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05 September 2022 **COVID-19(22)18**

TO: LABOUR AFFAIRS COMMITTEE
ALL MEMBERS & ASSOCIATE MEMBERS
BIWEEKLY MEMBERS MEETING PARTICIPANTS
INTERNATIONAL ASSOCIATION GROUP PARTICIPANTS

COVID-19 AND MONKEYPOX UPDATE AS OF 5 SEPTEMBER 2022

Action Required: Globally, as of 2 September 2022, there have been 601,189,435 confirmed cases of COVID-19, including 6,475,346 deaths, reported to WHO. As of 1 September 2022, a total of 12,478,615,692 vaccine doses have been administered.

SITUATION IN NUMBERS BY WHO REGION

	Cases	Deaths
Global	**601,189,435**	**6,475,346**
Americas	**175,912,685**	**2,818,706**
Europe	**248,289,286**	**2,077,938**
South-East Asia	**60,028,380**	**795,826**
Eastern Mediterranean	**22,987,228**	**347,603**
Africa	**9,294,252**	**174,340**
Western Pacific	**84,676,840**	**260,920**

	TOP 12 COUNTRIES	MOST CASES YESTERDAY	HIGH FATALITIES YESTERDAY
1	USA	Japan	USA
2	India	USA	Japan
3	Brazil	Korea	Brazil
4	France	Russia	Russia
5	Germany	China	Italy
6	UK	France	Korea
7	Korea	Germany	Chile
8	Italy	Italy	Australia
9	Russia	Brazil	France

10	Japan	Australia	Philippines
11	Turkey	Reunion	China
12	Spain	Chile	Thailand

COVID-19(22)18-Annex-1- ICAO Vaccination Report 30 August 2022

COVID-19(22)18-Annex-2- ICAO Travel Testing Report 30 August 2022

COVID-19(22)18-Annex-3- Weekly Epidemiological Update 31 August 2022

COVID-19(22)18-Annex-4 -WHO covid update 30 August 2022

COVID-19(22)18-Annex-5-post acute phase pandemic scenarios august 2022

COVID-19(22)18-Annex-6- update Monkeypox no78

COVID-19(22)18-Annex-7- update Monkeypox no79

COVID-19(22)18-Annex-8- Monkeypox WHO

COVID-19(22)18-Annex-9-Japan covid updates

Ondrilla Fernandes
Employment Affairs Advisor

Vaccination Report – 30 August 2022

1. Vaccine Implementation

WHO's Emergency Use Listing(EUL) Vaccines (Last Updated 7 July 2022）

	Manufacturer	Name of Vaccine	NRA of Record	Vaccine type
1	Pfizer-BioNTech (US)	BNT162b2/COMIRNATY Tozinameran (INN)	EMA,USFDA	mRNA
2	AstraZeneca (UK)	AZD1222 Vaxzevria	EMA, MFDS KOREA, Japan MHLW/PMDA, Australia TGA, COFEPRIS(Mexico), ANMAT(Argentina)	Non ReplicatingViral vector
3	Serum Institute of India (India)	Covishield (ChAdOx1_nCoV-19)	DCGI	Non Replicating Viral Vector
4	Johnson &Johnson (US)	Ad26.CoV2.S	EMA, DCGI	Non ReplicatingViral vector
5	Moderna (US)	mRNA-1273	EMA, USFDA, MFDS	mRNA
6	Sinopharm Beijing (China)	SARS-CoV-2 Vaccine(Vero Cells)	NMPA	Inactivated virus (Vero Cells)
7	Sinovac (China)	COVID-19 Vaccine (Vero Cells)	NMPA	Inactivated virus (Vero Cell)
8	Bharat Biotech (India)	SARS-CoV-2 Vaccine, Inactivated (Vero Cell)/ COVAXIN	DCGI	Whole-Virion Inactivated (Vero Cell)
9	Serum Institute of India (India)	NVX-CoV2373/Covovax	DCGI	Protein Subunit
10	NOVAVAX (US)	NVX-CoV2373/Covovax	EMA	Protein Subunit
11	CanSinoBIO (China)	Ad5-nCoV	NMPA	Non ReplicatingViral vector

- **41** Vaccines Approved by at Least One Country

Vaccine Type	mRNA	Non Replicating Viral vector	Inactivated virus	Protein Subunit	DNA	Virus-like Particles (VLP)	Total
In Use	5	7	11	16	1	1	**41**

Source: https://covid19.trackvaccines.org/vaccines/ （Last Updated 29 August 2022）

- Vaccination against COVID-19 has now started in **218** locations

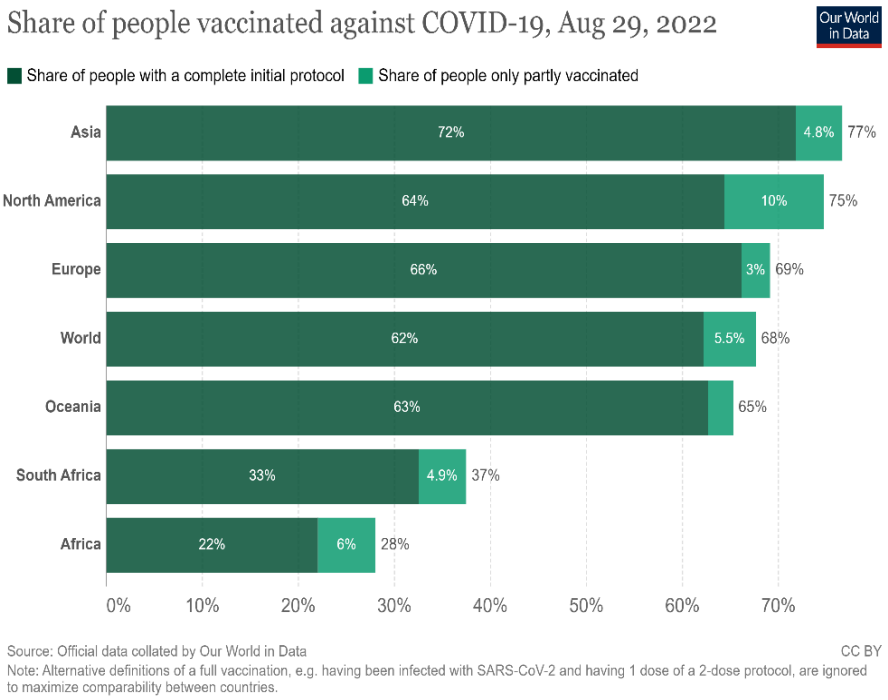
(Source: Our World in Data. Last Updated 29 August 2022)

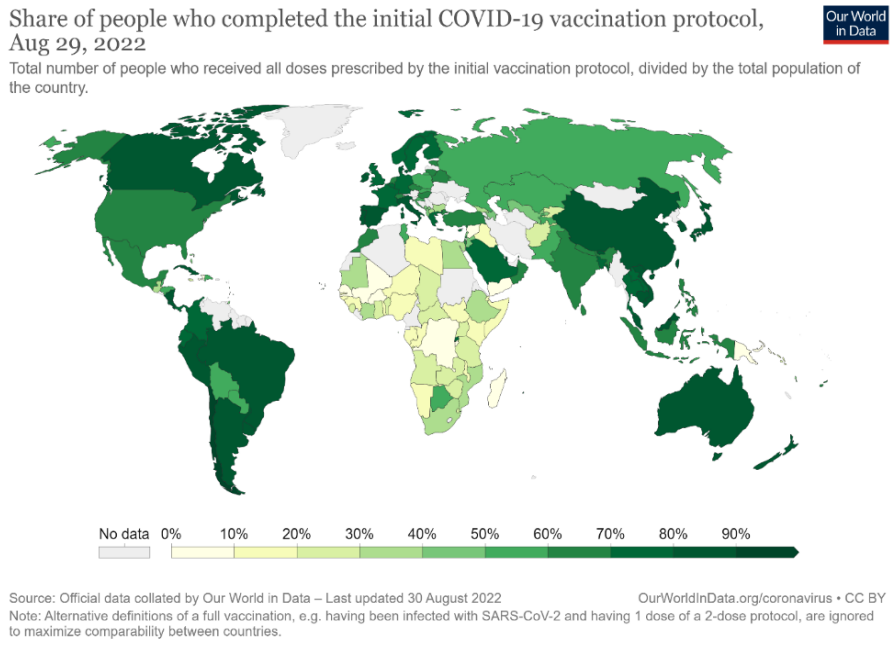
Location	Doses Given	Complete Initial Protocol (% of population)	Partly Vaccinated (% of population)
Worldwide	12.57 billion	4.99 billion (63.1 %)	5.35 billion (67.6 %)

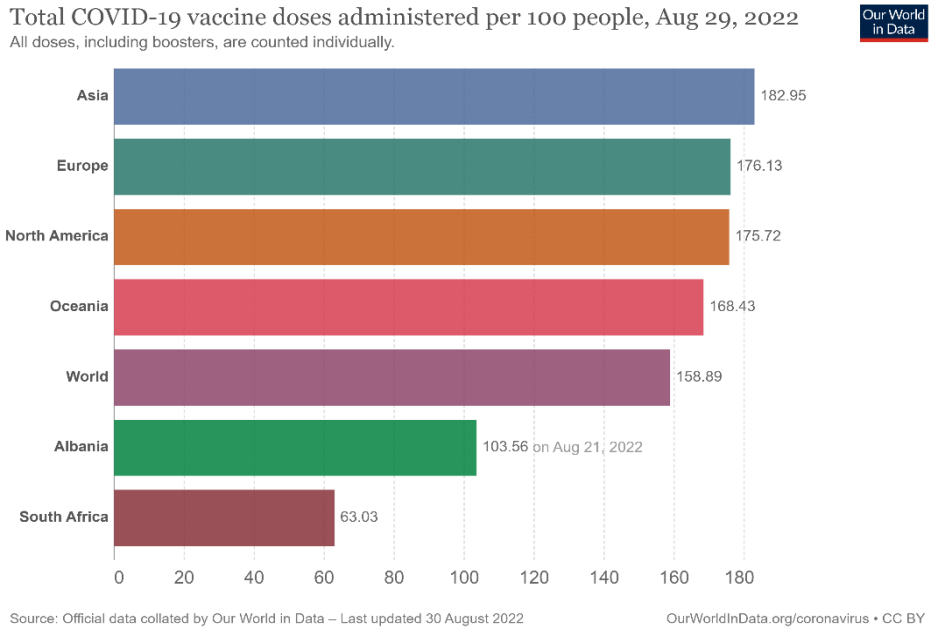
About this data:

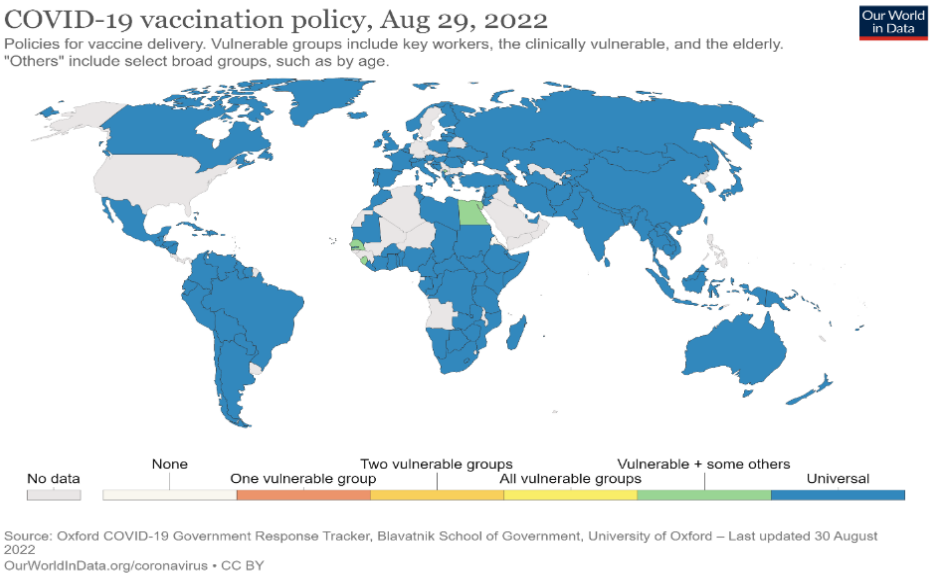
a: This data changes rapidly and might not reflect doses still being reported. It may differ from other sites & sources.

b: Where data for full vaccinations is available, it shows how many people have received at least 1 dose and how many people have been fully vaccinated (which may require more than 1 dose).Where data for full vaccinations isn't available, the data shows the total number of vaccine doses given to people. Since some vaccines require more than 1 dose, the number of fully vaccinated people is likely lower. c: It only has full vaccination totals in some locations.









