	4.6%	3.8-5.5%
	BA.4.6	VOC	2.3%	2.0-2.6%
	BA.5.2.6	VOC	1.8%	1.4-2.2%
	BF.11	VOC	0.9%	0.7-1.2%
	BA.2	VOC	0.8%	0.5-1.2%
	BA.2.75	VOC	0.7%	0.6-0.9%
	BA.2.75.2	VOC	0.5%	0.4-0.6%
	BA.4	VOC	0.0%	0.0-0.0%
	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*		0.0%	0.0-0.1%

United States: 8/28/2022 – 12/3/2022

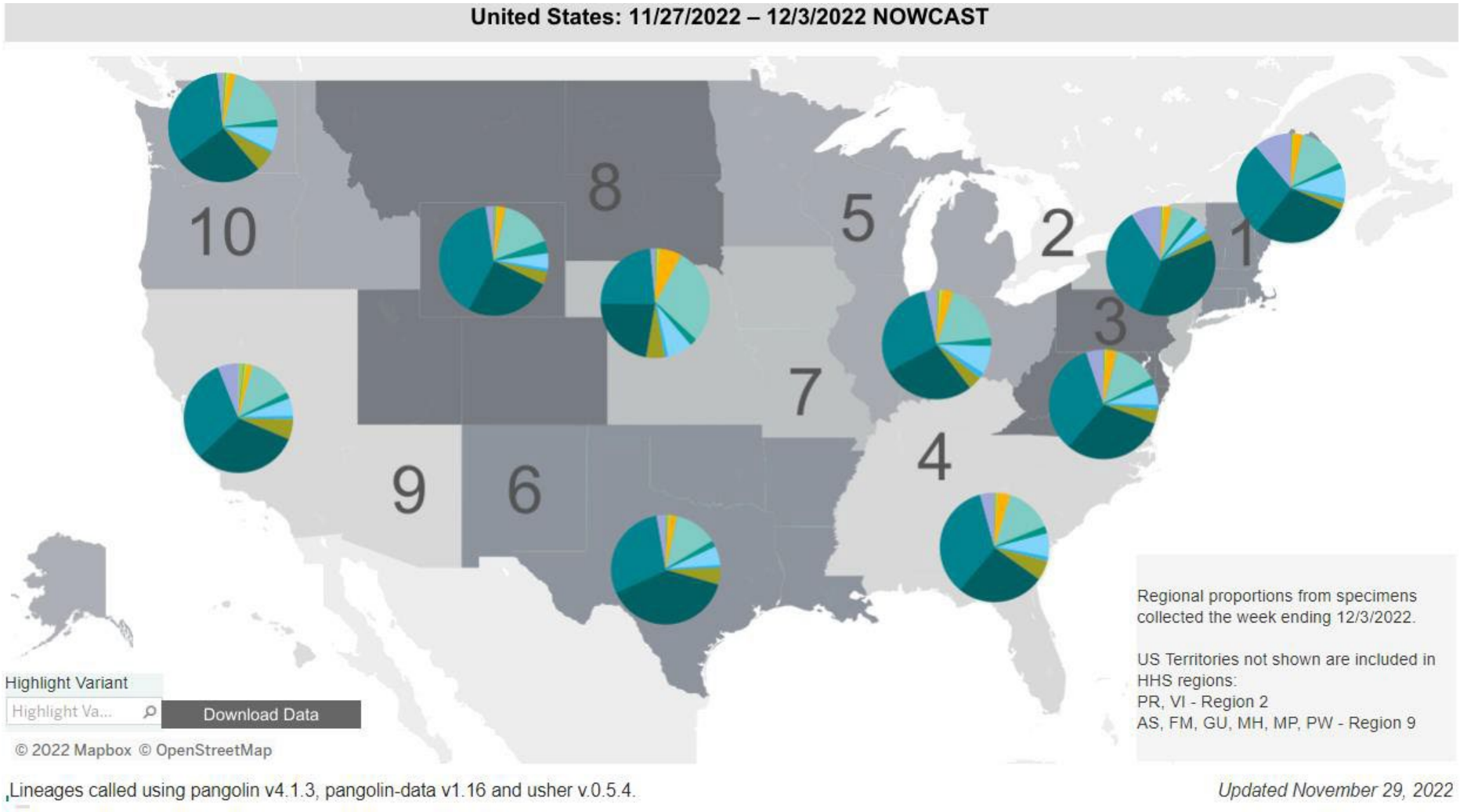


* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.

https://covid.cdc.gov/covid-data-tracker/#variant-proportions

*BA.2.75 includes some lineages with R346T in combination with other mutations making some portion resistant to Evusheld

Prevalence of COVID-19 Variants Regionally



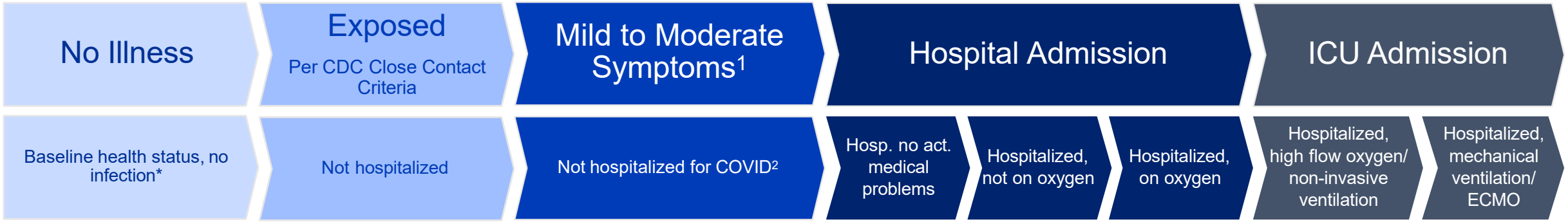
https://covid.cdc.gov/covid-data-tracker/#variant-proportions

Updated CDC Webpages

- CDC Underlying Conditions Associated with Higher Risk for Severe COVID-19

- Age remains the strongest risk factor for severe COVID-19 outcomes, with risk of severe outcomes increasing markedly with increasing age. Based on data from the National Vital Statistics System (NVSS) at NCHS (Risk for COVID-19 Infection, Hospitalization, and Death By Age Group), compared with ages 18–29 years, the **risk of death is 25 times higher in those ages 50–64** years, **60 times higher in those ages 65–74** years, **140 times higher in those ages 75–84** years, and **340 times higher in those ages 85+** years. Notably, these data include all deaths in the United States that occurred throughout the pandemic, from February 2020 to July 1, 2022, including deaths among unvaccinated individuals.

Summary of COVID-19 Preventative Agents & Treatments



COVID-19 Vaccines

Monoclonal Antibodies for PrEP

- Evusheld (tixagevimab + cilgavimab, AZ)

None currently authorized for use in any US state or territory.

Oral Antivirals

- **Paxlovid (nirmatrelvir + ritonavir, Pfizer)**
- Lagevrio (molnupiravir, Merck) – **Alternative**

IV Antiviral

- **Veklury® (remdesivir, Gilead)**

Please see NIH Current Inpatient Therapies (https://www.covid19treatmentguidelines.nih.gov/therapies/)

There is currently **ample supply** of all authorized therapeutics – every eligible patient should have access to these medications

HHS distribution

Commercially available

[1]COVID-19 Convalescent Plasma has EUA for immunocompromised patients

[2]Refer to individual product Fact Sheets for authorization details

Therapeutic Management of Nonhospitalized Adults With COVID-19

Therapeutic Management of Hospitalized Adults With COVID-19

Therapeutics Activity Against Emerging Variants

- Evusheld ~80% resistance nationally
  - Breakthrough infections are possible**, advise patients to have a treatment plan in place and to seek timely medical attention if symptoms occur**
  - NIH Guidelines update (Dec 1): Prevention section updated to include information on the new bivalent COVID-19 vaccines. In addition, discussion on pre-exposure prophylaxis (PrEP) notes that the prevalence of Omicron subvariants that are resistant to tixagevimab plus cilgavimab (Evusheld) is rapidly increasing. However, Evusheld is the only agent FDA authorized for SARS-CoV-2 PrEP in people who are not expected to mount an adequate immune response to COVID-19 vaccination or those with contraindications for COVID-19 vaccines. Therefore, the **Panel continues to recommend the use of tixagevimab plus cilgavimab** as PrEP for eligible individuals. This **recommendation may change if the prevalence of resistant subvariants increases**.

- Paxlovid/Lagevrio/Veklury expected to retain activity against all circulating variants based on preliminary data & sequence analysis; additional data pending

- mAbs currently not authorized for use (Regen-COV, bam/ete, sotrovimab, bebtelovimab) are routinely tested against emerging variants

- NIH Guidelines update (Dec 1): Prioritization of Anti-SARS-CoV-2 Therapies for the Treatment of COVID-19 in Nonhospitalized Patients When There Are Logistical Constraints

COVID-19 Convalescent Plasma EUA

- FDA issued an EUA to permit the emergency use of the unapproved product, **COVID-19 convalescent plasma with high titers** of anti-SARS-CoV-2 antibodies, for the **treatment of COVID-19 in patients with immunosuppressive disease or receiving immunosuppressive treatment**, in either the outpatient or inpatient setting.
- Given that the clinical evidence in patients with immunosuppressive disease or receiving immunosuppressive treatment remains limited, **data from additional randomized, controlled trials are needed**.
- COVID-19 convalescent plasma is **not authorized to treat immunocompetent patients** with COVID-19
- FDA has authorized other treatments for emergency use for the treatment of COVID-19 in adults and pediatric patients in the outpatient setting. These products have more consistently demonstrated clinical benefit in this population, and do not carry some of the risks associated with transfusion of blood components.

COVID-19 Convalescent Plasma EUA

- NIH Guidelines update Dec 1: COVID-19 Convalescent Plasma (CCP)

- Based on the available data, the Panel revised the recommendation language for the use of CCP in patients who are immunocompromised. There is currently insufficient evidence for the Panel to recommend either for or against the use of high-titer CCP for the treatment of COVID-19 in hospitalized or nonhospitalized patients who are immunocompromised.

- **Some Panel members would use CCP to treat an immunocompromised patient with significant symptoms attributable to COVID-19** and with signs of active SARS-CoV-2 replication and who is having an inadequate response to available therapies. In these cases, clinicians should attempt to obtain high-titer CCP from a vaccinated donor who recently recovered from COVID-19 likely caused by a SARS-CoV-2 variant similar to the variant causing the patient's illness.

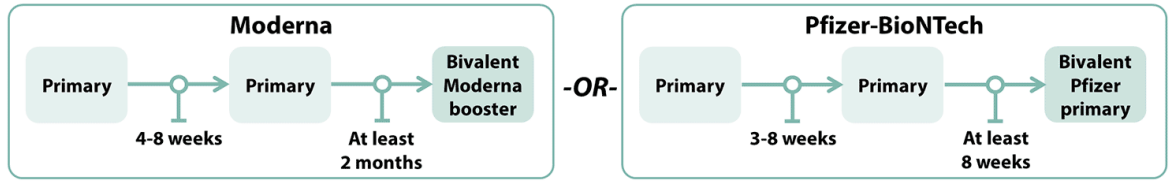
COVID-19 Vaccines

COVID-19 Fall Vaccines

- Vaccines remain the best way to gain protection against COVID-19.
- Advisory Committee on Immunization Practices (ACIP)'s recommends people ages 5 and older receive an updated COVID-19 booster formulated to better protect against the most recently-circulating COVID-19 variant
- CDC recommends everyone get and stay up to date with COVID-19 vaccination, including all primary series doses and a booster. This means everyone:
    - Ages 6 months through 4 years should get all COVID-19 primary series doses.
    - Ages 5 years and older should get all COVID-19 primary series doses, plus an updated COVID-19 booster if eligible.
- Check if and when to get COVID-19 boosters with CDC's COVID-19 booster tool.
- Studies conducted throughout the COVID-19 pandemic indicate that it is safe to receive both a COVID-19 vaccine and a flu vaccine at the same visit. CDC and the Advisory Committee on Immunization Practices (ACIP) recommend this practice.

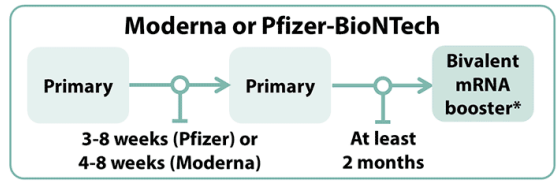
COVID-19 Vaccination Schedule Infographic for People who are NOT Moderately or Severely Immunocompromised

People ages 6 months through 4 years

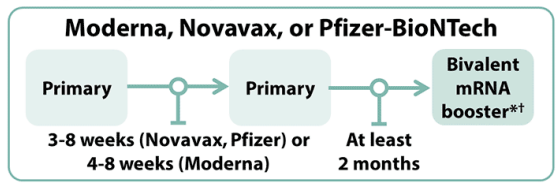


People age 5 years

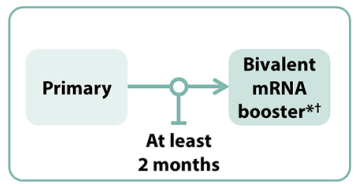
People ages 6 through 11 years



People ages 12 years and older



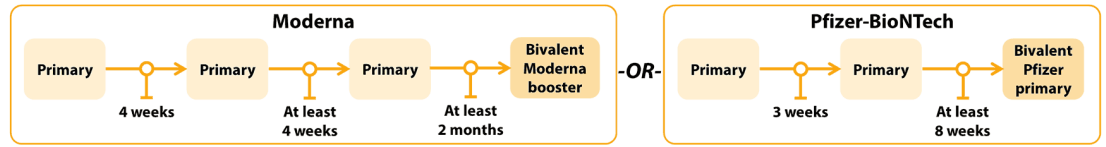
People ages 18 years and older who previously received Janssen primary series dose‡



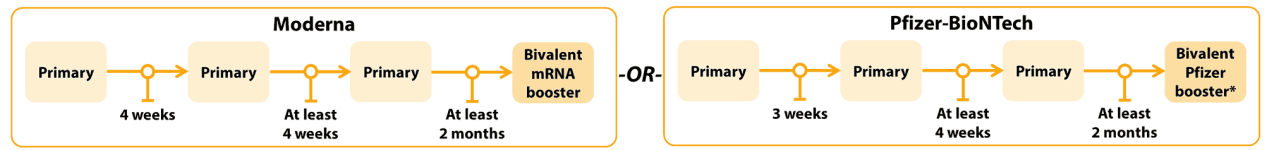
*For people who previously received a monovalent booster dose(s), the bivalent booster dose is administered at least 2 months after the last monovalent booster dose.
† A monovalent Novavax booster dose may be used in limited situations in people ages 18 years and older who completed a primary series using any COVID-19 vaccine, have not received any previous booster dose(s), and are unable or unwilling to receive an mRNA vaccine. The monovalent Novavax booster dose is administered **at least 6 months** after completion of a primary series.
‡ Janssen COVID-19 Vaccine should only be used in certain limited situations. See: https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us-appendix.html#appendix-a

COVID-19 Vaccination Schedule Infographic for People who ARE Moderately or Severely Immunocompromised

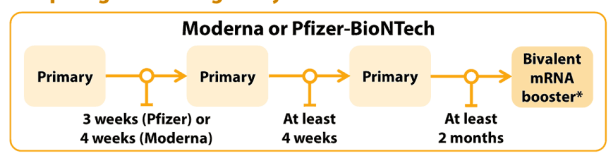
People ages 6 months through 4 years



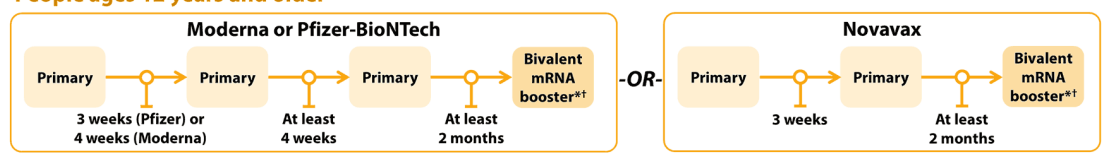
People age 5 years



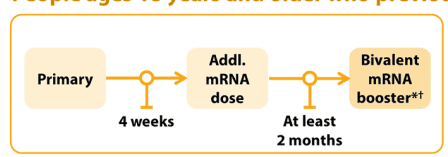
People ages 6 through 11 years



People ages 12 years and older

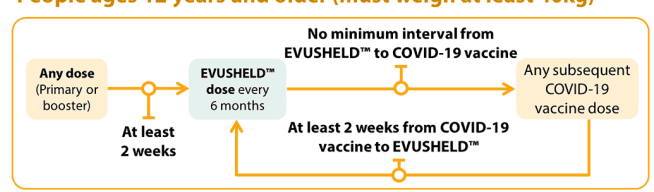


People ages 18 years and older who previously received Janssen primary series dose‡



Monoclonal antibodies (EVUSHELD™) for COVID-19 pre-exposure prophylaxis

People ages 12 years and older (must weigh at least 40kg)



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†A monovalent Novavax booster dose may be used in limited situations in people ages 18 years and older who completed a primary series using any COVID-19 vaccine, have not received any previous booster dose(s), and are unable or unwilling to receive an mRNA vaccine. The monovalent Novavax booster dose is administered **at least 6 months** after completion of a primary series.
‡Janssen COVID-19 Vaccine should only be used in certain limited situations. See: https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us-appendix.html#appendix-a

COVID-19 Primary Series Vaccination Recommendations

- **People ages 6 months and older are recommended to complete a primary series.**

- **Monovalent vaccines should be used for the primary series, with one EXCEPTION:**
  - Children ages 6 months–4 years who received 2 doses of a monovalent Pfizer-BioNTech vaccine are authorized to receive a **bivalent Pfizer-BioNTech vaccine as their third primary series dose**.

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

COVID-19 Bivalent Booster Vaccination Recommendations

- **People ages 6 months and older are recommended to receive a bivalent booster with one EXCEPTION:**
  - Children 6 months–4 years who receive a **3-dose Pfizer-BioNTech primary series** are **not authorized to receive a booster dose** at this time regardless of which Pfizer-BioNTech vaccine (i.e., monovalent or bivalent) was administered for the third primary dose.

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

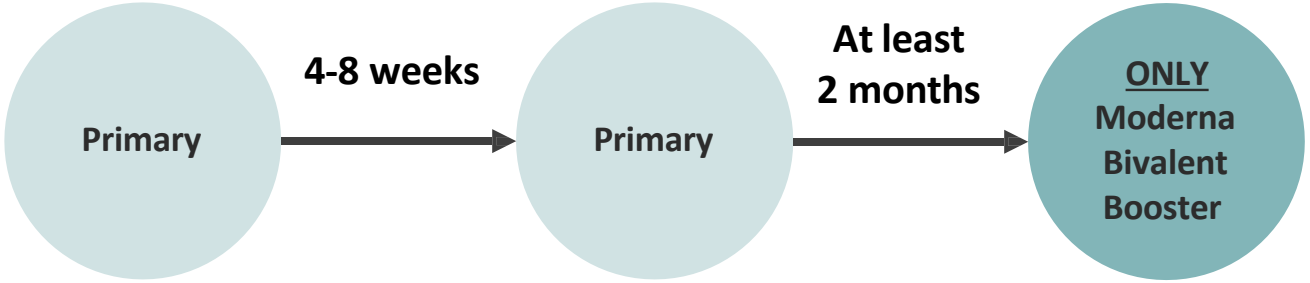
COVID-19 Bivalent Booster Product Varies by Age

- Ages 6 months–4 years and completed the Moderna primary series:
  1 bivalent Moderna booster dose.
- Ages 6 months–4 years and completed Pfizer-BioNTech primary series:
  No booster dose is recommended at this time.
- Age 5 years and completed Moderna primary series:
  1 bivalent mRNA booster dose (Moderna or Pfizer-BioNTech)
- Age 5 years and completed Pfizer-BioNTech primary series:
  1 bivalent Pfizer-BioNTech booster dose.
- Ages 6 years and older and any primary series:
  1 bivalent mRNA booster dose (Moderna or Pfizer-BioNTech)

Pediatric Schedule: Ages 6 months–4 Years

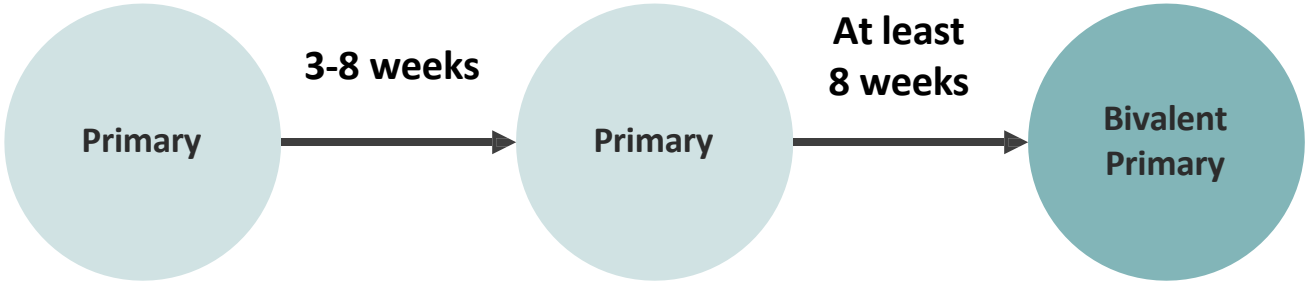
Ages 6 months–4 years

(Primary Series: Moderna)



Ages 6 months–4 years

(Primary Series: Pfizer-BioNTech)

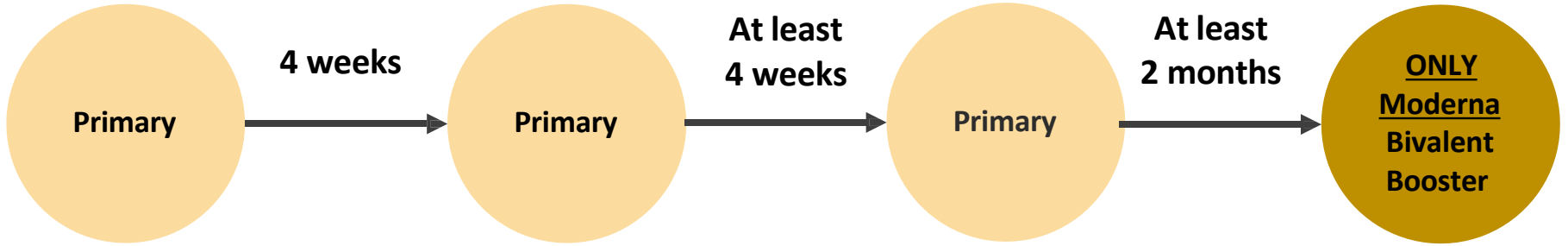


No booster dose authorized

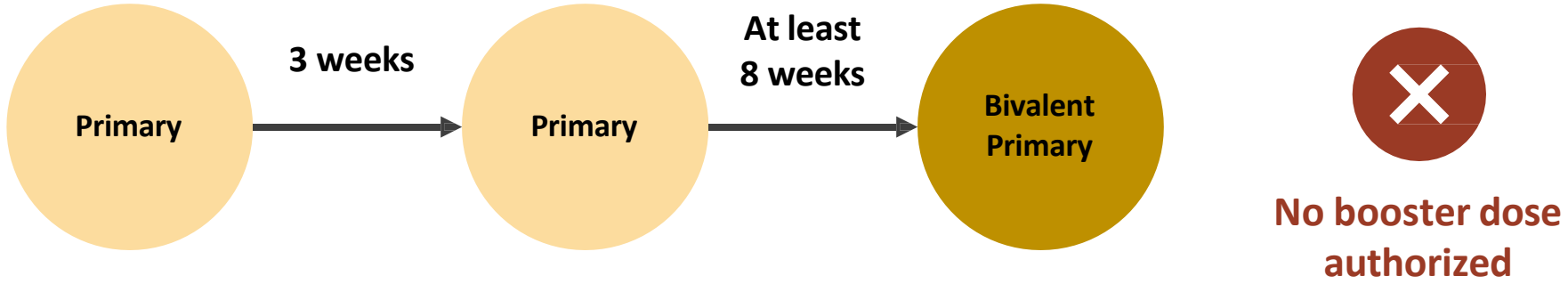
https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

Pediatric Schedule: Ages 6 months–4 Years (Moderately or Severely Immunocompromised)

Ages 6 months–4 years
(Primary Series: Moderna)



Ages 6 months–4 years
(Primary Series: Pfizer-BioNTech)

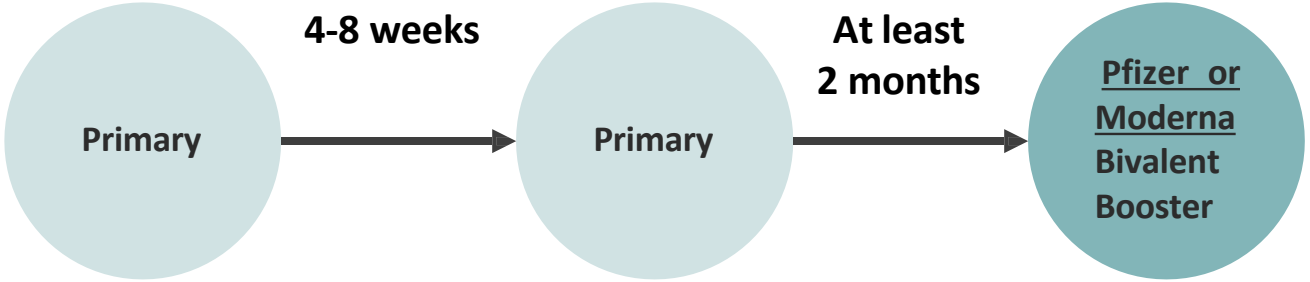


No booster dose authorized

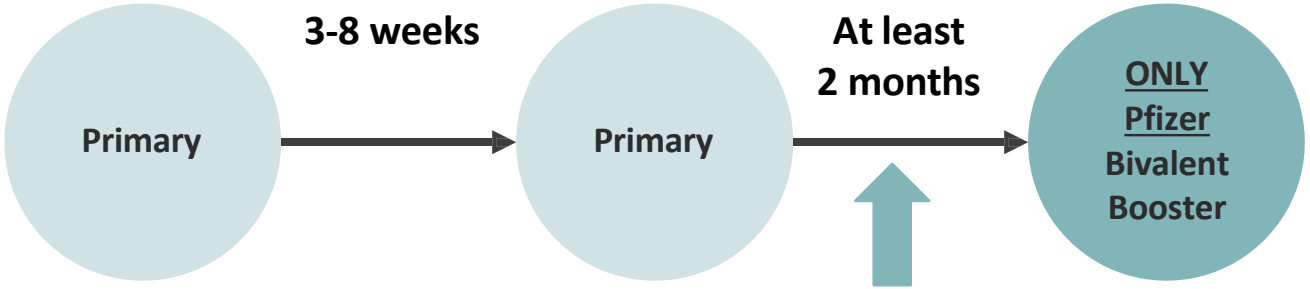
https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

Pediatric Schedule: Age 5 Years

Age 5 years
(Primary Series: Moderna)



Age 5 years
(Primary Series: Pfizer-BioNTech)

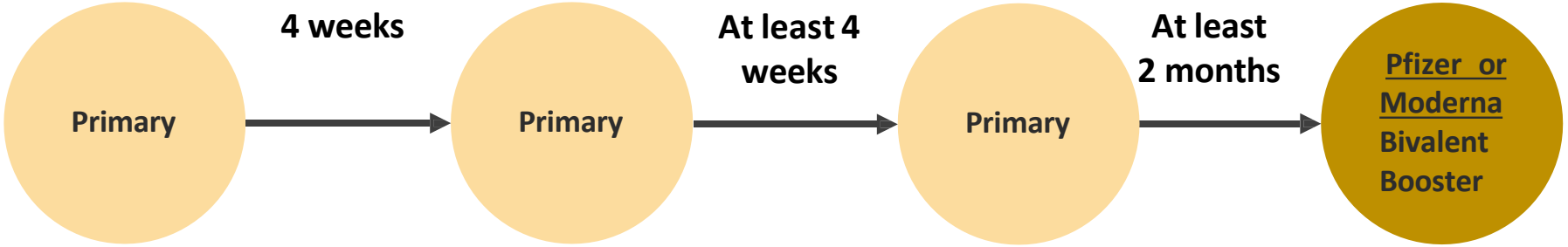


Regardless of previous monovalent booster doses given

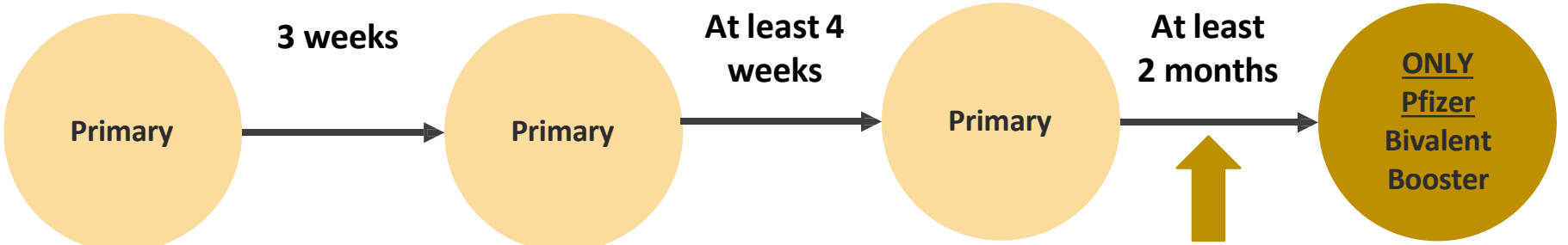
https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

Pediatric Schedule: Age 5 Years (Moderately or Severely Immunocompromised)

Age 5 years
(Primary Series: Moderna)



Age 5 years
(Primary Series: Pfizer-BioNTech)

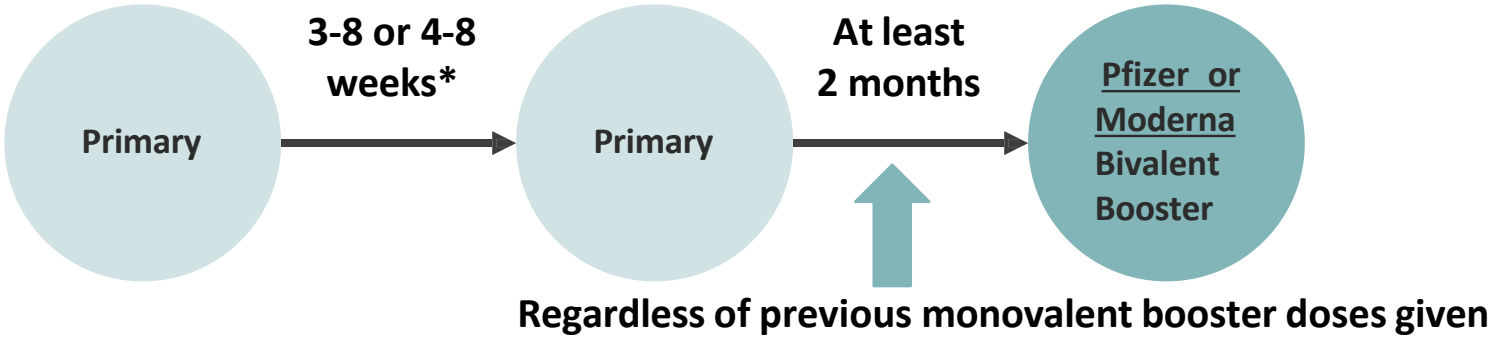


Regardless of previous monovalent booster doses given

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

Pediatric Schedule: Ages 6–11 Years

Ages 6–11 years
(Primary Series: Moderna or Pfizer-BioNTech)

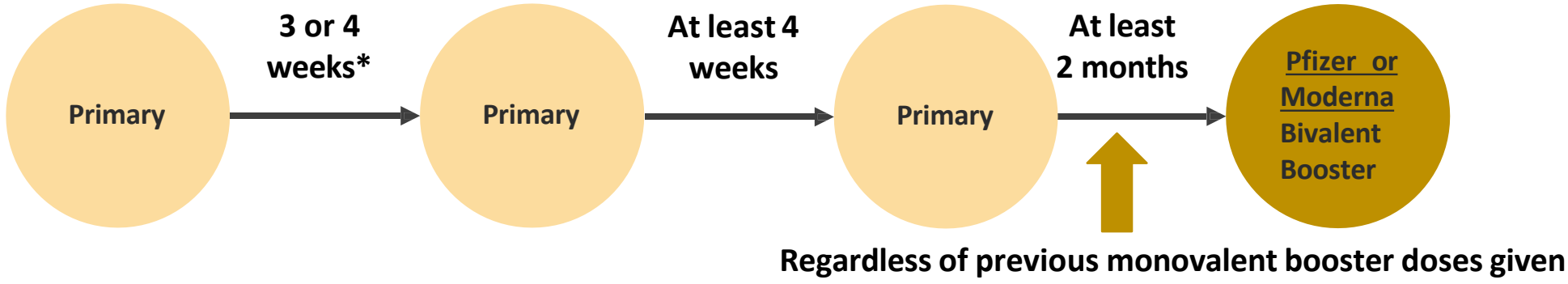


https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

*3-8 week interval for Pfizer-BioNTech; 4-8 week interval for Moderna

Pediatric Schedule: Ages 6–11 Years (Moderately or Severely Immunocompromised)

Ages 6–11 years
(Primary Series: Moderna or Pfizer-BioNTech)



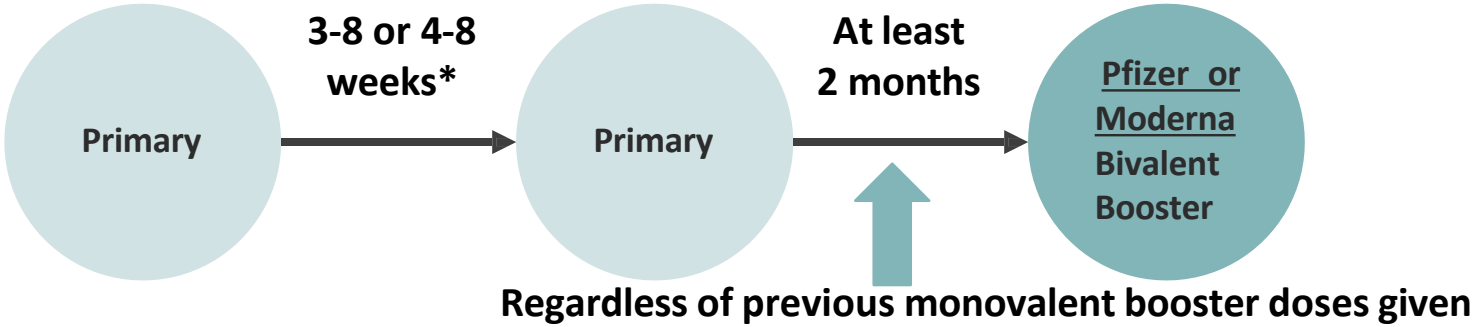
Regardless of previous monovalent booster doses given

