Through the Labyrinth: Navigating COVID-19 Care in the Outpatient Setting

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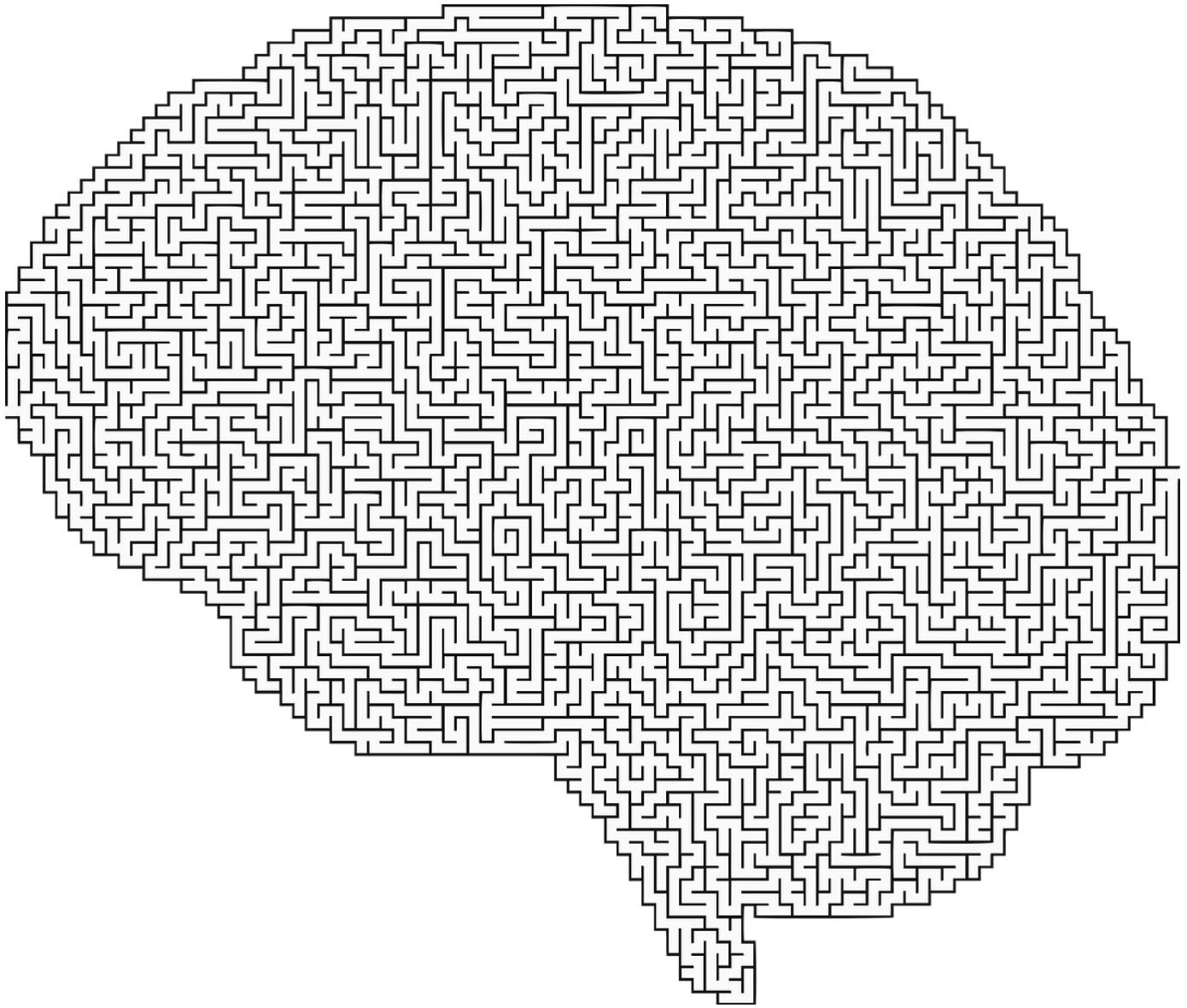

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Disclosures

- *I have no pertinent financial disclosures.*

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Goal

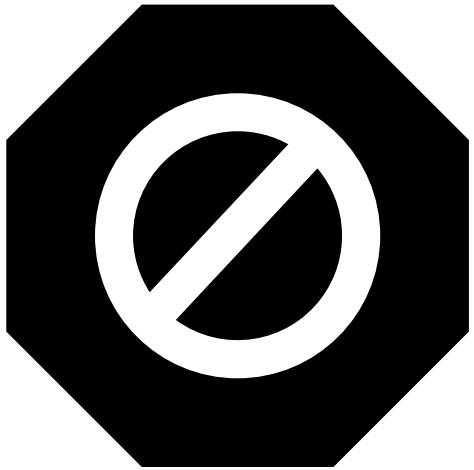
To increase your understanding of outpatient treatment of COVID-19 to help you deliver great care to your clients and patients

Objectives

At the end of this part of the session, learners *SHOULD* be able to:

Appraise	Appraise the advantages and limitations of at least three outpatient treatments for COVID-19.
Distinguish	Distinguish appropriate outpatient treatments for COVID-19 based on patient characteristics, disease severity, and other factors.
Apply	Apply learning to reinforce or modify at least one behavior related to COVID-19 care in the outpatient setting.

Some Caveats For This Session



Limited discussion of a few topics, including:

- Epidemiology
- Clinical manifestations
- Management of mild-to-moderate COVID-19

No discussion of:

- Treatment of severe disease (i.e., inpatient management)
- Vaccination

Time for discussion and questions at the end!

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This didactic is already outdated… ☹

Outline

- Epidemiology Updates
- General Approach to Outpatient Management of COVID-19
- Treatment of Mild-to-Moderate COVID-19
- Questions and Discussion

Outline

Epidemiology Updates

General Approach to Outpatient Management of COVID-19

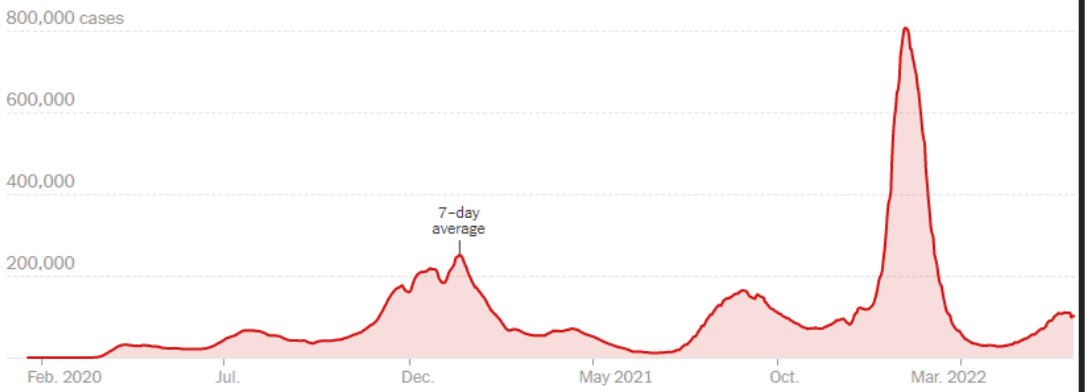
Treatment of Mild-to-Moderate COVID-19

Questions and Discussion

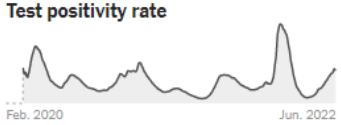
Coronavirus in the U.S.:

New reported cases

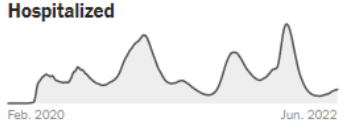
All time | Last 90 days



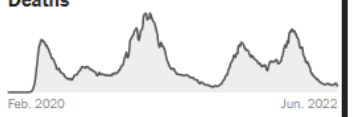
Test positivity rate



Hospitalized



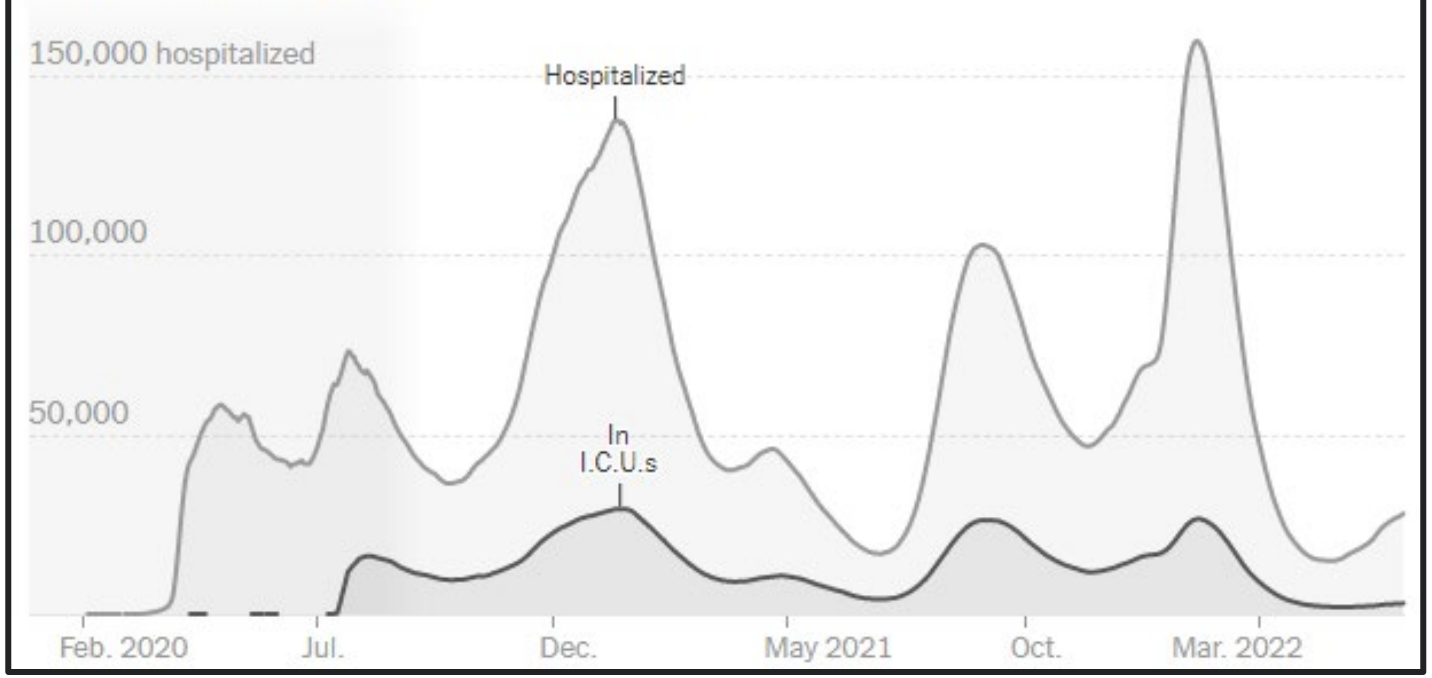
Deaths



	DAILY AVG. ON JUN. 2	14-DAY CHANGE	TOTAL REPORTED
Cases	101,348	–3%	84,476,159
Test positivity	12%	—	—
Hospitalized	27,940	+17%	—
In I.C.U.s	2,963	+16%	—
Deaths	281	–7%	1,004,534

Covid patients in hospitals and I.C.U.s

Early data may be incomplete.



