

Oct | 15

COVID-19

Situation Report 485

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 15 October 2021, 1400H SGT)

Environmental Risk	Transmissibility	Severity of Disease	Availability of Treatment/ Vaccination [#]	Overall Risk [%]
Global (n=198 countries)				
<p>High</p> <p>Globally, 190 (96.0%) 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 (18 countries), EURO (49 countries), EMRO (13 countries), Americas (32 countries), and Africa (10 countries).</p> <p>Only 4 (2%) countries/territories have no reported restrictions on inbound arrivals, while 148 (80%) countries/territories have partially reopened their borders – require arrivals to produce a negative COVID-19 test result and/or undergo self-quarantine upon arrival. 47 (25%) 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 176 countries ranged from 0.052 to 1.4.[§]</p>	<p>Case fatality rate is currently at 2.04% 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>	
Western Pacific Region and South-East Asia Region (n=41 countries)				
<p>Moderate</p> <p>34 (82.9%) countries have reported outbreaks; but only 18 (43.9%) countries are reporting a surge in cases.</p> <p>12 (29.3%) 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, Malaysia, Mongolia, Singapore and Thailand, and highest case numbers were reported from India, Malaysia, Philippines, Thailand and Vietnam.</p> <p>At least 18 countries have closed their borders, 22 countries have opened their borders partially conditionally, and none is allowing free travel.</p>	<p>As of Oct 12, the estimated effective reproduction no. of 25 countries ranged from 0.53-1.3.[§]</p>	<p>Case fatality rate is 1.54%.</p>	<p>High</p> <p>33 countries have commenced vaccination as of 15 October 2021. Coverage was available for the following: i) at least 1 dose was at <50% for 12 countries; 51-70% for 10 countries; >70% for 11 countries ii) full vaccination was at <50% for 17 countries; 51-70% for 11 countries; >70% for 4 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>2 (3.8%) 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 Estonia, Georgia, Lithuania, Latvia and Serbia, and highest case numbers were reported from Romania, Russia, Turkey, United Kingdom and Ukraine.</p> <p>At least 6 countries have closed their borders, 46 countries have opened their borders partially conditionally, and only 1 country is allowing free travel.</p>	<p>As of Oct 12, the estimated effective reproduction no. of 52 countries ranged from 0.052-1.4.[§]</p>	<p>Case fatality rate is 1.88%.</p>	<p>High</p> <p>53 countries have commenced vaccination as of 15 October 2021. Coverage was available for the following i) at least 1 dose was at <50% for 20 countries; 51-70% for 17 countries; >70% for 16 countries; ii) full vaccination was at <50% for 21 countries; 51-70% for 22 countries; >70% for 10 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>High</p>
Eastern Mediterranean Region (n=22 countries)				
<p>High</p> <p>22 (100%) countries have reported with outbreak; 13 (59.1%) 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 Iran, Jordan, Lebanon, Libya and Palestine, and highest case numbers were reported from Iran, Iraq, Jordan, Pakistan and Palestine.</p> <p>At least 4 countries have closed their borders, 17 countries have opened their borders partially conditionally, and only 1 country is allowing free travel.</p>	<p>As of Oct 12, the estimated effective reproduction no. of 22 countries ranged from 0.58-1.2.[§]</p>	<p>Case fatality rate is 1.84%.</p>	<p>High</p> <p>21 countries have commenced vaccination as of 15 October 2021. Coverage was available for the following: i) at least 1 dose was at <50% for 12 countries; 51-70% for 4 countries; >70% for 4 countries; ii) full vaccination was at <50% for 14 countries; 51-70% for 3 countries; >70% 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>High</p>

Region of the Americas (n=35 countries)				
<p>High</p> <p>35 (100%) countries have reported with outbreak; 35 (100%) 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, St. Kitts and Nevis and Suriname, and highest case numbers were reported from Brazil, Canada, Cuba, Mexico and USA.</p> <p>At least 10 countries have closed their borders, 23 countries have opened their borders partially conditionally, and 2 countries are allowing free travel.</p>	<p>As of Oct 15, the estimated effective reproduction no. of 35 countries ranged from 0.38-1.1.[§]</p>	<p>Case fatality rate is 2.45%.</p>	<p>High</p> <p>35 countries have commenced vaccination as of 15 October 2021. Coverage was available for the following: i) at least 1 dose was at <50% for 18 countries; 51-70% for 11 countries; >70% for 6 countries ii) full vaccination was at <50% for 25 countries; 51-70% for 7 countries; 70% for 3 countries.^{&}</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>	
African Region (n=47 countries)				
<p>Moderate</p> <p>47 (100%) countries have reported with outbreak; 10 (21.7%) countries are reporting a surge in cases.</p> <p>1 (2.1%) 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, Cabo Verde, Gabon, Sao Tome and Principe and Seychelles, and highest case numbers were reported from Angola, Cameroon, Ethiopia, Nigeria and South Africa.</p> <p>At least 9 countries have closed their borders, 38 countries have opened their</p>	<p>As of Oct 15, the estimated effective reproduction no. of 42 countries ranged from 0.13-1.3.[§]</p>	<p>Case fatality rate is 2.46%.</p>	<p>High</p> <p>46 countries have commenced vaccination as of 15 October 2021. Coverage was available for the following: i) at least 1 dose was at <50% for 41 countries; 51-70% for 2 countries; >70% for 1 country; ii) full vaccination was at <50% for 42 countries; 50-70% for 1 country; >70% for 1 country. ^{&}</p> <p>Ethiopia has approved the use of Dexamethasone treatment for seriously ill COVID-19 patients. [13]</p>	High

borders partially conditionally, and no country is allowing free travel.				
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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 15 October 2021, 1400H 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
221	240,403,103	240,306,615	4,897,608	2.04%	2.04%	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

