

Dec | 24

COVID-19

Situation Report 495

Centre for Infectious Disease Epidemiology and Research (CIDER)

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 24 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 (10 countries), Americas (28 countries), and Africa (16 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 178 countries ranged from 0.055 to 2.7.^{\$}</p> | <p>Case fatality rate is currently at 1.94% 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> |

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|--|---|-------------------------------------|--|-------------|
| | | | <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>13 (31.7%) countries have either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from 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 22, the estimated effective reproduction no. of 25 countries ranged from 0.32-1.6.^{\$}</p> | <p>Case fatality rate is 1.56%.</p> | <p>High</p> <p>33 countries have commenced vaccination as of 24 December 2021. Coverage was available for the following: i) at least 1 dose was at 51-80% for 21 countries; >80% for 7 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> | High |

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|--|--|--------------------------------------|--|-------------|
| | | | restricted use in emergency situations in hospital settings in adults [24]. 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]. | |
| European Region (n=53 countries) | | | | |
| High 52 (98.1%) countries have reported with outbreaks; 49 (92.5%) countries are reporting a surge in cases. 2 (3.8%) countries have either a constant decreasing change in incidence or no case in the last 14 days. Highest incidence over the past 14 days were reported from Andorra, Denmark, Monaco , San Marino and United Kingdom , and highest case numbers were reported from France, Germany, Russia, Spain and United Kingdom. At least 5 countries have closed their borders, 47 countries have opened their borders partially conditionally, and only 1 country is allowing free travel. | As of Dec 22, the estimated effective reproduction no. of 52 countries ranged from 0.11-2.0 . ^{\$} | Case fatality rate is 1.70% . | High 53 countries have commenced vaccination as of 24 December 2021. Coverage was available for the following i) at least 1 dose was at 51-80% for 30 countries; >80% for 6 countries; ii) full vaccination was at 51-80% for 31 countries; >80% for 3 countries. & 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] 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]. 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] 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] 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] | High |

| Eastern Mediterranean Region (n=22 countries) | | | | |
|--|--|--|---|--------------------|
| <p>Moderate</p> <p>22 (100%) countries have reported with outbreak; 10 (45.5%) 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 Jordan, Lebanon, Libya, Palestine, and Qatar, and highest case numbers were reported from Egypt, Iran, Jordan, Lebanon and Libya.</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 22, the estimated effective reproduction no. of 21 countries ranged from 0.6-1.8.[§]</p> | <p>Case fatality rate is 1.84%.</p> | <p>High</p> <p>21 countries have commenced vaccination as of 24 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; 28 (80.0%) countries are reporting a surge in cases.</p> <p>0 (0%) country has either a constant decreasing change in incidence or no case in the last 14 days.</p> <p>Highest incidence over the past 14 days were reported from Barbados, Canada, Dominica, Trinidad and Tobago, and USA, and highest case numbers were reported from Argentina, Brazil, Canada, Mexico and USA.</p> <p>At least 9 countries have closed their borders, 24 countries have opened their borders partially conditionally, and 2 countries are allowing free travel.</p> | <p>As of Dec 22, the estimated effective reproduction no. of 35 countries ranged from 0.48-1.3.[§]</p> | <p>Case fatality rate is 2.37%.</p> | <p>High</p> <p>35 countries have commenced vaccination as of 24 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>Moderate</p> <p>47 (100%) countries have reported with outbreak; 16 (34.8%) 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, Eswatini, Namibia, South Africa, and Zimbabwe, and highest case numbers were reported from Kenya, Mozambique, Nigeria, South Africa and Zimbabwe.</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 22, the estimated effective reproduction no. of 45 countries ranged from 0.055-2.7.[§]</p> | <p>Case fatality rate is 2.26%.</p> | <p>High</p> <p>46 countries have commenced vaccination as of 24 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> | High |

*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 24 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 | 278,549,851 | 278,449,120 | 5,401,295 | 1.94% | 1.94% | 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

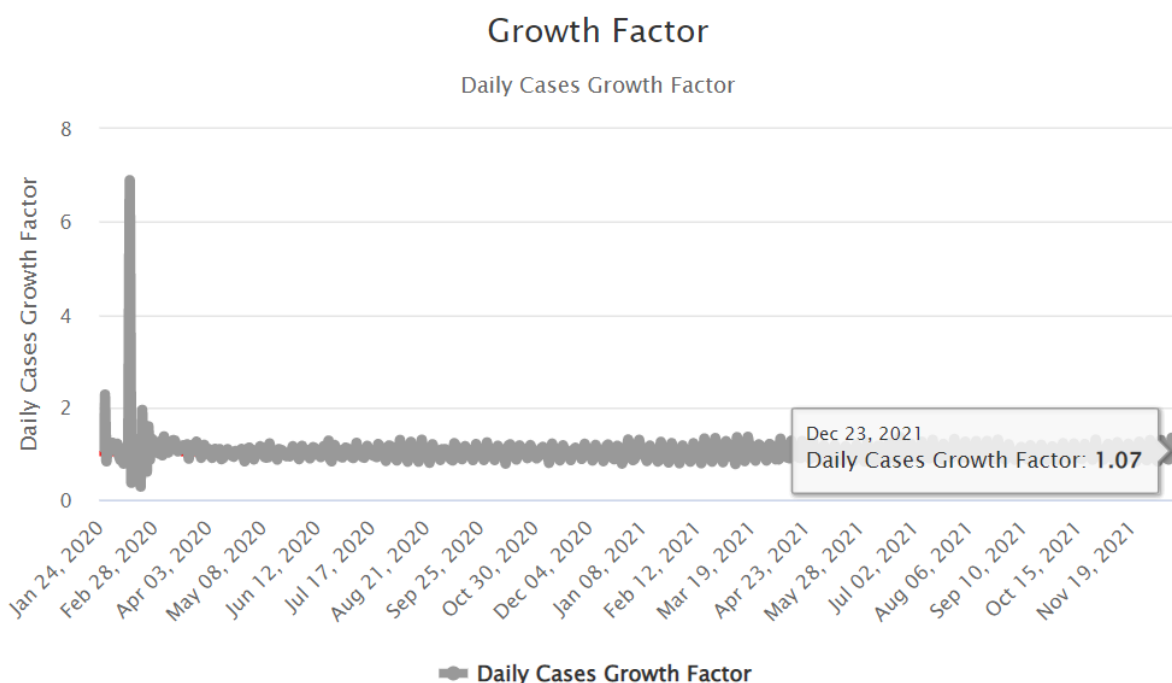
| Virus | Incubation Period (Days) | Case Fatality Rate (%) | R ₀ |
|------------|--|------------------------|------------------------------------|
| SARS-CoV-2 | Median = 5.1 [§] (2-14) or up to 24 [*] | 1.94 | 5.8 (95% CI 4.4–7.7) [^] |
| SARS-CoV | 2-7 | 9.6 | 2.0 |
| MERS-CoV | 5 (2-14) | 34 | <1 (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)



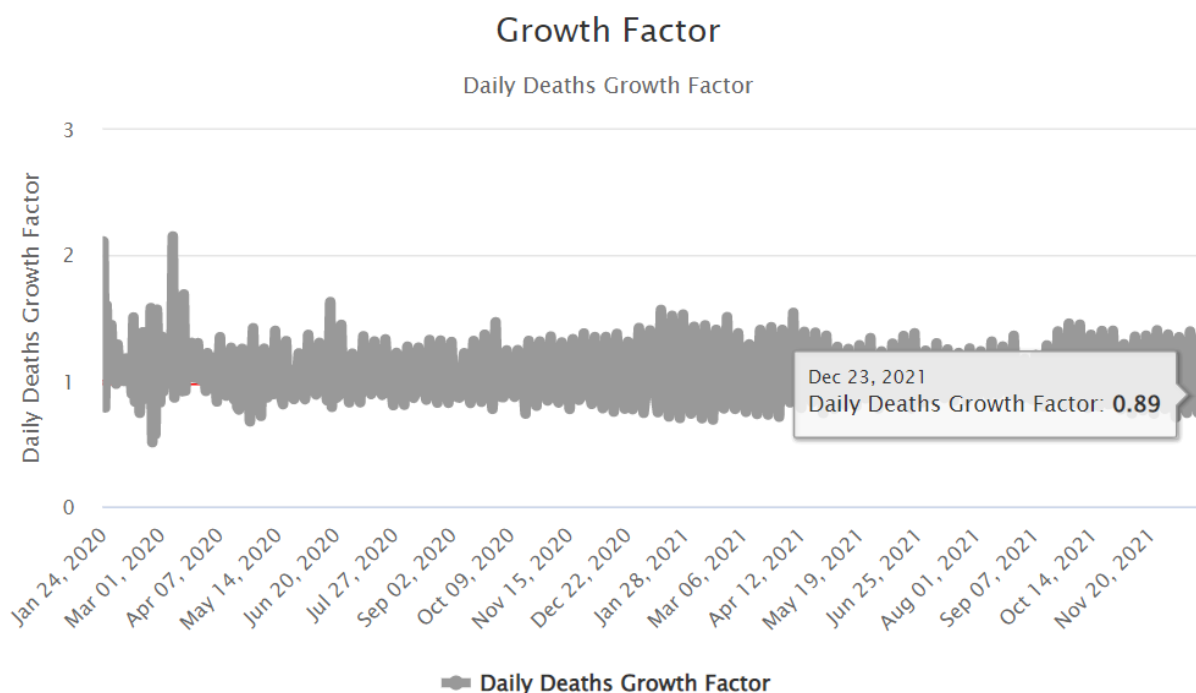
Growth Factor = every day's cases/cases on previous day. A growth factor above 1 indicates an increase, whereas one between 0 and 1 is a sign of decline, with the quantity eventually becoming zero. A growth factor below 1 (or above 1 but trending downward) is a positive sign, whereas a growth factor 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 18 – 24 December 2021
(Updated as of 24 December 2021, 1400H SGT)