Source: www.nytimes.com

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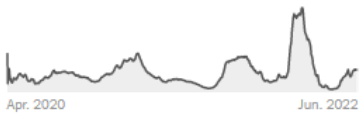
(These data accessed on 6/3/2022)

Coronavirus in Tennessee:

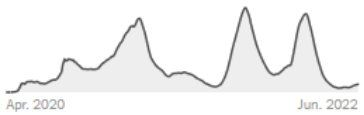
New reported cases

All time | Last 90 days

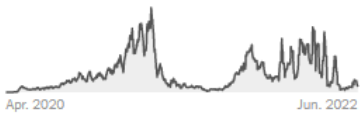
Test positivity rate



Hospitalized

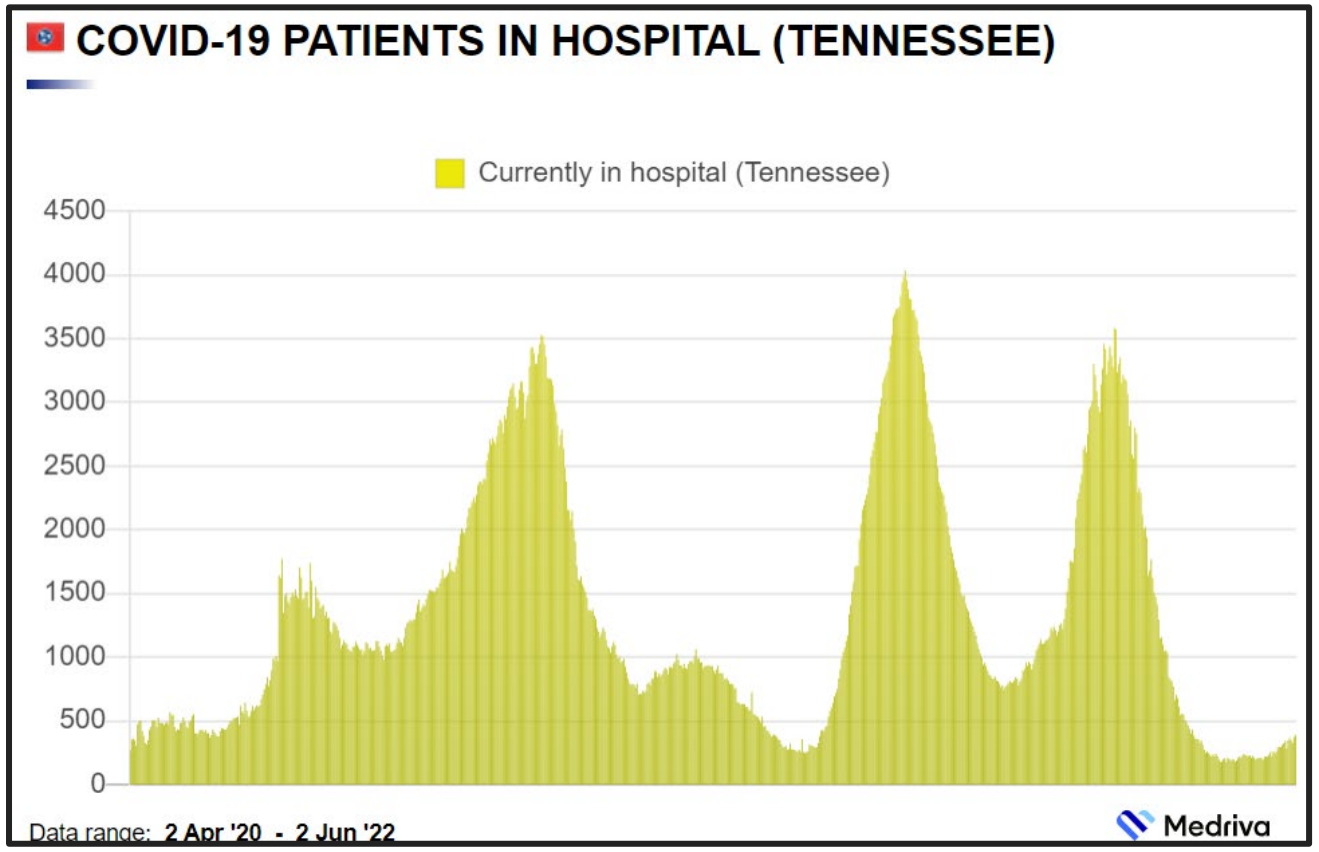


Deaths



	DAILY AVG. ON JUN. 2	14-DAY CHANGE	TOTAL REPORTED
Cases	1,359	+29%	2,015,991
Test positivity	13%	—	—
Hospitalized	379	+40%	—
In I.C.U.s	54	+56%	—
Deaths	10	+14%	26,214

Source: www.nytimes.com



Source link: Newsnodes

(These data accessed on 6/3/2022)

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Do current epidemiologic curves tell the whole story?

Probably not…

Mild symptoms may result in fewer patients seeking testing

Less intense reporting in some geographic regions

Positive home tests often result in underreporting

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Outline

Epidemiology Updates

General Approach to Outpatient Management of COVID-19

Treatment of Mild-to-Moderate COVID-19

Questions and Discussion

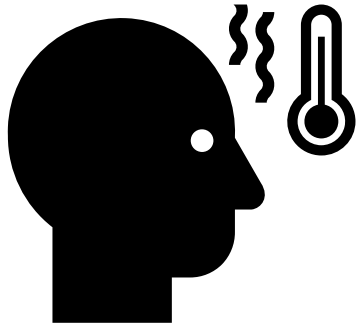
Steps to Evaluating an Outpatient with COVID-19

Triage the patient to outpatient or emergency care

Determine whether outpatient treatment is indicated

Select treatment based on availability and patient considerations

Clinical Manifestations of COVID-19

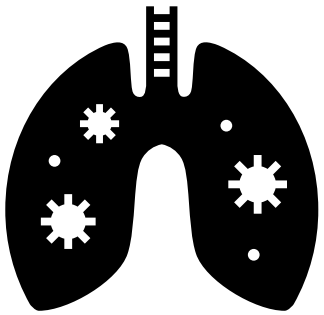


Common Symptoms

- Congestion
- Rhinorrhea
- Change in taste/smell
- Headache
- Fatigue
- Myalgias
- Fever/chills
- Cough
- Dyspnea
- Sore throat
- Nausea/vomiting
- Diarrhea

Additional Complications

- Dermatologic
- Cardiac
- Endocrine
- Gastrointestinal
- Hepatic
- Neurologic
- Renal
- Vascular



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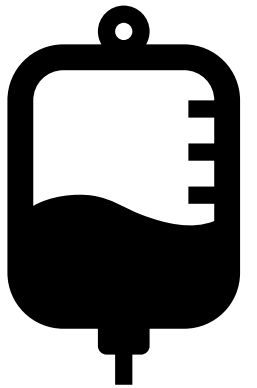
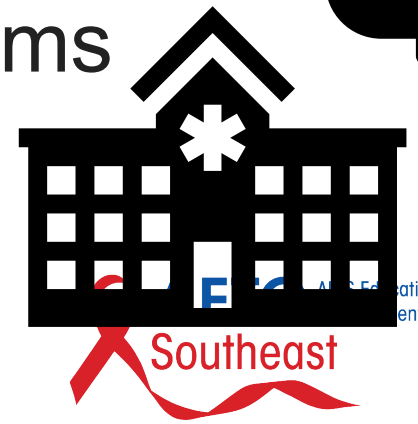
www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

Nontherapeutic Outpatient Management of COVID-19

- Isolate to reduce transmission
- Assess for evidence of severe disease (e.g., hypoxia)
- Treat symptoms (e.g., antipyretics)
- Maintain nutrition and hydration
- Educate patients regarding signs and symptoms of progression and/or complications





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A Clinical Case

Mr. Cauff is a 62-year-old man who is your primary care patient.

He calls your clinic and is assessed through telemedicine due to subjective fever, cough, and sore throat for 2 days.

A home rapid test for COVID-19 is reactive.

He denies dyspnea or other systemic side effects.

He does not appear to be in any distress and has no concerning findings on visual examination via telemedicine.

Past Medical History:

- Atrial fibrillation
- Coronary artery disease
- HIV (last CD4 1,000; HIV not detected)
- Hyperlipidemia
- Hypertension

