



COUNTY OF SAN LUIS OBISPO HEALTH AGENCY
PUBLIC HEALTH DEPARTMENT
PROVIDER HEALTH ADVISORY

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CDC—Important Updates on COVID-19 Therapeutics for Treatment and Prevention

The Centers for Disease Control and Prevention (CDC) has issued the attached update to supplement the CDC HAN Health Advisories issued on [April 25, 2022](#) and [May 24, 2022](#) to emphasize to health care providers, public health departments, and the public that the majority of Omicron sublineages circulating in the United States have reduced susceptibility to the monoclonal antibody, bebtelovimab, and the monoclonal antibody combination, cilgavimab and tixagevimab (EvusheldTM).

[Antiviral therapeutics](#) for the [treatment of COVID-19](#), [ritonavir-boosted nirmatrelvir \(Paxlovid™\)](#), [remdesivir \(Veklury®\)](#), and [molnupiravir \(Lagevrio™\)](#), retain activity against currently circulating Omicron sublineages. These medications can prevent severe disease, hospitalization, and death and are widely available but have been underused.

For more detail, please see the following two attachments:

1. The attached [HAN Health Update](#) provides health care professionals with guidance on improving use of therapeutics for treatment of COVID-19 and strategies to prevent serious outcomes of COVID-19.
2. Also attached is the Administration for Strategic Preparedness and Response (ASPR) **COVID Therapeutics Guide**: [COVID-19 Therapeutics Decision Aid \(hhs.gov\)](#), which includes an outline of treatment options for both adults and children.

Public Health Department

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Important Updates on COVID-19 Therapeutics for Treatment and Prevention



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Summary

The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Update to supplement the CDC HAN Health Advisories issued on [April 25, 2022](#) and [May 24, 2022](#) to emphasize to healthcare providers, public health departments, and the public that the majority of Omicron sublineages circulating in the United States have reduced susceptibility to the monoclonal antibody, bebtelovimab and the monoclonal antibody combination, cilgavimab and tixagevimab (Evusheld™).

[Antiviral therapeutics](#) for the [treatment of COVID-19](#), [ritonavir-boosted nirmatrelvir \(Paxlovid™\)](#), [remdesivir \(Veklury®\)](#), and [molnupiravir \(Lagevrio™\)](#), retain activity against currently circulating Omicron sublineages. These medications can prevent severe disease, hospitalization, and death and are widely available but have been underused.

This HAN Health Update provides health care professionals, public health officials, and the public with guidance on improving use of therapeutics for treatment of COVID-19 and strategies to prevent serious outcomes of COVID-19.

Background

CDC [genomic surveillance](#) estimates that the combined proportion of COVID-19 cases caused by the Omicron BQ.1 and BQ.1.1 lineages has reached 76% nationally and is above 50% in each HHS region [1]. Both of these sublineages contain a mutation (K444T) in the spike protein that confers resistance to the monoclonal antibody bebtelovimab [2], which was previously authorized as one of the second-line therapies to treat COVID-19. Given the current high prevalence of variants resistant to bebtelovimab, FDA announced on November 30, 2022, that the [use of bebtelovimab](#) is not currently authorized for patients with COVID-19 in the United States [3]. FDA will continue to monitor the frequency of circulating variants and may provide future updates as appropriate.

Early outpatient treatment of mild-to-moderate COVID-19 with a [recommended first-line therapy](#), [ritonavir-boosted nirmatrelvir](#) (Paxlovid™) or [remdesivir](#) (Veklury®), or the second-line therapy, [molnupiravir](#) (Lagevrio™) have been shown to prevent hospitalizations and deaths [4-6]. Ritonavir-boosted nirmatrelvir (Paxlovid™) may also reduce the risk for post-COVID-19 conditions [7]. **Fortunately, all three of these antiviral medications are expected to retain activity against the currently circulating variants and are currently widely available for all eligible persons.** However, only a minority of [eligible patients](#) and fewer patients from [populations disproportionately affected by COVID-19](#) have received them [8,9]. Oral [antivirals](#) can be accessed with a provider prescription at [pharmacies nationwide](#) and at [Test to Treat](#) locations.