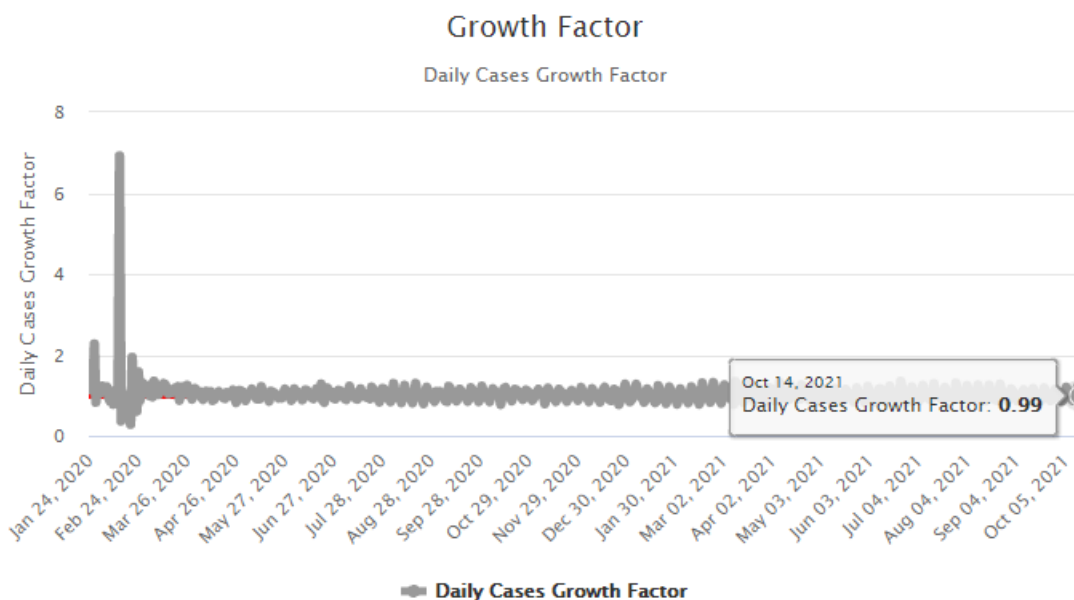
Virus	Incubation Period (Days)	Case Fatality Rate (%)	R ₀
SARS-CoV-2	Median = 5.1 [§] (2-14) or up to 24*	2.04	5.8 (95% CI 4.4–7.7) [^]
SARS-CoV	2-7	9.6	2.0
MERS-CoV	5 (2-14)	34	<1 (higher in health care setting)
Swine Flu	1-4	0.02	1.2-1.6

*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)



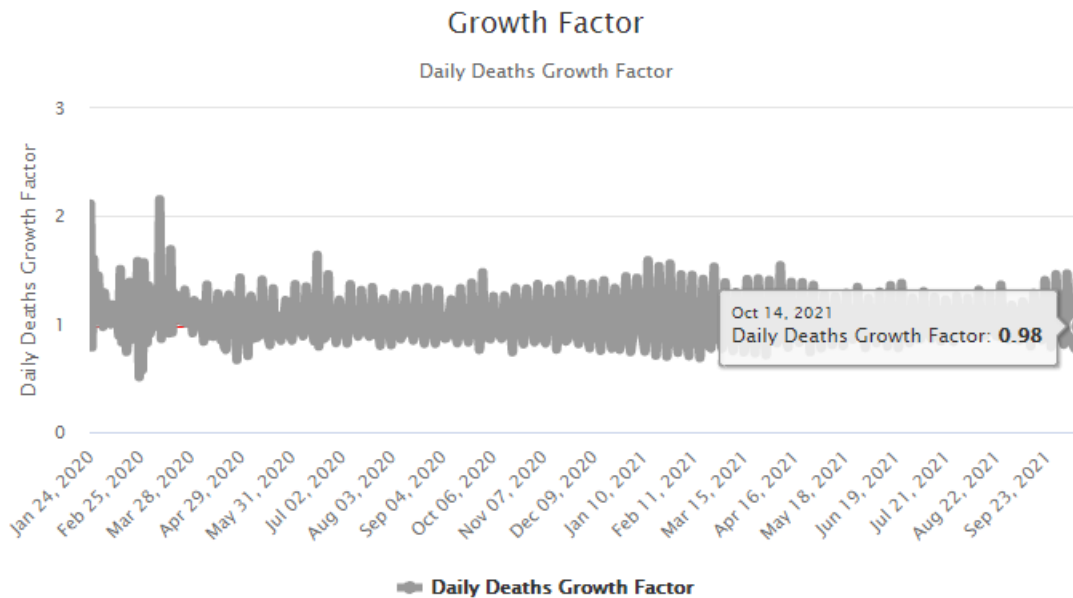
Growth Factor = every day's cases/cases on previous day. A growth factor above 1 indicates an increase, whereas one between 0 and 1 is a sign of decline, with the quantity eventually becoming zero. A growth factor below 1 (or above 1 but trending downward) is a positive sign, whereas a growth factor 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 09 – 15 October 2021
(Updated as of 15 October 2021, 1400H SGT)

No.	Country	Total Cases	Change in Cases	Total Deaths	Change in Deaths	Total Recovered	Region
1	USA	45,639,012	+617,745	741,893	+11,687	35,205,258	Americas
2	UK	8,317,439	+271,049	138,237	+820	6,802,672	EURO
3	Turkey	7,570,932	+213,596	67,044	+1,454	7,014,239	EURO
4	Russia	7,892,980	+202,870	220,315	+6,766	6,937,756	EURO
5	India	34,037,592	+123,127	451,847	+1,687	33,382,100	SEARO
6	Ukraine	2,610,899	+113,256	60,137	+2,297	2,316,582	EURO
7	Romania	1,414,647	+96,280	40,765	+2,223	1,210,494	EURO
8	Iran	5,754,047	+79,964	123,498	+1,486	5,280,624	EMRO
9	Brazil	21,612,237	+79,679	602,201	+2,336	20,758,597	Americas
10	Thailand	1,762,190	+72,753	18,123	+589	1,636,461	SEARO
11	Philippines	2,698,232	+65,351	40,221	+1,284	2,573,161	WPRO
12	Germany	4,366,243	+59,486	95,334	+424	4,134,100	EURO
13	Malaysia	2,369,613	+55,886	27,681	+568	2,240,345	WPRO
14	Serbia	1,031,283	+42,976	8,946	+364	896,785	EURO
15	Mexico	3,744,574	+37,340	283,574	+2,453	3,103,138	Americas
16	France	7,074,276	+30,960	117,211	+220	6,866,390	EURO
17	Vietnam	853,842	+27,005	20,950	+727	788,005	WPRO
18	Georgia	649,407	+23,349	9,370	+208	607,563	EURO
19	Canada	1,673,397	+22,164	28,421	+280	1,609,640	Americas
20	Singapore	138,327	+21,463	207	+71	111,498	WPRO
21	Cuba	928,684	+20,743	7,994	+252	909,042	Americas
22	Netherlands	2,036,628	+20,457	18,231	+31	1,956,431	EURO
23	Bulgaria	534,312	+17,802	22,102	+597	455,153	EURO
24	Belgium	1,276,221	+17,533	25,732	+67	1,184,655	EURO
25	Italy	4,709,753	+17,479	131,461	+263	4,498,924	EURO
26	Greece	687,278	+16,238	15,289	+247	644,925	EURO
27	Australia	138,720	+16,154	1,507	+102	105,596	WPRO
28	Lithuania	360,763	+15,668	5,349	+191	323,641	EURO
29	Mongolia	334,865	+15,618	1,513	+122	300,074	WPRO
30	Poland	2,931,064	+14,095	76,018	+215	2,671,199	EURO
31	Belarus	565,865	+14,065	4,353	+110	539,252	EURO
32	Austria	768,711	+12,914	11,143	+71	737,170	EURO
33	Kazakhstan	912,799	+12,678	11,672	+213	854,976	EURO
34	Israel	1,312,908	+11,940	7,972	+90	1,283,893	EURO
35	Iraq	2,030,498	+11,831	22,681	+208	1,958,467	EMRO
36	Ireland	409,647	+11,816	5,306	+26	363,406	EURO
37	Latvia	178,298	+11,745	2,857	+74	154,377	EURO