2. Effectiveness of Vaccine and/or Previous Infection against symptomatic infection for Alpha, Delta and Omicron variants

Vaccine Status	Vaccine Effectiveness		
	Alpha	Delta	Omicron
1 Dose (BNT162b2 or ChAdOx1 nCoV-19)	**48.7%** (95%CI: 45.5-51.7%)[1] **66%**(BNT162b2)[4] **64%** (ChAdOx1)[4]	**30.7%** (95%CI: 25.2-35.7%)[1] **56%**(BNT162b2)[4] **67%**(ChAdOx1)[4] **82%** (95% CI:73- 91%) [7]	
1 Dose (mRNA-1273)	**83%**[4]	**72%**[4]	
1 Dose(Sinopharm or Sinovac)		**13.8%,**(95%CI: -60.2-54.8%)[3]	
2 Doses (BNT162b2)	**93.7%** (95%CI: 91.6-95.3)[1] **76%** (95%CI: 69-81%)[2] 89% [4]	**88%** (95%CI: 85.3-90.1%)[1] **42%** (95% CI: 13-62%)[2] **87%**[4]	**50%** (95% CI: 35%–62%)[8]

		93%(95% CI: 88-97%/12-18Y)[5] **93%** (95% CI: 88-97%)[7]	
2 Doses (ChAdOx1 nCoV-19)	**74.5%** (95%CI: 68.4-79.4%)[1]	**67.0%** (95%CI: 61.3-71.8%)[1]	
2 Doses (mRNA-1273)	**86%,** (95%CI: 81-90.6%)[2]	**76%,** (95% CI: 58-87%)[2]	**30.4%** (95% CI: 5.0%-49.0%)[9]
2 Doses(Sinopharm or Sinovac)		**59.0%,** (95%CI: 16.0-81.6%)[3]	
3 Doses (BNT162b2)		**95.33%** (SD 6.44)[6] **86.1%** (95% CI, 67.3 to 94.1)[11]	**67.2%** (95% CI: 66.5- 67.8%) at 2 to 4 weeks[10] **49.4%** (95% CI, 47.1 to 51.6)[11] **52.2%** (95% CI, 48.1 to 55.9)[12]
3 Doses(mRNA-1273)			**62.5%** (95% CI: 56.2-67.9%)[9] **47.3%** (95% CI, 40.7 to 53.3)[11]
2 Doses (BNT162b2) + 1Dose(mRNA-1273)			**73.9%** (95% CI: 73.1- 74.6%) at 2 to 4 weeks[10]
2 Doses(ChAdOx1 nCoV-19)+1Dose(BNT162b2)			**62.4%** (95% CI, 61.8- 63.0) at 2 to 4 weeks[10]
2 Doses (ChAdOx1 nCoV-19)+ 1Dose (mRNA-1273)			**70.1%** (95% CI, 69.5 to 70.7) at 2 to 4 weeks[10]
2 Doses (BNT162b2) +Previous infection			**55.1%** (95% CI, 50.9 to 58.9)[12]
3 Doses (BNT162b2) +Previous infection			**77.3%** (95% CI, 72.4 to 81.4)[12]
Previous Omicron Infection			**76.1% on BA.4 or BA.5** (95% CI: 54.9 to 87.3%)[13]

References:

1) Effectiveness of Covid-19 Vaccines against the B.1.617.2 (Delta) Variant
2) Comparison of two highly-effective mRNA vaccines for COVID-19 during periods of Alpha and Delta variant prevalence
3) Efficacy of inactivated SARS-CoV-2 vaccines against the Delta variant infection in Guangzhou: A test-negative case-control real-world study
4) Effectiveness of COVID-19 vaccines against variants of concern in Ontario, Canada
5) Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents
6) A RCT of a third dose CoronaVac or BNT162b2 vaccine in adults with two doses of CoronaVac
7) Effectiveness of BNT162b2 Vaccine against Delta Variant in Adolescents
8) Effectiveness of BNT162b2 Vaccine against Omicron Variant in South Africa
9) Effectiveness of mRNA-1273 against SARS-CoV-2 omicron and delta variants
10) Covid-19 Vaccine Effectiveness against the Omicron (B.1.1.529) Variant
11) Effect of mRNA Vaccine Boosters against SARS-CoV-2 Omicron Infection in Qatar
12) Effects of Previous Infection and Vaccination on Symptomatic Omicron Infections
13) Protection of SARS-CoV-2 natural infection against reinfection with the BA.4 or BA.5 Omicron subvariants

3. Latest Relevant Articles

- SARS-CoV-2-specific T cells in the changing landscape of the COVID-19 pandemic. (Published August 17, 2022)

- Protection against symptomatic disease with the delta and omicron BA.1/BA.2 variants of SARS-CoV-2 after infection and vaccination in adolescents: national observational test-negative case control study, August 2021 to March 2022, England(Published August 22, 2022)

- Symptom presentation among SARS-CoV-2 positive cases and the impact of COVID-19 vaccination; three prospective household cohorts(Published August 22, 2022)

4. Other Information

- Pfizer and BioNTech Submit Application to U.S. FDA for Emergency Use Authorization of Omicron BA.4/BA.5-Adapted Bivalent COVID-19 Vaccine (Published 22 August 2022)

- CDC: Safety Monitoring of Pfizer-BioNTech COVID-19 Vaccine Booster Doses Among Children Aged 5–11 Years — United States, May 17–July 31(Published 19 August 2022)

- UK: What your NHS COVID Pass letter for travel tells you (Last updated 23 August 2022)

Member States Testing and Quarantine Protocols

(Updated on 30 August, 2022)

Member States	Pre departure test	Test on Arrival	Quarantine	Source
Afghanistan	No testing	No testing	No quarantine	https://af.usembassy.gov/covid-19information/
Albania	No testing	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/albania/entry-requirements
Algeria	non-vaccinated travelers or vaccinations older than 9 months are required PCR test (72 hours prior to departure)	No testing	No quarantine	https://dz.usembassy.gov/covid-19information/
Andorra	No testing	No testing	No quarantine	https://visitandorra.com/en/covid-19-inandorra/faq-if-you-re-spending-a-few-daysin-andorra/
Angola	RT-PCR test(72 hours prior to departure)	No testing	No quarantine	https://ao.usembassy.gov/covid-19information/
Antigua and Barbuda	Partially/Unvaccinated travelers are required PCR test(3 days prior to departure)or Rapid Antigen Test (24 hours prior to departure)	Partially/Unvaccinated passengers are required an RT-PCR test on arrival at their own expense. Fully vaccinated passengers may be required to submit to an RT-PCR test	Quarantine for ten (10) days in their own homes if partially vaccinated	https://visitantiguabarbuda.com/traveladvisory/
Argentina	No testing	No testing	No quarantine	https://www.argentina.gob.ar/interior/migraciones/ddjj-migraciones
Armenia	No testing	No testing	No quarantine	https://www.gov.am/en/covid-travelrestrictions/
Australia	No testing	No testing	No quarantine	https://www.health.gov.au/healthalerts/covid-19/international-travel/inbound
Austria	No testing	No testing	No quarantine	https://www.austria.info/en/service-andfacts/coronavirus-information/entryregulations
Azerbaijan	No testing	No testing	No quarantine	https://az.usembassy.gov/covid-19information-for-azerbaijan/
Bahamas	Partially/unvaccinated travelers are required - either a RT-PCR or a Rapid Antigen Test(3 days prior to departure)	No testing	No quarantine	https://travel.gov.bs/

Bahrain	No testing	No testing	No quarantine	https://healthalert.gov.bh/en/article/entryprocedures-through-kingdom-of-bahrain
Bangladesh	Partially/Unvaccinated travelers are required RT PCR(72 hours prior to departure)	Travelers showing symptoms of COVID-19 on arrival must take a RTPCR/Antigen test.	No quarantine	http://caab.gov.bd/circul/AT-Circular-FSR03-2022%20(02June22).pdf
Barbados	No testing	No testing	No quarantine	https://www.visitbarbados.org/covid-19travel-guidelines-2022
Belarus	No testing	No testing	No quarantine	https://gpk.gov.by/covid-19/
Belgium	No testing	No testing	No quarantine	https://www.info-coronavirus.be/en/travels/
Belize	No testing	No testing	No quarantine	https://belizetourismboard.org/news-andgallery/belize-covid-19-travel-updates/
Benin	No testing	No testing	No quarantine	https://bj.usembassy.gov/info-covid19/
Bhutan	No testing	Travelers are required to take a COVID-19 RTPCR test on arrival	24 hours or until they receive their negative COVID-19 RT-PCR result.	https://www.drukair.com.bt/Travel-Information/COVID-19-travel-requirements
Bolivia (Plurinational State of)	Partially/Unvaccinated travelers are required COVID-19 RT-PCR test (72 hours prior to departure), or COVID-19 nasal antigen test (48 hours prior to departure).	No testing	No quarantine	https://www.minsalud.gob.bo/es/
Bosnia and Herzegovina	No testing	No testing	No quarantine	https://granpol.gov.ba/Content/Read/74?title=COVID-19
Botswana	Partially/Unvaccinated travelers are required COVID-19 RT-PCR test (72 hours prior to departure)	No testing	No quarantine	https://covid19portal.gov.bw/node/1017
Brazil	Partially/Unvaccinated travelers are required COVID-19RT-PCR test (24 hours prior to departure)	No testing	No quarantine	https://www.in.gov.br/en/web/dou/-/portariainterministerial-n-670-de-1-de-abril-de2022-390351794
Brunei Darussalam	No testing	Unvaccinated travelers	3 days for Unvaccinated travelers until receipt of negative result for RT-PCR test taken on Day 3.	https://www.bruneitourism.com/covid19travellers-advisory/
Bulgaria	No testing	No testing	No quarantine	https://coronavirus.bg/bg/azsum/zavrashtam-se-bulgaria

Burkina Faso	Partially/Unvaccinated travelers are required COVID-19 PCR or rapid diagnostic test(5 days prior to departure).	PCR and RDT tests for travelers without a negative pre-departure test result or with symptoms of COVID-19	72 hours for positive cases of COVID-19 RDT test on arrival	https://www.sante.gov.bf/covid19

1.