Allergies: No known allergies

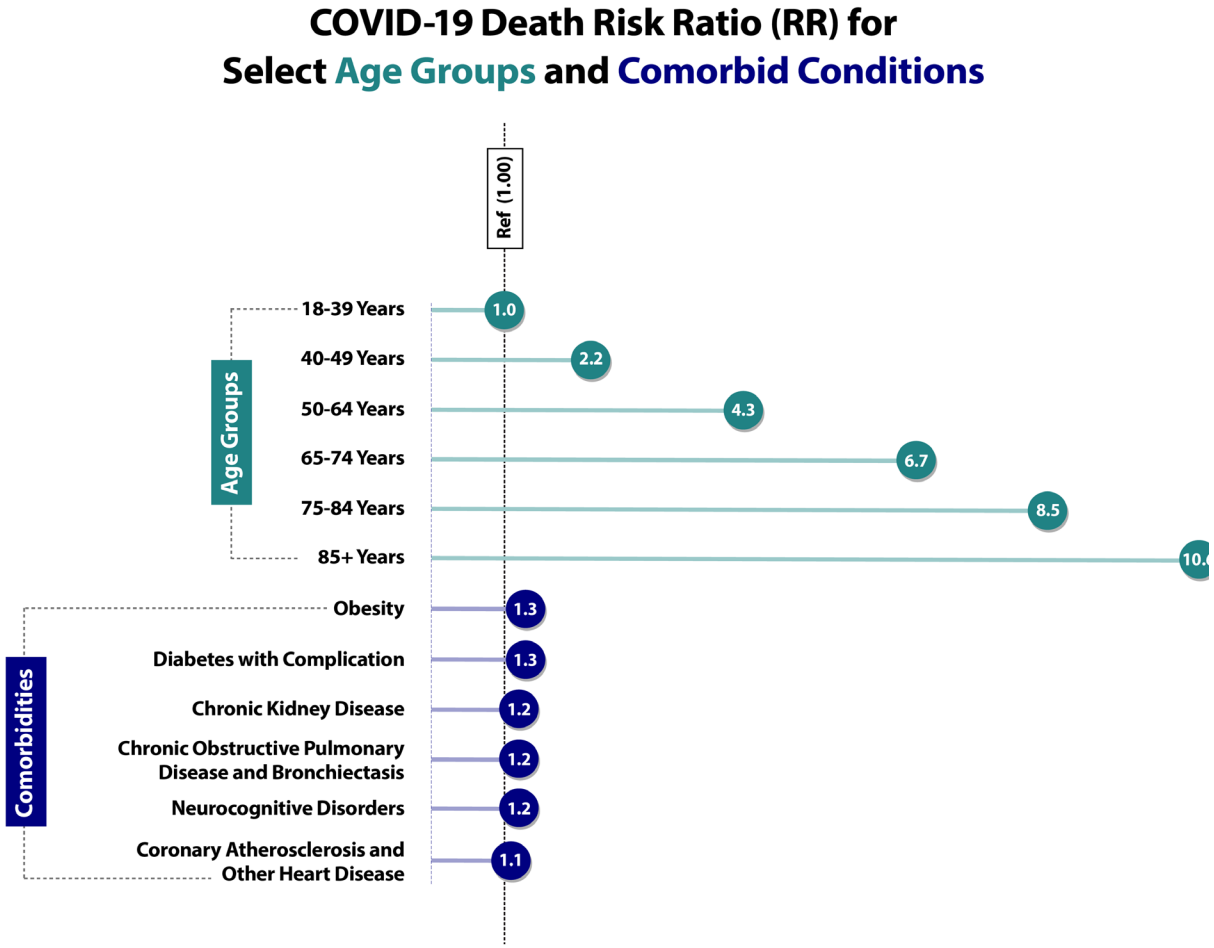
Medications

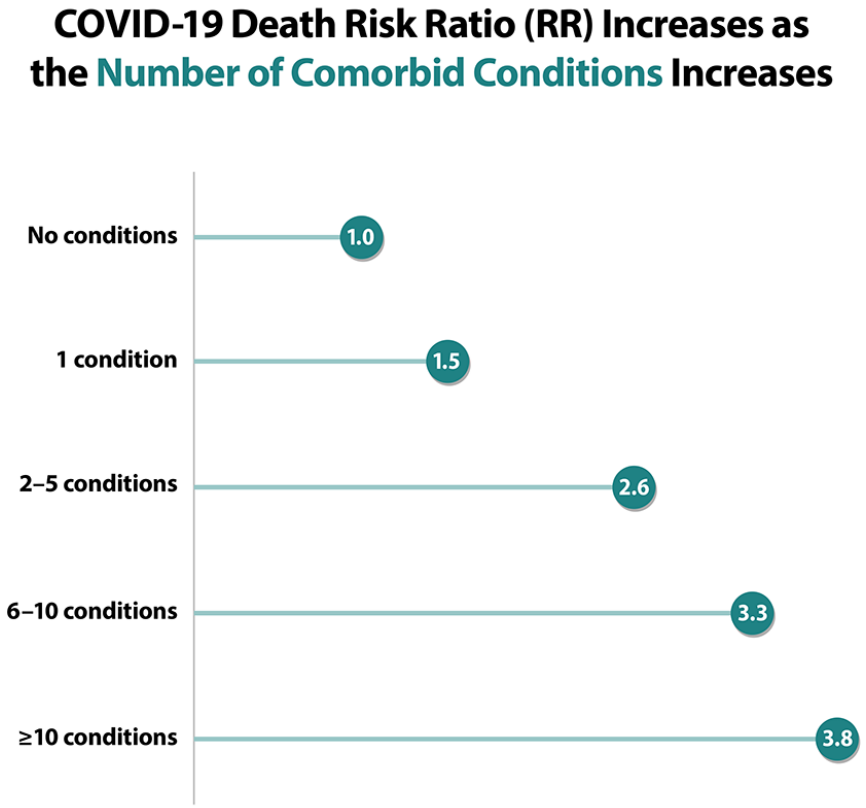
- Apixaban
- Atorvastatin
- Bisoprolol
- Bictegravir / emtricitabine / tenofovir

Commonly Listed "High Risk" Criteria for Progression to Severe COVID-19 (*Vary By Source*)

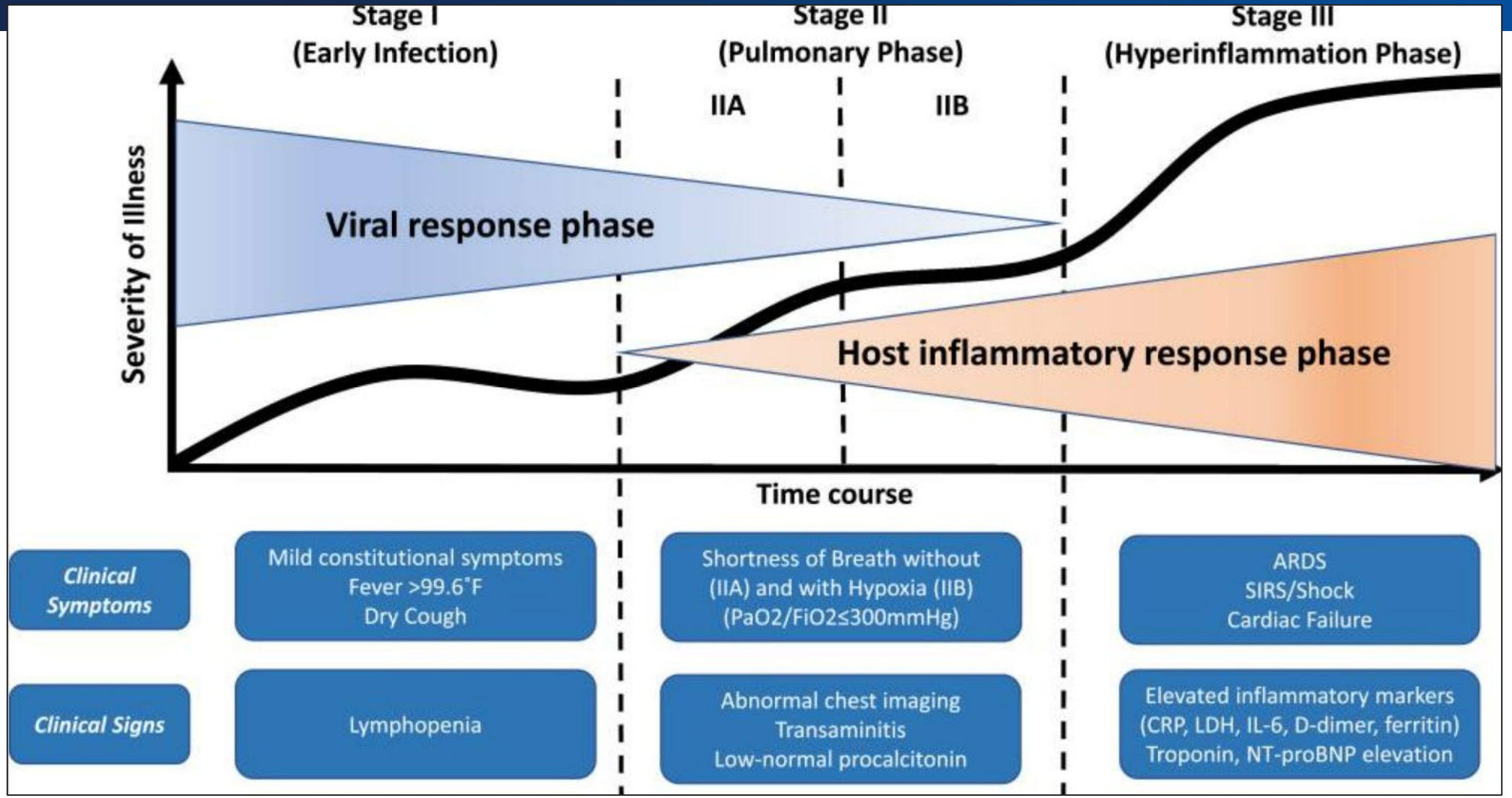
- Older age (e.g., ≥50-65 years of age depending on source)
- Obesity or being overweight
- Cancer (active)
- Chronic kidney disease
- Diabetes
- Immunosuppressive disease or treatment
- Cardiovascular disease
- Chronic lung disease
- Current smoking
- Sickle cell disease
- Neurodevelopment disorder
- Pregnancy
- Medical-related technological dependence

Impact of Age and Comorbid Conditions on Risk of Death from COVID-19





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



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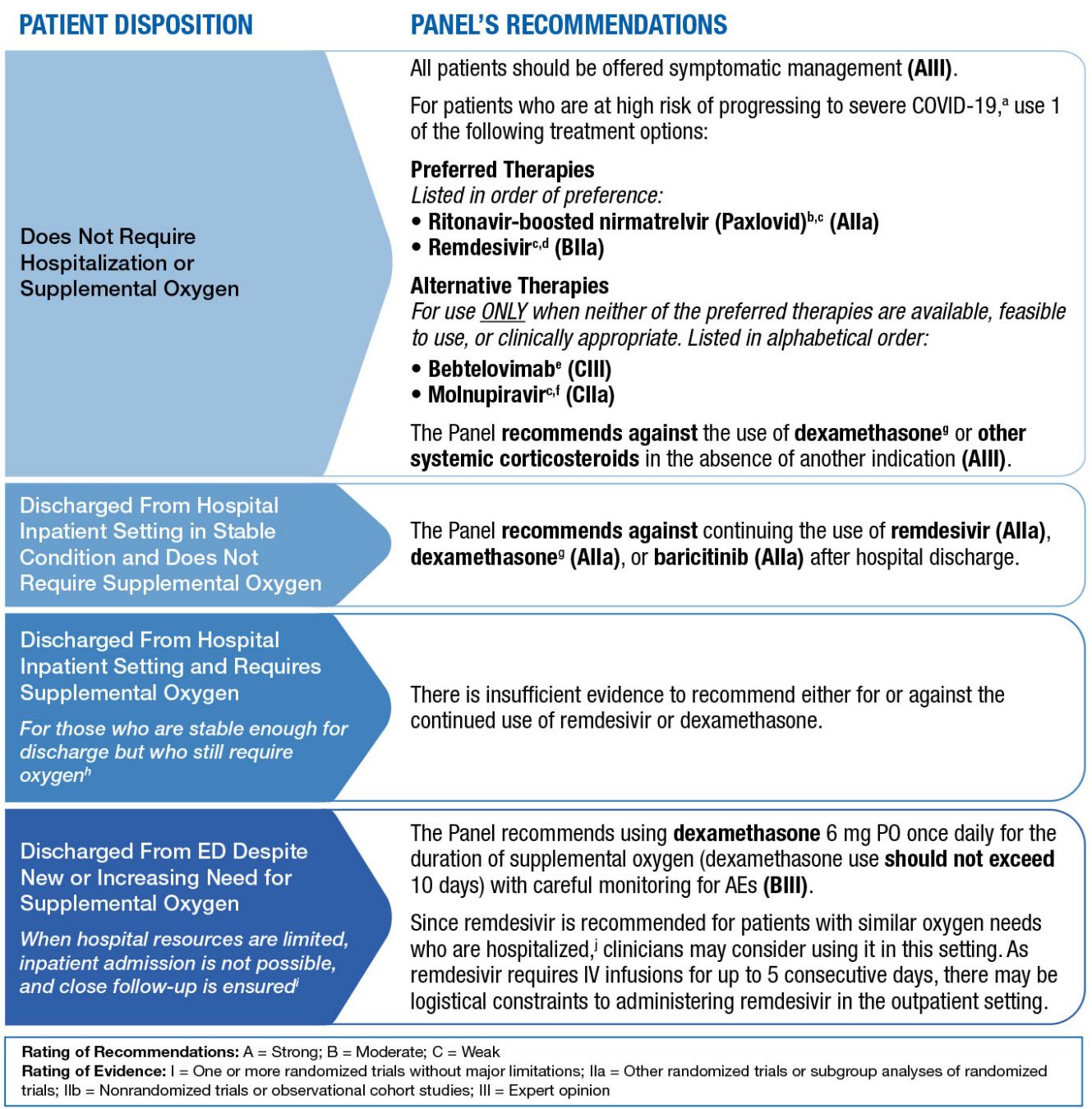
Siddiqi H and Mehra MR. *J Heart Lung Transplant*. 2020.