38	S. Korea	339,361	+11,385	2,626	+72	305,851	WPRO
39	Slovakia	431,757	+10,833	12,791	+86	399,716	EURO
40	Spain	4,982,138	+10,828	86,917	+216	4,825,794	EURO
41	Myanmar	484,317	+10,298	18,255	+221	436,640	SEARO
42	Guatemala	584,613	+9,900	14,204	+302	555,993	Americas
43	Colombia	4,977,043	+9,519	126,759	+242	4,820,423	Americas
44	Venezuela	388,743	+9,391	4,681	+105	368,854	Americas
45	Croatia	422,908	+9,243	8,847	+117	404,441	EURO
46	Moldova	312,442	+9,234	7,137	+183	291,490	EURO
47	Armenia	276,666	+7,994	5,675	+209	251,330	EURO
48	Indonesia	4,232,099	+7,612	142,848	+354	4,069,399	SEARO
49	Jordan	838,523	+7,579	10,847	+64	813,072	EMRO
50	Azerbaijan	496,780	+7,554	6,720	+95	476,229	EURO
51	Costa Rica	550,134	+7,481	6,771	+187	468,136	Americas
52	Czechia	1,704,436	+7,372	30,524	+31	1,660,434	EURO
53	Estonia	168,884	+7,103	1,409	+22	151,561	EURO
54	Pakistan	1,262,771	+6,538	28,228	+170	1,194,590	EMRO
55	Chile	1,665,916	+6,530	37,583	+50	1,619,203	Americas
56	Sri Lanka	529,755	+6,205	13,429	+200	491,604	SEARO
57	Switzerland	853,637	+6,186	11,165	+34	804,982	EURO
58	Egypt	315,842	+5,908	17,846	+262	266,444	EMRO
59	Slovenia	304,963	+5,721	4,627	+27	288,744	EURO
60	Argentina	5,270,003	+5,698	115,633	+217	5,136,463	Americas
61	Peru	2,187,368	+5,262	199,775	+194	N/A	Americas
62	Hungary	831,866	+5,230	30,341	+82	790,127	EURO
63	Palestine	416,676	+5,150	4,288	+91	398,424	EMRO
64	South Africa	2,914,827	+5,070	88,506	+402	2,802,980	Africa
65	Ethiopia	357,550	+5,046	6,141	+253	326,735	Africa
66	Japan	1,712,649	+4,897	18,020	+201	1,685,135	WPRO
67	Portugal	1,077,963	+4,695	18,071	+52	1,029,815	EURO
68	Denmark	366,607	+4,539	2,676	+8	356,134	EURO
69	Dominican Republic	368,131	+4,396	4,082	+19	356,774	Americas
70	Sweden	1,161,264	+4,181	14,886	+25	1,127,869	EURO
71	Lebanon	632,271	+4,030	8,406	+31	606,282	EMRO
72	Nepal	804,276	+3,994	11,269	+69	779,154	SEARO
73	Bosnia and Herzegovina	243,220	+3,820	11,078	+245	192,218	EURO
74	Finland	149,174	+3,820	1,109	+47	46,000	EURO
75	Libya	348,647	+3,800	4,849	+110	276,040	EMRO
76	Laos	30,615	+3,739	36	+13	6,558	WPRO
77	Bangladesh	1,564,485	+3,667	27,737	+90	1,526,368	SEARO
78	Morocco	941,009	+3,378	14,520	+107	920,476	EMRO
79	Uzbekistan	180,162	+3,198	1,283	+23	175,996	EURO
80	Cameroon	98,402	+3,003	1,550	+33	80,433	Africa
81	Albania	176,667	+2,944	2,797	+51	167,308	EURO
82	Honduras	371,861	+2,831	10,084	+135	113,359	Americas