| No. | Country | Total Cases | Change in Cases | Total Deaths | Change in Deaths | Total Recovered | Region |
|-----|--------------|-------------|-----------------|--------------|------------------|-----------------|----------|
| 1 | USA | 52,788,451 | +1,352,799 | 834,455 | +9,935 | 40,964,993 | Americas |
| 2 | UK | 11,767,262 | +669,411 | 147,720 | +783 | 9,961,369 | EURO |
| 3 | France | 8,889,636 | +428,924 | 122,295 | +1,124 | 7,701,093 | EURO |
| 4 | Spain | 5,718,007 | +295,839 | 89,019 | +352 | 5,002,310 | EURO |
| 5 | Germany | 6,954,549 | +245,331 | 110,636 | +2,482 | 6,048,800 | EURO |
| 6 | Italy | 5,517,054 | +208,874 | 136,245 | +944 | 4,950,780 | EURO |
| 7 | Russia | 10,318,650 | +187,004 | 301,271 | +7,247 | 9,139,166 | EURO |
| 8 | Turkey | 9,247,606 | +129,182 | 81,125 | +1,262 | 8,880,050 | EURO |
| 9 | South Africa | 3,374,262 | +118,446 | 90,662 | +400 | 3,094,902 | Africa |
| 10 | Poland | 4,017,420 | +113,975 | 93,445 | +3,139 | 3,500,570 | EURO |
| 11 | Vietnam | 1,604,712 | +111,475 | 30,531 | +1,674 | 1,184,428 | WPRO |
| 12 | Netherlands | 3,028,137 | +91,376 | 20,621 | +311 | 2,467,623 | EURO |
| 13 | Canada | 1,945,754 | +87,755 | 30,131 | +119 | 1,814,426 | Americas |
| 14 | Denmark | 665,142 | +75,868 | 3,173 | +122 | 533,022 | EURO |
| 15 | Czechia | 2,442,600 | +63,872 | 35,640 | +717 | 2,221,551 | EURO |
| 16 | Switzerland | 1,221,424 | +61,304 | 12,128 | +196 | 951,091 | EURO |
| 17 | Argentina | 5,428,957 | +52,315 | 116,979 | +105 | 5,248,682 | Americas |
| 18 | Ukraine | 3,637,038 | +48,891 | 94,432 | +2,119 | 3,408,294 | EURO |
| 19 | India | 34,772,657 | +46,608 | 479,133 | +2,264 | 34,215,977 | SEARO |
| 20 | S. Korea | 596,209 | +44,658 | 5,071 | +480 | 485,721 | WPRO |
| 21 | Portugal | 1,253,094 | +41,964 | 18,840 | +123 | 1,149,611 | EURO |
| 22 | Belgium | 2,030,878 | +40,718 | 28,110 | +347 | 1,595,493 | EURO |
| 23 | Ireland | 680,375 | +39,827 | 5,890 | +55 | 532,365 | EURO |
| 24 | Australia | 282,584 | +39,818 | 2,182 | +48 | 227,405 | WPRO |
| 25 | Greece | 1,056,583 | +34,442 | 20,198 | +547 | 979,526 | EURO |
| 26 | Norway | 367,866 | +28,858 | 1,257 | +55 | 88,952 | EURO |
| 27 | Sweden | 1,273,313 | +26,558 | 15,229 | +38 | 1,179,355 | EURO |
| 28 | Slovakia | 819,493 | +25,327 | 16,239 | +509 | 741,253 | EURO |
| 29 | Malaysia | 2,731,713 | +24,311 | 31,265 | +239 | 2,652,585 | WPRO |
| 30 | Hungary | 1,237,330 | +24,012 | 38,307 | +931 | 1,071,772 | EURO |
| 31 | Brazil | 22,226,573 | +21,632 | 618,228 | +707 | 21,414,318 | Americas |
| 32 | Croatia | 686,590 | +20,428 | 12,179 | +354 | 651,995 | EURO |
| 33 | Jordan | 1,047,953 | +20,109 | 12,372 | +254 | 986,120 | EMRO |
| 34 | Thailand | 2,204,672 | +19,175 | 21,528 | +203 | 2,144,952 | SEARO |
| 35 | Georgia | 918,641 | +17,439 | 13,289 | +371 | 873,178 | EURO |
| 36 | Mexico | 3,943,764 | +16,499 | 298,508 | +1,152 | 3,295,433 | Americas |
| 37 | Kenya | 274,645 | +16,088 | 5,356 | +6 | 249,617 | Africa |

| | | | | | | | |
|----|------------------------|-----------|---------|---------|------|-----------|----------|
| 38 | Austria | 1,258,377 | +16,044 | 13,595 | +209 | 1,211,312 | EURO |
| 39 | Finland | 227,169 | +15,930 | 1,504 | +58 | 46,000 | EURO |
| 40 | Zimbabwe | 201,344 | +15,040 | 4,855 | +84 | 151,309 | Africa |
| 41 | Iran | 6,179,817 | +14,363 | 131,262 | +316 | 6,019,343 | EMRO |
| 42 | Colombia | 5,115,194 | +13,728 | 129,640 | +345 | 4,953,642 | Americas |
| 43 | Nigeria | 233,353 | +12,282 | 2,991 | +8 | 212,040 | Africa |
| 44 | Zambia | 225,260 | +12,121 | 3,688 | +15 | 208,255 | Africa |
| 45 | Ethiopia | 386,164 | +11,762 | 6,885 | +30 | 351,393 | Africa |
| 46 | Peru | 2,271,549 | +11,369 | 202,424 | +348 | N/A | Americas |
| 47 | Lebanon | 707,123 | +10,955 | 8,996 | +96 | 652,174 | EMRO |
| 48 | Mozambique | 167,307 | +10,578 | 1,961 | +13 | 151,241 | Africa |
| 49 | Bulgaria | 732,106 | +10,287 | 30,436 | +503 | 605,051 | EURO |
| 50 | Lithuania | 507,916 | +10,273 | 7,223 | +164 | 474,075 | EURO |
| 51 | Bolivia | 570,876 | +10,192 | 19,496 | +105 | 514,816 | Americas |
| 52 | Belarus | 689,151 | +9,278 | 5,449 | +111 | 681,250 | EURO |
| 53 | Botswana | 208,994 | +9,130 | 2,427 | +2 | 195,479 | Africa |
| 54 | Chile | 1,796,232 | +8,556 | 38,954 | +181 | 1,708,111 | Americas |
| 55 | Slovenia | 453,093 | +7,875 | 5,528 | +76 | 430,849 | EURO |
| 56 | Serbia | 1,287,202 | +7,757 | 12,518 | +212 | 1,251,175 | EURO |
| 57 | Israel | 1,360,919 | +7,638 | 8,241 | +11 | 1,342,718 | EURO |
| 58 | Laos | 101,865 | +7,311 | 288 | +26 | 7,339 | WPRO |
| 59 | Namibia | 141,045 | +6,891 | 3,593 | +14 | 127,872 | Africa |
| 60 | DRC | 70,059 | +6,671 | 1,126 | 0 | 50,930 | Africa |
| 61 | Egypt | 378,843 | +6,244 | 21,510 | +276 | 314,994 | EMRO |
| 62 | Eswatini | 63,440 | +5,598 | 1,269 | +14 | 52,253 | Africa |
| 63 | Latvia | 270,158 | +5,193 | 4,489 | +70 | 254,890 | EURO |
| 64 | Cyprus | 148,663 | +5,153 | 625 | +9 | 124,370 | EURO |
| 65 | Malawi | 68,470 | +5,062 | 2,319 | +8 | 59,530 | Africa |
| 66 | Azerbaijan | 613,059 | +4,999 | 8,257 | +108 | 591,724 | EURO |
| 67 | Romania | 1,801,081 | +4,851 | 58,463 | +444 | 1,729,714 | EURO |
| 68 | Trinidad and Tobago | 87,980 | +4,850 | 2,681 | +178 | 69,274 | Americas |
| 69 | Réunion | 71,795 | +4,558 | 401 | +8 | 65,494 | Non |
| 70 | Estonia | 234,958 | +4,444 | 1,899 | +30 | 219,213 | EURO |
| 71 | Sri Lanka | 582,149 | +4,425 | 14,832 | +134 | 558,527 | SEARO |
| 72 | Libya | 384,005 | +3,541 | 5,635 | +52 | 372,336 | EMRO |
| 73 | Panama | 485,512 | +3,282 | 7,406 | +9 | 472,874 | Americas |
| 74 | UAE | 746,557 | +3,205 | 2,154 | +3 | 739,616 | EMRO |
| 75 | Kazakhstan | 985,016 | +3,035 | 12,960 | +57 | 956,046 | EURO |
| 76 | Bosnia and Herzegovina | 286,792 | +3,008 | 13,243 | +152 | 192,218 | EURO |
| 77 | Ecuador | 538,218 | +2,804 | 33,624 | +38 | 443,880 | Americas |
| 78 | Malta | 43,806 | +2,747 | 473 | +2 | 39,289 | EURO |
| 79 | Angola | 68,362 | +2,714 | 1,743 | +6 | 63,924 | Africa |
| 80 | Luxembourg | 98,440 | +2,681 | 907 | +10 | 91,674 | EURO |
| 81 | Ghana | 134,555 | +2,644 | 1,269 | +14 | 129,921 | Africa |
| 82 | Uganda | 130,888 | +2,588 | 3,274 | +3 | 98,127 | Africa |
| 83 | Uruguay | 406,127 | +2,545 | 6,159 | +10 | 396,537 | Americas |