Burundi	No testing	PCR test	24 hours while awaiting the results of the PCR test	https://www.gov.uk/foreign-traveladvice/burundi/entry-requirements
Cabo Verde	Partially/Unvaccinated travelers are required PCR test (72 hours prior to departure) or an antigen test (48 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/cape-verde/entry-requirements
Cambodia	No testing	No testing	No quarantine	https://www.embassyofcambodiadc.org/em bassy-updates/pr-no-098-easing-of-entryrequirements-march-17-2022
Cameroon	COVID-19 PCR test (72 hours prior to departure)	Rapid flow testing	while awaiting the results of the on arrival test	https://cm.usembassy.gov/covid-19information/
Canada	Not qualified as fully vaccinated travelers are required molecular tests (72 hours prior to departure)	2 molecular tests(next calendar day and day8 after arriving into Canada)for . Fully vaccinated travelers may be randomly selected for on arrival testing	14 days for not qualify as fully vaccinated.10 days for travelers with a positive COVID-19 test result on arrival.	https://travel.gc.ca/travel-covid/travelrestrictions/flying-canada-checklist/covid-19-testing-travellers-coming-into-canada?utm_campaign=gac-amc-covid-2021&utm_source=travel-covid_travelrestrictions_flying_&utm_medium=redirect&utm_content=en
Central African Republic	PCR test(72 hours prior to departure)	No testing	14 days	https://cf.usembassy.gov/covid-19information/
Chad	Unvaccinated and partially vaccinated are required PCR test (96 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/chad/entry-requirements
Chile	PCR(24 hours prior to departure)	Test between the first and fifth day of arrival.	7 days if refusing arrival test or positive result	https://www.chile.travel/planviajarachile/
China	2 nucleic acid test (48 hours and 24 hours prior to departure).	5 molecular tests(day1, 2,3,5 and 7 after arriving)	7 days	http://us.china-embassy.gov.cn/chn/lsfw/sjc/202205/t20220518_10688101.htm
Colombia	Unvaccinated and partially vaccinated are required PCR test(72 hours prior to departure) or antigen test (48 hours prior to departure)	No testing	No quarantine	https://coronaviruscolombia.gov.co/Covid1 9/index.html

Comoros	Unvaccinated and partially vaccinated are required PCR test(72 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/comoros/entry-requirements
Congo	PCR test(72 hours prior to departure)	PCR test	while awaiting the results of the on arrival test	https://voyage-congo.com/en/
Cook Islands	No testing	No testing	No quarantine	https://cookislands.travel/entry
Costa Rica	No testing	No testing	No quarantine	https://www.visitcostarica.com/en/costarica/planning-your-trip/entry-requirements
Côte d'Ivoire	PCR test(2 days prior to departure)			https://deplacement-aerien.gouv.ci/#/home

Croatia	No testing	No testing	No quarantine	https://hr.usembassy.gov/covid-19information/
Cuba	No testing	Randomly RT-PCR test at airport	Arrival Test positive travelers	https://www.mintur.gob.cu/protocolos/
Cyprus	No testing	No testing	No quarantine	https://www.pio.gov.cy/coronavirus/uploads/27052022_airportsportsactionplanabolished_EN.pdf
Czechia	No testing	No testing	No quarantine	https://www.mvcr.cz/mvcren/article/as-ofdecember-27th-2021-the-rules-for-entryinto-the-czech-republic-will-be-tightenedfor-foreign-nationals.aspx
Democratic People's Republic	NA	NA	NA	
Democratic Republic of the Congo	Unvaccinated and partially vaccinated are required (48 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/democratic-republic-of-thecongo/entry-requirements
Denmark	No testing	No testing	No quarantine	https://en.coronasmitte.dk/travelrules/covidtravelrules
Djibouti	PCR test(72 hours prior to departure)	at airport	Arrival Testing positive travel	https://www.gov.uk/foreign-travel-advice/djibouti/entry-requirements#entryrules-in-response-to-coronavirus-covid-19
Dominica	Unvaccinated travellers are required PCR Test result from a nasopharyngeal swab (within 72 hours prior to arrival) or Rapid Antigen Test result from a nasopharyngeal swab (within 48 hours prior to arrival)	Travelers with COVID-19 symptoms	No quarantine	https://discoverdominica.com/en/traveladvisory-for-dominica

Dominican Republic	No testing	No testing	No quarantine	https://www.godominicanrepublic.com/newsroom/coronavirus/
Ecuador	Unvaccinated and partially vaccinated are required RT-PCR test(72 hours prior to departure)	Rapid antigen testing for who presents signs or symptoms of COVID-19	7 days if testing positive on a	https://www.aeropuertoquito.aero/es/protocolo-covid-19.html
Egypt	No testing	No testing	No quarantine	https://www.visa-egypt.com/articles/travelrestrictions
El Salvador	No testing	No testing	No quarantine	https://www.dfa.ie/travel/travel-advice/a-zlist-of-countries/el-salvador/
Equatorial Guinea	PCR or antigen test (48 hours prior to departure)	No testing	3 days	https://www.guineaecuatorialpress.com/noticias/decreto_por_el_que_se_modifica_el_decreto_129_sobre_las_medidas_de_control_de_la_covid_19

Eritrea	PCR test (72 hours prior to departure)	Rapid antigen test	14 days if testing positive on	https://er.usembassy.gov/covid-19information/#:~:text=passengers%20must%20take%20a%20rapid%20Antigen%20test%20upon%20arrival%20and%20show%20proof%20of%20a%20negative%20PCR%20test
Estonia	No testing	No testing	No quarantine	https://kriis.ee/en/travelling-crossing-stateborder/travelling-estonia
Eswatini	Unvaccinated are required RTPCR test(72 hours prior to departure)	No testing	No quarantine	https://www.thekingdomofeswatini.com/travel-advice/
Ethiopia	Unvaccinated are required RTPCR test(72 hours prior to departure) or rapid lateral flow test (24 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/ethiopia/entry-requirements
Fiji	No testing	Rapid Antigen Test (within 72 hours of arrival)	No quarantine	https://www.fiji.travel/articles/frequentlyasked-questions-travelling-to-fiji
Finland	No testing	No testing	No quarantine	https://www.visitfinland.com/en/practicaltips/covid-19/
France	No testing	No testing	No quarantine	https://www.diplomatie.gouv.fr/en/comingto-france/coming-to-france-your-covid-19questions-answered/article/coming-tofrance-your-covid-19-questionsanswered?var_mode=calcul

Gabon	No testing	No testing	No quarantine	https://ga.usembassy.gov/u-s-citizenservices/coronavirus-update/
Gambia	Unvaccinated are required RTPCR test(72 hours prior to departure)	Rapid Diagnostic Test for who presents signs or symptoms of COVID-19	If testing positive on arrival	https://gm.usembassy.gov/covid-19information/
Georgia	No testing	No testing	No quarantine	https://georgia.travel/en_US/article/covidtravel-alert
Germany	No testing	No testing	No quarantine	https://www.bmi.bund.de/SharedDocs/faqs/EN/topics/civil-protection/coronavirus/coronavirusfaqs.html
Ghana	Unvaccinated are required PCR test (48 hours prior to departure)	Antigen test for unvaccinated	7 days if testing positive on arrival	https://gh.usembassy.gov/ghana-covid-19information/
Greece	No testing	No testing	No quarantine	https://travel.gov.gr/#/

Grenada	No testing	No testing	No quarantine	https://bb.usembassy.gov/covidinformation-grenada/
Guatemala	Unvaccinated are required PCR or antigen test (3 days prior to departure)	No testing	No quarantine	https://gt.usembassy.gov/alert-covid-19-2/
Guinea	No testing	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/guinea/entry-requirements#entryrules-in-response-to-coronavirus-covid-19
Guinea-Bissau	PCR test(within 48 hours prior to departure)	Travlers display any symptoms for COVID-19 on arrival	14 days If someone on your flight is thought to have COVID-19,	https://www.gov.uk/foreign-traveladvice/guinea-bissau/entry-requirements
Guyana	Not fully vaccinated or Unvaccinated are required PCR test or antigen test (within 72 hours prior to departure)	No testing	No quarantine	https://www.health.gov.gy/
Haiti	Unvaccinated are required antigen or PCR test(72 hours prior to departure)	No testing	No quarantine	https://www.mspp.gouv.ht/
Honduras	Unvaccinated are required PCR, Antigen or ELISA test (72 hours prior to departure)	No testing	No quarantine	https://hn.usembassy.gov/covid-19information/

Hungary	No testing	No testing	No quarantine	https://www.police.hu/en/content/for-theattention-of-travelers
Iceland	No testing	No testing	No quarantine	https://island.is/en/p/entry
India	Not fully vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	Random testing	No quarantine	GuidelinesforInternationalarrivalsupdatedo n10thFebruary2022.pdf (mohfw.gov.in)
Indonesia	No testing	No testing	No quarantine	https://covid19.go.id/artikel/2022/07/08/sur at-edaran-kasatgas-nomor-22-tahun-2022
Iran (Islamic Republic of)	PCR test(72 hours prior to departure)	at airport	14 days if testing positive on arrival	https://www.gov.uk/foreign-traveladvice/iran/entry-requirements
Iraq	Unvaccinated are required PCR test(72 hours prior to departure)	No testing	No quarantine	https://iq.usembassy.gov/covid-19information/
Ireland	No testing	No testing	No quarantine	https://www.gov.ie/en/publication/77952government-advice-on-internationaltravel/#passengers-arriving-into-irelandfrom-outside-eueea-eu-iceland-lichtensteinand-norway
Israel	No testing	PCR testing for who feels sick within 10 days of arriving	No quarantine	https://corona.health.gov.il/en/abroad/arrivi ng-foreign-nationals/
Italy	No testing	No testing	No quarantine	https://www.esteri.it/en/ministero/normativa online/focus-cittadini-italiani-in-rientro-dallestero-e-cittadini-stranieri-in-italia/
Jamaica	No testing	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/jamaica/entry-requirements
Japan	RT-PCR, LAMP, TMA, TRC, Smart Amp, NEAR, Next-generation sequence, or CLEIA test(72 hours prior to departure)	No testing	No quarantine	https://www.mhlw.go.jp/stf/covid19/border_test.html
Jordan	No testing	No testing	No quarantine	http://international.visitjordan.com/MediaCenter/ShowNews/33#news
Kazakhstan	No testing	No testing	No quarantine	https://kz.usembassy.gov/covid-19information/
Kenya	Unvaccinated are required PCR test(72 hours prior to departure)	No testing	No quarantine	https://www.kcaa.or.ke/sites/default/files/co vid-19/documents/COVID-19_TRAVEL_REQUIREMENTS_13.3.2022.pdf

Kiribati	No testing for fully vaccinated	Testing within three days of arrival.	No quarantine	https://mhms.gov.ki/
Kuwait	No testing	No testing	No quarantine	https://kw.usembassy.gov/covid-19information/
Kyrgyzstan	No testing	No testing for fully vaccinated	No quarantine	https://kg.usembassy.gov/covid-19information/
Lao People's Democratic Republic	No testing for fully vaccinated	No testing	No quarantine	http://www.mofa.gov.la/index.php/statements/notices/3587-travel-advisory-for-entryand-exit-of-lao-pdr-during-the-
Latvia	No testing	No testing	No quarantine	https://www.spkc.gov.lv/lv/valstusaslimstibas-raditaji-ar-covid-19-0
Lebanon	Unvaccinated are required PCR test(48 hours prior to departure) or Rapid Antigen Test(24 hours prior to departure)	No testing	No quarantine	https://www.moph.gov.lb/en/MoPHPASS
Lesotho	Partially vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/lesotho/entry-requirements
Liberia	No testing	No testing	No quarantine	https://www.nphil.gov.lr/index.php/liberiahealth-ministry-introduces-new-covid-19protocols-for-travelers/

Libya	PCR test(48 hours prior to departure)	Antigen test for who with symptoms	No quarantine	https://ly.usembassy.gov/u-s-citizenservices/covid-19-information/
Lithuania	No testing	No testing	No quarantine	https://nvsc.lrv.lt/en/information-on-covid19/for-arrivals-from-abroad
Luxembourg	No testing	No testing	No quarantine	https://covid19.public.lu/en/travellers/visiting-luxembourg.html
Madagascar	Rt-PCR test (72 hoursprior to departure)	Rapid antigen test	No quarantine	https://madagascar-tourisme.com/Frfr/border-reopening/
Malawi	Partially vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	No testing	No quarantine	https://www.malawitourism.com/traveladvice/
Malaysia	No testing	No testing	No quarantine	https://www.malaysia.travel/travel-alert
Maldives	No testing	No testing	No quarantine	https://immigration.gov.mv/faq-for-visitingthe-maldives/
Mali	Partially vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	Travelers who are suspected of having COVID-19	14 days if testing positive on arrival	https://www.gov.uk/foreign-traveladvice/mali/entry-requirements