People with mild to moderate symptoms of COVID-19 who (1) are aged 50 years and older, or (2) have [an underlying condition](#), or (3) have [moderate to severe immunosuppression](#), are at risk for severe COVID-19 outcomes and are eligible for treatment. Regardless of their vaccination status, all of these groups of people should be tested for SARS-CoV-2 as soon as

possible after symptom onset and receive treatment within 5 to 7 days of symptom onset with one of several [treatment options](#) .

In a [recent CDC study](#), most people eligible for ritonavir-boosted nirmatrelvir for treatment of COVID-19 in every age group, including those aged older than 65 years, did not receive a prescription for this medication [8]. Racial and ethnic disparities in outpatient treatment with all treatment options have been identified [9]. The recent CDC study examined hospitalization rates among U.S. adults eligible for COVID-19 treatment with ritonavir-boosted nirmatrelvir who were diagnosed with COVID-19 during April through August 2022 [8]. People who were prescribed ritonavir-boosted nirmatrelvir within 5 days of diagnosis had a 51% lower hospitalization rate within the 30 days following diagnosis than those who were not prescribed this medication. People who were previously infected with SARS-CoV-2 and those who had received 3 or more COVID-19 vaccinations also benefited from ritonavir-boosted nirmatrelvir [8]. Other studies have also reported a 45%-89% reduction in emergency department visits, hospitalizations, and deaths due to COVID-19 among patients prescribed ritonavir-boosted nirmatrelvir [10-15]. The [recent increases in the case and hospitalization rates](#) highlight the importance of preventing severe illness through the use of prevention measures and therapeutics.

Considerations in the management of [concomitant medications](#)  with [ritonavir-boosted nirmatrelvir](#) , such that a temporary pause or reduction in dose is necessary, can be found in the [NIH COVID-19 treatment guidelines](#) ; additional resources include the [Liverpool COVID-19 Drug Interactions](#)  website, the [Ontario COVID-19 Science Advisory Table](#) , the [ritonavir-boosted nirmatrelvir FDA EUA fact sheet](#)  and [checklist](#) . For patients with contraindications to ritonavir-boosted nirmatrelvir, and for whom remdesivir is not feasible, clinicians should consider treatment with [molnupiravir](#) . No drug-drug interactions have been identified for molnupiravir. Antibacterial therapy and corticosteroids are not recommended for the primary treatment of COVID-19 in the absence of another indication.

Additional data show that the prevalence of Omicron sublineages that are resistant to cilgavimab plus tixagevimab (Evusheld™) in laboratory assays [16] is [rapidly increasing](#) and has reached 82% nationally. Currently, this combination is the only agent FDA currently [authorized for SARS-CoV-2 pre-exposure prophylaxis \(PrEP\)](#)  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 NIH COVID-19 Guidelines Panel continues to recommend the use of cilgavimab plus tixagevimab as PrEP for eligible individuals. **This recommendation may change if the prevalence of resistant sublineages increases.** This combination may be offered to these patients (adults and adolescents [aged ≥12 years and weighing ≥40 kg]) who do not have SARS-CoV-2 infection. Providers and patients should be aware of the potential for reduced effectiveness and emphasize the need for additional [prevention measures](#). CDC recommends that these groups, their household members, and close contacts [stay up to date](#) with vaccinations, including getting the [bivalent booster](#) when eligible.

Prevention measures for all people at risk for severe illness, particularly [people with moderate to severe immunosuppression](#), should be encouraged to protect people from infections. [Prevention measures](#) include wearing high quality and well-fitting [masks](#), keeping distance between themselves and others, [improving ventilation](#), and developing a [care plan](#) , in consultation with their physician. The care plan should include prompt testing at onset of COVID-19 symptoms and rapid access to antivirals if SARS-CoV-2 infection is detected. CDC recommends people aged 6 months and older who are eligible receive one [updated \(bivalent\) vaccine](#) if it has been at least two months since they received their most recent COVID-19 dose (either primary series or original monovalent booster).