| | | | | | | | |
|-----|--------------------|-----------|--------|---------|------|-----------|----------|
| 84 | Venezuela | 442,757 | +2,359 | 5,310 | +45 | 431,291 | Americas |
| 85 | Moldova | 373,752 | +2,342 | 9,575 | +125 | 359,490 | EURO |
| 86 | Pakistan | 1,292,728 | +2,237 | 28,898 | +35 | 1,254,301 | EMRO |
| 87 | Iraq | 2,091,834 | +2,165 | 24,108 | +78 | 2,061,781 | EMRO |
| 88 | Rwanda | 103,170 | +2,140 | 1,345 | +1 | 45,522 | Africa |
| 89 | Lesotho | 26,004 | +2,101 | 665 | 0 | 14,189 | Africa |
| 90 | Singapore | 277,042 | +2,070 | 820 | +12 | 272,675 | WPRO |
| 91 | Iceland | 22,087 | +2,043 | 37 | +1 | 19,428 | EURO |
| 92 | Morocco | 954,199 | +2,010 | 14,823 | +21 | 937,133 | EMRO |
| 93 | Albania | 206,935 | +2,007 | 3,181 | +25 | 198,484 | EURO |
| 94 | Algeria | 215,723 | +1,978 | 6,213 | +42 | 148,406 | Africa |
| 95 | North Macedonia | 222,333 | +1,866 | 7,868 | +90 | 209,291 | EURO |
| 96 | Burundi | 23,009 | +1,866 | 38 | 0 | 773 | Africa |
| 97 | Palestine | 437,326 | +1,853 | 4,616 | +26 | 428,691 | EMRO |
| 98 | Bangladesh | 1,582,368 | +1,809 | 28,054 | +13 | 1,546,664 | SEARO |
| 99 | Channel Islands | 23,188 | +1,731 | 112 | +4 | 20,747 | Non |
| 100 | Guatemala | 624,866 | +1,671 | 16,089 | +28 | 607,673 | Americas |
| 101 | Dominican Republic | 412,685 | +1,671 | 4,228 | +8 | 406,692 | Americas |
| 102 | Tunisia | 722,123 | +1,605 | 25,509 | +59 | 694,680 | EMRO |
| 103 | Mongolia | 388,063 | +1,543 | 2,053 | +12 | 313,256 | WPRO |
| 104 | Japan | 1,730,905 | +1,504 | 18,386 | +8 | 1,710,822 | WPRO |
| 105 | Madagascar | 47,295 | +1,501 | 996 | +16 | 43,961 | Africa |
| 106 | Nepal | 826,664 | +1,488 | 11,581 | +14 | 809,922 | SEARO |
| 107 | Montenegro | 161,944 | +1,487 | 2,385 | +18 | 157,436 | EURO |
| 108 | Myanmar | 529,114 | +1,400 | 19,242 | +41 | 506,514 | SEARO |
| 109 | Indonesia | 4,261,208 | +1,351 | 144,042 | +63 | 4,112,524 | SEARO |
| 110 | Qatar | 247,269 | +1,245 | 614 | 0 | 244,316 | EMRO |
| 111 | South Sudan | 14,275 | +1,226 | 135 | +2 | 12,717 | Africa |
| 112 | Saudi Arabia | 551,749 | +1,207 | 8,868 | +10 | 540,506 | EMRO |
| 113 | Uzbekistan | 197,918 | +1,179 | 1,475 | +22 | 194,788 | EURO |
| 114 | Andorra | 21,571 | +1,022 | 139 | +5 | 19,725 | EURO |
| 115 | Sudan | 46,100 | +988 | 3,298 | +46 | 38,292 | EMRO |
| 116 | Armenia | 344,126 | +969 | 7,936 | +62 | 329,576 | EURO |
| 117 | Ivory Coast | 62,960 | +962 | 707 | +1 | 61,183 | Africa |
| 118 | Togo | 27,405 | +939 | 246 | +2 | 26,034 | Africa |
| 119 | Paraguay | 465,028 | +932 | 16,596 | +73 | 447,400 | Americas |
| 120 | Philippines | 2,837,903 | +887 | 50,981 | +485 | 2,777,671 | WPRO |
| 121 | Mali | 19,758 | +820 | 652 | +18 | 16,882 | Africa |
| 122 | Maldives | 94,444 | +815 | 261 | +2 | 92,245 | SEARO |
| 123 | Bahrain | 279,056 | +799 | 1,394 | 0 | 276,722 | EMRO |
| 124 | Cameroon | 108,451 | +789 | 1,851 | +15 | 105,735 | Africa |
| 125 | Comoros | 5,336 | +730 | 153 | +2 | 4,428 | Africa |
| 126 | Kuwait | 414,591 | +700 | 2,467 | +1 | 411,216 | EMRO |
| 127 | China | 100,731 | +655 | 4,636 | 0 | 94,244 | WPRO |
| 128 | Curaçao | 18,299 | +606 | 186 | +3 | 17,451 | Non |
| 129 | Martinique | 47,300 | +600 | 769 | +20 | 104 | Non |

| | | | | | | | |
|-----|------------------------|---------|------|--------|-----|---------|----------|
| 130 | Guadeloupe | 56,035 | +594 | 750 | +1 | 2,250 | Non |
| 131 | Faeroe Islands | 5,039 | +562 | 13 | 0 | 4,557 | Non |
| 132 | San Marino | 7,160 | +560 | 96 | +2 | 6,202 | EURO |
| 133 | Cuba | 964,406 | +521 | 8,317 | +4 | 955,679 | Americas |
| 134 | Isle of Man | 13,401 | +506 | 67 | 0 | 12,605 | Non |
| 135 | Somalia | 23,532 | +458 | 1,333 | 0 | 12,948 | EMRO |
| 136 | Aruba | 17,165 | +449 | 181 | +3 | 16,524 | Non |
| 137 | French Guiana | 47,129 | +439 | 337 | +2 | 11,254 | Non |
| 138 | Costa Rica | 568,860 | +432 | 7,343 | +7 | 560,239 | Americas |
| 139 | Barbados | 27,486 | +415 | 259 | +4 | 26,148 | Americas |
| 140 | Bahamas | 23,380 | +409 | 713 | 0 | 21,736 | Americas |
| 141 | New Zealand | 13,719 | +402 | 49 | 0 | 12,122 | WPRO |
| 142 | Syria | 49,961 | +396 | 2,863 | +30 | 31,571 | EMRO |
| 143 | El Salvador | 121,661 | +394 | 3,815 | +13 | 106,193 | Americas |
| 144 | Burkina Faso | 17,040 | +368 | 317 | +21 | 16,250 | Africa |
| 145 | Gabon | 38,039 | +358 | 286 | +1 | 36,221 | Africa |
| 146 | Jamaica | 92,279 | +352 | 2,461 | +28 | 64,582 | Americas |
| 147 | Cayman Islands | 8,386 | +350 | 11 | +2 | 4,799 | Non |
| 148 | Mauritania | 40,308 | +344 | 860 | +8 | 38,894 | Africa |
| 149 | Honduras | 379,073 | +338 | 10,430 | +2 | 123,783 | Americas |
| 150 | Gibraltar | 8,014 | +331 | 100 | 0 | 7,426 | Non |
| 151 | Monaco | 4,606 | +323 | 38 | +2 | 4,207 | EURO |
| 152 | Liechtenstein | 5,819 | +316 | 69 | +1 | 5,438 | Non |
| 153 | Greenland | 2,249 | +312 | 0 | 0 | 1,875 | Non |
| 154 | Congo | 19,490 | +311 | 367 | +2 | 12,421 | Africa |
| 155 | Kyrgyzstan | 184,395 | +272 | 2,790 | +11 | 179,497 | EURO |
| 156 | Guyana | 38,998 | +270 | 1,042 | +16 | 37,245 | Americas |
| 157 | Mauritius | 23,077 | +262 | 762 | +82 | 21,621 | Africa |
| 158 | Dominica | 6,520 | +234 | 44 | +2 | 6,173 | Americas |
| 159 | Belize | 31,444 | +227 | 592 | +3 | 30,371 | Americas |
| 160 | Suriname | 51,542 | +219 | 1,186 | +7 | 49,082 | Americas |
| 161 | Cabo Verde | 38,751 | +210 | 351 | 0 | 38,135 | Africa |
| 162 | Oman | 304,984 | +201 | 4,113 | 0 | 300,235 | EMRO |
| 163 | Bermuda | 6,014 | +199 | 106 | 0 | 5,674 | Non |
| 164 | Sierra Leone | 6,610 | +176 | 123 | +2 | N/A | Africa |
| 165 | Afghanistan | 157,878 | +153 | 7,346 | +14 | 145,355 | EMRO |
| 166 | Mayotte | 21,288 | +149 | 185 | 0 | 2,964 | Non |
| 167 | Senegal | 74,256 | +141 | 1,890 | +4 | 72,261 | Africa |
| 168 | New Caledonia | 12,581 | +136 | 280 | 0 | 12,103 | Non |
| 169 | British Virgin Islands | 3,016 | +130 | 39 | 0 | N/A | Non |
| 170 | Guinea | 30,938 | +124 | 389 | +1 | 29,802 | Africa |
| 171 | Eritrea | 7,829 | +116 | 72 | +7 | 7,609 | Africa |
| 172 | Taiwan | 16,873 | +102 | 850 | +1 | 15,798 | WPRO |
| 173 | Fiji | 52,706 | +102 | 697 | 0 | 51,217 | WPRO |
| 174 | Saint Lucia | 13,225 | +98 | 295 | +10 | 12,801 | Americas |
| 175 | Papua New Guinea | 36,059 | +93 | 589 | +2 | 35,301 | WPRO |

