

Nov | 19

COVID-19

Situation Report 490

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 19 November 2021, 1600H SGT)

Environmental Risk	Transmissibility	Severity of Disease	Availability of Treatment/ Vaccination [#]	Overall Risk [%]
Global (n=198 countries)				
<p>High</p> <p>Globally, 191 (96.5%) 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 (16 countries), EURO (49 countries), EMRO (8 countries), Americas (29 countries), and Africa (4 countries).</p> <p>Only 4 (2%) countries/territories have no reported restrictions on inbound arrivals, while 154 (83%) 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 177 countries ranged from 0.24 to 2.5.[§]</p>	<p>Case fatality rate is currently at 2.01% globally. Most cases present as flu-like illness.</p>	<p>Limited</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).^{&}</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>High</p>

			<p>On 4 Aug, the WHO called for a moratorium on COVID-19 vaccine 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>	
Western Pacific Region and South-East Asia Region (n=41 countries)				
<p>Moderate</p> <p>35 (85.4%) countries have reported outbreaks; but only 16 (39%) countries are reporting a surge in cases.</p> <p>13 (31.7%) 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 Laos, Malaysia, Maldives, Mongolia and Singapore, and highest case numbers were reported from India, Malaysia, Singapore, Thailand and Vietnam.</p> <p>At least 15 countries have closed their borders, 25 countries have opened their borders partially conditionally, and none is allowing free travel.</p>	<p>As of Nov 17, the estimated effective reproduction no. of 25 countries ranged from 0.49-1.6.[§]</p>	<p>Case fatality rate is 1.55%.</p>	<p>High</p> <p>33 countries have commenced vaccination as of 19 November 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 17 countries; >80% for 6 countries ii) full vaccination was at 51-80% for 15 countries; >80% for 3 countries.^{&}</p> <p>Indonesia has approved Russian drug Avifavir for emergency use. [22]</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>	<p>High</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 Austria, Croatia, Georgia, Slovakia, and Slovenia, and highest case numbers were reported from Germany, Russia, Turkey, United Kingdom and Ukraine.</p> <p>At least 5 countries have closed their borders, 47 countries have opened their borders partially conditionally, and only 1 country is allowing free travel.</p>	<p>As of Nov 17, the estimated effective reproduction no. of 52 countries ranged from 0.62-1.3.[§]</p>	<p>Case fatality rate is 1.81%.</p>	<p>High</p> <p>53 countries have commenced vaccination as of 19 November 2021. Coverage was available for the following i) at least 1 dose was at 51-80% for 32 countries; >80% for 3 countries; ii) full vaccination was at 51-80% for 30 countries; >80% for 3 countries.^{&}</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 required oxygen supposed and are at high risk of severe diseases in the EU. [35]</p>	<p>High</p>

Eastern Mediterranean Region (n=22 countries)				
<p>Moderate</p> <p>22 (100%) countries have reported with outbreak; 8 (36.4%) countries are reporting a surge in cases.</p> <p>1 (4.6%) 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 Iran, Jordan, Lebanon, Libya and Qatar, and highest case numbers were reported from Egypt, Iran, Iraq, Jordan and Lebanon.</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 Nov 17, the estimated effective reproduction no. of 21 countries ranged from 0.48-1.3.[§]</p>	<p>Case fatality rate is 1.85%.</p>	<p>High</p> <p>20 countries have commenced vaccination as of 19 November 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 6 countries; >80% for 2 countries; ii) full vaccination was at 51-80% for 6 countries; >80% for 1 country.^{&}</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>High</p>
Region of the Americas (n=35 countries)				
<p>High</p> <p>35 (100%) countries have reported with outbreak; 29 (82.9%) countries are reporting a surge in cases.</p> <p>No 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, Belize, Dominica, Trinidad and Tobago, and USA, and highest case numbers were reported from Brazil, Canada, 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 Nov 17, the estimated effective reproduction no. of 35 countries ranged from 0.43-1.6.[§]</p>	<p>Case fatality rate is 2.44%.</p>	<p>High</p> <p>35 countries have commenced vaccination as of 19 November 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 16 countries; >80% for 2 countries ii) full vaccination was at 51-80% for 12 countries; >80% for 1 country.^{&}</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</p>	<p>High</p>

		<p>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>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>
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			<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>	
African Region (n=47 countries)				
<p>Moderate</p> <p>47 (100%) countries have reported with outbreak; 4 (8.7%) countries are reporting a surge in cases.</p> <p>2 (4.3%) countries 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, Gabon, Mauritania, Mauritius and Seychelles, and highest case numbers were reported from Algeria, Botswana, Cameroon, Ethiopia, and South Africa.</p> <p>At least 9 countries have closed their borders, 38 countries have opened their borders partially conditionally, and no country is allowing free travel.</p>	<p>As of Nov 17, the estimated effective reproduction no. of 44 countries ranged from 0.24-2.5.[§]</p>	<p>Case fatality rate is 2.48%.</p>	<p>High</p> <p>45 countries have commenced vaccination as of 19 November 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 2 countries; >80% for 1 country; ii) full vaccination was at 50-80% for 1 country; >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>

*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 19 November 2021, 1600H 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
222	256,387,821	256,289,394	5,148,100	2.01%	2.01%	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

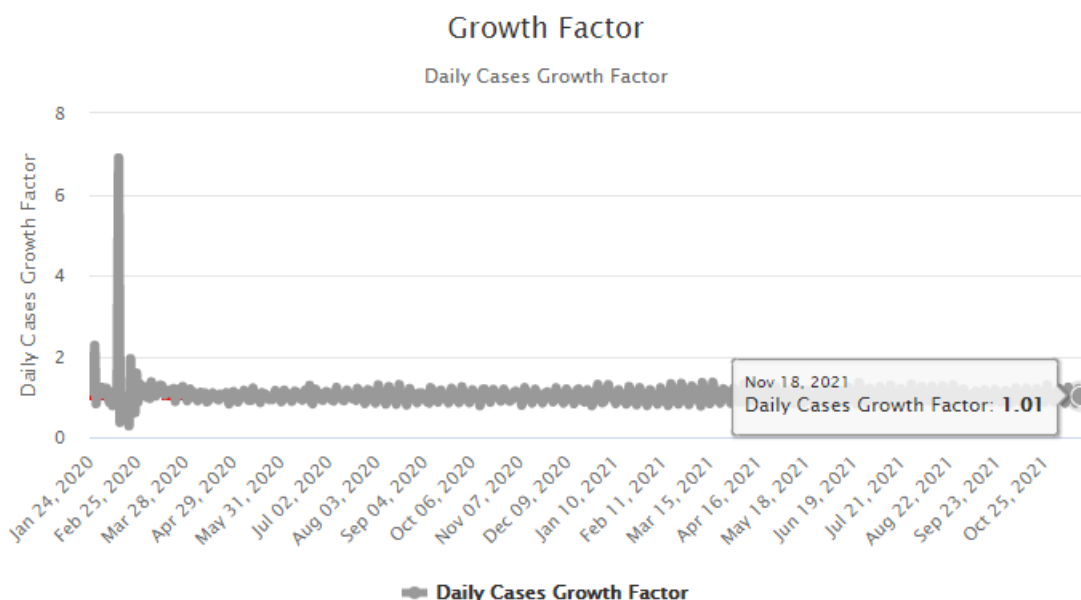
Virus	Incubation Period (Days)	Case Fatality Rate (%)	R ₀
SARS-CoV-2	Median = 5.1 [§] (2-14) or up to 24 [*]	2.01	5.8 (95% CI 4.4–7.7) [^]
SARS-CoV	2-7	9.6	2.0
MERS-CoV	5 (2-14)	34	<1 (higher in health care setting)
Swine Flu	1-4	0.02	1.2-1.6