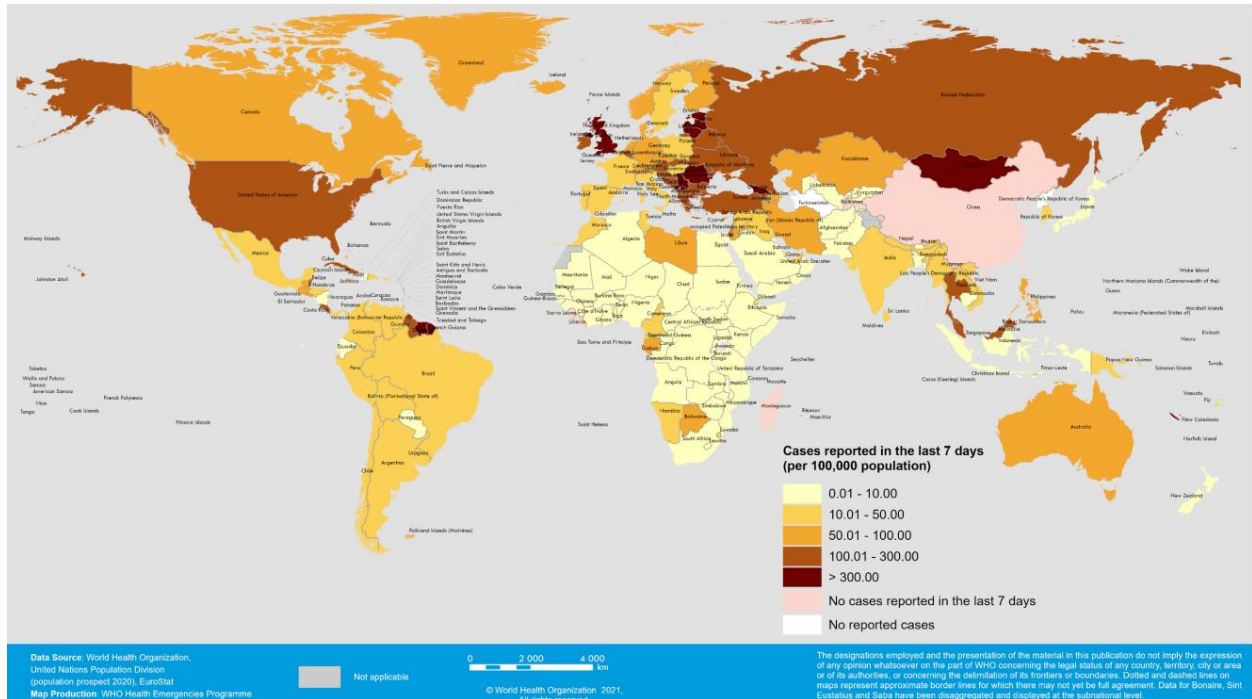
83	Norway	195,385	+2,798	884	+13	88,952	EURO
84	Bolivia	505,157	+2,607	18,811	+36	466,707	Americas
85	Montenegro	136,681	+2,470	2,010	+38	129,709	EURO
86	Papua New Guinea	24,041	+2,145	266	+23	19,840	WPRO
87	North Macedonia	195,963	+2,117	6,888	+105	182,473	EURO
88	Suriname	45,861	+2,086	1,000	+56	27,053	Americas
89	Barbados	12,105	+2,023	108	+22	8,935	Americas
90	Cambodia	116,140	+1,992	2,610	+169	110,154	WPRO
91	Syria	38,067	+1,907	2,375	+61	24,800	EMRO
92	Angola	62,385	+1,582	1,653	+50	50,303	Africa
93	Belize	23,762	+1,575	457	+30	20,502	Americas
94	Brunei	9,828	+1,566	67	+5	7,498	WPRO
95	Gabon	33,115	+1,531	209	+12	27,727	Africa
96	Botswana	181,856	+1,418	2,386	+10	178,124	Africa
97	Ecuador	513,026	+1,327	32,899	+63	443,880	Americas
98	Trinidad and Tobago	53,392	+1,313	1,573	+43	47,641	Americas
99	Panama	469,796	+1,251	7,284	+25	460,072	Americas
100	Jamaica	86,722	+1,247	2,059	+95	54,895	Americas
101	Nigeria	208,404	+1,237	2,761	+19	196,123	Africa
102	Tunisia	710,322	+1,100	25,053	+66	683,380	EMRO
103	Cyprus	120,273	+1,003	560	+2	90,755	EURO
104	Guyana	34,132	+957	857	+36	29,504	Americas
105	Kenya	251,669	+941	5,202	+24	244,935	Africa
106	Uruguay	390,575	+914	6,065	+3	383,047	Americas
107	New Caledonia	9,767	+907	226	+41	55	Non
108	UAE	738,268	+895	2,117	+8	731,805	EMRO
109	French Guiana	43,255	+873	295	+13	9,995	Non
110	Algeria	205,005	+729	5,864	+21	140,544	Africa
111	Zimbabwe	132,251	+728	4,655	+24	125,956	Africa
112	Luxembourg	79,628	+687	838	+2	77,362	EURO
113	Uganda	124,924	+670	3,179	+9	96,337	Africa
114	Kyrgyzstan	179,681	+645	2,629	+15	174,501	EURO
115	Rwanda	98,987	+642	1,313	+16	45,506	Africa
116	Burundi	19,441	+616	38	0	773	Africa
117	Nicaragua	15,737	+603	206	+1	4,225	Americas
118	Maldives	85,932	+584	237	+5	84,451	SEARO
119	Qatar	237,741	+516	607	0	236,196	EMRO
120	Haiti	22,827	+473	649	+15	19,989	Americas
121	Bahrain	275,912	+454	1,391	+1	273,900	EMRO
122	Isle of Man	8,343	+444	54	0	7,681	Non
123	Congo	15,255	+422	219	+13	12,421	Africa
124	Guadeloupe	54,152	+418	731	+10	2,250	Non
125	New Zealand	4,897	+370	28	0	4,186	WPRO
126	Somalia	21,269	+369	1,180	+28	9,927	EMRO
127	Saudi Arabia	547,797	+348	8,755	+19	536,817	EMRO
128	Channel Islands	12,135	+323	98	0	11,623	Non

