

Feb | 25

COVID-19

Situation Report 504

i. Background

In December, China notified the World Health Organization (WHO) of several cases of human respiratory illness, which appeared to be linked to an open seafood and livestock market in the city of Wuhan. The infecting agent has since been identified as a novel coronavirus, previously known as 2019-nCoV and now called SAR-CoV-2; The new name of the disease has also been termed COVID-19, as of 11th February 2020. Although the virus is presumed zoonotic in origin, person-to-person spread is evident. Screening of travellers, travel bans and quarantine measures are being implemented in many countries. Despite these precautions, it is anticipated that more cases will be seen both inside China and internationally. The WHO declared the outbreak of COVID-19 constitutes a Public Health Emergency of International Concern on 30 January. On 11 March, 2020, WHO declared the coronavirus outbreak a pandemic as the global death toll rose above 4,600 and the number of confirmed cases topped 125,000. This report aims to update Global Risk Assessment, Global Epidemiology, Quarantine Orders, Travel Ban/Advisory by countries, WHO's and CDC's Guidance and Protocols and Scientific publication on a daily basis. **New updates in the tables are bolded.**

ii. Global Risk Assessment

Table 1. Risk assessment of COVID-19 by WHO regions (Updated as of 25 February 2022, 1200H SGT)

Environmental Risk	Transmissibility	Severity of Disease	Availability of Treatment/Vaccination [#]	Overall Risk [%]
Global (n=198 countries)				
<p>High</p> <p>Globally, 192 (97.0%) countries (excluding territories*) have reported the outbreak.</p> <p>Using an incidence >20 cases/100,000 people over the past 14-days as cut-off for a surge in cases, the number of countries reporting a surge in cases in each region are as follows: Combined WPRO and SEARO (28 countries), EURO (49 countries), EMRO (15 countries), Americas (32 countries), and Africa (7 countries).</p> <p>Only 6 (3%) countries/territories have no reported restrictions on inbound arrivals, while 152 (82%) countries/territories have partially reopened their borders – require arrivals to produce a negative COVID-19 test result and/or undergo self-quarantine upon arrival. 41 (22%) countries/territories are totally closed to international arrivals. [1]</p> <p>On October 7, the Centers for Disease Control and Prevention (CDC) confirmed airborne transmission of SARS-CoV-2. [2]</p> <p>The U.S. CDC has revised its guidance on COVID-19 quarantine period from 14 days to 7-10 days, based one's test results and symptoms. Individuals without symptoms only need quarantine for 10 days without testing; those tested negative can quarantine for 7 days. [14]</p> <p>The US Centers for Disease Control and Prevention (CDC) on 10 Feb announced that fully vaccinated people did not need to quarantine if they received their last dose within three months and 14 days after their last shot, the time it takes to develop immunity. [16]</p>	<p>Based on CDC data, median R_0 is estimated to be 5.8 (95% CI 4.4–7.7), but the estimated effective reproduction number in 178 countries ranged from 0.1 to 4.7.^s</p>	<p>Case fatality rate is currently at 1.38% globally. Most cases present as flu-like illness.</p>	<p>Limited Coverage</p> <p>The number of countries that have commenced mass vaccination in each region are as follows: Combined WPRO and SEARO (33 countries), EURO (53 countries), EMRO (21 countries), Americas (35 countries), and Africa (46 countries).^g</p> <p>International clinical trials published on 2 September confirm that cheap, widely available steroid drugs can help seriously ill patients survive Covid-19. The World Health Organization issued new treatment guidance, strongly recommending steroids to treat severely and critically ill patients, but not to those with mild disease. [4]</p> <p>Researchers have found all regimens of anticoagulants to be far superior to no anticoagulants in COVID-19 patients. More specifically, patients on both a “therapeutic” or full dose and those on a “prophylactic” or lower dose, showed about a 50% higher chance of survival and roughly a 30% lower chance of intubation, than those not on anticoagulants. It was observed that therapeutic and prophylactic subcutaneous low-molecular weight heparin and therapeutic oral apixaban may lead to better results. [3]</p> <p>A new strain known as B.1.525 containing the same E484K mutation found in the Brazilian and South African variants has been detected in Britain [18].</p> <p>As of 6 July, the WHO recommended using arthritis drugs Actemra (tocilizumab) and Kevzara (sarilumab) with corticosteroids for severe and critical COVID-19 patients. [27]</p> <p>On 4 Aug, the WHO called for a moratorium on COVID-19 vaccine</p>	<p>High</p>

<p>On January 19, the World Health Organization said that international travel bans "do not provide added value and continue to contribute to the economic and social stress" of countries [43].</p>			<p>boosters until at least the end of September, to enable that at least 10% of the population of every country was vaccinated. [28]</p> <p>On 3 Sept, emergency use of the Soberana 2 vaccine was authorized in Cuba for minors between the ages of two and 18. [31]</p> <p>On 8 Sep, World Health Organization called for a moratorium on using coronavirus booster shots until the end of the year or longer especially among healthy people who are fully vaccinated. [32]</p> <p>On 29 October, the US Food and Drug Administration (FDA) approved Pfizer's Covid-19 vaccine for emergency use in children aged five to 11 which was later signed off by the CDC on 2 November. [34]</p> <p>On 26 November 2021, WHO designated the variant B.1.1.529 a variant of concern, named Omicron. This variant has several mutations which may impact how it behaves in terms of its transmissibility or the severity of illness it causes. [37]</p> <p>On 13 January, WHO recommended two new drugs to treat patients with COVID-19. Baricitinib in combination with corticosteroids for severe or critical covid-19 patients and a conditional recommendation for the use of the monoclonal antibody sotrovimab for non-severe covid-19 patients who are at high risk for hospitalization [42]</p>	
<p>Western Pacific Region and South-East Asia Region (n=41 countries)</p>				
<p>High</p> <p>36 (87.8%) countries have reported outbreaks; but only 28 (68.3%) countries are reporting a surge in cases.</p> <p>7 (17.1%) countries have either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Brunei, Maldives, Palau, South Korea and Singapore and</p>	<p>As of Feb 14, the estimated effective reproduction no. of 27 countries ranged from 0.4-2. [§]</p>	<p>Case fatality rate is 1.21%.</p>	<p>Low Coverage</p> <p>33 countries have commenced vaccination as of 25 February 2022. Coverage was available for the following: i) at least 1 dose was at 51-80% for 18 countries; >80% for 12 countries, ii) full vaccination was at 51-80% for 21 countries; >80% for 6 countries. ^{&}</p> <p>Indonesia has approved Russian drug Avifavir for emergency use. [22]</p>	<p>High</p>

<p>highest case numbers were reported from Indonesia, Japan, Malaysia, South Korea and Vietnam.</p> <p>At least 17 countries have closed their borders, 23 countries have opened their borders partially conditionally, and none is allowing free travel.</p>			<p>China has approved the use of 3 traditional Chinese medicines, Qingfei Paidu Formula, Huashi Baidu Formula and Xuanfei Baidu Formula, for COVID-19 treatment. [20]</p> <p>As of 4 June, India has approved a combination of monoclonal antibodies, bamlanivimab and etesevimab for restricted use in emergency situations in hospital settings in adults [24].</p> <p>As of 8 Oct 2021, Philippines authorized the emergency use of Ronapreve as a treatment against mild and moderate COVID-19 for patients aged 12 and above [33].</p>	
European Region (n=53 countries)				
<p>High</p> <p>52 (98.1%) countries have reported with outbreaks; 49 (92.5%) countries are reporting a surge in cases.</p> <p>1 (1.9%) country has either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Denmark, Estonia, Georgia, Iceland and Latvia, and highest case numbers were reported from France, Germany, Italy, Russia, and Turkey.</p> <p>At least 4 countries have closed their borders, 46 countries have opened their borders partially conditionally, and 3 countries are allowing free travel.</p>	<p>As of Feb 14, the estimated effective reproduction no. of 50 countries ranged from 0.23-1.3.⁵</p>	<p>Case fatality rate is 1.05%.</p>	<p>Low Coverage</p> <p>53 countries have commenced vaccination as of 25 February 2022. Coverage was available for the following i) at least 1 dose was at 51-80% for 30 countries; >80% for 10 countries; ii) full vaccination was at 51-80% for 31 countries; >80% for 5 countries.⁸</p> <p>On February 28, France authorized its first ever use of synthetic monoclonal antibody, bamlanivab by Eli Lilly, for use on severe COVID-19 patients. [19]</p> <p>As of February 14, Italy authorized the use of the two monoclonal antibodies of companies Eli Lilly and Regeneron aimed mainly at more serious patients with COVID-19 [17].</p> <p>On 12 November, the European Commission (EC) has authorized Regeneron-Roche's antibody cocktail, Ronapreve, for treatment of adults and adolescents who do not require oxygen support and are at high risk of severe diseases in the EU. [35]</p> <p>On 10 December, the French National Authority for Health (HAS) authorized the use of AstraZeneca's antibody cocktail, Evusheld, for high-risk individuals with resistance to COVID-19 vaccines to prevent severe COVID-19 manifestation, and is not recommended for patients with</p>	High