Recommendations for Healthcare Providers

- Stay up-to-date on the appropriate use and authorization of clinically-indicated therapeutics, drug interactions, and the circulating SARS-CoV-2 variants through:
 - [National Institutes of Health COVID-19 Treatment Guidelines](#) 
 - Treatment and prevention options through [FDA Emergency Use Authorization](#) 
 - Currently circulating variants at [CDC Data Tracker](#)
- As healthcare providers consider a treatment plan for each of their eligible patients, they should review the patient's renal and hepatic function and all the patient's other medications.
 - There are considerable differences in [characteristics](#), , eligibility criteria, [preferred therapy](#) , administration, risk profiles, and use restrictions between the three antivirals, [ritonavir-boosted nirmatrelvir](#)  (Paxlovid™, multiple [drug-drug interactions](#) ), [remdesivir](#)  (Veklury® possible drug-drug interactions), and [molnupiravir](#)  (Lagevrio™, [no known drug-drug interactions](#)).

- Healthcare providers need to be familiar with these distinctions to make clinical decisions and inform patients.
- Educate patients about the importance of early testing if [COVID-19 symptoms](#) develop, particularly if they have moderate or severe immunosuppression.
- Because [symptoms are similar](#), consider [influenza testing for patients at high risk for severe influenza](#).
 - CDC has [testing guidance](#) for clinicians when SARS-CoV-2 and influenza viruses are co-circulating. Because SARS-CoV-2 and influenza virus co-infection can occur, a positive influenza test result without SARS-CoV-2 testing does not exclude COVID-19, and a positive SARS-CoV-2 test result without influenza testing does not exclude influenza.
- [Guidance for antiviral treatment for influenza](#) does not vary with SARS-CoV-2 coinfection.
- Educate [patients at higher risk for severe COVID-19](#) that they are eligible for [COVID-19 treatment](#) [↗](#) if they develop mild or moderate COVID-19.
- Consider and prescribe COVID-19 treatment for patients at higher risk for severe COVID-19.
 - Treatment initiation with [these antivirals](#) must begin within 5 to 7 days of symptom onset, depending on the therapy.
 - Consider the use of convalescent plasma for in- or outpatient treatment for immunocompromised persons when other options are not possible.
- Obtain information on [availability and access](#) [↗](#) to outpatient COVID-19 treatments, including [pharmacies](#) [↗](#) where antivirals for COVID-19 are distributed and [Test to Treat](#) [↗](#) locations; call the support line at 1-800-232-0233 (TTY 888-720-7489), or contact the health department in your jurisdiction.
- To prevent serious outcomes of COVID-19, including severe disease, hospitalization, and death
 - Educate patients about prevention measures (including masks, ventilation) and the benefits of treatments.
 - Concern about recurrence of symptoms after treatment should not prevent treatment for those at risk for [severe disease, hospitalization, and death](#).
 - Recommend that people aged 6 months and older who are eligible receive one [updated \(bivalent\) vaccine](#) if it has been at least two months since they received their most recent COVID-19 dose (either primary series or original monovalent booster).

Recommendations for Public Health Departments and Public Health Jurisdictions

- Monitor Omicron variants and sublineages in your jurisdictions using the best available data to communicate with local partners and providers.
- Disseminate information on the:
 - Need for [preventive measures](#), such as masking in indoor public places, particularly for those at risk for [severe disease, hospitalization, and death](#)
 - Benefits of antiviral treatment and who is recommended to receive it,
 - Need for early testing,
 - [Test to Treat](#) [↗](#) call center at 1-800-232-0233 (TTY 1-888-720-7489) which provides information in more than 150 languages, and for the [Disability Information and Access Line](#) [↗](#) at 1-888-677-1199.

Recommendations for the Public

- If you have mild or moderate symptoms of COVID-19 AND you are aged 50 years or older, OR have a condition placing you at [increased risk](#) of getting very sick from COVID-19, **get tested as soon as possible**, following [CDC guidance on testing for COVID-19](#).
- If [you are 65 years old or older or have a condition placing you at risk for severe influenza](#), also consider getting an influenza test.
- Find out how to get [treatment](#). One of the preferred COVID-19 treatments involves just 5 days of a prescribed oral medication.
- Because [antivirals](#) work best early in the course of illness, start treatment within 5 to 7 days of symptom onset.