^{*}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)



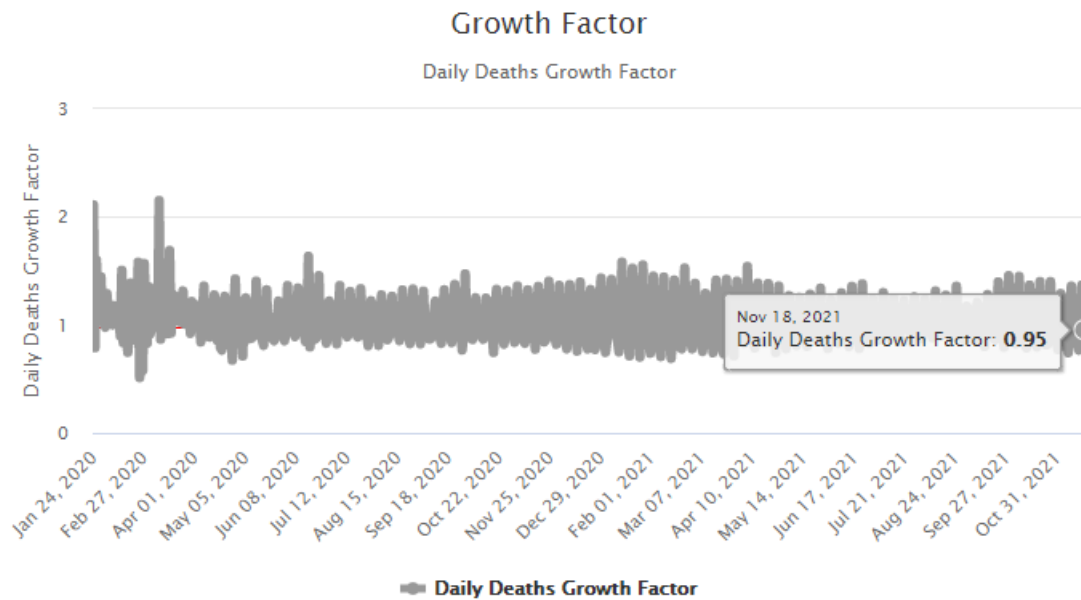
Growth Factor = every day's cases/cases on previous day. A growth factor above 1 indicates an increase, whereas one between 0 and 1 is a sign of decline, with the quantity eventually becoming zero. A growth factor below 1 (or above 1 but trending downward) is a positive sign, whereas a growth factor 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 13 – 19 November 2021
(Updated as of 19 November 2021, 1600H SGT)

No.	Country	Total Cases	Change in Cases	Total Deaths	Change in Deaths	Total Recovered	Region
1	USA	48,398,455	+704,939	789,155	+8,380	38,330,073	Americas
2	Germany	5,233,821	+307,893	99,169	+1,347	4,588,200	EURO
3	UK	9,721,916	+273,514	143,559	+1,026	7,977,881	EURO
4	Russia	9,219,912	+267,440	260,335	+8,644	7,919,250	EURO
5	Turkey	8,503,220	+162,898	74,428	+1,518	7,999,745	EURO
6	Ukraine	3,304,058	+148,539	80,231	+5,374	2,726,521	EURO
7	Netherlands	2,378,823	+125,792	18,863	+200	2,036,097	EURO
8	Poland	3,279,787	+116,983	79,994	+1,470	2,843,270	EURO
9	Czechia	1,957,816	+101,261	31,879	+590	1,741,316	EURO
10	Belgium	1,559,998	+96,450	26,526	+265	1,262,549	EURO
11	France	7,351,324	+94,681	118,373	+300	7,034,815	EURO
12	Austria	1,011,465	+88,315	11,903	+302	867,601	EURO
13	India	34,489,623	+75,437	465,082	+2,392	33,897,921	SEARO
14	Vietnam	1,065,469	+64,572	23,476	+627	881,593	WPRO
15	Brazil	21,989,962	+63,436	612,177	+1,854	21,206,997	Americas
16	Italy	4,893,887	+58,452	133,034	+416	4,628,340	EURO
17	Hungary	987,199	+55,785	32,645	+894	833,416	EURO
18	Thailand	2,050,980	+46,706	20,303	+369	1,940,854	SEARO
19	Greece	861,117	+46,049	17,075	+515	763,609	EURO
20	Slovakia	585,824	+45,615	13,725	+320	486,265	EURO
21	Iran	6,063,775	+43,828	128,634	+825	5,746,487	EMRO
22	Malaysia	2,569,533	+40,712	29,892	+357	2,472,283	WPRO
23	Croatia	558,270	+36,433	10,113	+392	509,123	EURO
24	Georgia	804,571	+33,190	11,352	+613	741,470	EURO
25	Spain	5,074,027	+31,224	87,804	+157	4,899,605	EURO
26	Ireland	515,691	+31,168	5,609	+43	415,030	EURO
27	Switzerland	935,042	+29,930	11,380	+55	847,640	EURO
28	Denmark	438,811	+26,245	2,792	+43	394,029	EURO
29	Romania	1,755,179	+24,746	54,343	+2,137	1,613,583	EURO
30	Serbia	1,225,242	+24,162	11,062	+407	1,131,742	EURO
31	Slovenia	391,677	+23,008	5,000	+115	341,237	EURO
32	Jordan	905,738	+19,696	11,310	+127	859,195	EMRO
33	S. Korea	409,099	+18,380	3,215	+164	368,723	WPRO
34	Bulgaria	668,363	+18,300	26,985	+1,035	532,234	EURO
35	Canada	1,759,560	+17,977	29,462	+196	1,706,554	Americas
36	Chile	1,735,187	+17,102	38,049	+132	1,634,949	Americas
37	Singapore	246,853	+16,776	625	+77	224,682	WPRO