			<p>two or more risk factors such as diabetes and obesity. [38]</p> <p>As of 17 December, the European Commission (EC) has granted marketing authorisation to Xevudy (sotrovimab) for treatment of adult and adolescents (aged 12 years and above) who do not require supplemental oxygen and are at high risk of severe COVID-19 in EU. [40]</p>	
Eastern Mediterranean Region (n=22 countries)				
<p>High</p> <p>22 (100%) countries have reported with outbreak; 15 (68.2%) countries are reporting a surge in cases.</p> <p>0 (0%) country has either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Bahrain, Jordan, Kuwait, Lebanon, and Palestine, and highest case numbers were reported from Bahrain, Iran, Jordan, Lebanon and Tunisia.</p> <p>At least 3 countries have closed their borders, 18 countries have opened their borders partially conditionally, and only 1 country is allowing free travel.</p>	<p>As of Feb 14, the estimated effective reproduction no. of 21 countries ranged from 0.4-1.2.^s</p>	<p>Case fatality rate is 1.58%.</p>	<p>Low Coverage</p> <p>21 countries have commenced vaccination as of 25 February 2022. Coverage was available for the following: i) at least 1 dose was at 51-80% for 7 countries; >80% for 3 countries; ii) full vaccination was at 51-80% for 6 countries; >80% for 3 countries. &</p> <p>As of June 25, the Abu Dhabi Stem Cell Centre has treated more than 2,000 COVID-19 patients using UAECell19. 1,200 have fully recovered. [6]</p> <p>As of April, an Israeli firm is using placenta pluristem cells to treat COVID-19 patients on a compassionate use basis. [5]</p> <p>As of June 4, UAE authorised the emergency use of Sotrovimab, a kind of monoclonal antibody drug [25].</p> <p>As of 19 November, Bahrain approved Astrazeneca’s drug Evusheld for emergency use amongst immunodeficient adults, those taking immunosuppressants, or exposed to increased risk of infections due to their occupations. [36]</p> <p>As of 2 January 2022, Bahrain authorised the emergency use of Pfizer Paxlovid in adults aged at least 18 years old, with mild to moderate symptoms and are at high risk of developing severe disease that may lead to death. [41]</p>	High

Region of the Americas (n=35 countries)				
<p>High</p> <p>35 (100%) countries have reported with outbreak; 32 (91.4%) countries are reporting a surge in cases.</p> <p>0 (0%) country has either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Barbados, Chile, Costa Rica, Dominica and Uruguay, and highest case numbers were reported from Argentina, Brazil, Chile, Mexico and USA.</p> <p>At least 9 countries have closed their borders, 24 countries have opened their borders partially conditionally, and 2 countries are allowing free travel.</p>	<p>As of Feb 14, the estimated effective reproduction no. of 35 countries ranged from 0.37-4.7.⁵</p>	<p>Case fatality rate is 1.79%.</p>	<p>Low Coverage</p> <p>35 countries have commenced vaccination as of 25 February 2022. Coverage was available for the following: i) at least 1 dose was at 51-80% for 15 countries; >80% for 11 countries ii) full vaccination was at 51-80% for 18 countries; >80% for 3 countries.⁶</p> <p>With the increase of multiple variants of COVID-19, the U.S. FDA will limit the use of monoclonal antibody treatments developed by Regeneron and Eli Lilly due to concerns the medications are not effective against these new strains. Eli Lilly's bamlanivimab will not be distributed to California, Arizona and Nevada, where those variants are more common. [21]</p> <p>FDA has issued EUA to Eli Lilly's combination antibody therapy of bamlanivimab and etesevimab to treat mild to moderate COVID-19 patients who are at risk of serious illness or hospitalization. [15]</p> <p>The Food and Drug Administration has allowed the combination use of baricitinib and Remdesivir under emergency use authorization. The EUA covers dosing of patients (above the age of two) who are on supplemental oxygen, receiving invasive mechanical ventilation or extracorporeal membrane oxygenation. [12]</p> <p>Health Canada has approved bamlanivimab, for the treatment of COVID-19 in patients 12 years and older with mild to moderate symptoms who are at risk of severe disease progression. [11]</p> <p>FDA has allowed emergency use of Eli Lilly & Co's bamlanivimab for non-hospitalized patients at risk of serious illness due to age or other conditions. [10]</p> <p>FDA has issued emergency authorisation for convalescent plasma to treat COVID-19. [9]</p>	<p>High</p>

			<p>RLF-100 (aviptadil) by NeuroRx and Relief Therapeutics was approved for emergency use in COVID-19 patients who are too ill to participate in the trial. [8]</p> <p>As of October 22, remdesivir is the first and only FDA-approved COVID-19 treatment in the U.S. [7].</p> <p>FDA has issued emergency authorisation for sotrovimab to treat mild-to-moderate Covid-19 adults and paediatric patients (12 years old and older weighing at least 40kg) who are at risk of severe disease progression. [23]</p> <p>As of 25 June, US FDA has issued emergency authorisation for Actemra/RoActemra (tocilizumab) to treat hospitalized adults and pediatric patients receiving corticosteroids and requiring supplemental oxygen, breathing support or ECMO. [26]</p> <p>As of 5 Aug, FDA has expanded the use of antibody cocktail, REGEN-COV, updating its emergency use authorisation (EUA) to include those at high risk of developing severe COVID-19 who have been exposed to the virus. [29]</p> <p>As of Aug 11, Brazil has issued emergency authorisation to Celltrion’s regdanvimab for high-risk patients with mild and moderate Covid-19. [30]</p> <p>FDA has issued emergency use of authorization to two oral antiviral treatments for COVID-19 – Pfizer’s Paxlovid and Merck’s Molnupiravir to treat mild-to-moderate COVID-19. [39]</p>	
African Region (n=47 countries)				
<p>Moderate</p> <p>47 (100%) countries have reported with outbreak; 7 (15.2%) countries are reporting a surge in cases.</p> <p>0 (0%) country has either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Botswana, Eswatini</p>	<p>As of Feb 14, the estimated effective reproduction no. of 45 countries ranged from 0.1-2.2.⁵</p>	<p>Case fatality rate is 2.12%.</p>	<p>Low Coverage</p> <p>46 countries have commenced vaccination as of 25 February 2022. Coverage was available for the following: i) at least 1 dose was at 51-80% for 4 countries; >80% for 1 country; ii) full vaccination was at 50-80% for 3 countries; >80% for 1 country. ^{&}</p> <p>Ethiopia has approved the use of Dexamethasone treatment for seriously ill COVID-19 patients. [13]</p>	<p>High</p>

<p>Mauritius, Seychelles and South Africa, and highest case numbers were reported from Algeria, Mauritius, South Africa, Zambia and Zimbabwe.</p> <p>At least 8 countries have closed their borders, 39 countries have opened their borders partially conditionally, and no country is allowing free travel.</p>				
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*Only WHO member states are included. 30 territories that have reported cases (with the exception of Palestine) are excluded from the tabulation of total countries affected/imported/local cases and case fatality rate. Refer to WHO situation reports or table 4 for information.

[§] <https://epiforecasts.io/covid/posts/global/>

[^]Differences between R0 and effective R can be found here <https://www.coronavirustoday.com/r-number-refers-either-basic-or-effective-reproduction-number>

& <https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/>; High vaccine coverage defined as >70% population with full vaccination

[%] In view of the reduction in case fatality rate and effective reproduction number with increasing vaccination, the two metric are no longer conferred a risk level in our risk assessment matrix; overall risk of each region is compiled using risk of the environment and availability of treatment only.

iii. Global Epidemiology

Table 2. Summary of COVID-19 cases & fatalities globally (Updated as of 25 February 2022, 1200H SGT)

No. of Countries/Territories with Cases	Total Global Cases	Total Cases Outside Mainland China	Total Deaths	Case-Fatality Rate (%) [overall]	Case-Fatality Rate (%) [outside China]	R ₀
223	431,981,211	431,872,607	5,947,915	1.38%	1.38%	5.8 (95% CI 4.4–7.7) [^]

[^]Based on early release as of 10th April, 2020: https://wwwnc.cdc.gov/eid/article/26/7/20-0282_article