- **Contact a healthcare provider right away after a positive home COVID-19 test to discuss treatment options**, even if your symptoms are mild, and especially if you are immunocompromised.
- Take your prescription to [one of 40,000 locations](#) , or visit a [Test to Treat](#) location, and, if eligible, receive a prescription from a provider at that location or call [1-800-232-0233](tel:1-800-232-0233) (TTY [1-888-720-7489](tel:1-888-720-7489)) to find a testing location that can provide treatment if you test positive.
- Stay [up to date](#) with COVID-19 vaccination and getting [an influenza vaccination](#); they are still the best ways to prevent severe outcomes of COVID-19 and influenza, including severe disease, hospitalization, and death. CDC recommends that people aged 6 months and older who are eligible receive one updated (bivalent) SARS-CoV-2 booster if it has been at least 2 months since they received their most recent dose (either primary series or original monovalent booster).
- [Protect yourself](#), family, and friends, particularly if you have moderate to severe immunosuppression, with [prevention measures](#) against infection. These include wearing high quality and well-fitting [masks](#), keeping distance between themselves and others, [improving ventilation](#), staying home when sick, and developing a [care plan](#) .

For More Information

- [CDC COVID-19 Treatments and Medications](#)
- [NIH COVID-19 Treatment Guidelines](#)
- [NIH COVID-19 Treatment Guidelines: Therapeutic Management of Nonhospitalized Adults with COVID-19](#)
- For ritonavir-boosted nirmatrelvir drug-drug interactions: [Liverpool COVID-19 Drug Interactions](#) and [Ontario COVID-19 Science Advisory Table](#)
- [NIH COVID-19 Treatment Guidelines: Influenza and COVID-19](#)
- [CDC Interim Clinical Considerations for Use of COVID-19 Vaccines in the United States](#)
- [NIH COVID-19 Treatment Guidelines: Prevention of SARS-CoV-2 Infection](#)
- [Administration for Strategic Preparedness and Response COVID-19 Test to Treat Locator](#)
- [FDA COVID-19 Therapeutic Product Emergency Use Authorizations](#)
- [CDC COVID Data Tracker](#)

References

1. [CDC COVID Data Tracker: Variant Proportions](#)
2. [Bebtelovimab Health Care Provider Fact Sheet 11042022 \(fda.gov\)](#)
3. [FDA Announces Bebtelovimab is Not Currently Authorized in Any US Region | FDA](#)
4. Hammond J, Leister-Tebb H, Garner A, et al. Oral Nirmatrelvir for High-Risk, Nonhospitalized Adults with Covid-19. *NEJM* 2022; 386:1397-1408. DOI: <https://dx.doi.org/10.1056/NEJMoa2118542>
5. Gottlieb R, Vaca C, Paredes R, et al. Early Remdesivir to Prevent Progression to Severe Covid-19 in Outpatients. *NEJM* 2022; 386:305-315. DOI: <https://dx.doi.org/10.1056/NEJMoa2116846>
6. Jayk Bernal A, Gomes da Silva MM, Musungaie DB, et al. Molnupiravir for Oral Treatment of Covid-19 in Nonhospitalized Patients. *NEJM* 2022; 386:509-520. DOI: <https://dx.doi.org/10.1056/NEJMoa2116044>
7. Yan, Xie et al. Nirmatrelvir and the Risk of Post-Acute Sequelae of COVID-19. *medRxiv* Nov 3, 2022 (accessed at: <https://www.medrxiv.org/content/10.1101/2022.11.03.22281783v1>).
8. Shah MM, Joyce B, Plumb ID, et al. Paxlovid™ Associated with Decreased Hospitalization Rate Among Adults with COVID-19 — United States, April–September 2022. *MMWR Morb Mortal Wkly Rep* 2022;71:1531–1537. DOI: <https://dx.doi.org/10.15585/mmwr.mm7148e2> .
9. Boehmer TK, Koumans EH, Skillen EL, et al. Racial and Ethnic Disparities in Outpatient Treatment of COVID-19 — United States, January–July 2022. *MMWR Morb Mortal Wkly Rep* 2022;71:1359–1365. DOI: <http://dx.doi.org/10.15585/mmwr.mm7143a2>
10. Arbel R, Wolff Sagy Y, Hoshen M, et al. Nirmatrelvir use and severe COVID-19 outcomes during the Omicron surge. *N Engl J Med* 2022;387:790–8. <https://www.nejm.org/doi/full/10.1056/NEJMoa2204919>
11. Dryden-Peterson S, Kim A, Kim AY, et al. Nirmatrelvir plus ritonavir for early COVID-19 and hospitalization in a large US health system. *medRxiv* [Preprint posted June 17, 2022]. <https://doi.org/10.1101/2022.06.14.22276393>
12. Lewnard JA, Malden D, Hong V, et al. Effectiveness of nirmatrelvir-ritonavir against hospital admission: a matched cohort study in a large US healthcare system. *medRxiv* [Preprint posted October 4, 2022].