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

*3-8 week interval for Novavax or Pfizer-BioNTech; 4-8 week interval for Moderna

Pediatric Schedule: Ages 12-17 Years

Ages 12–17 years
(Primary Series: Moderna, Novavax, or Pfizer-BioNTech)

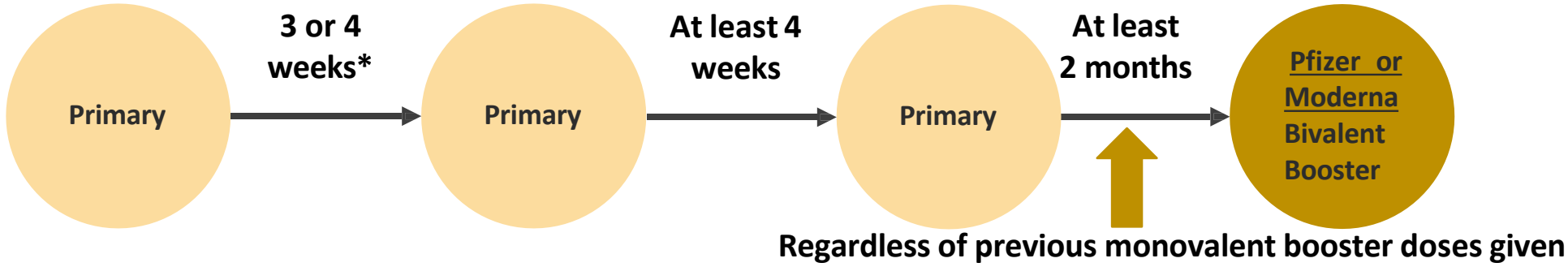


https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

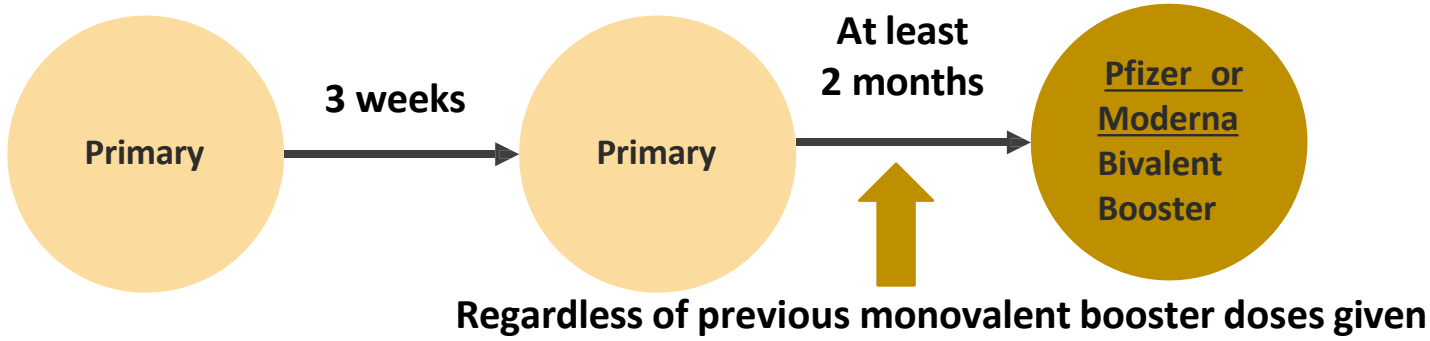
*3-8 week interval for Novavax or Pfizer-BioNTech; 4-8 week interval for Moderna

Pediatric Schedule: Ages 12–17 Years (Moderately or Severely Immunocompromised)

Ages 12–17 years
(Primary Series: Modernaor Pfizer-BioNTech)



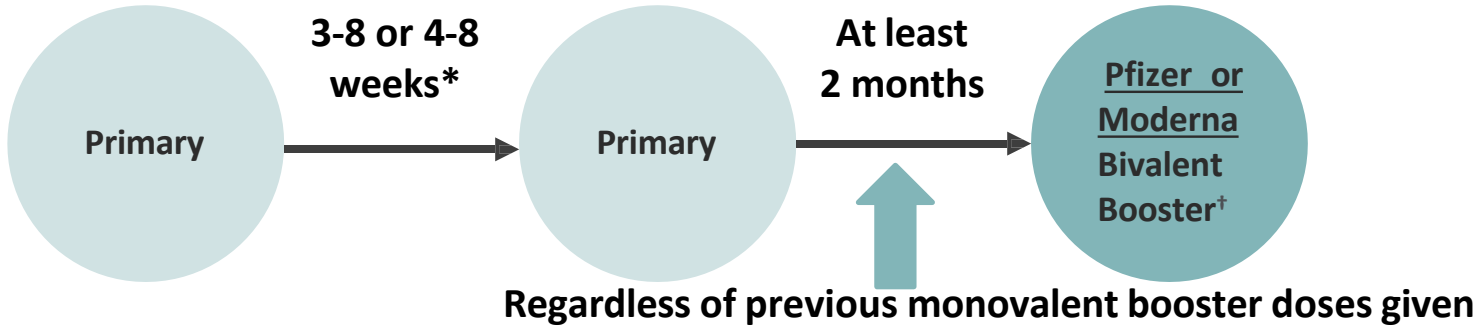
Ages 12–17 years
(Primary Series: Novavax)



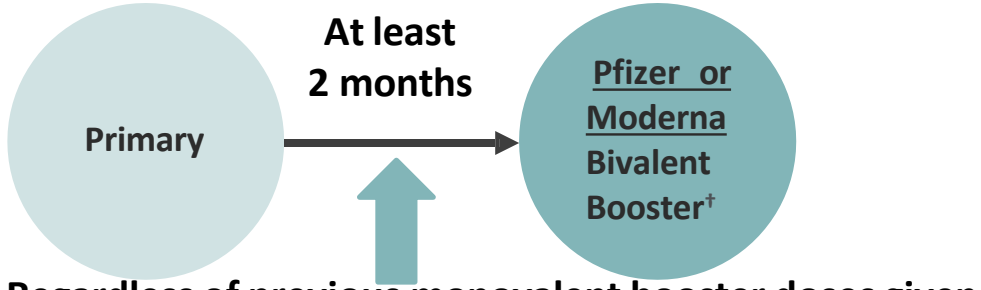
https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

Adult Schedule: Ages 18 Years and Older

Ages 18 years and older
(Primary Series: Moderna, Novavax, or Pfizer-BioNTech)



Ages 18 years and older
(Primary Series: Janssen)

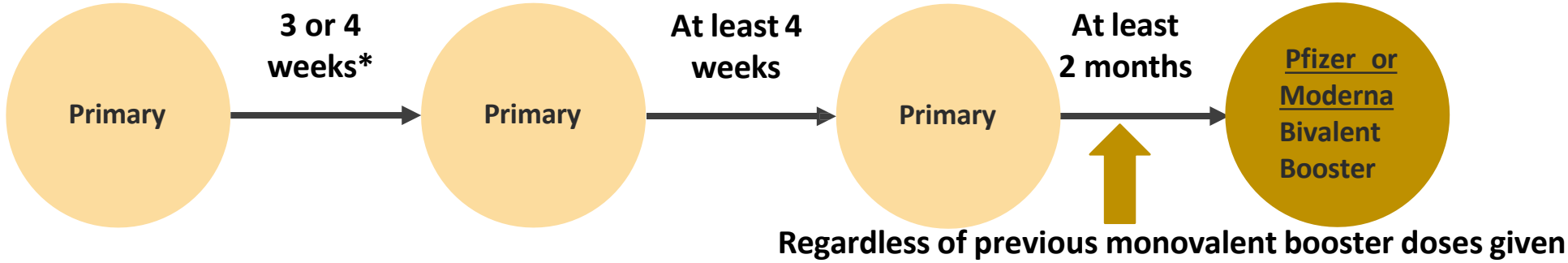


https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

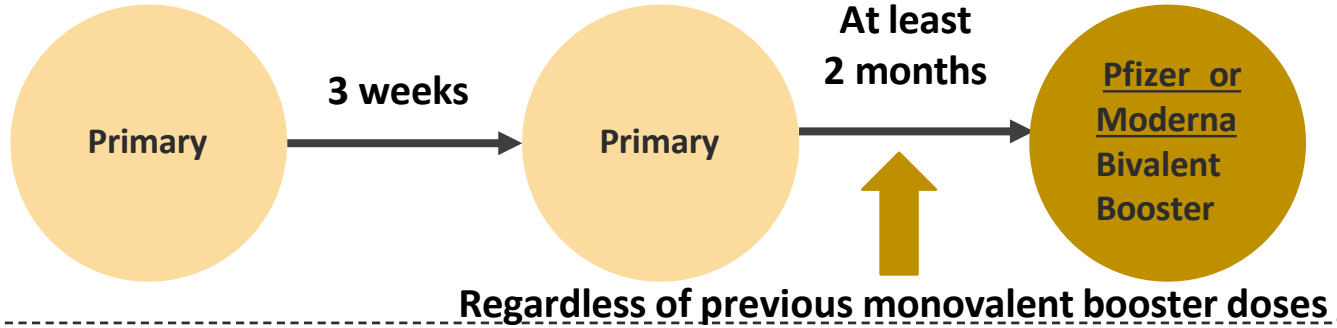
*3-8 week interval for Novavax and Pfizer-BioNTech; 4-8 week interval for Moderna
† A monovalent Novavax booster dose (instead of a bivalent mRNA booster dose) may be used in limited situations in people ages 18 years and older who are unable to receive an mRNA vaccine (i.e., contraindicated) or unwilling to receive an mRNA vaccine and would otherwise remain unvaccinated. The Novavax booster dose is administered **at least 6 months** after completion of a primary series.

Adult Schedule: Ages 18 years and older (Moderately or Severely Immunocompromised)

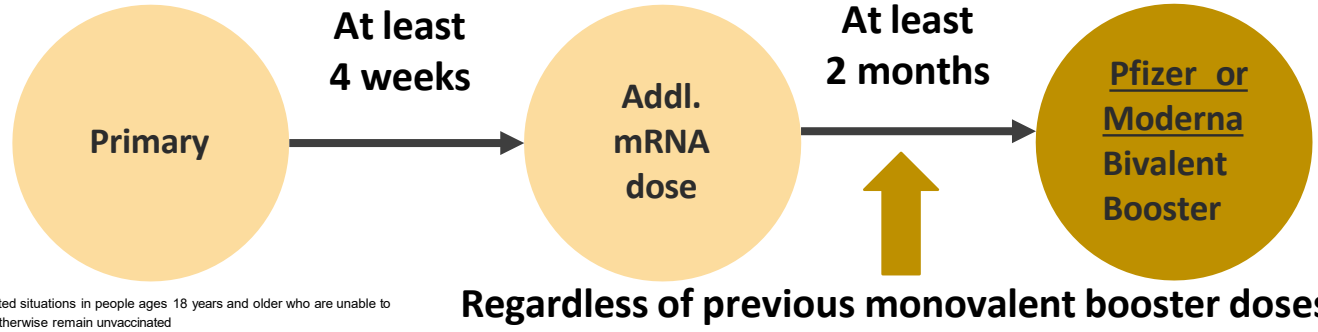
Ages 18 years and older
(Primary Series: Moderna or Pfizer-BioNTech)



Ages 18 years and older
(Primary Series: Novavax)



Ages 18 years and older
(Primary Series: Janssen)

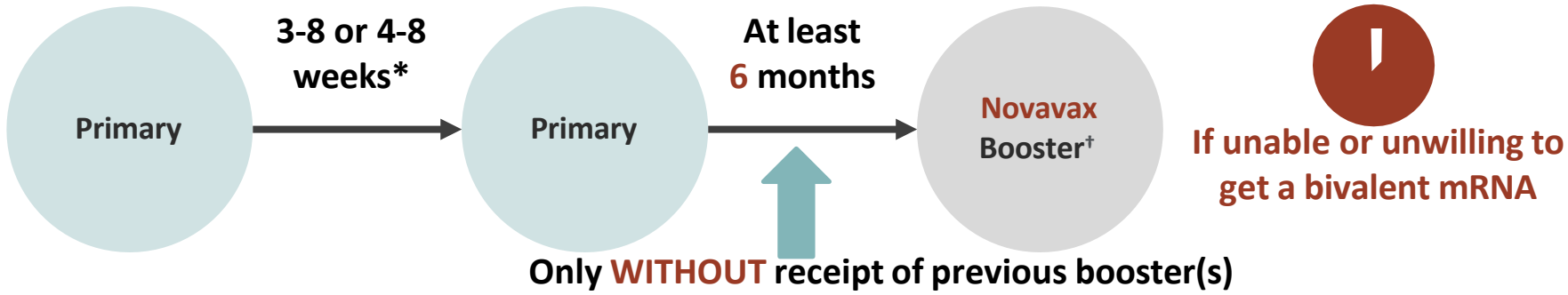


*3-week interval for Novavax and Pfizer-BioNTech; 4-week interval for Moderna
† A monovalent Novavax booster dose (instead of a bivalent mRNA booster dose) may be used in limited situations in people ages 18 years and older who are unable to receive an mRNA vaccine (i.e., contraindicated) or unwilling to receive an mRNA vaccine and would otherwise remain unvaccinated
https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

Adult Schedule: Ages 18 Years and Older

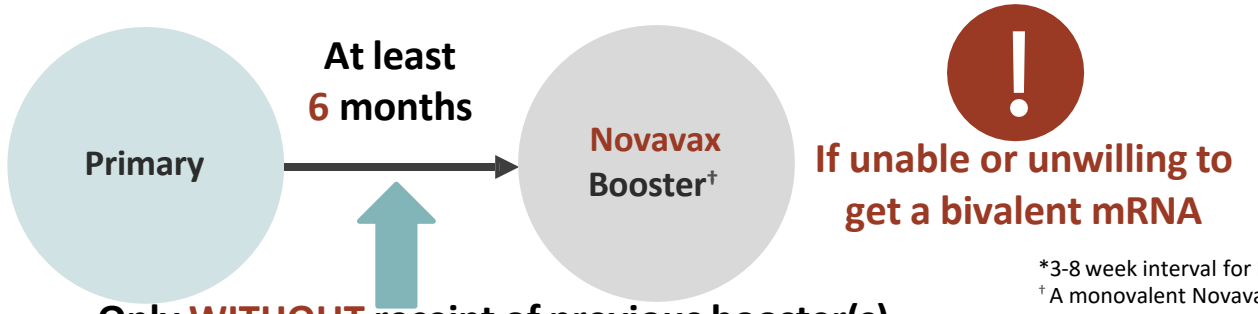
Ages 18 years and older

(Primary Series: Moderna, Novavax, or Pfizer-BioNTech)



Ages 18 years and older

(Primary Series: Janssen)



https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

*3-8 week interval for Novavax and Pfizer-BioNTech; 4-8 week interval for Moderna

† A monovalent Novavax booster dose (instead of a bivalent mRNA booster dose) may be used in limited situations in people ages 18 years and older who are unable to receive an mRNA vaccine (i.e., contraindicated) or unwilling to receive an mRNA vaccine and would otherwise remain unvaccinated. The Novavax booster dose is administered **at least 6 months** after completion of a primary series.

Adult Schedule: Ages 18 years and older (Moderately or Severely Immunocompromised)

Ages 18 years and older

(Primary Series: Moderna or Pfizer-BioNTech)

Primary → 3 or 4 weeks* → Primary → At least 4 weeks → Primary → At least 6 months → Novavax Booster†

If unable or unwilling to get a bivalent mRNA

Only WITHOUT receipt of previous booster(s)

Ages 18 years and older

(Primary Series: Novavax)

Primary → 3 weeks → Primary → At least 6 months → Novavax Booster†

If unable or unwilling to get a bivalent mRNA

Only WITHOUT receipt of previous booster(s)

Ages 18 years and older

(Primary Series: Janssen)

Primary → At least 4 weeks → Addl. mRNA dose → At least 6 months → Novavax Booster†

If unable or unwilling to get a bivalent mRNA

Only WITHOUT receipt of previous booster(s)

*3-week interval for Novavax and Pfizer-BioNTech; 4-week interval for Moderna

† A monovalent Novavax booster dose (instead of a bivalent mRNA booster dose) may be used in limited situations in people ages 18 years and older who are unable to receive an mRNA vaccine (i.e., contraindicated) or unwilling to receive an mRNA vaccine and would otherwise remain unvaccinated

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

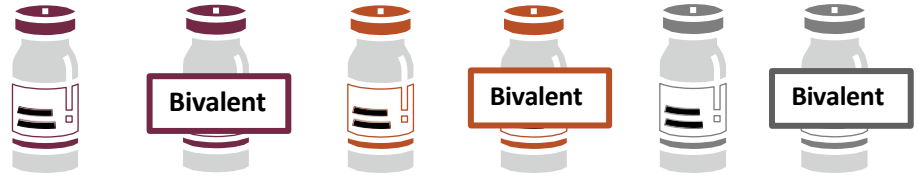
Schedule for People who are Moderately or Severely Immunocompromised

- **In most cases, a third primary dose is recommended.**

  Exceptions:
  - Ages 12 years and older who receive Novavax: 2-dose primary series
  - Ages 18 years and older who receive Janssen: 1-dose primary series followed by 1 additional mRNA dose

COVID-19 Vaccine Products

- Moderna: 5 products
- Pfizer-BioNTech: 6 products
- Novavax: 1 product
- Janssen: 1 product



https://www.cdc.gov/vaccines/covid-19/info-by-product/index.html
https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-preventing-errors.pdf

Coadministration with COVID-19 Vaccines

- Routine administration of all age-appropriate doses of vaccines simultaneously is recommended as best practice for people for whom no specific contraindications exist at the time of the healthcare visit.

- Providers should offer all vaccines for which a person is eligible.

- Extensive experience with non-COVID 19 vaccines has demonstrated that immunogenicity and adverse event profiles are generally similar when vaccines are administered simultaneously as when they are administered alone.

https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html

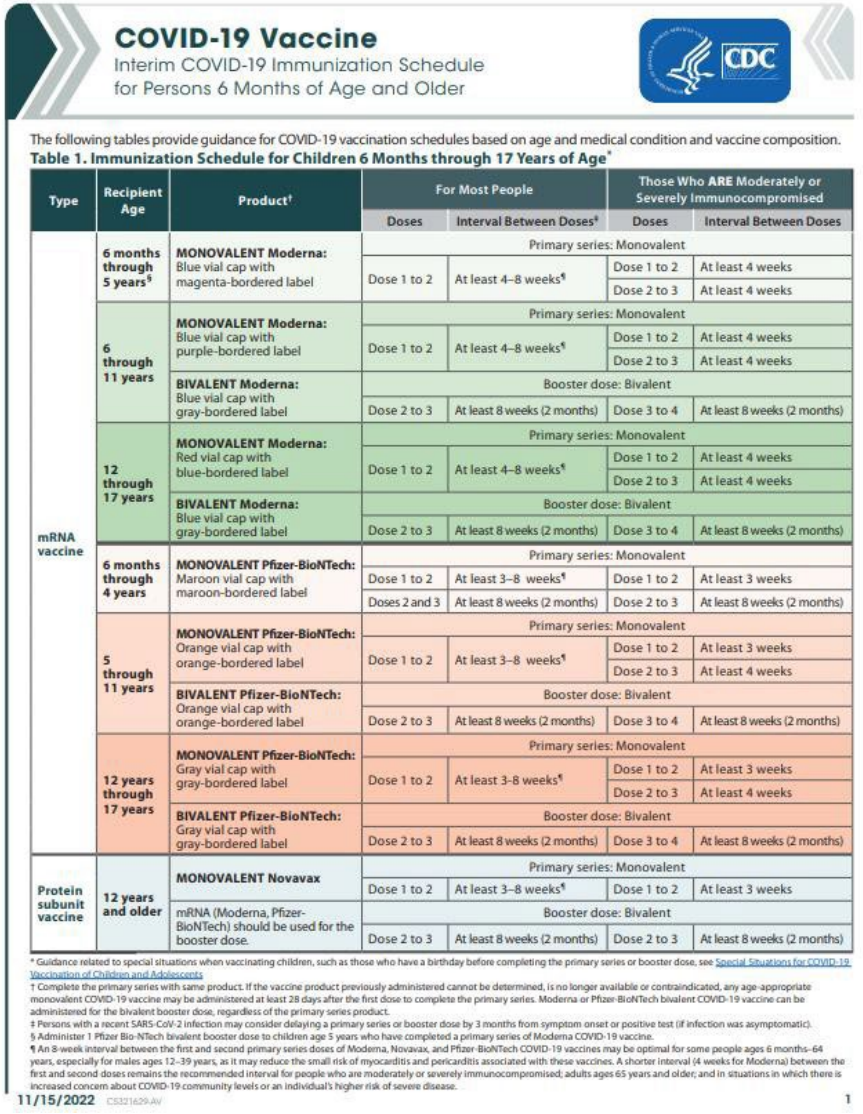
Coadministration of Influenza and COVID-19 Vaccines

- Providers should offer influenza and COVID-19 vaccines at the same visit, if eligible.
  - This includes adjuvanted or high-dose influenza vaccines; administer in separate limbs if possible.
- With both influenza and SARS-CoV-2 circulating, getting both vaccines is important for prevention of severe disease, hospitalization, and death.
- Studies on influenza and COVID-19 coadministration have shown a similar immune response and similar or slightly higher reactogenicity, with no safety concerns identified

1. Lazarus R, Baos S, Cappel-Porter H, et al. Safety and immunogenicity of concomitant administration of COVID-19 vaccines (ChAdOx1 or BNT162b2) with seasonal influenza vaccines in adults in the UK (ComFluCOV): A multicentre, randomised, controlled, phase 4 trial. Lancet 2021, 398, 2277–2287.
2. Izikson R, Brune D, Bolduc JS, et al. Safety and immunogenicity of a high-dose quadrivalent influenza vaccine administered concomitantly with a third dose of the mRNA-1273 SARS-CoV-2 vaccine in adults aged ≥65 years: A phase 2, randomised, open-label study. Lancet Respir. Med. 2022.
3. Toback S, Galiza E, Cosgrove C, et al. Safety, immunogenicity, and efficacy of a COVID-19 vaccine (NVX-CoV2373) co-administered with seasonal influenza vaccines: An exploratory substudy of a randomised, observer-blinded, placebo-controlled, phase 3 trial. Lancet Respir. Med. 2021,10, 167–179.
4. Hause AM, Zhang B, Yue X, et al. Reactogenicity of Simultaneous COVID-19 mRNA Booster and Influenza Vaccination in the US. JAMA Netw Open. 2022;5(7):e2222241. Domnich A, Grassi R, Fallani E, Ciccone R, Bruzzone B, Panatto D, Ferrari A, Salvatore M, Cambiaggi M, Vasco A, Orsi A, Icardi G. Acceptance of COVID-19 and Influenza Vaccine Co-Administration: Insights from a Representative Italian Survey. Journal of Personalized Medicine. 2022; 12(2):139.

Resources

- Schedule infographic: https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html
- Immunization schedule job aid: https://www.cdc.gov/vaccines/covid-19/downloads/COVID-19-immunization-schedule-ages-6months-older.pdf
- All COVID-19 product job aids: https://www.cdc.gov/vaccines/covid-19/info-by-product/index.html



COVID-19 Vaccine
Interim COVID-19 Immunization Schedule
for Persons 6 Months of Age and Older

The following tables provide guidance for COVID-19 vaccination schedules based on age and medical condition and vaccine composition.

Table 1. Immunization Schedule for Children 6 Months through 17 Years of Age*

Type	Recipient Age	Product†	For Most People		Those Who ARE Moderately or Severely Immunocompromised	
			Doses	Interval Between Doses¶	Doses	Interval Between Doses
mRNA vaccine	6 months through 5 years§	MONOVALENT Moderna: Blue vial cap with magenta-bordered label	Primary series: Monovalent			
			Dose 1 to 2	At least 4–8 weeks¶	Dose 1 to 2	At least 4 weeks
					Dose 2 to 3	At least 4 weeks
	6 through 11 years	MONOVALENT Moderna: Blue vial cap with purple-bordered label	Primary series: Monovalent			
			Dose 1 to 2	At least 4–8 weeks¶	Dose 1 to 2	At least 4 weeks
					Dose 2 to 3	At least 4 weeks
		BIVALENT Moderna: Blue vial cap with gray-bordered label	Booster dose: Bivalent			
			Dose 2 to 3	At least 8 weeks (2 months)	Dose 3 to 4	At least 8 weeks (2 months)
	12 through 17 years	MONOVALENT Moderna: Red vial cap with blue-bordered label	Primary series: Monovalent			
			Dose 1 to 2	At least 4–8 weeks¶	Dose 1 to 2	At least 4 weeks
					Dose 2 to 3	At least 4 weeks
		BIVALENT Moderna: Blue vial cap with gray-bordered label	Booster dose: Bivalent			
			Dose 2 to 3	At least 8 weeks (2 months)	Dose 3 to 4	At least 8 weeks (2 months)
	6 months through 4 years	MONOVALENT Pfizer-BioNTech: Maroon vial cap with maroon-bordered label	Primary series: Monovalent			
			Dose 1 to 2	At least 3–8 weeks¶	Dose 1 to 2	At least 3 weeks
			Doses 2 and 3	At least 8 weeks (2 months)	Dose 2 to 3	At least 8 weeks (2 months)
	5 through 11 years	MONOVALENT Pfizer-BioNTech: Orange vial cap with orange-bordered label	Primary series: Monovalent			
			Dose 1 to 2	At least 3–8 weeks¶	Dose 1 to 2	At least 3 weeks
					Dose 2 to 3	At least 4 weeks
		BIVALENT Pfizer-BioNTech: Orange vial cap with orange-bordered label	Booster dose: Bivalent			
			Dose 2 to 3	At least 8 weeks (2 months)	Dose 3 to 4	At least 8 weeks (2 months)
	12 years through 17 years	MONOVALENT Pfizer-BioNTech: Gray vial cap with gray-bordered label	Primary series: Monovalent			
			Dose 1 to 2	At least 3-8 weeks¶	Dose 1 to 2	At least 3 weeks
					Dose 2 to 3	At least 4 weeks
		BIVALENT Pfizer-BioNTech: Gray vial cap with gray-bordered label	Booster dose: Bivalent			
			Dose 2 to 3	At least 8 weeks (2 months)	Dose 3 to 4	At least 8 weeks (2 months)
Protein subunit vaccine	12 years and older	MONOVALENT Novavax	Primary series: Monovalent			
			Dose 1 to 2	At least 3–8 weeks¶	Dose 1 to 2	At least 3 weeks
		mRNA (Moderna, Pfizer-BioNTech) should be used for the booster dose.	Booster dose: Bivalent			
			Dose 2 to 3	At least 8 weeks (2 months)	Dose 2 to 3	At least 8 weeks (2 months)

* Guidance related to special situations when vaccinating children, such as those who have a birthday before completing the primary series or booster dose, see Special Situations for COVID-19 Vaccination of Children and Adolescents
† Complete the primary series with same product. If the vaccine product previously administered cannot be determined, is no longer available or contraindicated, any age-appropriate monovalent COVID-19 vaccine may be administered at least 28 days after the first dose to complete the primary series. Moderna or Pfizer-BioNTech bivalent COVID-19 vaccine can be administered for the bivalent booster dose, regardless of the primary series product.
‡ Persons with a recent SARS-CoV-2 infection may consider delaying a primary series or booster dose by 3 months from symptom onset or positive test (if infection was asymptomatic).
§ Administer 1 Pfizer Bio-NTech bivalent booster dose to children age 5 years who have completed a primary series of Moderna COVID-19 vaccine.
¶ An 8-week interval between the first and second primary series doses of Moderna, Novavax, and Pfizer-BioNTech COVID-19 vaccines may be optimal for some people ages 6 months–64 years, especially for males ages 12–39 years, as it may reduce the small risk of myocarditis and pericarditis associated with these vaccines. A shorter interval (4 weeks for Moderna) between the first and second doses remains the recommended interval for people who are moderately or severely immunocompromised; adults ages 65 years and older; and in situations in which there is increased concern about COVID-19 community levels or an individual's higher risk of severe disease.

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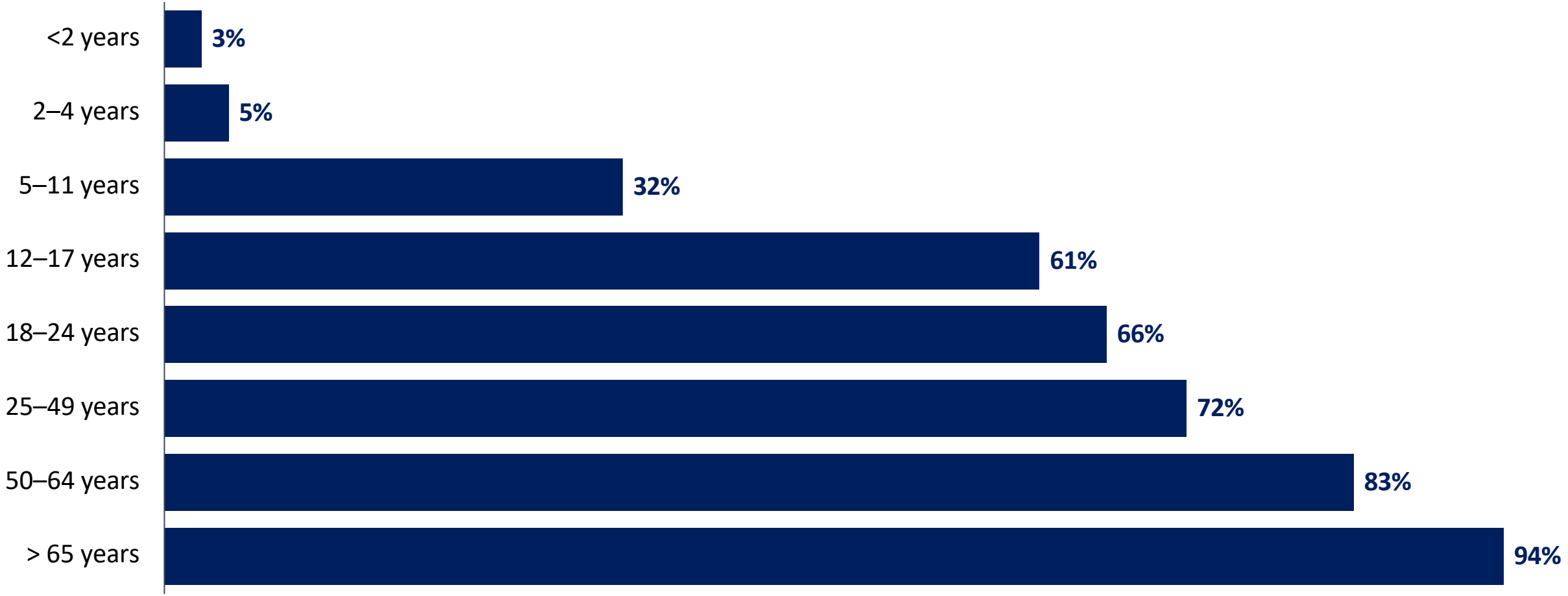
Complete primary series vaccination coverage increases with **increasing age**.

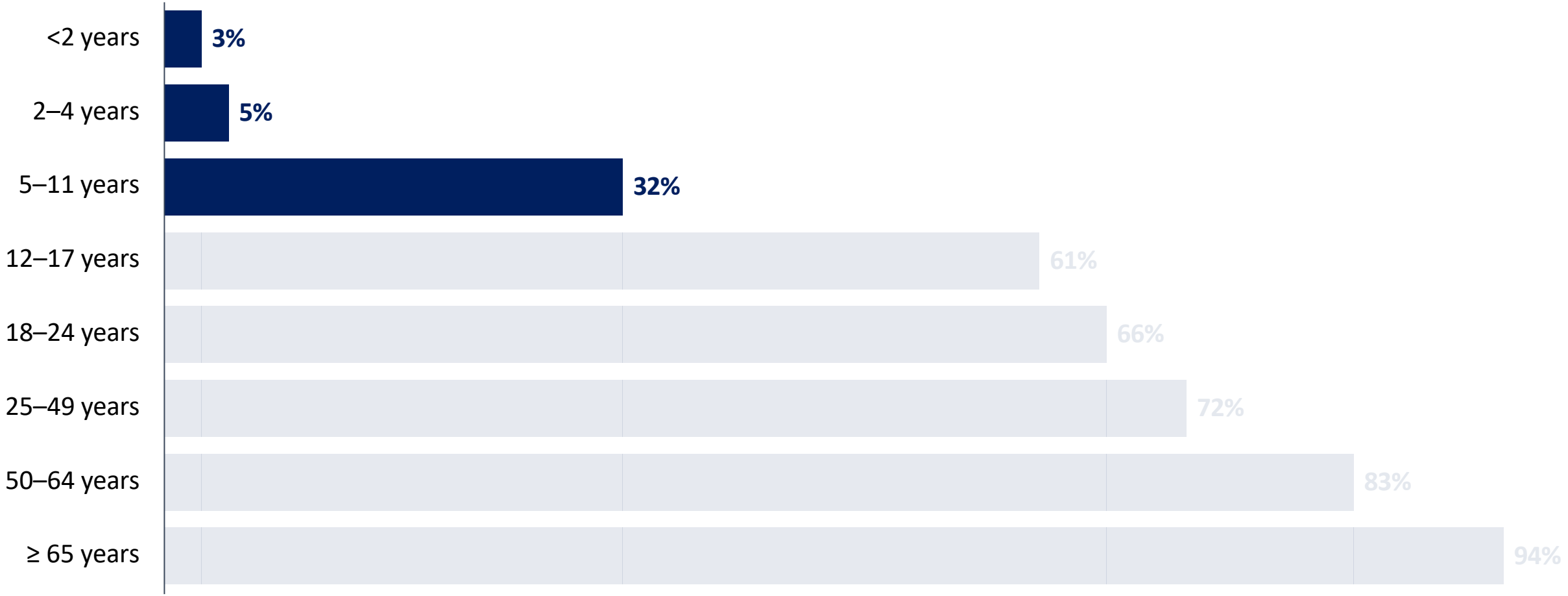
Primary COVID-19 Vaccination Coverage by Age



COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

Primary vaccination coverage is **lowest** in the **youngest age groups.**

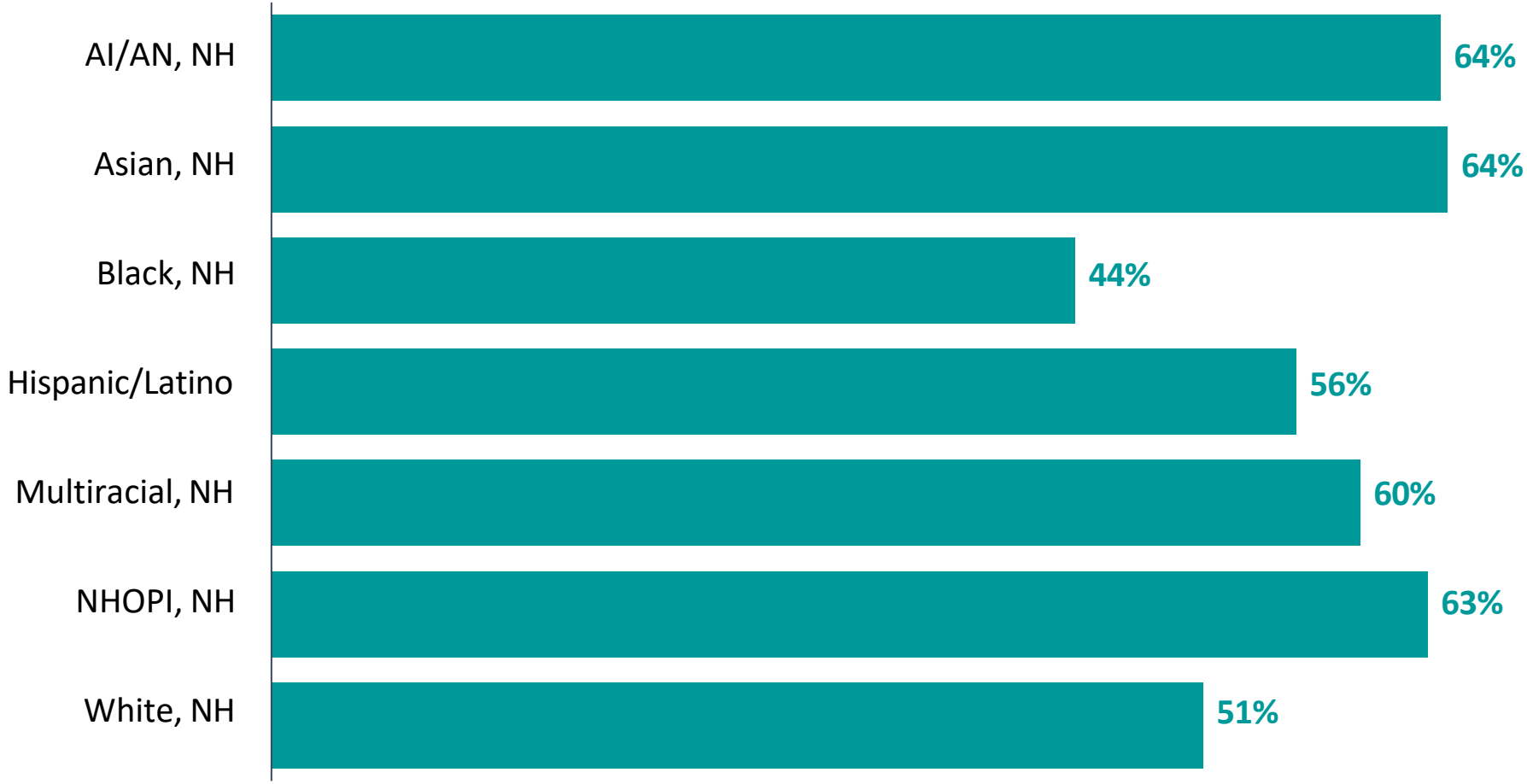
Primary COVID-19 Vaccination Coverage by Age



COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

Primary vaccination coverage **disparities** are observed by **race and ethnicity**.