38	Mexico	3,854,994	+16,686	291,929	+1,299	3,217,051	Americas
39	Colombia	5,040,665	+16,402	127,963	+283	4,882,144	Americas
40	Azerbaijan	568,089	+13,993	7,551	+179	530,774	EURO
41	Lithuania	450,421	+13,731	6,440	+189	411,454	EURO
42	Norway	237,739	+13,437	996	+48	88,952	EURO
43	Belarus	634,731	+13,042	4,901	+96	616,992	EURO
44	Portugal	1,115,080	+12,642	18,295	+64	1,055,650	EURO
45	Philippines	2,821,753	+10,505	46,422	+1,556	2,752,173	WPRO
46	Argentina	5,312,089	+9,644	116,341	+132	5,177,202	Americas
47	Australia	195,624	+8,583	1,933	+60	175,282	WPRO
48	Peru	2,219,617	+8,251	200,767	+213	N/A	Americas
49	Laos	58,798	+7,821	116	+23	6,558	WPRO
50	Latvia	244,561	+7,796	3,901	+255	221,159	EURO
51	Kazakhstan	961,734	+7,588	12,517	+140	922,753	EURO
52	Dominican Republic	399,773	+7,550	4,182	+24	390,544	Americas
53	Armenia	332,713	+7,192	7,212	+345	301,856	EURO
54	Egypt	347,719	+6,531	19,780	+471	289,952	EMRO
55	Finland	173,632	+6,513	1,246	+30	46,000	EURO
56	Lebanon	656,192	+6,496	8,616	+50	626,053	EMRO
57	Sri Lanka	554,459	+6,398	14,072	+145	525,560	SEARO
58	Sweden	1,187,607	+6,075	15,077	+30	1,149,336	EURO
59	Bolivia	527,380	+5,862	19,049	+51	485,421	Americas
60	Estonia	215,367	+5,770	1,714	+64	188,362	EURO
61	Moldova	356,448	+5,751	8,709	+386	337,460	EURO
62	Iraq	2,072,478	+5,573	23,607	+162	2,030,088	EMRO
63	Myanmar	516,146	+5,421	18,989	+107	488,253	SEARO
64	Mongolia	376,342	+5,143	1,925	+66	313,256	WPRO
65	Venezuela	422,229	+5,109	5,049	+44	408,455	Americas
66	Bosnia and Herzegovina	267,851	+4,945	12,180	+258	192,218	EURO
67	Cyprus	129,158	+4,933	589	+12	122,041	EURO
68	Albania	195,021	+3,581	3,022	+44	183,636	EURO
69	Trinidad and Tobago	64,402	+3,418	1,908	+90	54,544	Americas
70	Libya	366,789	+3,306	5,346	+88	324,510	EMRO
71	Israel	1,339,258	+3,084	8,154	+16	1,326,001	EURO
72	Guatemala	611,374	+3,067	15,775	+148	593,412	Americas
73	Montenegro	153,743	+2,950	2,231	+46	147,142	EURO
74	North Macedonia	210,938	+2,940	7,390	+96	195,157	EURO
75	Indonesia	4,252,345	+2,587	143,709	+101	4,100,321	SEARO
76	South Africa	2,927,499	+2,521	89,555	+103	2,820,613	Africa
77	Nepal	818,307	+2,247	11,489	+23	799,176	SEARO
78	Ecuador	521,792	+2,232	33,088	+99	443,880	Americas
79	Cuba	959,869	+2,134	8,289	+11	950,105	Americas
80	Pakistan	1,281,240	+2,098	28,648	+64	1,230,094	EMRO
81	Uzbekistan	190,850	+1,958	1,370	+21	187,319	EURO
82	Barbados	23,175	+1,864	205	+16	14,556	Americas