Malta	No testing	No testing	No quarantine	https://deputyprimeminister.gov.mt/en/health-promotion/covid-19/Pages/travel.aspx
Marshall Islands	NA (total suspension of international travelers coming into the RMI via air travel until 31 August 2022)			https://ndmo.gov.mh/rmi-covid19information/
Mauritania	Partially vaccinated or Unvaccinated are required PCR test (three days prior to departure)	No testing	No quarantine	https://mr.usembassy.gov/covid-19information-2/
Mauritius	No testing	No testing	No quarantine	https://mauritiusnow.com/mauritius-traveladvice/
Mexico	No testing	No testing	No quarantine	https://embamex.sre.gob.mx/eua/index.php/en/2016-04-09-20-40-51/tourism/1760mexico-s-covid-19-monitoring-system
Micronesia (Federated States of)	Fully vaccinated with PCR test (72 hours prior to departure)	No testing	No quarantine	https://gov.fm/index.php/fsmpio
Monaco	Partially vaccinated or Unvaccinated are requiredPCR or antigen test (24 hours prior to departure)	No testing	No quarantine	https://covid19.mc/en/travel/i-come-fromabroad/
Mongolia	No testing	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/mongolia/entry-requirements#entryrules-in-response-to-coronavirus-covid-19

Montenegro	No testing	No testing	No quarantine	https://me.usembassy.gov/covid-19information/
Morocco	Partially vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	No testing	No quarantine	https://www.onda.ma/Je-suisPassager/Guide-du-voyageur/Newsa%C3%A9roportuaires-COVID19
Mozambique	No testing	No testing	No quarantine	https://mz.usembassy.gov/covid-19information/
Myanmar	Fully vaccinated with COVID-19 RDT antigen test (48 hours prior to departure)	Antigen Rapid Diagnostic Test	5 days if unable to show either a vaccination certificate or negative COVID-19 RDT antigen test result	https://tourism.gov.mm/covid-19/

Namibia	Partially vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	random RT-PCR testing on arrival	No quarantine	https://op.gov.na/
Nauru	PCR test(72 hours prior to departure)	Rapid Antigen Test on arrival at the airport	13 days if testing positive on arrival	https://www.nauruair.com/travel-info/covid19-update
Nepal	Partially vaccinated or Unvaccinated are required RTPCR, True NAAT, Gene Xpert Test(72 hours prior to departure)	Travelers with COVID-19 symptoms and unvaccinated travelers	No quarantine	https://www.immigration.gov.np/post/notice5
Netherlands	No testing	No testing	No quarantine	https://www.government.nl/topics/coronavir us-covid-19/visiting-the-netherlands-fromabroad/checklist-entry
New Zealand	No testing	2 rapid antigen tests (RATs) after arriving	7 days if testing positive on arrival	https://covid19.govt.nz/internationaltravel/travel-to-new-zealand-by-air/
Nicaragua	Partially vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	No testing	No quarantine	https://www.intur.gob.ni/2020/09/21/nicarag ua-reanuda-vuelos-comerciales/
Niger	Partially vaccinated or Unvaccinated are required PCR test(72 hours prior to departure)	antigen test for unvaccinated	7 days (Exemption for Fully vaccinated or testing negative)	https://www.gouv.ne/index.php/lescommuniques-du-gouvernement/296-auconseil-des-ministres-le-gouvernementreitere-son-engagement-a-remplacer-lessalles-de-classe-en-paillote-par-des-sallesde-classe-en-materiaux-definitifs
Nigeria	Unvaccinated and partially vaccinated are required PCR test(48hrs prior to departure)	Days 2 and 7 post-arrival PCR tests for nvaccinated and partially vaccinated	No quarantine	https://covid19.ncdc.gov.ng/advisory/
North Macedonia	No testing	No testing	No quarantine	https://koronavirus.gov.mk/en/seek-help-orreport-irregularities/application-for-peoplereturning-from-travels
Norway	No testing	No testing	No quarantine	https://www.udi.no/en/corona/about-thecorona-situation/
Oman	No testing	No testing	No quarantine	https://www.omanairports.co.om/news/upd ate-on-travel-restrictions-related-to-covid19/
Pakistan	Partially vaccinated or Unvaccinated are required PCR test(72	No testing	No quarantine	https://storage.covid.gov.pk/uploads/policie s/Revised%20Inbound%20Policy.pdf

	hours prior to departure)			
Palau	No testing (Mandatory proof of vaccination for entry)	No testing	No quarantine	https://www.palaugov.pw/wp-content/uploads/2022/07/MHHS-Directive-No.-100-22-COVID-19-IsolationQuarantine-Entry-Requirements.pdf
Panama	Partially vaccinated or Unvaccinated are required PCR or antigen test(72 hours prior to departure)	Rapid test at the airport if a test is not possible within that time frame	5 days if testing positive on arrival	https://www.tourismpanama.com/plan-yourvacation/advisories/
Papua New Guinea	No testing (Mandatory proof of vaccination for entry)	No testing	No quarantine	https://www.papuanewguinea.travel/traveladvice-update
Paraguay	Partially vaccinated or Unvaccinated are required RTPCR / LAMP / NAAT test(72 hours prior to departure)	No testing	No quarantine	https://www.migraciones.gov.py/index.php/t ramites/ingreso-y-salida-delpais/exigencias-sanitarias-vigentes-porcovid-19-para-el-ingreso-al-paraguay
Peru	Partially vaccinated or Unvaccinated are required molecular test test(48 hours prior to departure)	No testing	No quarantine	https://busquedas.elperuano.pe/normasleg ales/decreto-supremo-que-modifica-eldecreto-supremo-n-184-2020-decretosupremo-no-151-2021-pcm-1988484-1/
Philippines	Vaccinated travelers without a booster shot,Partially vaccinated, or Unvaccinated are requiredRTPCR or antigen test(48 hours prior to departure)	No testing	exempted for Fully Vaccinated	https://philippines.travel/safetrip
Poland	No testing	No testing	No quarantine	https://www.gov.pl/web/koronawirus/inform acje-dla-podrozujacych
Portugal	No testing	No testing	No quarantine	https://www.visitportugal.com/en/node/446 781
Qatar	PCR test (48 hours prior to departure)	Rapid antigen test for who does not have a pretravel	Exempted for Fully Vaccinated / Recovered	https://covid19.moph.gov.qa/EN/travel-andreturn-policy/Pages/default.aspx#visitors

		PCR(within 24 hours after arrival)		
Republic of Korea	PCR test (48 hours prior to departure)	PCR test (within 1 day after arrival)	No quarantine	http://ncov.mohw.go.kr/en/infoBoardList.do ?brdId=14&brdGubun=141&dataGubun=&ncvContSeq=&contSeq=&board_id=

Republic of Moldova	No testing	No testing	No quarantine	https://www.border.gov.md/index.php/traver sarea-frontierei-perioada-pandemica
Romania	No testing	No testing	No quarantine	https://romaniatourism.com/travel advisory.html
Russian Federation	PCR test (48 hours prior to departure)	No testing	No quarantine	https://washington.mid.ru/en/
Rwanda	No testing	No testing	No quarantine	https://www.rbc.gov.rw/index.php?id=745
Saint Kitts and Nevis	RT-PCR, NAAT(3 days prior to departure) or Rapid Antigen (1 day prior to departure)	RT-PCR test for Unvaccinated travelers between the ages of 1217(within 24 hours of arrival)	until receipt of negative RTPCR test results.	https://www.stkittstourism.kn/travelrequirements
Saint Lucia	PCR test (5 days prior to departure)	No testing	No quarantine	https://www.stlucia.org/en/covid-19/
Saint Vincent and the Grenadines	Partially vaccinated or Unvaccinated are required Rapid Antigen test(24 hours prior to departure) or RT-PCR (72 hours prior to departure)	May be tested for Partially vaccinated or Unvaccinated	5 days for Partially vaccinated or Unvaccinated	http://health.gov.vc/health/index.php/covid19-protocols-documents
Samoa	NAAT(RT-PCR,NEAR,TMA,LAMP or SDA) (48-hours prior to departure) or Rapid antigen test (24 hours prior to depature)	Rapid antigen test within the first 3 days of arrival	7 days if testing positive on arrival	https://www.health.gov.ws/wp-content/uploads/2022/08/Special-TravelAdvice-for-Travelers-EnteringSamoa_August-2022.pdf
San Marino	PCR or antigen test(48 hours prior to depature)	No testing	No quarantine	https://www.esteri.sm/pub2/EsteriSM/en/Co vid/Covid.html

Sao Tome and Principe	Partially vaccinated or Unvaccinated are required Antigen test(48 hours prior to depature)	No testing	No quarantine	https://portaldascomunidades.mne.gov.pt/pt/vai-viajar/conselhos-aosviajantes/africa/sao-tome-e-principe
Saudi Arabia	No testing	No testing	No quarantine	https://www.moi.gov.sa/wps/portal/Home/Home/dp-home/!ut/p/z1/rVK5csIwEO35Cqeg9GiRbCFKDYVtrgwQLjUe4QMriWUOD07PjKkSArwZMgWO7urfXvpIdGyrNZF0NqYx
Senegal	Unvaccinated PCR or RT-PCR test (72 hours prior to depature)	No testing	No quarantine	https://sn.usembassy.gov/covid-19information/
Serbia	No testing	No testing	No quarantine	https://www.mfa.gov.rs/en/citizens/travelserbia/covid-19-entry-requirements

Seychelles	Partially vaccinated or Unvaccinated are required PCR (72 hours prior to departure) or Rapid antigen test (24 hours prior to depature)	Testing for who presents signs or symptoms of COVID-19	No quarantine	http://tourism.gov.sc/wpcontent/uploads/2022/03/SeychellesVisitor-Travel-Advisory-15-March-20221.pdf
Sierra Leone	PCR test (72 hours prior to departure)	Rapid diagnostic test and a PCR test (diagnostic test) at airport	while waiting for the results of arrival PCR test and if testing positive on arrival	https://travel.gov.sl/faq
Singapore	PCR test and Antigen Rapid Test(2 days prior to departure)	Antigen Rapid Test or PCR Test for who presents signs orsymptoms of COVID-19 on arrival	7 days for non-fully vaccinated.	https://safetravel.ica.gov.sg/arriving/general -travel/fully-vaccinated
Slovakia	No testing	No testing	No quarantine	https://www.mzv.sk/web/en/covid-19
Slovenia	No testing	No testing	No quarantine	https://www.gov.si/en/topics/coronavirusdisease-covid-19/border-crossing/
Solomon Islands	PCR test (72 hours prior to departure)	PCR or rapid antigen test on the third day after arrival	7 days for who test positive on the day-3 COVID-19 PCR or rapid antigen test	https://www.flysolomons.com/library/conten t/Planpage/solomon-islands-traveladvisory-24-200722.pdf

Somalia	Partially vaccinated or Unvaccinated PCR (72 hours prior to departure)	Antigen Rapid Test for who are not fully vaccinated and do not have pre-departure testing proof on arrival	14 days if arrival test positive.	https://www.gov.uk/foreign-traveladvice/somalia/entry-requirements
South Africa	No testing	No testing	No quarantine	https://www.gov.za/covid-19/individualsand-households/travel-coronavirus-covid19
South Sudan	Partially vaccinated or Unvaccinated are required PCR (72 hours prior to departure)	Ag-RDT Test for who presents signs or symptoms of COVID-19 on arrival	If arrival test positive.	https://ss.usembassy.gov/covid-19information/
Spain	No testing	No testing	No quarantine	https://www.sanidad.gob.es/en/profesional es/saludPublica/ccayes/alertasActual/nCov /spth.htm
Sri Lanka	No testing	No testing	No quarantine	https://srilanka.travel/helloagain/
Sudan	Partially vaccinated or Unvaccinated are required PCR (72 hours prior to departure)	No testing	No quarantine	https://sd.usembassy.gov/covid-19information/

Suriname	non-vaccinated are required PCR test (48 hours prior to departure) or antigen test(24 hours prior to departure)	No testing	No quarantine	https://www.flyslm.com/wp-content/uploads/2022/04/SUR-COVID-19Measures-13-April-2022.pdf
Sweden	No testing	No testing	No quarantine	https://www.folkhalsomyndigheten.se/thepublic-health-agency-ofsweden/communicable-diseasecontrol/covid-19/recommendations-forthose-travelling/
Switzerland	No testing	No testing	No quarantine	https://www.bag.admin.ch/bag/en/home/krankheiten/ausbrueche-epidemienpandemien/aktuelle-ausbruecheepidemien/novel-cov/empfehlungen-fuerreisende/quarantaene-einreisende.html#924144951
Syrian Arab Republic	Partially vaccinated or Unvaccinated are required PCR (72 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/syria/entry-requirements

