SITA

13° CONGRESSO NAZIONALE

PADOVA | 23-24 novembre 2023

Presidente SITA:
Prof. Matteo Bassetti

Comitato Organizzatore:
Prof.ssa Anna Maria Cattelan

I trattamenti precoci per COVID-19: sono realmente cost-effective?

Anna Maria Cattelan
Malattie Infettive e Tropicali
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Disclosures

I have received funding for Advisory Boards, Speaker Panels and for preparation of educational materials for the following:

Gilead Sciences

Angelini

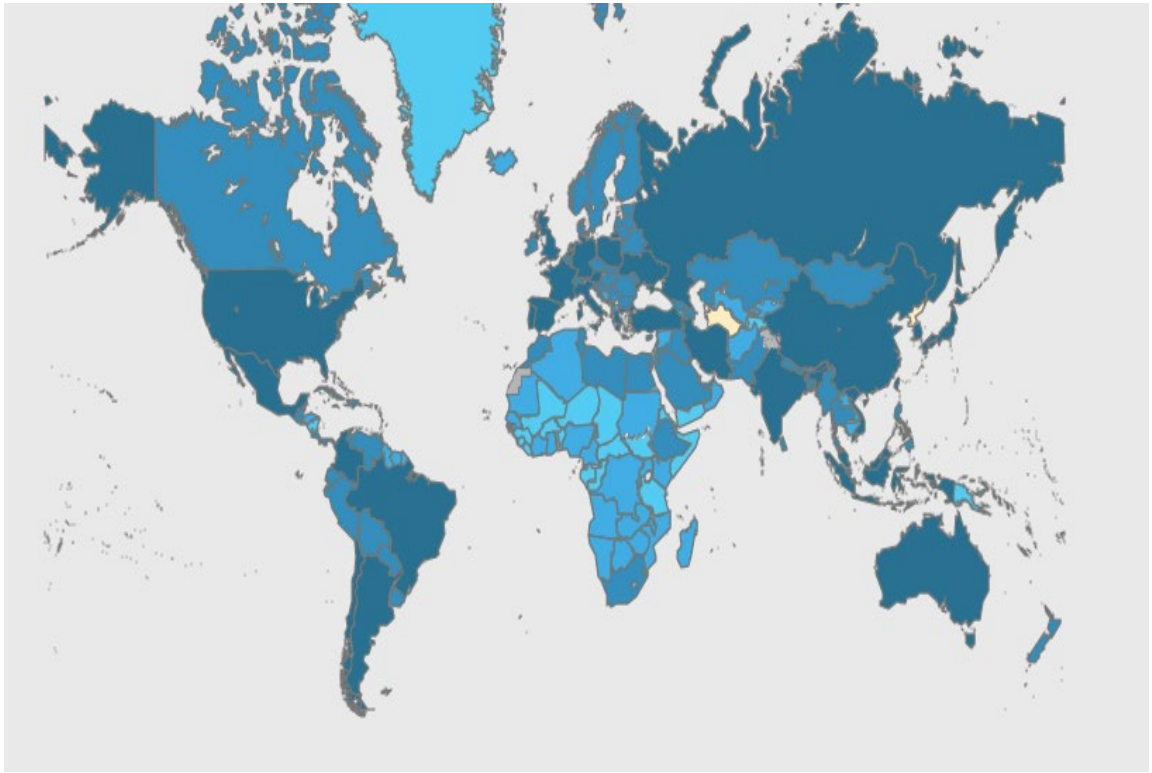
Abbvie

Janssen

MSD

ViiV Healthcare

World Health Organization



Globally, as of **16 November 2023**, there have been **772.011.164 confirmed cases** of COVID-19, including **6.979.786 deaths**, reported to WHO. As of **7 November 2023**, a total of **13.534.602.932 vaccine doses** have been administered

Situation by WHO Region

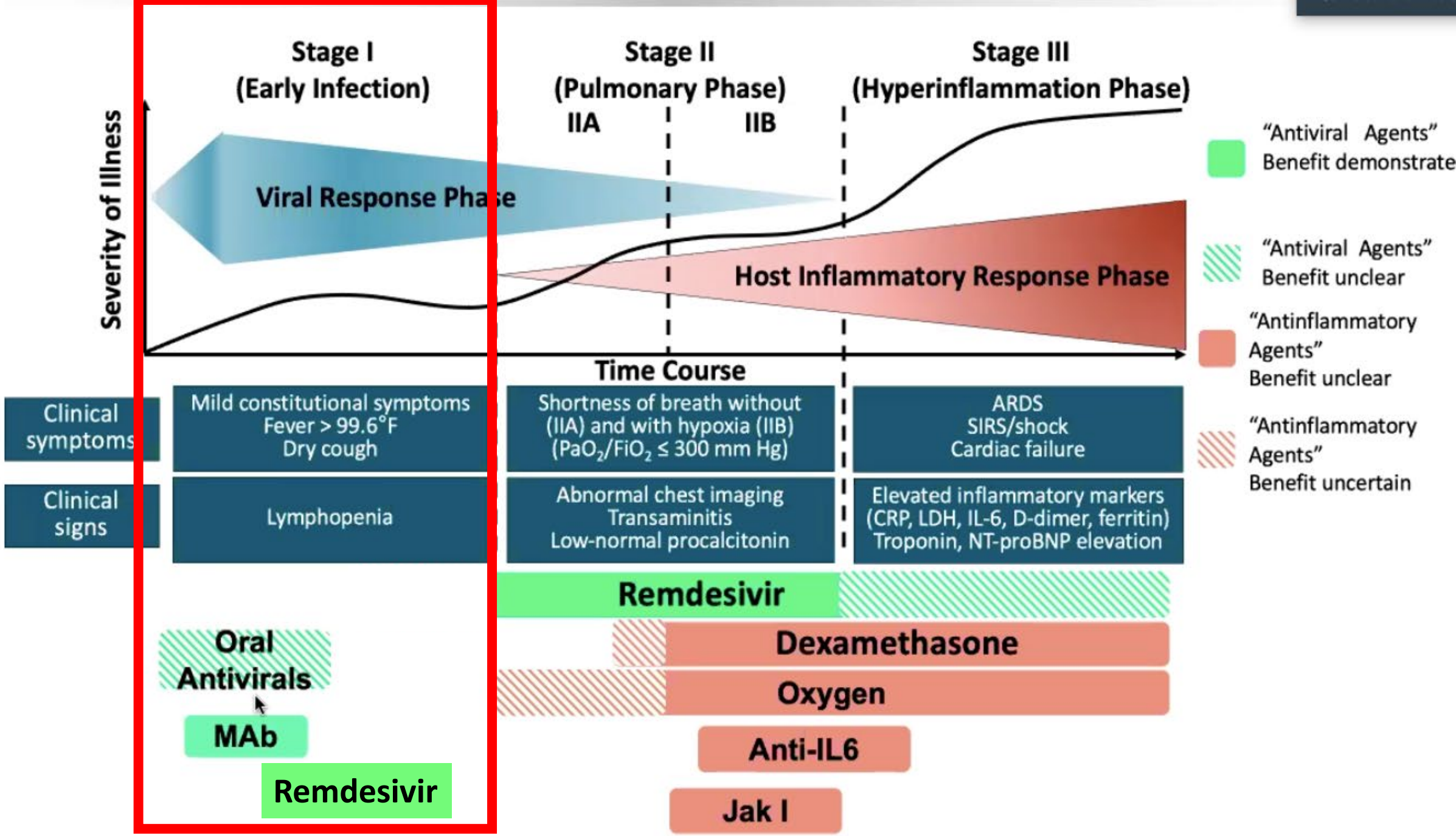
Europe	277.027.436	confirmed
Western Pacific	207.493.678	confirmed
Americas	193.322.769	confirmed
South-East Asia	61.209.872	confirmed
Eastern Mediterranean	23.403.255	confirmed
Africa	9.553.390	confirmed