<https://doi.org/10.1101/2022.10.02.22280623> 

13. Wong CKH, Au ICH, Lau KTK, Lau EHY, Cowling BJ, Leung GM. Real-world effectiveness of molnupiravir and nirmatrelvir/ritonavir among COVID-19 inpatients during Hong Kong's Omicron BA.2 wave: an observational study. *Lancet Infect Dis* 2022;S14373-3099(22)00507-2. [https://doi.org/10.1016/S1473-3099\(22\)00507-2](https://doi.org/10.1016/S1473-3099(22)00507-2) 
14. Ganatra S, Dani SS, Ahmad J, et al. Oral nirmatrelvir and ritonavir in nonhospitalized vaccinated patients with coronavirus disease 2019 (COVID-19). *Clin Infect Dis* 2022;ciac673. <https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac673/6672670?login=true> 

<https://doi.org/10.1093/cid/ciac673> 

1. Najjar-Debbiny R, Gronich N, Weber G, et al. Effectiveness of Paxlovid™ in reducing severe coronavirus disease 2019 and mortality in high-risk patients. *Clin Infect Dis* 2022;ciac443. <https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciac443/6599020>  . <https://doi.org/10.1093/cid/ciac443> 
2. Cau T, Jian F, Wang J, et al. Imprinted SARS-CoV-2 humoral immunity induces convergent Omicron RBD evolution. *bioRxiv* [Preprint posted October 4, 2022] <https://www.biorxiv.org/content/10.1101/2022.09.15.507787v3.full.pdf>   _

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national and international organizations.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

HAN Message Types

- **Health Alert:** Conveys the highest level of importance; warrants immediate action or attention.
- **Health Advisory:** Provides important information for a specific incident or situation; may not require immediate action.
- **Health Update:** Provides updated information regarding an incident or situation; unlikely to require immediate action.
- **Info Service:** Provides general information that is not necessarily considered to be of an emergent nature.

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This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations.

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Additional Resources

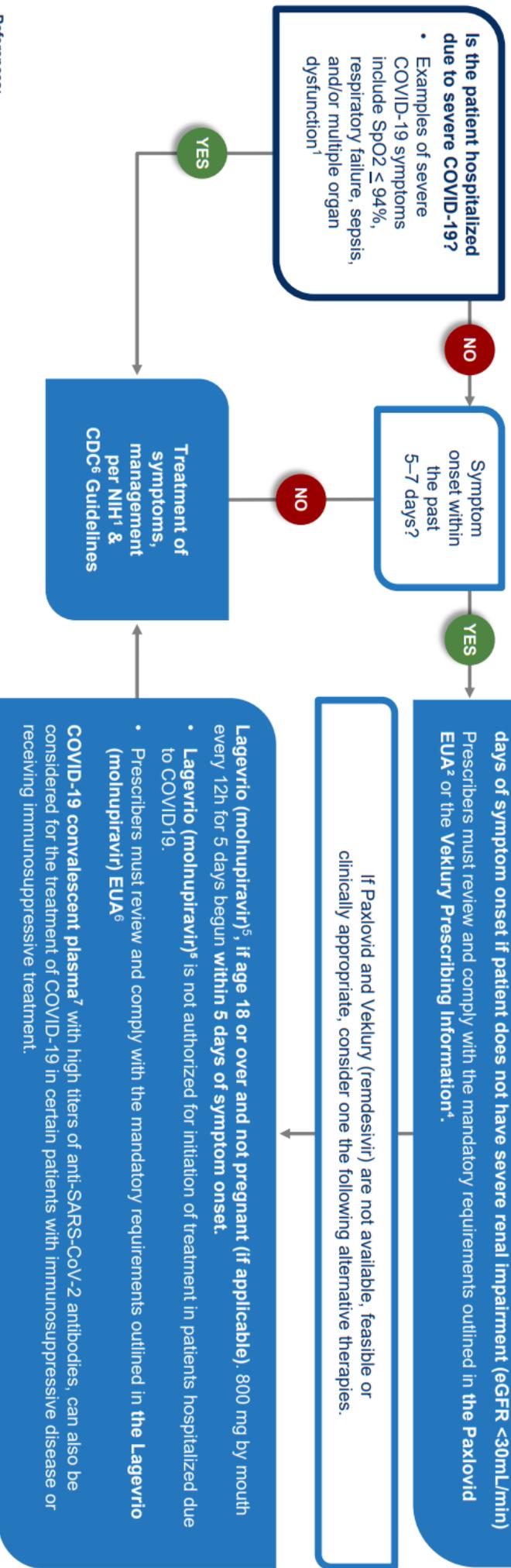
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COVID-19 Outpatient Therapeutics

