

Dec | 31

COVID-19

Situation Report 496

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. A new table on the Omicron variant has been added as Table 5.**

ii. Global Risk Assessment

Table 1. Risk assessment of COVID-19 by WHO regions (Updated as of 31 December 2021, 1400H 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 (12 countries), EURO (49 countries), EMRO (11 countries), Americas (29 countries), and Africa (25 countries).</p> <p>Only 4 (2%) countries/territories have no reported restrictions on inbound arrivals, while 152 (82%) countries/territories have partially reopened their borders – require arrivals to produce a negative COVID-19 test result and/or undergo self-quarantine upon arrival. 43 (23%) 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 on 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 179 countries ranged from 0.039 to 3.2.^{\$}</p>	<p>Case fatality rate is currently at 1.90% globally. Most cases present as flu-like illness.</p>	<p>Limited Coverage</p> <p>The number of countries that have commenced mass vaccination in each region are as follows: Combined WPRO and SEARO (33 countries), EURO (53 countries), EMRO (21 countries), Americas (35 countries), and Africa (46 countries).^{&}</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> <p>On 26 November 2021, WHO designated the variant B.1.1.529 a variant of concern, named Omicron. This variant has several mutations which may impact how it behaves in terms of its transmissibility or the severity of illness it causes. [37]</p>	
Western Pacific Region and South-East Asia Region (n=41 countries)				
<p>Moderate</p> <p>35 (85.4%) countries have reported outbreaks; but only 12 (29.3%) countries are reporting a surge in cases.</p> <p>11 (26.8%) 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 Australia, Laos, Maldives, South Korea and Vietnam, and highest case numbers were reported from Australia, India, Malaysia, South Korea, and Vietnam.</p> <p>At least 16 countries have closed their borders, 24 countries have opened their borders partially conditionally, and none is allowing free travel.</p>	<p>As of Dec 29, the estimated effective reproduction no. of 25 countries ranged from 0.66-2.1.^{\$}</p>	<p>Case fatality rate is 1.56%.</p>	<p>Low Coverage</p> <p>33 countries have commenced vaccination as of 31 December 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 20 countries; >80% for 8 countries ii) full vaccination was at 51-80% for 16 countries; >80% for 6 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</p>	<p>High</p>

			<p>restricted use in emergency situations in hospital settings in adults [24].</p> <p>As of 8 Oct 2021, Philippines authorized the emergency use of Ronapreve as a treatment against mild and moderate COVID-19 for patients aged 12 and above [33].</p>	
European Region (n=53 countries)				
<p>High</p> <p>52 (98.1%) countries have reported with outbreaks; 49 (92.5%) countries are reporting a surge in cases.</p> <p>2 (3.8%) 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 Andorra, Denmark, Ireland, San Marino and United Kingdom, and highest case numbers were reported from France, Germany, Italy, Spain and United Kingdom.</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 Dec 29, the estimated effective reproduction no. of 51 countries ranged from 0.41-2.5.^{\$}</p>	<p>Case fatality rate is 1.65%.</p>	<p>Low Coverage</p> <p>53 countries have commenced vaccination as of 31 December 2021. Coverage was available for the following i) at least 1 dose was at 51-80% for 31 countries; >80% for 6 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>On 10 December, the French National Authority for Health (HAS) authorised the use of AstraZeneca's antibody cocktail, Evusheld, for high-risk individuals with resistance to COVID-19 vaccines to prevent severe COVID-19 manifestation, and is not recommended for patients with two or more risk factors such as diabetes and obesity. [38]</p> <p>As of 17 December, the European Commission (EC) has granted marketing authorisation to Xevudy (sotrovimab) for treatment of adult and adolescents (aged 12 years and above) who do not require supplemental oxygen and are at high risk of severe COVID-19 in EU. [40]</p>	<p>High</p>

Eastern Mediterranean Region (n=22 countries)				
<p>Moderate</p> <p>22 (100%) countries have reported with outbreak; 11 (50%) countries are reporting a surge in cases.</p> <p>0 (0%) country has either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Bahrain, Jordan, Lebanon, Qatar, and United Arab Emirates, and highest case numbers were reported from Egypt, Iran, Jordan, Lebanon and United Arab Emirates.</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 Dec 29, the estimated effective reproduction no. of 22 countries ranged from 0.65-1.7.[§]</p>	<p>Case fatality rate is 1.84%.</p>	<p>Low Coverage</p> <p>21 countries have commenced vaccination as of 31 December 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 6 countries; >80% for 3 countries; ii) full vaccination was at 51-80% for 7 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>0 (0%) country has either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Argentina, Canada, Dominica, Trinidad and Tobago, and USA, and highest case numbers were reported from Argentina, Brazil, Canada, Colombia 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 Dec 29, the estimated effective reproduction no. of 35 countries ranged from 0.087-2.1.[§]</p>	<p>Case fatality rate is 2.32%.</p>	<p>Low Coverage</p> <p>35 countries have commenced vaccination as of 31 December 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 18 countries; >80% for 4 countries ii) full vaccination was at 51-80% for 13 countries; >80% for 2 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</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> <p>FDA has issued emergency use of authorization to two oral antiviral treatments for COVID-19 – Pfizer's Paxlovid and Merck's Molnupiravir to treat mild-to-moderate COVID-19. [39]</p>	
African Region (n=47 countries)				
<p>High</p> <p>47 (100%) countries have reported with outbreak; 25 (54.4%) 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, Carbo Verde, Eswatini, Namibia, and Seychelles, and highest case numbers were reported from Ethiopia, Kenya, Mozambique, South Africa and Zambia.</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 Dec 29, the estimated effective reproduction no. of 46 countries ranged from 0.039-3.2.[§]</p>	<p>Case fatality rate is 2.19%.</p>	<p>Low Coverage</p> <p>46 countries have commenced vaccination as of 31 December 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 3 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 31 December 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
222	286,891,918	286,789,835	5,446,315	1.90%	1.90%	5.8 (95% CI 4.4–7.7) [^]

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

Table 3. Comparison with other viruses

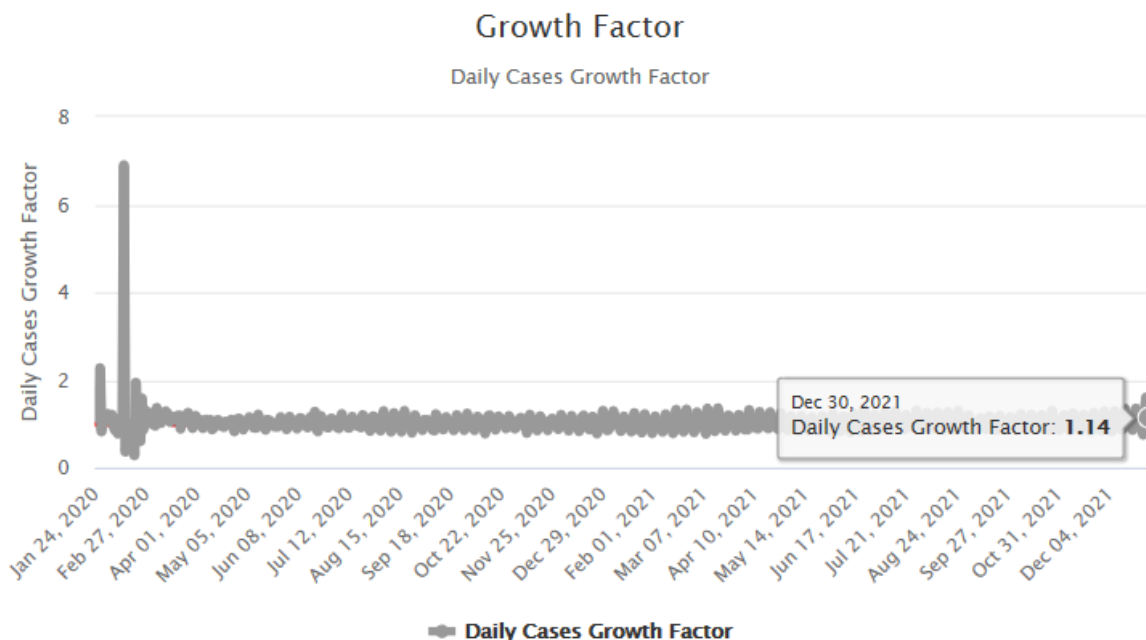
Virus	Incubation Period (Days)	Case Fatality Rate (%)	R ₀
SARS-CoV-2	Median = 5.1 [§] (2-14) or up to 24*	1.90	5.8 (95% CI 4.4–7.7) [^]
SARS-CoV	2-7	9.6	2.0
MERS-CoV	5 (2-14)	34	<1 (higher in health care setting)
Swine Flu	1-4	0.02	1.2-1.6