Coronavirus, la situazione in Italia

dati aggiornati al 17 Novembre 2023

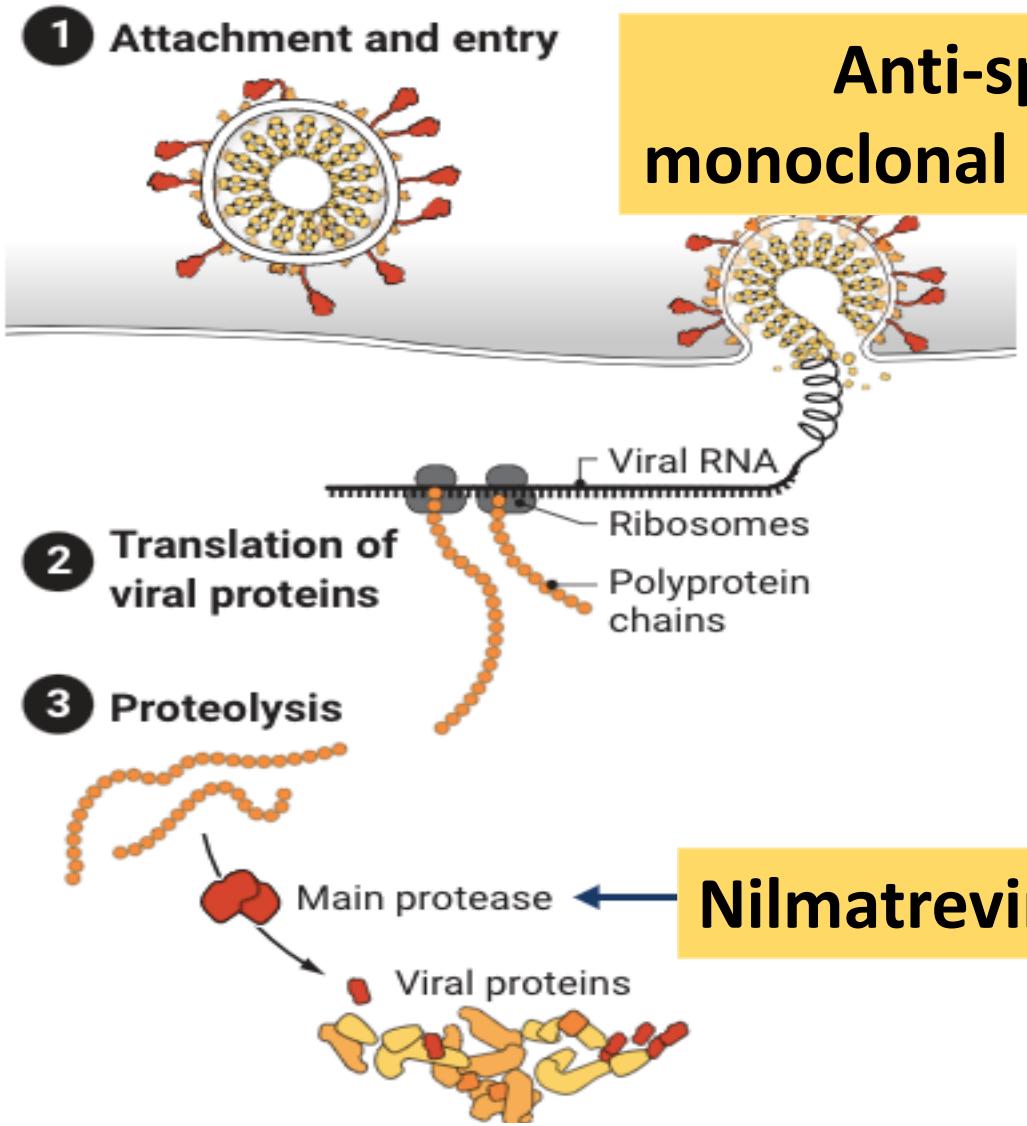
DATO SETTIMANALE AGGREGATO, variazione % rispetto alla precedente e totale da inizio pandemia

NUOVI CASI	MORTI	TERAPIA INTENSIVA	RICOVERATI CON SINTOMI
34.319	**192**	**20**	**511**
+28,1%	+17,8%	+19,6%	+14%
Totali 26.318.717	Totali 192.909	Totali 122	Totali 4.167



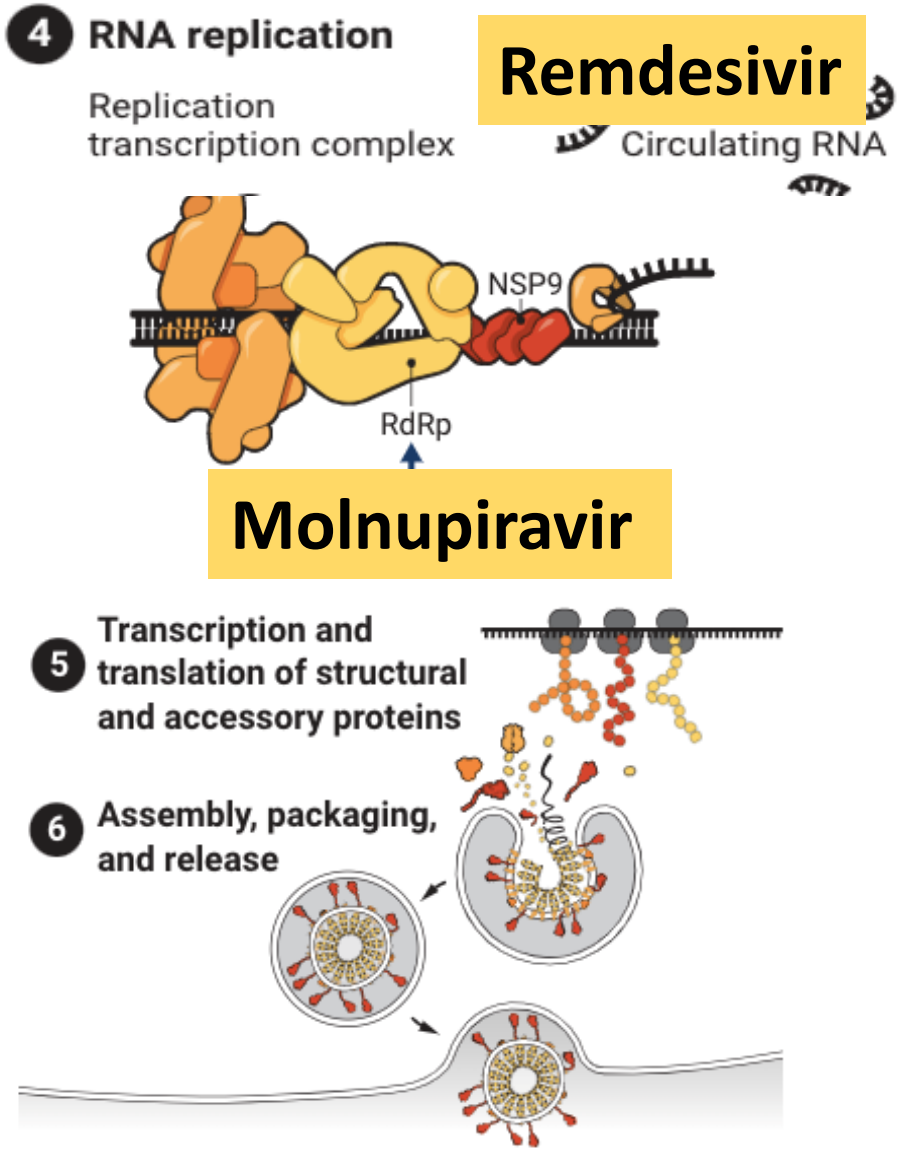
Modified from Siddiqi. J Heart Lung Transplant. 2020;39:405.