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



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

Selection of COVID-19 Treatment Per NIH

1. Nirmatrelvir + Ritonavir
2. Remdesivir
3. Monoclonal antibody treatment
4. Molnupiravir

covid19treatmentguidelines.nih.gov/therapies/statement-on-therapies-for-high-risk-nonhospitalized-patients/

FDA NEWS RELEASE

Coronavirus (COVID-19) Update: FDA Authorizes First Oral Antiviral for Treatment of COVID-19

For Immediate Release: December 22, 2021

Español

Today, the U.S. Food and Drug Administration issued an emergency use authorization (EUA) for Pfizer's Paxlovid (nirmatrelvir tablets and ritonavir tablets, co-packaged for oral use) for the treatment of mild-to-moderate coronavirus disease (COVID-19) in adults and pediatric patients (12 years of age and older weighing at least 40 kilograms or about 88 pounds) with positive results of direct SARS-CoV-2 testing, and who are at high risk for progression to severe COVID-19, including hospitalization or death. Paxlovid is available by prescription only and should be initiated as soon as possible after diagnosis of COVID-19 and within five days of symptom onset.

Content current as of:
12/22/2021

Regulated Product(s)
Drugs

Health Topic(s)
Infectious Disease
Coronavirus

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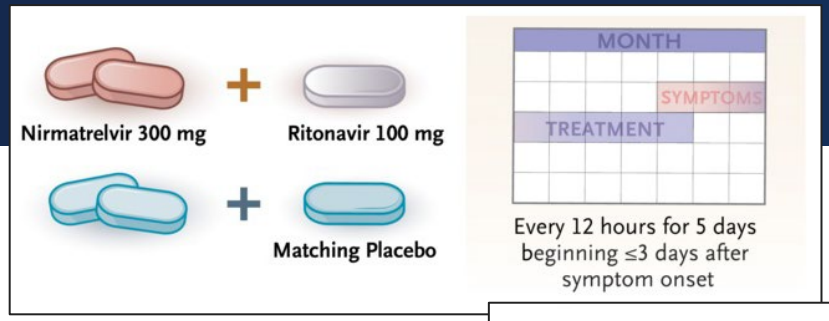
Follow FDA
Follow @FDAmedia

Hammond J et al. *NEJM* 2022.



Treated ≤3 Days after Onset of Symptoms through Day 28 (modified intention-to-treat population)

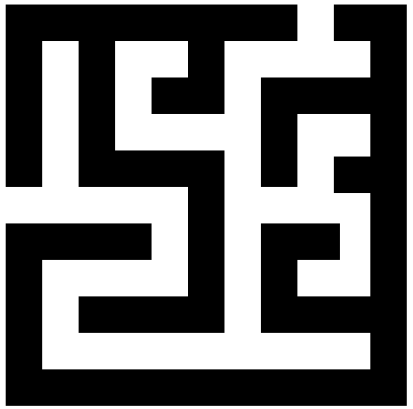
	Nirmatrelvir Group N = 697	Placebo Group N = 682
Total number of patients with event	5	44
Covid-19–related hospitalization	5	44
Death from any cause	0	9
Estimated percentage with event (95% CI)	0.72 (0.30–1.73)	6.53 (4.90–8.68)
Difference ±SE from placebo — percentage points	−5.81±1.01	
Relative risk reduction	88.9%	

Adverse Events during Treatment Period (safety-analysis population)

	Nirmatrelvir Group N=1109	Placebo Group N=1115
No. of adverse events	476	525
Patients with any adverse event — no. (%)	251 (22.6)	266 (23.9)
Serious adverse event	18 (1.6)	74 (6.6)
Maximum grade 3 or 4 adverse event	45 (4.1)	93 (8.3)
Maximum grade 5 adverse event	0	13 (1.2)
Discontinued drug or placebo because of adverse event	23 (2.1)	47 (4.2)
Had dose reduction or temporary discontinuation owing to adverse event	4 (0.4)	4 (0.4)

Nirmatrelvir/Ritonavir: Additional Prescribing Notes

- Use within 5 days of symptom onset
- Frequent drug-drug interactions due to CYP3A4 inhibition
- Must be renally dosed in patients with eGFR 31-60
- Should not be used if Child-Pugh Class C
- Unknown safety in pregnancy, but may use if benefits outweigh risks



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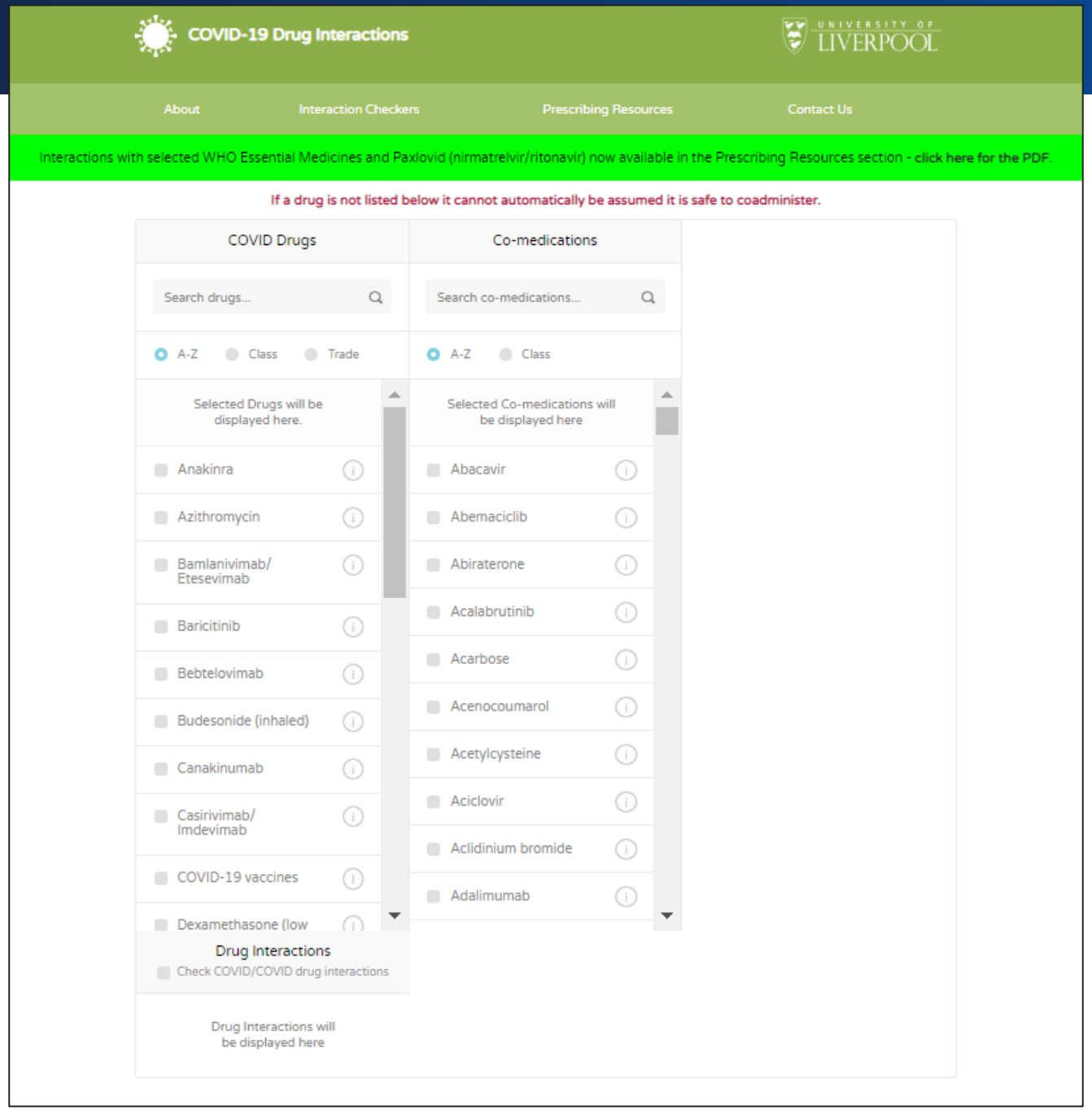

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Liverpool Drug Interactions Group

Interactions with Essential Medicines & Nirmatrelvir/ritonavir (NMV/r)

Charts produced 8 March 2022 — Page 1 of 2

Please check www.covid19-druginteractions.org for updates.

Interaction tables - refer to page 2 for legend, notes and abbreviations

Please note that if a drug is not listed it cannot automatically be assumed it is safe to coadminister.
Drug interaction data for many agents are limited or absent; therefore, risk-benefit assessment for any individual patient rests with prescribers.
Management of interactions with nirmatrelvir/ritonavir (Paxlovid) may be complex and full details should be obtained from the website where possible.