Tajikistan	Partially vaccinated or Unvaccinated are required PCR test (72 hours prior to departure)	Random PCR test on arrival.	if arrival test positive.	https://www.gov.uk/foreign-traveladvice/tajikistan/entry-requirements
Thailand	Partially vaccinated or Unvaccinated are required RTPCR or professional ATK test (72 hours prior to departure)	No testing	No quarantine	https://www.tatnews.org/
Timor-Leste	No testing	No testing	10 days for non-full vaccinated	https://www.gov.uk/foreign-traveladvice/timor-leste/entry-requirements
Togo	Partially vaccinated or Unvaccinated are required PCR test (5 days prior to departure)	No testing	No quarantine	https://voyage.gouv.tg/?language=en
Tonga	Rapid Antigen Test (24 hours prior to departure)	No testing	5 days from the date of testing positive.	https://www.gov.to/press-release/openborder-policy-framework-for-tonga/
Trinidad and Tobago	No testing	No testing	No quarantine	https://health.gov.tt/preparation-for-entry
Tunisia	Partially vaccinated or Unvaccinated are required PCR test (48 hours prior to departure) or rapid lateral flow test (24 hours prior to departure)	Random rapid lateral flow or PCR test.	5 days or more from the date of testing positive.	https://www.gov.uk/foreign-traveladvice/tunisia/entry-requirements
Türkiye	No testing	No testing	No quarantine	https://www.tga.gov.tr/fight-against-covid19-in-turkey/

Turkmenistan	Partially vaccinated are required PCR test and a serology antibodies (IgM, IgG) test(48 hours prior to departure)	PCR test	7 days	https://usa.tmembassy.gov.tm/en
Tuvalu	NA(Scheduled commercial flights to and from Tuvalu have been suspended since mid-2020)			https://fj.usembassy.gov/u-s-citizenservices/covid-19-information/
Uganda	Partially vaccinated or Unvaccinated are required PCR test (72 hours prior to departure)	No testing	No quarantine	https://www.gov.uk/foreign-traveladvice/uganda/entry-requirements#entryrules-in-response-to-coronavirus-covid-19
Ukraine	NA	NA	NA	https://visitukraine.today/
United Arab Emirates	unvaccinated are required PCR test (48 hours prior to departure)	No testing	No quarantine	https://covid19.ncema.gov.ae/en/News/Det ails/2316

United Kingdom	No testing	No testing	No quarantine	https://www.gov.uk/government/news/allcovid-19-travel-restrictions-removed-in-theuk
United Republic of Tanzania	Unvaccinated or not fully vaccinated are required RT-PCR test or Nucleic Acid Amplification Test (72 hours prior to departure)	Rapid test for not fully vaccinated and are arriving from or having traveled through countries with variants of concern or with high numbers of COVID-19 cases	If arrival test positive.	https://tz.usembassy.gov/covid-19information/
United States	No testing	No testing	No quarantine	https://www.cdc.gov/coronavirus/2019ncov/travelers/noncitizens-US-airtravel.html
Uruguay	Unvaccinated are required PCRRT or antigen test (72 hours prior to departure)	No testing	No quarantine	https://www.gub.uy/ministerio-saludpublica/comunicacion/publicaciones/requisi tos-para-ingreso-uruguay-personasnacionales-extranjeras
Uzbekistan	No testing	No testing	No quarantine	https://uz.usembassy.gov/covid-19information/
Vanuatu	PCR test (72 hours prior to departure)	No testing	No quarantine	https://covid19.gov.vu/
Venezuela (Bolivarian Republic of)	Unvaccinated are required PCRRT or antigen test (72 hours prior to departure)	No testing	No quarantine	https://ve.usembassy.gov/covid-19information/
Viet Nam	No testing	No testing	No quarantine	https://en.baochinhphu.vn/viet-nam-toscrap-covid-19-test-requirements-forvaccinated-entrants-from-mid-may11122051320312898.htm
Yemen	NA	NA	NA	

Zambia	Unvaccinated are required PCR (72 hours prior to departure)	Antigen Rapid Test for who presents signs or symptoms of COVID-19 on arrival	until test result is negative.	https://www.zambiaimmigration.gov.zm/wpcontent/uploads/2022/03/Revised_Travel_Guidelines_Zambia.pdf

Zimbabwe	Unvaccinated are required PCR (48 hours prior to departure)	PCR test taken within 72 hours is required for who has no proof of vaccination or valid PCR test result on arrival	No quarantine	https://zimbabwetourism.net/covid19guidelines-for-travellers/

COVID-19 Weekly Epidemiological Update

Edition 107 published 31 August 2022

In this edition:

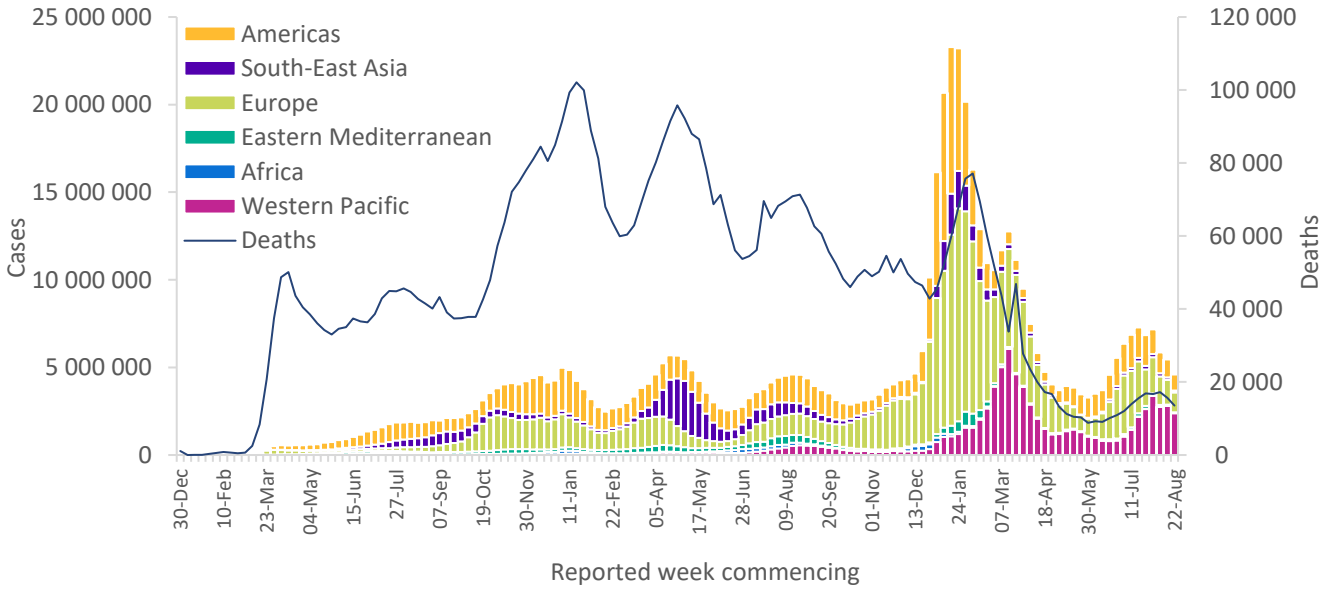
Global overview

Data as of 28 August 2022

Globally, the number of new weekly cases decreased by 16% during the week of 22 to 28 August 2022, as compared to the previous week, with over 4.5 million new cases reported (Figure 1, Table 1). The number of new weekly deaths decreased by 13%, as compared to the previous week, with over 13 500 fatalities reported. As of 28 August 2022, over 598 million confirmed cases and over 6.4 million deaths have been reported globally.

At the regional level, the number of newly reported weekly cases decreased across all six regions: the Eastern Mediterranean Region (-37%), the European Region (-20%), the South-East Asia Region (-16%), the Western Pacific Region (-15%), the African Region (-13%) and the Region of the Americas (-13%). The number of new weekly deaths decreased across four of the six regions: the African Region (-64%), the Eastern Mediterranean Region (-35%), the European Region (-30%), and the Region of the Americas (-9%); while it increased in the South-East Asian Region (+15%) and remained stable in the Western Pacific Region (+3%).

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 28 August 2022**



**See *Annex 1: Data, table, and figure notes*

At the country level, the highest numbers of new weekly cases were reported from Japan (1 258 772 new cases; -15%), the Republic of Korea (743 487 new cases; -16%), the United States of America (576 437 new cases; -10%), the Russian Federation (288 580 new cases; +23%) and Germany (206 860 new cases; -22%). The highest numbers of new weekly deaths were reported from the United States of America (2818 new deaths; -6%), Japan (1990 new deaths; +23%), Brazil (1039 new deaths; -6%), Italy (647 new deaths; -4%) and the Republic of Korea (525 new deaths; +25%).

Current trends in reported COVID-19 cases and deaths should be interpreted with caution as several countries have been progressively changing COVID-19 testing strategies, resulting in lower overall numbers of tests performed and consequently lower numbers of cases detected. Additionally, data from countries are continuously updated by WHO to incorporate changes in reported COVID-19 cases and deaths made by countries retrospectively.

Table 1. Newly reported and cumulative COVID-19 confirmed cases and deaths, by WHO Region, as of 28 August 2022**