SARS CoV-2 Antivirals



Anti-spike monoclonal antibodies

Nilmatrevir/ritonavir



Remdesivir

Molnupiravir

Modified from https://www.science.org/doi/epdf/10.1126/science.acx9605

STUDY	COMET-ICE (SOTROVIMAB)[1]	EPIC-HR (NIRMATRELVIR/R)[2]	PINETREE (REMDESIVIR)[3]	MOVe-OUT (MOLNUPIRAVIR)[4]
EFFICACY (Relative Risk Reduction,% in hospitalization/death)	**85% Absolute risk 7%→1%**	**88% Absolute risk 6.3%→0.8%**	**87% Absolute risk 3.3%→0.7%**	**30% Absolute risk 9.7%→6.8%**
PROS	**Highly efficacious No dose adjustment in CKD No drug interactions**	**Highly efficacious Oral regimen Ritonavir studied (safe) in pregnancy**	**Highly efficacious Studied in pregnancy Used with Cl Creat< 30 ml/min Few/no drug interacions**	**Oral regimen No drug-drug interactions**
CONS	**Require IV infusion Immune evasion**	**Drug-drug interactions**	**Require IV infusion in three consecutive days**	**Lower efficacy Concerns: mutagenity Not recommended in pregnancy and children**

1. N Engl J Med 2021; 385:1941-1950; 2. N Engl J Med 2022; 386:1397-1408; 3. N Engl J Med 2022; 386:305-315; 4. N Engl J Med 2022; 386:509-520

Summary of COVID-19 Guidelines and Recommendations
Outpatient/Early Treatment

Drug	IDSA[a]	WHO[b]	AUSTRALIAN[c]	NIH[d]	ESCMID[e]
Nirmatrelvir-ritonavir	+ (preferred option in most patients)	+ (preferred option in most patients)	+ (preferred option in most patients)	+ (preferred option in most patients)	+ preferred option in most patients
Remdesivir	+ (conditional)	+ (conditional)	+(conditional)	+	+
Molnupiravir	+ (conditional)*	+	+ (conditional)	+ (conditional)*	NA
Monoclonal antibodies	-	-	-	-	-#
Convalenscent plasma	+ (conditional)*	-	-	- (in clinical trial for immunocompromised)	-
Inhaled steroids	-	NA	+ (conditional)	Insufficient data	- Only in clinical trial

* in all patients exception for those requiring high-flow oxygen.
# in all patients exception for those requiring high-flow oxygen (conditionl in immunocompromised in combination with immunomodulator).
§ in patients requiring oxygen supplementation.
ESCMID, European Society of Clinical Microbiology and Infectious Disease; NIH, National Institutes of Health; WHO, World Health Organization.
a. IDSA. COVID-19 treatment guidelines. Accessed August 4, 2023. https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/#Recommendations4-6:Lopinavir/ritonavir; b. WHO. Therapeutics and COVID-19: living guideline, 13 January 2023. Accessed August 4, 2023. https://www.who.int/publications/i/item/WHO-2019-nCoV-therapeutics-2023.1; c. Clinicalevidence.net. Australian COVID-19 living guidelines. Accessed August 4, 2023. https://clinicalevidence.net.au/covid-19/#living-guidelines; d. NIH. Clinical management of adults summary. Accessed August 4, 2023. https://www.covid19treatmentguidelines.nih.gov/management/clinical-management-of-adults/clinical-management-of-adults-summary/?utm_source=site&utm_medium=home&utm_campaign=highlights; e. Bartoletti M, et al. Clin Microbiol Infect. 2022;28:1578-1590.

NICE
National Institute for Health and Care Excellence

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Final draft guidance

Therapeutics for people with COVID-19

Setting	Recommended	Not recommended
Mild COVID-19 (in people who have high risk of progression to severe disease, this setting also includes hospital-onset COVID-19)	• nirmatrelvir plus ritonavir • sotrovimab (only if nirmatrelvir plus ritonavir is contraindicated or unsuitable)	• casirivimab plus imdevimab • molnupiravir • remdesivir • tixagevimab plus cilgavimab

February 2023

NICE National Institute for Health and Care Excellence

Therapeutics for people with COVID-19 [ID4038]

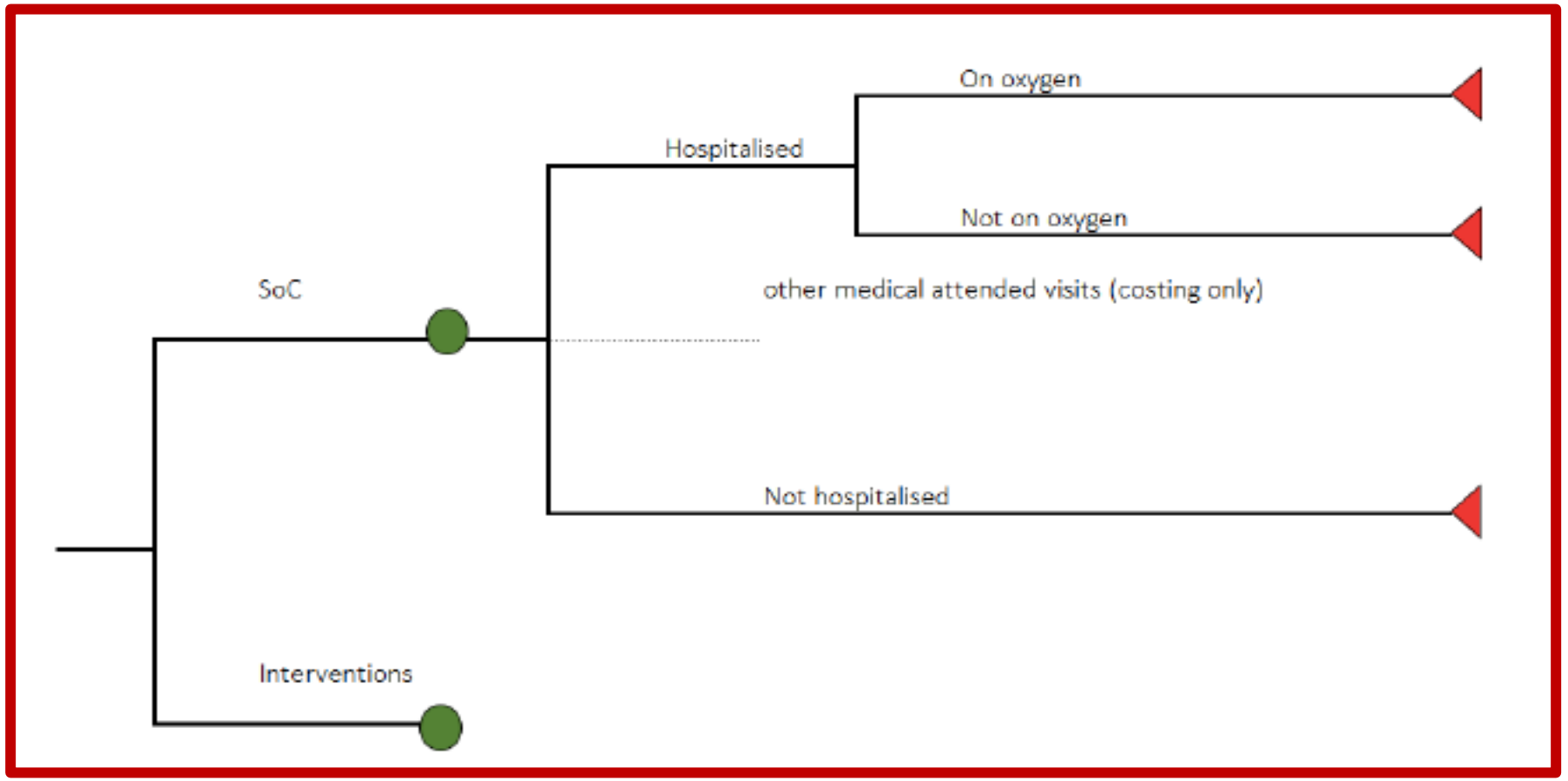
Assessment Report

Commercial in Confidence stripped version for consultation

Produced by: School of Health and Related Research (ScHARR), The University of Sheffield