129	Ivory Coast	60,942	+301	673	+19	59,219	Africa
130	Iceland	12,390	+298	33	0	11,887	EURO
131	Saint Lucia	12,129	+296	232	+17	11,262	Americas
132	Mauritius	16,472	+283	123	+17	1,854	Africa
133	Fiji	51,648	+262	663	+14	48,165	WPRO
134	Dominica	4,153	+260	28	+4	3,841	Americas
135	Afghanistan	155,682	+253	7,238	+17	126,757	EMRO
136	St. Vincent Grenadines	4,217	+252	42	+9	2,803	Americas
137	Kuwait	412,228	+247	2,455	+3	409,178	EMRO
138	Mauritania	36,550	+238	786	+4	35,349	Africa
139	Burkina Faso	14,640	+237	203	+8	14,072	Africa
140	Benin	24,560	+225	161	+2	23,971	Africa
141	Saint Kitts and Nevis	2,511	+217	21	+4	1,577	Americas
142	Namibia	128,187	+198	3,529	+6	123,736	Africa
143	Sudan	38,824	+192	2,928	+19	32,395	EMRO
144	Djibouti	13,369	+190	179	+5	12,974	EMRO
145	DRC	57,269	+186	1,089	+3	50,930	Africa
146	Equatorial Guinea	12,840	+183	156	+2	12,263	Africa
147	Curaçao	16,885	+181	169	+1	16,418	Non
148	Mali	15,563	+169	555	+3	14,413	Africa
149	Yemen	9,467	+168	1,793	+28	5,975	EMRO
150	Cabo Verde	37,976	+168	347	+1	37,187	Africa
151	Antigua and Barbuda	3,830	+167	93	+5	2,937	Americas
152	Paraguay	460,301	+163	16,208	+3	443,923	Americas
153	Mozambique	151,061	+162	1,924	+5	148,066	Africa
154	Grenada	5,704	+150	191	+21	5,332	Americas
155	Zambia	209,431	+148	3,657	+4	205,566	Africa
156	Anguilla	644	+145	1	0	560	Non
157	China	96,488	+131	4,636	0	91,296	WPRO
158	Malta	37,412	+129	459	0	36,268	EURO
159	Togo	25,826	+121	237	+2	24,805	Africa
160	Gibraltar	5,727	+121	97	0	5,471	Non
161	Eswatini	46,344	+118	1,232	+6	44,784	Africa
162	Oman	304,025	+110	4,103	+2	299,362	EMRO
163	Aruba	15,692	+105	170	+1	15,349	Non
164	Caribbean Netherlands	2,306	+102	19	0	2,105	Non
165	Seychelles	21,638	+100	118	+2	21,242	Africa
166	Bermuda	5,548	+93	95	+8	4,979	Non
167	Guinea	30,560	+81	385	+2	29,214	Africa
168	South Sudan	12,184	+80	130	0	11,726	Africa
169	Tanzania	26,034	+77	724	+1	N/A	Africa
170	Faeroe Islands	1,323	+77	2	0	1,227	Non
171	Cayman Islands	1,011	+72	2	0	827	Non
172	Saint Martin	3,819	+71	55	0	1,399	Non

173	CAR	11,469	+68	100	0	6,859	Africa
174	Bahamas	21,580	+62	590	+4	19,683	Americas
175	Réunion	54,024	+61	370	+1	53,520	Non
176	Timor-Leste	19,694	+61	119	0	19,464	SEARO
177	Sao Tome and Principe	3,659	+59	56	+1	3,062	Africa
178	Lesotho	21,490	+57	655	+4	11,920	Africa
179	Niger	6,139	+55	204	0	5,836	Africa
180	Malawi	61,702	+54	2,292	+5	56,665	Africa
181	Sint Maarten	4,438	+52	70	+2	4,287	Non
182	Taiwan	16,321	+50	846	+2	15,330	WPRO
183	Mayotte	20,422	+49	181	+1	2,964	Non
184	Greenland	645	+44	0	0	610	Non
185	Andorra	15,326	+38	130	0	15,130	EURO
186	Eritrea	6,764	+30	44	+2	6,676	Africa
187	Senegal	73,853	+28	1,869	+5	71,959	Africa
188	Monaco	3,354	+27	33	0	3,279	EURO
189	San Marino	5,470	+26	91	0	5,343	EURO
190	Hong Kong	12,277	+25	213	0	11,971	WPRO
191	Turks and Caicos	2,910	+25	23	0	2,824	Non
192	Comoros	4,176	+17	147	0	4,009	Africa
193	Liechtenstein	3,473	+16	60	0	3,389	Non
194	Chad	5,063	+12	174	0	4,874	Africa
195	St. Barth	1,588	+10	6	+2	462	Non
196	Guinea-Bissau	6,124	+9	141	+6	5,380	Africa
197	Gambia	9,943	+4	339	+1	9,597	Africa
198	Liberia	5,803	+4	286	0	5,458	Africa
199	Bhutan	2,616	+3	3	0	2,605	SEARO
200	Palau	8	+3	0	0	5	WPRO
201	Macao	77	+2	0	0	64	WPRO
202	Montserrat	41	+1	1	0	31	Non
203	El Salvador	107,664	0	3,435	+90	89,968	Americas
204	Madagascar	42,898	0	958	0	41,322	Africa
205	Ghana	128,368	0	1,158	0	124,514	Africa
206	British Virgin Islands	2,725	0	37	0	2,649	Non
207	Sierra Leone	6,396	0	121	0	4,393	Africa
208	Saint Pierre Miquelon	32	0	0	0	32	Non
209	Falkland Islands	68	0	0	0	67	Non
210	Martinique	41,129	0	608	0	104	Non
211	Wallis and Futuna	445	0	7	0	438	Non
212	French Polynesia	40,178	0	632	+6	33,500	Non
213	Tajikistan	17,084	0	124	0	16,960	EURO
214	Diamond Princess	712	0	13	0	699	NA
215	Vatican City	27	0	0	0	27	Non
216	Samoa	3	0	0	0	3	WPRO

217	Solomon Islands	20	0	0	0	20	WPRO
218	Western Sahara	10	0	1	0	8	Non
219	MS Zaandam	9	0	2	0	7	NA
220	Vanuatu	4	0	1	0	3	WPRO
221	Marshall Islands	4	0	0	0	4	WPRO
222	Saint Helena	2	0	0	0	2	Non
223	Micronesia	1	0	0	0	1	WPRO
	Total	240,403,103	+2,852,179	4,897,608	+48,197	215,986,317	