| | | | | | | | |
|-----|------------------------|---------|-----|-------|----|---------|----------|
| 176 | St. Vincent Grenadines | 5,810 | +87 | 79 | +2 | 5,137 | Americas |
| 177 | Liberia | 5,929 | +85 | 287 | 0 | 5,535 | Africa |
| 178 | Sint Maarten | 4,748 | +84 | 75 | 0 | 4,594 | Non |
| 179 | Caribbean Netherlands | 3,245 | +70 | 22 | 0 | 3,115 | Non |
| 180 | Turks and Caicos | 3,219 | +61 | 26 | +1 | 3,105 | Non |
| 181 | Niger | 7,242 | +57 | 273 | +2 | 6,879 | Africa |
| 182 | Brunei | 15,429 | +53 | 98 | 0 | 15,189 | WPRO |
| 183 | Nicaragua | 17,442 | +51 | 211 | +1 | 4,225 | Americas |
| 184 | Hong Kong | 12,551 | +44 | 213 | 0 | 12,186 | WPRO |
| 185 | Gambia | 10,087 | +42 | 342 | 0 | 9,688 | Africa |
| 186 | Antigua and Barbuda | 4,216 | +38 | 118 | +1 | 4,048 | Americas |
| 187 | Haiti | 25,945 | +38 | 765 | 0 | 22,957 | Americas |
| 188 | Anguilla | 1,629 | +37 | 5 | +1 | 1,582 | Non |
| 189 | Cambodia | 120,440 | +35 | 3,007 | +6 | 116,845 | WPRO |
| 190 | French Polynesia | 46,376 | +34 | 636 | 0 | N/A | Non |
| 191 | Grenada | 5,948 | +33 | 200 | 0 | 5,679 | Americas |
| 192 | Djibouti | 13,555 | +29 | 189 | 0 | 13,317 | EMRO |
| 193 | Benin | 24,935 | +28 | 161 | 0 | 24,705 | Africa |
| 194 | Yemen | 10,105 | +19 | 1,981 | +8 | 7,002 | EMRO |
| 195 | Saint Kitts and Nevis | 2,815 | +17 | 28 | 0 | 2,769 | Americas |
| 196 | Bhutan | 2,659 | +7 | 3 | 0 | 2,642 | SEARO |
| 197 | Equatorial Guinea | 13,623 | +6 | 175 | 0 | 13,410 | Africa |
| 198 | Sao Tome and Principe | 3,741 | +6 | 57 | 0 | 3,676 | Africa |
| 199 | Guinea-Bissau | 6,458 | +3 | 149 | 0 | 6,296 | Africa |
| 200 | Timor-Leste | 19,833 | +3 | 122 | 0 | 19,704 | SEARO |
| 201 | Montserrat | 45 | +1 | 1 | 0 | 43 | Non |
| 202 | Vanuatu | 7 | +1 | 1 | 0 | 6 | WPRO |
| 203 | Seychelles | 24,047 | 0 | 131 | 0 | 23,574 | Africa |
| 204 | Chad | 5,701 | 0 | 181 | 0 | 4,874 | Africa |
| 205 | CAR | 11,961 | 0 | 101 | 0 | 6,859 | Africa |
| 206 | St. Barth | 1,621 | 0 | 6 | 0 | N/A | Non |
| 207 | Tanzania | 26,483 | 0 | 734 | 0 | N/A | Africa |
| 208 | Tajikistan | 17,095 | 0 | 124 | 0 | 16,966 | EURO |
| 209 | Saint Martin | 4,008 | 0 | 56 | 0 | 1,399 | Non |
| 210 | Saint Pierre Miquelon | 96 | 0 | 0 | 0 | 74 | Non |
| 211 | Wallis and Futuna | 454 | 0 | 7 | 0 | 438 | Non |
| 212 | Macao | 77 | 0 | 0 | 0 | 77 | WPRO |
| 213 | Falkland Islands | 83 | 0 | 0 | 0 | N/A | Non |
| 214 | Tonga | 1 | 0 | 0 | 0 | 1 | WPRO |
| 215 | Diamond Princess | 712 | 0 | 13 | 0 | 699 | NA |
| 216 | Palau | 8 | 0 | 0 | 0 | 8 | WPRO |
| 217 | Vatican City | 27 | 0 | 0 | 0 | 27 | Non |
| 218 | Samoa | 3 | 0 | 0 | 0 | 3 | WPRO |
| 219 | Solomon Islands | 20 | 0 | 0 | 0 | 20 | WPRO |
| 220 | Western Sahara | 10 | 0 | 1 | 0 | 8 | Non |
| 221 | MS Zaandam | 9 | 0 | 2 | 0 | 7 | NA |

| | | | | | | | |
|-----|------------------|--------------------|------------------|------------------|---------------|--------------------|------|
| 222 | Marshall Islands | 4 | 0 | 0 | 0 | 4 | WPRO |
| 223 | Saint Helena | 2 | 0 | 0 | 0 | 2 | Non |
| 224 | Micronesia | 1 | 0 | 0 | 0 | 1 | WPRO |
| | Total | 278,549,851 | 5,308,005 | 5,401,295 | 48,147 | 247,533,701 | |

Figure 4. Areas with reported confirmed cases of COVID-19 (13 – 19 December 2021)

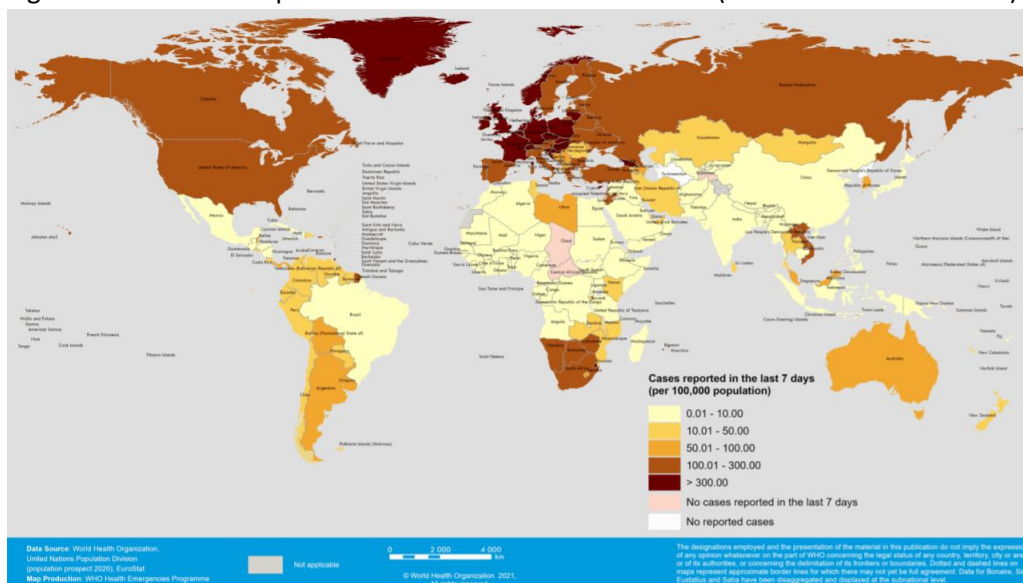
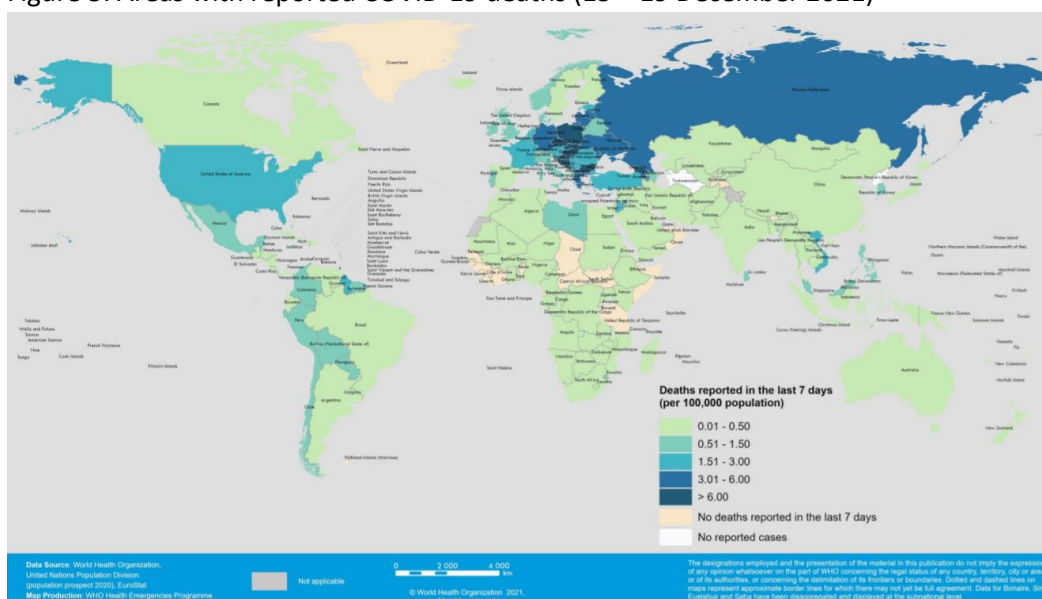