30/06/2022

CLINICAL-EFFECTIVENESS OF TREATMENTS USED IN NON-HOSPITALISED HIGH RISK PATIENTS



Structure of the decision tree used for the non-hospitalised cohort

List prices of interventions used in the model

Intervention	List price	Notes
Molnupiravir	£579.74	The Institute for Clinical & Economic Review report[45] states $707 as the treatment course price. An exchange rate of $1 = £0.82 was assumed.
Nirmatrelvir/ritonavir	£433.78	The Institute for Clinical & Economic Revie report[45] states $529 as the treatment course price. An exchange rate of $1 = £0.82 was assumed.
Remdesivir	£340.00	Price for 1 vial of 100 mg remdesivir
Sotrovimab	£2209.00	Price for 1 vial of 500 mg sotrovimab

NICE National Institute for Health and Care Excellence

Mean efficacy results for people at high-risk of hospitalisation

Intervention	Discounted Costs (£)	Discounted QALYs	Cost per QALY compared with SoC (£)	NMB compared with SoC† (£)	Cost per QALY Incremental Analyses (£)
SoC	413	10.05	-	-	-
Nirmatrelvir/ritonavir	670	10.11	4439	904	4439
Molnupiravir	1027	10.10	13,684	283	Dominated
Remdesivir	1923	10.07	88,320	-1,169	Dominated
Casirivimab/Imdevimab	2450	10.08	74,907	-1,493	Dominated
Sotrovimab	2662	10.09	65,922	-1,567	Dominated

† Assuming a threshold of £20,000 per QALY gained QALY – quality-adjusted life years; SoC – standard of care

NICE Assessment Report, June 2022

Limitations of the analysis

- The characteristics of the decision problem may have changed considerably since the pivotal trials for each intervention was conducted:

✓ the introduction of a vaccination programme

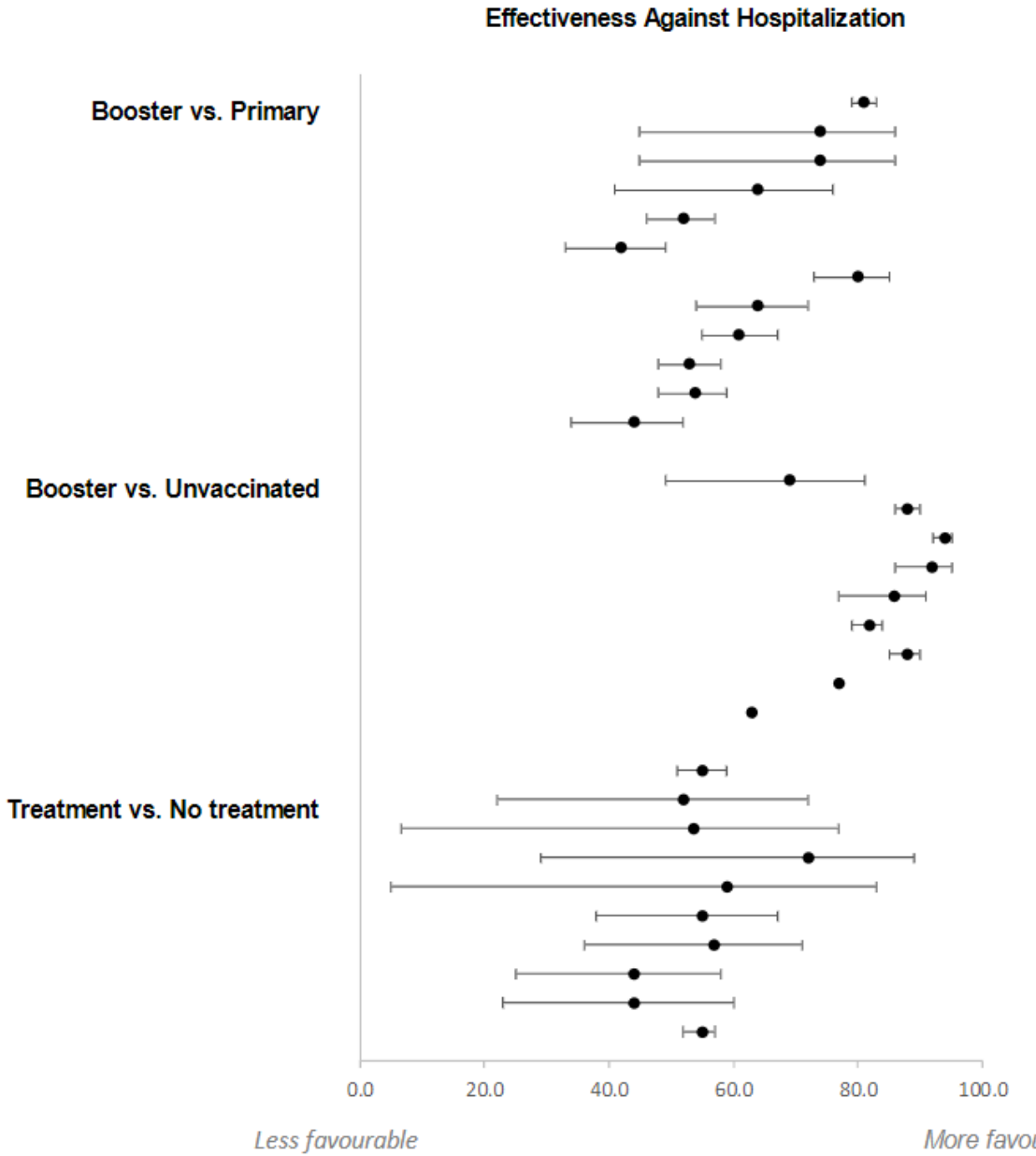
✓ new SARS-CoV-2 variants

✓ history of prior SARS-CoV-2 infection

- No head-to-head studies of interventions
- Uncertainty regarding the underlying rates of hospitalisation in patients with COVID-19 at high risk of hospitalisation under SoC
- Variability in drug prices

The impact of vaccination and outpatient treatment on the economic burden of covid-19 in the United States omicron era: a systematic literature review