Table 3. Comparison with other viruses

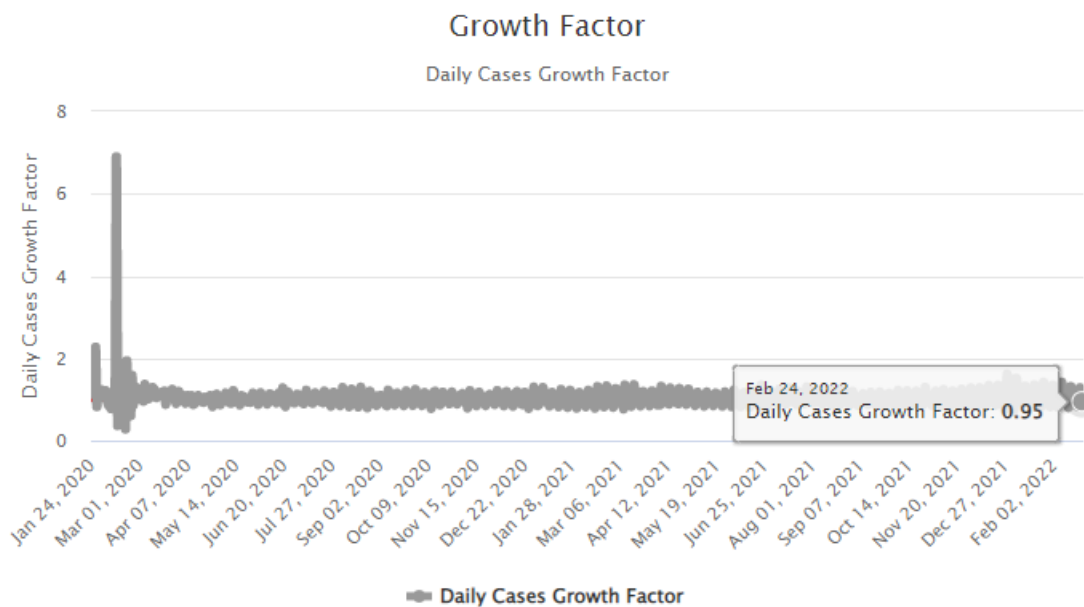
Virus	Incubation Period (Days)	Case Fatality Rate (%)	R ₀
SARS-CoV-2	Median = 5.1 [§] (2-14) or up to 24*	1.38	5.8 (95% CI 4.4–7.7) [^]
SARS-CoV	2-7	9.6	2.0
MERS-CoV	5 (2-14)	34	<1 (higher in health care setting)
Swine Flu	1-4	0.02	1.2-1.6

*Data on 1099 patients from 552 hospitals in 31 provinces of China

[^]https://wwwnc.cdc.gov/eid/article/26/7/20-0282_article

[§]Data on 181 cases outside china

Figure 1. Growth Factor of Daily New Cases (Mainland China+ Other countries)



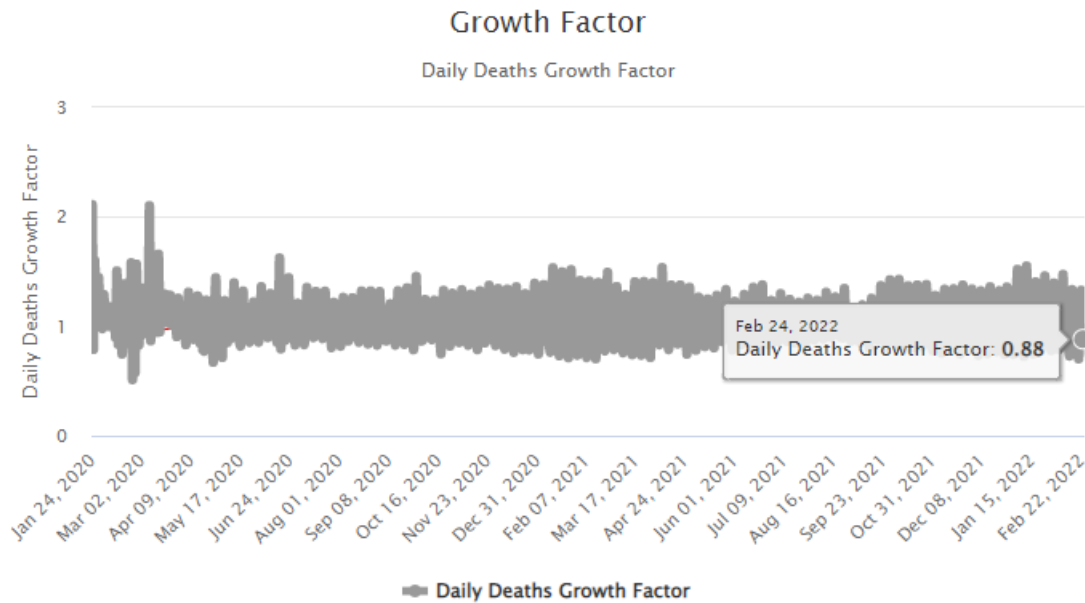
Growth Factor = every day's cases/cases on previous day. A growth factor above 1 indicates an increase, whereas one between 0 and 1 is a sign of decline, with the quantity eventually becoming zero. A growth factor below 1 (or above 1 but trending downward) is a positive sign, whereas a growth factor constantly above 1 is the sign of exponential growth.

*Huge jump in cases on Feb. 12 is attributed to the change in diagnostic criteria in China.

Figure 2. Growth Factor excluding mainland China



Figure 3. Growth Factor of Novel Coronavirus Daily Deaths (Mainland China + Other Countries)



Growth Factor = every day's cases/cases on previous day. A growth factor above 1 indicates an increase, whereas one between 0 and 1 is a sign of decline, with the quantity eventually becoming zero. A growth factor below 1 (or above 1 but trending downward) is a positive sign, whereas a growth factor constantly above 1 is the sign of exponential growth.

Source: <https://www.worldometers.info/coronavirus/coronavirus-cases/>

Case Breakdown by Countries

Live update of COVID-19 global cases can be found at

<https://storymaps.arcgis.com/stories/a1746ada9bff48c09ef76e5a788b5910>

Table 4. Breakdown of COVID-19 confirmed cases and deaths from 19 – 25 February 2022
(Updated as of 25 February 2022, 1200H SGT)

No.	Country	Total Cases	Change in Cases	Total Deaths	Change in Deaths	Total Recovered	Region
1	Germany	14,311,052	+1,156,511	122,895	+1,448	10,435,800	EURO
2	Russia	15,928,568	+1,088,066	348,578	+5,405	12,972,661	EURO
3	S. Korea	2,665,077	+909,271	7,783	+500	969,524	WPRO
4	Brazil	28,580,995	+639,519	647,486	+5,489	25,901,919	Americas
5	Turkey	13,841,889	+575,624	93,539	+1,893	13,043,838	EURO
6	USA	80,446,580	+530,846	969,602	+14,105	52,662,670	Americas
7	Japan	4,750,496	+508,696	22,755	+1,557	3,946,025	WPRO
8	France	22,534,971	+466,336	137,770	+1,628	20,250,620	EURO
9	Vietnam	3,041,506	+398,482	39,884	+606	2,339,784	WPRO
10	Indonesia	5,408,328	+378,326	147,342	+1,514	4,674,873	SEARO
11	Italy	12,651,251	+327,853	154,013	+1,731	11,298,010	EURO
12	UK	18,773,164	+274,106	161,104	+883	17,088,177	EURO
13	Netherlands	6,234,953	+271,715	21,531	+82	4,059,688	EURO
14	Chile	2,953,895	+206,343	41,795	+859	1,959,551	Americas
15	Malaysia	3,337,227	+199,012	32,534	+295	3,018,172	WPRO
16	Denmark	2,564,526	+196,915	4,461	+254	2,092,069	EURO
17	Austria	2,578,962	+185,386	14,700	+197	2,286,292	EURO
18	Ukraine	4,809,624	+172,364	105,505	+1,681	4,058,020	EURO
19	Spain	10,949,997	+171,390	99,162	+1,452	9,080,144	EURO
20	Australia	3,147,886	+154,946	5,093	+259	2,891,534	WPRO
21	Thailand	2,819,282	+144,805	22,812	+244	2,606,363	SEARO
22	Singapore	661,198	+127,773	975	+45	586,733	WPRO
23	Poland	5,620,946	+125,331	110,858	+1,653	5,003,336	EURO
24	Iran	7,011,932	+117,822	135,952	+1,532	6,579,768	EMRO
25	India	42,894,345	+114,110	513,258	+2,321	42,246,884	SEARO
26	Greece	2,369,396	+113,975	25,603	+508	2,137,702	EURO
27	Mexico	5,473,489	+107,084	317,303	+2,705	4,734,808	Americas
28	Slovakia	1,408,717	+101,750	18,338	+159	1,168,664	EURO
29	Switzerland	2,735,889	+99,003	13,200	+83	2,011,974	EURO
30	Norway	1,202,017	+98,061	1,598	+50	88,952	EURO
31	Israel	3,601,904	+93,682	10,105	+337	3,483,570	EURO
32	Portugal	3,231,075	+82,688	20,941	+233	2,741,600	EURO
33	Czechia	3,549,479	+81,115	38,433	+383	3,369,019	EURO
34	Romania	2,708,315	+79,225	63,073	+885	2,400,333	EURO
35	Argentina	8,878,486	+78,628	125,872	+948	8,628,654	Americas