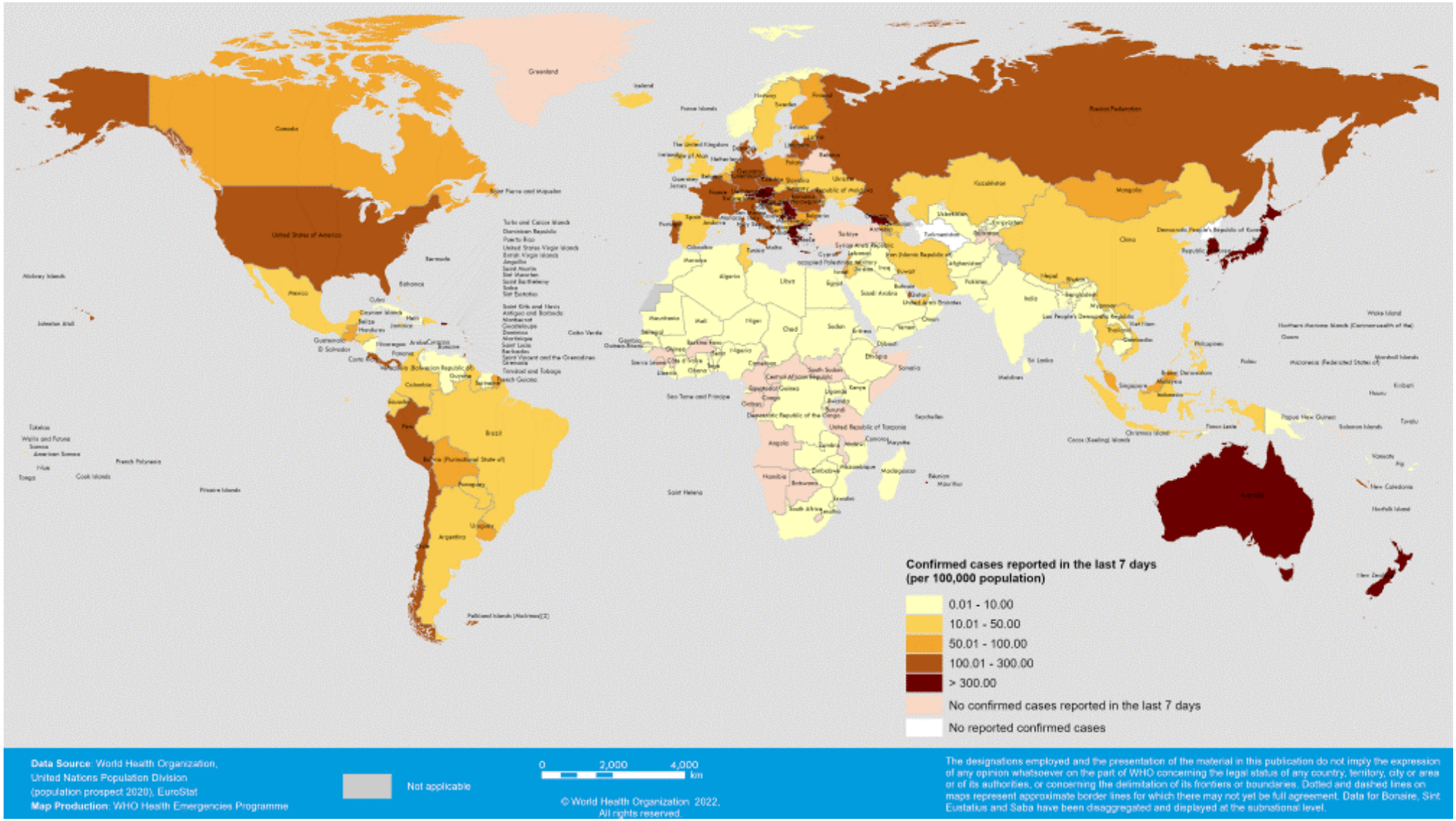
WHO Region	New cases in last 7 days (%)	Change in new cases in last 7 days *	Cumulative cases (%)	New deaths in last 7 days (%)	Change in new deaths in last 7 days *	Cumulative deaths (%)
Western Pacific	2 390 216 (52%)	-15%	83 039 297 (14%)	3 547 (26%)	3%	258 188 (4%)
Europe	1 117 601 (24%)	-20%	247 381 780 (41%)	3 425 (25%)	-30%	2 074 258 (32%)
Americas	907 084 (20%)	-13%	175 391 153 (29%)	5 336 (39%)	-9%	2 815 191 (44%)
South-East Asia	115 936 (3%)	-16%	59 962 802 (10%)	792 (6%)	15%	795 389 (12%)
Eastern Mediterranean	47 375 (1%)	-37%	22 960 506 (4%)	405 (3%)	-35%	347 299 (5%)
Africa	10 320 (<1%)	-13%	9 281 437 (2%)	36 (<1%)	-64%	174 281 (3%)
Global	**4 588 532 (100%)**	**-16%**	**598 017 739 (100%)**	**13 541 (100%)**	**-13%**	**6 464 619 (100%)**

**Percent change in the number of newly confirmed cases/deaths in the past seven days, compared to seven days prior. Data from previous weeks are updated continuously with adjustments received from countries.*
***See Annex 1: Data, table, and figure notes*

For the latest data and other updates on COVID-19, please see:

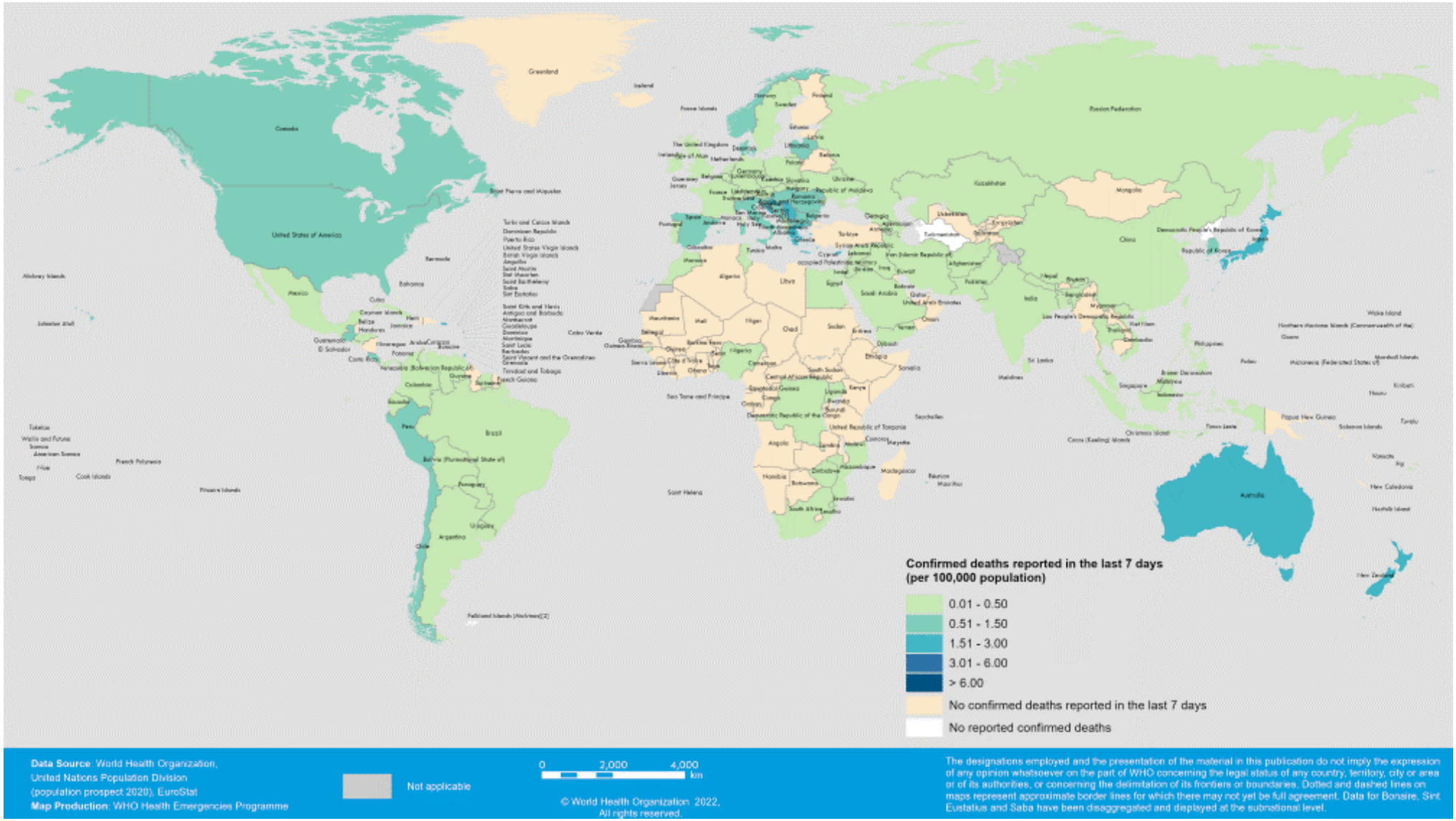
- WHO COVID-19 Dashboard
- WHO COVID-19 Weekly Operational Update and previous editions of the Weekly Epidemiological Update
- WHO COVID-19 detailed surveillance data dashboard

Figure 2. COVID-19 cases per 100 000 population reported by countries, territories and areas, 22 - 28 August 2022*



**See *Annex 1: Data, table, and figure notes*

Figure 3. COVID-19 deaths per 100 000 population reported by countries, territories and areas, 22 - 28 August 2022**



**See *Annex 1: Data, table, and figure notes*

Special Focus: Update on SARS-CoV-2 variants of interest and variants of concern

Geographic spread and prevalence of VOCs

Globally, from 29 July to 29 August 2022, 138 779 SARS-CoV-2 sequences were shared through GISAID. Among these, 138 236 sequences were the Omicron variant of concern (VOC), accounting for 99.6% of sequences reported globally in the past 30 days.

A comparison of sequences submitted to GISAID in epidemiological week 33 (14 to 20 August 2022) and week 32 (7 to 13 August 2022) shows that BA.5 Omicron descendent lineages continue to be dominant globally, with an increase in weekly prevalence from 72.4% to 78.2%. The prevalence of BA.2 descendent lineages (BA.2.X) remained stable in week 33 compared to week 32 (2.7% in both weeks). BA.2.75, an Omicron descendent lineage under monitoring, still shows a relatively low prevalence globally, but a number of countries have observed recent increasing trends.

WHO continues to monitor all lineages, including descendent lineages of VOCs, to track any increase in prevalence and change in viral characteristics. The current trends describing the circulation of Omicron descendent lineages should be interpreted with due consideration of the limitations of the SARS-CoV-2 surveillance systems. These include differences in sequencing capacity and sampling strategies between countries, changes in sampling strategies, reductions in tests conducted and sequences shared by countries around the world and delays in uploading sequence data to GISAID.

For more information on the assessment of SARS-CoV-2 variants and the WHO classification refer to Annex 2.

Additional resources

- Tracking SARS-CoV-2 Variants
- COVID-19 new variants: Knowledge gaps and research
- Genomic sequencing of SARS-CoV-2: a guide to implementation for maximum impact on public health
- Considerations for implementing and adjusting public health and social measures in the context of COVID-19
- VIEW-hub: repository for the most relevant and recent vaccine data

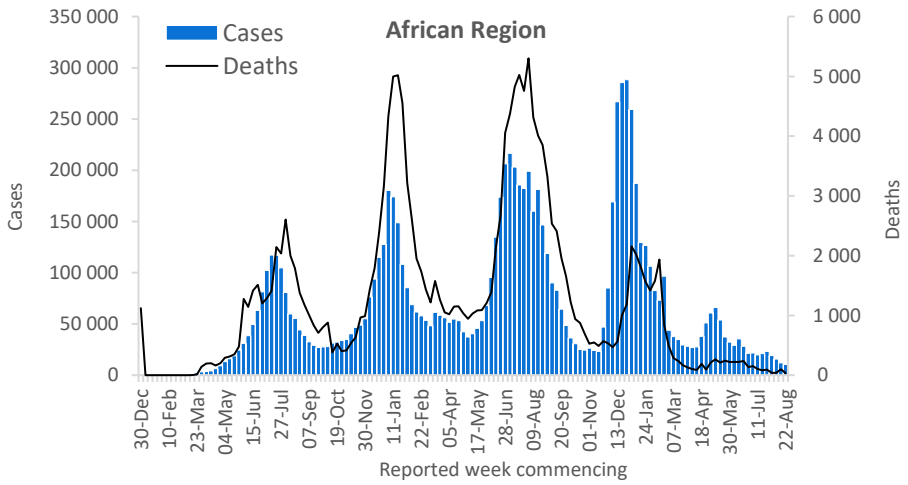
WHO regional overviews:

Epidemiological week 22 - 28 August 2022**

African Region

The African Region reported over 10 000 new weekly cases, a 13% decrease compared to the previous week. Six (12%) countries reported increases in the number of new cases of 20% or greater, with some of the greatest proportional increases seen in Mali (55 vs 15 new cases; +267%), Chad (33 vs 14 new cases; +136%) and Niger (127 vs 55 new cases; +131%). The highest numbers of new cases were reported from Réunion (5711 new cases; 637.9 new cases per 100 000 population; +12%), South Africa (1480 new cases; 2.5 new cases per 100 000; -5%) and Nigeria (495 new cases; <1 new case per 100 000; +26%).

The number of new weekly deaths in the Region decreased by 64% as compared to the previous week, with 36 deaths reported. The highest numbers of new deaths were reported from South Africa (18 new deaths; <1 new death per 100 000 population; -79%), Réunion (six new deaths; <1 new death per 100 000; +200%) and the Democratic Republic of the Congo (four new deaths; <1 new death per 100 000; +33%).