Taylor & Francis
Taylor & Francis Group



Study Author, Year	Intervention	Variant	Effectiveness* (95% CI)
Mehta, 2022 (≥ 65 years)	mRNA Vx (3 doses)	Delta-Omicron	81 (80, 82)
McConeghy, 2022	mRNA Vx (3 doses)	Delta-Omicron	74 (45, 86)
McConeghy, 2022	mRNA Vx (3 doses)	Delta-Omicron	74 (45, 86)
McConeghy, 2022	mRNA Vx (3 doses)	Delta-Omicron	64 (41, 76)
Butt, 2022 (no prior COVID-19)	Any Vx (3 doses)	Delta-Omicron	52 (46, 57)
Skarbinski, 2022 (age NR)	Any Vx (3 doses)	Delta-Omicron	42 (33, 49)
Butt, 2022 (no prior COVID-19)	mRNA Vx (3 doses)	Delta (subgroup)	80 (73, 85)
Sharma, 2022	mRNA-1273 (3 doses)	Omicron	64 (54, 72)
Sharma, 2022	BNT162b2 (3 doses)	Omicron	61 (55, 67)
Ioannou, 2022	mRNA Vx (3 doses)	Omicron (subgroup)	53 (48, 58)
Kompaniyets, 2023	mRNA Vx (3 doses)	Omicron (subgroup)	54 (48, 59)
Kompaniyets, 2023	Ad26.COV2.S + mRNA	Omicron (subgroup)	44 (34, 52)
Paredes, 2022 (age NR)	Any Vx (3 doses)	Alpha-Omicron	69 (49, 81)
Skarbinski, 2022 (age NR)	Any Vx (3 doses)	Delta-Omicron	88 (86, 90)
Lauring, 2022	mRNA Vx (3 doses)	Delta (subgroup)	94 (92, 95)
Tartof, 2022	BNT162b2 (3 doses)	Delta	92 (86, 95)
Lauring, 2022	mRNA Vx (3 doses)	Omicron (subgroup)	86 (77, 91)
Sharma, 2022	BNT162b2 (3 doses)	Omicron	82 (79, 84)
Sharma, 2022	mRNA-1273 (3 doses)	Omicron	88 (85, 90)
Danza, 2022	Any Vx (3 doses)	Omicron (subgroup)	77(NR)
Greene, 2023 (age NR)	Any Vx (3 doses)	Omicron (subgroup)	63 (60, 65)
Cheng, 2023 (High-risk)	Sotrovimab	Delta-Omicron	55 (51, 59)
Aggarwal, 2023	NMV/r	Pre-omicron	52 (22, 72)
Lewnard, 2023	NMV/r	Omicron	53.6 (6.6, 77)
Piccicacco, 2022 (High-risk)	Sotrovimab	Omicron	72 (29, 89)
Piccicacco, 2022 (High-risk)	Remdesivir	Omicron	59 (5, 83)
Aggarwal, 2023	NMV/r	Omicron	55 (38, 67)
Aggarwal, 2023	NMV/r	Omicron	57 (36, 71)
Dryden-Peterson, 2023 (≥50 years)	NMV/r	Omicron	44 (25, 58)
Gentry, 2023 (≥65 years)	Molnupiravir/Paxlovid	Omicron	44 (23, 60)
Shah, 2022 (High risk)	NMV/r	Omicron	55 (52, 57)

RESEARCH Open Access

COVID-19 and hospital management costs: the Italian experience

The economic evaluation of COVID-19 positive patients' clinical pathways was assessed within 6 Italian public Hospitals managing COVID-19 patients, involving 34 wards devoted to the care of infected individuals, requiring a hospitalization from Feb to Dec 2020.

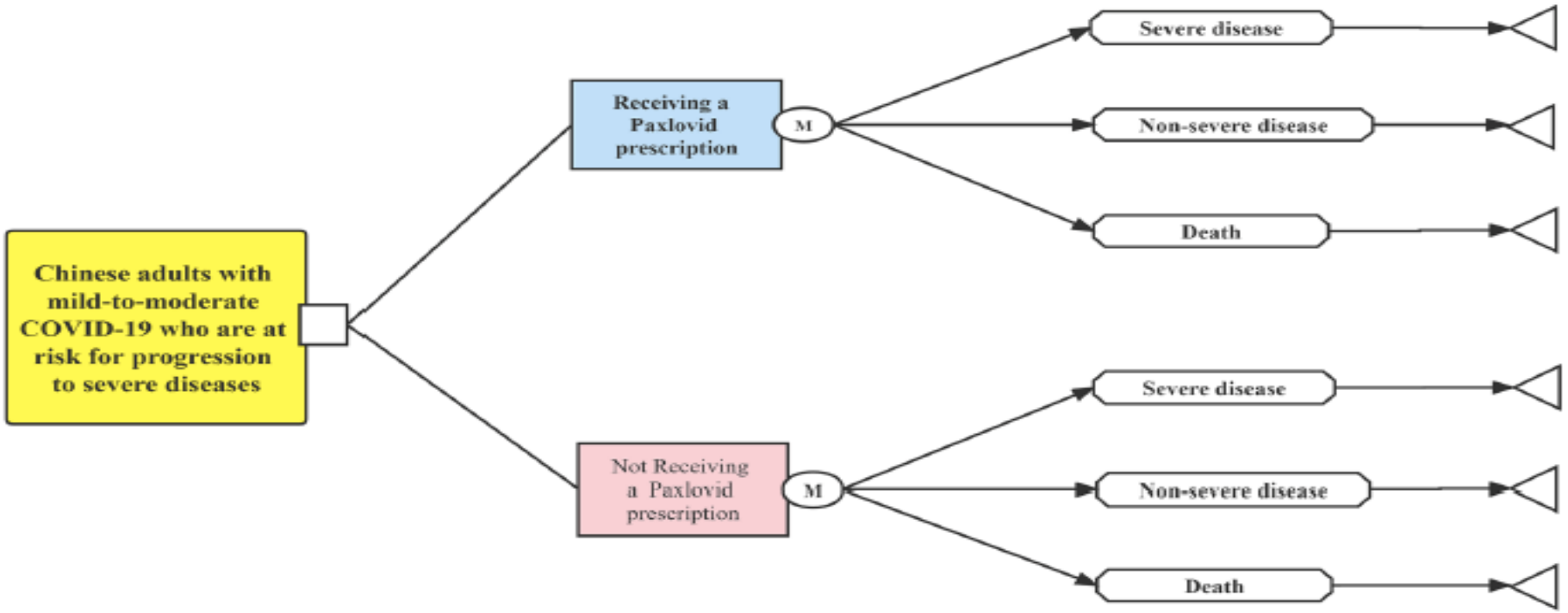
Table 1 The cost of a single hospitalization day

Items of healthcare expenditure	Low-complexity hospitalization	Medium-complexity hospitalization	High-complexity hospitalization
Laboratory Exams	433.71 €	526.92 €	1,120.95 €
Diagnostic procedures	699.99 €	853.59 €	2,129.33 €
Human resources	2,159.54 €	3,189.74 €	5,645.59 €
Oxygen Therapy	1,006.24 €	1,362.37 €	2,283.52 €
Drugs	176.79 €	322.33 €	1,407.96 €
PPE	149.78 €	157.71 €	264.98 €
Equipment	0.54 €	1.52 €	2.83 €
Meal and Cleaning services	195.28 €	230.42 €	360.08 €
General and fixed costs	964.37 €	1,328.92 €	2.643,05 €
Total cost related to hospitalisation	**5,786.25 €**	**7,973.52 €**	**15.858,29 €**
Cost related to the single hospitalization day	**475.86 €**	**700.20 €**	**1,401.65 €**

Foglia et al. BMC Health Services Research (2022) 22:991

Cost-effectiveness of Paxlovid in reducing severe COVID-19 and mortality in China

frontiers | Frontiers in Public Health



Primary outcomes:

- total social cost
- Disability Adjusted Life-Years (DALYs)
- Net Monetary benefit (NMB).

Scenario analyses were performed to investigate the affordable price of Paxlovid in different scenario analysis in China.

Zhang W et al. Front Public Health 2023

NMBs estimated for cohort with/without Paxlovid prescription.