Primary COVID-19 Vaccination Coverage by Race/Ethnicity

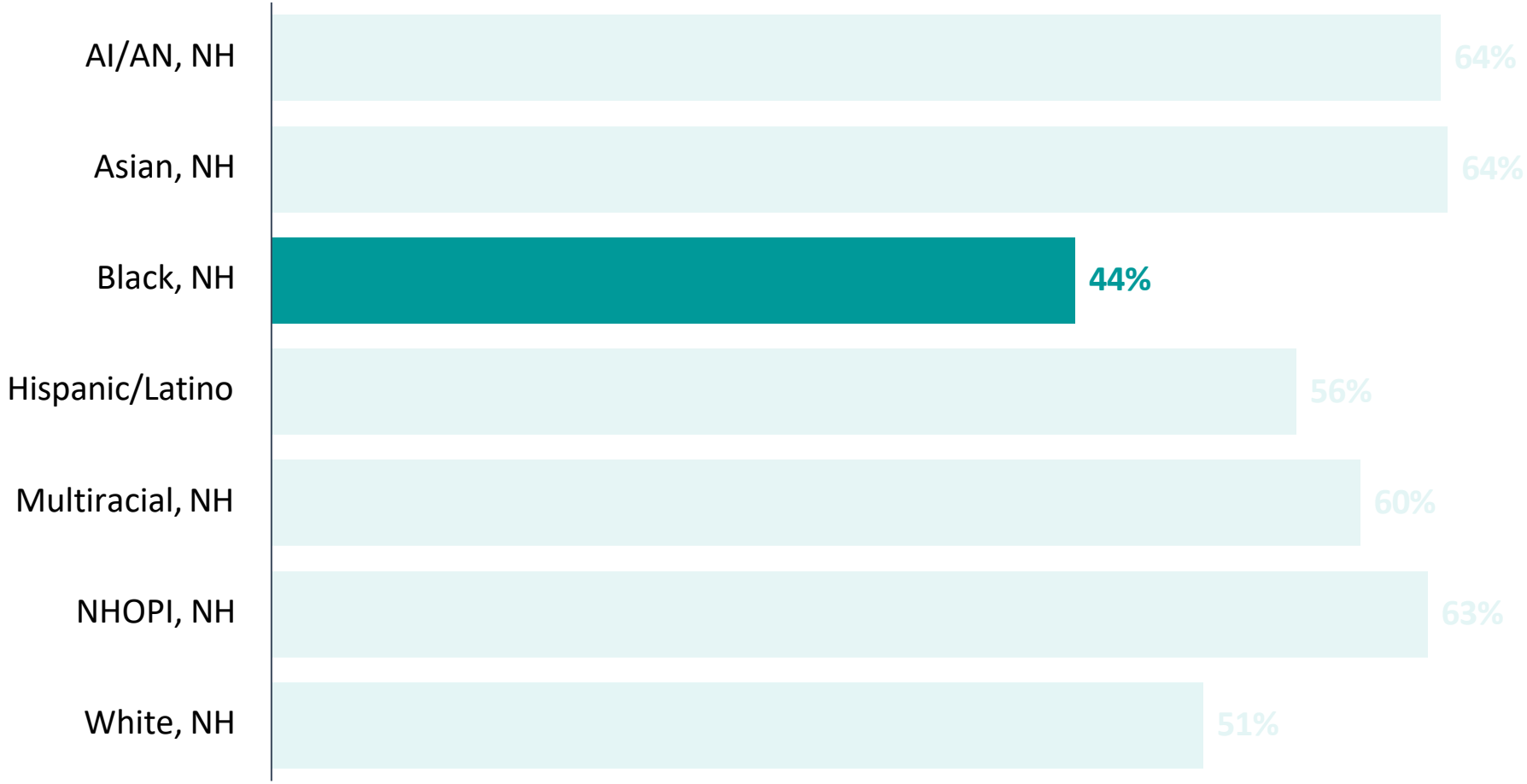


AI or AN: American Indian or Alaska Native; NHOPI: Native Hawaiian or Other Pacific Islander; NH: non-Hispanic

COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

Coverage is lowest among **Black, non-Hispanic** persons.

Primary COVID-19 Vaccination Coverage by Race/Ethnicity



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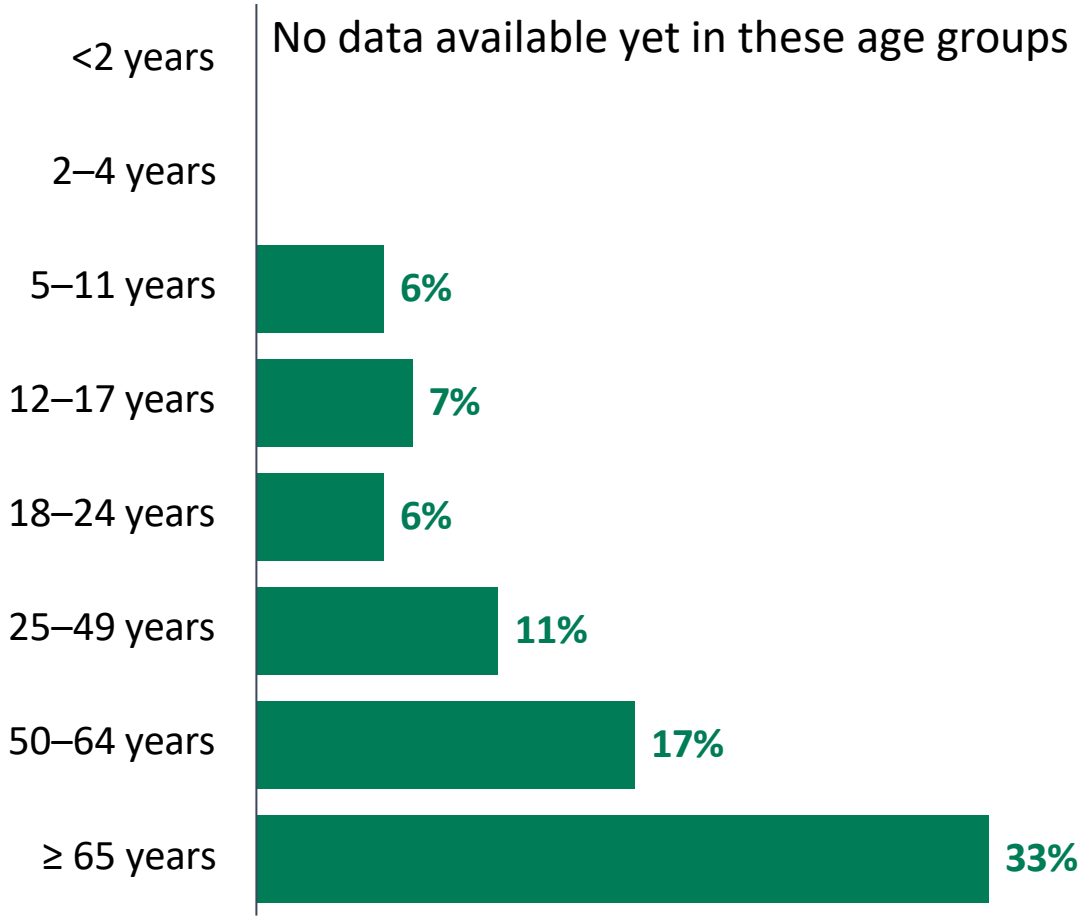
COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

In general, **bivalent booster** vaccination coverage is **low**.

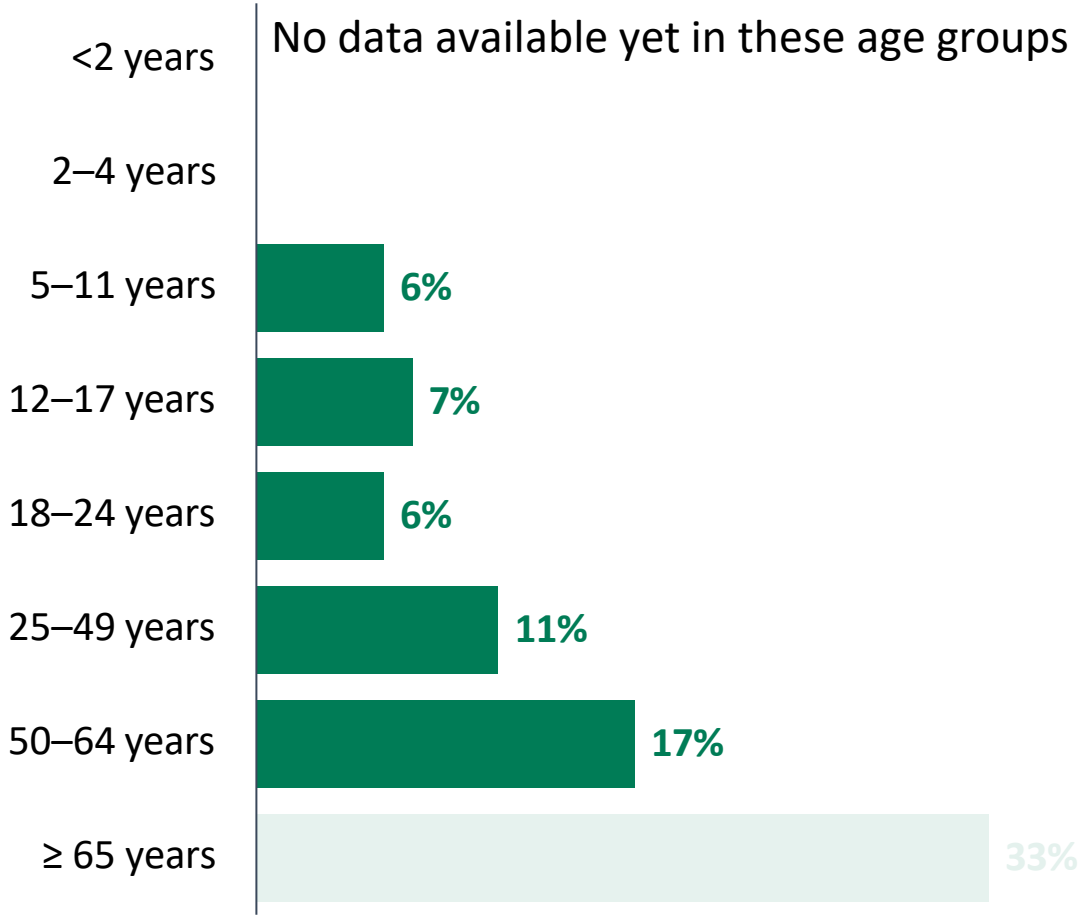
Bivalent Booster COVID-19 Vaccination Coverage by Age



COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

Bivalent booster vaccination coverage is **lowest** among those **younger than age 65 years.**

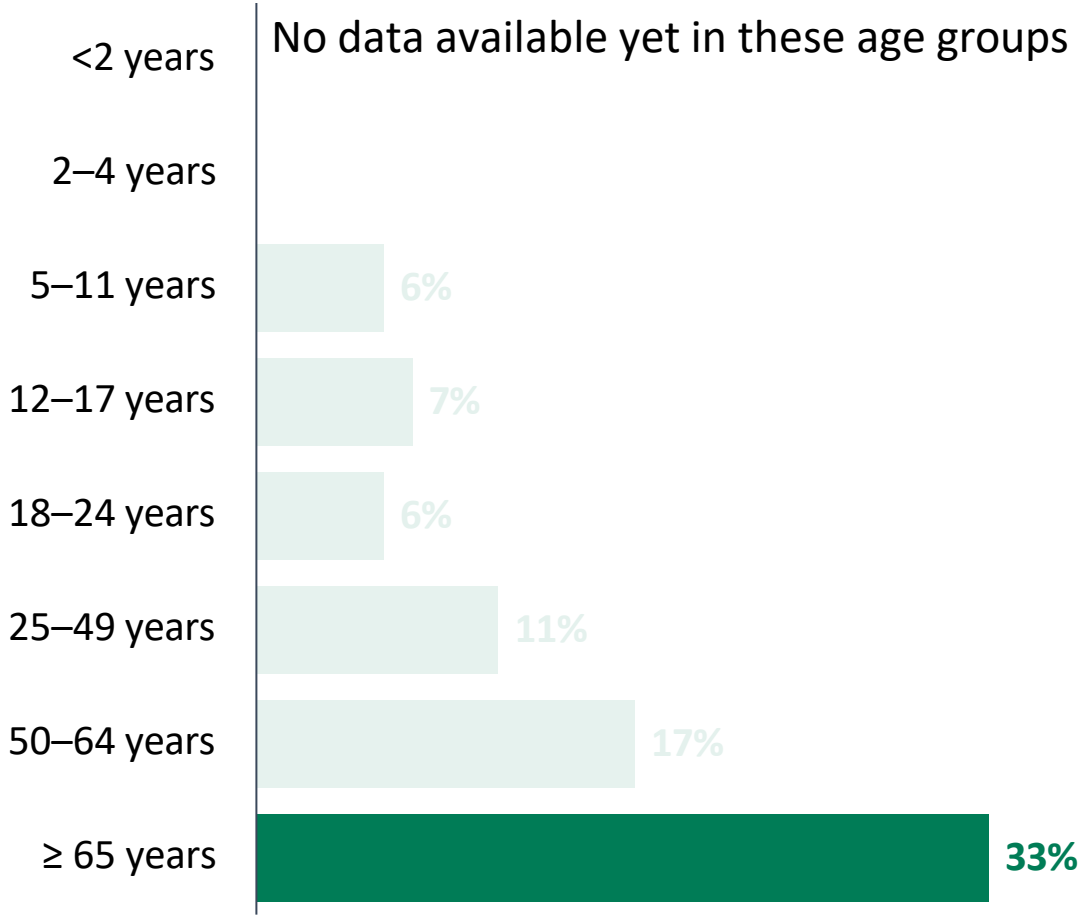
Bivalent Booster COVID-19 Vaccination Coverage by Age



COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

Despite higher coverage among those age >65 years, rates are still **relatively low** and a booster is **critical** for older adults.

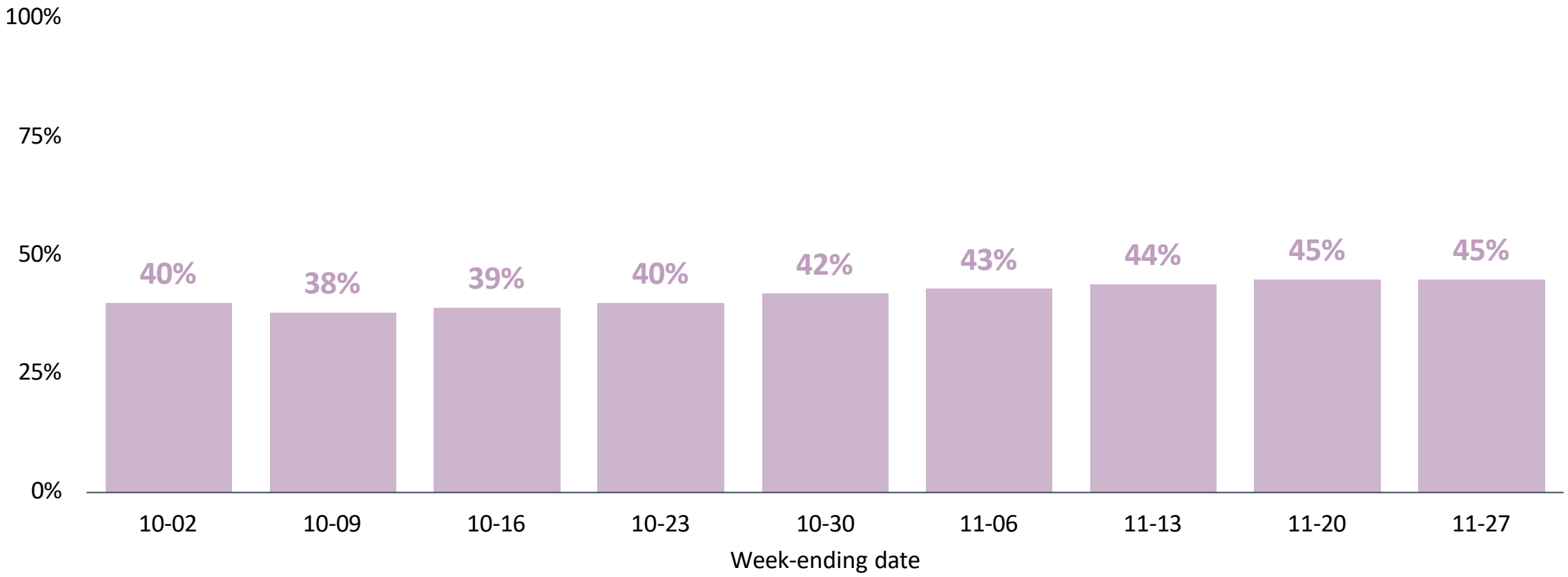
Bivalent Booster COVID-19 Vaccination Coverage by Age



COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

Using facility-level data, about 45% of nursing home residents have received a bivalent booster

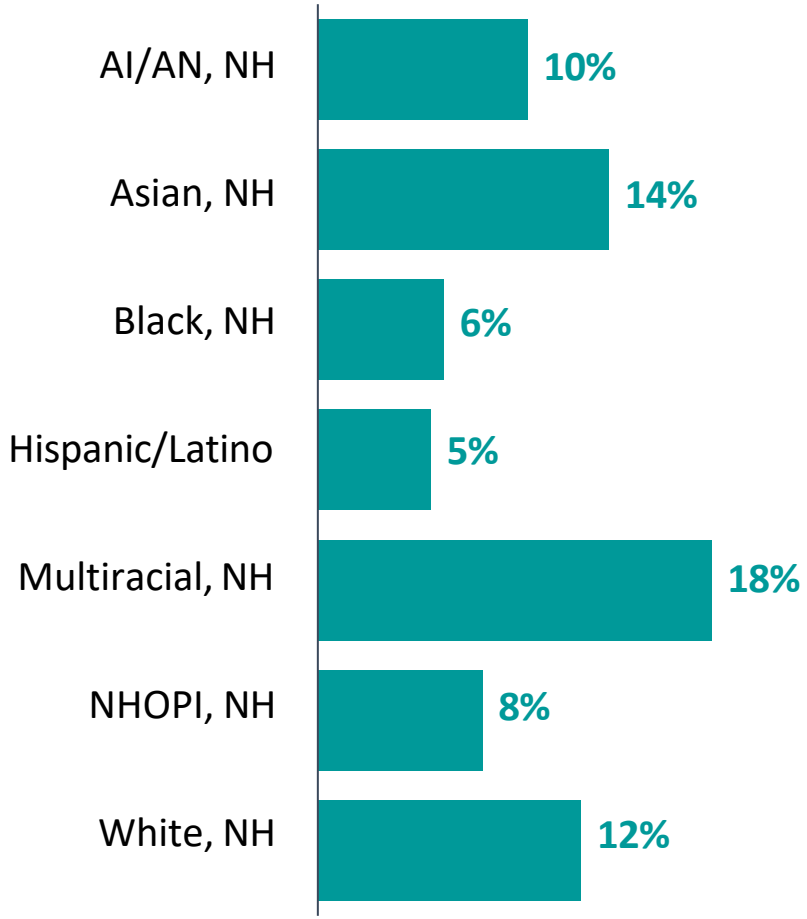
Percentage of Nursing Home Residents Who Are Up to Date with COVID-19 Vaccination (n=14,746)



The NHSN surveillance definition of Up to Date is updated quarterly to incorporate CDC guidance changes. On week-ending 7/3/2022, a new up to date definition was applied, which incorporates second boosters for individuals aged 50 and older. On week-ending 10/2/2022, the up to date definition changed again to include bivalent booster. See here for NHSN surveillance definitions, including up to date, by reporting quarter. Data for the most recent week are still accruing.

Booster vaccination coverage **disparities** are observed by **race and ethnicity**.

Bivalent Booster COVID-19 Vaccination Coverage by Race and Ethnicity



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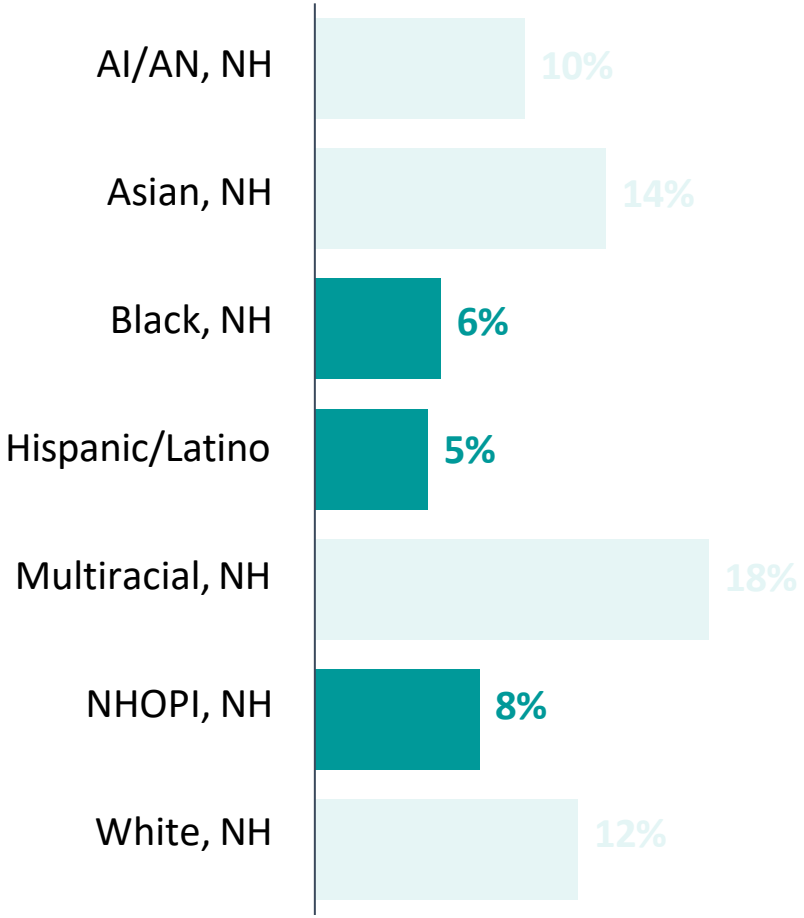
COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

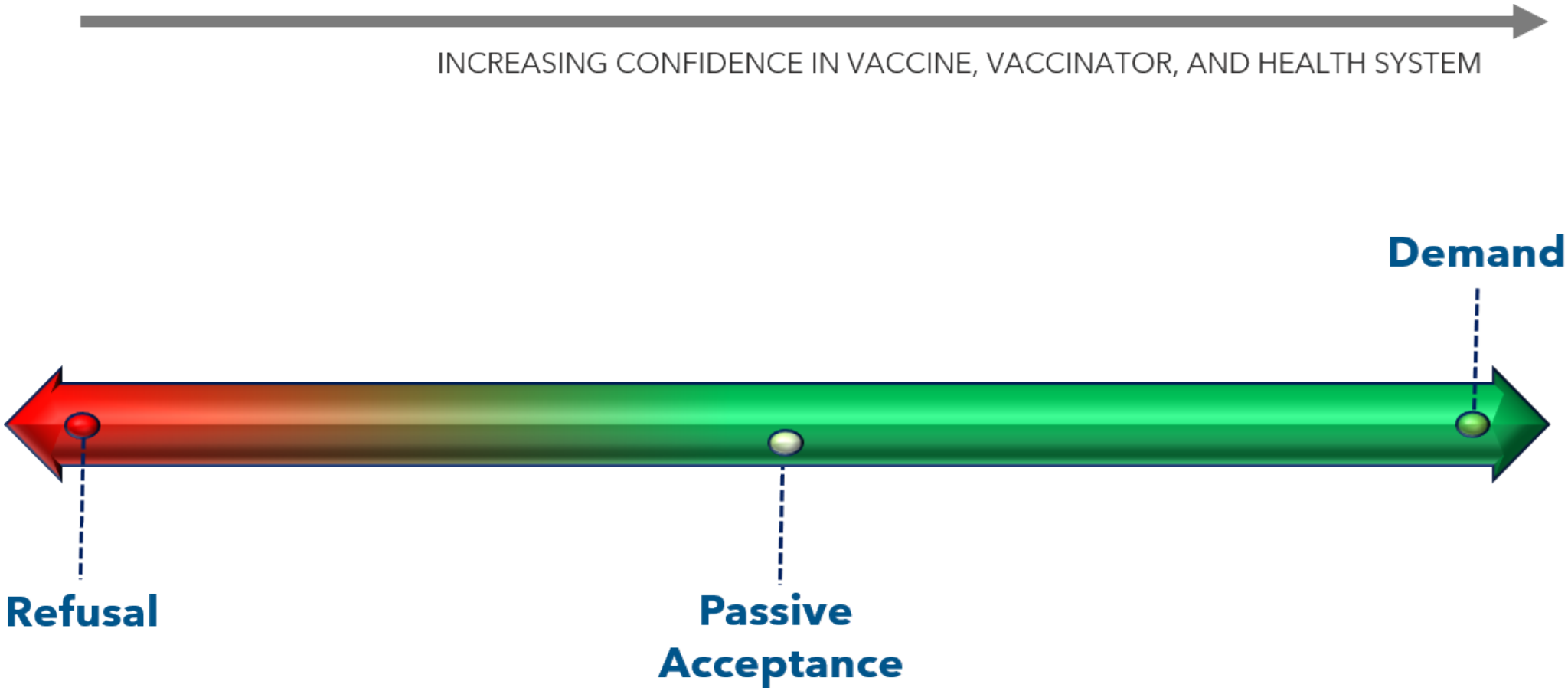
Coverage is lowest among **Black, non-Hispanic, Hispanic/Latino**, and **Native Hawaiian or Other Pacific Islander**.

Bivalent Booster COVID-19 Vaccination Coverage by Race and Ethnicity



COVID-19 Data Tracker, last updated November 23, 2022, https://covid.cdc.gov/covid-data-tracker/#vaccination-demographics-trends

Willingness to Accept a Vaccine Falls on a Continuum



Vaccine Confidence is Built on Trust

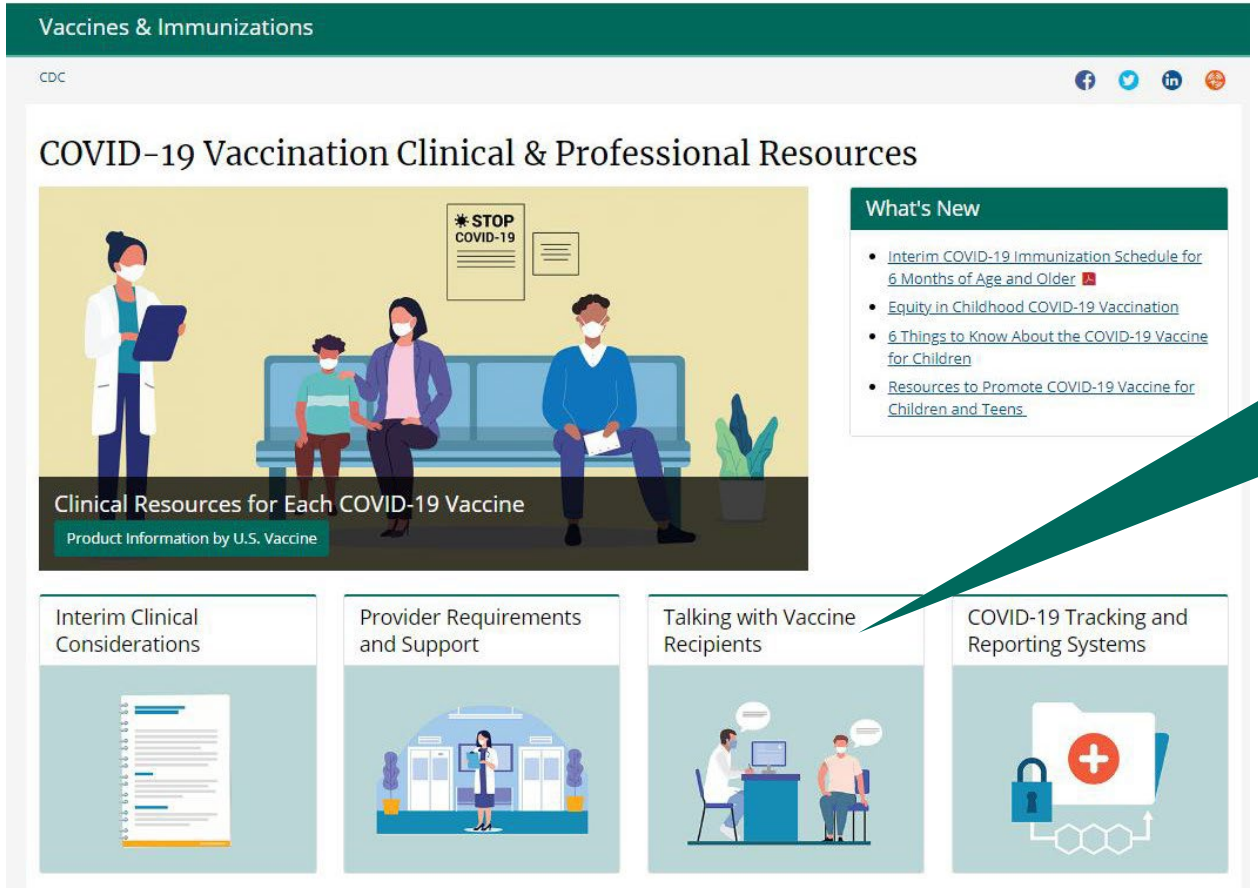
*The **trust** that patients, their families, and providers have in:*

- Recommended **vaccines**
- **Providers** who administer vaccines
- **Processes and policies** that lead to vaccine development, licensure or authorization, manufacturing, and recommendations for use

YOU are patients' and parents' **most trusted** source of information on vaccines.