Figure 5. Areas with reported COVID-19 deaths (13 – 19 December 2021)



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

Table 6. Breakdown of COVID-19 omicron confirmed cases and deaths
(Updated as of 24 December 2021, 1400H SGT)

| S/N | Location | Cases | Deaths | Prevalence | S/N | Location | Cases | Deaths | Prevalence |
|-----|----------------|------------------|------------------|-------------------|-----|---------------|------------------|------------------|-------------------|
| | | <i>confirmed</i> | <i>confirmed</i> | <i>estimate %</i> | | | <i>confirmed</i> | <i>confirmed</i> | <i>estimate %</i> |
| 1 | United Kingdom | 90906 | 24 | 0.82 | 37 | Ghana | 40 | - | - |
| 2 | Denmark | 30954 | - | 0.51 | 38 | Finland | 34 | - | - |
| 3 | Canada | 6978 | - | - | 39 | Hong Kong | 34 | - | - |
| 4 | Norway | 5240 | - | 0.5 | 40 | Cyprus | 33 | - | - |
| 5 | Germany | 3198 | 1 | - | 41 | New Zealand | 31 | - | - |
| 6 | United States | 3180 | 1 | 0.73 | 42 | Turkey | 30 | - | - |
| 7 | South Africa | 1629 | - | - | 43 | Lebanon | 29 | - | - |
| 8 | France | 1440 | - | 0.1 | 44 | Morocco | 28 | - | - |
| 9 | Australia | 966 | - | - | 45 | Kenya | 27 | - | - |
| 10 | Estonia | 830 | - | - | 46 | Mexico | 25 | - | - |
| 11 | Argentina | 454 | - | - | 47 | Romania | 25 | - | - |
| 12 | Austria | 431 | - | - | 48 | Uganda | 25 | - | - |
| 13 | Belgium | 382 | - | 0.3 | 49 | Ecuador | 22 | - | - |
| 14 | Switzerland | 371 | - | - | 50 | Namibia | 18 | - | - |
| 15 | India | 354 | - | - | 51 | Senegal | 18 | - | - |
| 16 | Israel | 341 | - | - | 52 | Greece | 17 | - | - |
| 17 | Spain | 336 | - | - | 53 | Mozambique | 17 | - | - |
| 18 | Netherlands | 319 | - | 0.13 | 54 | Zambia | 16 | - | - |
| 19 | Botswana | 291 | - | - | 55 | Liechtenstein | 14 | - | - |
| 20 | Sweden | 260 | - | - | 56 | Lithuania | 14 | - | - |
| 21 | South Korea | 246 | - | - | 57 | Latvia | 14 | - | - |
| 22 | Iceland | 200 | - | 0.7 | 58 | Mauritius | 14 | - | - |
| 23 | Japan | 160 | - | - | 59 | Kuwait | 13 | - | - |
| 24 | Ireland | 144 | - | 0.66 | 60 | Malaysia | 13 | - | - |
| 25 | Italy | 142 | - | - | 61 | Malawi | 12 | - | - |
| 26 | Gibraltar | 122 | - | - | 62 | Peru | 12 | - | - |
| 27 | Chile | 117 | - | - | 63 | Poland | 12 | - | - |
| 28 | Thailand | 104 | - | - | 64 | Czechia | 11 | - | - |
| 29 | Portugal | 96 | - | 0.47 | 65 | Nigeria | 11 | - | - |
| 30 | Singapore | 93 | - | - | 66 | Oman | 9 | - | - |
| 31 | Bermuda | 74 | - | - | 67 | Croatia | 8 | - | - |
| 32 | Hungary | 61 | - | - | 68 | Indonesia | 8 | - | - |
| 33 | Slovenia | 51 | - | - | 69 | Iran | 8 | - | - |
| 34 | Zimbabwe | 50 | - | - | 70 | Reunion | 7 | - | - |
| 35 | Brazil | 44 | - | - | 71 | Slovakia | 7 | - | - |
| 36 | Russia | 41 | - | - | 72 | Venezuela | 7 | - | - |

| S/N | Location | Cases | Deaths | Prevalence |
|-----|-----------------------|------------------|------------------|-------------------|
| | | <i>confirmed</i> | <i>confirmed</i> | <i>estimate %</i> |
| 73 | Montenegro | 6 | - | - |
| 74 | Rwanda | 6 | - | - |
| 75 | Cuba | 5 | - | - |
| 76 | Cambodia | 5 | - | - |
| 77 | Maldives | 5 | - | - |
| 78 | Togo | 5 | - | - |
| 79 | Trinidad and Tobago | 5 | - | - |
| 80 | China | 4 | - | - |
| 81 | Jordan | 4 | - | - |
| 82 | Cayman Islands | 4 | - | - |
| 83 | Sri Lanka | 4 | - | - |
| 84 | Qatar | 4 | - | - |
| 85 | Colombia | 3 | - | - |
| 86 | Egypt | 3 | - | - |
| 87 | Nepal | 3 | - | - |
| 88 | Philippines | 3 | - | - |
| 89 | Pakistan | 3 | - | - |
| 90 | Palestinian Territory | 3 | - | - |
| 91 | Taiwan | 3 | - | - |

| S/N | Location | Cases | Deaths | Prevalence |
|--------------------------|----------------------|------------------|------------------|-------------------|
| | | <i>confirmed</i> | <i>confirmed</i> | <i>estimate %</i> |
| 92 | Bangladesh | 2 | - | - |
| 93 | Burkina Faso | 2 | - | - |
| 94 | Fiji | 2 | - | - |
| 95 | Georgia | 2 | - | - |
| 96 | United Arab Emirates | 1 | - | - |
| 97 | Aruba | 1 | - | - |
| 98 | Bahrain | 1 | - | - |
| 99 | Brunei | 1 | - | - |
| 100 | Costa Rica | 1 | - | - |
| 101 | Algeria | 1 | - | - |
| 102 | Jamaica | 1 | - | - |
| 103 | Luxembourg | 1 | - | - |
| 104 | Panama | 1 | - | - |
| 105 | Serbia | 1 | - | - |
| 106 | Saudi Arabia | 1 | - | - |
| 107 | Sierra Leone | 1 | - | - |
| 108 | Tunisia | 1 | - | - |
| 109 | Ukraine | 1 | - | - |
| Total (Worldwide) | | 151368 | 26 | |