Subgroups	Cohort	Cost (RMB in 10 millions)		DALY		NMB (RMB in 10 millions)	Cost-effectiveness intervention
		Total	Difference	Total	Difference		
Vaccinated_18–39 years old	Non-Paxlovid	13,385		3,900		−13,352	√
	Paxlovid	15,275	1,890	3,900	0	−15,242	
Vaccinated_40–59 years old	Non-Paxlovid	13,459		4,149		−13,424	√
	Paxlovid	15,312	1,853	4,024	−124	−15,278	
Vaccinated_60–79 years old	Non-Paxlovid	9,895		5,227		−9,850	√
	Paxlovid	11,594	1,699	4,564	−664	−11,555	
Vaccinated_ > 80 years old	Non-Paxlovid	13,593		18,086		−13,438	
	Paxlovid	13,443	−150	10,993	−7,093	−13,349	√
Unvaccinated_18–39 years old	Non-Paxlovid	13,508		4,315		−13,471	√
	Paxlovid	15,337	1,828	4,107	−207	−15,302	
Unvaccinated_40–59 years old	Non-Paxlovid	14,247		6,804		−14,189	√
	Paxlovid	15,706	1,459	5,352	−1,452	−15,661	
Unvaccinated_60–79 years old	Non-Paxlovid	12,972		15,929		−12,836	√
	Paxlovid	13,133	160	9,915	−6,015	−13,048	
Unvaccinated_ > 80 years old	Non-Paxlovid	28,051		68,360		−27,465	
	Paxlovid	20,672	−7,379	36,130	−32,230	−20,362	√

RMB, Renminbi; DALY, disability adjusted life-years; NMB, net monetary benefit.

The price ceiling of Paxlovid/box investigated for subgroups.

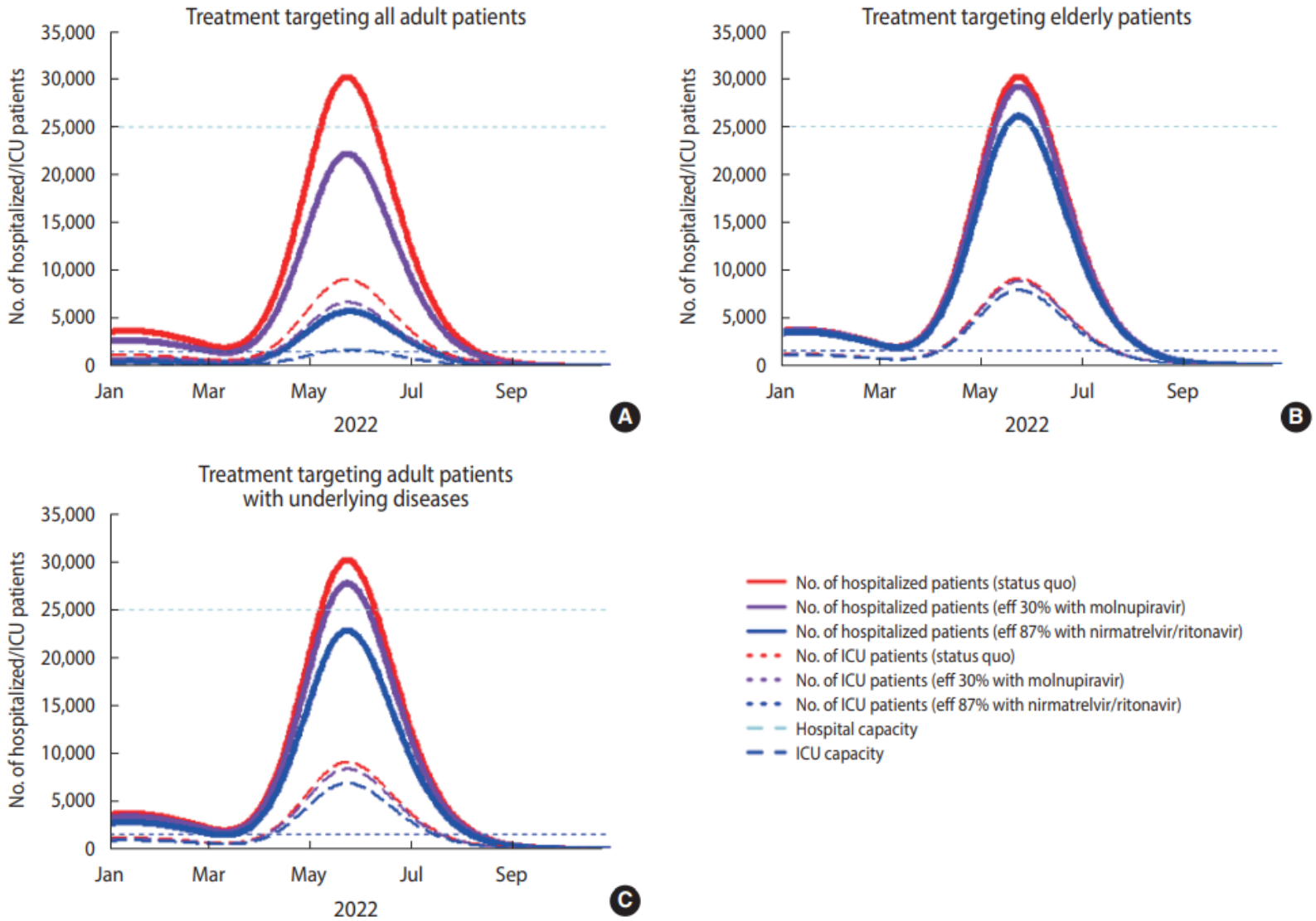
The current price of RMB 1890 of Paxlovid per box, was cost-effective only in patients aged over 80, regardless of their vaccination status

90% reduction in the price per Paxlovid box would render the Paxlovid cohort to become cost-effective in the subgroup of vaccinated patients aged 60–79 yrs old. 98% reduction in the price per Paxlovid box would render the Paxlovid to become cost-effective in the subgroup of vaccinated patients aged 40–59 yrs old

Subgroups	Affordable price ceiling of Paxlovid/box for Paxlovid to be cost-effective (95% CI), RMB
vaccinated_18–39 years old	/
vaccinated_40–59 years old	35 (27–45)
vaccinated_60–79 years old	185 (171–200)
vaccinated_>80 years old	1,979 (1,964–1,994)
unvaccinated_18–39 years old	59 (42–76)
unvaccinated_40–59 years old	418 (401–435)
unvaccinated_60–79 years old	1,678 (1,663–1,693)
unvaccinated_>80 years old	8,993 (8,970–9,009)

Model-based cost-effectiveness analysis of oral antivirals against SARS-CoV-2 in Korea

epiH
Epidemiology and Health



Model-based cost-effectiveness analysis of oral antivirals against SARS-CoV-2 in Korea