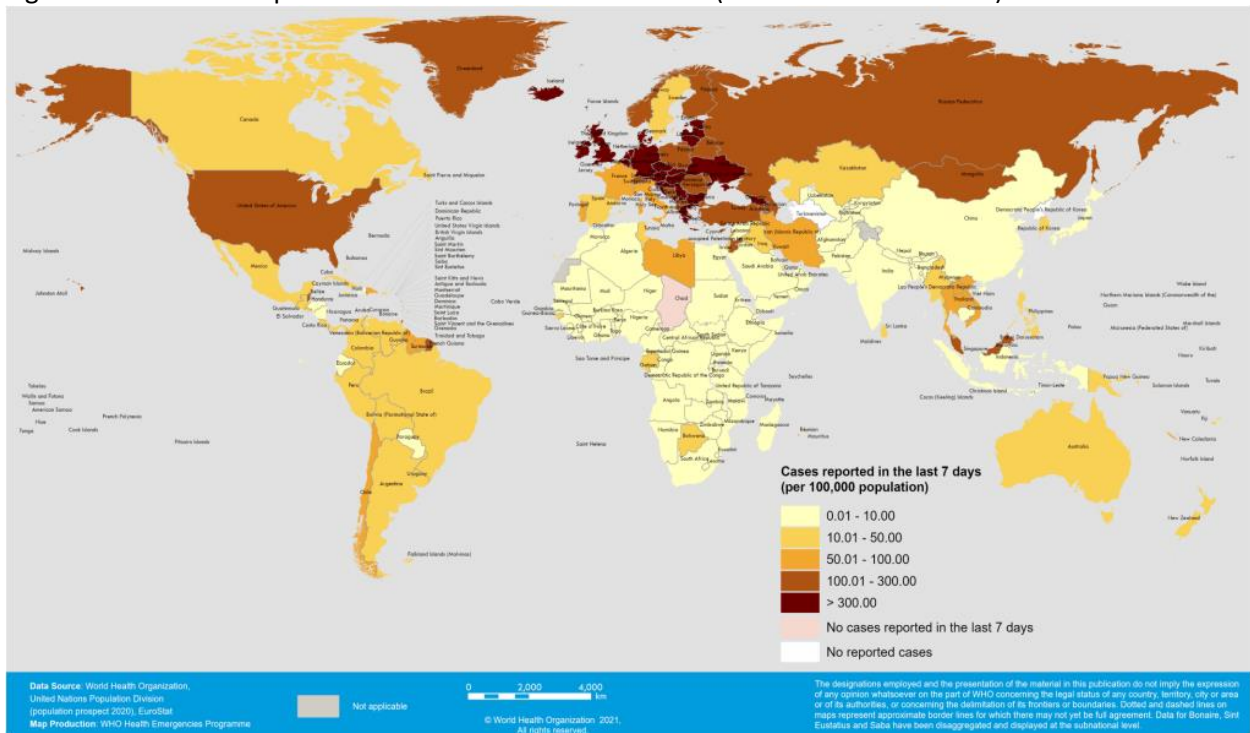
83	Cayman Islands	5,156	+1,729	4	+2	1,609	Non
84	Luxembourg	85,660	+1,591	862	+8	81,392	EURO
85	Ethiopia	369,667	+1,561	6,655	+72	346,433	Africa
86	Bangladesh	1,573,458	+1,552	27,939	+32	1,537,518	SEARO
87	Costa Rica	565,347	+1,423	7,248	+58	535,289	Americas
88	Panama	475,369	+1,367	7,350	+12	465,662	Americas
89	Uruguay	397,318	+1,354	6,110	+13	389,244	Americas
90	New Zealand	9,652	+1,346	38	+5	5,290	WPRO
91	Palestine	427,594	+1,318	4,502	+27	420,334	EMRO
92	Réunion	57,173	+1,308	379	+3	54,801	Non
93	Japan	1,725,901	+1,183	18,336	+18	1,706,112	WPRO
94	Channel Islands	15,518	+1,139	100	0	13,860	Non
95	Iceland	16,243	+1,103	34	0	14,432	EURO
96	Syria	46,838	+1,018	2,689	+39	28,058	EMRO
97	Maldives	90,340	+976	248	+1	88,039	SEARO
98	Qatar	241,672	+967	611	0	239,235	EMRO
99	Papua New Guinea	33,337	+959	436	+21	31,700	WPRO
100	Algeria	208,532	+908	6,009	+43	143,022	Africa
101	Belize	29,501	+752	558	+28	27,278	Americas
102	Botswana	194,445	+744	2,416	+5	191,345	Africa
103	Morocco	948,633	+731	14,755	+21	930,602	EMRO
104	El Salvador	118,041	+691	3,741	+32	101,092	Americas
105	Kyrgyzstan	182,727	+637	2,718	+21	177,289	EURO
106	Seychelles	22,831	+611	125	+6	22,359	Africa
107	Paraguay	462,146	+572	16,349	+76	445,200	Americas
108	Guyana	37,090	+557	968	+13	34,222	Americas
109	Jamaica	90,467	+541	2,343	+41	61,313	Americas
110	Honduras	377,360	+519	10,386	+36	119,108	Americas
111	Nigeria	213,464	+517	2,973	+40	206,292	Africa
112	Tunisia	715,988	+499	25,330	+32	689,773	EMRO
113	Mauritania	38,440	+499	812	+7	36,806	Africa
114	UAE	741,214	+485	2,144	+2	735,899	EMRO
115	Haiti	24,710	+477	711	+9	20,734	Americas
116	Suriname	50,356	+454	1,143	+17	29,541	Americas
117	Gibraltar	6,780	+452	98	0	6,036	Non
118	Martinique	44,318	+437	700	0	104	Non
119	Cambodia	119,786	+428	2,891	+41	116,170	WPRO
120	Kenya	254,541	+390	5,325	+10	247,817	Africa
121	Congo	18,539	+386	331	+22	12,421	Africa
122	Malta	38,449	+382	462	0	36,890	EURO
123	Gabon	36,943	+356	270	+8	30,661	Africa
124	Brunei	14,399	+341	96	+1	13,857	WPRO
125	China	98,427	+328	4,636	0	92,585	WPRO
126	Dominica	5,550	+315	35	+1	5,128	Americas
127	Faeroe Islands	3,090	+312	11	+5	2,672	Non
128	Uganda	127,073	+310	3,247	+13	97,109	Africa

129	Isle of Man	10,455	+296	64	0	10,012	Non
130	New Caledonia	11,799	+293	273	+1	55	Non
131	Andorra	16,035	+291	130	0	15,554	EURO
132	Afghanistan	156,739	+283	7,297	+5	134,750	EMRO
133	French Guiana	45,583	+277	322	+4	11,254	Non
134	Saudi Arabia	549,377	+274	8,821	+12	538,463	EMRO
135	Zimbabwe	133,593	+264	4,699	+5	128,379	Africa
136	Liechtenstein	3,976	+237	61	0	3,679	Non
137	Mali	16,796	+234	589	+7	14,952	Africa
138	Burkina Faso	15,514	+233	265	+31	15,009	Africa
139	Guadeloupe	55,147	+227	746	+1	2,250	Non
140	Guinea-Bissau	6,434	+171	146	+3	6,163	Africa
141	St. Vincent Grenadines	5,359	+155	73	+2	4,043	Americas
142	Kuwait	413,090	+154	2,464	+2	410,360	EMRO
143	Niger	6,773	+147	237	+8	6,312	Africa
144	Nicaragua	17,023	+146	208	+1	4,225	Americas
145	Rwanda	100,190	+143	1,339	+3	45,521	Africa
146	DRC	57,803	+141	1,099	0	50,930	Africa
147	Bahrain	277,304	+139	1,393	0	275,698	EMRO
148	Greenland	1,116	+134	0	0	916	Non
149	Angola	64,985	+128	1,729	+4	63,013	Africa
150	Burundi	20,305	+105	38	0	773	Africa
151	Eritrea	7,112	+99	53	+5	6,915	Africa
152	Aruba	16,149	+92	173	+1	15,824	Non
153	Fiji	52,444	+88	694	+15	50,628	WPRO
154	Bahamas	22,640	+88	671	+6	21,556	Americas
155	CAR	11,666	+87	101	+1	6,859	Africa
156	Saint Lucia	12,872	+87	272	+5	12,395	Americas
157	Mayotte	20,837	+86	185	0	2,964	Non
158	Comoros	4,437	+85	149	+1	4,200	Africa
159	Zambia	210,036	+83	3,666	+2	206,263	Africa
160	Curaçao	17,270	+83	175	0	16,993	Non
161	Ghana	130,727	+78	1,207	+1	128,684	Africa
162	Saint Martin	3,949	+77	56	0	1,399	Non
163	Caribbean Netherlands	2,660	+76	21	0	2,517	Non
164	Monaco	3,536	+69	36	0	3,430	EURO
165	Ivory Coast	61,553	+67	702	+2	60,499	Africa
166	Anguilla	1,175	+66	3	0	1,094	Non
167	South Sudan	12,609	+63	133	0	12,169	Africa
168	Mozambique	151,472	+62	1,936	+2	149,407	Africa
169	Oman	304,466	+56	4,113	0	299,884	EMRO
170	San Marino	5,654	+56	92	0	5,460	EURO
171	Togo	26,185	+52	243	0	25,838	Africa
172	Taiwan	16,516	+51	848	0	15,558	WPRO