CDC Healthcare Professionals Resources

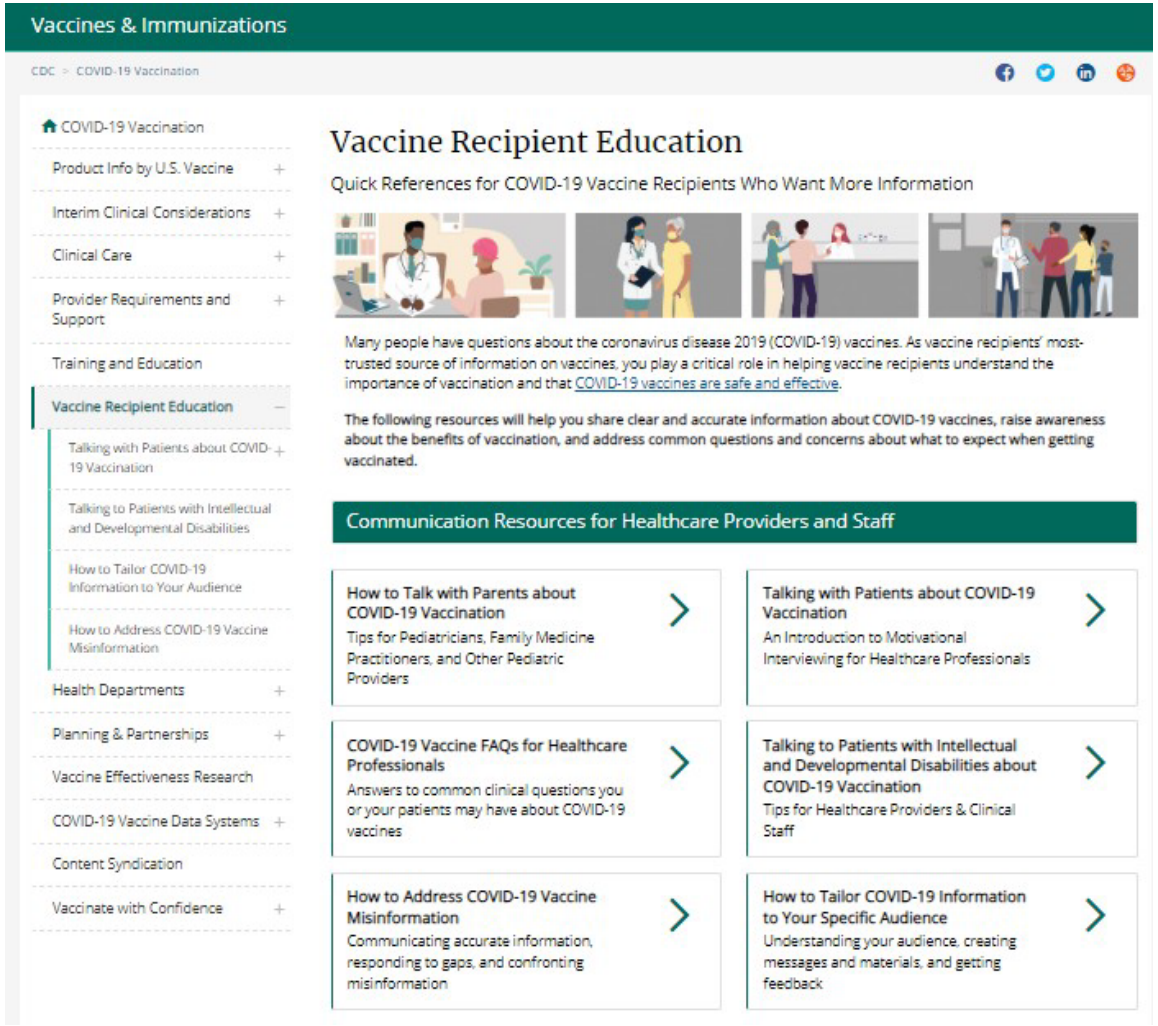
- https://www.cdc.gov/vaccines/covid-19/index.html



Find a variety of tools to help you educate vaccine recipients

CDC Vaccine Recipient Education Resources

- https://www.cdc.gov/vaccines/covid-19/planning/children/resources-promote.html
- Talking to parents and patients
- FAQs
- Addressing misinformation
- Tailoring information to your audience
- Many resources—videos, posters, social media graphics, customizable letter, and more

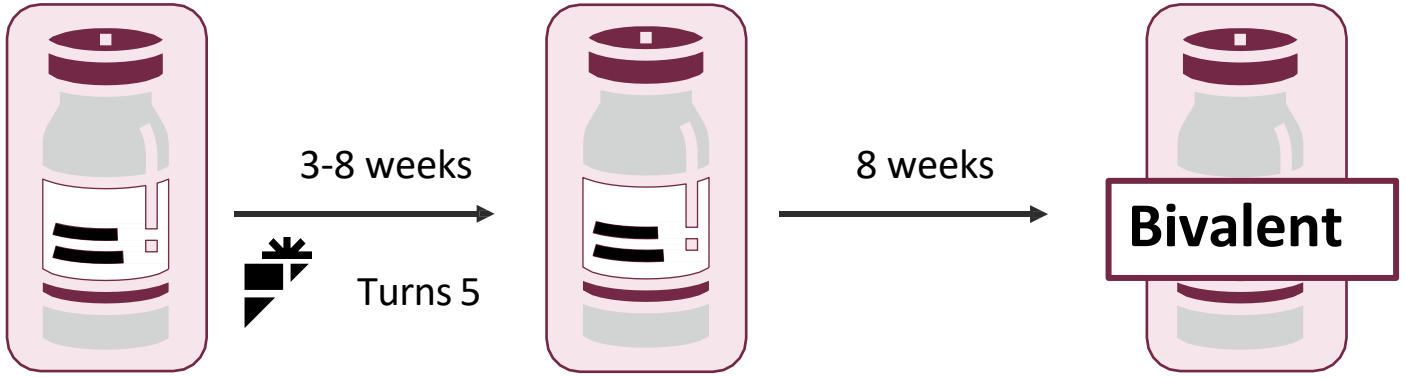


Pfizer-BioNTech:
Children Aging 4 to 5 Years During the Primary Series

- **FDA emergency use authorization (EUA) requires children who will turn from age 4 years to 5 years during the primary series to complete the series they start, either:**
  - The 3-dose primary series recommended for children ages 6 months–4 years or
  - The 2-dose primary series recommended for children ages 5 months–11 years
- **Because no other dosing options are authorized for this age transition, CDC's standard guidance to administer the age-appropriate vaccine product and dosage based on age on the day of vaccination does NOT apply.**

Pfizer-BioNTech:
Children Aging 4 to 5 Years <u>During</u> the Primary Series

Scenario 1: If a 3-dose series is initiated, it must be completed, even if a child ages up between doses 1 and 2.



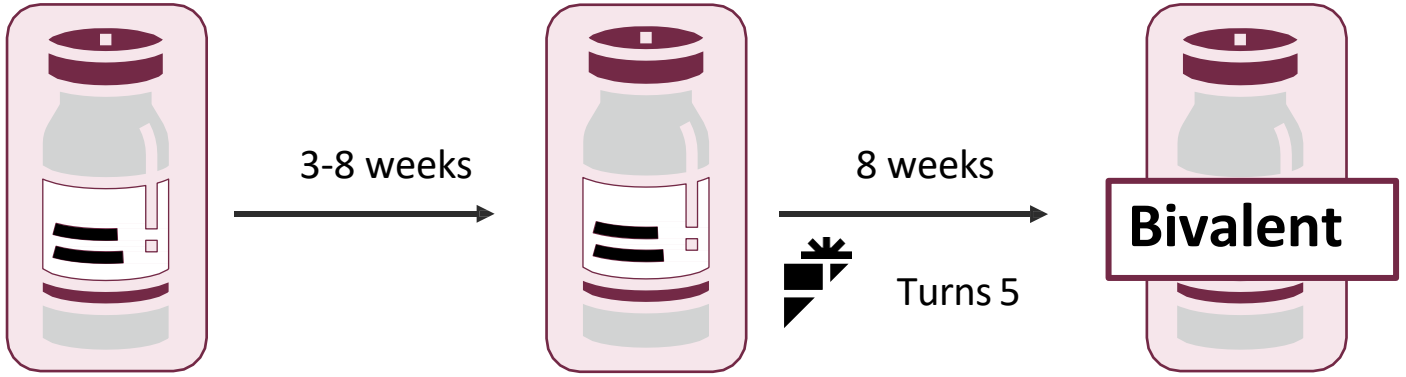
<u>Dose 1 (Age 4):</u>
0.2 mL (3 mcg) of the monovalent product for ages 6 months–4 years

<u>Dose 2 (Age 5):</u>
0.2 mL (3 mcg) of the monovalent product for ages 6 months–4 years, or

<u>Dose 3 (Age 5):</u>
0.2 mL (3 mcg) of the bivalent product for ages 6 months–4 years, or

Pfizer-BioNTech:
Children Aging 4 to 5 Years <u>During</u> the Primary Series

Scenario 2: If a 3-dose series is initiated, it must be completed, even if a child ages up between doses 2 and 3.



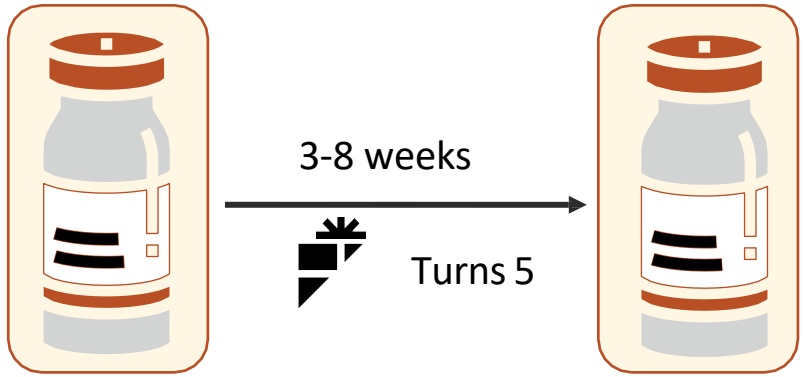
<u>Dose 1 (Age 4):</u>
0.2 mL (3 mcg) of the monovalent product for ages 6 months–4 years

<u>Dose 2 (Age 4):</u>
0.2 mL (3 mcg) of the monovalent product for ages 6 months–4 years, or

<u>Dose 3 (Age 5):</u>
0.2 mL (3 mcg) of the bivalent product for ages 6 months–4 years, or

Pfizer-BioNTech:
Children Aging 4 to 5 Years <u>During</u> the Primary Series

Scenario 3: If a 2-dose primary series is initiated, it must be completed using the product for people ages 5–11 years (orange cap)

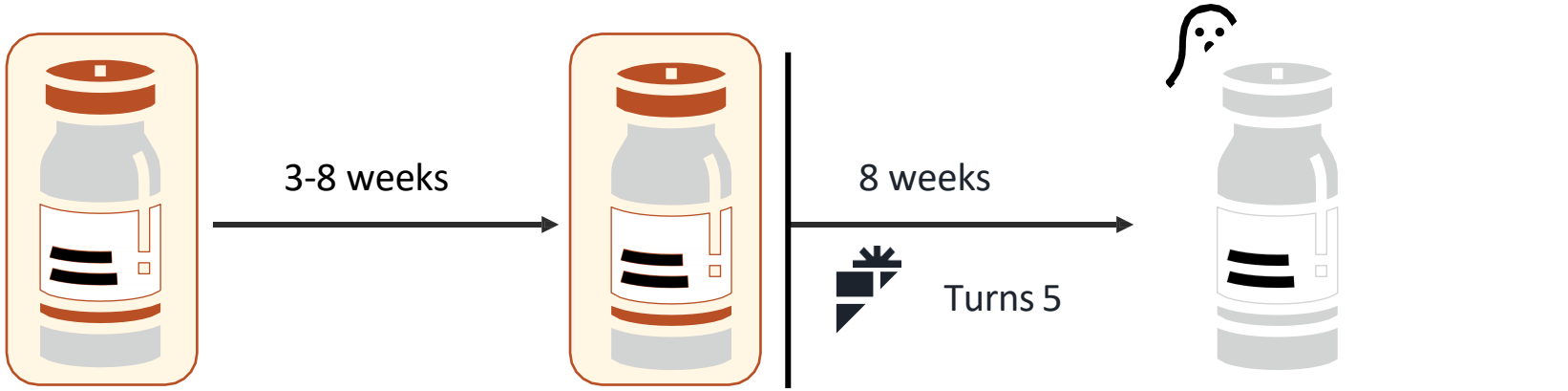


<u>Dose 1 (Age 4):</u>
0.2 mL (10 mcg) of the monovalent product for ages 5–11 years

<u>Dose 2 (Age 5):</u>
0.2 mL (10 mcg) of the monovalent product for ages 5–11 years

Pfizer-BioNTech:
Children Aging 4 to 5 Years <u>During</u> the Primary Series

Scenario 4: If a 2-dose primary series is initiated, it must be completed using the product for people ages 5–11 years (orange cap)



<u>Dose 1 (Age 4):</u>
0.2 mL (10 mcg) of the monovalent product for ages 5–11 years

<u>Dose 2 (Age 4):</u>
0.2 mL (10 mcg) of the monovalent product for ages 5–11 years

<u>Phantom Dose 3, never administered (Age 5)</u>

Pfizer-BioNTech:
Children Aging 4 to 5 Years After the Primary Series

- Can a child who completes a Pfizer-BioNTech primary series at ages 6 months–4 years get a booster dose when they turn age 5 years?

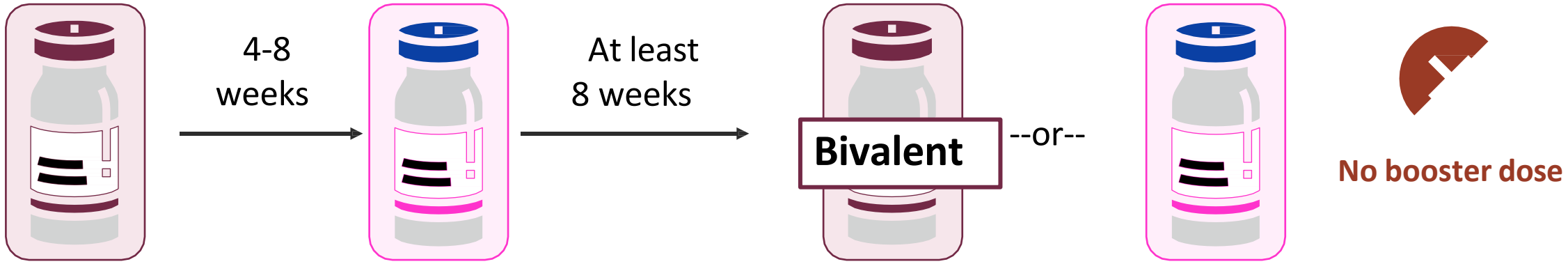
- **Yes**. The child should receive 1 bivalent Pfizer-BioNTech booster dose when they turn age 5 years, and it has been at least 2 months since completing their primary series.
- The child can get the bivalent booster dose regardless of whether the third primary series dose was a monovalent or bivalent Pfizer-BioNTech vaccine.

Children Transitioning from a Younger to Older Age Group who ALREADY Received a Bivalent Booster Dose

- Only 1 bivalent **booster** dose total is currently authorized.
- Children transitioning from a younger to older age group who have already received 1 bivalent **booster** dose CANNOT get a second bivalent booster dose.
- Example: A child age 5 years received the Moderna primary series and Moderna bivalent booster. When this child turns age 6 years, they do not get another bivalent booster. Once a child receives 1 bivalent booster dose, no additional booster doses are indicated at this time.

Mixed Series For Children Ages 6 Months–4 Years

- Children ages 6 months–4 years who receive different mRNA products for the first 2 doses of an mRNA COVID-19 vaccine series should follow a 3-dose schedule. A third dose of either a monovalent Moderna vaccine or a bivalent Pfizer-BioNTech vaccine should be administered at least 8 weeks after the second dose to complete the 3-dose primary series. These children are currently not eligible for a booster dose.



Dose 1:
0.20 mL (3mcg) of the monovalent Pfizer-BioNTech product for ages 6 months through 4 years

Dose 2:
0.25 mL (25mcg) of the monovalent Moderna product for ages 6 months through 5 years

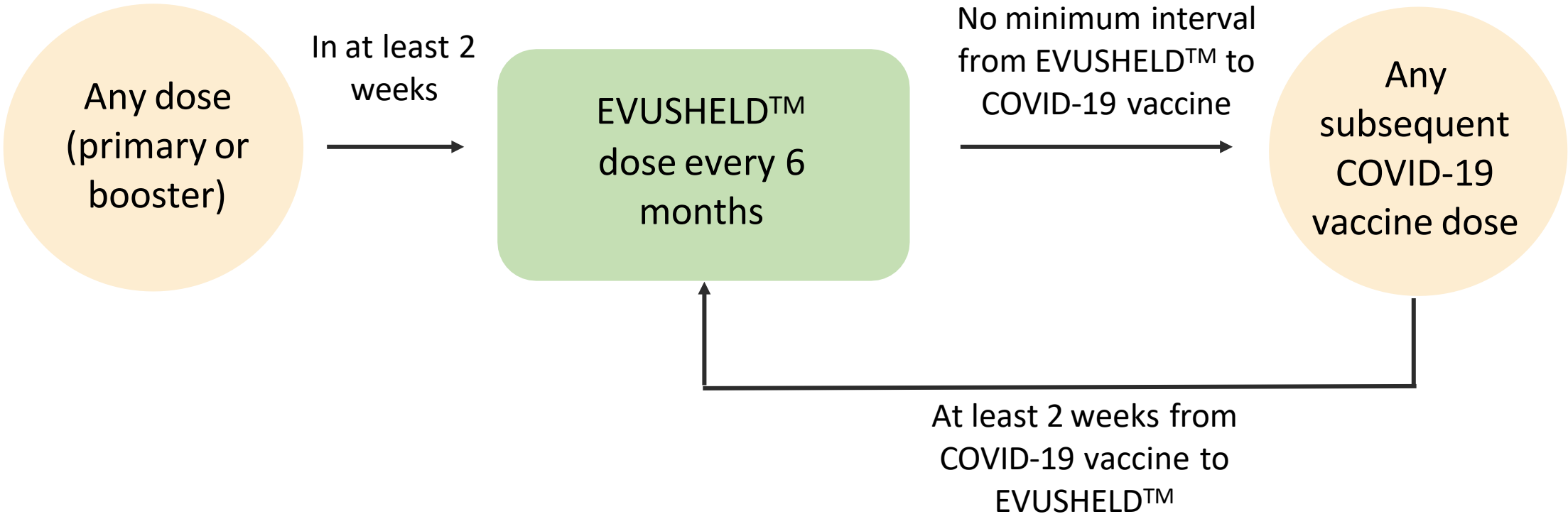
Dose 3:
0.20 mL (3mcg) of the bivalent Pfizer-BioNTech product for ages 6 months through 4 years
--or--
0.25 mL (25mcg) of the monovalent Moderna product for ages 6 months through 5 years

COVID-19 Pre-exposure Prophylaxis

Supplementing COVID-19 vaccination with pre-exposure prophylaxis

Monoclonal antibodies (EVUSHELD™) for COVID-19 pre-exposure prophylaxis

People ages 12 years and older (must weigh at least 40 kg)



EVUSHELD™ (tixagevimab and cilgavimab) – AstraZeneca
Monoclonal Antibody for IM Injection

[EVUSHELD Product Information]

https://www.evusheld.com

EVUSHELD™ (tixagevimab and cilgavimab) Authorization

EVUSHELD™ (tixagevimab and cilgavimab) is indicated for PrEP of COVID-19 in adults and pediatric (12 years of age and older, weighing at least 40 kg):

Who are not currently infected with SARS-CoV-2 and who have not had a known recent exposure to an individual infected with SARS-CoV-2, **AND**

- Who have moderate to severe immune compromise due to a medical condition or receipt of immunosuppressive medications or treatments and may not mount an adequate immune response to COVID-19 vaccination, **OR**
- For whom vaccination with any available COVID-19 vaccine, according to the approved or authorized schedule, is not recommended due to a history of severe adverse reaction (e.g., severe allergic reaction) to a COVID-19 vaccine(s) and/or COVID-19 vaccine component(s).

Fact Sheet for Health Care Providers Emergency Use Authorization for Evusheld (tixagevimab co-packaged with cilgavimab (https://www.fda.gov/media/154701/download)

EVUSHELD™

- SARS-CoV-2 spike protein-directed attachment inhibitor
- Contains two monoclonal antibodies:
  - Tixagevimab
  - Cilgavimab
- Received emergency use authorization (EUA) on December 8, 2021
- Dose: 300 mg of tixagevimab and 300 mg of cilgavimab administered as two separate consecutive intramuscular injections, with repeat dosing every 6 months.

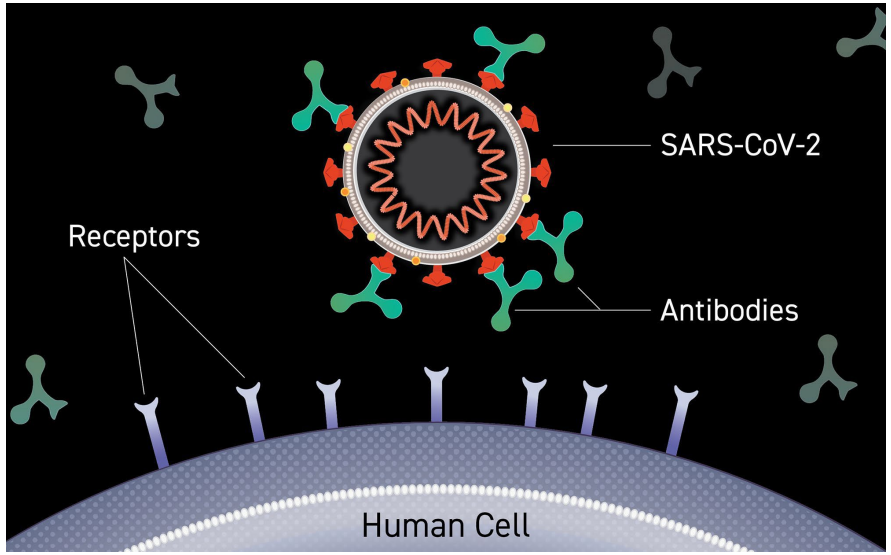


Figure taken from https://www.nih.gov/news-events/news-releases/clinical-trials-monoclonal-antibodies-prevent-covid-19-now-enrolling, Lisa Donohue, CoVPN.

Authorized Use under EUA

EVUSHELD™ is authorized for the pre-exposure prophylaxis of COVID-19 in adults and pediatric individuals (12 years of age and older weighing at least 40 kg):

- Who are not currently infected with SARS-CoV-2 and who have not had a known recent exposure to an individual infected with SARS-CoV-2 **and**
  - Who have moderate to severe immune compromise due to a medical condition or receipt of immunosuppressive medications or treatments **and** may not mount an adequate immune response to COVID-19 vaccination **or**
  - For whom vaccination with any available COVID-19 vaccine, according to the approved or authorized schedule, is not recommended due to a history of severe adverse reaction to a COVID-19 vaccine(s) and/or COVID-19 vaccine component(s).

EVUSHELD™ Fact Sheet for Healthcare Providers: https://www.fda.gov/media/154701/download

Evusheld (tixagevimab and cilgavimab)

Dosage and Administration

- **300 mg of tixagevimab** and **300 mg of cilgavimab** administered as two separate consecutive intramuscular injections.
  - Preferably one in each of the gluteal muscles, one after the other.

Contraindications and Precautions

- History of severe hypersensitivity reactions, including anaphylaxis, to any component of Evusheld.
- Administer with caution to people with any coagulation disorder and at high risk for cardiovascular events.

Fact Sheet for Healthcare Providers: Emergency Use Authorization For Evusheld (tixagevimab co-packaged with cilgavimab) (https://www.fda.gov/media/154701/download)

Evusheld (tixagevimab and cilgavimab): Limitations of Authorized Use

- Evusheld is not authorized for use:
  - *For treatment of COVID-19.*
  - *For post-exposure prophylaxis of COVID-19 in individuals who have been exposed to someone infected with SARS-CoV-2.*
- PrEP with Evusheld is not a substitute for vaccination in individuals for whom COVID-19 vaccination is recommended. Individuals for whom COVID-19 vaccination is recommended, including individuals with moderate to severe immune compromise[1] who may derive benefit from COVID-19 vaccination, should receive COVID-19 vaccination.
- In individuals who have received a COVID-19 vaccine, Evusheld should be administered at least 2 weeks after vaccination.
- Evusheld may only be prescribed by a healthcare provider licensed under state law to prescribe drugs for an individually identified patient and who has the education and training to make the clinical assessment necessary for appropriate use of Evusheld.

[1] CDC Clinical Considerations for COVID-19 Vaccines (https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html)

In Vitro Neutralization Activity

Lineage with Spike Protein Substitution	Country First Identified	WHO Nomenclature	Key Substitutions Tested	Fold Reduction in Susceptibility* (Pseudotyped VLPs†)	Fold Reduction in Susceptibility* (Authentic virus‡)
BA.5	Multiple country origin	Omicron (BA.5)	G339D+S371F+S373P+ S375F+T376A+D405N+ R408S+K417N+N440K+ L452R+S477N+T478K+ E484A+F486V+Q498R+ N501Y+Y505H	33- to 65-fold	2.8- to 16-fold
BA.4.6	United States	Omicron (BA.4.6)	G339D+R346T+S371F+ S373P+S375F+T376A+ D405N+R408S+K417N+ N440K+L452R+S477N+ T478K+E484A+F486V+ Q498R+N501Y+Y505H	>1000-fold[Þ]	ND

[Þ] Tixagevimab and cilgavimab together are unlikely to be active against this variant.

EVUSHELD™ Fact Sheet for Healthcare Providers: https://www.fda.gov/media/154701/download

New Warning

5.3 Risk for COVID-19 Due to SARS-CoV-2 Viral Variants Not Neutralized by EVUSHELD

Certain SARS-CoV-2 viral variants may not be neutralized by monoclonal antibodies such as tixagevimab and cilgavimab, the components of EVUSHELD. EVUSHELD may not be effective at preventing COVID-19 caused by these SARS-CoV-2 viral variants. The *in-vitro* neutralization activity of EVUSHELD against SARS-CoV-2 viral variants is shown in Table 6 *[see Microbiology (12.4)]*.

Inform individuals of the increased risk, compared to other variants, for COVID-19 due to SARS-CoV-2 viral variants not neutralized by EVUSHELD. If signs or symptoms of COVID-19 occur, advise individuals to test for COVID-19 and seek medical attention, including starting treatment for COVID-19 as appropriate. Symptoms of COVID-19 may include: fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, or diarrhea[1].

[1] For additional information on the symptoms of COVID-19, please see https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.

EVUSHELD™ Fact Sheet for Healthcare Providers: https://www.fda.gov/media/154701/download

Key Take Home Points

- EVUSHELD™ may be less effective at preventing COVID-19 because it does not neutralize all circulating variants. However:
  - EVUSHELD™ has neutralizing activity against the most prevalent current SARS-CoV-2 viral variant/subvariant (Omicron BA.5)
  - EVUSHELD™ has a long half-life (85 days) and is intended to protect against both current and future variants, and it is unknown what variants will be circulating in the future.
  - EVUSHELD™ is currently the only authorized or approved product in the U.S. for pre-exposure prophylaxis of COVID-19 for individuals who may not mount an adequate immune response to COVID-19 vaccines or for whom vaccination is not recommended.
- FDA continues to recommend EVUSHELD™ as an appropriate COVID-19 prevention option, in combination with other preventative measures as appropriate (such as getting vaccinated and boosted)

Recommended Actions

- If signs or symptoms of COVID-19 occur, individuals should:
  - Test for COVID-19
  - Seek medical attention, including starting treatment for COVID-19 as appropriate
    - There are several available COVID-19 treatments expected to retain activity against all currently circulating variants, including PAXLOVID™ (nirmatrelvir/ritonavir), VEKLURY™ (remdesivir), and LAGEVRIO™ (molnupiravir)
    - We recommend individuals devise a COVID-19 treatment plan, in consultation with their healthcare provider, for use in the event of symptomatic SARS-CoV-2 infection.
- Individuals for whom vaccination is recommended should get vaccinated and boosted with a bivalent COVID-19 booster dose

Factsheet Update: Expanded Examples

Medical conditions or treatments that may result in moderate to severe immune compromise and an inadequate immune response to COVID-19 vaccination **include but are not limited to**: ← newly bolded

- Active treatment for solid tumor and hematologic malignancies
- Hematologic malignancies associated with poor responses to COVID-19 vaccines regardless of current treatment status (e.g., chronic lymphocytic leukemia, non-Hodgkin lymphoma, multiple myeloma, acute leukemia)
- Receipt of solid-organ transplant or an islet transplant and taking immunosuppressive therapy
- Receipt of chimeric antigen receptor (CAR)-T-cell or hematopoietic stem cell transplant (within 2 years of transplantation or taking immunosuppression therapy)
- Moderate or severe primary immunodeficiency (e.g., common variable immunodeficiency disease, severe combined immunodeficiency, DiGeorge syndrome, Wiskott-Aldrich syndrome)
- Advanced or untreated HIV infection (people with HIV and CD4 cell counts <200/mm^3, history of an AIDS-defining illness without immune reconstitution, or clinical manifestations of symptomatic HIV)
- Active treatment with high-dose corticosteroids (i.e., ≥20 mg prednisone or equivalent per day when administered for ≥2 weeks), alkylating agents, antimetabolites, transplant-related immunosuppressive drugs, cancer chemotherapeutic agents classified as severely immunosuppressive, and biologic agents that are immunosuppressive or immunomodulatory (e.g., B-cell depleting agents)

EVUSHELD™ Fact Sheet for Healthcare Providers: https://www.fda.gov/media/154701/download

Helpful Links

- CDER statement: FDA releases important information about risk of COVID-19 due to certain variants not neutralized by Evusheld | FDA

- EUA Documents: https://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization#coviddrugs

- Scientific Review Documents: https://www.fda.gov/drugs/coronavirus-covid-19-drugs/cder-scientific-review-documents-supporting-emergency-use-authorizations-drug-and-biological

Who Is Moderately or Severely Immunocompromised?

People are considered moderately or severely immunocompromised if they have:

- Been receiving active cancer treatment for tumors or cancers of the blood
- Received an organ transplant and are taking medicine to suppress the immune system
- Received a stem cell transplant within the last 2 years or are taking medicine to suppress the immune system
- Moderate or severe primary immunodeficiency (such as DiGeorge syndrome, Wiskott-Aldrich syndrome)
- Advanced or untreated HIV infection
- Active treatment with high-dose corticosteroids or other drugs that may suppress their immune response

US CDC: COVID-19 Vaccines for Moderately or Severely Immunocompromised People (https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/immuno.html)

Eligibility & Prioritization for COVID-19 PrEP

Maine Category 1

- Lung Transplant Recipient (any time frame)
- Small Bowel Recipient (any time frame)
- Receipt of immunosuppressive medication within past 12 months (any condition, oncology or non-oncology):
  - Anti-thymocyte globulin (ATG)
  - Alemtuzumab
  - Anti-B-Cell Therapy: Rituximab, Ocrelizumab, Ofatumumab
- Patients with hematologic malignancies who are on active therapy
- Allogeneic Stem Cell Transplant, within 12 months of Transplant
- Autologous Stem Cell Transplant, within 6 months of Transplant
- Recipient of more than one active Transplant, different Organs (any time frame)
- Receipt of anti-CD19 or anti-BCMA (CAR)-T-Cell Immunotherapy, within six months of treatment
- Primary or Secondary T-Cell Immunodeficiency, including Severe Combined Immunodeficiency:
  - Agammaglobulinemia (XLA/ARAG)
  - Common Variable Immunodeficiency (CVID) and similar phenotype with T-cell dysfunction
  - Defects of Innate Immunity with predominant susceptibility to Viral Infections (e.g., WHIM Syndrome)
- Additional pediatric conditions (age 12–17 years):
  - Combined immune deficiencies with or without immune dysregulation (e.g., APDS, STAT3 GOF, ALPS)
  - Primary immune regulatory disorders with or without immune deficiency (e.g., APECED, XIAP)
  - High-risk or relapsed acute lymphoblastic leukemia/lymphoblastic lymphoma on intensive therapy (not maintenance therapy)

Maine Category 2

- Allogeneic stem cell transplant, more than 12 months since transplant
- Autologous stem cell transplant, more than 6 months since transplant
- Multiple myeloma, on maintenance therapy
- Any solid tumor, on active myelosuppressive chemotherapy
- Any solid organ transplant recipient not otherwise eligible in Category 1
- Other chronic leukemias, on treatment
- *Patients in lower categories with more than one qualifying condition*

Maine Category 3

- Active treatment with high-dose corticosteroids (i.e., more than 20 mg prednisone or equivalent per day when administered for two weeks or longer)
- Active treatment with other biologic agents that are immunosuppressive or immunomodulatory, not otherwise listed in Categories 1–2
- Advanced or untreated HIV infection:
  - HIV with CD4 less than 200/mm^3 (if aged less than 14 years, CD4% less than 15%)
  - AIDS-defining illness

Maine Category 4

- Persons for whom vaccination with any available COVID-19 vaccine, according to the approved or authorized schedule, is not recommended, due to a history of severe adverse reaction, e.g., severe allergic reaction to a COVID-19 vaccine(s) and/or COVID-19 vaccine component(s).

Expanded Examples of Immune Compromise

- Immune compromise → broad and heterogeneous category
  - Not all immunocompromising conditions may lead to an inadequate response to COVID-19 vaccination
- EVUSHELD™ Fact Sheet for Healthcare Providers includes examples of medical conditions or treatments that may result in moderate to severe immune compromise and an inadequate immune response to COVID-19 vaccination.
  - Includes caveat that the list is not meant to be all-inclusive
- However, some providers are interpreting the list as exclusive and, because their condition is not specifically listed, denying EVUSHELD to individuals with moderate to severe immune compromise who may benefit.

Hemostatic Considerations for Evusheld

EVUSHELD is a new combination monoclonal antibody administered as two concomitant IM injections in the gluteal muscle. Maine is experiencing extreme scarcity of blood products to support patients should they have a bleed or hematoma from a deep muscle injection. Thus, strong considerations and judicious clinical discretion is advised for those patients who may be at risk for bleeding from a deep muscle injection.

- Contraindications for administration in patients who otherwise meet the eligibility per EUA criteria include:
  - Clinically significant heritable bleeding disorder or bleeding diathesis despite a normal platelet count.
  - Platelet count <20,000/uL.
  - On anticoagulation with warfarin, direct acting oral anticoagulation (DOACs) drug(s), or heparin agents, unless they can be safely held in advance.
  - Dual antiplatelet therapy for stent or other considerations.

- As experience with this drug expands and as stress on the blood supply lessens, these parameters will be re-evaluated.

Evusheld access in the State of Maine

Patients who currently qualify for treatment, or who have questions about eligibility or whether to get this drug, should contact their primary care provider. Patients who do not have a primary care provider should contact a healthcare facility for further information on how to access EVUSHELD at that healthcare facility. Maine CDC is NOT able to coordinate treatment for individual patients.

Healthcare providers can contact any of the healthcare systems or facilities in Maine that have Evusheld to refer their patient(s) for Evusheld treatment.

Healthcare systems/healthcare facilities that would like to start getting their own Evusheld supply should contact Kristen McAuley (kristen.m.mcauley@maine.gov) at Maine CDC to request details on how to get an allocation.

Healthcare System/Facility	Location(s)
Cary Medical Center	Caribou
Central Maine Medical Center	Lewiston
Eastern Maine/Northern Light Hospital	Bangor
MaineGeneral	Augusta
MaineHealth/Maine Medical Center	Portland
Mount Desert Island Hospital	Bar Harbor
N.E. Cancer Specialists	Multiple
Redington Fairview Hospital	Skowhegan
Saint Joseph Health	Bangor
York Hospital	York

For more information, go to *Maine CDC: COVID-19 Pre-Exposure Prophylaxis: Information for Providers* (https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/coronavirus/prophylaxis.shtml)

Evusheld Remains Readily Available for Use!