*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)



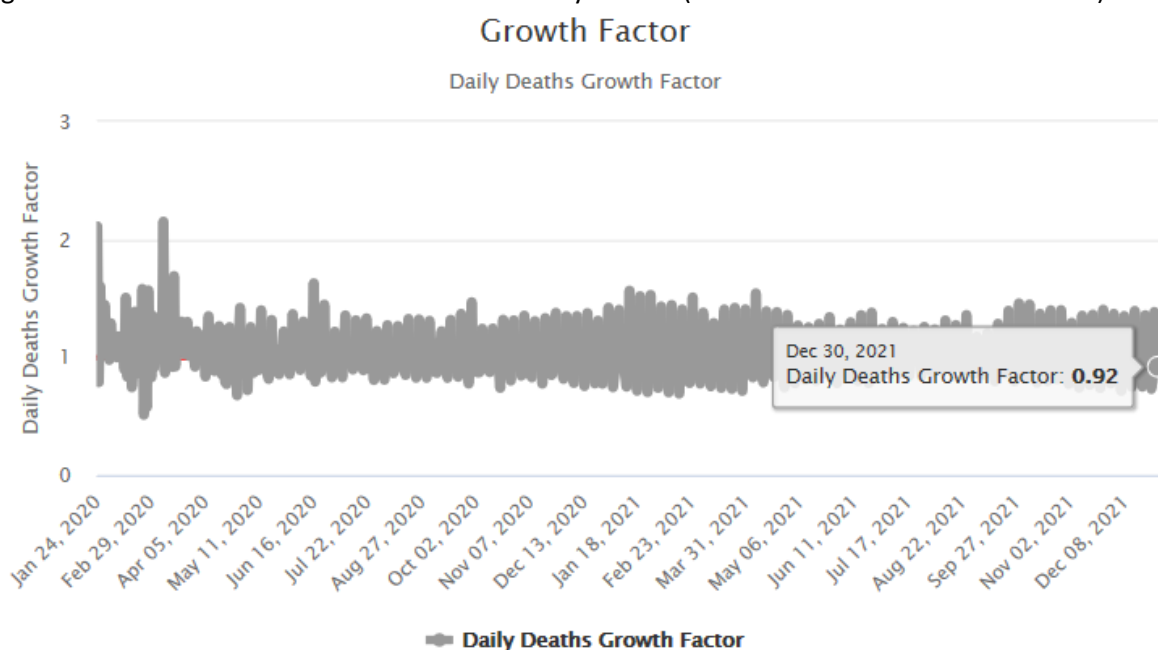
Growth Factor = every day's cases/cases on previous day. A growth factor above 1 indicates an increase, whereas one between 0 and 1 is a sign of decline, with the quantity eventually becoming zero. A growth factor below 1 (or above 1 but trending downward) is a positive sign, whereas a growth factor 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 25 – 31 December 2021
(Updated as of 31 December 2021, 1400H SGT)

No.	Country	Total Cases	Change in Cases	Total Deaths	Change in Deaths	Total Recovered	Region
1	USA	55,252,823	+2,464,372	845,745	+11,290	41,467,660	Americas
2	UK	12,748,050	+980,788	148,421	+701	10,271,706	EURO
3	France	9,740,600	+850,964	123,552	+1,257	8,037,572	EURO
4	Spain	6,294,745	+576,738	89,405	+386	5,056,955	EURO
5	Italy	5,981,428	+464,374	137,247	+1,002	5,064,718	EURO
6	Canada	2,142,310	+196,556	30,280	+149	1,878,245	Americas
7	Turkey	9,441,764	+194,158	82,198	+1,073	9,039,344	EURO
8	Germany	7,142,982	+188,433	112,512	+1,876	6,332,300	EURO
9	Argentina	5,606,745	+177,788	117,146	+167	5,294,529	Americas
10	Russia	10,479,344	+160,694	307,948	+6,677	9,423,227	EURO
11	Greece	1,170,293	+113,710	20,708	+510	1,010,603	EURO
12	Australia	395,570	+112,986	2,241	+59	250,027	WPRO
13	Vietnam	1,714,742	+110,030	32,168	+1,637	1,336,644	WPRO
14	Portugal	1,358,817	+105,723	18,937	+97	1,181,456	EURO
15	Denmark	769,766	+104,624	3,256	+83	586,018	EURO
16	Ireland	768,449	+88,074	5,912	+22	564,203	EURO
17	Netherlands	3,116,039	+87,902	20,892	+271	2,622,284	EURO
18	Switzerland	1,307,201	+85,777	12,284	+156	1,004,795	EURO
19	Poland	4,094,608	+77,188	96,415	+2,970	3,614,290	EURO
20	South Africa	3,446,532	+72,270	91,061	+399	3,159,143	Africa
21	India	34,838,804	+66,147	481,080	+1,947	34,266,363	SEARO
22	Belgium	2,089,657	+58,779	28,308	+198	1,721,202	EURO
23	Brazil	22,277,239	+50,666	619,024	+796	21,567,845	Americas
24	Sweden	1,314,784	+41,471	15,271	+42	1,192,194	EURO
25	S. Korea	630,838	+34,629	5,563	+492	513,978	WPRO
26	Colombia	5,147,039	+31,845	129,901	+261	4,967,873	Americas
27	Ethiopia	415,443	+29,279	6,926	+41	354,495	Africa
28	Czechia	2,469,951	+27,351	36,061	+421	2,304,176	EURO
29	Mexico	3,969,686	+25,922	299,285	+777	3,306,071	Americas
30	Zambia	249,193	+23,933	3,730	+42	216,666	Africa
31	Ukraine	3,660,620	+23,582	95,690	+1,258	3,460,249	EURO
32	Norway	391,214	+23,348	1,305	+48	88,952	EURO
33	Croatia	709,678	+23,088	12,493	+314	671,664	EURO
34	Malaysia	2,754,513	+22,800	31,462	+197	2,677,406	WPRO
35	Finland	248,958	+21,789	1,554	+50	46,000	EURO
36	Bolivia	591,773	+20,897	19,650	+154	524,973	Americas
37	Peru	2,292,254	+20,705	202,653	+229	N/A	Americas

38	Slovakia	838,738	+19,245	16,598	+359	777,568	EURO
39	Israel	1,380,053	+19,134	8,243	+2	1,349,030	EURO
40	Thailand	2,223,435	+18,763	21,698	+170	2,168,494	SEARO
41	Kenya	292,237	+17,592	5,376	+20	251,223	Africa
42	Mozambique	184,219	+16,912	1,996	+35	153,731	Africa
43	Austria	1,274,995	+16,618	13,701	+106	1,232,226	EURO
44	Lebanon	723,640	+16,517	9,102	+106	659,448	EMRO
45	Hungary	1,253,055	+15,725	39,104	+797	1,106,531	EURO
46	Georgia	932,641	+14,000	13,758	+469	893,064	EURO
47	Jordan	1,061,560	+13,607	12,620	+248	1,015,224	EMRO
48	Cyprus	161,779	+13,116	636	+11	124,370	EURO
49	UAE	759,511	+12,954	2,162	+8	744,180	EMRO
50	Iran	6,192,698	+12,881	131,572	+310	6,034,821	EMRO
51	Bulgaria	744,298	+12,192	30,890	+454	611,829	EURO
52	Angola	79,871	+11,509	1,764	+21	64,280	Africa
53	Botswana	219,509	+10,515	2,444	+17	204,811	Africa
54	Zimbabwe	211,728	+10,384	4,997	+142	178,332	Africa
55	Serbia	1,297,147	+9,945	12,688	+170	1,260,458	EURO
56	Lithuania	517,655	+9,739	7,373	+150	484,771	EURO
57	Slovenia	462,152	+9,059	5,583	+55	439,653	EURO
58	Ecuador	547,186	+8,968	33,672	+48	443,880	Americas
59	Chile	1,804,682	+8,450	39,096	+142	1,723,655	Americas
60	Belarus	697,600	+8,449	5,561	+112	690,505	EURO
61	Panama	493,707	+8,195	7,427	+21	475,216	Americas
62	Uganda	139,079	+8,191	3,291	+17	98,379	Africa
63	Laos	110,054	+8,189	360	+72	7,339	WPRO
64	Nigeria	241,513	+8,160	3,030	+39	214,003	Africa
65	Rwanda	110,558	+7,388	1,349	+4	45,522	Africa
66	Malta	51,070	+7,264	476	+3	40,045	EURO
67	Morocco	961,058	+6,859	14,844	+21	939,533	EMRO
68	Ghana	141,295	+6,740	1,287	+18	130,474	Africa
69	Montenegro	168,328	+6,384	2,407	+22	158,645	EURO
70	Romania	1,807,223	+6,142	58,714	+251	1,737,543	EURO
71	Egypt	384,728	+5,885	21,727	+217	320,024	EMRO
72	Malawi	74,201	+5,731	2,355	+36	60,043	Africa
73	Namibia	146,720	+5,675	3,616	+23	130,402	Africa
74	Uruguay	411,658	+5,531	6,169	+10	398,552	Americas
75	Estonia	240,334	+5,376	1,928	+29	223,051	EURO
76	Latvia	275,517	+5,359	4,561	+72	259,623	EURO
77	Ivory Coast	68,146	+5,186	712	+5	61,609	Africa
78	Iceland	27,059	+4,972	37	0	20,654	EURO
79	Réunion	76,602	+4,807	409	+8	69,431	Non
80	DRC	74,793	+4,734	1,205	+79	50,930	Africa
81	Sri Lanka	586,746	+4,597	14,962	+130	560,313	SEARO
82	Dominican Republic	417,268	+4,583	4,246	+18	407,783	Americas
83	Burundi	27,366	+4,357	38	0	773	Africa