173	Namibia	129,074	+47	3,567	+2	125,405	Africa
174	Yemen	9,950	+43	1,934	+14	6,722	EMRO
175	Turks and Caicos	3,067	+37	23	0	2,986	Non
176	Equatorial Guinea	13,519	+34	169	+1	13,256	Africa
177	Lesotho	21,719	+32	661	+1	13,597	Africa
178	Tanzania	26,227	+31	727	+2	N/A	Africa
179	Saint Kitts and Nevis	2,764	+29	28	+1	2,687	Americas
180	Sint Maarten	4,554	+28	75	0	4,444	Non
181	Antigua and Barbuda	4,129	+27	108	+3	3,961	Americas
182	Cabo Verde	38,313	+26	350	0	37,896	Africa
183	Bermuda	5,714	+26	106	0	5,570	Non
184	Malawi	61,858	+24	2,303	+1	58,746	Africa
185	Eswatini	46,485	+20	1,248	+3	45,210	Africa
186	Hong Kong	12,396	+18	213	0	12,104	WPRO
187	Senegal	73,962	+15	1,883	+2	72,072	Africa
188	Benin	24,846	+13	161	0	24,546	Africa
189	Bhutan	2,629	+6	3	0	2,618	SEARO
190	Djibouti	13,500	+6	186	0	13,285	EMRO
191	Gambia	9,986	+6	341	0	9,634	Africa
192	St. Barth	1,595	+6	6	0	462	Non
193	Timor-Leste	19,814	+5	122	0	19,686	SEARO
194	Grenada	5,865	+2	200	0	5,609	Americas
195	Sao Tome and Principe	3,731	+1	56	0	3,662	Africa
196	Tajikistan	17,091	+1	124	0	16,965	EURO
197	Liberia	5,818	+1	287	0	5,523	Africa
198	Saint Pierre Miquelon	33	+1	0	0	32	Non
199	Cameroon	106,190	0	1,770	0	102,716	Africa
200	Madagascar	43,672	0	964	0	41,322	Africa
201	Mauritius	18,979	0	240	0	1,854	Africa
202	Sierra Leone	6,396	0	121	0	4,393	Africa
203	Somalia	22,837	0	1,313	0	11,189	EMRO
204	Guinea	30,715	0	387	0	29,650	Africa
205	Chad	5,105	0	175	0	4,874	Africa
206	Falkland Islands	72	0	0	0	68	Non
207	Tonga	1	0	0	0	0	WPRO
208	British Virgin Islands	2,725	0	37	0	2,649	Non
209	French Polynesia	40,178	0	636	0	33,500	Non
210	Vanuatu	6	0	1	0	3	WPRO
211	Sudan	40,238	0	3,099	0	32,905	EMRO
212	Diamond Princess	712	0	13	0	699	NA
213	Montserrat	41	0	1	0	40	Non
214	Macao	77	0	0	0	77	WPRO
215	Wallis and Futuna	445	0	7	0	438	Non
216	Palau	8	0	0	0	8	WPRO

217	Vatican City	27	0	0	0	27	Non
218	Samoa	3	0	0	0	3	WPRO
219	Solomon Islands	20	0	0	0	20	WPRO
220	Western Sahara	10	0	1	0	8	Non
221	MS Zaandam	9	0	2	0	7	NA
222	Marshall Islands	4	0	0	0	4	WPRO
223	Saint Helena	2	0	0	0	2	Non
224	Micronesia	1	0	0	0	1	WPRO
	Total	256,387,821	3,736,137	5,148,100	52,427	229,886,659	

Figure 4. Areas with reported confirmed cases of COVID-19 (8 – 14 November 2021)



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 13 – 19 November, 2021
(Updated as of 19 November 2021, 1600H 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	7675	+7	5	-6	7541	+13	129	0
Andhra Pradesh	2070738	+1386	2560	-636	2053755	+2008	14423	+14
Arunachal Pradesh	55242	+34	54	+10	54908	+24	280	0
Assam	614863	+1551	3142	-119	605656	+1647	6065	+23
Bihar	726178	+30	39	+4	716476	+24	9663	+2
Chandigarh	65394	+18	28	+5	64546	+13	820	0
Chhattisgarh	1006459	+188	272	+56	992596	+128	13591	+4
Dadra and Nagar Haveli and Daman and Diu	10682	0	0	0	10678	0	4	0
Delhi	1440575	+305	362	-5	1415118	+306	25095	+4
Goa	178594	+172	252	-46	174965	+212	3377	+6
Gujarat	827112	+246	312	+78	816710	+168	10090	0
Haryana	771495	+107	136	+6	761307	+99	10052	+2
Himachal Pradesh	226213	+749	1144	+16	221243	+707	3826	+26
Jammu and Kashmir	334823	+1156	1581	+270	328783	+875	4459	+11
Jharkhand	349089	+129	138	-11	343812	+139	5139	+1
Karnataka	2992897	+1755	7378	-668	2947354	+2396	38165	+27
Kerala***	5084095	+42013	62920	-7331	4984328	+47537	36847	+1807
Ladakh	21270	+172	211	+81	20847	+88	212	+3
Lakshadweep	10370	+5	5	+5	10314	0	51	0
Madhya Pradesh	792993	+57	78	+2	782390	+54	10525	+1
Maharashtra	6627838	+6418	15383	-614	6471763	+6815	140692	+217
Manipur	124700	+372	584	-177	122160	+534	1956	+15
Meghalaya	84150	+188	271	-2	82412	+185	1467	+5
Mizoram	130912	+3364	5269	-569	125170	+3916	473	+17
Nagaland	32032	+66	131	-41	31206	+104	695	+3
Odisha	1046317	+1618	2318	-359	1035613	+1961	8386	+16
Puducherry	128561	+229	326	+66	126368	+159	1867	+4
Punjab	602906	+211	308	+42	586021	+162	16577	+7
Rajasthan	954568	+93	96	+50	945518	+43	8954	0
Sikkim	32129	+49	106	-20	31621	+67	402	+2
Tamil Nadu	2717978	+5574	9078	-935	2672564	+6424	36336	+85

Telangana	674181	+1041	3694	-43	666509	+1077	3978	+7
Tripura	84698	+54	87	-46	83793	+98	818	+2
Uttarakhand	344074	+87	179	+33	336491	+53	7404	+1
Uttar Pradesh	1710306	+63	101	+9	1687296	+49	22909	+5
West Bengal	1607516	+5930	8072	+99	1580089	+5756	19355	+75
Total	34489623	+75437	126620	-10796	33897921	+83841	465082	+2392