- Call line for Evusheld product and ordering information: **1-833-EVUSHLD** (833-388-7453)

- Additional pathway established for **small volume ordering**:
  - For individual providers seeking small quantities of product (1-3 patient courses)
  - OrderEvusheld.com

- Evusheld is **available at some Federal Pharmacy Partner locations**:
  - Albertsons, including Acme, Jewel-Osco, Pavilions, Randalls, Safeway, Star Market, and Vons
  - CPESN
  - Hy-Vee, including Amber Specialty Pharmacy
  - Managed Healthcare Associates (MHA), including Thrifty White
  - Good Neighbor Pharmacy (select locations)

"Up the Antibodies" – AstraZeneca national education and awareness campaign launched; view resources and help amplify the message

EVUSHELD™ Product Information

- FDA Fact Sheets
  - EVUSHELD provider fact sheet: https://www.fda.gov/media/154701/download
  - EVUSHELD patient fact sheet: https://www.fda.gov/media/154702/download
  - EVUSHELD patient fact sheet (Spanish): https://www.fda.gov/media/155196/download
- Manufacturer's Resources:
  - Website for Healthcare Providers: https://www.evusheld.com/hcp
  - Website for Patients: https://www.evusheld.com/patient
- Additional Resources:
  - NIH COVID-19 Treatment Guidelines Panel's Statement on Therapies for High-Risk, Nonhospitalized Patients https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/nonhospitalized-adults--therapeutic-management/
  - COVID-19 Therapeutics Locator: https://covid-19-therapeutics-locator-dhhs.hub.arcgis.com/
  - FDA MedWatch: https://www.fda.gov/medwatch/report.htm
  - Safety Reporting: https://contactazmedical.astrazeneca.com/
  - Module 4 Monoclonal Antibody Administration

CMS and HRSA Resources

CMS Resources:

- COVID-19 Monoclonal Antibodies and Outpatient Administration of Veklury (remdesivir): (https://www.cms.gov/medicare/covid-19/monoclonal-antibody-covid-19-infusion)

- Permissible Flexibilities Related to Oral Antiviral Drugs for Treatment of COVID-19 that May Receive U.S. Food and Drug Administration Emergency Use Authorization and are Procured by the U.S. Government (https://www.cms.gov/files/document/hpms-memo-oral-antiviral-guidance.pdf)

- Oral Antiviral NDC Numbers:
  - **Paxlovid: 0069-1085-06**
  - **Molnupiravir: 0006-5055-06, 0006-5055-07**

Continue to check CMS website for most up to date information: **www.CMS.gov**

HRSA Resources:

- COVID-19 Claims Reimbursement for the Uninsured: (https://www.hrsa.gov/CovidUninsuredClaim)
- FAQ: (https://coviduninsuredclaim.linkhealth.com/frequently-asked-questions.html)

Related Resources: Evusheld

Additional Evusheld Prescribing Resources

- FDA Evusheld Fact Sheet for Providers
- FDA Evusheld Fact Sheet for Patients
- Evusheld Patient, Parent and Caregiver Guide
- Evusheld Product Information

COVID-19 Therapeutics Overview

NIH Guidelines for Therapeutic Management of Non-Hospitalized Adults with COVID-19

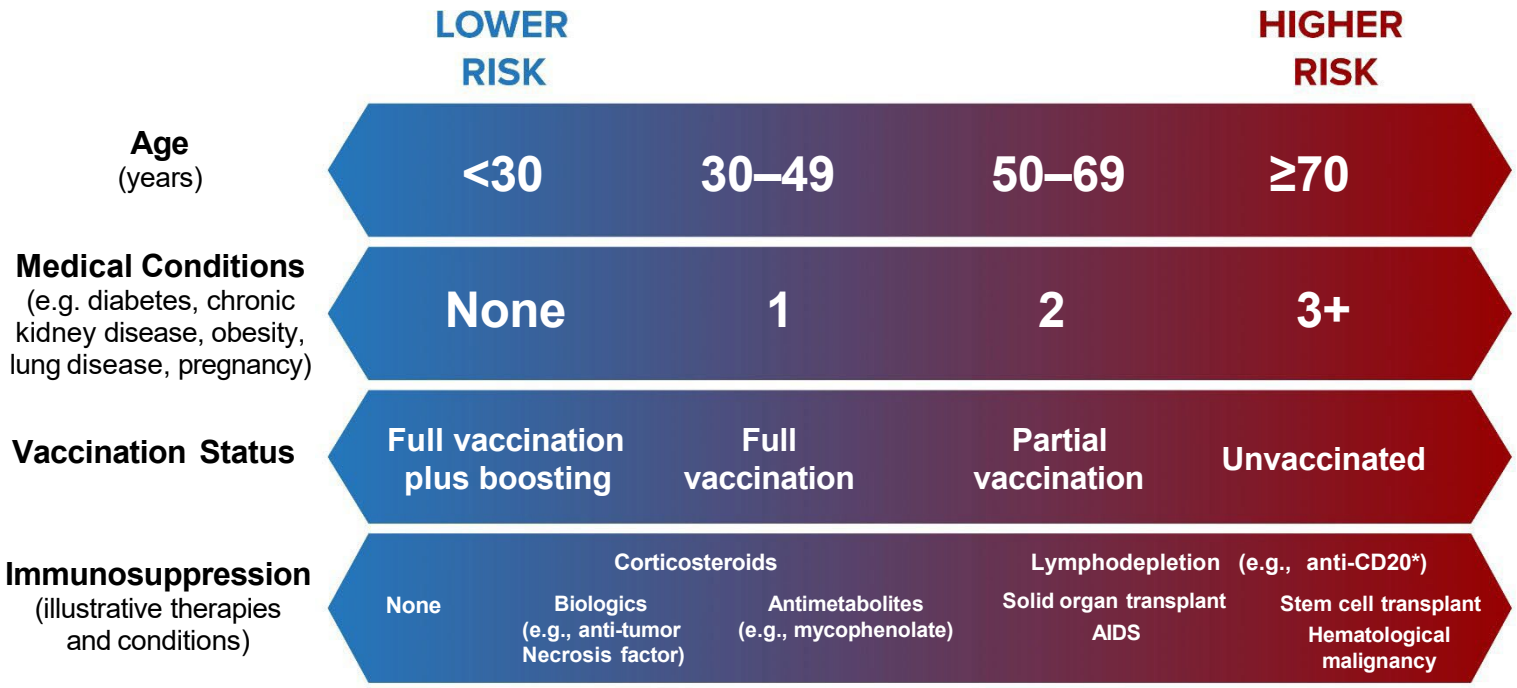
Patient Disposition	Panel's Recommendations
Does Not Require Hospitalization or Supplemental Oxygen	**For All Patients:** • All patients should be offered symptomatic management **(AIII)**. • The Panel **recommends against** the use of **dexamethasone**[a] or **other systemic corticosteroids** in the absence of another indication **(AIIb)**. **For Patients Who Are at High Risk of Progressing to Severe COVID-19**[b] *Preferred therapies. Listed in order of preference:* • **Ritonavir-boosted nirmatrelvir (Paxlovid)**[c,d] **(AIIa)** • **Remdesivir**[d,e] **(BIIa)** *Alternative therapies. For use ONLY when neither of the preferred therapies are available, feasible to use, or clinically appropriate. Listed in alphabetical order:* • ~~**Bebtelovimab**[f] **(CIII)**~~ • **Molnupiravir**[d,g] **(CIIa)**

Rating of Recommendations: A = Strong; B = Moderate; C = Weak
Rating of Evidence: I = One or more randomized trials without major limitations; IIa = Other randomized trials or subgroup analyses of randomized trials; IIb = Nonrandomized trials or observational cohort studies; III = Expert opinion

NIH Therapeutic Management of Non-hospitalized Adults With COVID-19

Who Is At Risk for Severe COVID-19?

COVID-19 Risk Continuum



Sociodemographic factors and non-pharmaceutical interventions affect exposure

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

IDSA Immunocompromised Populations (https://www.idsociety.org/covid-19-real-time-learning-network/special-populations/immunocompromised-populations/)
CDC Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19: Information for Healthcare Professionals (https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html#anchor_1618436872 70)

CDC Interim Clinical Considerations for COVID-19 Treatment in Outpatients

What You Need to Know:

- There is strong scientific evidence that antiviral treatment of outpatients at risk for severe COVID-19 reduces their risk of hospitalization and death.
- The antiviral drugs **Paxlovid (ritonavir-boosted nirmatrelvir)** and **Veklury (remdesivir)** are the preferred treatments for eligible adult and pediatric patients with positive results of direct SARS-CoV-2 viral testing and who are at high risk for progression to severe COVID-19.
- Clinicians should consider COVID-19 treatment in non-hospitalized patients who meet all of the following:
  - Test positive for SARS-CoV-2 (with PCR or antigen test, including at-home tests)
  - Have symptoms consistent with mild-to-moderate COVID-19. People with mild COVID-19 experience symptoms such as fever, sore throat, cough, or headache that do not affect the lungs and breathing. People with moderate illness have symptoms that affect the lungs like shortness of breath or difficulty breathing.
  - Are within 5 days of symptom onset for Paxlovid or 7 days of symptom onset for Veklury
  - Have one or more risk factors for severe COVID-19

See: Interim Clinical Considerations for Covid-19 Treatment in Outpatients
https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/outpatient-treatment-overview.html

CDC Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19

Risk factors for severe COVID-19 include:

- Age over 50 years, with risk increasing substantially at age ≥ 65 years
- Being unvaccinated or not being up to date on COVID-19 vaccinations
- Specific medical conditions and behaviors

Some people from racial and ethnic minority groups are at risk of being disproportionately affected by COVID-19 from many factors, including limited access to vaccines and healthcare. Healthcare providers can consider these factors when evaluating the risk for severe COVID-19 and use of outpatient therapeutics.

See: Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19: Information for Healthcare Professionals
https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html

Who is at risk for severe disease? (for patients)

- Cancer
- Chronic kidney disease
- Chronic liver disease
- Chronic lung diseases
- Cystic Fibrosis
- Dementia or other neurological conditions
- Diabetes (type 1 or type 2)
- Disabilities
- Heart conditions
- HIV infection
- Immunocompromised state (weakened immune system)
- Mental health conditions
- Overweight and obesity
- Physical inactivity
- Pregnancy
- Sickle cell disease or thalassemia
- Smoking, current or former
- Solid organ or blood stem cell transplant
- Stroke or cerebrovascular disease
- Substance use disorders
- Tuberculosis
- Children with medical complexity

US CDC: People with Certain Medical Conditions (https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html)

Who is at risk for severe disease? (for providers)

Higher risk for severe COVID-19 outcomes

- Cancer
- Cerebrovascular disease
- Chronic kidney disease*
- *Chronic lung diseases:*
  Interstitial lung disease, Pulmonary embolism, Pulmonary hypertension, Bronchiectasis, COPD (chronic obstructive pulmonary disease)
- *Chronic liver diseases:*
  Cirrhosis, Non-alcoholic fatty liver disease, Alcoholic liver disease, Autoimmune hepatitis
- Cystic fibrosis
- Diabetes mellitus, type 1 and type 2*
- *Disabilities:*
  Attention-Deficit/Hyperactivity Disorder (ADHD): Cerebral Palsy, Congenital Malformations (Birth Defects), Limitations with self-care or activities of daily living, Intellectual and Developmental Disabilities, Learning Disabilities, Spinal Cord Injuries, other disabilities [full list on webpage]
- Heart conditions (e.g., heart failure, coronary artery disease, or cardiomyopathies)
- HIV (human immunodeficiency virus)
- *Mental health disorders:*
  Mood disorders (including depression), Schizophrenia spectrum disorders
- Neurologic conditions limited to dementia
- Obesity (BMI ≥30 kg/m^2)*
- Primary Immunodeficiencies
- Pregnancy and recent pregnancy
- Physical inactivity
- Smoking, current and former
- Solid organ or hematopoietic cell transplantation
- Tuberculosis
- Use of corticosteroids or other immunosuppressive medications

Suggestive higher risk for severe COVID-19 outcomes

- Children with certain underlying conditions
- Overweight (BMI ≥25 kg/m^2, but <30 kg/m^2)
- Sickle cell disease
- Substance use disorders
- Thalassemia

Mixed evidence

- Alpha 1 antitrypsin deficiency
- Asthma
- Bronchopulmonary dysplasia
- Hepatitis B
- Hepatitis C
- Hypertension*

** indicates underlying conditions for which there is evidence for pregnant and non-pregnant people*

US CDC: Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19: Information for Healthcare Professionals
(https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html)

Updated CDC Webpages

- CDC Underlying Conditions Associated with Higher Risk for Severe COVID-19

- Age remains the strongest risk factor for severe COVID-19 outcomes, with risk of severe outcomes increasing markedly with increasing age. Based on data from the National Vital Statistics System (NVSS) at NCHS (Risk for COVID-19 Infection, Hospitalization, and Death By Age Group), compared with ages 18–29 years, the **risk of death is 25 times higher in those ages 50–64** years, **60 times higher in those ages 65–74** years, **140 times higher in those ages 75–84** years, and **340 times higher in those ages 85+** years. Notably, these data include all deaths in the United States that occurred throughout the pandemic, from February 2020 to July 1, 2022, including deaths among unvaccinated individuals.

NIH: Therapeutic Management of Nonhospitalized Children With COVID-19 (updated August 8, 2022)

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

Last Updated: August 8, 2022

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

Risk of Severe COVID-19	Panel's Recommendations	
	Aged 12–17 years	Aged <12 years
Symptomatic, Regardless of Risk Factors	• Provide supportive care (AIII).	• Provide supportive care (AIII).

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

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

Rating of Recommendations: A = Strong; B = Moderate; C = Weak

Rating of Evidence: I = One or more randomized trials without major limitations; IIa = Other randomized trials or subgroup analyses of randomized trials; IIb = Nonrandomized trials or observational cohort studies; III = Expert opinion

[a] Molnupiravir is not authorized by the FDA for use in children aged <18 years and should not be used.
[b] See Table 3b for the Panel's framework for assessing the risk of progression to severe COVID-19 based on patient conditions and COVID-19 vaccination status.
[c] Initiate treatment as soon as possible after symptom onset.
[d] Bebtelovimab is the only anti-SARS-CoV-2 mAb active against the current dominant circulating Omicron subvariants. In nonhospitalized adults, bebtelovimab may be used as an alternative therapy when none of the preferred therapies (i.e., ritonavir-boosted nirmatrelvir, remdesivir) are available, feasible to use, or clinically appropriate.
[e] The relative risk of severe COVID-19 for intermediate-risk patients is lower than the risk for high-risk patients but higher than the risk for low-risk patients.
[f] Low-risk patients include those with comorbid conditions that have a weak or unknown association with severe COVID-19. Patients with no comorbidities are included in this group.

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

NIH: Therapeutic Management of Nonhospitalized Children With COVID-19 (updated August 8, 2022)

Table 3b. The Panel's Framework for Assessing the Risk of Progression to Severe COVID-19 Based on Patient Conditions and COVID-19 Vaccination Status

Last Updated: August 8, 2022

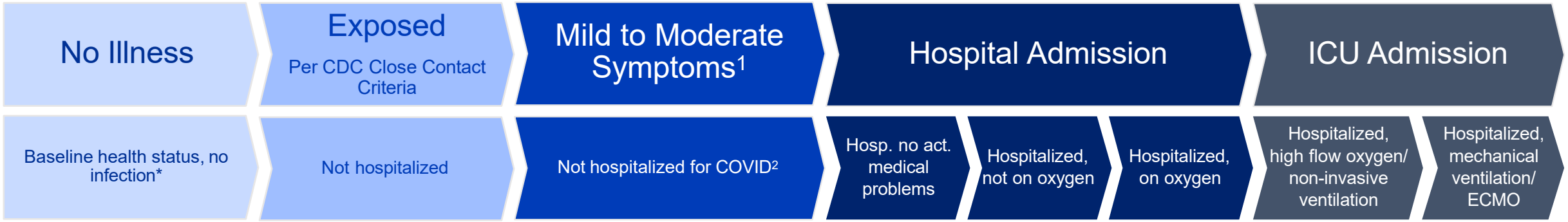
Conditions	Risk Level by Vaccination Status[a]		
	Unvaccinated	Primary Series	Up to Date
Strong or Consistent Association With Progression to Severe COVID-19			
• Moderately or severely immunocompromised (see Special Considerations in People Who Are Immunocompromised)	High		
• Obesity (BMI ≥95th percentile for age), especially severe obesity (BMI ≥120% of 95th percentile for age)[b] • Medical complexity with dependence on respiratory technology[c] • Severe neurologic, genetic, metabolic, or other disability that results in impaired airway clearance or limitations in self care or activities of daily living • Severe asthma or other severe chronic lung disease requiring ≥2 inhaled or ≥1 systemic medications daily • Severe congenital or acquired cardiac disease • Multiple moderate to severe chronic diseases	High	Intermediate	
Moderate or Inconsistent Association With Progression to Severe COVID-19			
• Aged <1 year • Prematurity in children aged ≤2 years • Sickle cell disease • Diabetes mellitus (poorly controlled) • Nonsevere cardiac, neurologic, or metabolic disease[d]	Intermediate		
Weak or Unknown Association With Progression to Severe COVID-19			
• Mild asthma • Overweight • Diabetes mellitus (well controlled)	Low		

[a] **Unvaccinated** = individuals who are not eligible for COVID-19 vaccination or are <2 weeks from the final dose of the primary series. **Vaccinated with primary series** = individuals who completed the primary series of 2 or 3 doses (the current CDC term is "fully vaccinated") and are >2 weeks after the final dose of the primary series but have not received a booster, if they are eligible for a booster. Children aged <5 years are not currently eligible for booster doses. **Vaccinated and up to date** = individuals who received the recommended booster dose(s) if eligible or have completed the primary series but are not yet eligible for a booster. See the CDC for more information.
[b] The degree of risk conferred by obesity in younger children is less clear than it is in older adolescents.
[c] Includes tracheostomy or NIV.
[d] Data for this group are particularly limited.

Key: BMI = body mass index; CDC = Centers for Disease Control and Prevention; NIV = noninvasive ventilation; the Panel = the COVID-19 Treatment Guidelines Panel

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

Summary of COVID-19 Preventative Agents & Treatments



COVID-19 Vaccines

Monoclonal Antibodies for PrEP

- Evusheld (tixagevimab + cilgavimab, AZ)

None currently authorized for use in any US state or territory.

Oral Antivirals

- **Paxlovid (nirmatrelvir + ritonavir, Pfizer)**
- Lagevrio (molnupiravir, Merck) – **Alternative**

IV Antiviral

- **Veklury® (remdesivir, Gilead)**

Please see NIH Current Inpatient Therapies (https://www.covid19treatmentguidelines.nih.gov/therapies/)

There is currently **ample supply** of all authorized therapeutics – every eligible patient should have access to these medications

HHS distribution

Commercially available

[1]COVID-19 Convalescent Plasma has EUA for immunocompromised patients

[2]Refer to individual product Fact Sheets for authorization details

Therapeutic Management of Nonhospitalized Adults With COVID-19

Therapeutic Management of Hospitalized Adults With COVID-19

Eligibility Criteria for Outpatient TREATMENT of Mild-to-Moderate COVID-19 Infection in High-Risk Patients

Mild to moderate COVID-19 cases early in infection, who are at **high risk for progressing to severe COVID-19 and/or hospitalization;**[1] with following criteria:

- Adult or pediatric patients 12 years of age and older weighing more than 40kg
  - Exception: Lagevrio (molnupiravir) authorized in adult patients 18 years of age and older
- Confirmation via **positive PCR or antigen test**
- Treatment **as soon as possible** following positive viral test and **within 5-7 days* of symptom onset**
- Patient symptomatic but **not yet progressed to require hospitalization or oxygen therapy (or increase from baseline chronic oxygen therapy) due to COVID-19**

Oral Antivirals (OAVs) given EUA for mild to moderate symptoms of COVID-19 are *not authorized* for use in patients:

- Who are hospitalized due to COVID-19, OR
- Who require oxygen therapy due to COVID-19, OR
- Who require an increase in baseline oxygen flow rate due to COVID-19 in those on chronic oxygen therapy due to underlying non-COVID-19 related comorbidity

[1]CDC's Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19: Information for Healthcare Professionals (https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html)

*Patient eligibility with respect to time since symptom onset varies across agents. See product fact sheets for product-specific durations.

PEDIATRIC Eligibility Criteria for Outpatient TREATMENT of Mild-to-Moderate COVID-19 Infection in High-Risk Patients

- Pediatric patients weighing **3 kg to less than 40 kg and aged 28 days or older** with mild to moderate COVID-19 who are:
  - Hospitalized, or
  - Not hospitalized and have mild-to-moderate COVID-19 and are at high risk for progression to severe COVID-19, including hospitalization or death.
- Confirmation via positive PCR or antigen test
- Treatment **as soon as possible** after diagnosis of symptomatic COVID-19 and **within 7 days of symptom onset**

Only applies to Veklury (remdesivir)[1]

[1]**For additional Veklury pediatric information,** Veklury Prescribing Information (https://www.gilead.com/-/media/files/pdfs/medicines/covid-19/veklury/veklury_pi.pdf)

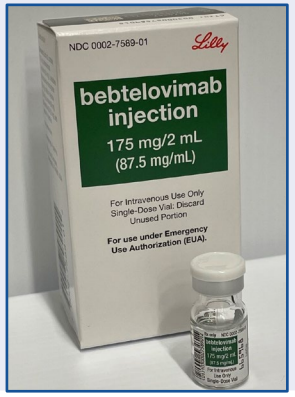
Frequently Asked Questions Related to EUA

- Products under EUA must be administered in accordance with the EUA.
- A signed consent form is not needed to administer products under EUA.
- No clinical data reporting is required beyond established FDA mechanisms for tracking and reporting serious adverse events.

Summary of COVID-19 Vaccines and Therapeutics

Category or Population	What's Available?	Resources and Notes
All persons age 6 months and older	• COVID-19 vaccines • COVID-19 boosters	• US CDC: Use of COVID-19 Vaccines in the United States • Maine CDC: COVID-19 Vaccine Providers Portal
Persons age 6 months and older with moderate or severe immunocompromise	• COVID-19 vaccines • COVID-19 boosters • Long-acting antibody for pre-exposure prophylaxis	• US CDC: COVID-19 Vaccines for People who are Moderately or Severely Immunocompromised • Maine CDC: COVID-19 Vaccine Providers Portal • COVID-19 Pre-Exposure Prophylaxis (Provider Information)
Persons exposed to COVID-19 who have not tested positive (i.e., post-exposure prophylaxis)	• **No** treatments available	• All monoclonal antibodies previously available for post-exposure prophylaxis are not effectiveness for current COVID-19 variants.
Persons with asymptomatic COVID-19 infection	• **No** treatments available	• Monitor for development of COVID-19 symptoms and treat if high-risk. • Ensure readiness to test and access treatment quickly if eligible and symptomatic.
Persons with mild/moderate COVID-19 symptoms and positive test who are <50 years and vaccinated and who DO NOT have any underlying conditions that place them at high risk for severe disease	• Symptomatic treatment (not COVID-19 specific)	• Monitor for development of COVID-19 symptoms and treat if high-risk. • Ensure readiness to test and access treatment quickly if eligible and symptomatic.
Persons with mild/moderate COVID-19 illness, a positive test, and who are age 50 years or older OR are undervaccinated OR have underlying conditions that place them at high risk for severe disease	• Oral antivirals • IV antivirals • IV monoclonal antibodies	• For information on pharmacies that can fill a prescription, and information on Test-to-Treat locations where patients can get tested, seen by a clinician, and treated with oral or intravenous COVID-19 therapies, see COVID-19 Treatment in Maine.

Overview of COVID-19 Outpatient Therapy

Class	Oral	Intravenous
Antivirals	Paxlovid   molnupiravir	remdesivir 
~~**Monoclonal antibodies**~~		 ~~bebtelovimab~~

COVID-19 Outpatient Therapy Summary

Drug name	Paxlovid (ritonavir/nirmatrelvir)	Veklury (remdesivir)	Lagevrio (molnupiravir)
Effectiveness	88%	87%	30%
Age allowed for use	≥ 12 years	Any age*	≥ 18 years
Initiate within # days of symptom onset	0–5 days	0–7 days	0–5 days
Route of administration	Oral	Intravenous	Oral
Duration of treatment	5 days	3 days	5 days
Pros	• High efficacy • Oral	• High efficacy • Greater experience	• Oral • No drug-drug interaction concerns
Cons	• Ritonavir-related drug-drug interactions	• Requires 3 days of IV infusion	• Low efficacy • Not authorized for age <18y • Avoid in pregnancy • Mutagenicity concerns

**Remdesivir is FDA-approved for non-hospitalized patients 12 years and older (40 kg and up). It is also available under FDA EUA for patients <12 years old (3.5 to 40 kg).*

COVID-19 Outpatient Therapy Selection

Drug/route	Key features	Eligible population	Key considerations for use
Paxlovid (nirmatrelvir/ ritonavir) (PO)	• Oral (5 days) • Start within 0–5 days after COVID-19 symptoms begin	**Individuals 12+ years old at high risk for progression to severe COVID-19**	• Treatment of choice for non-hospitalized patients (per NIH guidelines). • Providers should check for drug-drug interactions and make medication changes that can be accomplished safely. Renal dosing adjustment is needed for patients with GFR between 30–60; Paxlovid cannot be used for GFR <30.
Veklury (remdesivir) (IV)	• Intravenous (once-daily therapy for 3 days) • Start within 0–7 days after COVID-19 symptoms begin	**Individuals 28 days old and older at high risk for progression to severe COVID-19**	• 2nd-line treatment option per NIH treatment guidelines. This is the best option for patients who cannot take Paxlovid due to drug-drug interactions. • Requires insurance coverage and multiple days of IV infusion. Currently only available at a few facilities, and primarily for outpatients under 12 years old. • Consider for eligible patients who are hospitalized for a non-COVID-19 cause if Paxlovid is not available in inpatient formulary or oral access is unavailable.
Lagevrio (molnupiravir) (PO)	• Oral (5 days) • Start within 0–5 days after COVID-19 symptoms begin	**Individuals 18 years old and older at high risk for progression to severe COVID-19**	• Best pick for patients who cannot get Paxlovid due to drug-drug interaction or severe kidney or liver disease, and who do NOT have access to IV therapy. • Lower effectiveness than the other three therapies. • Avoid in pregnancy if other treatment options are available.

Considerations for COVID-19 Outpatient Treatment

Category	Groups*
High **Risk for Severe Disease**	• All persons age 50 years and older • All persons who are unvaccinated • People with 1+ clinical risk factors placing them at higher risk for severe COVID-19 disease
Higher **Risk for Severe Disease**	• Unvaccinated, 65+ years • Vaccinated, 65+ years, 1+ clinical risk factors • Unvaccinated or Vaccinated, 2+ risk factors • Residing in a congregate facility
Highest **Risk for Severe Disease**	• Moderately/Severely Immunocompromised • Unvaccinated or Vaccinated, 75+ years • Unvaccinated, 50+ years, 1+ clinical risk factors • Unvaccinated, Pregnant

Notes:

Unvaccinated: *a person who has not completed a primary series of any COVID-19 vaccine.*

Vaccinated: *a person who has completed a primary series of any COVID-19 vaccine. Vaccinated persons who have not received a booster dose are at higher risk for severe disease than those who are up-to-date.*

Up to date: *a person who has received all recommended COVID-19 vaccine doses based on age and immunocompromising conditions or medications.*

Clinical risk factors: *some of the most important Underlying Medical Conditions Associated with High Risk for Severe COVID-19 (US CDC) include age, cancer, cardiovascular disease, chronic kidney disease, chronic lung disease, diabetes, immunocompromising conditions or receipt or immunosuppressive medications, obesity (BMI ≥30), pregnancy, and sickle cell disease.*

Immunocompromising conditions: *Moderately or Severely Immunocompromised People (US CDC) include people who have been receiving active cancer treatment for tumors or cancers of the blood, received an organ transplant and are taking medicine to suppress the immune system, received a stem cell transplant within the last 2 years or taking medicine to suppress the immune system, moderate or severe primary immunodeficiency (e.g., DiGeorge syndrome, Wiskott-Aldrich syndrome), advanced or untreated HIV infection, or active treatment with high-dose corticosteroids or other drugs that suppress the immune response.*

Pregnant: *COVID-19 patients who are pregnant and unvaccinated are at higher risk for severe disease than those who are vaccinated or up-to-date on COVID-19 vaccine. Women in their postpartum period, and those who are vaccinated and have additional risk factors, are also at elevated risk.*

Congregate facility: *Includes persons living in nursing homes, assisted living facilities, jails prisons, and homeless shelters who do not meet higher-level criteria.*

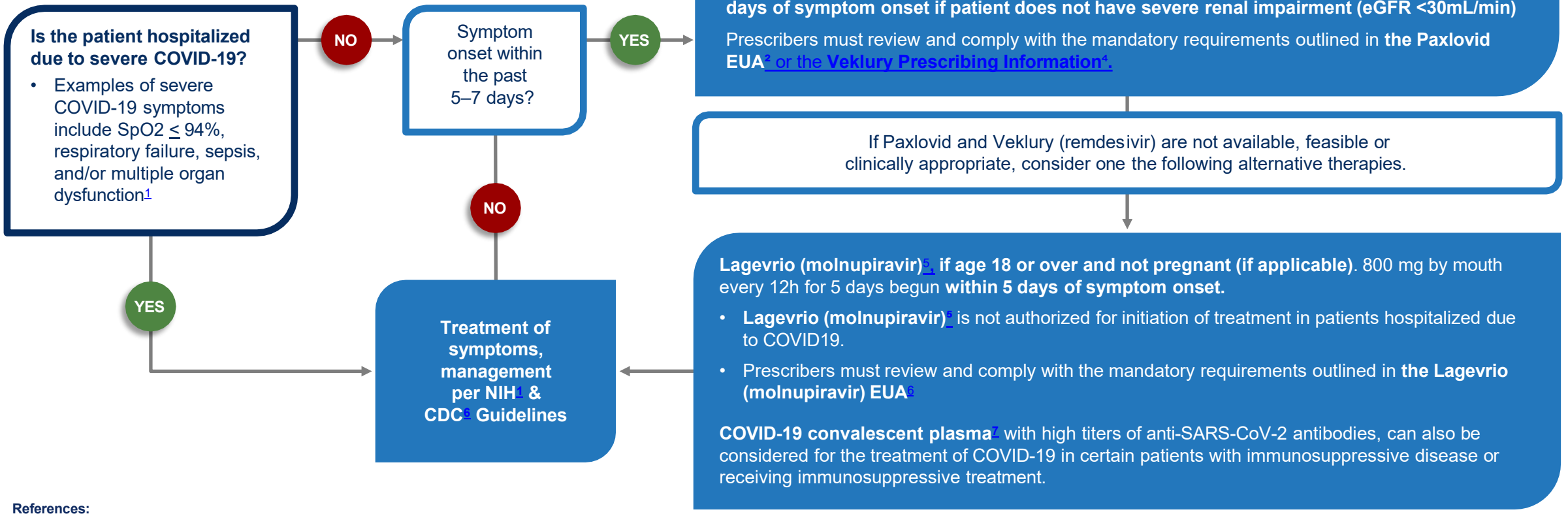
DEC 2022

COVID-19 Outpatient Therapeutics

Clinical Decision Aid for Ages 12+ years

Adult or pediatric patients (ages 12 and older* weighing at least 40 kg) with mild to moderate COVID-19 and at high risk for progression to severe disease

* Age requirement does not apply for Veklury (remdesivir)



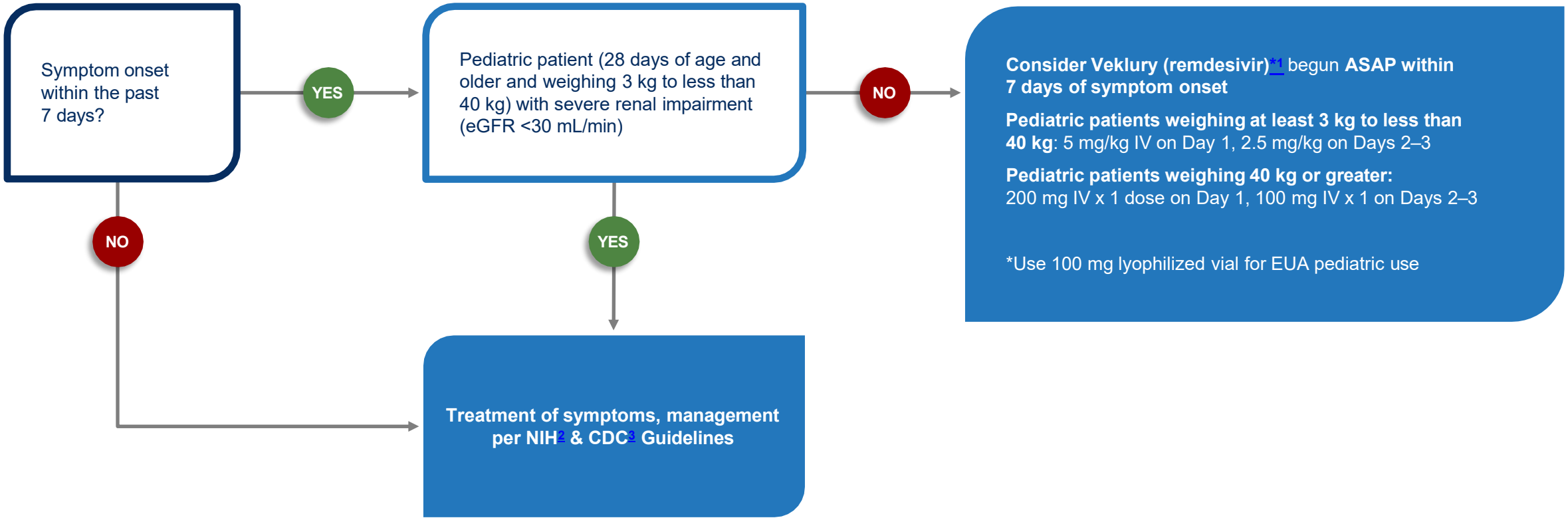
References:

1 NIH COVID-19 Treatment Guidelines Therapeutic Management of Nonhospitalized Adults With COVID-19. https://www.covid19treatmentguidelines.nih.gov/therapies/statement-on-therapies-for-high-risk-nonhospitalized-patients/
2 Paxlovid EUA. https://www.fda.gov/media/155050/download
3 NIH's COVID-19 Treatment Guidelines Panel: Ritonavir-Boosted Nirmatrelvir (Paxlovid). https://www.covid19treatmentguidelines.nih.gov/therapies/antiviral-therapy/ritonavir-boosted-nirmatrelvir--paxlovid-/
4 Veklury (remdesivir) Prescribing Information. https://www.gilead.com/-/media/files/pdfs/medicines/covid-19/veklury/veklury_pi.pdf
5 Lagevrio EUA. https://www.fda.gov/media/155054/download
6 CDC Covid-19 Website . https://www.cdc.gov/coronavirus/2019-ncov/index.html
7 Fact Sheet for Health Care Providers: EUA of COVID-19 Convalescent Plasma for Treatment of COVID-19. https://www.fda.gov/media/141478/download

ASPR Administration for Strategic Preparedness and Response

COVID-19 Outpatient Therapeutics

Clinical Decision Aid: Pediatric patients 28 days of age and older weighing 3 kg to less than 40 kg with mild to moderate COVID-19 and at high risk for progression to severe disease



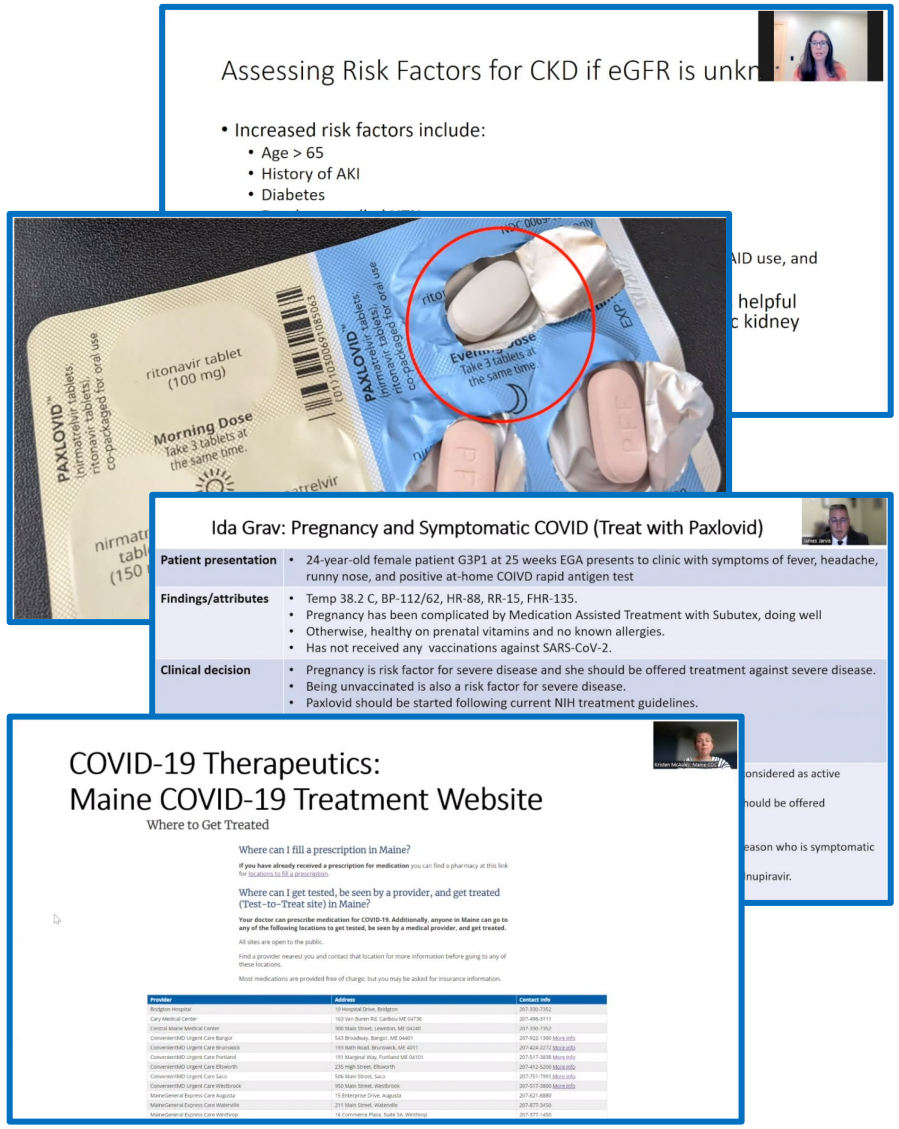
Reference:

1 Veklury Prescribing Information:https://www.gilead.com/-/media/files/pdfs/medicines/covid-19/veklury/veklury_pi.pdf
2 NIH COVID-19 Treatment Guidelines Therapeutic Management of Nonhospitalized Adults With COVID-19. https://www.covid19treatmentguidelines.nih.gov/therapies/statement-on-therapies-for-high-risk-nonhospitalized-patients/
3 CDC Covid-19 Website . https://www.cdc.gov/coronavirus/2019-ncov/index.html

ASPR Administration for Strategic Preparedness and Response

Maine CDC COVID-19 treatment training videos

- Recorded videos on who to treat for COVID-19, oral and IV drugs, how to select the right drug for your patient, how to access treatments in Maine
- Includes several case-based examples navigating common clinical scenarios
- Aimed at healthcare providers who are not yet familiar with outpatient treatment of COVID-19
- YouTube videos (~90 minutes total)
- Accompanying slides with resources



Provider information: COVID-19 treatment

Coronavirus Disease 2019 (COVID-19)

- COVID-19 Homepage
- Maine Data
- General Information
- Healthcare Providers
- Long Term Care Facilities and Congregate Living

EPI Information

- A-Z Index of Epidemiology Diseases
- Contact Us
- Disease Reporting
- Request for Data

211 Maine — Get Connected. Get Answers. Social services help and information about COVID-19 in Maine, call 211, email info@211maine.org, text your ZIP code to 898-211, or if out-of-state call 1-877-463-6207.