84	Libya	388,183	+4,178	5,696	+61	375,747	EMRO
85	Luxembourg	102,486	+4,046	912	+5	94,316	EURO
86	Bosnia and Herzegovina	290,471	+3,679	13,428	+185	192,218	EURO
87	Saudi Arabia	555,417	+3,668	8,875	+7	541,614	EMRO
88	Channel Islands	26,799	+3,611	113	+1	22,438	Non
89	Philippines	2,841,260	+3,357	51,373	+392	2,778,115	WPRO
90	Trinidad and Tobago	91,320	+3,340	2,850	+169	72,607	Americas
91	Azerbaijan	616,352	+3,293	8,346	+89	598,793	EURO
92	Gabon	41,073	+3,034	288	+2	37,097	Africa
93	Madagascar	50,279	+2,984	1,027	+31	44,708	Africa
94	Kazakhstan	987,866	+2,850	13,012	+52	960,211	EURO
95	Tanzania	29,306	+2,823	737	+3	N/A	Africa
96	Guatemala	627,562	+2,696	16,106	+17	608,447	Americas
97	Bangladesh	1,585,027	+2,659	28,070	+16	1,548,811	SEARO
98	Pakistan	1,295,376	+2,648	28,927	+29	1,256,337	EMRO
99	Albania	209,516	+2,581	3,215	+34	200,465	EURO
100	Tunisia	724,680	+2,557	25,556	+47	695,993	EMRO
101	Aruba	19,719	+2,554	181	0	16,769	Non
102	Qatar	249,787	+2,518	617	+3	245,348	EMRO
103	Japan	1,733,325	+2,420	18,393	+7	1,712,019	WPRO
104	Curaçao	20,710	+2,411	189	+3	17,795	Non
105	Lesotho	28,408	+2,404	665	0	15,241	Africa
106	Eswatini	65,832	+2,392	1,299	+30	58,445	Africa
107	Bahrain	281,406	+2,350	1,394	0	277,216	EMRO
108	Algeria	218,037	+2,314	6,271	+58	149,854	Africa
109	North Macedonia	224,507	+2,174	7,953	+85	211,548	EURO
110	Palestine	439,495	+2,169	4,662	+46	431,160	EMRO
111	Paraguay	467,122	+2,094	16,625	+29	447,965	Americas
112	Kuwait	416,631	+2,040	2,468	+1	411,590	EMRO
113	Moldova	375,780	+2,028	9,690	+115	361,724	EURO
114	Singapore	279,061	+2,019	827	+7	275,357	WPRO
115	Togo	29,416	+2,011	246	0	26,113	Africa
116	Cabo Verde	40,738	+1,987	351	0	38,232	Africa
117	Costa Rica	570,556	+1,696	7,353	+10	560,709	Americas
118	Venezuela	444,411	+1,654	5,324	+14	433,621	Americas
119	Iraq	2,093,436	+1,602	24,154	+46	2,064,527	EMRO
120	Andorra	23,122	+1,551	140	+1	20,563	EURO
121	Nepal	828,207	+1,543	11,590	+9	811,746	SEARO
122	Myanmar	530,645	+1,531	19,265	+23	508,053	SEARO
123	China	102,083	+1,352	4,636	0	94,733	WPRO
124	Indonesia	4,262,540	+1,332	144,088	+46	4,114,141	SEARO
125	Jamaica	93,591	+1,312	2,470	+9	65,508	Americas
126	Mongolia	389,361	+1,298	2,059	+6	313,256	WPRO
127	French Guiana	48,399	+1,270	339	+2	11,254	Non
128	Comoros	6,515	+1,179	157	+4	4,709	Africa
129	Martinique	48,473	+1,173	779	+10	104	Non

130	Cuba	965,571	+1,165	8,322	+5	956,176	Americas
131	Maldives	95,540	+1,096	262	+1	93,042	SEARO
132	Belize	32,488	+1,044	598	+6	30,582	Americas
133	Uzbekistan	198,903	+985	1,485	+10	196,012	EURO
134	Mayotte	22,269	+981	185	0	2,964	Non
135	South Sudan	15,242	+967	135	0	12,934	Africa
136	Cameroon	109,367	+916	1,851	0	106,050	Africa
137	Mali	20,670	+912	658	+6	18,584	Africa
138	Bahamas	24,269	+889	716	+3	21,789	Americas
139	Mauritania	41,154	+846	863	+3	39,138	Africa
140	Barbados	28,310	+824	260	+1	27,058	Americas
141	Seychelles	24,788	+741	134	+3	24,033	Africa
142	Suriname	52,269	+727	1,189	+3	49,085	Americas
143	Faeroe Islands	5,764	+725	14	+1	5,025	Non
144	Guinea	31,641	+703	391	+2	29,819	Africa
145	Armenia	344,826	+700	7,968	+32	331,348	EURO
146	Fiji	53,332	+626	698	+1	51,223	WPRO
147	Senegal	74,870	+614	1,890	0	72,482	Africa
148	Congo	20,089	+599	367	0	12,421	Africa
149	Burkina Faso	17,632	+592	318	+1	16,619	Africa
150	Gibraltar	8,533	+519	100	0	7,717	Non
151	Oman	305,489	+505	4,116	+3	300,381	EMRO
152	San Marino	7,655	+495	98	+2	6,725	EURO
153	Monaco	5,085	+479	38	0	4,588	EURO
154	Honduras	379,542	+469	10,434	+4	124,171	Americas
155	Cayman Islands	8,818	+432	11	0	4,877	Non
156	Sudan	46,518	+418	3,331	+33	38,714	EMRO
157	Bermuda	6,420	+406	110	+4	5,788	Non
158	New Zealand	14,118	+399	51	+2	12,870	WPRO
159	Guyana	39,395	+397	1,052	+10	37,595	Americas
160	British Virgin Islands	3,397	+381	39	0	N/A	Non
161	Sierra Leone	6,983	+373	123	0	N/A	Africa
162	Greenland	2,610	+361	1	+1	2,203	Non
163	Liberia	6,278	+349	287	0	5,535	Africa
164	Mauritius	23,421	+344	762	0	21,881	Africa
165	Sint Maarten	5,054	+306	75	0	4,653	Non
166	Dominica	6,814	+294	47	+3	6,466	Americas
167	Syria	50,243	+282	2,893	+30	32,394	EMRO
168	St. Barth	1,895	+274	6	0	N/A	Non
169	Saint Lucia	13,473	+248	295	0	12,950	Americas
170	Liechtenstein	6,066	+247	69	0	5,715	Non
171	Saint Martin	4,250	+242	58	+2	1,399	Non
172	Kyrgyzstan	184,633	+238	2,800	+10	179,778	EURO
173	Grenada	6,181	+233	200	0	5,685	Americas
174	CAR	12,163	+202	101	0	6,859	Africa
175	New Caledonia	12,762	+181	281	+1	12,217	Non