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

iv. Travel Bans/Advisories & Quarantine Orders

- [1] **Cambodia** – From 15 November 2021, fully vaccinated arrivals with negative results 72 hours before departure will be allowed to enter the country without quarantine requirements, while a 14-day quarantine period is still required for unvaccinated travelers.
- [2] **China** – At least 10,000 students from student halls in Zhuanghe’s university town have been transferred to quarantine hotels (3,291 students) or quarantined in their own rooms (7,884 students) to control the outbreak on campus. The city has been under complete lockdown since 5 November 2021, with public transport within the city, businesses, schools, facilities and even clinics and pharmacies ordered to shut and all residents to remain at home, and a suspension of all traffic into and out of the city.
- [3] **India** – Fully vaccinated travelers from 99 countries will be allowed to enter the country from 15 November 2021 via commercial flights. The travelers are to self-monitor their health for 14 days after arriving in India and provide a negative COVID-19 test result within 72 hours of departure from their country of origin.
- [4] **Morocco** – All arrivals from 14 November 2021 are required to undergo a rapid COVID-19 test at the airport before being allowed to enter the country, in addition to presenting a negative test taken 48 hours before departure.
- [5] **Singapore** – From 29 November, the vaccinated travel lanes with Finland, India, Indonesia, Malaysia and Sweden will commence, and that with Qatar, Saudi Arabia and UAE will commence on 6 December 2021. This brings the number of countries with planned and launched vaccinated travel lanes with Singapore to 21 as of 19 November 2021.

v. Lockdowns

- [1] **Austria** – From 15 November 2021, restrictions imposed on unvaccinated residents over 12 years old will impose a pseudo-lockdown situation for this population. Restrictions include a ban on theatre and restaurant visits, and only being allowed to go out to purchase essentials.
- [2] **Austria** – From 22 November 2021, Salzburg and Upper Austria will enter a full lockdown for at least 3 weeks. Residents will only be able to leave their homes for essential purposes including food shopping, exercise and accessing medical care including vaccinations. All hotels, restaurants and retail stores will close during this period.
- [3] **Australia** – From 19 November 2021, relaxed restrictions following achieving a 80% vaccination rate include removal of restrictions on home visits, density limits at hospitality venues, and masks rules in most settings will be relaxed. Mask wearing will still be required for certain situations, such as those working with vulnerable populations or in high-risk settings. All restrictions will still apply if the vaccination status of attendees are not being checked.
- [4] **Belgium** – From 17 November 2021, enhanced restrictions will mandate mask wearing indoors, testing of guests in nightclubs before allowing them to dance mask-free, and remote working for 4-days a week until mid-December and 3 days a week subsequently.
- [5] **Czech Republic** – From 22 November 2021, enhanced restrictions will limit dining in at restaurants, attendance of certain events, and the use of various services to those who are vaccinated or have recovered from an infection in the past 6 months.
- [6] **Greece** – Enhanced restrictions from 22 November 2021 will limit more indoor spaces only to the vaccinated, including cinemas, theaters, museums and gymnasiums, broadening the restrictions against unvaccinated residents.
- [7] **Iceland** – Tightened curbs from 12 November 2021 will limit operating capacities at sporting venues and swimming pools to 75% and public gatherings to 50 people, as opposed to the 500 people originally allowed to attend such events.
- [8] **Ireland** – Enhanced restrictions from 18 November will impose new curfew on closing times for pubs, nightclubs and restaurants from 18 November 2021, and encourage remote working arrangements from 19 November 2021.
- [9] **Mauritius** – Under enhanced restrictions from 12 November 2021, all bars and discos have been ordered to close, picnics concerts and sporting events banned, and attendance for gatherings such as weddings, funerals and rallies will be limited.
- [10] **Netherlands** – A partial lockdown imposed from 13 November to 3 December 2021 will encourage remote working arrangements, and require restaurants, bars and supermarkets to close by 8 pm, retail shops selling non-essential items to close by 6 pm, and professional sports matches to be played in empty stadiums.
- [11] **New Zealand** – From 15 December 2021, inbound and outbound travel to Auckland will be allowed for fully vaccinated residents and those with negative COVID-19 test results.
- [12] **Slovakia** – From 22 November 2021, stricter restrictions against those who have not been vaccinated or have recovered from an infection in the past 6 months will be enforced for 3 weeks. These restrictions include a ban on entering restaurants, shopping malls, shops with non-essential goods, sports activities and public events. In most affected regions, restaurants are allowed to only serve

takeaway, even for vaccinated residents. All workplaces are to also test their unvaccinated employees except those in the least affected regions.

[13] **United States (Chicago)** – The travel advisory was updated on 16 November 2021 to include Arkansas and remove Alabama, Mississippi and Tennessee from the updated list. This brings the number of states on the list to 38 states and one territory on the updated travel advisory.

vi. Military Surveillance

Canada [1]

- On 18 November, 9 COVID-19 cases have been reported from attending a Petawawa military exercise involving approximately 500 personnel. As a preventive measure, all members involved in this exercise have been instructed to self-isolate, and up to 1,500 of their household and close contacts have also been told to limit their movements in the community, regardless of their vaccination status.

South Korea [2-7]

- On 13 November, 8 new cases were reported in the military. This brings the total number of cases reported in the military to 2,118 cases, of which 412 were breakthrough patients. The new cases were reported from 8 different military units, and all but one were breakthrough infections amongst those who are fully vaccinated.
- On 15 November, 3 new cases were reported from 2 Army officers from Hwacheon and Yeoncheon following their return from their vacation, and another Army officer from Cheorwon who stayed in the same spot with a civilian patient. All new cases were fully vaccinated, and brought the total caseload in South Korea's military to 2,126 cases.
- On 16 November, 9 new cases were reported from a Marine Corps draftee in Jeju, an officer in Gwacheon, and an army conscript and Navy officer in Pyeongtaek. The remaining 5 cases tested positive after their family members were infected. This brings the total number of infections in the military to 2,135 cases.
- On 17 November, 12 new cases were reported in the South Korean military, bringing the total caseload amongst its personnel to 2,147 cases. Of the new cases, 7 service members were infected during their vacations, a civilian employee from the Army unit of Cheorwon was a contact of a previous confirmed case, and an officer based in the ministry compound in Seoul was symptomatic but 60 military personnel who came into contact with the case tested negative.
- On 18 November, 18 new cases were reported. This includes service members returning from their vacations (7 cases), who were infected from coming into contact with infected people at their bases or in the community (5 cases), and were symptomatic (3 cases). This brings the total number of cases in the military to 2,165 cases.
- On 18 November, 10 new cases were reported, of which 9 cases were fully vaccinated. Five of the new cases were reported from service members on their vacations, and 3 other cases were picked up during regular COVID-19 examination, was a contact of a previous case, or had a case reported from their base (1 case each). As of 19 November 2021, the South Korean military had reported 2,175 cases amongst its personnel.