 Source: https://newsnodes.com/omicron_tracker

Table 7. COVID-19 cases and deaths reported by states/UT in India between 18 – 24 December 2021
(Updated as of 24 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 | 7708 | +8 | 6 | +3 | 7573 | +5 | 129 | 0 |
| Andhra Pradesh | 2076212 | +793 | 1326 | -488 | 2060400 | +1269 | 14486 | +12 |
| Arunachal Pradesh | 55328 | +8 | 18 | -15 | 55030 | +23 | 280 | 0 |
| Assam | 619932 | +764 | 2249 | -197 | 611530 | +949 | 6153 | +12 |
| Bihar | 726405 | +54 | 83 | -1 | 714228 | +54 | 12094 | +1 |
| Chandigarh | 65742 | +69 | 97 | +20 | 64567 | +47 | 1078 | +2 |
| Chhattisgarh | 1007517 | +190 | 302 | -57 | 993619 | +246 | 13596 | +1 |
| Dadra and Nagar Haveli and Daman and Diu | 10691 | +3 | 3 | -2 | 10684 | +5 | 4 | 0 |
| Delhi | 1442633 | +698 | 684 | +209 | 1416846 | +486 | 25103 | +3 |
| Goa | 179898 | +297 | 429 | +37 | 175951 | +227 | 3518 | +33 |
| Gujarat | 828905 | +538 | 668 | +88 | 818129 | +442 | 10108 | +8 |
| Haryana | 772372 | +258 | 318 | +84 | 761992 | +172 | 10062 | +2 |
| Himachal Pradesh | 228469 | +299 | 420 | -106 | 224178 | +399 | 3871 | +6 |
| Jammu and Kashmir | 340293 | +889 | 1319 | -116 | 334456 | +995 | 4518 | +10 |
| Jharkhand | 349694 | +209 | 236 | +104 | 344316 | +105 | 5142 | 0 |
| Karnataka | 3003564 | +2010 | 7146 | -41 | 2958117 | +2029 | 38301 | +22 |
| Kerala*** | 5228286 | +20460 | 27283 | -7553 | 5155142 | +26098 | 45861 | +1915 |
| Ladakh | 22036 | +150 | 201 | +34 | 21617 | +114 | 218 | +2 |
| Lakshadweep | 10413 | +5 | 7 | +3 | 10355 | +2 | 51 | 0 |
| Madhya Pradesh | 793581 | +148 | 191 | +20 | 782859 | +126 | 10531 | +2 |
| Maharashtra | 6653345 | +6407 | 11578 | +1206 | 6500375 | +5126 | 141392 | +75 |
| Manipur | 125685 | +99 | 192 | -122 | 123494 | +215 | 1999 | +6 |
| Meghalaya | 84773 | +47 | 80 | -60 | 83212 | +104 | 1481 | +3 |
| Mizoram | 140254 | +1027 | 1713 | -817 | 138006 | +1839 | 535 | +5 |
| Nagaland | 32174 | +10 | 83 | -2 | 31389 | +11 | 702 | +1 |
| Odisha | 1053504 | +1186 | 1665 | -211 | 1043391 | +1389 | 8448 | +8 |
| Puducherry | 129374 | +89 | 146 | -40 | 127348 | +128 | 1880 | +1 |
| Punjab | 604092 | +239 | 314 | -19 | 587142 | +247 | 16636 | +11 |
| Rajasthan | 955331 | +158 | 245 | -22 | 946125 | +178 | 8961 | +2 |
| Sikkim | 32470 | +21 | 82 | -97 | 31979 | +115 | 409 | +3 |
| Tamil Nadu | 2742224 | +4262 | 6889 | -587 | 2698628 | +4798 | 36707 | +51 |
| Telangana | 680251 | +1187 | 3596 | -209 | 672637 | +1390 | 4018 | +6 |
| Tripura | 84997 | +47 | 58 | -18 | 84110 | +63 | 829 | +2 |
| Uttarakhand | 344697 | +164 | 220 | +67 | 337062 | +95 | 7415 | +2 |
| Uttar Pradesh | 1710796 | +179 | 236 | +79 | 1687645 | +100 | 22915 | 0 |
| West Bengal | 1628980 | +3605 | 7433 | -73 | 1601845 | +3621 | 19702 | +57 |
| Total | 34772626 | +46577 | 77516 | -8899 | 34215977 | +53212 | 479133 | +2264 |

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

iv. Travel Bans/Advisories & Quarantine Orders

- [1] **Austria**- From 20 Dec- travelers with at least 2 doses of vaccine with the last dose taken in the last 270 days were allowed to enter the country and those with booster dose are exempted from on-arrival PCR test. Those with one dose of vaccine and has proof of recovery within the valid period will also be allowed to enter.
- [2] **Austria**- From 25 Dec, travel restriction for traveler from Denmark, the Netherlands, Norway and the United Kingdom will be tightened where they will be required to undergo 10-days quarantine upon arrival with some exempted.
- [3] **Bulgaria**- From 20 Dec, only arrival from Vatican City will be exempted from quarantine and testing requirements with the presentation of required documents. Those unable to present the document will be required to undergo 10-days quarantine.
- [4] **Canada**- From 18 Dec, travel ban on travelers arriving from 10 African countries, South Africa, Egypt, Nigeria, Malawi, Mozambique, Botswana, Zimbabwe, Lesotho, Eswatini and Namibia will be lifted. Citizens who had left the countries for less than 72 hours will be required to show a negative test result.
- [5] **Denmark**- From 23 Dec, travel restriction on South Africa, Lesotho, Eswatini (Swaziland), Mozambique, Zimbabwe, Botswana, Namibia, Angola, Malawi and Zambia will be lifted and travelers from these countries will not be required to undergo quarantine upon arrival.
- [6] **Germany**- From 19 Dec, Andorra, Denmark (including Faroe Islands and Greenland), France (including overseas department of Réunion), Lebanon, and Norway will be added to the high risk list while Albania, Bulgaria, Estonia, Latvia, Northern Macedonia and Republic of Moldova will be removed from the high-risk list.
- [7] **Germany**- From 20 Dec, arrivals from Britain will be required to undergo 2-weeks quarantine regardless of vaccination status. Only German nationals or foreigners residing in Germany will be allowed to enter the country.
- [8] **Germany**- From 25 Dec, United States, Spain, Portugal, Finland, Monaco and Cyprus will be added to the list of high-risk areas while Austria, Belize, Bosnia, Malaysia and Serbia will be removed from the list. Travelers from the high-risk area will be required to quarantine for 10 days while fully vaccinated or recovered individuals can reduce quarantine period to 5 days with negative test.
- [9] **Greece**- From 19 Dec, travelers aged five and above will be required to undergo either a PCR test taken within 72 hours before arrival or a rapid test 24 hours before arrival.
- [10] **Hong Kong**- From 21 Dec, travelers from Britain will be required to spend the first four days of arrival quarantined in government-run facility before continuing in a hotel.
- [11] **Ireland**- Arriving travelers are advised to undergo daily antigen testing for 5 consecutive days upon arrival.
- [12] **Israel**- Travel ban on Israeli citizens and residents travelling to France, Ireland, Norway, Spain, Finland, Sweden and the United Arab Emirates has been approved on 19 Dec.
- [13] **Israel**- From 21 Dec, special permission will be required to travel to US.
- [14] **Italy**- Non-essential travel from Singapore will be banned until 31 Jan.
- [15] **Kuwait**- Incoming travelers will be required to undergo 10-days home quarantine unless presenting a negative PCR test result within 72 hours of arrival.

- [16]**Laos**-From 1 Jan, the country will reopen to visitors and they will be allowed to visit provinces and cities designated as green zones.
- [17]**Netherland**- From 22 Dec, travelers from third countries regardless of vaccination status are required to present pre-departure test. Travelers from very high-risk areas will be required to undergo a 10-days quarantine and may exit on the fifth day with negative test result.
- [18]**Saudi Arabia**- Travel advisory urging residents and citizens to avoid non-essential travel out of the country especially to high-risk countries has been issued. Arriving travelers are also advised to avoid social contact for at least 5 days and take PCR test when displaying respiratory symptoms or fever.
- [19]**Singapore**- Sales of ticket for vaccinated travel lane flights and buses will be suspended between 23 Dec and 20 Jan and will reduce the quotas and ticket sales for travel after 20 Jan.
- [20]**Spain**- Travel ban on flights from southern African countries has been extended until 29 Dec with Malawi and Zambia added to the list.
- [21]**Taiwan**- All arrivals between 21 Dec and 14 Feb regardless of vaccination status or quarantine plan will be required to have 6 Covid tests within the first 22 days of arrival.
- [22]**Thailand**- On 21 Dec, the authorities announced the implementation of mandatory quarantine and suspension of quarantine waiver for foreign visitors. Those who had received their Thailand Pass QR Code will continue with the existing conditions registered but are required to undergo 2 PCR test.
- [23]**United Kingdom**- From 20 Dec, remaining countries in the red list, Eswatini, Angola, Malawi, Botswana, Namibia, Mozambique, Lesotho, Nigeria, South Africa, Zimbabwe, and Zambia will be removed. Travelers from these countries will not be required to undergo hotel quarantine upon arrival. Requirement for pre-departure test conducted 2 days before arrival will continue. Vaccinated passengers will undergo self-isolated until receiving a negative test result and unvaccinated passengers will undergo 10 days of self-isolation with PCR test conducted on 2nd and 8th day.
- [24]**United Kingdom**- From 22 Dec, individuals with negative later flow test on day six and seven will self-isolate for 7 days instead of 10 days.

v. Lockdowns

- [1] **Australia** - From 20 Dec, travelers from Queensland will not be allowed to enter Western Australia except for those with approval. Travelers from Tasmania will be required to undergo 14-days self-quarantine. Travelers are required to be fully vaccinated and undergo PCR test within 48 hours upon arrival and on day 12 of their quarantine.
- [2] **Australia**-Western Australia will impose hard border with Tasmania and the Northern Territory from 26 Dec.
- [3] **Australia** -New South Wales has mandated wearing of mask in indoor public places while venues are required to limit visitors and re-activate customer check-in. Victoria has also mandate wearing of mask.
- [4] **Belgium**- From 26 Dec, indoor Christmas markets, cinemas, theaters and concert halls will be closed while museums and libraries will remain open. Sporting events will continue but without audiences.
- [5] **Canada** - From 19 Dec, Ontario will limit indoor social gathering to 10 people and outdoor to 25 people. Indoor capacity for all restaurants and bars will be restricted to 50% capacity.
- [6] **Canada** - From 22 Dec to 18 Jan, British Columbia will close gyms, bars and nightclub while limiting the diners at tables in restaurants and cafes. All indoor social events and gathering will be banned and all concerts, sports games and theatres will be limited to 50% capacity. In Alberta, attendance in venues with capacity more than 1,000 people will be limited to 50% of the capacity.
- [7] **China**- On 22 Dec, Xi'an tightened their measures as people without approval were banned from boarding trains and hundreds of flights were cancelled. Around 90 residential areas have been locked down, long-distance bus stations were closed and disease control checkpoints on highways out of Xi-an have been set up.
- [8] **Germany**- New measures will be introduced before New Year's Eve which will include limiting private gathering for vaccinated people to 10 people.
- [9] **Ireland**- From 20 Dec, all restaurants, bars and cases excluding take-away or delivery services will be closed by 8pm. Indoor events will be limited to 50% of venue capacity or 1000 attendees except for religious, educational or normal workplace business activity or events. Indoor events will not be allowed after 8pm. Outdoor events will be limited to 50% of venue capacity or 5000 attendees. Wedding receptions will be limited to 100 guests and can continue until midnight. Close contacts who had received booster will have their movements restricted for 5 days with 3 antigen tests while does without will be restricted for 10 days with appropriate testing schedule.
- [10] **Italy**- All public New Year's Eve celebration have been ban and wearing of mask outdoors will be mandatory. Concerts and open-air events as well as discos and dance clubs will be banned until 31 Jan.
- [11] **Lebanon**- Three-week curfew for unvaccinated resident from 5pm to 6am has been imposed until 9 Jan. Those with at least one vaccine dose, negative PCR test in past 48 hour and children under 12 years old will be exempted. Capacity limit of 50% for any venue have been introduced. Those who have not been vaccinated with at least one vaccine dose or had negative PCR test will be denied entry to nightclubs, restaurants and hotel.
- [12] **Morocco**- On 31 Dec, restaurants and coffee shops will be closed by 11.30pm and night curfew will be imposed from midnight until 6am. New Year's Eve celebration will also be banned.