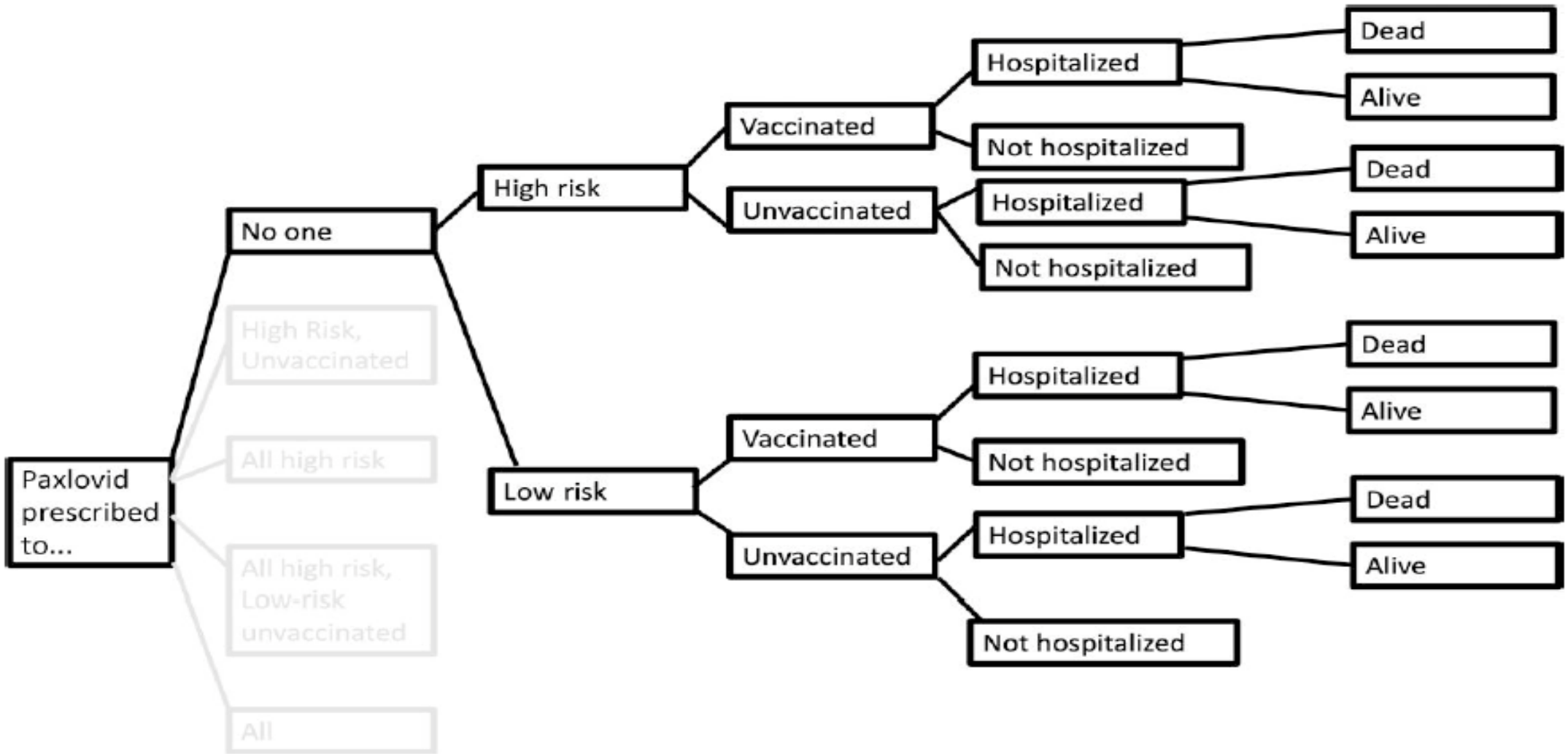
epiH Epidemiology and Health

Table 2. Target populations, health outcomes, total costs, and ICERs of COVID-19 treatment scenarios in Korea in 2022

Variables	Standard care (without treatment)	Molnupiravir: 30% efficacy for reducing admission			Nirmatrelvir/ritonavir: 87% efficacy for reducing admission		
		All adult patients	Elderly patients only	Adult patients with underlying disease only	All adult patients	Elderly patients only	Adult patients with underlying disease only
Target population: Test-positive COVID-19 patients who reported symptoms within 5 days after diagnosis							
No. of the target population		2,454,096	83,314	736,218	2,454,096	83,314	736,218
Health outcome by intervention scenario[1]							
No. of severe patients who require hospital admission (A)[2]	181,931	135,803	174,517	168,088	36,949	150,506	138,433
No. of severe patients who require ICU admission (B)	54,579	40,740	52,354	50,425	11,083	45,152	41,530
Total no. of severe patients who require hospital/ICU admission (C)	236,510	176,543	226,871	218,513	48,032	195,658	179,963
Total prevented severe cases (D)	NA	-59,967	-9,639	-17,997	-188,478	-40,852	-56,547
No. of patients receiving hospital care during months when capacity is exceeded (E)	115,385	0[3]	166,667	166,667	0[3]	83,333	0[3]
No. of patients receiving ICU care during months when capacity is exceeded (F)	13,846	20,000	20,000	20,000	10,000	20,000	20,000
Hospital admission during months when capacity is not exceeded (G)[2]	68,873	135,803	66,380	63,480	36,949	88,009	138,433
ICU admission during months when capacity is not exceeded (H)[4]	6,476	4,772	6,316	5,965	4,080	5,817	4,913
Total admissions under the current health system capacity (I: E+F+G+H)	204,580	160,575	259,363	256,112	51,029	197,159	163,346
Net total hospital/ICU admission by treatment under the current health system capacity (J)[5]	NA	-44,005	54,783	51,532	-153,551	-7,420	-41,234
Cost (million USD)							
Drug costs (K)	NA	1,718	58	515	1,718	58	515
Hospital costs (L)	49	36	62	61	10	46	37
ICU costs (M)	17	20	22	21	12	21	21
Total costs (N: K+L+M)	66	1,775	142	598	1,739	125	573
Incremental costs, million USD (O)	NA	1,709	76	532	1,673	59	507
ICER: Cost per prevented severe case, USD (D/O)	NA	28,492	7,915	29,575	8,878	1,454	8,964
ICER: Cost per admission/prevented admission, USD (J/O)[6]	NA	38,828	-1,393	-10,329	10,898	8,006	12,293

Open Forum Infectious Diseases
MAJOR ARTICLE

Population-Level Strategies for Nirmatrelvir/Ritonavir Prescribing—A Cost-effectiveness Analysis



Open Forum Infectious Diseases

MAJOR ARTICLE

Population-Level Strategies for Nirmatrelvir/Ritonavir Prescribing—A Cost-effectiveness Analysis

Incremental Cost-effectiveness Ratios per Hospitalization Averted, According to Given Nirmatrelvir/Ritonavir Effectiveness at Preventing Hospitalization Measure

	89%[a] effective in high-risk unvaccinated population, 70% effective in low-risk and/or vaccinated population, Hammond et al. [4], EPIC-SR trial [27]	67%[a] effective in high-risk unvaccinated population, 54% effective in low-risk and/or vaccinated population, Arbel et al. [10], Wong et al. [8]	45%[a] effective in high-risk unvaccinated population, 36% effective in low-risk and/or vaccinated population, Dryden-Peterson et al. [9]	21%[a] effective in high-risk unvaccinated population, 17% effective in low-risk and/or vaccinated population, Yip et al. [7]
Strategy 0: no nirmatrelvir/ritonavir				
Strategy 1: nirmatrelvir/ritonavir for unvaccinated high risk	Cost savings	Cost savings	Cost savings	$22 300
Strategy 2: nirmatrelvir/ritonavir for all high risk (regardless of vaccination)	$27 800	$43 700	$75 100	$184 300
Strategy 3: nirmatrelvir/ritonavir for all high risk and unvaccinated low risk	$72 500	$103 100	$163 500	$373 800
Strategy 4: nirmatrelvir/ritonavir for all	$349 400	$470 900	$711 200	$1 547 400