vii. WHO Guidance & Other Protocols

The following update was published by WHO from 13 – 19 November 2021:

- **Guidance on operational microplanning for COVID-19 vaccination**
Available at: <https://www.who.int/publications/i/item/WHO-2019-nCoV-vaccination-microplanning-2021.1>

viii. CDC Guidance & Protocols

US CDC

The following update was published by the US CDC from 13 – 19 November 2021:

- **COVID-19 Science Update released: November 15, 2021 Edition 113**
Available at: https://www.cdc.gov/library/covid19/11152021_covidupdate.html
- **J&J/Janssen Update**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/JJUpdate.html>
- **Responding to COVID-19 Cases in K-12 Schools: Resources for School Administrators**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-contact-tracing/guide.html>
- **Reported Adverse Events**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/adverse-events.html>
- **Myocarditis and Pericarditis**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/myocarditis.html>
- **Impact of Hospital Strain on Excess Deaths During the COVID-19 Pandemic — United States, July 2020–July 2021**
Available at: https://www.cdc.gov/mmwr/volumes/70/wr/mm7046a5.htm?s_cid=mm7046a5_x
- **Required Testing before Air Travel to the US**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/travelers/testing-international-air-travelers.html>
- **Health Care Access and Use Among Adults with Diabetes During the COVID-19 Pandemic — United States, February–March 2021**
Available at: https://www.cdc.gov/mmwr/volumes/70/wr/mm7046a2.htm?s_cid=mm7046a2_x

EU CDC

No update was published by the EU CDC from 13 – 19 November 2021.

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] **Egypt** – The domestically developed vaccine candidate COVIVAX was announced to proceed to clinical trial phase on 14 November 2021, with the exact commencement date not yet released.
- [2] **India** – Interim Phase 3 results of Covaxin published on 11 November 2021 showed a 77.8% efficacy at preventing symptomatic COVID-19 infection. 63.6% against asymptomatic infection and 93.4% efficacy against severe COVID-19 episode amongst the 25,798 adults enrolled in the study. A total of 5,959 adverse events were reported in 3,194 participants, but none of it severe adverse events.
- [3] **New Zealand** – Booster vaccine shots of the Pfizer vaccine, for those who completed their 2-doses of vaccines for at least 6 months will be allowed from 29 November 2021.
- [4] **New Zealand** – On 18 November 2021, Covidshield and Covaxin was approved by the government as a recognized vaccine. This brings the number of vaccines in the list of recognized vaccines by the nation to 8.
- [5] **Nigeria** – Mass vaccination for the state of Kwara commenced on 17 November 2021.
- [6] **Philippines** – Approval for emergency use of the vaccine candidate Covavax, developed by Novavax, was granted for use in adults aged at least 18 years old on 17 November 2021.
- [7] **Spain** – Domestically developed COVID-19 vaccine candidate by Hipra, based on the recombinant protein technology has advanced to Phase 2 trials on 15 November 2021. This phase will recruit at least 1,000 participants from 10 hospitals across the country.
- [8] **Switzerland** - A clinical trial of the T-cell vaccine candidate developed by Emergex was approved to commence recruitment on 3 January 2022 in Lausanne, Switzerland. The trial will involve 26 participants receiving a high and low dose of the experimental COVID-19 vaccine, which aims to be eventually administered via a skin-patch with micro-needles to release the shot within seconds.
- [9] **United Kingdom** – Results from the sub-study of a Phase 3 vaccine safety, immunogenicity and efficacy of the NVX-CoV2373 vaccine, where the vaccine was co-administered with seasonal influenza vaccine, per-protocol analyses showed an efficacy of 87.5% (95% CI -0.2, 98.4%) for participants aged between 18 to 65 years old. Reduced antibody responses to the NVX-CoV2373 vaccine was noted with co-administration, and reactogenicity events were more common in the co-administration group than in the NVX-CoV2373 alone group. Tenderness or pain at injection site, fatigue and muscle pain were commonly reported. Incidences of unsolicited adverse events, treatment-related medically attended adverse events, and serious adverse events were low and balanced between the co-administration group and the NVX-CoV2373 alone group. Anaphylaxis or deaths were also not reported within the sub-study.

Therapeutics

- [10] **Global** – Updated 6-month analyses of ongoing Phase 3 trials, PROVENT and TACKLE utilizing AZD7442 COVID-19 drug showed i) 83% efficacy in preventing symptomatic COVID-19 episode at 6-months following a 300mg intramuscular dose in individuals at increased risk of insufficient response to a COVID-19 vaccine, and ii) 88% efficacy against developing severe COVID-19 or death in patients with mild-to-moderate COVID-19 infection, with a 600mg intramuscular dose. No new safety issues were identified in the six-month analysis of PROVENT.
- [11] **Global** – Preliminary Phase 3 results from the COMET-TAIL trial conducted in London, and San Francisco indicated that intramuscular (IM) administration of sotrovimab was non-inferior to intravenous (IV) administration for the early treatment of mild-to-moderate COVID-19 in high-risk, non-hospitalised adults and adolescents (at least 12 years old). The adjusted difference between the IM and IV arms of the trial was 1.07% (95% confidence interval 1.25% to 3.39%), with the upper bound of the 95% confidence interval within the predetermined 3.5% non-inferiority margin set for the trial’s primary endpoint in consultation with the US Food and Drug Administration (FDA).
- [12] **EU** – The European Commission (EC) has authorized Regeneron-Roche’s antibody cocktail, Ronapreve, for treatment of adults and adolescents who do not required oxygen supposed and are at high risk of severe diseases in the EU, on 12 November 2021.
- [13] **Bahrain** – Astrazeneca’s drug Evusheld was authorised for emergency use amongst immunodeficient adults, those taking immunosuppressants, or exposed to increased risk of infections due to their occupations.