Figure 4. Areas with reported confirmed cases of COVID-19 (04 – 10 October 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 09 – 15 October, 2021
(Updated as of 15 October 2021, 1400H 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	7640	+11	10	-1	7501	+12	129	0
Andhra Pradesh	2059122	+3816	6588	-1962	2038248	+5728	14286	+50
Arunachal Pradesh	54958	+114	202	-217	54476	+330	280	+1
Assam	605847	+1629	3646	-498	596263	+2100	5938	+27
Bihar	726016	+37	42	+10	716313	+27	9661	0
Chandigarh	65295	+27	32	-8	64443	+35	820	0
Chhattisgarh	1005614	+150	203	-12	991841	+160	13570	+2
Dadra and Nagar Haveli and Daman and Diu	10675	+3	3	+1	10668	+2	4	0
Delhi	1439311	+214	337	-46	1413885	+259	25089	+1
Goa	177356	+432	679	-100	173342	+520	3335	+12
Gujarat	826244	+164	215	+36	815943	+127	10086	+1
Haryana***	771035	+74	105	-168	760881	+68	10049	+174
Himachal Pradesh	221113	+1052	1387	-17	216011	+1048	3715	+21
Jammu and Kashmir	330834	+582	935	-155	325473	+737	4426	0
Jharkhand	348406	+92	130	+29	343141	+63	5135	0
Karnataka	2982399	+2626	9607	-2041	2934870	+4606	37922	+61
Kerala	4829944	+66249	96421	-22914	4706856	+88448	26667	+715
Ladakh	20867	+24	44	-13	20615	+37	208	0
Lakshadweep	10365	+1	2	-1	10312	+2	51	0
Madhya Pradesh	792669	+69	111	-3	782035	+71	10523	+1
Maharashtra	6586280	+15808	33157	-3829	6413418	+19343	139705	+294
Manipur	122432	+854	1444	-308	119099	+1149	1889	+13
Meghalaya	82734	+572	892	-389	80411	+943	1431	+18
Mizoram	110719	+7010	13601	-2618	96744	+9596	374	+32
Nagaland	31516	+119	230	-83	30613	+197	673	+5
Odisha	1033809	+3815	4890	+246	1020645	+3529	8274	+40
Puducherry	127259	+453	647	-8	124763	+456	1849	+5

Punjab	601971	+166	234	-25	585199	+179	16538	+12
Rajasthan	954382	+33	42	-3	945386	+36	8954	0
Sikkim	31722	+119	224	-143	31108	+260	390	+2
Tamil Nadu	2683396	+9163	15451	-1062	2632092	+10106	35853	+119
Telangana	668618	+1284	4171	-194	660512	+1469	3935	+9
Tripura	84295	+72	110	-32	83369	+103	816	+1
Uttarakhand	343729	+103	175	+19	336157	+83	7397	+1
Uttar Pradesh	1710008	+91	135	-17	1686976	+107	22897	+1
West Bengal	1579012	+4995	7576	-17	1552491	+4943	18945	+69
Total	34037592	+122023	203678	-36543	33382100	+156879	451814	+1687

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

iv. Travel Bans/Advisories & Quarantine Orders

- [1] **Australia** – From 1 November 2021, fully vaccinated international arrivals in Sydney will be exempted from quarantine requirements.
- [2] **Belgium** – From 11 October 2021, all arrivals have to show a certified proof of vaccination to enter the country through the Passenger Locator Form.
- [3] **Bulgaria** – From 13 October 2021, arrivals from Romania, Slovenia, Estonia, Latvia, Singapore, Barbados, Antigua, and Barbuda face tighter entry rules, requiring them to provide a negative PCR test result taken 72 hours before arrival and serve a 10-day quarantine upon arrival. Other countries who have been added into the orange (13 countries) and green lists (10 countries) will have relaxed entry restrictions.
- [4] **Estonia** – From 11 October to 17 October 2021, arrivals from Cyprus and Norway will be added into the green list of countries, allowing free travel between Estonia and these countries.
- [5] **Indonesia** – Indonesia will be opening Bali and the Riau Islands to foreign travellers from selected countries with lower transmission levels and a positivity rate of at most 5%, from 14 October 2021. These arrivals will serve a shortened 5-day quarantine in their hotel of choice and have a valid travel insurance, all of which are self-funded.
- [6] **Philippines** – From 16 October 2021, fully vaccinated arrivals from low-risk areas will be exempted from facility-based quarantine so long they provide a negative COVID-19 result taken within 72 hours before departure.
- [7] **Rwanda** - From 14 October 2021, travellers will only need to present a negative PCR test on arrival and need not quarantine upon arrival.
- [8] **Singapore** – From 19 October 2021, fully vaccinated people from Canada, Denmark, France, Italy, Netherlands, Spain, United Kingdom and United States will be able to enter Singapore without quarantine if they have a negative COVID-19 test result and enter via registered VTL flights.
- [9] **Slovakia** – From 15 October 2021, all travellers aged at least 12 years have to register on the governments platform upon arrival, and quarantine for 10 days with an earlier exit only allowed with a negative PCR test result that can only be performed from the fifth day of quarantine.
- [10] **Thailand** – From 1 November 2021, fully vaccinated arrivals from 10 low-risk countries will be exempted from quarantine requirements upon arrival. These countries include United Kingdom, Singapore, Germany, China and the United States.
- [11] **United States** – From early November 2021, nonessential travel via land borders will be resumed for all fully vaccinated foreign nationals.

v. Lockdowns

- [1] **Australia** – The Australian Capital Territory (ACT) will exit lockdown on 15 October 2021, allowing social gatherings and businesses to increase operational capacity. The ACT will also be reclassified as an orange travel zone, allowing them to enter Victoria without quarantine so long they get a negative COVID-19 test result within 72 hours of arrival, and isolate while awaiting their result.
- [2] **Australia** – From 15 October 2021, New South Wales residents will be able to enter ACT freely without travel exemptions, to visit family, for work and essential shoppings.
- [3] **Australia** – Queensland has resumed the travel bubble with all New South Wales local government areas in the border zones on 13 October 2021.
- [4] **Australia** – Melbourne will exit lockdown on 18 October 2021, as the 70% vaccine goal for the state has been achieved. This allows the lifting of the night curfew and allow businesses to reopen with strict social distancing rules.
- [5] **Fiji** – Domestic travel to Vanua Levu will be allowed for fully vaccinated Fijians from 10 October 2021 via water or air transport with verified companies compliant with COVID-19 safety measures. Arrivals must register a negative COVID-19 result before reavel and be quarantined at home for 7 days upon arrival. Travel to other islands will still be prohibited.
- [6] **Malaysia** – From 11 October 2021, inter-state travel will be allowed for all fully vaccinated residents, except for areas placd under the Enhanced Movement Control Order.
- [7] **Philippines** – Metro Manila will shift to Alert level 3 from 16 October to 31 October 2021, allowing most businesses to operate at full capacity and casinos, spas and indoor tourist attractions to reopen at 30% capacity. Other provinces and cities are also placed under a looser form of quarantine.
- [8] **Rwanda** – From 14 October 2021, revised curfew hours will extend operational hours for businesses by 1 hour, public gatherings in Kigali can only proceed if there is a complete proof of vaccination for all attendees, and social events, universities and some offices cannot be accessed by unvaccinated people.
- [9] **South Korea** – From 18 October 2021 to 1 November 2021, eased restrictions will allow increase the limits on social gatherings after 6 pm,. This limit is capped at 8 people if 4 people in the party are fully vaccinated in all multiuse facilities, restaurants and cafes, while up to 10 people, including 6 fully vaccinated people will be allowed in other areas. The greater Seoul area remains under Level 4 rules while the rest of the country will be under Level 3 rules.