	Analgesics
	Codeine
	Diclofenac
☐	Fentanyl
	Hydromorphone
	Ibuprofen
	Mefenamic acid
	Morphine
☐	Oxycodone
	Paracetamol
	Tramadol
	Antiarrhythmics
!	Amiodarone
☐	Lidocaine
	Antibacterials
	Amikacin
	Amoxicillin
	Ampicillin
☐	Bedaquiline
	Cefalexin
	Cefazolin
	Cefixime
	Cefotaxime
	Ceftriaxone
	Chloramphenicol
	Ciprofloxacin
	Clarithromycin (a)
	Clindamycin
	Clofazimine
	Cloxacillin
	Cycloserine
	Dapsone
☐	Delamanid
	Doxycycline
☐	Erythromycin
	Ethambutol
	Ethionamide
	Gentamicin
	Imipenem/cilastatin
	Isoniazid
	Kanamycin
	Levofloxacin
	Linezolid
	Meropenem
	Metronidazole
	Moxifloxacin
	Nitrofurantoin
	Ofloxacin
	Para-aminosalicylic acid
	Penicillins
	Piperacillin
	Pyrazinamide
☐	Rifabutin (b)
✖	Rifampicin
✖	Rifapentine
	Spectinomycin
	Streptomycin
	Sulfadiazine
	Tazobactam
	Tetracyclines
	Trimethoprim/ sulfamethoxazole
	Vancomycin

	Anticoagulants/antiplatelets
	Apixaban
	Aspirin (antiplatelet)
	Clopidogrel (stented) (c)
	Dabigatran (a)
	Dalteparin
	Edoxaban (d)
	Enoxaparin
	Heparin
	Rivaroxaban
	Streptokinase
☐	Warfarin
	Anticonvulsants
✖	Carbamazepine
	Clonazepam
☐	Ethosuximide
	Lamotrigine
✖	Phenobarbital
✖	Phenytoin
	Valproate
	Antidepressants
	Amitriptyline
	Clomipramine
	Fluoxetine
	Lithium
	Antidiabetics
	Glibenclamide
	Gliclazide
	Insulin
	Metformin
	Antifungals
	Amphotericin B
	Fluconazole
	Flucytosine
	Griseofulvin
	Itraconazole (e)
	Ketoconazole (e)
	Nystatin
☐	Voriconazole
	Antimalarials
☐	Amodiaquine
	Artemether
	Artesunate
	Atovaquone
	Lumefantrine
☐	Mefloquine
☐	Piperaquine
	Primaquine
	Proguanil
☐	Quinine
	Antipsychotics
	Chlorpromazine
	Clozapine
	Fluphenazine
☐	Haloperidol
☐	Risperidone
	Anxiolytics
	Diazepam
	Lorazepam
	Midazolam

	Beta blockers
	Atenolol
	Bisoprolol
	Carvedilol
	Metoprolol
	Propranolol
	Timolol
	Bronchodilators
	Aminophylline
	Ipratropium bromide
	Salmeterol
	Calcium channel blockers
	Amlodipine
	Nifedipine
	Verapamil
	Cancer drugs
☐	Dasatinib (f)
☐	Erlotinib (g)
☐	Imatinib (h)
	Methotrexate
☐	Vinblastine (i)
	Contraceptives
	Ethinylestradiol
	Etonogestrel (IMP)
	Etonogestrel (VR)
	Levonorgestrel (COC)
	Levonorgestrel (EC)
	Levonorgestrel (IDU)
	Levonorgestrel (POP)
	Medroxyprogesterone (depot injection)
	Norethisterone (COC)
	Norethisterone (IM)
	Norethisterone (POP)
	Norgestrel (COC)
	COVID19 therapies
	Budesonide (inhaled)
	Convalescent plasma
	Dexamethasone
	Hydrocortisone
	Infliximab
	Methylprednisolone
	COVID19 vaccines
	Gastrointestinal agents
☐	Aprepitant
	Domperidone
	Lactulose
	Loperamide
	Mesalazine
	Metoclopramide
	Omeprazole
	Ondansetron
	Ranitidine
	Senna
	HCV antivirals
	Glecaprevir/pibrentasvir
	Ledipasvir/sofosbuvir
	Ombitasvir/paritaprevir/r
	Sofosbuvir/velpatasvir
	Herbals/supplements
	Folic acid
	Magnesium
	St John's Wort

	HIV antiretrovirals
	Abacavir
	Atazanavir/ritonavir
	Darunavir/ritonavir
	Dolutegravir
	Efavirenz
	Emtricitabine
	Lamivudine
	Lopinavir/ritonavir
	Nevirapine
	Raltegravir
	Tenofovir alafenamide
	Tenofovir-DF
	Zidovudine
	Hypertension/heart failure
	Amiloride
☐	Digoxin
	Dopamine
	Enalapril
	Furosemide
	Hydrochlorothiazide
	Isosorbide dinitrate
	Lisinopril
	Losartan
	Methyldopa
	Spironolactone
	Immunosuppressants
	Azathioprine
	Ciclosporin
	Everolimus
	Lipid lowering agents
☐	Atorvastatin
	Fluvastatin
	Lovastatin
	Simvastatin
	Others
	Allopurinol
	Ergometrine
	Levodopa
	Levothyroxine
	Steroids
	Beclomethasone
	Betamethasone
	Fludrocortisone
	Prednisolone
	Testosterone
☐	Triamcinolone

Liverpool Drug Interactions Group

Interactions with Essential Medicines & Nirmatrelvir/ritonavir (NMV/r)

Charts produced 8 March 2022 — Page 2 of 2

Please check www.covid19-druginteractions.org for updates.

Legend

Colour/Symbol	Recommendation for NMV/r use
! **Do not co-administer**	**Do not use NMV/r ⇒ alternative COVID-19 therapy** Risk of serious toxicity. Stopping the drug does not mitigate the interaction due to its prolonged half-life.
✖ **Do not co-administer**	**Do not use NMV/r ⇒ alternative COVID-19 therapy** Strong inducer can jeopardize NMV/r efficacy due to persisting induction after stopping the drug.
Do not co-administer	**NMV/r use ONLY possible if drug is paused or replaced by a non-interacting drug** Risk of serious toxicity. Only start NMV/r if the drug can be safely paused or replaced. Drug can be resumed 3 days after completing NMV/r therapy.
☐ **Potential interaction** Dose adjustment and/or close monitoring required.	**Stop or replace drug if possible or consult specialist for dose adjustment/monitoring to allow use with NMV/r** Ideally, only start NMV/r if the drug can be safely paused or replaced. Alternatively, dose adjust/monitor. Refer to www.covid19-druginteractions.org for detailed information.
Potential interaction Manageable by counselling patient	**Proceed with NMV/r** Interaction manageable by counselling the patient about potential interaction and advising to temporarily stop the drug if feeling unwell.
Weak interaction No action needed	**Proceed with NMV/r** Drug metabolized partially by CYP3A4 or with low risk of adverse event from interaction.
No interaction expected	**Proceed with NMV/r**

Notes

a No dose reduction or monitoring in patients with normal renal function.

b Rifabutin dosed 150 mg once daily with NMV/r.

c Ritonavir decreases clopidogrel efficacy therefore NMV/r cannot be prescribed in high risk situation (i.e. initial period (at least 6 weeks) post coronary stenting). NMV/r is allowed if clopidogrel is used outside this period or if clopidogrel is used as alternative to aspirin (intolerant patients).

d The US product label for edoxaban advises no dose adjustment is needed for edoxaban in the presence of a P-gp inhibitor, such as ritonavir.

e Itraconazole or ketoconazole should not be used at doses >200 mg/day.

f The decision to pause or dose adjust dasatinib should be made in conjunction with the patient's oncologist.
Chronic phase chronic myelogenous leukaemia: pause dasatinib and restart 3 days after completing NMV/r. Alternatively, consider reducing dasatinib dose to 20 mg (in patients receiving 100 mg daily) or 40 mg (in patients receiving 140 mg daily) and monitor for toxicity.
Accelerated or blast phase chronic myelogenous leukaemia: do not coadminister, use alternative COVID-19 therapy.

g The decision to pause or dose adjust erlotinib should be made in conjunction with the patient's oncologist.
If it is decided to pause treatment, restart erlotinib 3 days after completing NMV/r treatment. If pausing erlotinib treatment is not feasible, continue full dose erlotinib with patient self-monitoring for rash and diarrhoea. If these do occur, reduce erlotinib dose in 50 mg decrements or re-assess for a short pause.

h The decision to pause imatinib should be made in conjunction with the patient's oncologist. If it is decided to hold treatment, restart imatinib 3 days after completing NMV/r treatment. Alternatively, imatinib may be coadministered with monitoring for adverse effects (fluid retention, nausea and neutropenia). NMV/r is expected to have a modest effect on imatinib exposure. Coadministration with ritonavir (600 mg once daily) for 3 days did not significantly alter imatinib exposure (*van Erp NP et al. Clin Cancer Res. 2007;13(24):7394-400*).

i The decision to pause or dose adjust vinblastine should be made in conjunction with the patient's oncologist. Vinblastine may be paused in the context of acute infection. Restart vinblastine 3 days after completing NMV/r treatment. Alternatively, vinblastine may be coadministered with close monitoring for haematologic toxicity and neurotoxicity. Some providers may wish to empirically reduce vinblastine dose, especially in patients who have previously experienced or are at high risk for toxicity.

Contraceptive Abbreviations

COC = combined oral contraceptive
EC = emergency contraception
IDU = intrauterine device
IM = intramuscular
IMP = implant
POP = progestin only contraceptive pill
VR = vaginal ring.

ASPR Office of the Assistant Secretary for Preparedness & Response

Search by therapy and by zip code to find potential locations.

Therapeutic Distribution Locator for Provider Use

State, Territory, or Jurisdiction: Tennessee

Therapeutic Selector: All

Locations
829

ACCESS DRUGS
4062 Hixson Pike, Chattanooga, TN 37415
Renal Paxlovid, Product #00069-1101-20
4 Available

ACCESS DRUGS
4062 Hixson Pike, Chattanooga, TN 37415
Evusheld, Product #00310-7442-02
50 Available

AmPharm Inc
1971 Tennessee Avenue North, Parsons, TN 38363
Lagevrio (molnupiravir), Product #00006-5055-06
Available
Inventory has not been reported in the last 2 weeks. Please contact provider to make sure product is available.