COVID-19: Vaccines and Therapeutics (Provider Information)

On this page:

- Case-Based Training Videos for P
- Overview of COVID-19 Vaccines a
- COVID-19 Treatment for Non-Hos
- Paxlovid prescription best practice
- Patients at High, Higher, and High
- Locations in Maine that Test, Asse
- Clinical Decision Resources for C
- Patient Information
- Federal Allocation of COVID-19 Tr
- Additional Information
- Resources

Case-Based Training Videos f

Maine CDC, in collaboration with healthc
drugs, how to select the right drug for your patient, and
videos, aimed at healthcare providers who are not yet f
slides.

COVID-19 Treatment in Maine: A Primer for Prescribers

- Videos
- Slides (PDF)

Summary of Vaccines and Therapeutics

All persons age 6 months and older	COVID-19 vaccines and boosters	US CDC: Use of COVID-19 Vaccines in the United States Maine CDC: COVID-19 Vaccine Providers Portal
Persons age 6 month immunocompromise		
Persons exposed to exposure prophylaxis		
Persons with asympt		
Persons with mild or are not at high risk fo		
Persons with mild or antigen), and who ha (including age over 5 COVID-19 vaccinatio		
Persons with severe		

COVID-19 Treatment for Non-Hospitalized Patients

The U.S. Food and Drug Administration (FDA) has authorized or approved several COVID-19 therapies for certain patients. Several of these medications are available under FDA Emergency Use Authorization: note that eligibility is set by the FDA and off-label prescribing is *not* allowed for drugs available under EUA.

Medicine	Eligibility and notes	Resources
Paxlovid (nirmatrelvir/ritonavir) (PO) • Oral therapy (5 days) • Start within 0– COVID-19 syr *Available under FDA Authorization*	**Individuals 12+ years old at high risk for progression to severe COVID-19**	FDA: Paxlovid EUA Fact Sheet for Healthcare Providers (PDF)
Veklury (remdesivir) • IV therapy (da • Start within 0– COVID-19 syr *FDA-approved*		
Lagevrio (molnupira • Oral therapy (• Start within 0– COVID-19 syr *Available under FDA Authorization*		

Patients at High, Higher, and Highest Risk for Severe Disease

Healthcare providers should offer treatment to older adults and others at high risk for progression to severe disease. Treatment of mild/moderate COVID-19 is the standard of care for eligible patients. The following information, based on analysis of Maine's COVID-19 cases, hospitalizations, and deaths in early 2022 (the Omicron wave), describes patients at high, higher, and highest risk for severe disease. All of these patients are eligible to receive treatment if they have COVID-19 symptoms and a positive COVID-19 antigen or PCR test. This information may be helpful in guiding patient counseling prior to illness onset.

Category
High Risk for Severe Disease
Higher Risk for Seve Disease
Highest Risk for Sev Disease

Figure 1. Therapeutic Management of Nonhospitalized Adults With COVID-19

PATIENT DISPOSITION — PANEL'S RECOMMENDATIONS

Does Not Require Hospitalization or Supplemental Ox

Discharged From Inpatient Setting Condition and Do Require Supplem

Discharged From Hospital Inpatient Setting and Requires Supplemental Oxygen

For those who are stable enough for discharge but who still require oxygen[h]

COVID-19 Outpatient Therapeutics
Clinical Decision Aid for Ages 12+

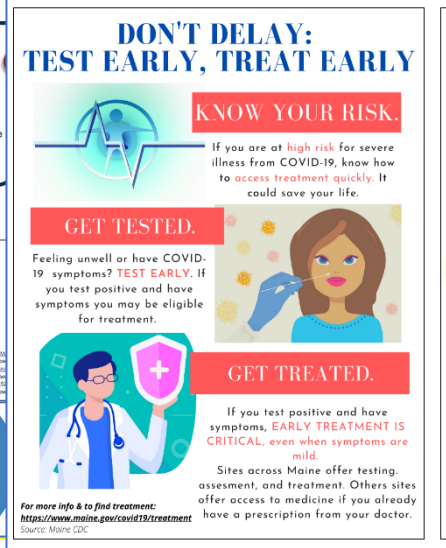
Adult or pediatric patient (ages 12 and older weighing at least 40 kg) with mild to moderate COVID-19 and at high risk for progression to severe disease

Is patient:
- Hospitalized for COVID-19
OR
- Requiring O_2
OR
- Requiring an increase in baseline home O_2 due to COVID-19?

YES

Consider one of the following therapeutics, if available, feasible, and clinically appropriate[1]:

Paxlovid[2] within 5 days of symptom onset If patient does not have severe renal impairment (eGFR <30mL/min OR severe hepatic impairment (Child-Pugh Class C)



https://www.maine.gov/dhhs/mecdc/infectious-disease/ep

Tools to Assist in COVID-19 Outpatient Therapeutic Selection

As variant prevalence changes and new therapeutics become available, there are tools and resources available to assist in clinical decision-making for prescribers.

- Clinical Decision Aid: https://aspr.hhs.gov/COVID-19/Therapeutics/Documents/COVID-Therapeutics-Decision-Aid.pdf
- Side-by-Side Overview of Outpatient Therapeutics: https://aspr.hhs.gov/COVID-19/Therapeutics/Documents/side-by-side-overview.pdf
- NIH Therapeutic Management of Nonhospitalized Adults With COVID-19: https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/nonhospitalized-adults--therapeutic-management/
- NIH COVID-19 Treatment Guidelines Homepage: https://www.covid19treatmentguidelines.nih.gov/therapies/
  - NIH's COVID-19 Treatment Guidelines /What's new: https://www.covid19treatmentguidelines.nih.gov/about-the-guidelines/whats-new/
  - CDC Underlying Medical Conditions Associated with Higher Risk for Severe COVID-19: Information for Healthcare Professionals: https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html
- CDC COVID Data Tracker:
  - The CDC monitors and publishes variant information on the CDC Covid-19 Data Tracker (https://covid.cdc.gov/covid-data-tracker/#variant-proportions)
  - Information on variants of concern are updated in Section 15 of FDA fact sheets.

Key resources

- **Maine CDC: COVID-19 provider information**
  https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/coronavirus/providers.shtml
- **COVID-19 Vaccines and Therapeutics** (Provider Information)
  https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/coronavirus/covid19-treatment.shtml
- **Maine CDC: COVID-19 Treatment in Maine** (Patient Information)
  https://www.maine.gov/covid19/treatment
- **Maine CDC: Health Advisories**
  https://www.maine.gov/dhhs/mecdc/newhan.shtml
- **NIH: Coronavirus Disease 2019 (COVID-19) Treatment Guidelines**
  https://www.covid19treatmentguidelines.nih.gov
- **ASPR: COVID-19 Therapeutics**
  https://aspr.hhs.gov/COVID-19/Therapeutics

COVID-19 Treatments: Key Messages

Why don’t patients get treated early in illness?

- **Patients lack…**
  - **Knowledge that treatment is available**
  - **Knowledge that treatment works well**
  - **Knowledge of who should get treated**
  - **Knowledge of how to access treatment**
  - **Ability to get tested early in illness**
  - **Ability to see healthcare provider rapidly after getting positive test result**
  - **Ability to access pharmacies, hospitals, and clinics with treatments**
- **Providers lack…**
  - **Knowledge about who should be treated**
  - **Knowledge about how to access treatment**

Why are patients still dying from COVID-19?

Key messages for healthcare providers:

- Become familiar with COVID-19 treatments for outpatients
- Talk to your high-risk patients about the value of treatment
- Encourage high-risk patients to have a plan to get tested and treated before they get sick

Key messages for high-risk patients:

- COVID-19 treatments are safe and effective and drastically reduce the risk of severe disease
- Treatment must be started within the first few days after symptom onset to be effective
- Have a plan to get tested, evaluated, and treated if you develop symptoms of COVID-19

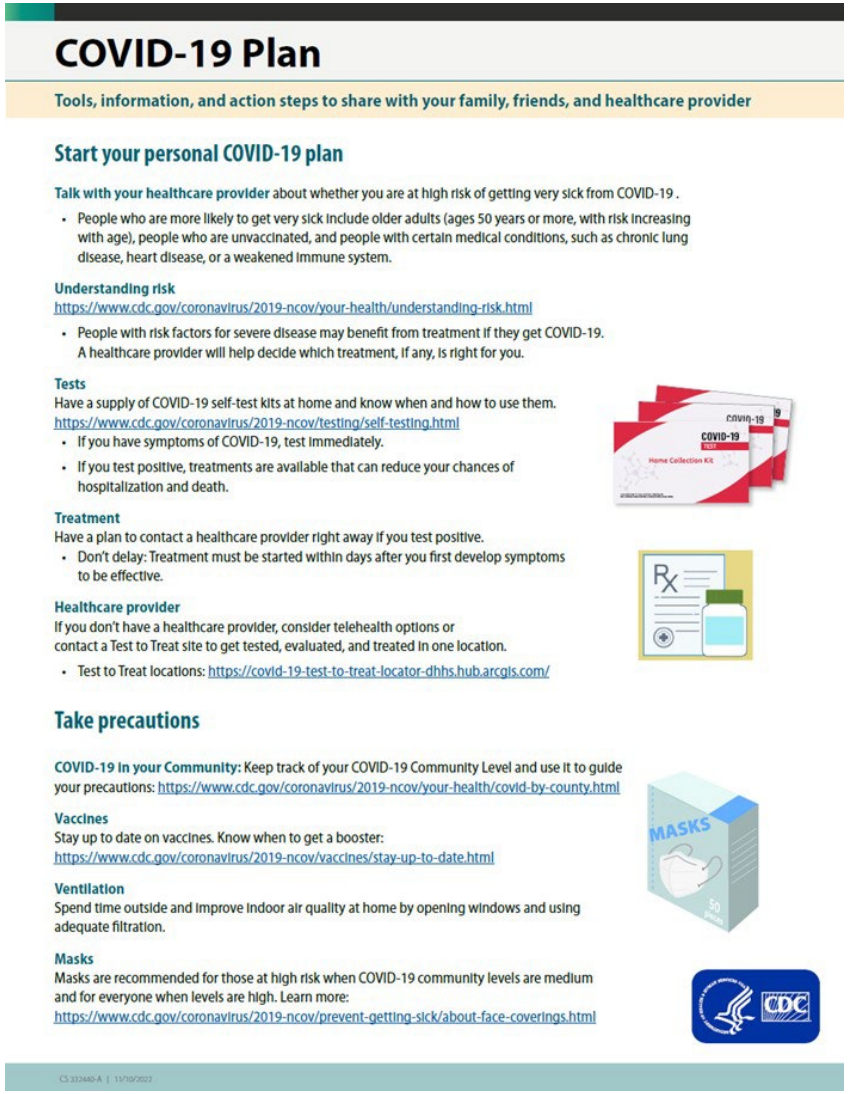
Recommendations for healthcare providers

- Continue to encourage COVID-19 vaccination in everyone age 6 months or older
- Encourage high-risk patients to get vaccinated and get a booster
- Immunocompromised patients are eligible to receive pre-exposure prophylaxis
- Communicate with high-risk patients that treatment for COVID-19 is available and should be started as soon as possible after symptom onset. Encourage high-risk patients to have a plan to get promptly tested, evaluated, and treated if they get sick.
- Obtain further information on clinical use of products through
  - NIH's COVID-19 Treatment Guidelines
  - Assistant Secretary for Preparedness and Response Public Health Emergency COVID-19 Therapeutics site
  - Professional societies such as IDSA's Guidelines on the Management of Patients with COVID-19

Accessing COVID-19 Treatment in Maine

COVID-19 Action Plan

- Guidance to help individuals put together a COVID-19 plan so that all information needed is on hand if a person or a member of their household gets sick with COVID-19
- Downloadable guide that can be edited, saved, and shared with family, friends, and healthcare providers
- Additional information also available regarding COVID-19 prevention actions
- Access COVID Action Plan guidance at:
  - COVID-19 Personal Plan (cdc.gov)
  - How to Protect Yourself and Others | CDC



COVID-19 Plan

Tools, information, and action steps to share with your family, friends, and healthcare provider

Start your personal COVID-19 plan

Talk with your healthcare provider about whether you are at high risk of getting very sick from COVID-19 .

- People who are more likely to get very sick include older adults (ages 50 years or more, with risk increasing with age), people who are unvaccinated, and people with certain medical conditions, such as chronic lung disease, heart disease, or a weakened immune system.

Understanding risk
https://www.cdc.gov/coronavirus/2019-ncov/your-health/understanding-risk.html

- People with risk factors for severe disease may benefit from treatment if they get COVID-19. A healthcare provider will help decide which treatment, if any, is right for you.

Tests
Have a supply of COVID-19 self-test kits at home and know when and how to use them.
https://www.cdc.gov/coronavirus/2019-ncov/testing/self-testing.html

- If you have symptoms of COVID-19, test immediately.
- If you test positive, treatments are available that can reduce your chances of hospitalization and death.

Treatment
Have a plan to contact a healthcare provider right away if you test positive.

- Don't delay: Treatment must be started within days after you first develop symptoms to be effective.

Healthcare provider
If you don't have a healthcare provider, consider telehealth options or contact a Test to Treat site to get tested, evaluated, and treated in one location.

- Test to Treat locations: https://covid-19-test-to-treat-locator-dhhs.hub.arcgis.com/

Take precautions

COVID-19 in your Community: Keep track of your COVID-19 Community Level and use it to guide your precautions: https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html

Vaccines
Stay up to date on vaccines. Know when to get a booster:
https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html

Ventilation
Spend time outside and improve indoor air quality at home by opening windows and using adequate filtration.

Masks
Masks are recommended for those at high risk when COVID-19 community levels are medium and for everyone when levels are high. Learn more:
https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html

COVID-19 Treatment in Maine (for patients)

STATE OF MAINE
Covid-19 Response
Office of the Governor

Home → Clone of COVID-19 Treatment in Maine

COVID-19 Treatment in Maine

Treatment is available for COVID-19

COVID-19 treatment is highly effective at preventing a mild or moderate illness from progressing to becoming severe and life-threatening. Treatment is available across Maine for older adults and for people at high risk of getting very sick from COVID-19.

Don't wait until you're very ill. COVID-19 treatment works best if started within the first 5–7 days after symptoms begin. Treatment is only available for people with COVID-19 symptoms and a positive COVID-19 test, which can include an at-home test. You will need a prescription to get treated. Most medications are provided free of charge, but you may be asked for insurance information.

COVID-19 treatment is not a replacement for vaccination Learn more about the COVID-19 vaccine and where to get vaccinated in Maine.

If you are not currently infected with COVID-19, talk to your doctor to find out whether you should get treatment should you have COVID-19 in the future. Have a plan for how to get tested quickly for COVID-19 if you develop symptoms.

People who receive treatment should continue to follow guidance for isolation (PDF) and mask around others.

How to Get Treated

Here's what to do if you're experiencing symptoms of COVID-19.

Where to Get Treated

Find a pharmacy to fill your prescription for COVID-19 treatment, or find a test-to-treat facility in Maine.

Frequently Asked Questions

See our FAQ for more info or call 1-888-445-4111 and our experts can help you navigate next steps.

https://www.maine.gov/covid19/treatment

Where to Get Treated

Where can I fill a prescription in Maine?

If you have already received a prescription for medication you can find a pharmacy at this link for locations to fill a prescription.

Where can I get tested, be seen by a provider, and get treated (Test-to-Treat site) in Maine?

Your doctor can prescribe medication for COVID-19. Additionally, anyone in Maine can go to any of the following locations to get tested, be seen by a medical provider, and get treated.

All sites are open to the public.

Find a provider nearest you and contact that location for more information before going to any of these locations.

If you need assistance finding a provider, call 1-888-445-4111.

Most medications are provided free of charge; but you may be asked for insurance information.

Provider	Address	Contact Info
Bridgton Hospital	10 Hospital Drive, Bridgton	207-330-7352
Cary Medical Center	163 Van Buren Rd, Caribou ME 04736	207-498-3111
Central Maine Medical Center	300 Main Street, Lewiston, ME 04240	207-330-7352
ConvenientMD Urgent Care Bangor	543 Broadway, Bangor, ME 04401	207-922-1300 More info
ConvenientMD Urgent Care Brunswick	193 Bath Road, Brunswick, ME 4011	207-424-2272 More info
ConvenientMD Urgent Care Portland	191 Marginal Way, Portland ME 04101	207-517-3838 More info
Franklin Memorial Hospital	111 Franklin Health Commons, Farmington, ME 04938	207-778-6031
Houlton Regional Hospital	20 Hartford St, Houlton, ME 04730-1891	207-521-2118

ASPR Office of the Assistant Secretary for Preparedness & Response

English Español 简体中文

Need help finding a place to get medication? Call 1-800-232-0233 (TTY 888-720-7489)

Get medication for COVID-19

COVID-19 medications are now available through your doctor, local pharmacies, and health clinics.
If you have COVID-19 symptoms and test positive, do not wait to get treated.
You must take oral COVID-19 medication within 5 days of your first COVID-19 symptoms.
Use the tool below to find a location that is right for you.

Find COVID-19 Medication

Augusta, ME, USA

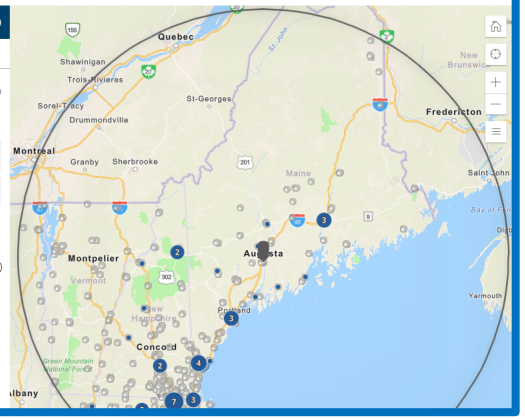
200.2 mi

0 250

Results:2068

Locations with testing, medical visits, and medication (Test-to-Treat) 101

Locations to fill a prescription 1967



How to get medication

1. Locations to get testing, medical visits, and medication (Test-to-Treat)

Some pharmacy clinics and health centers can prescribe and give you medication at the same location.

Learn more about the Test-to-Treat program.

2. Locations to fill a prescription

Any healthcare provider can evaluate and prescribe you COVID-19 medication just as they normally would. You can fill those prescriptions at any location in this tool.

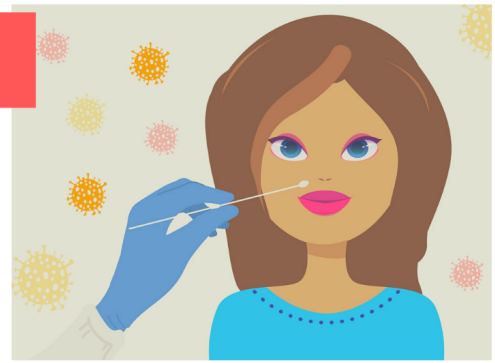
DON'T DELAY: TEST EARLY, TREAT EARLY

KNOW YOUR RISK.

If you are at high risk for severe illness from COVID-19, know how to access treatment quickly. It could save your life.

GET TESTED.

Feeling unwell or have COVID-19 symptoms? TEST EARLY. If you test positive and have symptoms you may be eligible for treatment.



GET TREATED.

If you test positive and have symptoms, EARLY TREATMENT IS CRITICAL, even when symptoms are mild.

Sites across Maine offer testing. assesment, and treatment. Others sites offer access to medicine if you already have a prescription from your doctor.

For more info & to find treatment:
https://www.maine.gov/covid19/treatment
Source: Maine CDC

DON'T DELAY: TEST EARLY, TREAT EARLY

WHO IS CONSIDERED HIGH RISK?

Adults over 50 years old, anyone who is unvaccinated, and anyone of any age with one or more of the following conditions:

- Cancer
- Chronic kidney disease
- Chronic liver disease
- Chronic lung diseases
- Cystic fibrosis
- Dementia or other neurological conditions
- Diabetes (Types 1 & 2)
- Disabilities
- Heart conditions
- HIV Infection
- Immunocompromised state
- Mental health conditions
- Overweight and obesity
- Physical inactivity
- Pregnancy
- Sickle cell disease or thalassemia
- Smoking, current or former
- Solid organ or blood stem transplant
- Stroke or cerebrovascular disease
- Substance use disorders
- Tuberculosis

WHAT SHOULD YOU DO IF YOU TEST POSITIVE FOR COVID-19?

Seek treatment promptly.

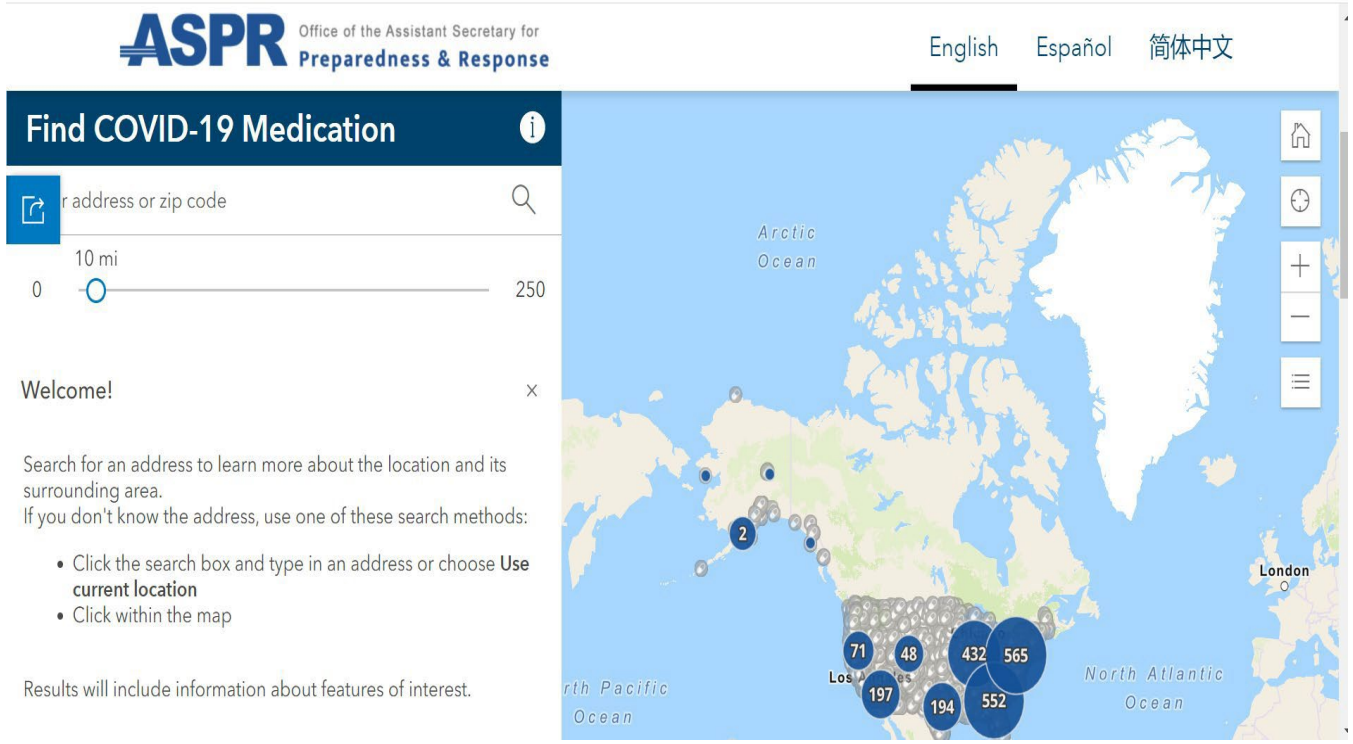
Find a location:
maine.gov/covid19/treatment

Source: Maine CDC.

https://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/coronavirus/providers.shtml

Test to Treat Locator

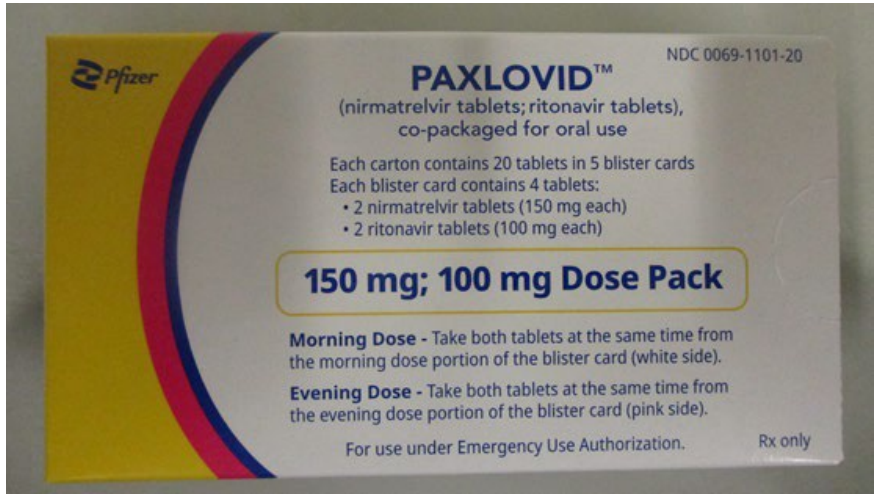
- Test to Treat site locator launched 3/30
- Identifies all Test to Treat program sites (including those identified by state/territorial health departments
- Call center also available: 1-800-232-0233 (TTY 1-888-720-7489) to get help in English, Spanish, and more than 150 other languages – 8am to 12 midnight ET, 7 days a week
- Disability Information and Access Line (DIAL) also available to specifically help those with disabilities access services. 1-888-677-1199, Monday-Friday from 9 am to 8:00 pm ET or email DIAL@usaginganddisability.org (https://acl.gov/DIAL)



https://covid-19-test-to-treat-locator-dhhs.hub.arcgis.com/

COVID-19 Treatments: Paxlovid

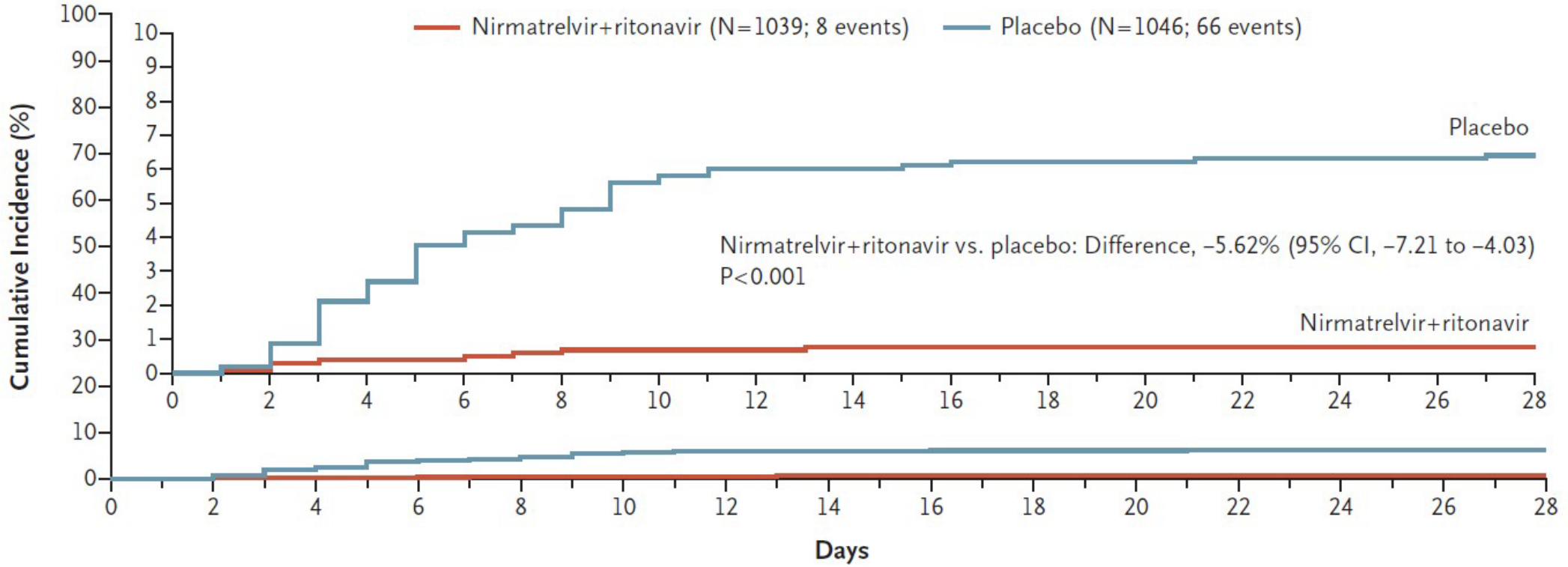
Paxlovid (nirmatrelvir and ritonavir) – Pfizer
Oral Antiviral



[Paxlovid Product Information](https://www.pfizer.com/products/product-detail/paxlovidtm)
https://www.pfizer.com/products/product-detail/paxlovidtm

Oral Nirmatrelvir for High-Risk, Nonhospitalized Adults with Covid-19

B **Covid-19–Related Hospitalization or Death from Any Cause through Day 28 among Patients Treated ≤5 Days after Symptom Onset**



No. at Risk

NMV-r	1039	1034	1023	1013	1007	1004	1002	1000	997	995	993	993	993	993	992
Placebo	1046	1042	1015	990	977	963	959	959	955	953	951	948	948	948	945

DOI: 10.1056/NEJMoa2118542

Paxlovid Authorization

- FDA has issued an EUA for the treatment of mild to moderate COVID-19 in adults (12 years of age and older weighing more than 40 kg) who are at high risk for progression to severe COVID-19, including hospitalization and death, as soon as possible after diagnosis of COVID-19 and within 5 days of symptom onset.
- Paxlovid includes: nirmatrelvir (a SARS-CoV-2 main proteases inhibitor) and ritonavir (a CYP34A inhibitor).
- Limitations of authorized use:
  - Not authorized for initiation of treatment in patients requiring hospitalization due to severe or critical COVID-19.
  - Not authorized for PrEP or PEP for prevention of COVID-19.
  - Not authorized for use longer than 5 consecutive days.
- Paxlovid may only be prescribed for an individual patient by physicians, advanced practice registered nurses, and physician assistants that are licensed or authorized under state law to prescribe drugs in the therapeutic class to which Paxlovid belongs (i.e., anti-infectives).

Fact Sheet for Healthcare Providers Emergency Use Authorization of Paxlovid (https://www.fda.gov/media/155050/download)

Paxlovid

Dosage and Administration

- **eGFR 60 or greater**: 300 mg nirmatrelvir (two 150 mg tablets) with 100 mg ritonavir (one 100 mg tablet) taken together twice daily for 5 days.
- **eGFR ≥30 mL/min to <60 mL/min:** 150 mg nirmatrelvir (one 150 mg tablet) with 100 mg ritonavir (one 100 mg tablet) taken together twice daily for 5 days.
- **eGFR <30 mL/min:** Currently not recommended

Contraindications and Precautions

- History of clinically significant hypersensitivity reactions to the active ingredients or any other components.
- Co-administration with drugs highly dependent on CYP3A for clearance may result in life-threatening reactions[1].
- Co-administration with potent CYP3A inducers may result in reduced nirmatrelvir plasma concentrations and potential loss of virologic response.
- The concomitant use of Paxlovid and certain other drugs may result in potentially significant drug interactions.
- Hepatic transaminase elevations, clinical hepatitis, and jaundice have occurred in patients receiving ritonavir.
- Paxlovid use may lead to a risk of HIV-1 developing resistance to HIV protease inhibitors in individuals with uncontrolled or undiagnosed HIV-1 infection.