- [13]**Netherlands**- From 19 Dec to 14 Jan, all non-essential shops and services will be closed. All schools will be closed until 9 Jan. Households are advised against having more than 2 visitors and outside gathering are limited to 2 people.
- [14]**New Caledonia**- From 20 Dec, mandatory wearing of mask outdoor and night curfew will be lifted. Wearing of mask in indoor will remain mandatory, social gathering will be limited to 50 people, event and rallies will be limited to 500 masked individuals. The new measure will be in place until 30 Jan.
- [15]**Portugal**- Nightclubs and bars were ordered to closed on 21 Dec and at least 2 weeks of work from home will commence on 25 Dec. Outdoor gathering will be limited to 10 people on New Year's Eve and a negative test will be required to enter restaurants, casinos or attend parties in public venues.
- [16]**Rwanda**- From 20 Dec, curfew has been extended with timing from 10pm to 4am. Night clubs will be closed, social gathering will be limited to 30% of venue capacity, vaccinated individuals will be allowed to attend conferences and meeting and all business will be closed by 9pm. Bars, restaurants and all services conducted in places of worship are allowed to continue operation but with limited capacity.
- [17]**Sri Lanka**- From 1 Jan, vaccination certificate will be mandatory to access public places.
- [18]**Switzerland**- From 20 Dec, proof of vaccination or recovery from COVID-19 will be required to enter indoor venues such as restaurants. Negative test results will be required for places where mask cannot be worn. Requirement to work from home will be re-imposed and gathering for individual who are unvaccinated or has not recovered from COVID-19 will be limited to 10 people.

vi. Military Surveillance

South Korea [1-6]

- On 19 December, the military reported 27 new cases, all of which were breakthrough cases, bringing the total case in the military to 2,933. The new cases include 22 cases from the Army, two case from a unit directly under the defense ministry, one case from the Navy, one case from the Marine Corps and one case from the Air Force.
- On 20 December, the military reported 30 new cases, including 26 breakthrough cases, bringing the total case in the military to 2,963. The new cases include 22 cases from the Army, three cases from the Air Force, two cases from the Navy, two cases from the Marine Corps, and one case from a unit directly under the defense ministry.
- On 21 December, the military reported 17 new cases, all of which were breakthrough cases, bringing the total case in the military to 2,980. The new cases include 10 cases from the Army, four cases from the Marine Corps, two cases from the Air Force, and one case from a unit directly under the defense ministry.
- On 22 December, the military reported 24 new cases, including 22 breakthrough cases, bringing the total case in the military to 3,001. The new cases include 13 cases from the Army, four cases from the Navy, four cases from the Air Force, two cases from the Marine Corps, and one case from a unit directly under the defense ministry.
- On 23 December, the military reported 26 new cases, including 23 breakthrough cases, bringing the total case in the military to 3,027. The new cases include 12 cases from the Army, six cases from the Air Force, five cases from a unit directly under the defense ministry, one case from the Navy and one case from the Marine Corps.
- On 24 December, the military reported 37 new cases, including 30 breakthrough cases. This brings the total cases in the military to 3,064 of which 1,273 were breakthrough cases. The new cases include 24 cases from the Army, six cases from the Navy, four cases from the Air Force, two cases from a unit directly under the defense ministry, and one case from the Marine Corps.

United States Forces Japan (USFJ) [7,8]

- On 20 Dec, at least 180 cases in the US military Camp Hansen on Okinawa have been reported. On 17 Dec, the Marine Corps Installation Pacific had reported multiple COVID-19 cases among a rotational unit of newly arrived Marine. They had no contact with the local population and were quarantined at Camp Hansen after arriving at Kadena. Kadena has five active cases as of 20 Dec. On 17 Dec, a Japanese employee at Hansen was confirmed to be infected with omicron. On 18 Dec, another two omicron cases were identified in the local population, an American civilian working at Hansen and her Japanese husband. About 60 close contacts have been identified.
- On 22 Dec, two omicron cases were reported in Marine Corps bases on Okinawa. The cases were employees in Camp Schwab and Camp Hansen who were tested positive on Friday and Saturday. The cluster at Hansen had increased to 217 cases with 17 new cases reported on 22 Dec.

vii. WHO Guidance & Other Protocols

The following updates were published by WHO from 18 – 24 December 2021:

- **COVID-19 infection prevention and control living guideline: mask use in community settings, 22 December 2021**
Available at: https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC_masks-2021.1
- **WHO recommendations on mask use by health workers, in light of the Omicron variant of concern: WHO interim guidelines, 22 December 2021**
Available at: https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC_Masks-Health_Workers-Omicron_variant-2021.1
- **Enhancing Readiness for Omicron (B.1.1.529): Technical Brief and Priority Actions for Member States**
Available at: [https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-\(b.1.1.529\)-technical-brief-and-priority-actions-for-member-states](https://www.who.int/publications/m/item/enhancing-readiness-for-omicron-(b.1.1.529)-technical-brief-and-priority-actions-for-member-states)

viii. CDC Guidance & Protocols

US CDC

The following update was published by the US CDC from 18 – 24 December 2021:

- **Air Travel Toolkit for Airline Partners**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/travelers/airline-toolkit.html>
- **Selected Adverse Events Reported after COVID-19 Vaccination**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/adverse-events.html>
- **Omicron Variant: What You Need to Know**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html>
- **10 Things to Know About the COVID-19 Vaccine for Children**
Available at: <https://www.cdc.gov/vaccines/covid-19/planning/children/10-things-to-know.html>
- **Potential Rapid Increase of Omicron Variant Infections in the United States**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/science/forecasting/mathematical-modeling-outbreak.html>
- **Domestic Travel During COVID-19**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html>
- **Requirement for Proof of COVID-19 Vaccination for Air Passengers**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/travelers/proof-of-vaccination.html>
- **Interim Guidance for Managing Healthcare Personnel with SARS-CoV-2 Infection or Exposure to SARS-CoV-2**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html>
- **Strategies to Mitigate Healthcare Personnel Staffing Shortages**
Available at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/mitigating-staff-shortages.html>
- **Pfizer-BioNTech COVID-19 Vaccine (Gray Cap) Age 12 and Over**

Available at: <https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/bioNTech-gray-cap-12-and-over.html>

Pfizer-BioNTech COVID-19 Vaccine (Purple Cap) Age 12 and Over

Available at: <https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/bioNTech-purple-cap-12-and-over.html>

EU CDC

The following update was published by the EU CDC from 18 – 24 December 2021:

- **Rapid assessment of antigenic characterisation capability and capacity for SARS-CoV-2 viruses in EU/EEA laboratories**

Available at: <https://www.ecdc.europa.eu/en/publications-data/rapid-assessment-antigenic-characterisation-capability-and-capacity-sars-cov-2>

- **Methods for the detection and characterisation of SARS-CoV-2 variants - first update**

Available at: <https://www.ecdc.europa.eu/en/publications-data/methods-detection-and-characterisation-sars-cov-2-variants-first-update>

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] **Australia-** From 4 Jan, interval between the second shot and booster for individual above 18 years old will decrease to 4 months and to 3 months by end of Jan.
- [2] **Ecuador-** On 23 Dec, Ecuador has mandated vaccination for people age 5 and above.
- [3] **European Union-** On 20 Dec, the EU has approved the use of Novavax's COVID-19 vaccine in people age 18 and above.
- [4] **France-** On 20 Dec, France has approved the administration of Pfizer-BioNTech vaccine for all children from 5-11 years old.
- [5] **Kuwait-** Individuals who have been fully vaccinated for 9 months will be required to get a booster shot.
- [6] **New Zealand-** Interval between the second vaccine dose and boosters will be shorten to four months.
- [7] **Philippines-** From 22 Dec, adults are allowed to take booster shot 3 months after the second dose of a two-dose vaccine or two months after a single dose vaccine.
- [8] **Saudi Arabia-** Administration of first dose of COVID-19 vaccine in children 5 to 11 years old have been approved with priority given to high-risk children.
- [9] **Singapore-** Vaccination of children aged 5 – 11 will commence on 27 Dec with the older age group commencing first.
- [10] **South Africa-** On 23 Dec, the health regulator has approved the use of Johnson & Johnson vaccine as second dose or booster for those who had completed the primary vaccination for at least two months.
- [11] **United Kingdom-** Medicines and Healthcare Products Regulatory Agency has approved the new pediatric formulation of Pfizer BioNTech Covid vaccine for children age 5 to 11 years old.