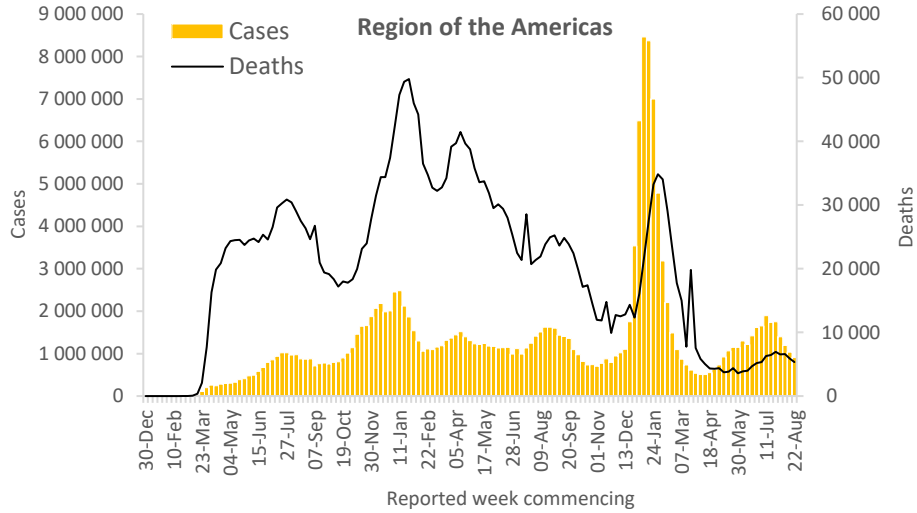


Updates from the African Region

Region of the Americas

The Region of the Americas reported over 907 000 new cases, a 13% decrease as compared to the previous week. Five of 56 (9%) countries for which data are available reported increases in the number of new cases of 20% or greater, with the greatest proportional increases observed in Honduras (3948 vs 2130 new cases; +85%), Saint Barthélemy (32 vs 23 new cases; +39%) and Ecuador (6288 vs 4644 new cases; +35%). The highest numbers of new cases were reported from the United States of America (576 437 new cases; 174.1 new cases per 100 000; -10%), Brazil (104 672 new cases; 49.2 new cases per 100 000; -10%) and Chile (54 867 new cases; 287.0 new cases per 100 000; -13%).

The number of new weekly deaths reported in the Region decreased by 9% as compared to the previous week, with over 5300 deaths reported. The highest numbers of new deaths were reported from the United States of America (2818 new deaths; <1 new death per 100 000; -6%), Brazil (1039 new deaths; <1 new death per 100 000; -6%) and Canada (292 new deaths; <1 new death per 100 000; similar to the previous week).

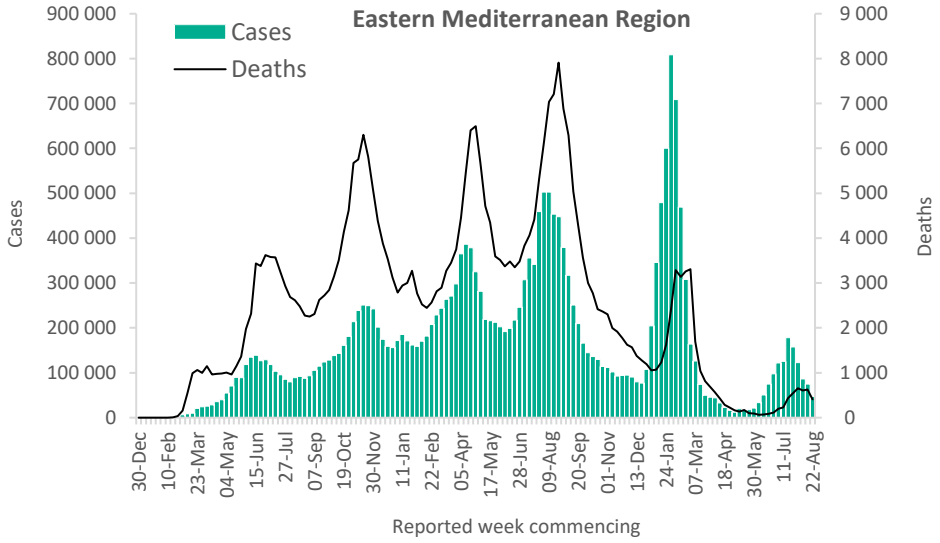


Updates from the Region of the Americas

Eastern Mediterranean Region

The Eastern Mediterranean Region reported over 47 000 new cases, a 37% decrease as compared to the previous week. One (5%) country reported an increase in the number of new cases of 20% or greater: the occupied Palestinian territory (3355 vs 937 new cases; +258%). The highest numbers of new cases were reported from the Islamic Republic of Iran (15 605 new cases; 18.6 new cases per 100 000; -55%), Jordan (4832 new cases; 47.4 new cases per 100 000; -19%) and Lebanon (4469 new cases; 65.5 new cases per 100 000; -41%).

The number of new weekly deaths decreased in the Region by 35% compared to the previous week, with over 400 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (280 new deaths; <1 new death per 100 000; -41%), Tunisia (24 new deaths; <1 new death per 100 000; -57%) and Pakistan (21 new deaths; <1 new death per 100 000; -22%).

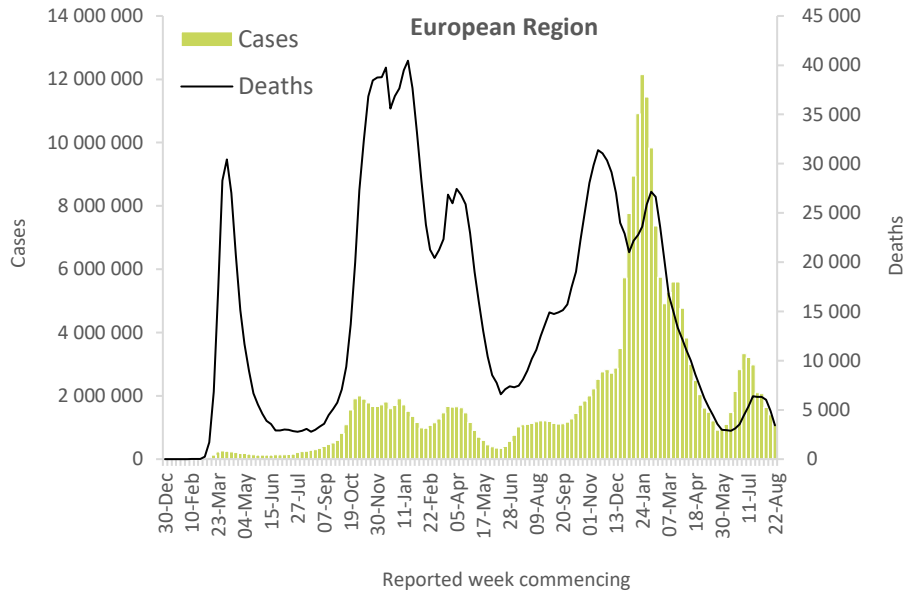


Updates from the Eastern Mediterranean Region

European Region

The European Region reported over 1.1 million new cases, a 20% decrease as compared to the previous week. Two (3%) countries in the Region reported increases in new cases of 20% or greater, with the highest proportional increases observed in Ukraine (9113 vs 5439 new cases; +68%) and the Russian Federation (288 580 vs 235 385 new cases; +23%). The highest numbers of new cases were reported from the Russian Federation (288 580 new cases; 197.7 new cases per 100 000; +23%), Germany (206 860 new cases; 248.7 new cases per 100 000; -22%) and Italy (157 864 new cases; 264.7 new cases per 100 000; +5%).

Over 3400 new weekly deaths were reported in the Region, a 30% decrease as compared to the previous week. The highest numbers of new deaths were reported from Italy (647 new deaths; 1.1 new deaths per 100 000; -4%), the Russian Federation (523 new deaths; <1 new death per 100 000; +20%) and Spain (326 new deaths; <1 new death per 100 000; -29%).

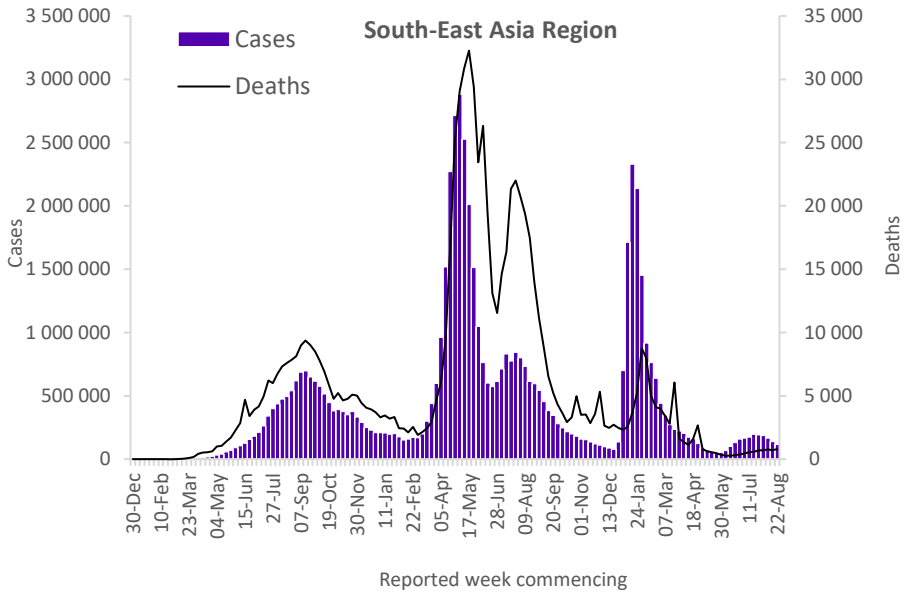


Updates from the European Region

South-East Asia Region

The South-East Asia Region reported under 116 000 new cases, a 16% decrease as compared to the previous week. Three of the 10 countries (30%) for which data are available showed an increase in the number of new cases of 20% or greater: Bhutan (178 vs 119 new cases; +50%), Timor-Leste (44 vs 33 new cases; +33%) and Bangladesh (1347 vs 1100 new cases; +22%). The highest numbers of new cases were reported from India (68 703 new cases; 5.0 new cases per 100 000; -20%), Indonesia (30 747 new cases; 11.2 new cases per 100 000; -6%) and Thailand (12 232 new cases; 17.5 new cases per 100 000; -11%).

The Region reported just under 800 deaths, a 15% increase compared to the previous week. The highest numbers of new deaths were reported from India (422 new deaths; <1 new death per 100 000; +43%), Thailand (195 new deaths; <1 new death per 100 000; -2%) and Indonesia (123 new deaths; <1 new deaths per 100 000; -19%).

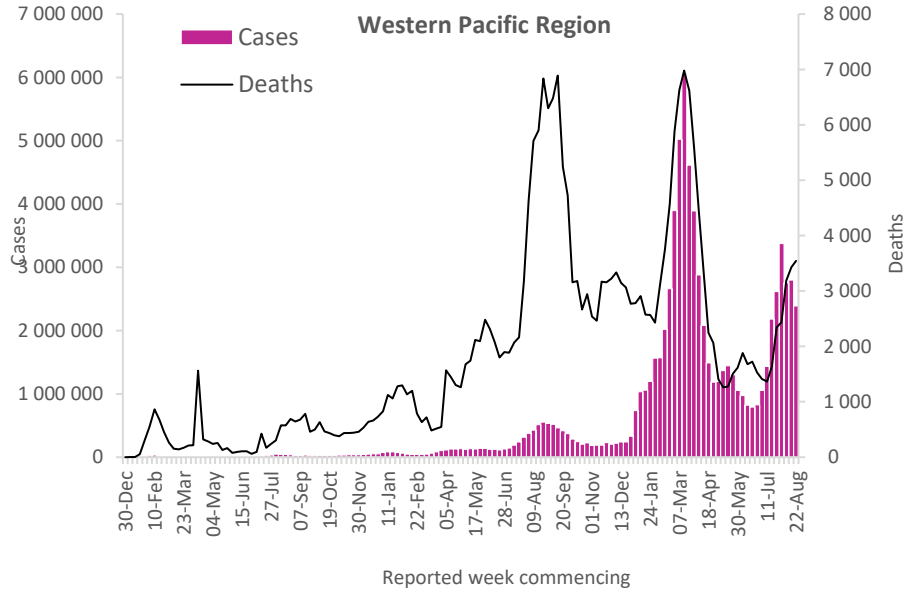


Updates from the South-East Asia Region

Western Pacific Region

The Western Pacific Region reported just under 2.4 million new cases, a 15% decrease compared to the previous week. Two (6%) countries reported increases in new cases of 20% or greater, with the largest proportional increases observed in Palau (69 vs 33 new cases; +109%) and Tonga (1100 vs 730 new cases, +51%). The highest numbers of new cases were reported from Japan (1 258 772 new cases; 995.3 new cases per 100 000; -15%), the Republic of Korea (743 487 new cases; 1450.2 new cases per 100 000; -16%) and China (194 464 new cases; 13.2 new cases per 100 000; +13%).