36	Georgia	1,584,454	+72,654	16,022	+293	1,447,969	EURO
37	Latvia	624,008	+67,117	5,159	+86	471,752	EURO
38	Jordan	1,606,837	+65,458	13,767	+159	1,462,008	EMRO
39	Belgium	3,537,675	+53,157	30,101	+215	2,800,643	EURO
40	Hong Kong	84,046	+46,975	425	+187	13,232	WPRO
41	Lithuania	885,863	+43,586	8,336	+126	788,567	EURO
42	Belarus	902,315	+42,431	6,421	+108	888,963	EURO
43	Canada	3,269,696	+42,284	36,377	+454	3,119,956	Americas
44	Peru	3,506,075	+39,766	210,116	+1,327	N/A	Americas
45	Estonia	478,941	+37,000	2,188	+40	354,059	EURO
46	Finland	637,658	+36,940	2,364	+99	46,000	EURO
47	Hungary	1,774,676	+35,732	43,664	+698	1,557,214	EURO
48	Serbia	1,900,293	+32,457	15,059	+393	1,753,333	EURO
49	Uruguay	831,950	+31,117	6,932	+94	795,279	Americas
50	New Zealand	57,497	+30,562	56	+3	17,721	WPRO
51	Ireland	1,287,908	+27,579	6,471	+69	1,147,195	EURO
52	Lebanon	1,060,152	+24,943	10,044	+135	682,977	EMRO
53	Bulgaria	1,083,425	+24,233	35,357	+473	824,354	EURO
54	Bahrain	504,375	+22,863	1,447	+14	474,113	EMRO
55	Myanmar	578,446	+22,190	19,353	+34	528,717	SEARO
56	Colombia	6,056,556	+21,413	138,421	+688	5,880,718	Americas
57	Guatemala	770,135	+20,878	16,906	+197	706,860	Americas
58	Costa Rica	799,826	+20,503	7,984	+110	657,323	Americas
59	Brunei	48,055	+20,456	113	+15	23,593	WPRO
60	Sweden	2,437,850	+19,290	17,048	+315	1,958,527	EURO
61	Slovenia	887,224	+19,082	6,256	+104	822,655	EURO
62	Ecuador	827,760	+18,835	35,223	+118	N/A	Americas
63	Iceland	118,241	+18,477	61	+3	75,685	EURO
64	Tunisia	992,574	+18,360	27,640	+345	938,106	EMRO
65	Croatia	1,049,667	+17,634	14,964	+285	1,014,125	EURO
66	Azerbaijan	781,538	+17,336	9,330	+173	754,041	EURO
67	South Africa	3,667,560	+15,536	99,018	+1,063	3,533,695	Africa
68	Egypt	477,173	+13,803	23,927	+347	408,094	EMRO
69	Réunion	292,126	+13,632	640	+37	274,185	Non
70	Bangladesh	1,939,651	+13,081	29,005	+98	1,786,146	SEARO
71	Cyprus	313,406	+12,971	833	+31	124,370	EURO
72	Iraq	2,298,164	+11,713	24,931	+107	2,233,566	EMRO
73	Philippines	3,657,342	+10,549	56,165	+835	3,546,098	WPRO
74	Libya	491,216	+10,271	6,232	+63	454,458	EMRO
75	Pakistan	1,506,450	+9,757	30,139	+189	1,414,979	EMRO
76	New Caledonia	52,321	+9,473	299	+12	39,789	Non
77	Sri Lanka	641,786	+8,735	16,116	+190	607,912	SEARO
78	Moldova	499,015	+8,264	11,171	+130	472,261	EURO
79	Palestine	573,836	+8,180	5,189	+101	544,128	EMRO

80	Kuwait	617,275	+7,822	2,534	+9	601,386	EMRO
81	Oman	379,618	+7,558	4,238	+13	362,800	EMRO
82	French Polynesia	65,583	+7,323	638	+1	N/A	Non
83	Paraguay	639,078	+6,634	18,315	+199	603,693	Americas
84	Saudi Arabia	742,541	+6,583	8,991	+13	718,979	EMRO
85	Armenia	418,220	+6,342	8,392	+139	396,670	EURO
86	Panama	753,694	+5,778	8,058	+65	737,040	Americas
87	UAE	877,406	+5,196	2,299	+9	827,067	EMRO
88	Maldives	168,124	+5,150	294	+4	152,437	SEARO
89	North Macedonia	295,712	+4,797	8,968	+117	281,582	EURO
90	Bolivia	891,851	+4,762	21,406	+64	782,821	Americas
91	Kazakhstan	1,301,253	+4,652	13,572	+53	1,263,992	EURO
92	Martinique	112,901	+4,552	876	+15	104	Non
93	Luxembourg	181,195	+4,459	988	+6	170,317	EURO
94	Honduras	411,212	+4,340	10,720	+112	127,663	Americas
95	Cuba	1,067,522	+4,041	8,494	+12	1,056,363	Americas
96	Cambodia	128,599	+3,812	3,026	+11	121,877	WPRO
97	Trinidad and Tobago	125,864	+3,771	3,603	+54	100,076	Americas
98	Mongolia	463,335	+3,391	2,167	+12	313,256	WPRO
99	Venezuela	512,947	+3,347	5,625	+43	499,531	Americas
100	Bosnia and Herzegovina	370,295	+3,270	15,392	+160	192,218	EURO
101	Guadeloupe	126,642	+3,020	837	+9	2,250	Non
102	Qatar	355,740	+2,846	664	+4	350,154	EMRO
103	Morocco	1,160,303	+2,666	15,952	+97	1,138,693	EMRO
104	Dominican Republic	573,458	+2,569	4,363	+9	567,227	Americas
105	Zimbabwe	234,967	+2,369	5,390	+9	225,447	Africa
106	Bhutan	11,010	+2,327	6	+1	7,194	SEARO
107	Channel Islands	50,207	+1,936	143	+4	47,443	Non
108	Montenegro	229,630	+1,771	2,672	+26	224,978	EURO
109	Mauritius	30,601	+1,710	786	+24	26,791	Africa
110	Nepal	976,512	+1,655	11,931	+20	954,903	SEARO
111	Albania	270,947	+1,646	3,457	+27	263,909	EURO
112	Zambia	312,118	+1,644	3,947	+6	305,977	Africa
113	Barbados	54,536	+1,627	312	+5	51,804	Americas
114	Laos	141,933	+1,580	617	+15	7,660	WPRO
115	Faeroe Islands	32,044	+1,473	24	0	7,693	Non
116	Sudan	61,376	+1,437	3,901	+70	40,329	EMRO
117	Afghanistan	173,047	+1,374	7,578	+54	153,890	EMRO
118	Uzbekistan	235,880	+1,280	1,626	+14	231,032	EURO
119	Algeria	264,603	+1,234	6,820	+48	177,181	Africa
120	China	108,604	+1,229	4,636	0	101,714	WPRO
121	Papua New Guinea	40,748	+1,168	638	+10	38,491	WPRO
122	Solomon Islands	6,654	+1,089	92	+18	1,658	WPRO
123	Ghana	159,124	+904	1,442	+9	157,133	Africa

124	Syria	54,160	+882	3,062	+21	46,303	EMRO
125	Botswana	262,652	+739	2,614	+6	256,886	Africa
126	Liechtenstein	11,564	+653	77	+2	11,105	Non
127	Cayman Islands	19,373	+645	17	0	8,553	Non
128	Ethiopia	468,564	+589	7,450	+20	413,266	Africa
129	Madagascar	63,433	+589	1,350	+15	57,862	Africa
130	Malta	71,003	+566	601	+7	69,257	EURO
131	Belize	56,525	+550	648	+15	54,233	Americas
132	Suriname	78,016	+467	1,315	+8	49,352	Americas
133	Gibraltar	15,256	+464	101	0	14,489	Non
134	Timor-Leste	22,584	+446	126	+1	21,619	SEARO
135	Taiwan	20,236	+439	852	0	18,177	WPRO
136	Andorra	37,958	+436	151	+1	37,096	EURO
137	Jamaica	127,799	+422	2,808	+39	75,952	Americas
138	Seychelles	39,181	+415	160	+1	38,481	Africa
139	Isle of Man	22,607	+350	79	+2	22,183	Non
140	Nigeria	254,428	+291	3,142	+1	248,850	Africa
141	Palau	3,696	+271	6	+1	2,876	WPRO
142	Dominica	11,016	+264	57	0	10,563	Americas
143	Guyana	62,798	+261	1,216	+13	60,811	Americas
144	Curaçao	38,867	+259	261	+1	38,188	Non
145	San Marino	14,207	+219	112	+2	13,703	EURO
146	French Guiana	77,625	+211	391	+5	11,254	Non
147	Uganda	163,112	+211	3,580	+3	99,939	Africa
148	Kenya	322,822	+208	5,638	+5	303,166	Africa
149	Monaco	9,331	+203	51	+2	9,053	EURO
150	Saint Lucia	22,627	+201	358	+5	21,889	Americas
151	Namibia	157,106	+193	4,006	+9	152,635	Africa
152	Mozambique	224,999	+184	2,192	+3	219,297	Africa
153	Haiti	30,336	+174	820	+6	25,206	Americas
154	Bermuda	11,490	+174	123	+1	11,150	Non
155	Kyrgyzstan	200,427	+172	2,952	+13	194,796	EURO
156	Eswatini	69,095	+170	1,390	+4	67,533	Africa
157	Lesotho	32,599	+165	696	0	23,330	Africa
158	Grenada	13,598	+146	214	0	13,197	Americas
159	Fiji	63,687	+144	826	+3	61,870	WPRO
160	Greenland	11,689	+142	16	+6	2,761	Non
161	Malawi	85,276	+142	2,612	+12	75,227	Africa
162	Senegal	85,637	+142	1,960	+2	83,572	Africa
163	Cameroon	119,240	+133	1,923	+3	117,089	Africa
164	Ivory Coast	81,410	+128	791	0	79,596	Africa
165	Kiribati	2,883	+126	11	+2	1,743	WPRO
166	Rwanda	129,468	+123	1,457	+3	45,522	Africa
167	Angola	98,701	+116	1,899	0	96,622	Africa