Therapeutics

- [12] **European Union-** GSK and Vir Biotechnology have received marketing authorization from European Commission for Xevudy (sotrovimab) to treat adults and adolescents with COVID-19 who do not need supplemental oxygen and those with increased risk of progression to severe COVID-19.
- [13] **United States-** Pfizer's Paxlovid has received the emergency use authorization from FDA to treat symptomatic patients aged 12 years and above who are at high risk of developing severe disease. The pills were to be taken twice daily for 5 days together with another drug, ritonavir. Clinical trial had shown that the drug reduced hospitalization by 88% when administered to high-risk unvaccinated patients with 5 days of symptoms onset.

[14] **United States-** Merck's molnupiravir has received the emergency use authorization from FDA to treat mild-to-moderate COVID-19 adult patients who had positive results of direct viral testing, at high risk of progression to severe COVID-19 and for those not accessible or clinically appropriate to alternative treatment options approved by FDA.

Vaccine Approval Status

Table 6: Number of approving countries per vaccine as of 22 December 2021

| Developer | Vaccine | Number of countries approving |
|---|---------------------------------|-------------------------------|
| Anhui Zhifei Longcom | ZF2001 | 3 |
| Bharat Biotech | Covaxin | 12 |
| CanSino | Ad5-nCoV | 10 |
| Center for Genetic Engineering and Biotechnology (CIGB) | CIGB-66 | 4 |
| Chumakov Center | KoviVac | 1 |
| FBRI | EpiVacCorona | 2 |
| Gamaleya | Sputnik Light | 22 |
| Gamaleya | Sputnik V | 74 |
| 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) | 2 |
| 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 |
| Zydus Cadila | ZyCoV-D | 1 |

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

Adverse Reactions & Effects

[1] **Denmark-** A population-based cohort study consisting around 5 million people was conducted from 1 Oct 2020 to 5 Oct 2021. The study found a significant increased association between Moderna and

development of myocarditis especially in individual aged 12 to 39 years old. A significant increased risk of cardiac adverse effects by Pfizer-BioNTech was found in women.

- [2] **New Zealand-** The Covid-19 Vaccine Independent Safety Monitoring Board had reviewed three death cases with potential myocarditis linked to vaccination. A 26-year-old man who had died within 2 weeks from the first Pfizer vaccine dose was considered to have myocarditis due to vaccination. The death of a 13-year-old child would require more information before determining the role of the vaccine while the death of a man in the 60s was unlikely due to vaccination.
- [3] **Singapore-** On 20 Dec, the Health Science Authority reported no increment in frequency of side effects in people who had received their booster shot. Between 15 Sept and 30 Nov, 1,451,798 booster doses were administered. There were 304 and 87 adverse events linked to booster shots of the Pfizer-BioNTech/Comirnaty vaccine and Moderna/Spikevax vaccine representing 0.03% of the booster doses administered. Rashes, facial swelling, chest discomfort, palpitations and fever were some of the common side effect. 24 reports of severe side effects (0.002% of the booster doses administered) were reported. There were four cases of myocarditis and also reports of heart failure, seizures, numbness and weakness of the limbs and blood clots. A total of 11,601 adverse events reports associated with Pfizer vaccine (0.14% of 8.5 million doses), 2,591 associated with Moderna vaccine (0.12% of 2.2 million doses), 235 associated with Sinovac vaccine (0.09% of 260,911 doses) and 26 associated with Sinopharm vaccine (0.04% of 66,408 doses) reported.
- [4] **United States-** More than 7 million doses have been administered in children age 5 to 11 and CDC had received 8 reports of myocarditis cases in children who were vaccinated with Pfizer- BioNTech.

x. Scientific Publications with Epidemiology and Clinical Focus

Symptoms at disease onset predict prognosis in COVID-19 disease [1]

The main clinical manifestations of coronavirus disease 2019 (COVID-19) onset are respiratory symptoms, including cough, sputum, and dyspnea. However, a significant proportion of patients initially manifested non-respiratory symptoms, such as fever, myalgia, and diarrhea. Here, we compared the different characteristics and outcomes between the patients with respiratory symptoms and non-respiratory symptoms at illness onset. The patients admitted to the respiratory departments from eight hospitals in Hunan and Guangxi Province with nucleic acid-positive severe acute respiratory syndrome coronavirus (SARS-CoV-2) were recruited. Epidemiological information, clinical manifestations, laboratory findings, and radiological characteristics, treatment regimens, and outcomes data were recorded and analyzed. The median age of the recruited 541 subjects was 43 years (IQR, 33-55). Of the 541 subjects, 404 (74.5%) subjects had initial symptom that were respiratory, while 137 (25.5%) subjects had non-respiratory symptoms. Respiratory COVID-19 subjects had more secondary bacterial infections (8.7% vs 0.0%, $P < 0.001$), needed the intensive care unit more (9.7% vs 2.2%, $P = 0.005$), non-invasive ventilation more (7.2% vs 1.5%, $P = 0.004$), developed ARDS more (11.4% vs 2.2%, $P = 0.001$) and needed longer time to recover (18.5 vs 16.7 days, $P = 0.003$) compared to predominately non-respiratory COVID-19 subjects. The multivariate model showed that age (OR = 1.04, $P = 0.01$), dyspnea (OR = 4.91, $P < 0.001$) and secondary bacterial infection (OR = 19.8, $P < 0.001$) were independently associated with development of ARDS among COVID-19 patients. We identify COVID-19 subjects with dyspnea at disease onset who have a worse prognosis. We also demonstrate age and secondary bacterial infections to be independently associated with ARDS development in subjects with COVID-19.

Age and clinical signs as predictors of COVID-19 symptoms and cycle threshold value [2]

Many COVID-19 infected people remain asymptomatic, and hence the diagnosis at first presentation remains a challenge. Assessment at a presentation in primary care settings is usually done by visual triaging and basic clinical examination. This retrospective study involved investigating the medical e-records of COVID-19 positive patients who presented to a COVID-19 centre in Qatar for July 2020. The presence (symptomatic group) or the absence (asymptomatic group) of symptoms along with objective vital examination (ie; heart-rate (HR), temperature, haemoglobin saturation (SpO₂)) were analysed and linked to the viral load (ie; cycle threshold (Ct)) of COVID-19 positive patients. Four hundred eighty-one symptomatic (230 males) and 216 asymptomatic (101 males) patients were included. Compared to the asymptomatic male group, the symptomatic male group was older, had lower Ct value and SpO₂, and higher temperature and HR. Compared to the females asymptomatic group, the symptomatic females group had lower Ct value, and higher temperature. Compared to the asymptomatic group, the symptomatic group had lower Ct value and SpO₂, and higher temperature and HR. Compared to the asymptomatic group, the symptomatic group had lower Ct values (age groups [21-30], [31-40], [41-50] and [51-60]), higher temperature (age groups [21-30] and [31-40], Ct ranges [20.01-25.00] and [25.01-30.00]), higher HR (age groups [21-30] and [31-40], Ct range [15.01-20.00]); and lower SpO₂ (age groups [41-50] and [51-60], Ct ranges [15.01-20.00] and [35.01-40.00]). Compared with asymptomatic patients, symptomatic patients with COVID-19 are most likely to be febrile, tachycardic, hypoxic and having higher viral load. Higher viral load

was associated with higher HR, higher temperature, lower SpO₂, but there was no relation between viral load and age.

Characteristics and definitive outcomes of COVID-19 patients admitted to a secondary hospital intensive care unit in Sweden [3]

Background and aims: Most published reports of COVID-19 Intensive Care Unit (ICU) patients are from large tertiary hospitals and often present short-term or incomplete outcome data. There are reports indicating that ICUs with fewer beds are associated with higher mortality. This study aimed to investigate the definitive outcome and patient characteristics of the complete first wave of COVID-19 patients admitted to ICU in a secondary hospital.

Methods: In this prospective observational study, all patients with respiratory failure and a positive SARS-CoV-2 test admitted to Västerås Hospital ICU between 24 March and July 22, 2020 were included. The primary outcome was defined as 90-day mortality. Secondary outcomes included ICU length of stay, hospital length of stay, number of days with invasive ventilation, need for vasopressors/inotropes, and use of renal replacement therapy.

Results: Fifty-three patients were included. Median age (range) was 59 (33-76) and 74% were men. Obesity and hypertension were the most common comorbidities and 45% of the patients were born outside Europe. Ninety-day mortality was 30%. Median ICU length of stay (interquartile range) was 14 (5-24) days and the duration of invasive mechanical ventilation 16 (12-26) days. No patients received dialysis at 90-day follow-up.

Conclusion: In this cohort of COVID-19 patients treated in a secondary hospital ICU, mortality rates were low compared to early studies from China, Italy, and the United States, but similar to other government-funded hospitals in Scandinavia. A preparatory reorganization enabled an increase in ICU capacity, hence avoiding an overwhelmed intensive care organization.

xi. Sources

Global Risk Assessment

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