176	Afghanistan	158,056	+178	7,356	+10	145,606	EMRO
177	Isle of Man	13,578	+177	67	0	13,244	Non
178	Eritrea	7,982	+153	75	+3	7,731	Africa
179	Sao Tome and Principe	3,877	+136	57	0	3,678	Africa
180	Caribbean Netherlands	3,368	+123	23	+1	3,205	Non
181	Taiwan	16,988	+115	850	0	15,871	WPRO
182	Saint Kitts and Nevis	2,918	+103	28	0	2,784	Americas
183	Papua New Guinea	36,158	+99	590	+1	35,468	WPRO
184	Niger	7,331	+89	274	+1	6,910	Africa
185	Equatorial Guinea	13,710	+87	175	0	13,410	Africa
186	El Salvador	121,741	+80	3,823	+8	107,088	Americas
187	Hong Kong	12,631	+80	213	0	12,191	WPRO
188	Djibouti	13,632	+77	189	0	13,354	EMRO
189	Antigua and Barbuda	4,283	+67	119	+1	4,063	Americas
190	Turks and Caicos	3,283	+64	26	0	3,148	Non
191	Cambodia	120,493	+53	3,012	+5	116,917	WPRO
192	Gambia	10,136	+49	342	0	9,688	Africa
193	Anguilla	1,674	+45	5	0	1,640	Non
194	Nicaragua	17,487	+45	212	+1	4,225	Americas
195	Brunei	15,470	+41	98	0	15,272	WPRO
196	Haiti	25,985	+40	766	+1	23,289	Americas
197	St. Vincent Grenadines	5,850	+40	81	+2	5,228	Americas
198	Yemen	10,126	+21	1,984	+3	7,020	EMRO
199	Guinea-Bissau	6,476	+18	149	0	6,302	Africa
200	French Polynesia	46,382	+6	636	0	N/A	Non
201	Saint Pierre Miquelon	100	+4	0	0	95	Non
202	Solomon Islands	24	+4	0	0	20	WPRO
203	Macao	79	+2	0	0	77	WPRO
204	Palau	10	+2	0	0	8	WPRO
205	Bhutan	2,660	+1	3	0	2,649	SEARO
206	Montserrat	46	+1	1	0	44	Non
207	Somalia	23,532	0	1,333	0	12,948	EMRO
208	Timor-Leste	19,833	0	122	0	19,705	SEARO
209	Guadeloupe	56,035	0	750	0	2,250	Non
210	Chad	5,701	0	181	0	4,874	Africa
211	Benin	24,935	0	161	0	24,705	Africa
212	Tajikistan	17,095	0	124	0	16,966	EURO
213	Vanuatu	7	0	1	0	6	WPRO
214	Wallis and Futuna	454	0	7	0	438	Non
215	Falkland Islands	83	0	0	0	N/A	Non
216	Tonga	1	0	0	0	1	WPRO
217	Diamond Princess	712	0	13	0	699	NA
218	MS Zaandam	9	0	2	0	7	NA
219	Vatican City	27	0	0	0	27	Non
220	Samoa	3	0	0	0	3	WPRO
221	Western Sahara	10	0	1	0	8	Non

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	286,891,918	+8,342,067	5,446,315	+45,020	251,425,428	

Figure 4. Areas with reported confirmed cases of COVID-19 (20 – 26 December 2021)

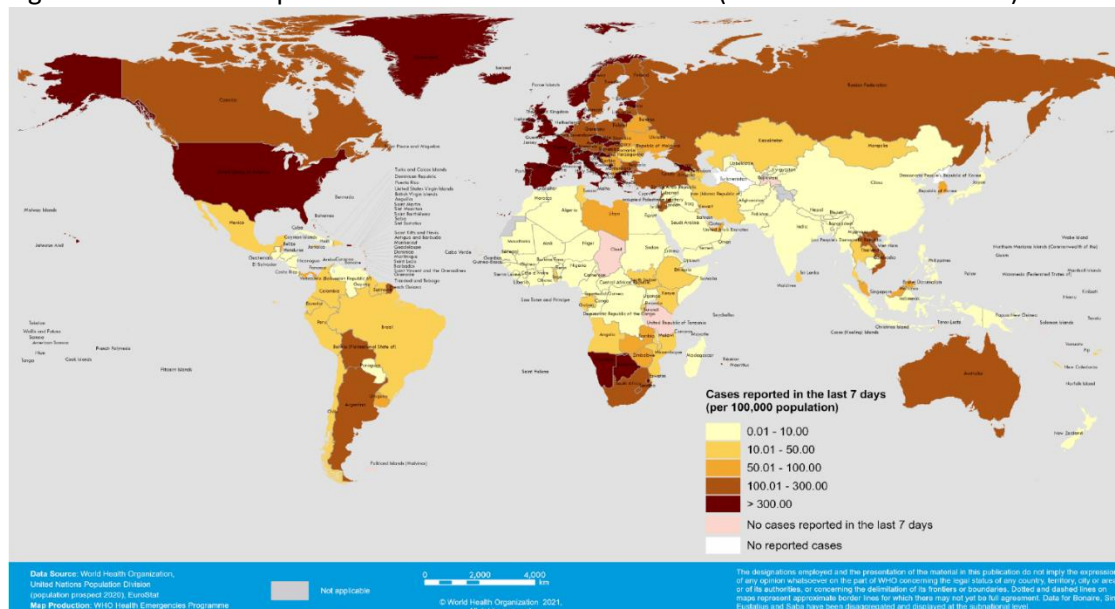
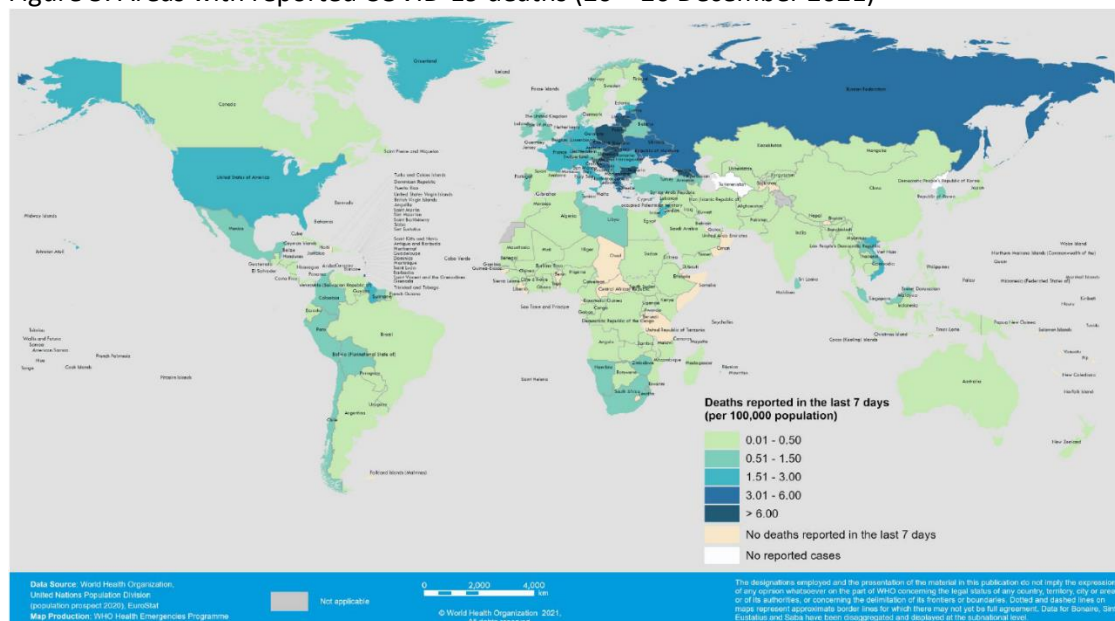


Figure 5. Areas with reported COVID-19 deaths (20 – 26 December 2021)



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

Table 5. Breakdown of COVID-19 omicron confirmed cases and deaths
(Updated as of 31 December 2021, 1400H SGT)