168	Nicaragua	18,004	+109	220	+1	4,225	Americas
169	DRC	85,938	+104	1,335	+19	50,930	Africa
170	Bahamas	33,105	+100	771	+3	26,194	Americas
171	Congo	23,967	+93	378	+3	20,178	Africa
172	Caribbean Netherlands	7,561	+89	31	0	7,430	Non
173	Aruba	33,655	+87	211	+13	33,382	Non
174	Guinea-Bissau	7,972	+81	166	+2	6,965	Africa
175	Burundi	38,027	+80	38	0	773	Africa
176	Tonga	289	+79	0	0	38	WPRO
177	British Virgin Islands	6,074	+77	62	+1	N/A	Non
178	Tanzania	33,620	+71	798	+2	N/A	Africa
179	Togo	36,777	+67	272	+1	36,408	Africa
180	Mayotte	36,631	+59	187	0	2,964	Non
181	Gabon	47,520	+53	303	+1	45,743	Africa
182	Somalia	26,313	+53	1,348	+3	13,182	EMRO
183	Saint Martin	9,877	+50	63	0	1,399	Non
184	South Sudan	16,950	+47	137	0	13,250	Africa
185	Antigua and Barbuda	7,435	+40	135	0	7,239	Americas
186	Guinea	36,393	+39	440	+2	32,939	Africa
187	Mali	30,358	+37	722	+5	29,297	Africa
188	Yemen	11,751	+33	2,130	+16	8,582	EMRO
189	Sint Maarten	9,544	+33	85	+1	9,409	Non
190	Chad	7,246	+32	190	0	4,874	Africa
191	Mauritania	58,621	+28	977	+2	57,586	Africa
192	St. Barth	3,758	+23	6	0	N/A	Non
193	Saint Pierre Miquelon	1,070	+23	1	0	1,049	Non
194	Anguilla	2,528	+22	9	0	2,506	Non
195	Cabo Verde	55,876	+20	401	+1	55,403	Africa
196	Niger	8,746	+18	306	+3	8,419	Africa
197	Turks and Caicos	5,855	+16	36	0	5,783	Non
198	Eritrea	9,696	+15	103	0	9,584	Africa
199	Comoros	8,026	+14	160	0	7,846	Africa
200	Saint Kitts and Nevis	5,525	+14	42	+2	5,467	Americas
201	St. Vincent Grenadines	6,738	+11	106	+3	6,574	Americas
202	Sao Tome and Principe	5,932	+10	72	+1	5,850	Africa
203	Djibouti	15,545	+10	189	0	15,347	EMRO
204	Cook Islands	8	+8	0	0	0	WPRO
205	Burkina Faso	20,751	+8	375	0	20,309	Africa
206	Equatorial Guinea	15,877	+7	182	0	15,653	Africa
207	Vanuatu	18	+7	1	0	6	WPRO
208	Sierra Leone	7,665	+4	125	0	N/A	Africa

209	Tajikistan	17,388	+3	124	0	17,263	EURO
210	Macao	80	+1	0	0	79	WPRO
211	El Salvador	147,786	0	4,058	+31	123,870	Americas
212	CAR	14,187	0	113	0	6,859	Africa
213	Benin	26,567	0	163	0	25,506	Africa
214	Gambia	11,924	0	365	0	11,461	Africa
215	Liberia	7,360	0	290	0	5,747	Africa
216	Montserrat	163	0	2	0	161	Non
217	Wallis and Futuna	454	0	7	0	438	Non
218	Samoa	33	0	0	0	3	WPRO
219	Diamond Princess	712	0	13	0	699	NA
220	Falkland Islands	89	0	0	0	N/A	Non
221	Vatican City	29	0	0	0	28	Non
222	Western Sahara	10	0	1	0	8	Non
223	MS Zaandam	9	0	2	0	7	NA
224	Marshall Islands	7	0	0	0	7	WPRO
225	Saint Helena	2	0	0	0	2	Non
	Total	431,981,211	+11,697,766	5,947,915	+66,436	358,707,693	

Figure 4. Areas with reported confirmed cases of COVID-19 (14 – 20 February 2022)

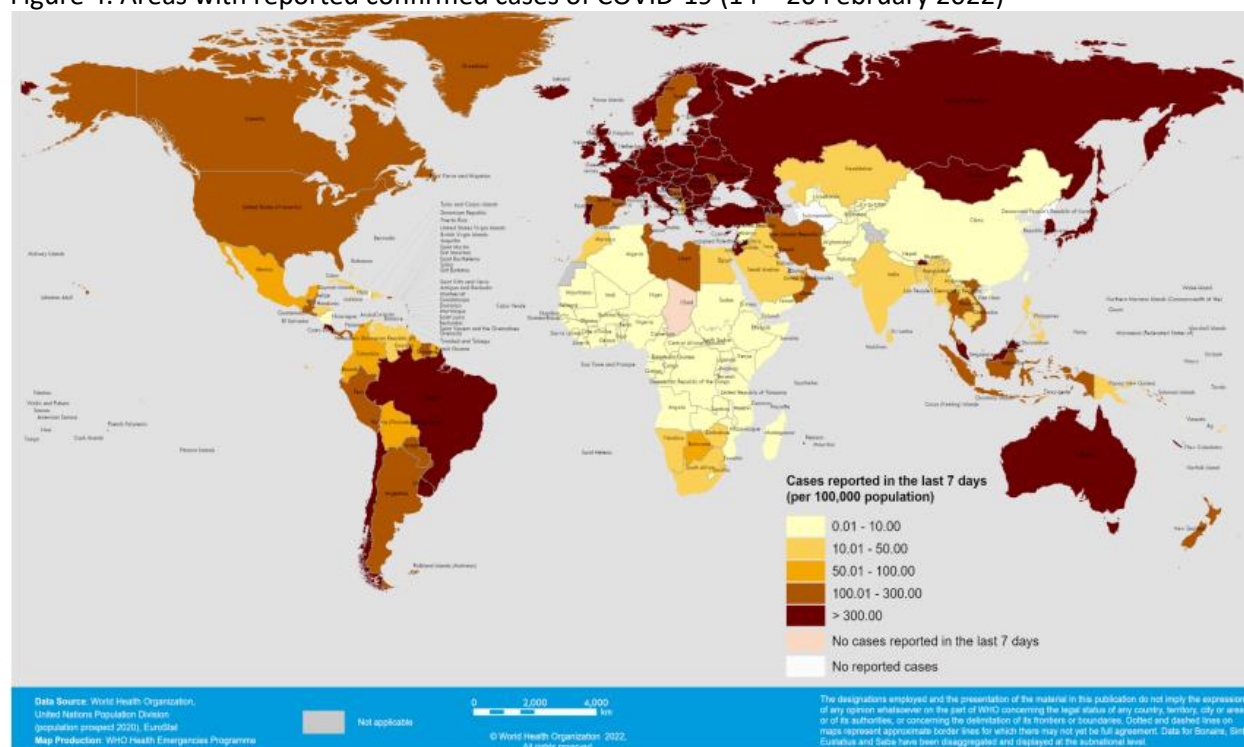
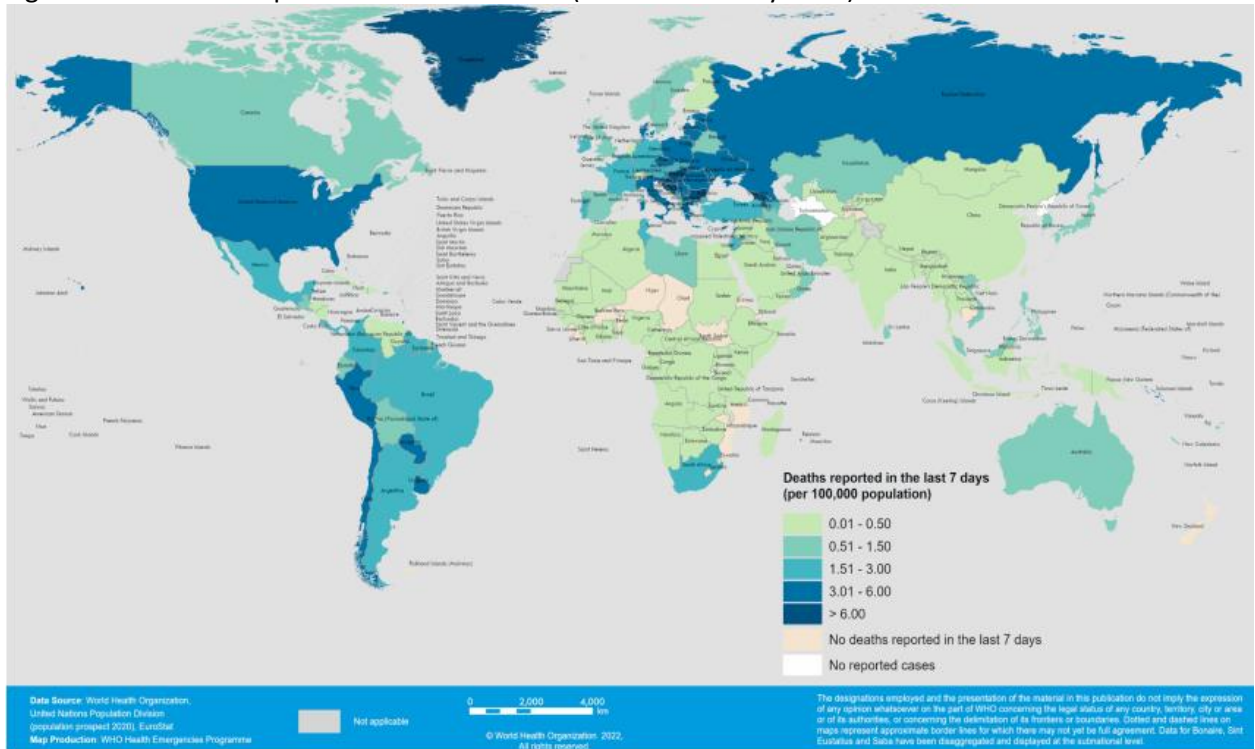