[1]Liverpool Covid-19 interaction checker https://covid19-druginteractions.org /

Fact Sheet for Healthcare Providers: Emergency Use Authorization For Paxlovid.

(https://www.fda.gov/media/155050/download)

Paxlovid™ Provider Checklist

- ❑ Positive SARS-CoV-2 test
- ❑ Age ≥12 years
- ❑ Weight ≥40 kg
- ❑ High-risk criteria met
- ❑ Symptoms consistent with mild-moderate COVID-19
- ❑ Symptom onset with **5 days***
- ❑ Not hospitalized due to COVID-19
- ❑ If clinically indicated, assess patient renal function
  - eGFR ≥60 mL/min, standard dosing
  - eGFR ≥30 to <60 mL/min, dose modification
  - eGFR <30 mL/min, not recommended
- ❑ If clinically indicated, assess patient hepatic function
  - Child-Pugh Class C, contraindicated
- ❑ **Assess patient's home medication list for drug-drug interactions**
  - See next slide for more detail

*Prescriber is encouraged to include a note to the pharmacist in the prescription stating:
Please fill prescription by_____[insert date]_____. This prescription fill by date is within 5 days from symptom onset and complies with the patient eligibility criteria under the EUA.

Paxlovid™ Contraindications*

Hypersensitivity Reactions	• History of clinically significant hypersensitivity reactions (e.g., TEN, SJS) to its active ingredients (nirmatrelvir or ritonavir) or any other components of the product
Drugs highly dependent on CYP3A4 for clearance and for which elevated concentrations are associated with severe/life-threatening reactions*	• Alpha1-adrenoreceptor antagonists: alfuzosin • Analgesics: pethidone, 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 PAH • Sedative/hypnotics: triazolam, oral midazolam
Drugs that are potent CYP3A inducers where significantly reduced nirmatrelvir or ritonavir concentrations may be associated with loss of virologic response or resistance*	• Anticancer drugs: apalutamide • Anticonvulsant:: carbamazepaine, phenobarbital., phenytoin • Antimycobacterials: rifampin • Herbal product: St John's Wort (*hypericum perforatum)*

***NOT COMPLETE LIST OF ALL DDI's. ALWAYS USE CLINICAL TOOLS/DDI CHECKER AND USE CLINICAL JUDGMENT** https://covid19-druginteractions.org/view_all_interactions
For additional information see: NIH COVID-19 Treatment Guidelines Panel's Statement on Paxlovid Drug-Drug Interactions
(https://www.covid19treatmentguidelines.nih.gov/therapies/statement-on-paxlovid-drug-drug-interactions/)

Paxlovid provider fact sheet: https://www.fda.gov/media/155050/download

Paxlovid™ Renal Adjustment Instructions for Pharmacists

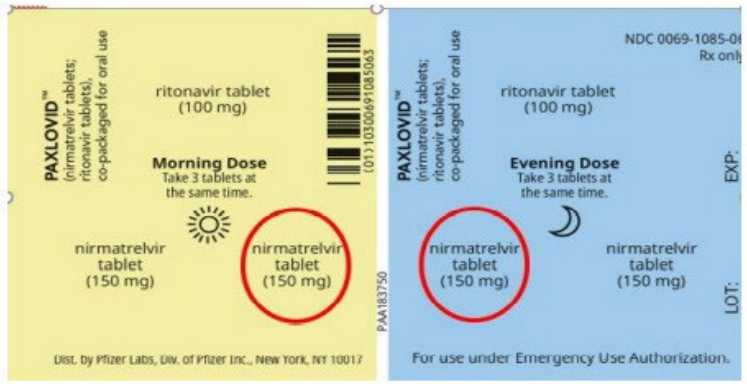


Figure 1: Remove the nirmatrelvir tablets circled in red from the blister card

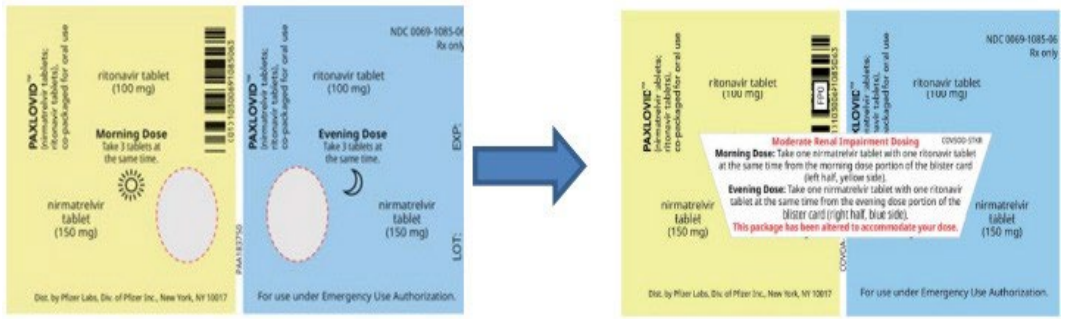


Figure 2: Placement of sticker over empty blister cavities and pre-printed dosing instruction after removal of nirmatrelvir tablets

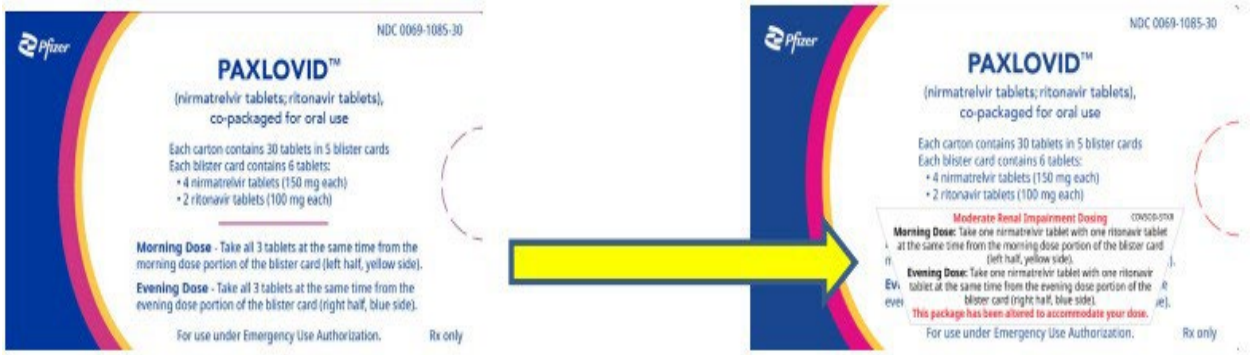


Figure 3: Placement of sticker over pre-printed dosing regimen on carton

Pharmacist Instruction Sheet: https://www.covid19oralrx-hcp.com/files/Clean_EUA-105-mitigation-plan-for-moderate-renal-impairment-01-11-22.pdf

Paxlovid (nirmatrelvir and ritonavir) Authorization

- FDA has issued an EUA for the treatment of mild-to-moderate coronavirus disease (COVID-19) in adults (12 years of age and older weighing more than 40 kg) who are at high risk for progression to severe COVID-19, including hospitalization and death, as soon as possible after diagnosis of COVID-19 and **within 5 days** of symptom onset.
- Paxlovid includes: nirmatrelvir (a SARS-CoV-2 main proteases inhibitor) and ritonavir (a CYP34A inhibitor)
- Limitations of authorized use:
  - Not authorized for initiation of treatment in patients requiring hospitalization due to severe or critical COVID-19
  - Paxlovid is not authorized for pre-exposure or post-exposure prophylaxis for prevention of COVID-19
  - Not authorized for use longer than 5 consecutive days

For more information, Fact Sheet for Healthcare Providers for Paxlovid (nirmatrelvir and ritonavir)

Paxlovid (nirmatrelvir and ritonavir)

Dosage and Administration

- **eGFR ≥ 60 mL/min**: 300 mg nirmatrelvir (two 150 mg tablets) with 100 mg ritonavir (one 100 mg tablet) taken together twice daily for 5 days.
- **Dose reduction for moderate renal impairment eGFR ≥ 30 mL/min to < 60 mL/min:** 150 mg nirmatrelvir (one 150 mg tablet) with 100 mg ritonavir (one 100 mg tablet) taken together twice daily for 5 days.
- **eGFR <30 mL/min:** currently not recommended
- **Severe hepatic impairment (Child-Pugh Class C):** currently not recommended

Contraindications and Precautions

- History of clinically significant hypersensitivity reactions to the active ingredients or any other components.
- Co-administration with drugs highly dependent on CYP3A for clearance may result in life-threatening reactions[1].
- Co-administration with potent CYP3A inducers may result in reduced nirmatrelvir plasma concentrations and potential loss of virologic response.
- The concomitant use of Paxlovid (nirmatrelvir and ritonavir) and certain other drugs may result in potentially significant drug interactions.
- Hepatic transaminase elevations, clinical hepatitis, and jaundice have occurred in patients receiving ritonavir.
- Paxlovid (nirmatrelvir and ritonavir) use may lead to a risk of HIV-1 developing resistance to HIV protease inhibitors in individuals with uncontrolled or undiagnosed HIV-1 infection.

[1] Liverpool Covid-19 interaction checker

For more information, Fact Sheet for Healthcare Providers for Paxlovid (nirmatrelvir and ritonavir)

Paxlovid (nirmatrelvir and ritonavir) Effectiveness

Real-world studies have consistently demonstrated that Paxlovid is effective in preventing hospitalizations and deaths.

- Study of 2,504 patients over 65 treated with Paxlovid in Israel (Arbel et al. 2022).
  - **67% reduction in hospitalizations and 81% reduction in deaths compared to the untreated.**

- Study of 6,036 patients over 50 treated with Paxlovid in MA (Dryden-Peterson et al. 2022).
  - **45% reduction in hospitalization and greater reductions for obese or unvaccinated patients.**

- Study of 5,663 adult outpatients treated with Paxlovid during a BA.2 wave in Hong Kong (Wong et al. 2022).
  - **31% reduction in hospitalization and 75% reduction in death compared to non-users.**

- Study of 890 adult inpatients treated with Paxlovid during a BA.2 wave in Hong Kong (Wong et al. 2022).
  - **43% reduction in disease progression and 66% reduction in death compared to non-users.**

Paxlovid (nirmatrelvir and ritonavir) Patient Eligibility Screening Checklist Tool for Prescribers

Medical History

- ☐ Positive SARS-CoV-2 test
- ☐ Age ≥ 12 years of age and weighing at least 40 kg
- ☐ Has one or more risk factors for progression to severe COVID-19
- ☐ Symptoms consistent with mild to moderate COVID-19
- ☐ Symptom onset within 5 days
- ☐ Not requiring hospitalization due to severe or critical COVID-19 at treatment initiation
- ☐ No known or suspected severe renal impairment (eGFR < 30 mL/min)
  - Note that a dose reduction is required for patients with moderate renal impairment (eGFR ≥30-<60 mL/min); see the Fact Sheet for Healthcare Providers.
  - To assess renal function:
    - Physicians, advanced practice registered nurses, and physician assistants who are licensed or authorized under state law to prescribe drugs may rely on patient history and access to the patient's health records to make an assessment regarding the likelihood of renal impairment. Providers may consider ordering a serum creatinine or calculating the estimated glomerular filtration rate (eGFR) for certain patients after assessment on a case-by-case basis based on history or exam.
    - State-licensed pharmacists must have sufficient information available, such as through access to health records less than 12 months old or consultation with a health care provider in an established provider-patient relationship with the individual patient; see the Fact Sheet for Healthcare Providers.

Paxlovid (nirmatrelvir and ritonavir) Patient Eligibility Screening Checklist Tool for Prescribers (*continued*)

Medical History continued

☐ No known or suspected severe hepatic impairment (Child-Pugh Class C)

- To assess hepatic impairment:
  - Physicians, advanced practice registered nurses, and physician assistants who are licensed or authorized under state law to prescribe drugs may rely on patient history and access to the patient's health records to make an assessment regarding the likelihood of hepatic impairment.
  - State-licensed pharmacists must have sufficient information available, such as through access to health records less than 12 months old or consultation with a health care provider in an established provider-patient relationship with the individual patient; see the Fact Sheet for Healthcare Providers.

Concomitant Medications

NOTE: The state-licensed pharmacist should refer an individual patient for clinical evaluation (e.g., telehealth, in-person visit) with a physician, advanced practice registered nurse, or physician assistant licensed or authorized under state law to prescribe drugs, if:

- Sufficient information is not available to assess for a potential drug interaction
- Modification of other medications is needed due to a potential drug interaction.
- PAXLOVID is not an appropriate therapeutic option based on the authorized Fact Sheet for Healthcare Providers or due to potential drug interactions for which recommended monitoring would not be feasible.

See the Fact Sheet for Healthcare Providers for Paxlovid (nirmatrelvir and ritonavir) for the full Limitations of Authorized Use
See table in Paxlovid Patient Eligibility Screening Checklist Tool for Prescribers https://www.fda.gov/media/158165/download

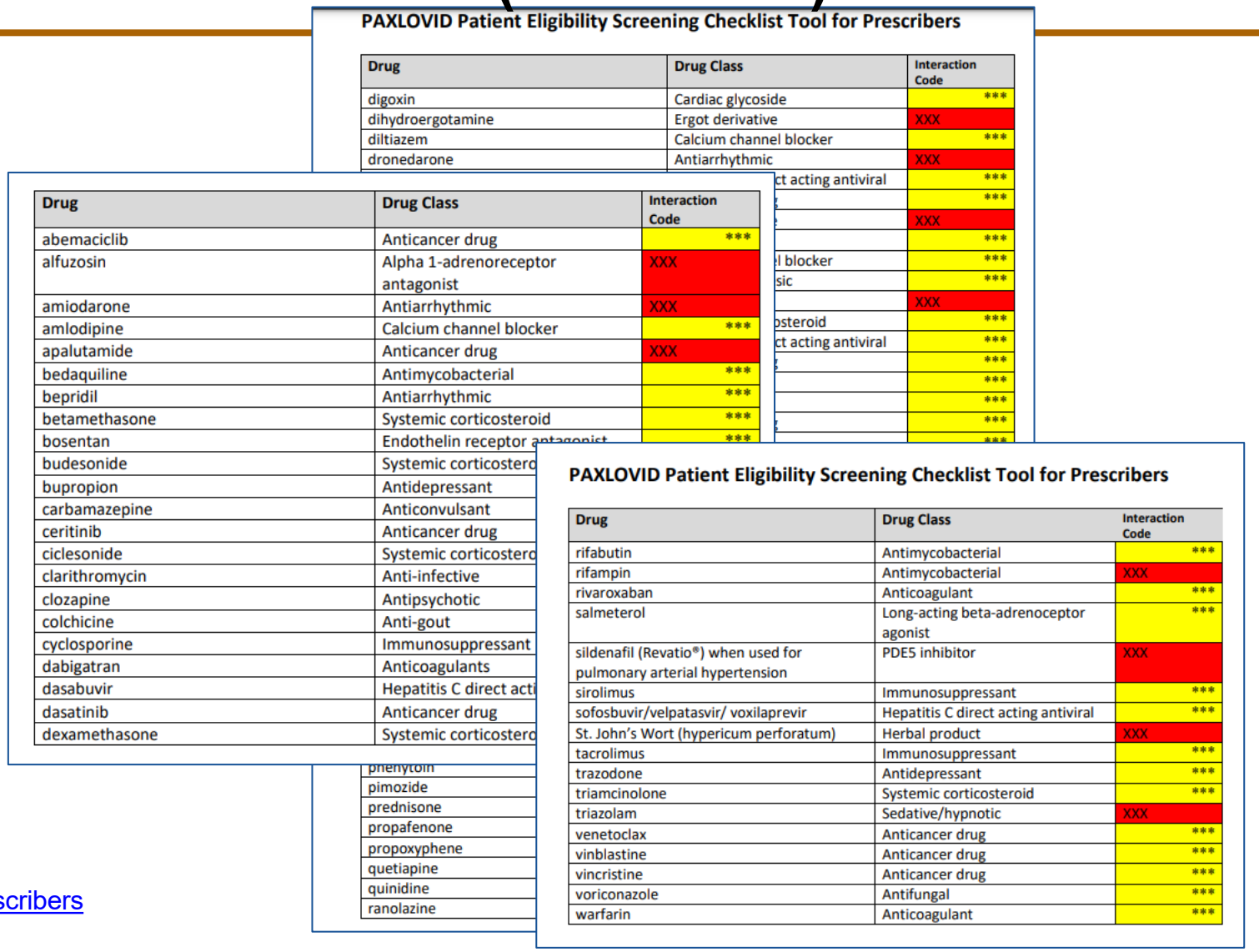
Paxlovid (nirmatrelvir and ritonavir) Patient Eligibility Screening Checklist Tool for Prescribers (*continued*)

PAXLOVID Patient Eligibility Screening Checklist Tool for Prescribers

Other Drugs with Established and Other Potentially Significant Drug Interactions with PAXLOVID (listed alphabetically by generic name)

Interaction Codes:

XXX	Coadministration of this drug with PAXLOVID is CONTRAINDICATED. For further information, refer to the Fact Sheet for Healthcare Providers and the individual Prescribing Information for the drug.
***	Coadministration of this drug with PAXLOVID should be avoided and/or holding of this drug, dose adjustment of this drug, or special monitoring is necessary. Consultation with the prescriber of the potentially interacting drug is recommended. For further information, refer to the Health Care Provider Fact Sheet and the individual Prescribing Information for the drug.



PAXLOVID Patient Eligibility Screening Checklist Tool for Prescribers

Drug	Drug Class	Interaction Code
digoxin	Cardiac glycoside	***
dihydroergotamine	Ergot derivative	XXX
diltiazem	Calcium channel blocker	***
dronedarone	Antiarrhythmic	XXX
		***
		***
		XXX
		***
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phenytoin		
pimozide		
prednisone		
propafenone		
propoxyphene		
quetiapine		
quinidine		
ranolazine		

Drug	Drug Class	Interaction Code
abemaciclib	Anticancer drug	***
alfuzosin	Alpha 1-adrenoreceptor antagonist	XXX
amiodarone	Antiarrhythmic	XXX
amlodipine	Calcium channel blocker	***
apalutamide	Anticancer drug	XXX
bedaquiline	Antimycobacterial	***
bepridil	Antiarrhythmic	***
betamethasone	Systemic corticosteroid	***
bosentan	Endothelin receptor antagonist	***
budesonide	Systemic corticosteroid	
bupropion	Antidepressant	
carbamazepine	Anticonvulsant	
ceritinib	Anticancer drug	
ciclesonide	Systemic corticosteroid	
clarithromycin	Anti-infective	
clozapine	Antipsychotic	
colchicine	Anti-gout	
cyclosporine	Immunosuppressant	
dabigatran	Anticoagulants	
dasabuvir	Hepatitis C direct acti	
dasatinib	Anticancer drug	
dexamethasone	Systemic corticosteroid	

PAXLOVID Patient Eligibility Screening Checklist Tool for Prescribers

Drug	Drug Class	Interaction Code
rifabutin	Antimycobacterial	***
rifampin	Antimycobacterial	XXX
rivaroxaban	Anticoagulant	***
salmeterol	Long-acting beta-adrenoceptor agonist	***
sildenafil (Revatio®) when used for pulmonary arterial hypertension	PDE5 inhibitor	XXX
sirolimus	Immunosuppressant	***
sofosbuvir/velpatasvir/ voxilaprevir	Hepatitis C direct acting antiviral	***
St. John's Wort (hypericum perforatum)	Herbal product	XXX
tacrolimus	Immunosuppressant	***
trazodone	Antidepressant	***
triamcinolone	Systemic corticosteroid	***
triazolam	Sedative/hypnotic	XXX
venetoclax	Anticancer drug	***
vinblastine	Anticancer drug	***
vincristine	Anticancer drug	***
voriconazole	Antifungal	***
warfarin	Anticoagulant	***

See table in Paxlovid Patient Eligibility Screening Checklist Tool for Prescribers

Paxlovid Wrong Dosing Reports

As a reminder, PAXLOVID contains two different drugs (nirmatrelvir tablets and ritonavir tablets) that are co-packaged in a daily blister card for oral use.

PAXLOVID is available in the following two packaging configurations.

1. **300 mg; 100 mg Dose Pack:** This packaging configuration should be used for patients with normal renal function or mild renal impairment (eGFR* ≥60 ml/min).

   The 300 mg; 100 mg Dose Pack is a carton containing 5 daily blister cards. Each blister card contains a daily morning dose and evening dose, with each dose consisting of **300 mg nirmatrelvir** (two oval, pink 150 mg tablets) and **100 mg ritonavir** (one white to off-white film-coated 100 mg tablet).

2. **150 mg; 100 mg Dose Pack:** This packaging configuration should be used for patients with **moderate renal impairment** (eGFR ≥30 to <60 mL/min).

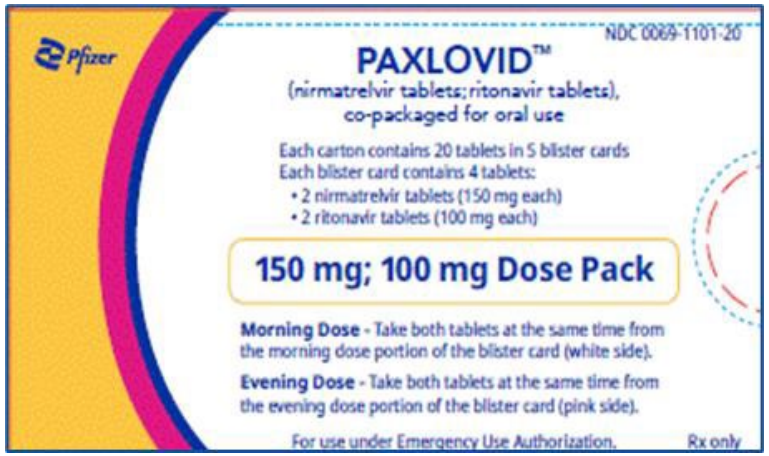
   The 150 mg; 100 mg Dose Pack is a carton containing 5 daily blister cards. Each blister card contains a daily morning dose and evening dose, with each dose consisting of **150 mg nirmatrelvir** (one oval, pink 150 mg tablet) and **100 mg ritonavir** (one white to off-white film-coated 100 mg tablet).

PAXLOVID is not recommended in patients with severe renal impairment (<30 mL/min) as the appropriate dose has not been determined.

https://www.fda.gov/media/155071/download

Paxlovid Standard

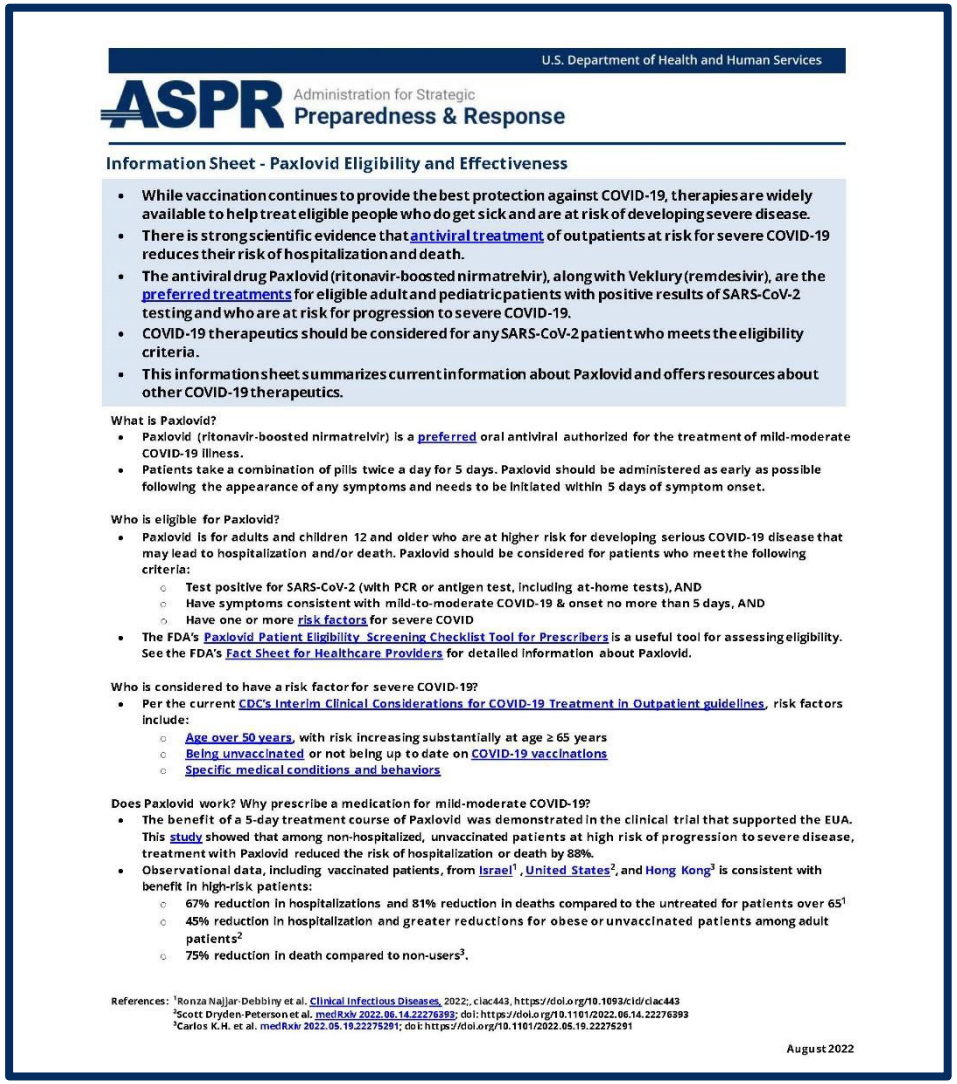
Paxlovid Renal



Paxlovid Resource!

Information Sheet for Providers

- This information sheet summarizes current information about **Paxlovid** and offers resources about other COVID-19 therapeutics.
- There is strong scientific evidence that antiviral treatment of outpatients at risk for severe COVID-19 reduces their risk of hospitalization and death.
- The antiviral drug **Paxlovid (ritonavir-boosted nirmatrelvir)**, along with Veklury (remdesivir), are the preferred treatments for eligible adult and pediatric patients with positive results of SARS-CoV-2 testing and who are at risk for progression to severe COVID-19.
- COVID-19 therapeutics should be considered for any SARS-CoV-2 patient who meets the eligibility criteria.



U.S. Department of Health and Human Services

ASPR Administration for Strategic Preparedness & Response

Information Sheet - Paxlovid Eligibility and Effectiveness

- While vaccination continues to provide the best protection against COVID-19, therapies are widely available to help treat eligible people who do get sick and are at risk of developing severe disease.
- There is strong scientific evidence that antiviral treatment of outpatients at risk for severe COVID-19 reduces their risk of hospitalization and death.
- The antiviral drug Paxlovid (ritonavir-boosted nirmatrelvir), along with Veklury (remdesivir), are the preferred treatments for eligible adult and pediatric patients with positive results of SARS-CoV-2 testing and who are at risk for progression to severe COVID-19.
- COVID-19 therapeutics should be considered for any SARS-CoV-2 patient who meets the eligibility criteria.
- This information sheet summarizes current information about Paxlovid and offers resources about other COVID-19 therapeutics.

What is Paxlovid?

- Paxlovid (ritonavir-boosted nirmatrelvir) is a preferred oral antiviral authorized for the treatment of mild-moderate COVID-19 illness.
- Patients take a combination of pills twice a day for 5 days. Paxlovid should be administered as early as possible following the appearance of any symptoms and needs to be initiated within 5 days of symptom onset.

Who is eligible for Paxlovid?

- Paxlovid is for adults and children 12 and older who are at higher risk for developing serious COVID-19 disease that may lead to hospitalization and/or death. Paxlovid should be considered for patients who meet the following criteria:
  - Test positive for SARS-CoV-2 (with PCR or antigen test, including at-home tests), AND
  - Have symptoms consistent with mild-to-moderate COVID-19 & onset no more than 5 days, AND
  - Have one or more risk factors for severe COVID
- The FDA's Paxlovid Patient Eligibility Screening Checklist Tool for Prescribers is a useful tool for assessing eligibility. See the FDA's Fact Sheet for Healthcare Providers for detailed information about Paxlovid.

Who is considered to have a risk factor for severe COVID-19?

- Per the current CDC's Interim Clinical Considerations for COVID-19 Treatment in Outpatient guidelines, risk factors include:
  - Age over 50 years, with risk increasing substantially at age ≥ 65 years
  - Being unvaccinated or not being up to date on COVID-19 vaccinations
  - Specific medical conditions and behaviors

Does Paxlovid work? Why prescribe a medication for mild-moderate COVID-19?

- The benefit of a 5-day treatment course of Paxlovid was demonstrated in the clinical trial that supported the EUA. This study showed that among non-hospitalized, unvaccinated patients at high risk of progression to severe disease, treatment with Paxlovid reduced the risk of hospitalization or death by 88%.
- Observational data, including vaccinated patients, from Israel[1], United States[2], and Hong Kong[3] is consistent with benefit in high-risk patients:
  - 67% reduction in hospitalizations and 81% reduction in deaths compared to the untreated for patients over 65[1]
  - 45% reduction in hospitalization and greater reductions for obese or unvaccinated patients among adult patients[2]
  - 75% reduction in death compared to non-users[3].

References: [1]Ronza Najjar-Debbiny et al. Clinical Infectious Diseases, 2022;, ciac443, https://doi.org/10.1093/cid/ciac443
[2]Scott Dryden-Peterson et al. medRxiv 2022.06.14.22276393; doi: https://doi.org/10.1101/2022.06.14.22276393
[3]Carlos K.H. et al. medRxiv 2022.05.19.22275291; doi: https://doi.org/10.1101/2022.05.19.22275291

August 2022

CDC Health Advisory
COVID-19 Rebound After Paxlovid Treatment

- The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory to update healthcare providers, public health departments, and the public on the potential for recurrence of COVID-19 or "COVID-19 rebound."

- **Paxlovid continues to be recommended for early-stage treatment of mild to moderate COVID-19 among persons at high risk for progression to severe disease**.
- Paxlovid treatment helps prevent hospitalization and death due to COVID-19. COVID-19 rebound has been reported to occur between 2 and 8 days after initial recovery and is characterized by a recurrence of COVID-19 symptoms or a new positive viral test after having tested negative.
- **A brief return of symptoms may be part of the natural history of SARS-CoV-2 (the virus that causes COVID-19) infection in some persons, independent of treatment with Paxlovid and regardless of vaccination status**.
- Limited information currently available from case reports suggests that persons treated with Paxlovid who experience COVID-19 rebound have had mild illness; there are no reports of severe disease.

COVID-19 Rebound After Paxlovid Treatment (cdc.gov)

Paxlovid prescription best practices

- **Essential elements of a Paxlovid prescription**
  - **Numeric dose of each active ingredient within PAXLOVID**
  - **Dispense-by date (i.e., within 5 days of symptom onset)**
  - ***Optional:* Renal function**
  - ***Optional:* Medication list reviewed/reconciled**

- *Prescribers writing prescriptions for Paxlovid should include the dispense-by date (i.e., within 5 days of the symptom onset date) and are encouraged to include information about the patient's renal function and a statement that the patient's medication list has been reviewed/reconciled. For further information, refer to FDA's PAXLOVID Patient Eligibility Screening Checklist Tool for Prescribers (https://www.fda.gov/media/158165/download).*

Paxlovid™ Product Information

- FDA Fact Sheets
  - Paxlovid provider fact sheet: https://www.fda.gov/media/155050/download
  - Paxlovid patient fact sheet: https://www.fda.gov/media/155051/download
  - Paxlovid patient fact sheet (Spanish): https://www.fda.gov/media/155075/download

- Manufacturer's Resources:
  - Website for Healthcare Providers: https://www.covid19oralrx-hcp.com/
  - Website for Patients: https://www.covid19oralrx-patient.com/
  - Pharmacist Instruction Sheet: https://www.covid19oralrx-hcp.com/files/Clean_EUA-105-mitigation-plan-for-moderate-renal-impairment-01-11-22.pdf

- Additional Resources:
  - NIH COVID-19 Treatment Guidelines Panel's Statement on Therapies for High-Risk, Nonhospitalized Patients https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/nonhospitalized-adults--therapeutic-management/
  - COVID-19 Therapeutics Locator: https://covid-19-therapeutics-locator-dhhs.hub.arcgis.com/
  - FDA MedWatch: https://www.fda.gov/medwatch/report.htm
  - Safety Reporting: http://www.pfizersafetyreporting.com/
  - Module 5 Oral Therapeutics Administration

Related Resources: Paxlovid

Additional Paxlovid Prescribing Resources

- New! HHS Information Sheet for Providers – Paxlovid
- FDA Paxlovid Patient Eligibility Screening Checklist for Providers
- University of Liverpool COVID-19 Drug Interactions
- FDA PAXLOVID Patient Eligibility Screening Checklist Tool for Prescribers
- Pfizer
- NIH COVID-19 Treatment Guidelines - Ritonavir-Boosted Nirmatrelvir (Paxlovid)
- CDC/IDSA COVID-19 Clinician Call: All About Paxlovid; Plus Variants Update
- Paxlovid Potential Drug-Drug Interactions Resource (Pfizer)

COVID-19 Treatments: Lagevrio (molnupiravir)

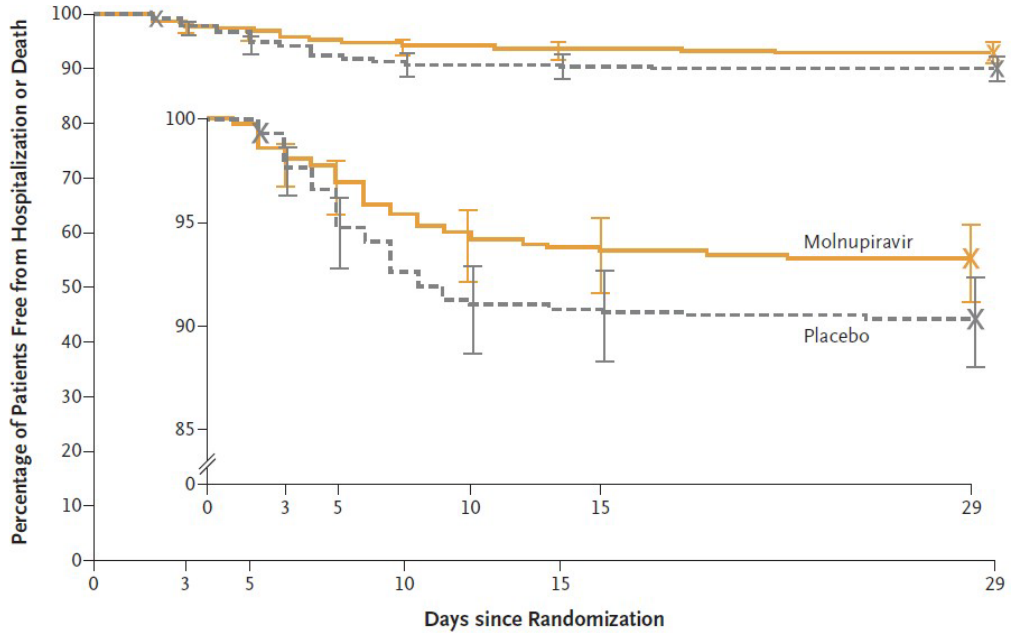
Lagevrio (molnupiravir) – Merck
Oral Antiviral

Lagevrio™
molnupiravir 200 mg capsules

[Lagevrio (molnupiravir) Product Information]
https://www.molnupiravir-us.com/

Molnupiravir for Oral Treatment of COVID-19 in Nonhospitalized Patients

A. Jayk Bernal, M.M. Gomes da Silva, D.B. Musungaie, E. Kovalchuk, A. Gonzalez, V. Delos Reyes, A. Martin-Quiros, Y. Caraco, A. Williams-Diaz, M.L. Brown, J. Du, A. Pedley, C. Assaid, J. Strizki, J.A. Grobler, H.H. Shamsuddin, R. Tipping, H. Wan, A. Paschke, J.R. Butterton, M.G.Johnson, and C. De Anda, for the MOVe-OUT Study Group*



No. at Risk						
Molnupiravir	709	699	693	670	665	661
Placebo	699	693	674	637	634	631
No. of Events						
Molnupiravir	10	6	23	5	4	0
Placebo	5	19	37	3	3	0

N Engl J Med 2022;386:509-20.
DOI: 10.1056/NEJMoa2116044

Lagevrio (molnupiravir) Authorization

- Lagevrio (molnupiravir) has been authorized by FDA under an EUA, for the treatment of mild-to-moderate COVID-19 in adults with positive results of direct SARS-CoV-2 viral testing who are at high-risk for progression to severe COVID-19, including hospitalization or death, and for whom alternative COVID-19 outpatient treatment options approved or authorized by FDA are not accessible or clinically appropriate.
- Not authorized for:
  - Patients less than 18 years of age
  - Initiation of treatment in patients requiring hospitalization due to COVID-19
  - Use longer than 5 consecutive days
- Lagevrio (molnupiravir) may only be prescribed for an individual patient by physicians, advanced practice registered nurses, and physician assistants that are licensed or authorized under state law to prescribe drugs in the therapeutic class to which Lagevrio (molnupiravir) belongs (i.e., anti-infectives).