S/N	Location	Cases	Deaths	Prevalence*
		<i>confirmed</i>	<i>confirmed</i>	<i>estimate %</i>
1	United Kingdom	229,666	54	94%
2	Denmark	50,400	-	79%
3	Germany	16,748	5	7%
4	United States	15,057	1	59%
5	Canada	14,344	-	-
6	Norway	12,128	-	50%
7	France	3,774	-	15%
8	Estonia	2,497	-	-
9	Austria	2,294	-	-
10	South Africa	1,894	-	-
11	Israel	1,741	-	-
12	Australia	1,475	1	-
13	Slovenia	1,418	-	40%
14	India	1,315	-	-
15	Thailand	934	-	-
16	Singapore	885	-	-
17	Jordan	802	-	-
18	Sweden	789	-	-
19	Belgium	696	-	71%
20	Switzerland	686	-	65%
21	South Korea	625	-	-
22	Spain	600	-	-
23	Japan	471	-	30%
24	Argentina	454	-	-
25	Lebanon	433	-	-
26	Italy	425	-	60%
27	Netherlands	399	-	51%
28	Botswana	382	-	-
29	Chile	325	-	-
30	Mexico	254	-	-
31	Bermuda	212	-	-
32	Latvia	211	-	-
33	Iceland	200	-	90%
34	Brazil	154	-	-
35	Ireland	144	-	90%
36	Gibraltar	122	-	-
37	Turkey	117	-	10%
38	Peru	116	-	-
39	Portugal	115	-	75%
40	Russia	103	-	-

41	New Zealand	88	-	-
42	Hong Kong	81	-	-
43	Pakistan	75	-	-
44	Cuba	72	-	-
45	Indonesia	68	-	-
46	Ghana	66	-	-
47	Cyprus	63	-	-
48	Malaysia	62	-	-
49	Hungary	61	-	-
50	Taiwan	59	-	-
51	Czechia	57	-	-
52	Georgia	51	-	-
53	Cambodia	50	-	-
54	Zimbabwe	50	-	-
55	Palestinian Territory	48	-	-
56	Lithuania	46	-	-
57	Zambia	46	-	-
58	Nigeria	45	-	-
59	Cayman Islands	44	-	-
60	Uruguay	44	-	-
61	Iran	43	-	-
62	Kenya	38	-	-
63	Romania	38	-	-
64	Finland	34	-	-
65	Malta	34	-	-
66	Malawi	34	-	-
67	Greece	33	-	-
68	Poland	30	-	-
69	Morocco	28	-	-
70	Panama	26	-	-
71	Senegal	26	-	-
72	Uganda	25	-	-
73	Ecuador	24	-	-
74	Reunion	20	-	-
75	Costa Rica	18	-	-
76	Namibia	18	-	-
77	Mozambique	17	-	-
78	Angola	16	-	-
79	Liechtenstein	14	-	-
80	Mauritius	14	-	-
81	Kuwait	13	-	-
82	Slovakia	11	-	-
83	Bosnia and Herzegovina	10	-	-
84	Republic of the Congo	10	-	-

85	Tunisia	10	-	-
86	Oman	9	-	-
87	Kosovo	9	-	-
88	Brunei	8	-	-
89	China	8	-	-
90	Croatia	8	-	-
91	Montenegro	8	-	-
92	Bangladesh	7	-	-
93	Sri Lanka	7	-	-
94	Venezuela	7	-	-
95	Rwanda	6	-	-
96	Luxembourg	5	-	-
97	Maldives	5	-	-
98	Togo	5	-	25%
99	Trinidad and Tobago	5	-	-
100	Belarus	4	-	-
101	Algeria	4	-	-
102	Myanmar	4	-	-
103	Philippines	4	-	-
104	Qatar	4	-	-
105	Colombia	3	-	-
106	Egypt	3	-	-
107	Nepal	3	-	-
108	Paraguay	3	-	-
109	Burkina Faso	2	-	-
110	Fiji	2	-	-
111	Libya	2	-	-
112	United Arab Emirates	1	-	-
113	Albania	1	-	-
114	Aruba	1	-	-
115	Bahrain	1	-	-
116	Dem. Rep. of the Congo	1	-	29%
117	Curacao	1	-	-
118	Dominican Republic	1	-	-
119	Jamaica	1	-	-
120	North Macedonia	1	-	-
121	Serbia	1	-	-
122	Saudi Arabia	1	-	-
123	Sierra Leone	1	-	-
124	Ukraine	1	-	-
125	Vietnam	1	-	-
	Total (worldwide)	367,314	61	

Source: https://newsnodes.com/omicron_tracker

Table 6. COVID-19 cases and deaths reported by states/UT in India between 25 – 31 December 2021
(Updated as of 31 December 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	7720	+12	9	+3	7582	+9	129	0
Andhra Pradesh	2076979	+767	1081	-245	2061405	+1005	14493	+7
Arunachal Pradesh	55339	+11	21	+3	55038	+8	280	0
Assam	620573	+641	2127	-122	612282	+752	6164	+11
Bihar	726738	+333	334	+251	714308	+80	12096	+2
Chandigarh	65846	+104	129	+32	64638	+71	1079	+1
Chhattisgarh	1007997	+480	597	+295	993800	+181	13600	+4
Dadra and Nagar Haveli and Daman and Diu	10691	0	0	-3	10687	+3	4	0
Delhi	1446415	+3782	3081	+2397	1418227	+1381	25107	+4
Goa	180660	+762	856	+427	176283	+332	3521	+3
Gujarat	831078	+2173	2371	+1703	818589	+460	10118	+10
Haryana	773361	+989	1070	+752	762228	+236	10063	+1
Himachal Pradesh	228770	+301	430	+10	224465	+287	3875	+4
Jammu and Kashmir	341167	+874	1294	-25	335347	+891	4526	+8
Jharkhand	350986	+1292	1371	+1135	344472	+156	5143	+1
Karnataka	3006505	+2941	8252	+1106	2959926	+1809	38327	+26
Kerala***	5244501	+16215	20525	-6758	5176535	+21393	47441	+1580
Ladakh	22173	+137	204	+3	21750	+133	219	+1
Lakshadweep	10416	+3	4	-3	10361	+6	51	0
Madhya Pradesh	793888	+307	360	+169	782995	+136	10533	+2
Maharashtra	6670754	+17409	21906	+10328	6507330	+6955	141518	+126
Manipur	125778	+93	190	-2	123586	+92	2002	+3
Meghalaya	84817	+44	61	-19	83272	+60	1484	+3
Mizoram	141400	+1146	1658	-55	139200	+1194	542	+7
Nagaland	32191	+17	69	-14	31420	+31	702	0
Odisha	1054606	+1102	1554	-111	1044594	+1203	8458	+10
Puducherry	129461	+87	128	-18	127452	+104	1881	+1
Punjab	604594	+502	582	+268	587368	+226	16644	+8
Rajasthan	956019	+688	773	+528	946283	+158	8963	+2
Sikkim	32502	+32	61	-21	32032	+53	409	0
Tamil Nadu	2746890	+4666	6929	+40	2703196	+4568	36765	+58
Telangana	681587	+1336	3563	-33	673999	+1362	4025	+7
Tripura	85069	+72	95	+37	84145	+35	829	0
Uttarakhand	344940	+243	255	+35	337268	+206	7417	+2
Uttar Pradesh	1711359	+563	645	+409	1687799	+154	22915	0
West Bengal	1635034	+6054	8776	+1343	1606501	+4656	19757	+55
Total	34,838,804	+66,178	91,361	+13,845	34,266,363	+50,386	481,080	+1,947