Figure 5. Areas with reported COVID-19 deaths (14 – 20 February 2022)



Source: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports>

Table 5. COVID-19 cases and deaths reported by states/UT in India between 19 – 25 February 2022
(Updated as of 25 February 2022, 1200H SGT)

Name of State / UT	Total Diagnosed Cases	Change from previous week	Total Active Cases	Change from previous week	Total Recovered	Change from previous week	Total Deaths	Change from previous week
Andaman and Nicobar Islands	10015	+21	18	-65	9868	+86	129	0
Andhra Pradesh	2317184	+2154	4927	-4543	2297537	+6684	14720	+13
Arunachal Pradesh	64386	+186	221	-140	63869	+325	296	+1
Assam	724070	+209	1666	-813	715767	+1008	6637	+14
Bihar	829904	+447	380	-497	817269	+942	12255	+2
Chandigarh	91665	+176	176	-199	90325	+369	1164	+6
Chhattisgarh	1150323	+2022	2061	-1995	1134239	+4012	14023	+5
Dadra and Nagar Haveli and Daman and Diu	11438	+3	3	-18	11431	+21	4	0
Delhi	1858154	+3987	2276	-750	1829763	+4713	26115	+24
Goa	244906	+398	407	-820	240701	+1205	3798	+13
Gujarat	1221874	+2792	2942	-5072	1208013	+7809	10919	+55
Haryana	980360	+3724	2500	-1927	967313	+5616	10547	+35
Himachal Pradesh	282924	+1491	1471	-775	277340	+2242	4113	+24
Jammu and Kashmir	452722	+930	1087	-1891	446887	+2818	4748	+3
Jharkhand	434219	+537	553	-513	428351	+1050	5315	0
Karnataka	3939287	+6172	8292	-11505	3891110	+17530	39885	+147
Kerala***	6487837	+38811	42473	-57738	6380561	+95084	64803	+1465
Ladakh	27947	+252	248	-168	27471	+420	228	0
Lakshadweep	11397	+39	22	-45	11323	+84	52	0
Madhya Pradesh	1037166	+5577	5170	-6365	1021272	+11927	10724	+15
Maharashtra	7862650	+9359	14242	-13556	7704733	+22772	143675	+143
Manipur	136654	+415	563	-1531	133986	+1931	2105	+15
Meghalaya	93387	+214	221	-289	91593	+495	1573	+8
Mizoram	211310	+7985	8409	-2183	202249	+10156	652	+12
Nagaland	35390	+62	152	-195	34484	+256	754	+1
Odisha	1283978	+3194	3090	-4162	1271843	+7272	9045	+84
Puducherry	165676	+192	227	-464	163489	+655	1960	+1
Punjab	757739	+1014	899	-1380	739146	+2342	17694	+52
Rajasthan	1277702	+6222	6596	-7489	1261571	+13677	9535	+34

Sikkim	39051	+53	81	-133	38528	+184	442	+2
Tamil Nadu	3447581	+5798	9440	-14332	3400144	+20095	37997	+35
Telangana	788096	+2500	4092	-2654	779893	+5151	4111	+3
Tripura	100858	+31	45	-66	99894	+97	919	0
Uttarakhand	435820	+1205	2357	-2244	425785	+3438	7678	+11
Uttar Pradesh	2066368	+4106	4766	-4726	2038156	+8805	23446	+27
West Bengal	2014307	+1832	2162	-6614	1990980	+8375	21165	+71
Total	42894345	+114110	134235	-157857	42246884	+269646	513226	+2321

Source: <https://www.mohfw.gov.in/>

iv. Travel Bans/Advisories & Quarantine Orders

- [1] **Austria** – From 22 February 2022, unvaccinated travelers will be allowed to enter Austria without quarantine requirements with a negative PCR or antigen test result, while travelers who are vaccinated or have recovered from a recent infection will be exempted from PCR test requirements to enter the Austria. The above relaxations only apply to travelers arriving from countries not classified as an “area of variant concern”; arrivals from these countries (currently none) will still be required to undergo quarantine.
- [2] **Bulgaria** – Foreign travelers with a proof of vaccination, testing negative or recent COVID-19 recovery will be allowed to enter the country from 5 March 2022.
- [3] **Canada** – Prince Edward Island will not require unvaccinated travelers to self-isolate upon arrival from 28 February 2022, but will still require tests on entry, and days 2 and 4 of arrival.
- [4] **European Union** – Member states are advised to remove the ban for non-essential travel for travelers from third countries, who was vaccinated with a WHO- or EMA-approved vaccine between 14 and 270 days, or recovered from infection within the past 180 days, from 1 March 2022. A negative pre-departure test may still required for travelers not vaccinated with a EMA-approved COVID-19 vaccine.
- [5] **Germany** – From 20 February 2022, the following 20 countries were removed from the high-risk list, allowing travelers from these territories to be exempted from quarantine and entry registration requirements. These countries include countries: Spain, Andorra, three French overseas territories – French Guiana, Mayotte, Saint Pierre and Miquelon, the Balearic and the Canary Islands, Afghanistan, Algeria, Fiji, India, Ireland, Kazakhstan, Qatar, Laos, Morocco, Nepal, Pakistan, Saudi Arabia, Tunisia, Uzbekistan, United Arab Emirates, United Kingdom and United States of America.
- [6] **Iceland** – All travel restrictions on inbound and outbound travel will be lifted on 25 February 2022.
- [7] **Israel** – All travelers will be allowed to enter Israel from 1 March 2022, regardless of vaccination status as long as an exit PCR test was taken prior to departure, and an arrival PCR test taken upon arriving in Israel.
- [8] **Italy** – From 1 March 2022, fully vaccinated Canadians, Americans and Brits can enter Italy without a COVID-19 test, and American and non-EU travelers will be able to enter Italy for tourism purposes. American, Canadian and other non-EU travelers will also be exempted from quarantine requirements upon arrival.
- [9] **Slovenia** – On 21 February 2022, all travel restrictions on arrivals have been lifted. These include the need to present a vaccination certificate, negative PCR test result, proof of recent recovery, and mandatory quarantine upon arrival.
- [10] **Singapore** – Revised regulations from 22 February 2022 will remove the requirement for a PCR test on arrival, days 2 and 7 for those arriving through the Vaccinated Travel Lane regime. Arrivals will only need to undergo a supervised self-swab test at designated centres within 24 hours from arrival.
- [11] **Vietnam** – From 15 March 2022, foreign travelers will be allowed to enter the country with the required COVID-19 protocols. As of 22 February 2022, this includes a one-day quarantine and pre-departure and arrival testing.

v. Lockdowns

- [1] **Australia (Tasmania)** – From 26 February 2022, unvaccinated travelers will be allowed to enter the state without requiring to obtain pre-travel approval and quarantine upon arrival.
- [2] **Australia (Victoria)** – Relaxed restrictions from 26 February remove the mask mandate in most indoor settings, and allow people to return to offices and schools. Most workers will be exempted from mask use in office, but still mandated when commuting or for workers serving or facing members of the public.
- [3] **Australia (Western Australia)** – Additional restrictions will be imposed in Perth, Peel, South West, Wheatbelt, Great Southern and Pilbara regions from 21 February 2022. These include gathering limits at 30 people in homes and 200 people in private outdoor settings not within homes, a 2 sqm density limit in most public, retail and cultural venues, and a daily limit of 4 visitors per patient in hospitals, aged and disability care facilities. The public indoor mask mandate will also be expanded statewide.
- [4] **Australia (Western Australia)** – Bidadanga, the state's largest Aboriginal community entered a lockdown on 23 February 2022, with the end date unspecified.
- [5] **Bangladesh** – Eased restrictions from 22 February 2022 will lift curbs on dining in, public gatherings and public transport services, and allow all but primary schools to resume in-class teaching. Primary schools are slated to reopen on 1 March 2022.
- [6] **Bulgaria** – The relaxing of restrictions from 24 February will allow customers without proof of vaccination, testing negative or recent COVID-19 recovery to access public venues such as shopping malls, cinemas, gyms and bars.
- [7] **Canada (Prince Edward Island)** – COVID-19 passport requirement to access restaurants, bars, gyms and other venues will be lifted on 28 February 2022. However, restrictions on gathering sizes and mandatory mask use indoors are still active.
- [8] **Canada (New Brunswick)** – COVID-19 restrictions in the province will be progressively lifted from 28 February to 14 March 2022. From 28 February, proof of vaccination to enter venues will be ceased, while remaining restrictions including those on gathering limits, isolation requirements, and indoor and outdoor masking will be lifted on 14 March 2022.
- [9] **Canada (Manitoba)** – The province will lift requirement for vaccination proof to enter venues on 1 March 2022, and lift remaining COVID-19 restrictions on 15 March 2022.
- [10] **Hong Kong** – Tightened restrictions from 24 February 2022 will require residents above 12-years-old to have received at least one vaccination shot to enter venues including supermarkets, malls and restaurants. Mask use is also mandatory for all outdoor exercise and eating or drinking on public transport is banned to prevent mask removal in this setting.
- [11] **Iceland** – All COVID-19 restrictions will be lifted on 25 February 2022.
- [12] **Poland** – From 1 March 2022, all COVID-19 restrictions will be lifted, except for mandatory mask-wearing in public transport and indoors, and the 7-day quarantine for infected individuals.
- [13] **Slovakia** – From 26 February 2022, almost all restrictions will be removed but group size restrictions still remain in some areas, mask use remain mandatory in indoor spaces and public transport, and a FFP2 mask must be worn in major outdoor events if a distance of at least 2 meters between individuals cannot be maintained. The requirement for a proof of vaccination, recent recovery or

negative test result to enter venues will also be progressively phased out, starting with outdoor activities.