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)

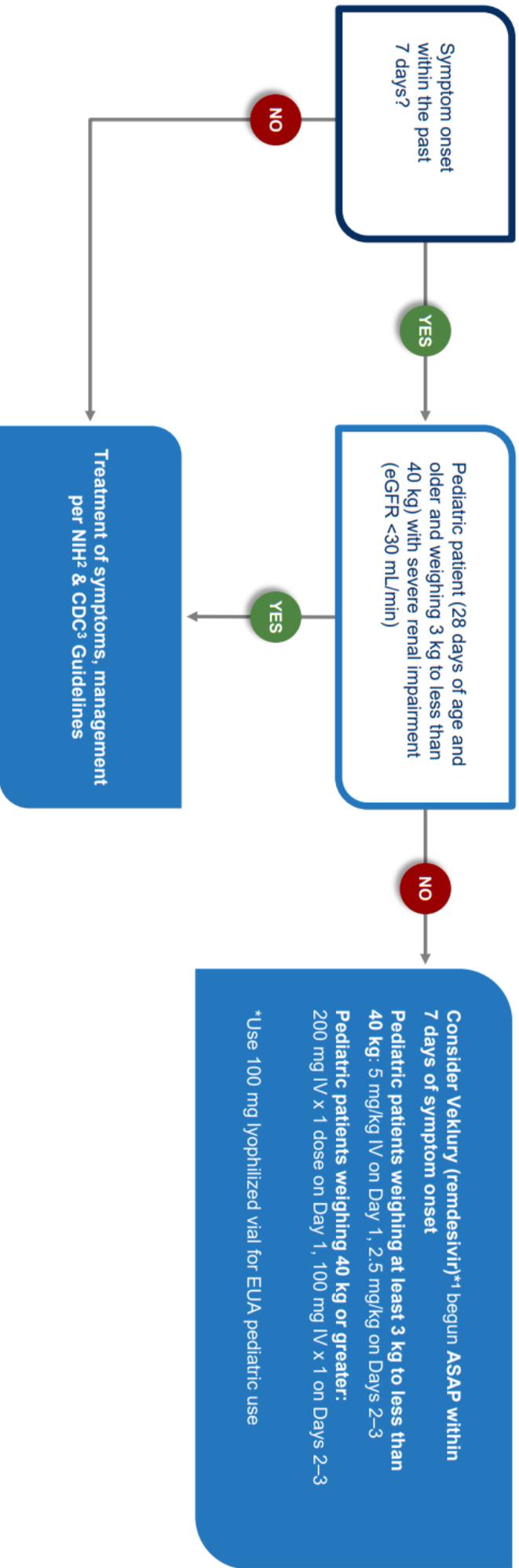


References:

- 1 NIH COVID-19 Treatment Guidelines: 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/medwatch/550590/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/medwatch/55054/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/medwatch/14178/download>

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>