BAGGETT PHARMACY INC
133 E RACE STREET, KINGSTON, TN 37763
Paxlovid, Product #00069-1085-30
13 Available

BALLAD HEALTH CANCER CTR AT JC
1 Professional Park Dr, Ste 21, Johnson City, TN 37604
Evusheld, Product #00310-7442-02
9 Available

BALLAD HLTH CANCER CARE DEPT IPCH
2202 N John B Dennis Hwy, Kingsport, TN 37660
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Bethesda Clinic, LLC
124 Main St., Clifton, TN 38425
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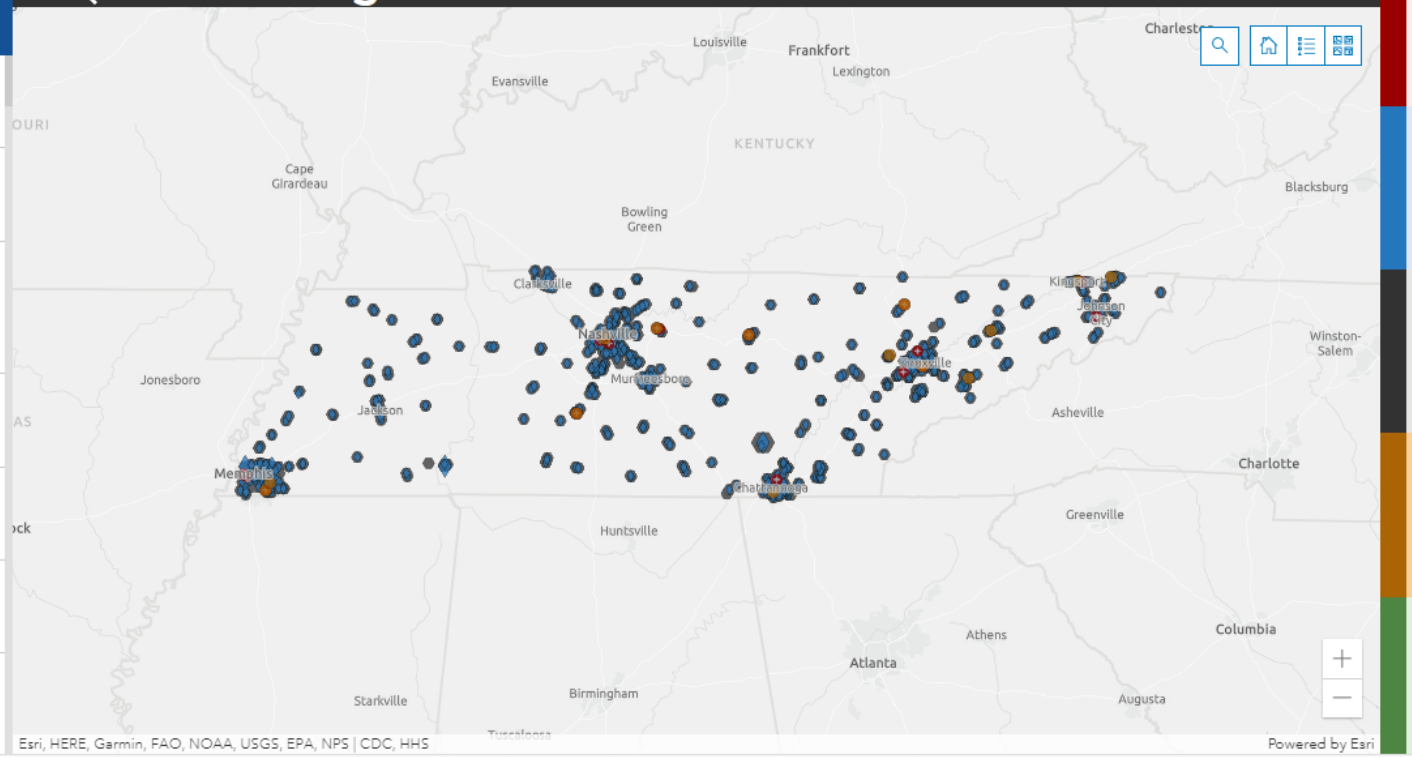
Use search glass below to find locations near an address.



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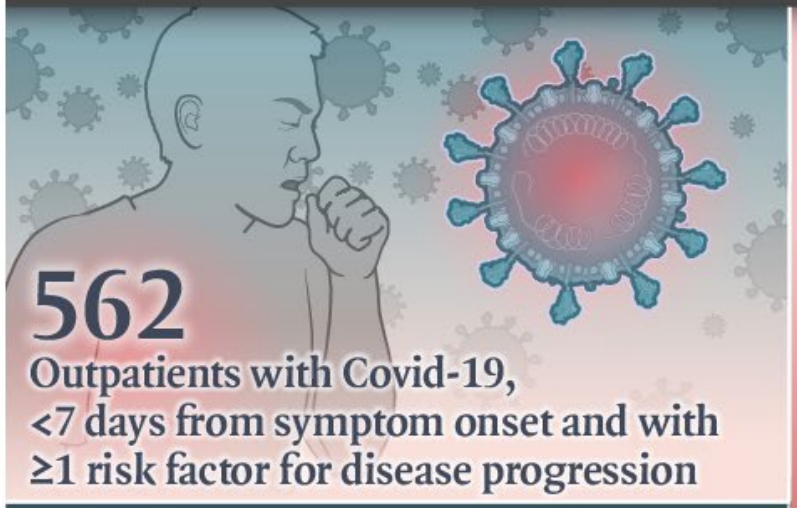
What about remdesivir IV?

The NEW ENGLAND JOURNAL of MEDICINE

Early Remdesivir to Prevent Progression to Severe Covid-19

DOUBLE-BLIND, RANDOMIZED, CONTROLLED TRIAL



562
Outpatients with Covid-19,
<7 days from symptom onset and with
≥1 risk factor for disease progression

Covid-related hospitalization or death from any cause by day 28

N=279	N=283
Intravenous Remdesivir, 3 days	Placebo
0.7% (2 patients)	5.3% (15 patients)

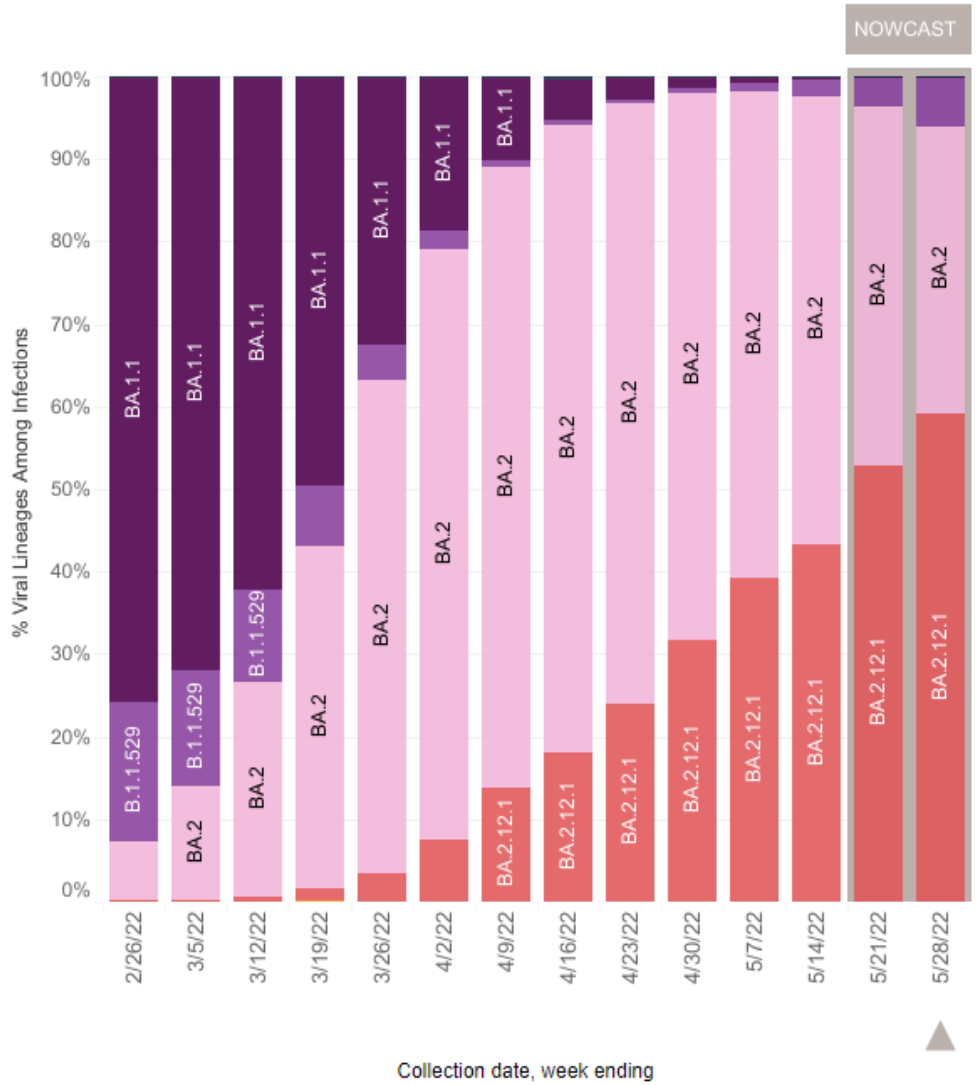
HR, 0.13; 95% CI, 0.03–0.59 (P=0.008)

Remdesivir resulted in an 87% lower risk of Covid-related hospitalizations or death than placebo and had an acceptable safety profile.

R.L. Gottlieb et al. 10.1056/NEJMoa2116846

What about monoclonal antibody treatment?

SARS-CoV-2 Variants Circulating in the United



United States: 5/22/2022 – 5/28/2022 NOWCAST

USA

WHO label	Lineage #	US Class	%Total	95%PI
Omicron	BA.2.12.1	VOC	59.1%	54.7-63.3%
	BA.2	VOC	34.7%	30.8-38.8%
	B.1.1.529	VOC	6.1%	4.1-8.8%
	BA.1.1	VOC	0.1%	0.0-0.1%
Delta	B.1.617.2	VBM	0.0%	0.0-0.0%
Other	Other*		0.1%	0.0-0.1%

* Enumerated lineages are US VOC and lineages circulating above 1% nationally in at least one week period. "Other" represents the aggregation of lineages which are circulating <1% nationally during all weeks displayed.
** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates
# AY.1-AY.133 and their sublineages are aggregated with B.1.617.2. BA.1, BA.3, BA.4, BA.5 and their sublineages (except BA.1.1 and its sublineages) are aggregated with B.1.1.529. For regional data, BA.1.1 and its sublineages are also aggregated with B.1.1.529, as they currently cannot be reliably called in each region. Except BA.2.12.1 and its sublineages, BA.2 sublineages are aggreagated with BA.2.