- [14]**Slovenia** – From 21 February 2022, restrictions imposed on operating hours of shops, services and businesses will be lifted, and nightclubs will be allowed to resume operations. The requirement to present a COVID-19 certificate in all healthcare institutions and care homes will be lifted as well.
- [15]**Thailand** – The nationwide COVID-19 alert was raised to Level 4, the second-highest tier, on 21 February 2022. Under the new alert, people are advised to work from home, avoid non-essential inter-provincial travels, close at-risk venues, and large gatherings, and suspend overseas trips.
- [16]**United Kingdom (England)** – All legal restrictions have been lifted on 24 February 2022, including self-isolation requirements for infected individuals, and mandatory mask use on public transport. Instead, the country will move towards guidelines and recommendations to favour personal responsibility in controlling transmission.
- [17]**United Kingdom (Scotland)** – From 28 February 2022, regulations for COVID-19 certification to enter certain venues will cease, and that for mandatory face coverings in certain indoor settings and public transport expected to be converted to a public health guidance from 21 March 2022.
- [18]**United States (Hawaii)** – The island of Maui has removed the requirement for a proof of vaccination or negative test result to enter indoor restaurants and bars, fitness centers and gyms on 21 February 2022. However, indoor mask mandates are still active.
- [19]**United States (Chicago)** – Maryland was removed from the city’s travel advisory list on 22 February 2022, leaving 48 states and 4 territories on the city’s list.

vi. Military Surveillance

South Korea [1-6]

Between 19 and 24 February 2022, a total of 4,027 new cases were reported from the South Korean military. Cases were reported from the Army (2,556 cases), Air Force (650 cases), Navy (286 cases), Marine Corps (264 cases), units under direct command of the defense ministry (186 cases), the Defense ministry (37 cases), the South Korea-U.S. Combined Forces Command (4 cases), and the Joint Chiefs of Staff (2 cases). As of 24 February 2022, the total caseload in the South Korean military is 14,943 with 3,880 active infections.

United States Forces Korea [7]

Between 15 to 21 February 2022, a total of 119 new infections were reported, including 21 imported cases. This brings the total number of infections in the USFK-affiliated community to 6,237 as of 21 February 2022.

United States [8]

As of 23 February 2022, the United States military recorded 385,855 COVID-19 cases, including 350,429 recoveries, 2,540 hospitalisations and 92 deaths. The distribution of cases are as follows – Army (126,699), Marine Corps (37,365), Navy (87,452), Air Force (75,680), National Guard (55,722), and other agencies (2,937). A total of 1,637,259 service members have been fully vaccinated – Army (603,589), Marine Corps (195,734), Navy (384,250), Air Force (453,686); 348,065 service members have received one dose of the vaccine – Army (283,580), Marine Corps (6,211), Navy (7,939) and Air Force (50,335).

vii. WHO Guidance & Other Protocols

The following updates were published by WHO from 19 – 25 February 2022:

- **Interim recommendations for use of the Moderna mRNA-1273 vaccine against COVID-19**
Available at: <https://www.who.int/publications/i/item/interim-recommendations-for-use-of-the-moderna-mrna-1273-vaccine-against-covid-19>
- **Annexes to the recommendations for use of the Moderna mRNA-1273 vaccine against COVID-19**
Available at: <https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccines-SAGE-recommendation-mrna-1273-GRADE-ETR-annexes>

viii. CDC Guidance & Protocols

US CDC

The following updates were published by the US CDC from 19 – 25 February 2022:

- **Pediatric Emergency Department Visits Associated with Mental Health Conditions Before and During the COVID-19 Pandemic — United States, January 2019–January 2022**
Available at: https://www.cdc.gov/mmwr/volumes/71/wr/mm7108e2.htm?s_cid=mm7108e2_x
- **Steps for Determining Close Contact and Quarantine in K–12 Schools**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/K-12-infographic.html>
- **Effectiveness of Maternal Vaccination with mRNA COVID-19 Vaccine During Pregnancy Against COVID-19–Associated Hospitalization in Infants Aged <6 Months — 17 States, July 2021–January 2022**
Available at: https://www.cdc.gov/mmwr/volumes/71/wr/mm7107e3.htm?s_cid=mm7107e3_x
- **Waning 2-Dose and 3-Dose Effectiveness of mRNA Vaccines Against COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Adults During Periods of Delta and Omicron Variant Predominance — VISION Network, 10 States, August 2021–January 2022**
Available at: https://www.cdc.gov/mmwr/volumes/71/wr/mm7107e2.htm?s_cid=mm7107e2_x
- **Investigation of SARS-CoV-2 Transmission Associated With a Large Indoor Convention — New York City, November–December 2021**
Available at: https://www.cdc.gov/mmwr/volumes/71/wr/mm7107a4.htm?s_cid=mm7107a4_x
- **Multistate Outbreak of SARS-CoV-2 B.1.1.529 (Omicron) Variant Infections Among Persons in a Social Network Attending a Convention — New York City, November 18–December 20, 2021**
Available at: https://www.cdc.gov/mmwr/volumes/71/wr/mm7107a3.htm?s_cid=mm7107a3_x

EU CDC

The following update was published by the EU CDC from 19 – 25 February 2022:

- **Data collection on COVID-19 outbreaks in closed settings: long-term care facilities, version 2.1**
Available at: <https://www.ecdc.europa.eu/en/publications-data/data-collection-covid-19-outbreaks-closed-settings-completed-vaccination>

ix. Vaccines/Therapeutics Development

Noteworthy reports are included to inform main developments of COVID-19 pharmaceuticals. Past updates are available from situation report 211 onwards. A global map and registry of trials is also visualised & accessible at: <https://www.covid-nma.com/dataviz/> and trial results are available at: https://covid-nma.com/living_data/index.php. A living systematic review of vaccine trials is also accessible at <https://covid-nma.com/vaccines/> or <https://covid-nma.com/>.

Vaccines

- [1] **Canada** – Medicago's two-dose vaccine was approved for use amongst adults aged between 18 to 64 years on 25 February 2022.
- [2] **China** – On 19 February 2022, Cansino Biologics's Recombinant Novel Coronavirus Vaccine (Adenovirus Type 5 Vector) ("Ad5-nCoV", trade name: Convidecia™) has been approved as a heterologous booster candidate for those aged 18 and above, and have completed a 6-month vaccination schedule using inactivated COVID-19 vaccines, but have not been administered a homologous booster shot.
- [3] **Cambodia** – Mass vaccination of children between 3- to 4-years old with the Sinovac vaccine commenced on 23 February 2022.
- [4] **China** – From 19 February 2022, China has allowed boosters of different technologies than primary vaccine shots to be administered to residents.
- [5] **India** – Biological E Limited's COVID-19 vaccine Corbevax was approved for use amongst children between 12- to 18-years-old by the Drugs Controller General of India on 21 February 2022.
- [6] **Kazakhstan** – The Sputnik M vaccine was authorized for use in adolescents aged 12- to 17-years old on 22 February 2022.
- [7] **South Korea** – The Pfizer-BioNTech vaccine was approved by the local Ministry of Drug and Food Safety for use in children aged 5 to 11 years on 23 February 2022; the vaccine rollout plan will be released in March 2022.
- [8] **United States** – The CDC has revised guidelines for the interval between first and second doses of the Pfizer or Moderna COVID-19 vaccines to an 8-week interval for more enduring protection in the general population. The previously recommended 3- to 4-week interval is still applicable to the susceptible population, including those with weakened immune systems, aged at least 65-years-old, or require fast protection due to risk of severe disease.

Therapeutics

- [9] **Luxembourg** – Lageviro (molnupiravir) produced by Merck, was approved to be used as treatment for at-risk patients in the country on 22 February 2022.