	Incremental Cost-effectiveness Ratios per Death Averted, According to Given Nirmatrelvir/Ritonavir Effectiveness at Preventing Hospitalization Measure			
	89%[a] effective in high-risk unvaccinated population, 70% effective in low-risk and/or vaccinated populations, Hammond et al. [4]	67%[a] effective in high-risk unvaccinated population, 54% effective in low-risk and/or vaccinated populations, Arbel et al. [10], Wong et al. [8]	45%[a] effective in high-risk unvaccinated population, 36% effective in low-risk and/or vaccinated populations, Dryden-Peterson et al. [9]	21%[a] effective in high-risk unvaccinated population, 17% effective in low-risk and/or vaccinated population, Yip et al. [7]
Strategy 0: no nirmatrelvir/ritonavir				
Strategy 1: nirmatrelvir/ritonavir for unvaccinated high risk	Cost savings	Cost savings	Cost savings	$319 100
Strategy 2: nirmatrelvir/ritonavir for all high risk (regardless of vaccination)	$397 200	$624 000	$1 072 400	$2 633 200
Strategy 3: nirmatrelvir/ritonavir for all high risk and unvaccinated low risk	$1 036 000	$1 472 400	$2 335 700	$5 340 200
Strategy 4: nirmatrelvir/ritonavir for all	$4 991 800	$6 727 200	$10 159 500	$22 105 500

Open Forum Infectious Diseases

MAJOR ARTICLE

Population-Level Strategies for Nirmatrelvir/Ritonavir Prescribing—A Cost-effectiveness Analysis

…….The cost-effectiveness of other allocation strategies, including those for vaccinated adults and those at lower risk for severe disease, depended on willingness-to-pay thresholds, treatment cost and effectiveness, and the likelihood of severe disease.

Priority for nirmatrelvir/ritonavir treatment should be given to unvaccinated persons at high risk of severe disease from COVID-19. Further priority may be assigned by weighing treatment effectiveness, disease severity, drug cost, and willingness to pay for deaths averted

Review

Nirmatrelvir and COVID-19: development, pharmacokinetics, clinical efficacy, resistance, relapse, and pharmacoeconomics

Daniele Focosi[a,*], Scott McConnell[b], Shmuel Shoham[b], Arturo Casadevall[b], Fabrizio Maggi[c], Guido Antonelli[d]

- In the USA, a 5-day Nirmatrelvir/ritonavir course costs USD 529 (£410; €490).
- This is estimated to correspond to an expenditure of USD 21 000 per hospital admission averted.
- By contrast, the per-patient hospitalization cost in the USA for COVID19 is estimated at USD 24 826, without taking into consideration personal and societal costs.
- In the post-vaccine Omicron era, the cost-benefit further worsened: the absolute risk reduction dropped from 5.8% (in the original RCT that led to authorization) to 1.8%, causing an increase in the number needed to treat to prevent a single hospitalization from 19 to 56 patients.
- **In other words, about 35 000 USD have to be spent to prevent a single hospital admission.**

Letter to the Editor

Cost-effectiveness analysis of ritonavir boosted nirmatrelvir for adult outpatients with mild to moderate COVID-19 in a European health system

The baseline scenario without ritonavir-boosted nirmatrelvir showed that, in a theoretical cohort of 100,000 outpatients with mild to moderate COVID-19, 144 would be hospitalized in the ICU and 43 would die, while 1456 would be hospitalized in a medical ward and of those, 6 would die. This scenario would cost 16'441'600 € and yield 1'271'263 QALYs.

In the same theoretical cohort of 100,000 outpatients with mild to moderate COVID-19, the scenario with ritonavir-boosted nirmatrelvir treatment showed 1 ICU hospitalization and 409 hospitalizations in a medical ward and no deaths. The cost of this intervention would be 106,072,042 € (i.e. an increase of 89,639,442€) at an extra QALY gain of 620.89 €. This yielded and ICER of 144,356.4 € per QALY gained.

A univariate sensitivity analysis was performed, modifying each of the parameters of the model within its

In our setting, with very high vaccine uptake, ritonavir-boosted nirmatrelvir does not add sufficient value in terms of QALYs to justify its present cost.

Wikman-Jorgensen P, Ibarra JM, Devesa C, Peris J, Llenas-García J. Cost-effectiveness analysis of ritonavir boosted nirmatrelvir for adult outpatients with mild to moderate COVID-19 in a European health system. Eur J Intern Med. 2023 Oct 7:S0953-6205(23)00345-X.

COST-COVID STUDY

- Studio retrospettivo e farmacoeconomico.
- Sono stati analizzati i pazienti che avevano ricevuto almeno il ciclo primario di vaccinazione contro COVID-19 (2 dosi), idonei alla terapia con antivirali orali secondo i criteri AIFA e affetti dalla COVID-19 di grado lieve-moderato contratta tra il 21 gennaio 2022 e il 30 giugno 2022.
- Per ciascun mese del semestre gennaio-giugno 2022, sono stati selezionati i primi 50 pazienti consecutivamente segnalati alla UOC Malattie Infettive e Tropicali dell'Azienda Ospedale Università Padova per eseguire il trattamento precoce contro la COVID-19.
- Sono stati elaborati 3 gruppi: pazienti trattati con antivirali orali -> molnupinavir (gruppo A) e nirmatelvir/ritonavir (gruppo B) *versus* soggetti che, anche se in possesso dei criteri AIFA per ricevere il trattamento, avevano rifiutato volontariamente tale terapia (gruppo di controllo).

	Antivirali SI (N pazienti = 503) [N = 251 MOL ; N = 252 NIR/r]	Antivirali NO (N pazienti = 458)	P value
Maschi (N, %)	258 (51.3%)	235 (51.3%)	0.995
Età (anni, DS)	70.1 (14.3)	65.1 (15.7)	**< 0.001**
Età >= 65 (N, %)	359 (71.3%)	273 (59.6)	**< 0.001**
Obesità (N, %)	83 (16,5%)	91 (19.9%)	0.175
Diabete (N, %)	104 (20.7%)	69 (15.1%)	**0.023**
Malattie cardiovascolari (N, %)	322 (64%)	228 (49.8%)	**< 0.001**
Neoplasie (N, %)	37 (7.3%)	43 (9.3%)	0.254
Malattia renale cronica (N, %)	20 (4%)	22 (4.8%)	0.530
BPCO (N, %)	112 (22.2%)	81 (17.7%)	0.076
Demenza (N, %)	33 (6.5%)	15 (3.3%)	0.019
Immunocompromissione (N, %)	36 (7.1%)	43 (9.4%)	0.208
Comorbitià multiple >=3 (N, %)	43 (8.5%)	31 (6.7%)	0.301

Personal data

	Antivirali SI (N pazienti = 503) [N = 251 MOL ; N = 252 NIR/r]	Antivirali NO (N pazienti = 458)
Numero pazienti ricoverati per COVID-19	7 (1,4%)	11 (2,4%)
Numero pazienti ricoverati in Terapia Intensiva per COVID-19	0	1
Numero pazienti ricoverati per cause diverse da COVID-19	5 (1,0%)	2 (0,4%)
Costo complessivo dei ricoveri per COVID-19	41.378,53 €	172.000€

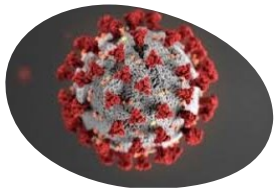
Costo di un ciclo terapeutico di Nirmatrevir/ritonavir= 250 Euro

250 Euro x 503 pazienti= 125.750 Euro

Costo dei farmaci ?

Personal data

Take home messages



- The target population of COVID-19 early treatment that may have a greater advantage in terms of cost-effectiveness could include unvaccinated populations, patients with a higher degree of immunosuppression, or those with multiple risk factors
- Nirmatrevir/rtv has shown the highest cost-effectiveness and ICER among the early treatments for COVID-19, indicating that not all treatments have equal effectiveness in terms of cost
- New real-world evidence, and a cost-effectiveness approach must be undertaken for future international/national therapeutic guidelines


grazie
thank you
gracias
arigatô
merci
dake
shukran
takk
tak
obrigado
hvala
kiitos
dank
grazzi
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