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Source: CDC

(These data accessed on 6/3/2022)

Bebtelovimab Emergency Use Authorization Fact Sheet

https://www.fda.gov/media/156152/download

Table 2: Bebtelovimab Pseudotyped Virus-Like Particle Neutralization Data for SARS-CoV-2 Spike Protein Variants

Lineage with Spike Protein Substitution	Country First Identified	WHO Nomenclature	Key Substitutions Tested[a]	Fold Reduction in Susceptibility
B.1.1.7	UK	Alpha	N501Y	No change[b]
B.1.351	South Africa	Beta	K417N + E484K + N501Y	No change[b]
P.1	Brazil	Gamma	K417T + E484K + N501Y	No change[b]
B.1.617.2/AY.3	India	Delta	L452R + T478K	No change[b]
AY.1/AY.2 (B.1.617.2 sublineages)	India	Delta [+K417N]	L452R + T478K + K417N	No change[b]
B.1.427/B.1.429	USA (California)	Epsilon	L452R	No change[b]
B.1.526[c]	USA (New York)	Iota	E484K	No change[b]
B.1.617.1	India	Kappa	L452R + E484Q	No change[b]
C.37	Peru	Lambda	L452Q + F490S	No change[b]
B.1.621	Colombia	Mu	R346K + E484K + N501Y	5.3
B.1.1.529/BA.1	South Africa	Omicron [BA.1]	G339D + S371L + S373P + S375F + K417N + N440K + G446S + S477N + T478K + E484A + Q493R + G496S + Q498R + N501Y + Y505H	No change[b]
BA.1.1	South Africa	Omicron [+R346K]	BA.1 + R346K	No change[b]
BA.2	South Africa	Omicron [BA.2]	G339D + S371F + S373P + S375F + T376A + D405N + R408S + K417N + N440K + S477N + T478K + E484A + Q493R + Q498R + N501Y + Y505H	No change[b]
BA.2.12.1	USA	Omicron [BA.2+L452Q]	BA.2 + L452Q	No change[b]

Table 3: Authentic[a] SARS-CoV-2 Neutralization Data for Bebtelovimab

Lineage with Spike Protein Substitution	Country First Identified	WHO Nomenclature	Key Substitutions Tested[b]	Fold Reduction in Susceptibility
B.1.1.7	UK	Alpha	N501Y	No change[c]
B.1.351	South Africa	Beta	K417N, E484K, N501Y	No change[c,d]
P.1	Brazil	Gamma	K417T, E484K, N501Y	No change[c]
B.1.617.2/AY.3	India	Delta	L452R, T478K	No change[c,d]
B.1.427/B.1.429	USA (California)	Epsilon	L452R	No change[c]
B.1.526[e]	USA (New York)	Iota	E484K	No change[c]
B.1.1.529/BA.1	South Africa	Omicron	G339D + S371L + S373P + S375F + K417N + N440K + G446S + S477N + T478K + E484A + Q493R + G496S + Q498R + N501Y + Y505H	No change[c,d]
BA.1.1	South Africa	Omicron [+R346K]	BA.1 + R346K	No change[c]
BA.2	South Africa	Omicron [BA.2]	G339D + S371F + S373P + S375F + T376A + D405N + R408S + K417N + N440K + S477N + T478K + E484A + Q493R + Q498R + N501Y + Y505H	No change[c,d]

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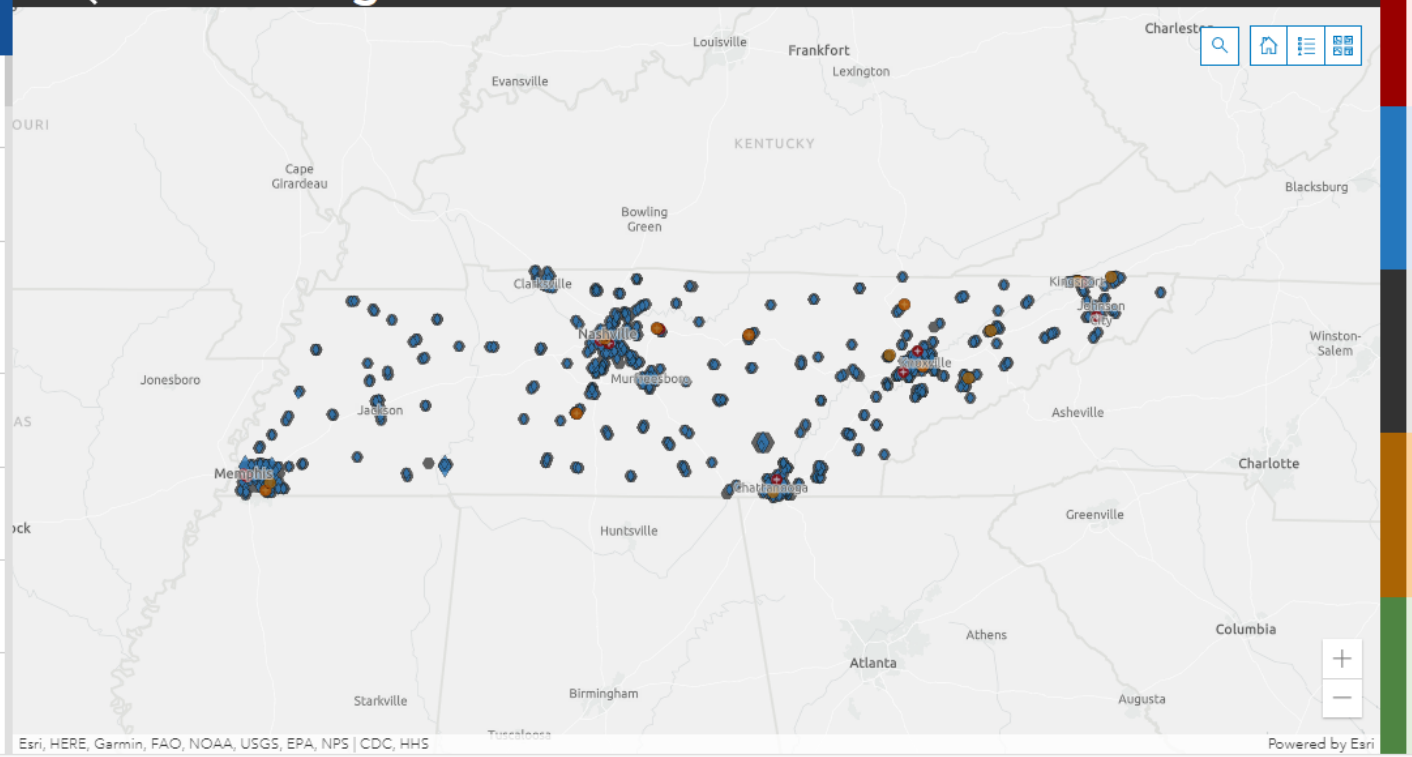

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FDA NEWS RELEASE

Coronavirus (COVID-19) Update: FDA Authorizes Additional Oral Antiviral for Treatment of COVID-19 in Certain Adults

For Immediate Release: December 23, 2021

Español

Today, the U.S. Food and Drug Administration issued an emergency use authorization (EUA) for Merck's molnupiravir for the treatment of mild-to-moderate coronavirus disease (COVID-19) in adults with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progression to severe COVID-19, including hospitalization or death, and for whom alternative COVID-19 treatment options authorized by the FDA are not accessible or clinically appropriate. Molnupiravir is available by prescription only and should be initiated as soon as possible after diagnosis of COVID-19 and within five days of symptom onset.

Content current as of:
12/23/2021

Regulated Product(s)
Drugs

Health Topic(s)
Infectious Disease
Coronavirus

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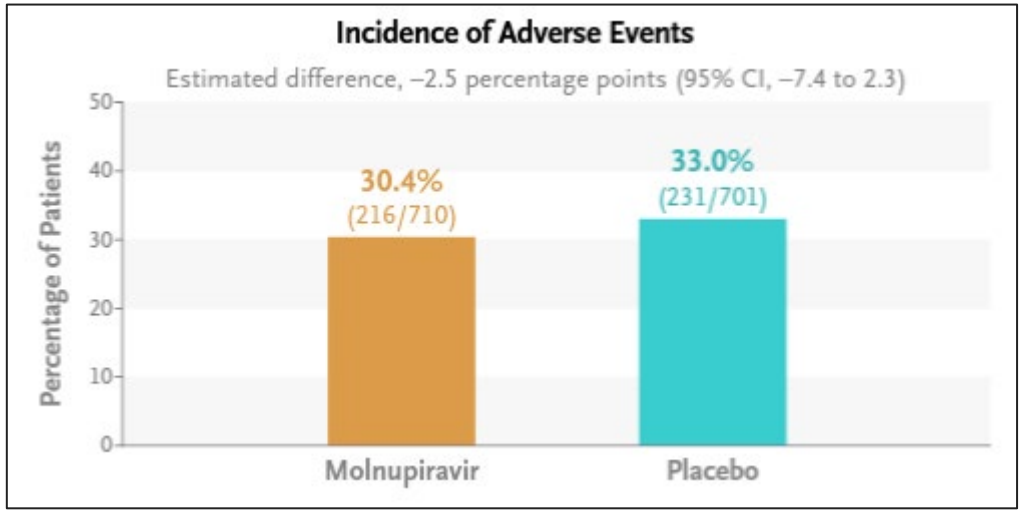
Molnupiravir: MOVe-OUT Trial

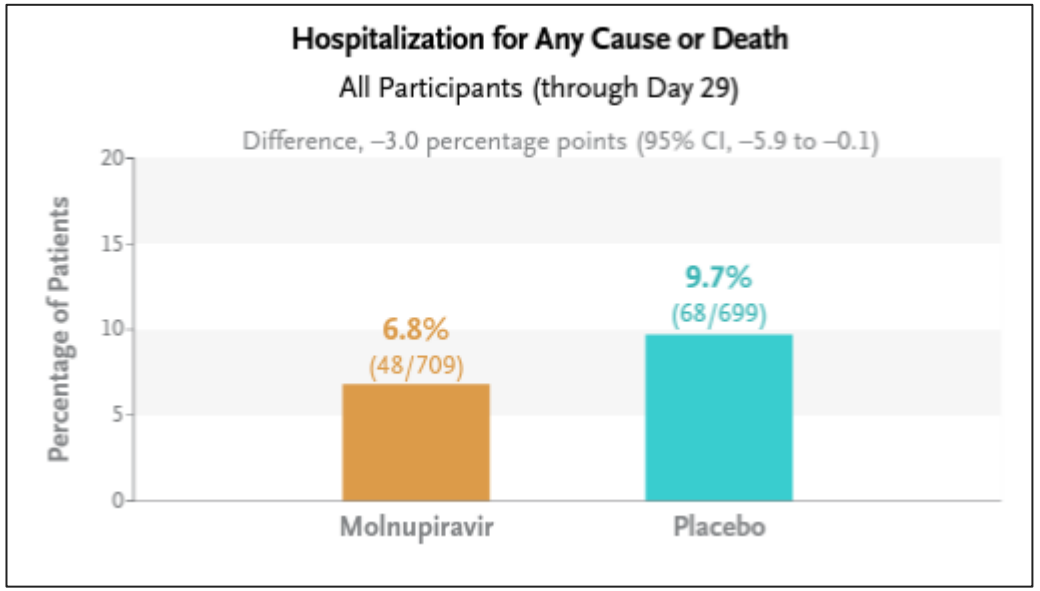
(Jayk Bernal et al. NEJM. 2022)