vi. Military Surveillance

[1-4] South Korea

- On 11 October 2021, 10 cases were reported from the Korean military, of which 5 cases were reported from the cluster infection at the boot camp in Yeoncheon. This increases the number of infections reported in this cluster to 39 cases. Remaining cases were reported from soldiers in Busan (4 cases) and Yangyang (1 case). This increases the total number of infections reported among the military population to 1,925 cases.
- On 13 October 2021, a total of 14 cases were reported in the South Korean military, bringing the total number of cases to-date to 1,943. All new cases were reported amongst army soldiers, except for a case from an Air Force airman, and 5 cases were reported from quarantined trainees from the Yeoncheon bootcamp cluster.
- On 14 October 2021, 8 cases were reported from 7 army soldiers and a Navy member. Of the 7 new cases reported amongst soldiers, 3 were trainees from the Yeoncheon bootcamp who tested positive while in quarantine. This brings the total number of cases reported to-date to 1,951 cases, of which 107 are currently under treatment and the remaining have fully recovered.
- On 15 October 2021, 9 cases were reported amongst 6 army soldiers, 1 Navy member and 1 civilian employee from the defense ministry in Seoul. The last case was traced to a unit under the direct control of the defense ministry, and 5 cases amongst the 5 cases reported from soldiers were trainees at boot camps. This raises the cumulative cases in the military to 1,848 cases with 112 still under treatment.

vii. WHO Guidance & Other Protocols

No updates were published by WHO from 09 – 15 October 2021.

viii. CDC Guidance & Protocols

US CDC

The following updates were published by the US CDC from 09 – 15 October 2021:

- **Emergency Considerations for PPE**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/emergency-considerations-ppe.html>
- **COVID-19 Vaccines for Moderately to Severely Immunocompromised People**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/immuno.html>
- **COVID-19 Science Update released: October 8, 2021 Edition 108**
Available at: https://www.cdc.gov/library/covid19/10082021_covidupdate.html
- **Evidence for Conditions that Increase Risk of Severe Illness**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/underlying-evidence-table.html>
- **Underlying Medical Conditions**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/underlyingconditions.html>

EU CDC

No updates were published by the EU CDC from 09 – 15 October 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, 2] **Germany** – Phase 2b/3 results of the Curevac vaccine (CVnCoV) involving 40,000 participants across 10 countries shows an overall vaccine efficacy of 48% against COVID-19 infections of any severity. Nonetheless, a 53% efficacy was observed for participants aged between 18 to 60 years old for all disease severity, and a 77% efficacy was observed for moderate to severe disease. However the poor performance of the vaccine candidate have resulted in the company withdrawing its application from regulatory review on 12 October 2021.
- [3] **India** – The Covaxin was granted emergency authorisation for use amongst children aged between 2 to 18 years old on 12 October 2021.
- [4] **United States** – The independent advisory panel to the Food and Drug administration released a recommendation for a booster of the Moderna COVID-19 vaccine, for people aged at least 65 years old and for adults at high risk of severe illness because of underlying conditions or job exposure, on 15 October 2021.

Therapeutics

There were no relevant updates reported between 09 – 15 October 2021.

Vaccine Approval Status

Table 6: Number of approving countries per vaccine as of 14 October 2021

Developer	Vaccine	Number of countries approving
Anhui Zhifei Longcom	RBD-Dimer	3
Bharat Biotech	Covaxin	9
CanSino	Ad5-nCoV	9
Center for Genetic Engineering and Biotechnology (CIGB)	CIGB-66	4
Chumakov Center	KoviVac	1
FBRI	EpiVacCorona	2
Gamaleya	Sputnik Light	18
Gamaleya	Sputnik V	72
Johnson & Johnson	Ad26.COVS.2.S	75
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
Shifa Pharmed Industrial Co	COVID-19 Inactivated Vaccine	1
Sinopharm	BBIBP-CorV	66
Sinopharm	Inactivated	2
Sinovac	CoronaVac	41
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] **Italy** – Vaccination with the Pfizer-BioNTecj vaccine candidate amongst 340 employees of clinics in central Italy resulted in 279 (82%) and 281 (82.6%) reports of adverse effects after the first and second dose respectively. Mild reactions were mainly reported (80.9% and 80.3%), followed by moderate (11.8% and 37.1%) and severe (3.8% and 4.7%). Adverse events were identical to those already described as very common (81.8% and 80.6%) and supports findings from national reports as most events were mild and associated with the female gender and ages below 55 years.
- [2] **Nigeria** – A total of 676 adverse reactions, including 1 serious adverse effect, was reported among 1,284 adults in Anambra, Borno, Edo, Katsina, Lagos and Plateau. None of the adverse reactions reported required hospitalisation and the most common reported adverse reactions include tenderness at injection site (20.9%) and fever (20.3%). The COVID-19 vaccines administered in this population was varied and their names were not specified in the report.
- [3] **South Korea** – Menstrual disorders was added to the list of reportable adverse events following vaccination with the Astrazeneca vaccine on 7 October 2021. This side effect includes inter-cycle bleeding following vaccination, and a total of 712 events has been reported as of 27 October 2021.

x. Scientific Publications with Epidemiology and Clinical Focus

Incidence and severeness of COVID-19 hospitalization in patients with inflammatory rheumatic disease: a nationwide cohort study from Denmark [1]

Objectives: To estimate the incidence of COVID-19 hospitalization in patients with inflammatory rheumatic disease (IRD); in patients with RA treated with specific DMARDs; and the incidence of severe COVID-19 infection among hospitalized patients with RA.