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

iv. Travel Bans/Advisories & Quarantine Orders

- [1] **France** - On December 30, France suspended the transit ban on British nationals that was imposed on December 28.
- [2] **Germany** - Starting January 4, Germany will lift its ban on travellers from the countries listed in the “virus variant” category, including the United Kingdom and several southern African nations. This change will allow entry for travellers who are not German residents or citizens, and allow anyone to enter so long as they adhere to quarantine and testing rules. Those who are currently in quarantine after travelling from the United Kingdom will also be able to end isolation on January 4 if they are fully vaccinated. Unvaccinated individuals can end their quarantine with a negative test if they have been isolated for at least 5 days as of January 4, 2022.
- [3] **India** - With effect from December 26, all travellers to Tamil Nadu are subjected to a one-week home quarantine. Ten percent of travellers from non-at-risk countries would also be subjected to PCR tests, up from 2 percent previously.
- [4] **Israel** - On December 31, Israel lifted its travel ban on 69 countries, including most African countries and some European countries – Germany, Denmark, Italy, Sweden, Ireland, Belgium, Finland and Norway. However, Mexico was added to the red list, joining the likes of United Arab Emirates, the United States, Ethiopia, the United Kingdom, South Africa, Hungary, Tanzania, Nigeria, Spain, Portugal, France, Canada, Switzerland and Turkey. Dual citizens who work abroad or have first/second-degree relatives outside the country are now allowed to travel even if the countries is on Israel’s red list. All Israelis returning from countries on the red list are required to quarantine for 7 days with 2 negative PCR tests, or up to 14 days. The changes will be in effect until January 5, 2022.
- [5] **Malaysia** - On December 28, Malaysia lifted its travel ban on 8 southern African countries – South Africa, Zimbabwe, Mozambique, Malawi, Botswana, Eswatini, Lesotho and Namibia. The countries will, however, remain on a list of nations deemed as high-risk, where travellers will be subjected to additional restrictions upon arrival. The list currently has 18 countries, including Australia, India, Saudi Arabia, the United Kingdom and the United States.
- [6] **Mauritius** has extended its ban on all commercial flights from South Africa for a month until January 31, 2022.
- [7] **Morocco** - On December 25, Morocco extended its ban on all inbound and outbound international flights until January 31, 2022. The only flights allowed now are repatriation flights for foreign citizens in the kingdom, which are authorized on a case-by-case basis.
- [8] **Singapore** - On December 27, Singapore lifted its travel ban on 10 African countries – South Africa, Zimbabwe, Mozambique, Malawi, Botswana, Eswatini, Lesotho, Namibia, Nigeria and Ghana. Passengers with travel history to these countries within the past 14 days will instead, be subjected to category IV border measures, which includes 3 PCR tests done within 1) 2 days before departure to Singapore, 2) on-arrival and 3) at the end of a 10-day stay-home notice at a designated facility.
- [9] **South Korea** has extended its ban on short-term travellers from 11 African countries until February 3, 2022. The banned countries are Namibia, South Africa, Mozambique, Lesotho, Malawi, Botswana, Eswatini, Zimbabwe, Nigeria, Ghana and Ghana. International arrivals from all other countries will be required to observe 10 days of quarantine as well.
- [10] **Spain** has extended its ban on non-essential travel from majority of third countries until the end January 2022. Travellers from such countries who cannot present a valid vaccination certificate will be denied entry. The restrictions do not affect the following countries, which are on Spain’s list of epidemiologically safe third countries - Argentina, Australia, Bahrain, Canada, Chile, Colombia,

Indonesia, Kuwait, New Zealand, Peru, Qatar, Rwanda, Saudi Arabia, South Korea, United Arab Emirates, Uruguay, China (including Hong Kong, and Macao).

[11 – 14] **United States**

- The US CDC has designated 3 additional European destinations – Malta, Moldova, and Sweden – as of highest-risk for travel. The threshold for inclusion is having more than 500 cases per 100,000 residents registered in the past 28 days. Some other countries in the level 4 – highest risk category include – France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, United Kingdom, Belize, Jordan, Singapore, South Africa and Turkey.
- With effect from Dec 31, United States will lift its travel ban on 8 southern African nations – South Africa, Botswana, Zimbabwe, Namibia, Lesotho, Eswatini, Mozambique and Malawi.
- The US CDC has reduced its quarantine recommendations for infected individuals from 10 days to 5 days. Individuals who tested positive should isolate for 5 days and may leave isolation if they are asymptomatic at that point, and continue to mask for the next 5 days. This recommendation also applies to unvaccinated individuals. Individuals who are more than 6 months past their second dose of the vaccine should likewise be quarantined for 5 days. Those who have received their boosters do not need to quarantine after exposure, but should observe strict mask usage for the next 10 days.
- The US CDC has issued an advisory urging Americans against cruise travel even if they are vaccinated. The travel notice on cruising was upgraded to level 4, the highest on the risk scale.

v. Lockdowns

[1, 2] Austria

- Starting December 27, the hospitality sector will be required to close at 10pm and the rule will remain in force on New Year's Eve. Christmas markets will only permit entry of vaccinated and recovered individuals. Proof of recovery or vaccination is also required to enter hotels, restaurants, leisure centres, gyms, cultural institutions, ski lifts and services related to the body. Restaurants and bars are only allowed to operate till 11pm, except for New Year's Eve. Facemasks are also mandated in many areas.
- Austria has extended its stay-at-home order for unvaccinated individuals until January 10, 2022. Exception applies on New Year's Eve and New Year's Day, whereby unvaccinated people are allowed to take part in gatherings capped at 10 people, regardless of vaccination status.

[3, 4] Canada

- Quebec has imposed a night curfew running from 10pm to 5am daily effective from New Year's Eve on Friday. Dining in will be prohibited in restaurants, as with most private gatherings and indoor sports activities.
- Nunavut has extended its circuit-breaker lockdown until January 17, 2022. Under the lockdown, social gathering regardless of vaccination status is prohibited. Libraries, gyms, arenas and churches are to remain closed while restaurants are limited to take-outs only. Travel to and from Rankin Inlet, Iqaluit, Pangnirtung, Sanirajak and Arviat has also been restricted to essential purposes only.

[5] **France** - Starting from the first week of January, only dine-in will be allowed in restaurants, bars and cafes. Consumption of beverages only while standing at a bar will no longer be allowed. Nightclubs will continue to be shut indefinitely. Outdoor public gatherings are capped at 5,000 people while indoor gatherings are capped at 2,000 people. Consumption of food and drinks will also be prohibited on public transport.

[6] **Germany** - Starting December 28, strict restrictions have been imposed to curb COVID-19 spread and New Year's Eve gatherings will also be banned. A gathering limit of 10 people applies regardless of vaccinated and recovered status. Private gatherings of unvaccinated individuals are limited to 2 more people per household, for both indoor and outdoor activities. All nightclubs will be closed, and unvaccinated individuals are only allowed to use public transport with a negative daily COVID-19 test.

[7, 8] India

- With effect from December 27, a night curfew has been re-imposed in New Delhi from 11pm to 5am.
- Kerala has imposed a night curfew from 10pm to 5am, which includes religious places of worship. The curfew is effective December 30 to January 2.

[9, 10] Italy

- From December 30 to January 31, discos and eating in public spaces will be banned. Masking outdoors are mandated once again and the use of COVID-19 pass will be expanded from February 1, 2022.
- Italy has eased restrictions for contacts of COVID-19 cases, scrapping isolation for exposed individuals who have received booster shots or have recovered from COVID-19 within the last 120 days. They will only be required to wear a more protective mask for 10 days, and take a test within 5 days of contact if they are asymptomatic. Starting January 10, more activities such as dining in open-air restaurants, hotels and skit lifts will only be open to vaccinated or recovered individuals under the COVID-19 pass.

[11] **Portugal** has closed all schools bars, and nightclubs from December 26 to January 10. Work from home is also encouraged, and negative tests are required for ceremonies such as weddings, cultural and sporting events.

[12] **South Africa** - As of December 31, South Africa has lifted its midnight curfew with immediate effect.

[13] **United Kingdom** - With effect from December 26, nightclubs in Wales will close and a gathering limit of 6 people will be effective in pubs, restaurants and cinemas. Indoor event limits will be set at 30 people while outdoor events can allow up to 50 people. Northern Ireland has similarly shut down night clubs and banned indoor standing events and dancing in hospitality settings. Starting December 27, a gathering of 6 people or 10 people from a single household will be allowed in indoor hospitality setting. In Scotland, night clubs will be closed for 3 weeks starting December 27. Table service will be required in settings that serve alcohol, and a one-metre social distancing rule will apply to all hospitality, leisure settings, and large events. Attendance at indoor events are capped at 100 and 200 people for standing and seated events respectively, and 500 people for outdoor events.

vi. Military Surveillance

South Korea [1-7]

- On December 26, South Korea's military reported 31 new coronavirus cases, including 30 breakthrough infections. The new cases include 22 Army personnel, 6 Navy personnel and 3 from units directly under the defense ministry. The total case load in the South Korea military stands at 3,120, 278 of whom are under treatment, and 1,327 are breakthrough cases.
- On December 27, South Korea's military reported 33 new coronavirus cases, including 31 breakthrough infections. The new cases include 11 Navy personnel, 9 Army personnel, 8 Air Force personnel, and 5 from units directly under the defense ministry. The total case load in the South Korea military stands at 3,153, 278 of whom are under treatment, and 1,358 are breakthrough cases.
- On December 28, South Korea's military reported 28 new coronavirus cases, including 27 breakthrough infections. The new cases include 7 Navy personnel, 15 Army personnel, 4 Air Force personnel, 2 from the Marine Corps. The total case load in the South Korea military stands at 3,181, 268 of whom are under treatment, and 1,385 are breakthrough cases.
- On December 29, South Korea's military reported 27 new coronavirus cases, all of which were breakthrough infections. The new cases include 13 Army personnel, 7 Air Force personnel, 4 Navy personnel, 3 from units directly under the ministry. Three of the cases were of the Omicron variant, marking the military's first cases of the variant. The total case load in the South Korea military stands at 3,207, 257 of whom are under treatment, and 1,411 are breakthrough cases.
- On December 30, South Korea's military reported 28 new coronavirus cases, including 25 breakthrough infections. The new cases include 14 Air Force personnel, 10 Army personnel, 2 Navy personnel, 1 Marine Corps personnel and 1 from a unit directly under the ministry. The total case load in the South Korea military stands at 3,235, 268 of whom are under treatment, and 1,436 are breakthrough cases.
- On December 31, South Korea's military reported 22 new coronavirus cases, including 21 breakthrough infections. The new cases include 16 Army personnel, 2 Air Force personnel, 2 Navy personnel and 2 from the Joint Chiefs of Staff. The total case load in the South Korea military stands at 3,257, 272 of whom are under treatment, and 1,457 are breakthrough cases.