Vaccine Approval Status

Table 6: Number of approving countries per vaccine as of 23 February 2022

Developer	Vaccine	Number of countries approving
Anhui Zhifei Longcom	ZF2001	3
Bharat Biotech	Covaxin	13
Biological E Limited	BECOV2A (Corbevax)	1
CanSino	Ad5-nCoV/Convedecia	10
Center for Genetic Engineering and Biotechnology (CIGB)	CIGB-66 (Abdala)	6
Chumakov Center	KoviVac	3
FBRI	EpiVacCorona	4
FBRI	EpiVacCorona-N (Aurora CoV)	1
Gamaleya	Sputnik Light	26
Gamaleya	Sputnik V	74
Health Institutes of Turkey	Turkovac	1
Instituto Finlay de Vacunas Cuba	Soberana Plus	1
Instituto Finlay de Vacunas Cuba	Soberana 02	4
Johnson & Johnson	Ad26.COVS.2.S	106
Kazakhstan RIBSP	QazVac	2
Medigen	MVC-COV1901	2
Minhai Biotechnology Co	SARS-CoV-2 Vaccine (Vero Cells)/ KCONVAC	2
Moderna	mRNA-1273 (Spikevax)	85
National Vaccine and Serum Institute	Recombinant SARS-CoV-2 Vaccine (CHO Cell)	1
Novavax	NVX-CoV2373 (Nuvaxovid)	36
Organization of Defensive Innovation and Research	FAKHRAVAC (MIVAC)	1
Oxford/AstraZeneca	AZD1222/Vaxzevria	138
Pfizer/ BioNTech	BNT162b2	137
Razi Vaccine and Serum Research Institute	Razi Cov Pars	1
Serum Institute of India	Covishield	47
Serum Institute of India	COVOVAX (Novavax formulation)	3
Shifa Pharmed Industrial Co	COVIran Barekat	1
Sinopharm	BBIBP-CorV/Covilo	89
Sinopharm	Inactivated	2
Sinovac	CoronaVac	53
Takeda	TAK-919 (Moderna formulation)	1
Vaxine/CinnaGen Co.	COVAX-19	1
Zydus Cadila	ZyCoV-D	1

Source: <https://covid19.trackvaccines.org/vaccines/>

Adverse Reactions & Effects

- [1] **Malaysia** – A total of 25,211 AEFIs, including 87 serious AEFIs, were reported as of 18 February 2022, of which 1,186 AEFIs attributing to the booster dose. Most AEFIs reported were mild or moderate (23,453 cases, 93%; 383 per million doses), with only 1,758 were serious cases (27 reports per million doses). However, no fatalities, anaphylaxis and thrombotic thrombocytopenia linked to vaccination have been reported in the country to-date.

As of 21 February 2022, a total of 58 AEFIs were also reported amongst the 383,165 doses administered to children aged between 5 and 12 years, of which there was only one serious AEFI who has since recovered.

- [2] **Singapore** – As of 31 January 2022, a total of 280 AEFIs including 10 serious AEFIs were reported from children aged 5- to 11-years-old. Serious AEFIs reported included seizures, appendicitis, drop in blood pressure, allergic reaction, abnormal renal function and swelling of small blood vessels, but excludes myocarditis or pericarditis. Since the vaccination programme this commenced on 27 December 2021, a total of 238,253 Pfizer-BioNTech vaccine doses were administered. This results in an overall AEFI rate of 0.12%, and 0.004% for serious AEFI rate from the administered doses.

x. Scientific Publications with Epidemiology and Clinical Focus

Efficacy of remdesivir in hospitalized nonsevere COVID-19 patients in Japan: A large observational study using the COVID-19 Registry Japan [1]

Objectives: Although several randomized controlled trials have compared the efficacy of remdesivir with that of placebo, there is limited evidence regarding its effect in the early stage of nonsevere COVID-19 cases.

Methods: We evaluated the efficacy of remdesivir on the early stage of nonsevere COVID-19 using the COVID-19 Registry Japan, a nationwide registry of hospitalized COVID-19 patients in Japan. Two regimens (start remdesivir therapy within 4 days from admission vs. no remdesivir during hospitalization) among patients without the need for supplementary oxygen therapy were compared by a three-step processing (cloning, censoring, and weighting) method. The primary outcome was a supplementary oxygen requirement during hospitalization. Secondary outcomes were 30-day in-hospital mortality and the risk of invasive mechanical ventilation or extracorporeal membrane oxygenation (IMV/ECMO). The data of 12,487 cases met our inclusion criteria. The "start remdesivir" regimen showed a lower risk of supplementary oxygen requirement (hazard ratio: 0.850, 95% confidence interval [CI]: 0.798-0.906, p value < 0.001). Both 30-day in-hospital mortality and risk of IMV/ECMO introduction were not significantly different between the two regimens (hazard ratios: 1.04 and 0.983, 95% CI: 0.980-1.09 and 0.906-1.07, p values: 0.210 and 0.678, respectively).

Conclusions: Remdesivir might reduce the risk of oxygen requirement during hospitalization in the early stage of COVID-19; however, it had no positive effect on the clinical outcome and reduction of IMV/ECMO requirement.

The pathogenesis, epidemiology and biomarkers of susceptibility of pulmonary fibrosis in COVID-19 survivors [2]

Pulmonary fibrosis (PF), a pathological outcome of chronic and acute interstitial lung diseases associated to compromised wound healing, is a key component of the "post-acute COVID-19 syndrome" that may severely complicate patients' clinical course. Although inconclusive, available data suggest that more than a third of hospitalized COVID-19 patients develop lung fibrotic abnormalities after their discharge from hospital. The pathogenesis of PF in patients recovering from a severe acute case of COVID-19 is complex, and several hypotheses have been formulated to explain its development. An analysis of the data that is presently available suggests that biomarkers of susceptibility could help to identify subjects with increased probability of developing PF and may represent a means to personalize the management of COVID-19's long-term effects. Our review highlights the importance of both patient-related and disease-related contributing risk factors for PF in COVID-19 survivors and makes it definitely clear the possible use of acute phase and follow-up biomarkers for identifying the patients at greatest risk of developing this disease.

Multiple sclerosis therapies differentially affect SARS-CoV-2 vaccine-induced antibody and T cell immunity and function [3]

Background: Vaccine-elicited adaptive immunity is a prerequisite for control of SARS-CoV-2 infection. Multiple sclerosis (MS) disease-modifying therapies (DMTs) differentially target humoral and cellular immunity. A comprehensive comparison of the effects of MS DMTs on SARS-CoV-2 vaccine-specific immunity is needed, including quantitative and functional B and T cell responses.

Methods: Spike-specific Ab and T cell responses were measured before and following SARS-CoV-2 vaccination in a cohort of 80 study participants, including healthy controls and patients with MS in 6 DMT groups: untreated and treated with glatiramer acetate (GA), dimethyl fumarate (DMF), natalizumab (NTZ), sphingosine-1-phosphate (S1P) receptor modulators, and anti-CD20 mAbs. Anti-spike-Ab responses were assessed by Luminex assay, VirScan, and pseudovirus neutralization. Spike-specific CD4+ and CD8+ T cell responses were characterized by activation-induced marker and cytokine expression and tetramer.

Results: Anti-spike IgG levels were similar between healthy control participants and patients with untreated MS and those receiving GA, DMF, or NTZ but were reduced in anti-CD20 mAb- and S1P-treated patients. Anti-spike seropositivity in anti-CD20 mAb-treated patients was correlated with CD19+ B cell levels and inversely correlated with cumulative treatment duration. Spike epitope reactivity and pseudovirus neutralization were reduced in anti-CD20 mAb- and S1P-treated patients. Spike-specific CD4+ and CD8+ T cell reactivity remained robust across all groups, except in S1P-treated patients, in whom postvaccine CD4+ T cell responses were attenuated.

Conclusion: These findings from a large cohort of patients with MS exposed to a wide spectrum of MS immunotherapies have important implications for treatment-specific COVID-19 clinical guidelines.

Deep recurrent reinforced learning model to compare the efficacy of targeted local versus national measures on the spread of COVID-19 in the UK [4]

Objectives: To prevent the emergence of new waves of COVID-19 caseload and associated mortalities, it is imperative to understand better the efficacy of various control measures on the national and local development of this pandemic in space-time, characterise hotspot regions of high risk, quantify the impact of under-reported measures such as international travel and project the likely effect of control measures in the coming weeks.

Methods: We applied a deep recurrent reinforced learning based model to evaluate and predict the spatiotemporal effect of a combination of control measures on COVID-19 cases and mortality at the local authority (LA) and national scale in England, using data from week 5 to 46 of 2020, including an expert curated control measure matrix, official statistics/government data and a secure web dashboard to vary magnitude of control measures.

Results: Model predictions of the number of cases and mortality of COVID-19 in the upcoming 5 weeks closely matched the actual values (cases: root mean squared error (RMSE): 700.88, mean absolute error (MAE): 453.05, mean absolute percentage error (MAPE): 0.46, correlation coefficient 0.42; mortality: RMSE 14.91, MAE 10.05, MAPE 0.39, correlation coefficient 0.68). Local lockdown with social distancing (LD_SD) (overall rank 3) was found to be ineffective in preventing outbreak rebound following lockdown easing compared with national lockdown (overall rank 2), based on prediction using simulated control measures. The ranking of the effectiveness of adjunctive measures for LD_SD were found to be consistent

across hotspot and non-hotspot regions. Adjunctive measures found to be most effective were international travel and quarantine restrictions.

Conclusions: This study highlights the importance of using adjunctive measures in addition to LD_SD following lockdown easing and suggests the potential importance of controlling international travel and applying travel quarantines. Further work is required to assess the effect of variant strains and vaccination measures.

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