Methods: A nationwide cohort study from Denmark between 1 March and 12 August 2020. The adjusted incidence of COVID-19 hospitalization was estimated for patients with RA; spondyloarthritis including psoriatic arthritis; connective tissue disease; vasculitides; and non-IRD individuals. Further, the incidence of COVID-19 hospitalization was estimated for patients with RA treated and non-treated with TNF-inhibitors, HCQ or glucocorticoids, respectively. Lastly, the incidence of severe COVID-19 infection (intensive care, acute respiratory distress syndrome or death) among hospital-admitted patients was estimated for RA and non-IRD sp - individuals.

Results: Patients with IRD (n = 58 052) had an increased partially adjusted incidence of hospitalization with COVID-19 compared with the 4.5 million people in the general population [hazard ratio (HR) 1.46, 95% CI: 1.15, 1.86] with strongest associations for patients with RA (n = 29 440, HR 1.72, 95% CI: 1.29, 2.30) and vasculitides (n = 4072, HR 1.82, 95% CI: 0.91, 3.64). There was no increased incidence of COVID-19 hospitalization associated with TNF-inhibitor, HCQ nor glucocorticoid use. COVID-19 admitted patients with RA had a HR of 1.43 (95% CI: 0.80, 2.53) for a severe outcome.

Conclusion: Patients with IRD were more likely to be admitted with COVID-19 than the general population, and COVID-19 admitted patients with RA could be at higher risk of a severe outcome. Treatment with specific DMARDs did not affect the risk of hospitalization.

BCG vaccination at birth and COVID-19: a case-control study among U.S. military Veterans [2]

In the early stages of the COVID-19 global pandemic, caused by the SARS-CoV-2 virus, low- and middle-income countries (LMICs) appeared to be experiencing lower morbidity and mortality rates than high-income countries, particularly the United States. Various suggestions put forward to account for this included the possibility that LMICs might be experiencing off-target benefits of infant vaccination with BCG, intended primarily to protect against tuberculosis. A number of ecologic epidemiological studies that considered COVID-19 morbidity and mortality rates across countries appeared to support this suggestion. Ecologic studies, however, are primarily hypothesis-generating, given their well-known limitations in extrapolating to the individual-person level. The present study, which employed anonymized records of U.S. Military Veterans treated by the Department of Veterans Affairs was principally a case-control study of COVID-19 infections with a retrospective cohort study of mortality nested within the infections. Controls were a random sample of Veterans not recorded as having had COVID-19. There were 263,039 controls and 167,664 COVID-19 cases, of whom 5,016 died. The combination of country and year of birth was used as a surrogate for infant BCG vaccination. The study did not support the hypothesis that BCG in infancy was protective against COVID-19. The odds ratio for infection was 1.07 (95% confidence interval [CI]: 1.03, 1.11) and the risk ratio for mortality among the COVID-19 cases was 0.86 (95% CI: 0.63, 1.18).

The potential for non-differential exposure misclassification was a concern, possibly biasing measures of association toward the null value.

Multinational characterization of neurological phenotypes in patients hospitalized with COVID-19 [3]

Neurological complications worsen outcomes in COVID-19. To define the prevalence of neurological conditions among hospitalized patients with a positive SARS-CoV-2 reverse transcription polymerase chain reaction test in geographically diverse multinational populations during early pandemic, we used electronic health records (EHR) from 338 participating hospitals across 6 countries and 3 continents (January-September 2020) for a cross-sectional analysis. We assessed the frequency of International Classification of Disease code of neurological conditions by countries, healthcare systems, time before and after admission for COVID-19 and COVID-19 severity. Among 35,177 hospitalized patients with SARS-CoV-2 infection, there was an increase in the proportion with disorders of consciousness (5.8%, 95% confidence interval [CI] 3.7-7.8%, pFDR < 0.001) and unspecified disorders of the brain (8.1%, 5.7-10.5%, pFDR < 0.001) when compared to the pre-admission proportion. During hospitalization, the relative risk of disorders of consciousness (22%, 19-25%), cerebrovascular diseases (24%, 13-35%), nontraumatic intracranial hemorrhage (34%, 20-50%), encephalitis and/or myelitis (37%, 17-60%) and myopathy (72%, 67-77%) were higher for patients with severe COVID-19 when compared to those who never experienced severe COVID-19. Leveraging a multinational network to capture standardized EHR data, we highlighted the increased prevalence of central and peripheral neurological phenotypes in patients hospitalized with COVID-19, particularly among those with severe disease.

COVID-19 in patients with autoimmune diseases: characteristics and outcomes in a multinational network of cohorts across three countries [4]

Objective: Patients with autoimmune diseases were advised to shield to avoid coronavirus disease 2019 (COVID-19), but information on their prognosis is lacking. We characterized 30-day outcomes and mortality after hospitalization with COVID-19 among patients with prevalent autoimmune diseases, and compared outcomes after hospital admissions among similar patients with seasonal influenza.

Methods: A multinational network cohort study was conducted using electronic health records data from Columbia University Irving Medical Center [USA, Optum (USA), Department of Veterans Affairs (USA), Information System for Research in Primary Care-Hospitalization Linked Data (Spain) and claims data from IQVIA Open Claims (USA) and Health Insurance and Review Assessment (South Korea). All patients with prevalent autoimmune diseases, diagnosed and/or hospitalized between January and June 2020 with COVID-19, and similar patients hospitalized with influenza in 2017-18 were included. Outcomes were death and complications within 30 days of hospitalization.

Results: We studied 133 589 patients diagnosed and 48 418 hospitalized with COVID-19 with prevalent autoimmune diseases. Most patients were female, aged ≥ 50 years with previous comorbidities. The prevalence of hypertension (45.5-93.2%), chronic kidney disease (14.0-52.7%) and heart disease (29.0-83.8%) was higher in hospitalized vs diagnosed patients with COVID-19. Compared with 70 660 hospitalized with influenza, those admitted with COVID-19 had more respiratory complications including pneumonia and acute respiratory distress syndrome, and higher 30-day mortality (2.2-4.3% vs 6.32-24.6%).

Conclusion: Compared with influenza, COVID-19 is a more severe disease, leading to more complications and higher mortality.

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