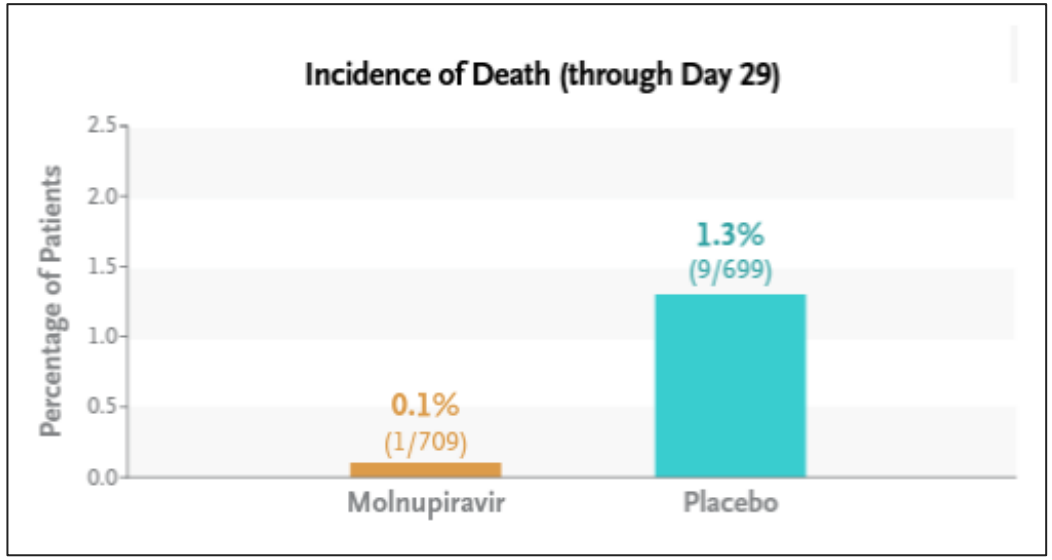
CLINICAL TRIAL

Design: An international, phase 3, double-blind, placebo-controlled trial assessed the safety and efficacy of molnupiravir in unvaccinated outpatients with mild or moderate Covid-19 who had had symptoms for 5 days or less and were at risk for disease progression.

Intervention: 1433 adult patients were assigned to receive either four 200-mg oral capsules of molnupiravir or placebo twice daily for 5 days. The primary efficacy end point was hospitalization for any cause or death within 29 days.







Molnupiravir: Additional Prescribing Notes

- Use within 5 days of symptom onset
- No major drug-drug interactions
- Potential teratogen
- Recommended to confirm that patient is not pregnant
- Contraception recommended during and after treatment
  - Women: During treatment and 4 days after last dose
  - Men: during treatment and for at least 3 months after last dose

Steps to Evaluating an Outpatient with COVID-19

Triage the patient to outpatient or emergency care

Determine whether outpatient treatment is indicated

Select treatment based on availability and patient considerations

Speaking of monoclonal antibodies…

Patient receives antibodies discovered at Vanderbilt to prevent COVID-19 illness

Dec. 23, 2021, 10:34 AM

Cody Stubblefield, RN, gives the first of two injections of an antibody combination to Caroline Davis to protect her from COVID-19. (photo by Donn Jones)

by Bill Snyder

On Dec. 22, Caroline Davis of Nashville became the first patient at Vanderbilt University Medical Center to receive injections of a new antibody combination to protect her from COVID-19.

The antibodies were discovered by James Crowe, MD, Robert Carnahan, PhD, and their colleagues in the Vanderbilt Vaccine Center. Six antibodies were licensed in June 2020 to AstraZeneca for optimization and advancement into clinical trials.

Davis, who is being treated for cancer at VUMC, said she could not produce antibodies against the COVID-19 virus on her own, despite receiving two doses of a COVID-19 vaccine and a booster, because the chemotherapy she is receiving suppresses her immune system.

"It's very exciting," she said, before Cody Stubblefield, RN, gave her two injections of the antibodies, one in each arm, in an outpatient clinic at VUMC. "This is the best Christmas present that could possibly have been given to me."

The long-acting antibody combination, called Evusheld, was discovered at VUMC and developed by the global biopharmaceutical company AstraZeneca. On Dec. 8, the U.S. Food and Drug Administration approved Evusheld for emergency use to prevent COVID-19 in adults and children 12 years and older.

Tixagevimab + Cilgavimab (AZD7442)

- PROVENT demonstrated 77% relative risk reduction of COVID-19 in unvaccinated adults with increased risk of inadequate vaccination response and/or increased risk of exposure
  - *Absolute risk reduction was 0.8% in study*
- TACKLE demonstrated 50% reduction in severe COVID-19 disease in high-risk individuals when used as early outpatient treatment (≤7 days since symptom onset) but not current authorized/recommended for this indication.
- Limited supply prioritized for people with immunosuppressive conditions and/or treatments

Levin MJ et al. *NEJM* 2022. // Montgomery. ECCMID 2022. Abstr O0146.

Outline

Epidemiology Updates

General Approach to Outpatient Management of COVID-19

Treatment of Mild-to-Moderate COVID-19

Questions and Discussion

Summary

COVID-19 remains an active global and domestic threat.

Outpatient treatment may reduce risk of severe disease, hospitalization, and death.

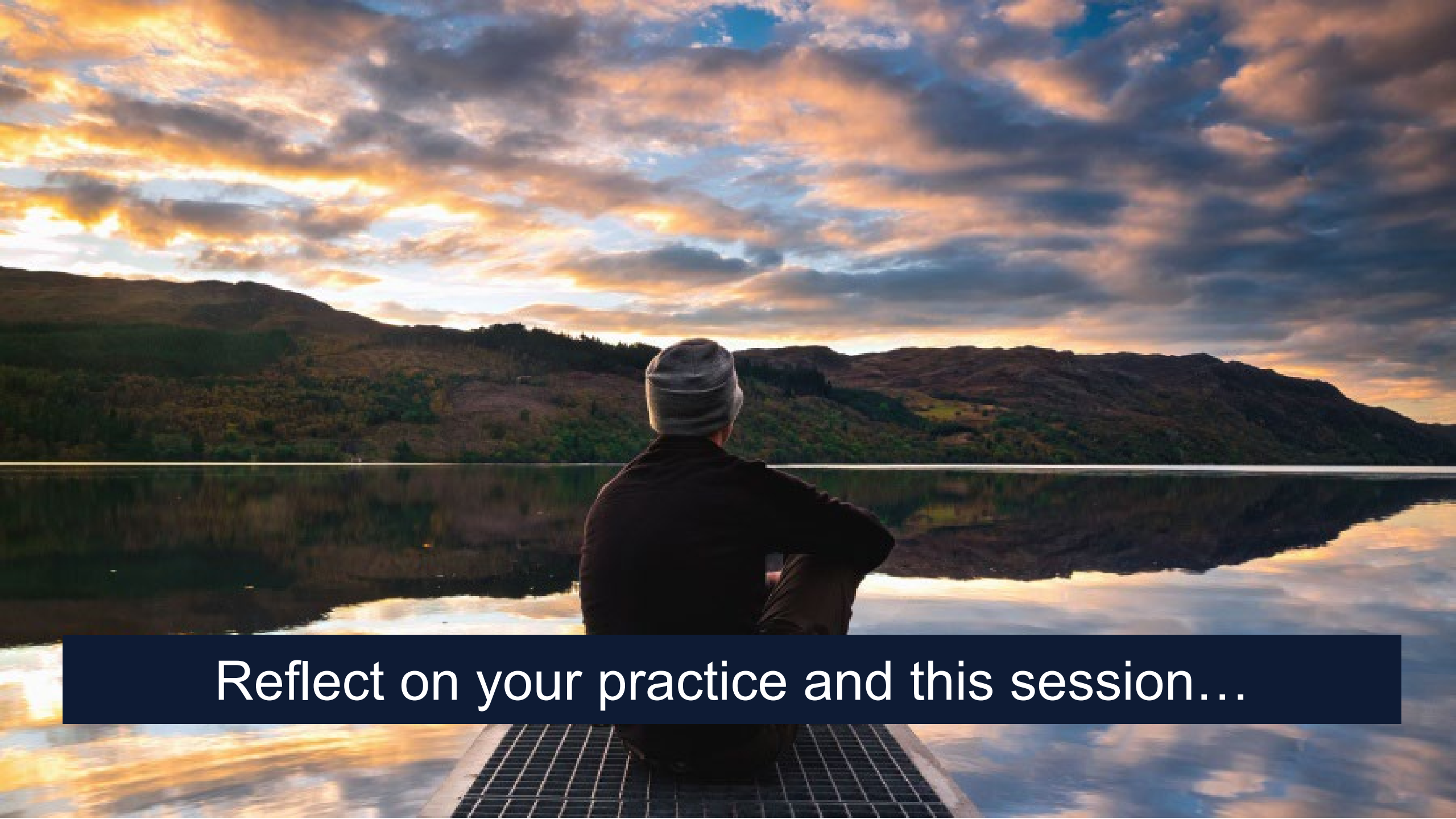
Navigating treatments require triage, risk factor assessment, and complex medication management.

Resources are available to assist you!

Objectives

At the end of this part of the session, learners *SHOULD* be able to:

Appraise	Appraise the advantages and limitations of at least three outpatient treatments for COVID-19.
Distinguish	Distinguish appropriate outpatient treatments for COVID-19 based on patient characteristics, disease severity, and other factors.
Apply	Apply learning to reinforce or modify at least one behavior related to COVID-19 care in the outpatient setting.


Reflect on your practice and this session…

Thank you!

Questions and Discussion

Cody.A.Chastain@VUMC.org

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AETC Program National Centers and HIV Curriculum

- **National Coordinating Resource Center –** serves as the central web –based repository for AETC Program training and capacity building resources; its website includes a free virtual library with training and technical assistance materials, a program directory, and a calendar of trainings and other events. Learn more: https://aidsetc.org/
- **National Clinical Consultation Center –** provides free, peer-to-peer, expert advice for health professionals on HIV prevention, care, and treatment and related topics. Learn more: https://nccc/ucsf.edu
- **National HIV Curriculum –** provides ongoing, up –to-date HIV training and information for health professionals through a free, web –based curriculum; also provides free CME credits, CNE contact hours, CE contact hours, and maintenance of certification credits. Learn more: www.hiv.uw.edu

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Thank You!

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