United States [8, 9]

- A COVID-19 outbreak has been reported on the Milwaukee, a littoral combat ship with a crew of 105 people, a detachment of Coast Guard personnel and an aviation unit. The Navy declined to reveal how many personnel have tested positive.
- As of December 22, the United States military recorded 261,504 COVID-19 cases, including 256,137 recoveries, 2,320 hospitalisations and 82 deaths. The distribution of cases are as follows – Army (90,446), Marine Corps (29,403), Navy (51,230), Air Force (46,557), National Guard (42,118), and other agencies (1,750). A total of 1,597,631 service members have been fully vaccinated – Army (577,531), Marine Corps (192,463), Navy (381,690) and Air Force (445,947); 332,263 service members have received one dose of the vaccine – Army (261,224), Marine Corps (7,093), Navy (9,321) and Air Force (54,625).

United States Forces Korea [10]

- Between December 21 and 27, the United States Forces Korea recorded 467 new COVID-19 cases – 457 local and 10 imported cases. This is the highest number of infections reported by the command since the pandemic started in March 2020. This record also far surpasses the previous weekly long record of 59 cases in July.

vii. WHO Guidance & Other Protocols

The following updates were published by WHO from 25 – 31 December 2021:

- **Checklists for care, cleaning, disinfection and sterilization of respiratory devices**
Available at: <https://www.who.int/publications/m/item/checklists-for-care-cleaning-disinfection-and-sterilization-of-respiratory-devices>
- **Care, cleaning and disinfection of respiratory equipment in sterile services department**
Available at: <https://www.who.int/publications/m/item/care-cleaning-and-disinfection-of-respiratory-equipment-in-sterile-services-department>
- **Medical equipment related to oxygen therapy – Cleaning – task sequence**
Available at: <https://www.who.int/publications/m/item/medical-equipment-related-to-oxygen-therapy---cleaning-task-sequence>

viii. CDC Guidance & Protocols

US CDC

The following updates were published by the US CDC from 25 – 31 December 2021:

- **Operational Considerations for the Identification of Healthcare Workers and Inpatients with Suspected COVID-19 in non-U.S. Healthcare Settings**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/guidance-identify-hcw-patients.html>
- **Care for Breastfeeding People**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/care-for-breastfeeding-women.html>
- **Testing Strategies for SARS-CoV-2**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/lab/resources/sars-cov2-testing-strategies.html>
- **Ending Isolation and Precautions for People with COVID-19: Interim Guidance**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html>

EU CDC

No update was published by the EU CDC from 25 – 31 December 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] **Bahrain** will offer a fourth COVID-19 dose of either Sinopharm or Pfizer-BioNTech vaccine to people who have received three doses of the Sinopharm vaccine. The fourth dose will be available to those 18 and above, and three months after receiving the first booster dose of Sinopharm. This comes after Israel announced the fourth dose of vaccine to individuals aged 60 and above or with a compromised immune system.
- [2] **Cambodia** - Starting January 3, Cambodia will begin its booster shot campaign for people aged 12-18, who received a second dose at least 4 months ago. Nationwide, more than 3.27 million people have received a booster.
- [3] **India** has provided emergency use authorizations for 2 vaccines by Serum Institute of India's version of Novavax's shot, Covovax and Biological E's Corbevax coronavirus vaccines respectively.
- [4, 5] **Israel**
 - Starting December 27, a trial investigating the efficacy of a 2nd booster shot commenced in the Sheba Medical Centre. The trial involves 150 Sheba medical workers, who had received their first booster shots no later than August 20. No information was provided on how long the trial will last.
 - On December 30, Israel approved a fourth vaccine shot for immunocompromised individuals, making it among the first countries in world to do so.
- [6] **Japan** - On December 27, Shionogi & Co. Ltd begun phase III trial of its COVID-19 vaccine in Vietnam. The company had already conducted clinical trials in Japan and will conduct multiple trials as well.
- [7] **Kenya** will begin offering booster shots to individuals who have been vaccinated for at least 6 months. In the ministry statement released on December 24, children over 15 years old will also be offered the Pfizer COVID-19 vaccine.
- [8] **Mexico's** health regulator has authorized Cuban COVID-19 vaccine Abdala for emergency use. The country has granted emergency use to 10 vaccines so far, including China's CanSino and Sinopharm vaccines, and Pfizer's vaccines. While the home grown protein-based vaccine is said to have more than 90% efficacy, the results of its clinical trials have yet to be published in peer reviewed journals.
- [9] **Switzerland's** drug regulator has approved booster doses for Johnson & Johnson's vaccine in people 18 years and older. The second dose of the vaccine is to be administered at least 2 months after the first dose. Mixed vaccinations with the J&J shot being administered 6 months after the second dose of Pfizer/BioNTech or Moderna's vaccines have also been authorized.

- [10] **Turkey** - On December 30, Turkey began administering its domestically developed vaccine, Turkovac, which received emergency authorization just last week. The vaccine is available as a booster shot regardless of what vaccine was taken before.
- [11] The **United Arab Emirates'** Ministry of Health and Prevention has approved emergency use of CNBG's new recombinant protein vaccine as a booster dose. The approval came after data from a study conducted in the UAE, which included individuals previously vaccinated with 2 doses of CNBG's inactivated vaccine. The seroconversion rate was up to 100% in generating neutralising antibodies and no side effects were recorded among any participant. The vaccine will be available starting January 2022.

Therapeutics

- [12] **India** has provided emergency use authorization for Merck's COVID-19 pill molnupiravir. The pill will be manufactured by 13 companies in India for restricted use under emergencies for treatment of adult COVID-19 patients.
- [13] **South Korea** has authorized Pfizer's antiviral drug, Paxlovid, for emergency use on December 27, the first of its kind to be introduced in the country. Paxlovid is expected to help prevent serious deterioration of patients admitted to residential treatment centers or being treated at home. The drug will be used for adults or children aged 12 years or older who weigh more than 40 kg with mild to moderate symptoms, with high risk of developing severe disease due to underlying diseases.
- [14] **United Kingdom** - A clinical trial comparing a higher dose of dexamethasone (20mg) given once daily for 5 days, followed by 10mg once daily for another 5 days to the usual low dose treatment for 10 days will be conducted in the United Kingdom. The trial aims to study whether higher doses could work better for patients with severe COVID-19; a continuation of the RECOVERY trial last year, which showed that dexamethasone was able to reduce inflammation and cut death rates by around a third among the most severely ill patients.
- [15] **United States** - Merck's antiviral pill, molnupiravir has been granted emergency authorization for use in adults with mild-to-moderate COVID-19 in the United States. This marks the second drug to be approved for emergency use after Pfizer's Paxlovid.