For more information, FDA Lagevrio Fact Sheet for Providers

Lagevrio (molnupiravir) Authorization

----------DRUG INTERACTIONS----------

- No drug interactions have been identified based on the limited available data on the emergency use of LAGEVRIO authorized under this EUA. (7)

----------USE IN SPECIFIC POPULATIONS----------

- Pregnancy: The use of LAGEVRIO is not recommended during pregnancy. Advise individuals of childbearing potential to use effective contraception correctly and consistently, as applicable, for the duration of treatment and for 4 days after the last dose of LAGEVRIO. (8.1, 8.3)
- Lactation: Breastfeeding is not recommended during treatment and for 4 days after the last dose of LAGEVRIO. A lactating individual may consider interrupting breastfeeding and may consider pumping and discarding breast milk during treatment and for 4 days after the last dose of LAGEVRIO. (8.2)

For more information, Fact Sheet for Healthcare Providers for Lagevrio (molnupiravir)

Molnupiravir

Dosage and Administration

- **800 mg** (**four 200 mg** capsules) taken orally every 12 hours for 5 days, with or without food.
- Not authorized for use for longer than 5 consecutive days.

Contraindications and Precautions

- No contraindications have been identified based on the limited available data on the emergency use of molnupiravir authorized under this EUA.
- Not recommended for use during pregnancy and not authorized for use in patients under 18 years of age.

For more information, see *Fact Sheet for Healthcare Providers: Emergency Use Authorization For Molnupiravir*.
https://www.fda.gov/media/155054/download

Lagevrio (molnupiravir) Provider Checklist

- ❑ Positive SARS-CoV-2 test
- ❑ Age ≥18 years
- ❑ Alternate COVID-19 treatment options authorized by FDA are not accessible or clinically appropriate
- ❑ High-risk criteria met
- ❑ Symptoms consistent with mild-moderate COVID-19
- ❑ Symptom onset with **5 days***
- ❑ Not hospitalized due to COVID-19
- ❑ Assessment pregnancy and breastfeeding status (if applicable)
- ❑ Provide appropriate counseling
  - Females of childbearing potential treated: should use a reliable method of contraception correctly and consistently, as applicable, for the *duration of treatment and for **4 days** after the last dose of Lagevrio (molnupiravir)*
  - Breastfeeding is not recommended for the *duration of treatment and for **4 days** after the last dose of Lagevrio (molnupiravir)*
  - Males of reproductive potential treated: if sexually active with females of childbearing potential, should use a reliable method of contraception correctly and consistently *during treatment and for at least 3 months after the last dose of Lagevrio (molnupiravir)*

*Prescriber is encouraged to include a note to the pharmacist in the prescription stating:

Please fill prescription by _____[insert date]_____. This prescription fill by date is within 5 days from symptom onset and complies with the patient eligibility criteria under the EUA.

Lagevrio (molnupiravir) Prescriber Requirements

All Patients

1. Provide electronic or hard copy of patient fact sheet
2. Document* that patient has received an electronic or hard copy of the patient fact sheet
3. Review the information contained within the patient factsheet with the patient and counsel patient on the known and potential benefits and risks of Lagevrio (molnupiravir)
4. Advise patients on need for contraception use as appropriate
   - Females of childbearing potential treated: should use a reliable method of contraception correctly and consistently, as applicable, for the *duration of treatment and for **4 days** after the last dose of Lagevrio (molnupiravir)*
   - Breastfeeding is not recommended for the *duration of treatment and for **4 days** after the last dose of Lagevrio (molnupiravir)*
   - Males of reproductive potential treated: if sexually active with females of childbearing potential, should use a reliable method of contraception correctly and consistently *during treatment and for at least **3 months** after the last dose of Lagevrio (molnupiravir)*
5. The prescribing healthcare provider and/or the provider's designee must report all medication errors and serious adverse events potentially related to Lagevrio (molnupiravir) within 7 calendar days from the healthcare provider's awareness of the event
   - Complete and submit the report online: www.fda.gov/medwatch/report.htm
     https://www.fda.gov/safety/medwatch-fda-safety-information-and-adverse-event-reporting-program

***How and where documentation occurs is at the discretion of the prescribing health care provider and their clinical site.**

Molnupiravir Product Information

- FDA Fact Sheets
  - molnupiravir provider fact sheet: https://www.fda.gov/media/155054/download
  - molnupiravir patient fact sheet: https://www.fda.gov/media/155055/download
  - molnupiravir patient fact sheet (Spanish): https://www.fda.gov/media/155115/download

- Manufacturer's Resources:
  - Website for Healthcare Providers: https://www.molnupiravir-us.com/hcp/
  - Website for Patients: https://www.molnupiravir-us.com/patients/
  - Report a Pregnancy Exposure: https://pregnancyreporting.msd.com/

- Additional Resources:
  - NIH COVID-19 Treatment Guidelines Panel's Statement on Therapies for High-Risk, Nonhospitalized Patients https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/nonhospitalized-adults--therapeutic-management/
  - COVID-19 Therapeutics Locator: https://covid-19-therapeutics-locator-dhhs.hub.arcgis.com/
  - FDA MedWatch: https://www.fda.gov/medwatch/report.htm
  - **Safety Reporting Email:** dpoc.usa@msd.com
  - Module 5 Oral Therapeutics Administration

Update to Fact Sheet: Lagevrio (molnupiravir)

- **August 5, 2022:** FDA updated Lagevrio Fact Sheet
- Updated Section - Microbiology (Section 12.4)
  - Addition of viral RNA rebound
  - Viral RNA Rebound Post-treatment increases in SARS-CoV-2 RNA shedding levels (i.e., viral RNA rebound) in nasopharyngeal samples were observed on Day 10, Day 15, and/or Day 29 in a subset of LAGEVRIO and placebo recipients in the Phase 3 MOVe-OUT trial. **Approximately 1% of both LAGEVRIO and placebo recipients had evidence of recurrent COVID-19 symptoms coinciding with a rebound in viral RNA** levels in nasopharyngeal samples. Post-treatment viral RNA rebound **was not associated with the primary clinical outcome of hospitalization or death** through Day 29 following the single 5-day course of LAGEVRIO treatment. Post-treatment viral RNA rebound **also was not associated with the detection of cell culture infectious virus** in nasopharyngeal swab samples

Lagevrio (molnupiravir) Prescriber Requirements (continued)

Individuals of Childbearing Potential

1. Assess whether pregnant or not
   - Report of last menstrual period in an individual who has regular menstrual cycles, uses a reliable method of contraception correctly and consistently or has had a negative pregnancy test
   - Negative pregnancy test (recommended but not required if other criteria are not met)
2. If pregnant:
   - Counsel the patient regarding the known and potential benefits and potential risks of Lagevrio (molnupiravir) use during pregnancy
   - Document* that the patient is aware of the known and potential benefits and potential risks of Lagevrio (molnupiravir) use during pregnancy
   - Make the individual aware of the pregnancy surveillance program
   - If the pregnant individual agrees to participate in the pregnancy surveillance program and allows the prescribing healthcare provider to disclose patient specific information to Merck, the prescribing healthcare provider must provide the patient's name and contact information to Merck (at 1-877-888-4231 or pregnancyreporting.msd.com)
3. If not pregnant:
   - Make the individual and their partner aware of the pregnancy surveillance program and encourage them to participate should they become pregnant
   - Review contraception requirements per Lagevrio Providers Fact Sheet (https://www.fda.gov/media/155054/download)

***How and where documentation occurs is at the discretion of the prescribing health care provider and their clinical site.**

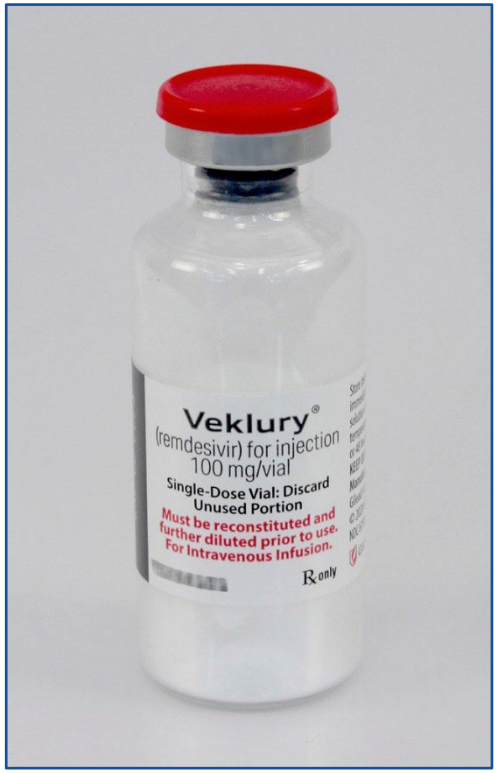
Related Resources: Lagevrio (molnupiravir)

Additional Lagevrio Prescribing Resources

- FDA Lagevrio Fact Sheet for Providers
- FDA Lagevrio Fact Sheet for Patients
- Pfizer Drug Interaction Checker
- NIH COVID-19 Treatment Guidelines – Lagevrio (molnupiravir)
- Lagevrio(molnupiravir)Product Information

COVID-19 Treatments: Remdesivir

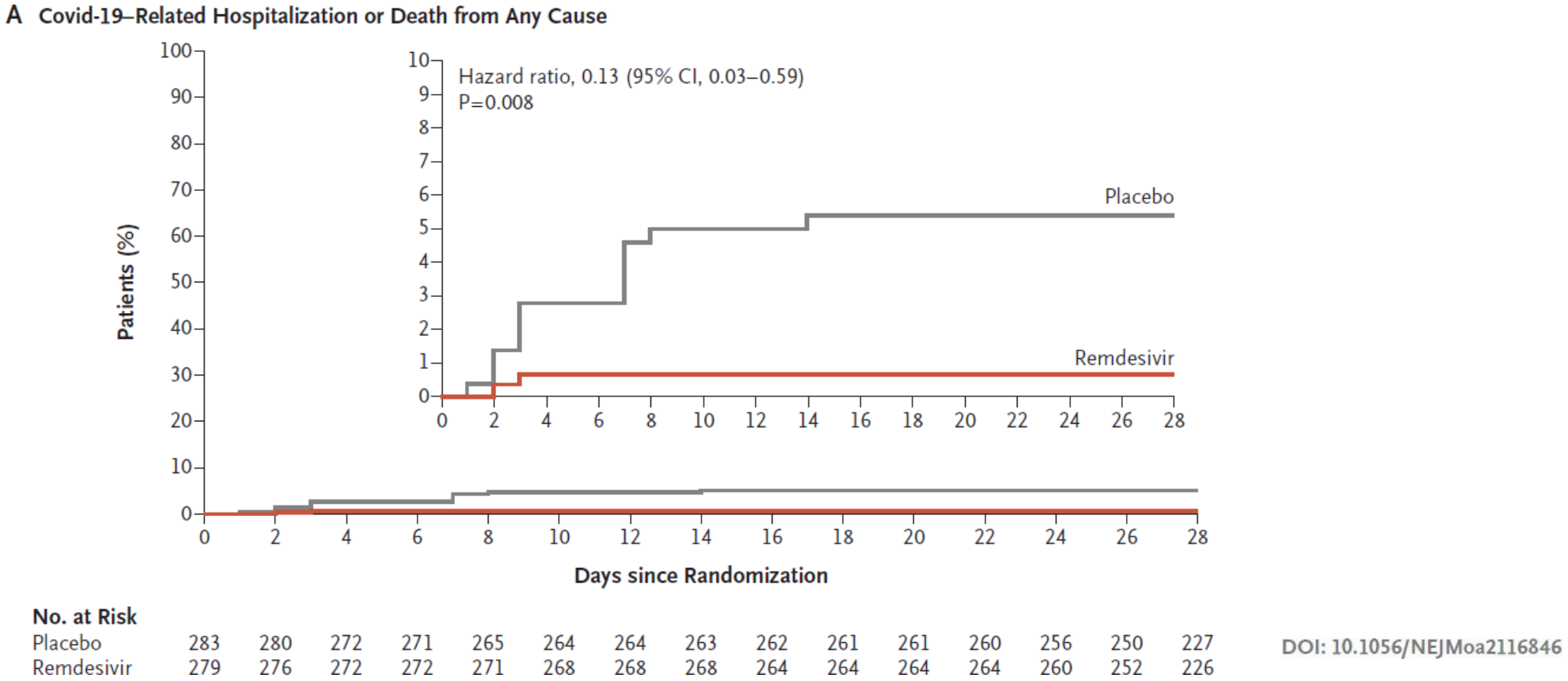
Veklury® (remdesivir) – Gilead
Antiviral for IV Infusion



Veklury Product Information
https://www.vekluryhcp.com/

Early Remdesivir to Prevent Progression to Severe COVID-19 in Outpatients

R.L. Gottlieb, C.E. Vaca, R. Paredes,J. Mera, B.J. Webb, G. Perez, G. Oguchi, P. Ryan, B.U. Nielsen, M. Brown, A. Hidalgo, Y. Sachdeva, S. Mittal, 0. Osiyemi, J. Skarbinski, K.Juneja, R.H. Hyland, A. Osinusi, S. Chen, G. Camus, M. Abdelghany, S. Davies, N. Behenna-Renton, F. Duff, F.M. Marty,* M.J. Katz, A.A. Ginde, S.M. Brown, J.T. Schiffer, and J.A. Hill, for the GS-US-540-9012 (PINETREE) Investigators†



DOI: 10.1056/NEJMoa2116846

Veklury (remdesivir) Product Information

- Prescribing Information & FDA Fact Sheets
  - Veklury (remdesivir) Prescribing Information: https://www.gilead.com/-/media/files/pdfs/medicines/covid-19/veklury/veklury_pi.pdf
  - Veklury Patient Information: https://www.gilead.com/-/media/files/pdfs/medicines/covid-19/veklury/veklury_patient_pi.pdf
- Manufacturer's Resources:
  - Website for Healthcare Providers: https://www.vekluryhcp.com/
  - Website for Patients: https://www.veklury.com/
- Safety Reporting:
  - FDA MedWatch: https://www.accessdata.fda.gov/scripts/medwatch/index.cfm
  - Safety Reporting Email: Safety_fc@gilead.com

Veklury (remdesivir) – Outpatient Use

- FDA **approved** expanded use of Veklury (remdesivir) to certain **non-hospitalized** adults and pediatric patients for treatment of mild-to-moderate COVID-19 disease (Jan 21, 2022), including:
  - Adults and pediatric patients 28 days of age and older and weighing at least 3 kg with positive results of direct SARS-CoV-2 viral testing, **AND**
  - Who are not hospitalized and have mild-to-moderate COVID-19 and are at high risk for progression to severe COVID-19, including hospitalization or death

- The treatment course of Veklury (remdesivir) should be initiated as soon as possible after diagnosis of symptomatic COVID-19 has been made and **within 7 days** of symptom onset. The recommended total duration of treatment for non-hospitalized patients is 3 days.

FDA Takes Actions to Expand Use of Treatment for Outpatients with Mild-to-Moderate COVID-19: https://www.fda.gov/news-events/press-announcements/fda-takes-actions-expand-use-treatment-outpatients-mild-moderate-covid-19
Veklury (remdesivir) Prescribing Information: https://www.gilead.com/-/media/files/pdfs/medicines/COVID-19/veklury/veklury_pi.pdf

Veklury (remdesivir)

Dosage and Administration

- Dosage:
  - For adults and pediatric patients who weight ≥ 40kg: **200 mg** on Day 1, followed by once-daily maintenance doses of **100 mg** from Day 2 administered only via intravenous infusion over 30 to 120 minutes
  - For pediatric patients 28 days of age and older and weighing 3 kg to less than 40 kg: **5 mg/kg** on Day 1 followed by **2.5 mg/kg** once daily from Day 2
- Dosage Forms:
  - For injection: **100 mg** of remdesivir as a lyophilized powder, in a single-dose vial
  - Injection: **100 mg/20 mL (5 mg/mL)** remdesivir, in a single-dose vial

Contraindications and Precautions

- Contraindications
  - History of clinically significant hypersensitivity reactions to Veklury or any components of the product
  - Hypersensitivity including infusion-related and anaphylactic reactions
  - Not recommended in patients with eGFR < 30
- Pre-administration testing
  - Before starting Veklury and during treatment as clinically appropriate, perform renal and hepatic laboratory testing
  - Assess prothrombin time before starting Veklury and monitor as clinically appropriate
- Increased risk of transaminase elevations with administration
- Risk of reduced antiviral activity when co-administered with chloroquine phosphate or hydroxychloroquine sulfate

Veklury (remdesivir) Prescribing Information: https://www.gilead.com/-/media/files/pdfs/medicines/COVID-19/veklury/veklury_pi.pdf

Veklury (remdesivir) (continued)

Contraindications and Precautions

- History of clinically significant hypersensitivity reactions to Veklury (remdesivir) or any components of the product.
- Hypersensitivity including infusion-related and anaphylactic reactions.
- Increased risk of transaminase elevations.
- Risk of reduced antiviral activity when co-administered with chloroquine phosphate or hydroxychloroquine sulfate.

Veklury (remdesivir) – Outpatient Use

- FDA **approved** expanded use of Veklury (remdesivir) to certain **non-hospitalized** adults and pediatric patients for treatment of mild to moderate COVID-19 disease (January 21, 2022), including:
  - Adults and pediatric patients (12 years of age and older who weigh at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, **AND**
  - Who are not hospitalized and have mild to moderate COVID-19 and are at high risk for progression to severe COVID-19, including hospitalization or death.
- FDA also revised EUA to authorize Veklury (remdesivir) for treatment of certain **non-hospitalized pediatric** patients:
  - Weighing 3.5 kg to less than 40 kg **OR**
  - Pediatric patients less than 12 years of age weighting at least 3.5 kg, with positive results of direct SARS-CoV-2 viral testing, **AND**
  - Who are not hospitalized and have mild to moderate COVID-19 and are at high risk for progression to severe COVID-19, including hospitalization or death.
- The treatment course of Veklury (remdesivir) should be initiated as soon as possible after diagnosis of symptomatic COVID-19 has been made and within 7 days of symptom onset. The recommended total duration of treatment for non-hospitalized patients is 3 days.

Veklury (remdesivir) Prescribing Information: https://www.gilead.com/-/media/files/pdfs/medicines/COVID-19/veklury/veklury_pi.pdf
Remdesivir Provider Fact Sheet: https://www.fda.gov/media/137566/download

Veklury (remdesivir) (continued page 2)

Dosage and Administration for Adults and Pediatric Patients (≥12 years of age and weighing at least 40 kg):

- **Dose:** 200 mg on Day 1, followed by once-daily maintenance doses of 100 mg on Days 2 and 3.
  - **Preparation:**
    - For injection: **100 mg** of Veklury (remdesivir) as a lyophilized powder, in a single-dose vial.
      - Reconstitute with 19 mL sterile water for injection and dilute in a 100 mL or 250 mL infusion bag of 0.9% sodium chloride.
    - Injection: **100 mg/20 mL (5 mg/mL)** Veklury (remdesivir), in a single-dose vial.
      - Must be diluted in a 250 mL infusion bag of 0.9% sodium chloride.
- Administer over 30 to 120 minutes.
- Monitor patients during infusion and clinically observe for 1 hour after infusion is complete for signs and symptoms of hypersensitivity.

For more information, see the *Fact Sheet for Healthcare Providers*.

Veklury (remdesivir) (continued page 3)

Pediatric Dosing and Administration:

Body weight	Recommended dosage form	Loading dose (on Day 1)	Maintenance dose (from Day 2)
3.5 kg to less than 40 kg	VEKLURY for injection, lyophilized powder Only	5 mg/kg	2.5 mg/kg
40 kg and higher		200 mg	100 mg

- Lyophilized powder: **100 mg** of Veklury (remdesivir) reconstituted with 19 mL of Sterile Water for injection.
- Further dilute to a concentration of 1.25 mg/mL using 0.9% sodium chloride.
- Small 0.9% sodium chloride infusion bags (e.g., 25, 50, or 100 mL) or an appropriate sized syringe should be used for pediatric dosing.

For more information, see the *Fact Sheet for Healthcare Providers*.

Veklury (remdesivir): Product Information

- **FDA Approved for certain COVID19 indications,** outpatient and inpatient
- **Procurement/Ordering:**
  - Commercially available through Gilead Pharmaceuticals: https://www.gilead.com/remdesivir
  - Veklury is available through multiple distributors. For additional information regarding purchasing or how to access Veklury (remdesivir), email remdesivir@amerisourcebergen.com, or reach out directly to your AmerisourceBergen, Cardinal, or McKesson representative.

- Sites are encouraged to offer outpatient Veklury, especially in collaboration with tertiary centers treating immunocompromised patients for whom Paxlovid may not be clinically appropriate (eg, transplant centers, oncology, etc) and for vulnerable pediatric patients
  - Increased access points will improve outcomes during winter surge
  - HHS is working to incorporate commercially available outpatient Tx onto locator tool

Post-Veklury Administration Observation

- Per Veklury prescribing information, “Monitor patients during dose administration and observe for **at least 1 hour** after intravenous infusion or subcutaneous dosing is complete”.
- Provide education on follow-up, required isolation per CDC guidelines after COVID-19 exposure or diagnosis, red flags for seeking emergency care.
- Respond to severe adverse events/anaphylaxis.
- “Discharge” patient after one-hour post-administration observation if stable and without symptoms of severe adverse reaction, otherwise consider further observation or emergency department evaluation if clinical concern.
- To report SUSPECTED ADVERSE REACTIONS, contact Gilead Sciences, Inc. at 1-800-GILEAD-5 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch

CDC Guidelines on Isolation and Precautions for People with COVID-19: https://www.cdc.gov/coronavirus/2019-ncov/your-health/isolation.html
Possible Side Effects After Getting Vaccines: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/expect/after.html

remdesivir monitoring (MaineHealth)

- Parameters measured under the definition ‘vital signs’ (VS): Temp, HR, RR, blood pressure, O_2 sat

- **Dose 1: (total of 4 sets)**
  - VS before infusion
  - VS at 15 mins (halfway through 30 min infusion)
  - VS at 30 mins (end of infusion)
  - VS after 15 min monitoring (prior to discharge)

- **Dose 2 & 3: (total of 3 sets)**
  - VS before infusion
  - VS at 15 mins (halfway through 30 min infusion)
  - VS at 30 mins (end of infusion, this serves as the prior to discharge VS as well)

Managing Adverse Reactions to Veklury

- **Veklury should only be administered** in settings in which health care providers have immediate access to medications (e.g., epinephrine) to treat a severe infusion or hypersensitivity reactions, such as anaphylaxis, and the ability to activate the emergency medical system (EMS), as necessary.
- Early identification of anaphylaxis. Symptoms may include:
  - Respiratory: hypoxia, dyspnea, wheezing, angioedema
  - Gastrointestinal: nausea, transaminase elevation
  - Cardiovascular: hypotension, hypertension, tachycardia, bradycardia
  - Skin/mucosal: rash
  - Neurologic: agitation, convulsions, altered mental status, sense of impending doom
  - Other: diaphoresis, shivering, fever

Managing Adverse Reactions to Infused Outpatient COVID Therapeutics: Medications and Equipment

- **Should be available** at all sites:
  - Epinephrine (e.g., prefilled syringe or autoinjector)
  - H1 antihistamine (e.g., diphenhydramine, cetirizine)
  - Blood pressure monitor
- **If feasible,** include at sites (not required)
  - Oxygen
  - Bronchodilator (e.g., albuterol)
  - H2 antihistamine (e.g., famotidine, cimetidine)
  - Intravenous fluids
  - Intubation kit
  - Adult-sized pocket mask with one-way valve (CPR mask)

Adapted from CDC Interim Considerations: Preparing for the Potential Management of Anaphylaxis at COVID-19 Vaccine Sites: https://www.cdc.gov/vaccines/covid-19/downloads/IntermConsid-Anaphylaxis-covid19-vaccine-sites.pdf

CMS Resources

- **CMS created HCPCS (Healthcare Common Procedure Coding System) code J0248 for Veklury**
  - J0248 represents 1mg, and you should report units to reflect the dosage you administered for each patient.

- Outpatient Billing Example: a provider administering Veklury (remdesivir) in the outpatient setting would bill J0248 for the product and could use the following CPT code for its administration:
  - 96365 (Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); initial, up to 1 hour)
  - and if needed use: 96366 (Intravenous infusion, for therapy, prophylaxis, or diagnosis (specify substance or drug); each additional hour (List separately in addition to code for primary procedure).

- Medicare Part B will provide payment for the drug and its administration under the applicable Medicare Part B payment policy when you provide it in the outpatient setting, according to the FDA approval and authorization. In most cases, your patient's yearly Part B deductible and 20% co-insurance apply.

- CMS COVID-19 FAQs: (https://www.cms.gov/files/document/03092020-covid-19-faqs-508.pdf)
  Veklury FAQs begin on page 146

Considerations for Outpatient Veklury Administration

- Infusion will require 3 consecutive days of administration
  - Infusion sites will need to have appropriate hours/ days of service to meet patient needs
- Pediatric patient infusion
  - Providers credentialed in pediatrics
  - Staff trained in assessment and management of pediatric patients
- Capacity for lab testing

Veklury Storage and Preparation

Administration preparation process:

- Prepare sterile infusions in a manner consistent with local laws, regulations, guidelines and policies
- Obtain new vial(s) and/or IV bags if the drug product contains any visible particulate matter
- See Prescribing Information for reconstitution instructions **Needs for space to prepare infusion**
- Dedicated preparation area for sterile preparation

Acceptable equipment for Veklury drug storage:

- Refrigerated storage (2-8 °C)
- Temperature control mechanism including temperature monitoring process

Note: product can be prepared for infusion bedside by any qualified medical professional

https://www.vekluryhcp.com/dosing-and-admin/

Remdesivir: Gilead patient assistance program

- Gilead program that covers assistance for commercially-insured patients
  - Patients who are not insured can get relieve via the Cares Act and Provider Relief Fund

- The amount of financial assistance depends on the patient's health insurance plan, deductible, and level of need
  - There is a copay coupon for those with commercial insurance, depending on the type of insurance

- Resources for HCPs: https://www.gileadadvancingaccess.com/hcp/resources
  - sample letter of medical necessity, sample letter of appeal and prior authorization checklist)

- Enrollment form: https://services.gileadhiv.com/content/pdf/gilead_enrollment_form.pdf
  - Can be completed online and then saved (you can download the application)

Veklury (remdesivir) Supply Overview

- Gilead has been meeting real-time global demand for Veklury since October 2020.
- Gilead fully anticipates an ability to continue to meet patient demand for Veklury in both hospital and non-hospital settings.
- The Veklury non-hospital distribution network now includes both AmerisourceBergen Specialty Division and Cardinal Specialty.
  - Non-hospital entities that can attest to the proper administration of Veklury in accordance with the label can order Veklury for outpatient use.
  - Veklury is not available in retail pharmacies.
- Hospitals should continue ordering Veklury through AmerisourceBergen Specialty Division, Cardinal Specialty, and McKesson Plasma & Biologics.
- Veklury Healthcare Provider website
- Veklury Patient website
- NIH Guidelines update (Dec 1): Prioritization of Anti-SARS-CoV-2 Therapies for the Treatment of COVID-19 in Nonhospitalized Patients When There Are Logistical Constraints

Veklury (remdesivir) (continued page 4)

Recommended Rate of Infusion-Diluted Veklury for Injection Lyophilized Powder for Pediatric Patients Weighing 3.5 kg to Less than 40 kg

Infusion volume	Infusion time	Rate of infusion[a]
100 mL	30 min	3.33 mL/min
	60 min	1.67 mL/min
	120 min	0.83 mL/min
50 mL	30 min	1.67 mL/min
	60 min	0.83 mL/min
	120 min	0.42 mL/min
25 mL	30 min	0.83 mL/min
	60 min	0.42 mL/min
	120 min	0.21 mL/min
7 mL	30 min	0.23 mL/min
	60 min	0.12 mL/min
	120 min	0.06 mL/min

a. Note: Rate of infusion may be adjusted based on total volume to be infused.

Veklury® (remdesivir) Product Information

- Prescribing Information & FDA Fact Sheets
  - Veklury (remdesivir) Prescribing Information: https://www.gilead.com/-/media/files/pdfs/medicines/covid-19/veklury/veklury_pi.pdf
  - remdesivir provider fact sheet: https://www.fda.gov/media/137566/download
  - remdesivir patient fact sheet: https://www.fda.gov/media/137565/download
  - remdesivir patient fact sheet (Spanish): https://www.fda.gov/media/139460/download

- Manufacturer's Resources:
  - Website for Healthcare Providers: https://www.vekluryhcp.com/
  - Website for Patients: https://www.veklury.com/

- Additional Resources:
  - NIH COVID-19 Treatment Guidelines Panel's Statement on Therapies for High-Risk, Nonhospitalized Patients https://www.covid19treatmentguidelines.nih.gov/management/clinical-management/nonhospitalized-adults--therapeutic-management/
  - FDA MedWatch: https://www.fda.gov/medwatch/report.htm
  - **Safety Reporting Email**: Safety_fc@gilead.com

CMS Updates: Coding for Bebtelovimab and Remdesivir

- CMS created new codes, effective Feb. 11, 2022
- Q0222:
  Long descriptor: Injection, bebtelovimab, 175 mg
  Short descriptor: Bebtelovimab 175
- M0222:
  Long Descriptor: IV injection, bebtelovimab, includes injection and post administration monitoring
  Short Descriptor: Bebtelovimab injection
- M0223:
  Long Descriptor: Intravenous injection, bebtelovimab, includes injection and post administration monitoring in the home or residence; this includes a beneficiary's home that has been made provider-based to the hospital during the covid-19 public health emergency
  Short Descriptor: Bebtelovimab injection home
- Updated FAQs – Payment/Coding for Veklury (Remdesivir) (begin pg 146/question 30)
- Visit the CMS COVID-19 Monoclonal Antibodies Toolkit for more information

Related Resources: Veklury (remdesivir)

Additional Veklury (remdesivir) Prescribing Resources

- Prescribing Information & FDA Fact Sheets
  - Veklury (remdesivir) Prescribing Information
  - Veklury Patient Information
- Manufacturer's Resources:
  - Website for Healthcare Providers
  - Website for Patients
  - Veklury Product Information
- Additional Resources:
  - NIH's COVID-19 Treatment Guidelines Therapeutic Management of Nonhospitalized Adults With COVID-19
  - FDA MedWatch
  - Safety Reporting Email

COVID-19 Treatments: Monoclonal Antibodies

Reminder: Bebtelovimab not currently authorized for emergency use in U.S.

- **Nov. 30, 2022** - U.S. Food and Drug Administration announced bebtelovimab not currently authorized for emergency use in U.S.; it is not expected to neutralize Omicron subvariants BQ.1 and BQ.1.1., according to data included in the Health Care Provider Fact Sheet.
- CDC Nowcast data estimates the combined proportion of COVID-19 cases caused by the Omicron BQ.1 and BQ.1.1 subvariants to be above 57% nationally, and already above 50% in all individual regions but one, and data shows a sustained trend of increasing prevalence across all regions.
- Given the likelihood that infection is likely to be caused by a non-susceptible variant, and consistent with the terms and conditions of the Letter of Authorization**, bebtelovimab is not currently authorized for emergency use in any U.S. region at this time.**
- Eli Lilly and its authorized distributors have paused commercial distribution of bebtelovimab until further notice by the Agency. Additionally, the Administration for Strategic Preparedness and Response (ASPR) has paused the fulfillment of any orders including any pending requests under its Bebtelovimab Product Replacement Initiative.
- The U.S. Government recommends all product be retained in the event that SARS-CoV-2 variants susceptible to bebtelovimab, which are currently circulating at lower prevalence, become more prevalent in the future in the United States. Retained product must be appropriately held in accordance with storage conditions detailed in the authorized Fact Sheet for Health Care Providers and the Letter of Authorization for bebtelovimab.
- Reporting cadence for bebtelovimab is now weekly on Thursdays by 11:59 PM (in line with other mAbs on pause).

NEW! Updated NIH Treatment Guidelines: Bebtelovimab

- Updated December 6, 2022
- The prevalence of SARS-CoV-2 Omicron subvariants that are anticipated to be resistant to bebtelovimab has been rapidly increasing in the United States.
- On November 30, 2022, the FDA announced that bebtelovimab is no longer authorized for the treatment of COVID-19 in any U.S. region.
- The Panel now **recommends against** the use of **bebtelovimab** for the treatment of nonhospitalized patients with COVID-19 who are at high risk of progressing to severe COVID-19.
- As the antiviral drugs ritonavir-boosted nirmatrelvir (Paxlovid), remdesivir (Veklury), and molnupiravir (Lagevrio) are expected to be active against the currently circulating Omicron subvariants, the Panel **continues to recommend these drugs for the treatment** of these patients.
- NIH COVID-19 Treatment Guidelines
- CDC Interim Clinical Considerations for COVID-19 Treatment in Outpatients

Questions?

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