Vaccine Approval Status

Table 6: Number of approving countries per vaccine as of 16 November 2021

Developer	Vaccine	Number of countries approving
Anhui Zhifei Longcom	RBD-Dimer	3
Bharat Biotech	Covaxin	10
CanSino	Ad5-nCoV	9
Center for Genetic Engineering and Biotechnology (CIGB)	CIGB-66	4
Chumakov Center	KoviVac	1
FBRI	EpiVacCorona	2
Gamaleya	Sputnik Light	19
Gamaleya	Sputnik V	73
Johnson & Johnson	Ad26.COVS.2.S	76
Kazakhstan RIBSP	QazVac	2
Medigen	MVC-COV1901	1
Minhai Biotechnology Co	SARS-CoV-2 Vaccine (Vero Cells)	1
Moderna	mRNA-1273	76
Oxford/AstraZeneca	AZD1222	124
Pfizer/ BioNTech	BNT162b2	103
Serum Institute of India	Covishield	46
Serum Institute of India	COVOVAX (Novavax formulation)	1
Shifa Pharmed Industrial Co	COVID-19 Inactivated Vaccine	1

Sinopharm	BBIBP-CorV	68
Sinopharm	Inactivated	2
Sinovac	CoronaVac	42
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] **Singapore** – A total of 200 adverse events of the 854,268 mRNA booster shots administered (0.02%) as of 31 October 2021. None of the adverse events reported were severe, and commonly reported ones include rash, angioedema, chest discomfort, palpitation, shortness of breath, fever, and generalized weakness and dizziness.
- As of 31 October 2021, a total of 13,334 suspected adverse events were reported of the 9.9 million doses of mRNA vaccines administered, including 634 serious events and 86 reports of myocarditis and pericarditis. The incidence rate for myocarditis after the first or second dose in adults aged at least 18 years old was higher amongst those taking the Moderna vaccine (1.29 events per 100,000 doses) than the Pfizer vaccine (0.62 events per 100,000 doses).
- As of 31 October 2021, a total of 171 adverse events were reported of the 206,722 doses of Sinovac vaccines administered (0.08%), including 14 serious events including Bell's Palsy, blood clots, numbness, muscle spasm, vertigo with tinnitus (ringing of the ears) and serious allergic reactions.
- [2] **Taiwan** – As of 15 November 2021, 117 adverse reactions following vaccination, including 52 serious events and 6 deaths have been reported in Taiwan. The youngest deceased was an 18 year-old woman with a history of cancer. In addition, 16 cases of myocarditis have been reported amongst adolescents following vaccination with the Pfizer vaccine, and the panel of experts in the Central Epidemic Command Center has decided to stop administering second doses of the Pfizer vaccine to children aged between 12 and 17 years old.
- [3] **Trinidad & Tobago** – As of 17 November 2021, 10 reports of AEFIs amongst the 1.2 million administered doses were reported. These reports include blood clots and myocarditis.

x. Scientific Publications with Epidemiology and Clinical Focus

The pathogenesis, epidemiology and biomarkers of susceptibility of pulmonary fibrosis in COVID-19 survivors [1]

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.

COVID-19 and risk of subsequent life-threatening secondary infections: a matched cohort study in UK Biobank [2]

Background: With the increasing number of people infected with and recovered from coronavirus disease 2019 (COVID-19), the extent of major health consequences of COVID-19 is unclear, including risks of severe secondary infections.

Methods: Based on 445,845 UK Biobank participants registered in England, we conducted a matched cohort study where 5151 individuals with a positive test result or hospitalized with a diagnosis of COVID-19 were included in the exposed group. We then randomly selected up to 10 matched individuals without COVID-19 diagnosis for each exposed individual (n = 51,402). The life-threatening secondary infections were defined as diagnoses of severe secondary infections with high mortality rates (i.e., sepsis, endocarditis, and central nervous system infections) from the UK Biobank inpatient hospital data, or deaths from these infections from mortality data. The follow-up period was limited to 3 months after the initial COVID-19 diagnosis. Using a similar study design, we additionally constructed a matched cohort where exposed individuals were diagnosed with seasonal influenza from either inpatient hospital or primary care data between 2010 and 2019 (6169 exposed and 61,555 unexposed individuals). After controlling for multiple confounders, Cox models were used to estimate hazard ratios (HRs) of life-threatening secondary infections after COVID-19 or seasonal influenza.

Results: In the matched cohort for COVID-19, 50.22% of participants were male, and the median age at the index date was 66 years. During a median follow-up of 12.71 weeks, the incidence rate of life-threatening secondary infections was 2.23 (123/55.15) and 0.25 (151/600.55) per 1000 person-weeks for all patients with COVID-19 and their matched individuals, respectively, which corresponded to a fully adjusted HR of 8.19 (95% confidence interval [CI] 6.33-10.59). The corresponding HR of life-threatening secondary infections among all patients with seasonal influenza diagnosis was 4.50, 95% CI 3.34-6.08 (p for difference < 0.01). Also, elevated HRs were observed among hospitalized individuals for life-threatening secondary infections following hospital discharge, both in the COVID-19 (HR = 6.28 [95% CI 4.05-9.75]) and seasonal influenza (6.01 [95% CI 3.53-10.26], p for difference = 0.902) cohorts.

Conclusion: COVID-19 patients have increased subsequent risks of life-threatening secondary infections, to an equal extent or beyond risk elevations observed for patients with seasonal influenza.

Prevalence of malnutrition in coronavirus disease 19: the NUTRICOV study [3]

Recent European Society of Parenteral and Enteral Nutrition guidelines highlighted the interest of prevention, diagnosis and treatment of malnutrition in the management of coronavirus disease 19 (COVID-19) patients. The aim of our study was to evaluate the prevalence of malnutrition in patients hospitalised for COVID-19. In a prospective observational cohort study malnutrition was diagnosed according to the Global Leadership Initiative on Malnutrition (GLIM) two-step approach. Patients were divided into two groups according to the diagnosis of malnutrition. Covariate selection for the multivariate analysis was based on $P < 0.2$ in univariate analysis, with a logistic regression model and a backward elimination procedure. A partitioning of the population was realised. Eighty patients were prospectively enrolled. Thirty patients (37.5 %) had criteria for malnutrition. The need for intensive care unit admission (n 46, 57.5 %) was similar in the two groups. Three patients who died (3.75 %) were malnourished. Multivariate analysis exhibited that low BMI (OR 0.83, 95 % CI 0.73, 0.96, $P = 0.0083$), dyslipidaemia (OR 29.45, 95 % CI 3.12, 277.73, $P = 0.0031$), oral intake reduction < 50 % (OR 3.169, 95 % CI 1.04, 9.64, $P = 0.0422$) and glomerular filtration rate (Chronic Kidney Disease Epidemiology Collaboration; CKD-EPI) at admission (OR 0.979, 95 % CI 0.96, 0.998, $P = 0.0297$) were associated with the occurrence of malnutrition. We demonstrate the existence of a high prevalence of malnutrition in a general cohort of COVID-19 inpatients according to GLIM criteria. Nutritional support in COVID-19 care seems an essential element.

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Acknowledgement:

Dr. Pang Junxiong, Vincent

Ms Chua Ee Yong Pearleen

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