Vaccine Approval Status

Table 7: Number of approving countries per vaccine as of 31 December 2021

Developer	Vaccine	Number of countries approving
Anhui Zhifei Longcom	ZF2001	3
Bharat Biotech	Covaxin	12
Biological E Limited	BECOV2A	1
CanSino	Ad5-nCoV	10
Center for Genetic Engineering and Biotechnology (CIGB)	CIGB-66	5
Chumakov Center	KoviVac	1
FBRI	EpiVacCorona	2
Gamaleya	Sputnik Light	22
Gamaleya	Sputnik V	74
Health Institutes of Turkey	ERUCOV-VAC	1
Instituto Finlay de Vacunas Cuba	Soberana Plus	1
Instituto Finlay de Vacunas Cuba	Soberana 02	4
Johnson & Johnson	Ad26.COV2.S	95
Kazakhstan RIBSP	QazVac	2
Medigen	MVC-COV1901	1
Minhai Biotechnology Co	SARS-CoV-2 Vaccine (Vero Cells)	2
Moderna	mRNA-1273	83
Novavax	NVX-CoV2373	30
Organization of Defensive Innovation and Research	FAKHRAVAC (MIVAC)	1
Oxford/AstraZeneca	AZD1222	134
Pfizer/ BioNTech	BNT162b2	122
Razi Vaccine and Serum Research Institute	Razi Cov Pars	1
Serum Institute of India	Covishield	47
Serum Institute of India	COVOVAX (Novavax formulation)	3
Shifa Pharmed Industrial Co	COVID-19 Inactivated Vaccine	1
Sinopharm	BBIBP-CorV	80
Sinopharm	Inactivated	2
Sinovac	CoronaVac	48
Takeda	TAK-919 (Moderna formulation)	1
Vaxine/CinnaGen Co.	COVAX-19	1
Zyklus Cadila	ZyCoV-D	1

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

Adverse Reactions & Effects

- [1] **United States** - Pfizer and BioNTech's vaccine caused mostly mild side-effects in children aged 5 to 11 years. The US Vaccine Adverse Event Reporting System received 4,249 reports of adverse events among 8.7 million doses of vaccines administered to the age group; 97.6% of the cases were not serious. The CDC also received 11 reports of myocarditis, in children aged 5 to 11 who had received the vaccine. Of the cases, 7 had recovered and 4 are recovering at the time of the report. Data showed that children commonly reported injection-site pain and other systemic reactions such as fatigue and headache.

x. Scientific Publications with Epidemiology and Clinical Focus

Real-world treatment patterns and clinical outcomes for inpatients with COVID-19 in the US from September 2020 to February 2021 [1]

The objective of this retrospective cohort study was to describe pre-treatment characteristics, treatment patterns, health resource use, and clinical outcomes among adults hospitalized with COVID-19 in the United States (US) who initiated common treatments for COVID-19. The Optum® COVID-19 electronic health records database was used to identify patients >18 years, diagnosed with COVID-19, who were admitted to an inpatient setting and received treatments of interest for COVID-19 between September 2020 and January 2021. Patients were stratified into cohorts based on index treatment use. Patient demographics, medical history, care setting, medical procedures, subsequent treatment use, patient disposition, clinical improvement, and outcomes were summarized descriptively. Among a total of 26,192 patients identified, the most prevalent treatments initiated were dexamethasone (35.4%) and dexamethasone + remdesivir (14.9%), and dexamethasone was the most common subsequent treatment. At day 14 post-index, <10% of patients received any treatments of interest. Mean (standard deviation [SD]) patient age was 65.6 (15.6) years, and the most prevalent comorbidities included hypertension (44.8%), obesity (35.4%), and diabetes (25.7%). At the end of follow-up, patients had a mean (SD) 8.1 (6.6) inpatient days and 1.4 (4.1) days with ICU care. Oxygen supplementation, non-invasive, or invasive ventilation was required by 4.5%, 3.0%, and 3.1% of patients, respectively. At the end of follow-up, 84.2% of patients had evidence of clinical improvement, 3.1% remained hospitalized, 83.8% were discharged, 4% died in hospital, and 9.1% died after discharge. Although the majority of patients were discharged alive, no treatments appeared to alleviate the inpatient morbidity and mortality associated with COVID-19. This highlights an unmet need for effective treatment options for patients hospitalized with COVID-19.

Association between mask wearing and anxiety symptoms during the outbreak of COVID 19: A large survey among 386,432 junior and senior high school students in China [2]

Aim: To evaluate the association between mask wearing practice and the risk of anxiety symptoms during the COVID-19 epidemic among Chinese students aged 12-18 years old.

Methods: Totally, 386,432 junior and senior high school students were recruited using a cluster sampling method across three cities of Henan Province in China during February 4-12, 2020. Mask wearing practice was defined according to its type and the behavior exhibited in relation to wearing a mask. Presence of anxiety symptoms was determined by Generalized Anxiety Disorder tool (GAD-7). Multiple logistic regression was performed to estimate the association between mask wearing and anxiety symptoms.

Results: Among the participants, compared with students who completely adhered to the all the mask wearing practice, students who did not adhere to all the mask wearing practice had 1.97 times more likely to suffer from anxiety symptoms (adjusted odds ratio (aOR) = 1.97; 95% confidence interval (CI): 1.74-2.22). Furthermore, compared with students who did not know the proper type of mask, students who knew the proper type of mask had a lower risk of anxiety symptoms (aOR = 0.78; 95%CI: 0.76-0.80). Students who adhered to proper behavior of mask wearing was associated with 34% decreased odds for anxiety symptoms (aOR = 0.68; 95%CI: 0.62-0.74).

Conclusions: To conclude, proper mask wearing may be an important attribute that play a significant role in reducing the risk of anxiety symptoms among junior and senior school student. However, since this study is a cross-sectional study, prospective studies are needed to further verify.

The association of cultural and contextual factors with social contact avoidance during the COVID-19 pandemic [3]

As a first line of defense to the COVID-19 pandemic in 2020, people reduced social contacts to avoid pathogen exposure. Using a panel of countries, this research suggests that this was amplified in societies characterized by high social support and future orientation. People reacted more strongly in dense environments; government orders had more effect in high power distance societies. Conversely, a focus on accomplishments was associated with lower changes. Understanding people's actual behaviors in response to health threats across societies is of great importance for epidemiology, public health, international business, and for the functioning of humanity as a whole.

Association Between Immune Dysfunction and COVID-19 Breakthrough Infection After SARS-CoV-2 Vaccination in the US [4]

Importance: Persons with immune dysfunction have a higher risk for severe COVID-19 outcomes. However, these patients were largely excluded from SARS-CoV-2 vaccine clinical trials, creating a large evidence gap.

Objective: To identify the incidence rate and incidence rate ratio (IRR) for COVID-19 breakthrough infection after SARS-CoV-2 vaccination among persons with or without immune dysfunction.

Design, setting, and participants: This retrospective cohort study analyzed data from the National COVID Cohort Collaborative (N3C), a partnership that developed a secure, centralized electronic medical record-based repository of COVID-19 clinical data from academic medical centers across the US. Persons who received at least 1 dose of a SARS-CoV-2 vaccine between December 10, 2020, and September 16, 2021, were included in the sample.

Main outcomes and measures: Vaccination, COVID-19 diagnosis, immune dysfunction diagnoses (ie, HIV infection, multiple sclerosis, rheumatoid arthritis, solid organ transplant, and bone marrow transplantation), other comorbid conditions, and demographic data were accessed through the N3C Data Enclave. Breakthrough infection was defined as a COVID-19 infection that was contracted on or after the 14th day of vaccination, and the risk after full or partial vaccination was assessed for patients with or without immune dysfunction using Poisson regression with robust SEs. Poisson regression models were controlled for a study period (before or after [pre- or post-Delta variant] June 20, 2021), full vaccination status, COVID-19 infection before vaccination, demographic characteristics, geographic location, and comorbidity burden.

Results: A total of 664 722 patients in the N3C sample were included. These patients had a median (IQR) age of 51 (34-66) years and were predominantly women (n = 378 307 [56.9%]). Overall, the incidence rate for COVID-19 breakthrough infection was 5.0 per 1000 person-months among fully vaccinated persons but was higher after the Delta variant became the dominant SARS-CoV-2 strain (incidence rate before vs after June 20, 2021, 2.2 [95% CI, 2.2-2.2] vs 7.3 [95% CI, 7.3-7.4] per 1000 person-months). Compared with

partial vaccination, full vaccination was associated with a 28% reduced risk for breakthrough infection (adjusted IRR [AIRR], 0.72; 95% CI, 0.68-0.76). People with a breakthrough infection after full vaccination were more likely to be older and women. People with HIV infection (AIRR, 1.33; 95% CI, 1.18-1.49), rheumatoid arthritis (AIRR, 1.20; 95% CI, 1.09-1.32), and solid organ transplant (AIRR, 2.16; 95% CI, 1.96-2.38) had a higher rate of breakthrough infection.

Conclusions and relevance: This cohort study found that full vaccination was associated with reduced risk of COVID-19 breakthrough infection, regardless of the immune status of patients. Despite full vaccination, persons with immune dysfunction had substantially higher risk for COVID-19 breakthrough infection than those without such a condition. For persons with immune dysfunction, continued use of nonpharmaceutical interventions (eg, mask wearing) and alternative vaccine strategies (eg, additional doses or immunogenicity testing) are recommended even after full vaccination.

xi. Sources

Global Risk Assessment

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