The Region reported a similar number of deaths as the previous week, with over 3500 new weekly deaths reported. The highest numbers of new deaths were reported from Japan (1990 new deaths; 1.6 new deaths per 100 000; +23%), the Republic of Korea (525 new deaths; 1.0 new death per 100 000; +25%) and Australia (419 new deaths; 1.6 new deaths per 100 000; -14%).



Updates from the Western Pacific Region

Summary of Monthly Operational Update

The Monthly Operational Update is a report provided by the COVID-19 Strategic Preparedness and Response Plan (SPRP) monitoring and evaluation team which aims to update on the ongoing global progress against the COVID-19 SPRP 2021 framework. In this edition, highlights of country-level actions and WHO support to countries include:

- WHO/Europe supports Kazakhstan's national laboratory working group to develop national laboratory policy and strategic plans to address COVID-19 lessons learned
- Liberia's Grand Bassa county hits 71% COVID-19 vaccination coverage against its total population
- Nepal launches the COVID-19 vaccination campaign for children
- Social listening leads to more impactful communication and a stronger COVID-19 response in Fiji
- Building emergency care capacities through training: scaling up Afghanistan's delivery of essential health services and health system resilience during the pandemic and beyond
- The Bahamas receives the first pediatric COVID-19 vaccines through the COVAX Facility
- Palau establishes its national emergency medical team
- Increasing COVID-19 vaccination coverage in Togo in 2021 through community dialogue and traditional leaders
- Téchne's International Multidisciplinary Summer School on "Systemic Design for Health": responding to needs identified during the COVID-19 pandemic and beyond
- Building a community of learning for women leaders in health emergencies among WHO staff and Member States
- Leveraging lessons learned and systems from previous epidemics, Uganda builds up its response capacities to scale up COVID-19 testing and surveillance while maintaining essential health services
- WHO develops a method to deliver actionable infodemic insights and recommendations as part of the COVID-19 pandemic response
- Leaving no one behind: How OpenWHO.org ensures equity in health information delivery for people living with disabilities
- WHO's COVID-19 Response Funding in 2022: Delivering science, solutions and solidarity to end the acute phase of the pandemic
- Updated WHO guidance and publications

Annex 1. Data, table, and figure notes

Data presented are based on official laboratory-confirmed COVID-19 cases and deaths reported to WHO by country/territories/areas, largely based upon WHO case definitions and surveillance guidance. While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change, and caution must be taken when interpreting these data as several factors influence the counts presented, with variable underestimation of true case and death incidences, and variable delays to reflecting these data at the global level. Case detection, inclusion criteria, testing strategies, reporting practices, and data cut-off and lag times differ between countries/territories/areas. A small number of countries/territories/areas report combined probable and laboratory-confirmed cases. Differences are to be expected between information products published by WHO, national public health authorities, and other sources.

A record of historic data adjustment made is available upon request by emailing epi-data-support@who.int. Please specify the countries of interest, time period, and purpose of the request/intended usage. Prior situation reports will not be edited; see covid19.who.int for the most up-to-date data. COVID-19 confirmed cases and deaths reported in the last seven days by countries, territories, and areas, and WHO Region (reported in previous issues) are now available at: https://covid19.who.int/table.

'Countries' may refer to countries, territories, areas or other jurisdictions of similar status. The designations employed, and the presentation of these materials do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. Countries, territories, and areas are arranged under the administering WHO region. The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions except, the names of proprietary products are distinguished by initial capital letters.

[1] All references to Kosovo should be understood to be in the context of the United Nations Security Council resolution 1244 (1999). In the map, the number of cases of Serbia and Kosovo (UNSCR 1244, 1999) have been aggregated for visualization purposes.
[2] A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

Updates on the COVID-19 outbreak in the Democratic People's Republic of Korea is not included in this report as the number of laboratory-confirmed COVID-19 cases is not reported.

Annex 2. SARS-CoV-2 variants assessment and classification

WHO, in collaboration with national authorities, institutions and researchers, routinely assesses if variants of SARS-CoV-2 alter transmission or disease characteristics, or impact the effectiveness of vaccines, therapeutics, diagnostics or public health and social measures (PHSM) applied to control disease spread. Potential variants of concern (VOCs), variants of interest (VOIs) or variants under monitoring (VUMs) are regularly assessed based on the risk posed to global public health.

The classifications of variants will be revised as needed to reflect the continuous evolution of circulating variants and their changing epidemiology. Criteria for variant classification, and the lists of currently circulating and previously circulating VOCs, VOIs and VUMs, are available on the WHO Tracking SARS-CoV-2 variants website. National authorities may choose to designate other variants and are strongly encouraged to investigate and report newly emerging variants and their impact.

WHO's Monthly Operational Update on COVID-19

PCR training carried out in Almaty, Kazakhstan. © WHO Kazakhstan Country Office

WHO/Europe supports Kazakhstan's national laboratory working group to develop national laboratory policy and strategic plans to address COVID-19 lessons learned

At the height of the COVID-19 pandemic, countries faced incredible challenges including massive demands on laboratory capacity, infrastructure, human resources, procurement, and difficulties in scaling up diagnostic access. Indeed, most countries had not anticipated or prepared for a public health crisis of this magnitude. After more than two years of pandemic, many countries are now **reviewing their lessons learned from their laboratory response to COVID-19 to inform national laboratory policies and strategic planning with the aim of further strengthening their laboratory systems.** This is an opportunity to share experiences, identify best practices, challenges and lessons learned on the laboratory response, and raise the issue of laboratory sustainability.

Between May and July 2022, WHO/Europe and Kazakhstan's national laboratory working group worked on a set of activities to further develop and strengthen the country's national public health laboratory system. These included:

- analyzing **available documentation of current policies and plans** in which the laboratory sector is involved
- performing a **strengths, weaknesses, opportunities and threats (SWOT) analysis** of the laboratory system during the COVID-19 scale up
- performing a **situational analysis**
- developing a **vision of Kazakhstan's laboratory services beyond COVID-19**
- defining **topics and content for policy statements**
- setting up **strategic plans** for laboratory services

Continued on next page …

In this issue

Key figures (as of August 2022)

WHO-led UN Crisis Management Team coordinating **23 UN entities** across nine areas of work

OpenWHO totaled **7 million** enrolments for online courses available in **65 national and local languages,** including 46 courses dedicated to the COVID-19 response

951 million tests delivered via ACT-A

230 GOARN deployments conducted to support COVID-19 pandemic response

12 409 086 286 vaccine doses have been administered as of 17 August 2022

4 867 565 350 persons fully vaccinated as of 17 August 2022

5 330 599 370 persons vaccinated with at least one dose as of 17 August 2022

38.4 million online data analysed between 15 July 22 – 14 August 2022 by WHO as part of social listening and infodemic management support to Member States

* COVAX has shipped over 1.61 billion vaccines to 146 participants as of 16 August 2022

* See Gavi's COVAX updates for the latest COVAX vaccine roll-out data

For the latest data and information, including trends and current incidence, see the WHO COVID-19 Dashboard and Situation Reports.

The national laboratory working group met to kick-off the process with a SWOT analysis and identification of strategic priorities and plans for the laboratory system on 3 May. Priorities to be addressed were identified based on the challenges that the laboratory system had faced during the COVID-19 response and included: governance and coordination, regulatory framework, human resources, quality management systems, procurement and logistics, biosafety and biosecurity, laboratory information systems, scientific cooperation.

A second meeting, held on 8 June 2022, gathered a smaller group consisting of representatives from the national laboratory working group active in public health, clinical-diagnostic, private laboratories, laboratory associations, research laboratories and veterinary and ecology laboratories to finalize the SWOT analysis.

Technical sessions continued throughout July 2022 to address the priorities identified and approved in May by the national laboratory working group. **By late July, the policy statements were finalized by the working group.**

Moving forward, a follow-up meeting will take place in September to develop and finalize the laboratory strategic plans and **by November 2022, the working group will present the compiled national laboratory policy and strategic plans to relevant stakeholders.**

Through this process, WHO is supporting Kazakhstan to maintain COVID-19 laboratory capacities and ensure the sustainability of investments made into these capacities. All such activities were undertaken with the support of funding received through WHO's 2022 Global Health Emergency Appeal.

WHO staff carrying out trainings in Kazakhstan. © WHO Kazakhstan Country Office

Timeline of WHO/Europe and Kazakhstan's national laboratory working group activities (2022)

WHO/Europe and Kazakhstan's national laboratory working group jointly working to **develop and strengthen the country's national public health laboratory system.**

May-July 2022

3 May 2022

First meeting of the national laboratory working group to kick-off the process with:

- a **SWOT analysis**
- **identification of strategic priorities and plans** for the laboratory system

8 June 2022

Second meeting, with a smaller group, to **finalize the SWOT analysis.**

July 2022

Technical sessions to address the priorities identified and approved in May.

By late July: **finalization of the policy statements**

September 2022

Follow-up meeting to **develop and finalize the laboratory strategic plans.**

November 2022

Presentation of the **compiled national laboratory policy and strategic plans** to relevant stakeholders

Liberia's Grand Bassa county hits 71% COVID-19 vaccination coverage against its total population

Hon. Minister of Health and WHO Representative to Liberia with the Grand Bassa County Health Team, congratulated for the milestone achieved. © WHO Liberia / Letitia Nangwale

> "It hasn't been an easy road, but we have been supported through and through by our national headquarters and WHO. This indeed motivated us as a team to work harder to achieve more and together we made it."
>
> **Dr Sylvester Wheh**
> Grand Bassa County Health Officer

In July, one of Liberia's most populated counties – Grand Bassa – attained 71% COVID-19 vaccination coverage for its population, making it the third county to have reached the target of 70% coverage for persons aged 12 years and above.

This brings Liberia's vaccination coverage against its total population to 54%, classifying the country as low-risk for COVID-19. Liberia now stands as one of eight African countries, and the only West African country, to have reached the milestone of having vaccinated between 40% and 70% of their total poulations.

Dr Peter Lugala Clement, WHO Representative to Liberia, paid a visit to Grand Bassa together with the Minister of Health, Honorable Dr Wilhelmina Jallah, to congratulate the County Health Team for their great work. As part of this visit, team members who had performed exceptional work in supporting the COVID-19 vaccination received awards. Moving forward, the County Health Team was advised to develop strategies on integrating COVID-19 vaccination into routine immunization and was challenged to reach the global target of 90% by December 2022.

> "I am very proud that our big counties are setting the trend. First it was Nimba, then Lofa, and now Grand Bassa. We congratulate you on a job well done; this is important for the country. Even for vaccination coverage among health workers, Liberia is way on top of the charts – thank you."
>
> **Honorable Dr Wilhelmina Jallah**
> Liberia Minister of Health

As part of the COVID-19 response, the UN in Liberia provided important technical, material and financial support to the Ministry of Health, in collaboration with other counterparts. This would not have been made possible without support from the COVAX Facility and various partners including the the European Civil Protection and Humanitarian Aid Operations (ECHO), the Center for Diseases Control and Prevention (CDC), the Governments of France and Germany and the US Agency for International Development (USAID).

For more information, click here.

> "Vaccines came in 2021 with many unknowns, coupled with myths and misconceptions, and we gradually introduced the vaccines from the central level to the counties. (…) It is evident that giving the power to the counties, with strong community engagement and promoting community ownership of the process produces greater results. Congratulations, we are proud of you."
>
> **Dr Peter Lugala Clement**
> WHO Representative to Liberia

Nepal launches the COVID-19 vaccination campaign for children

In June, Nepal launched the first phase of the COVID-19 vaccination campaign for children aged 5 to 11 years, in 27 of the country's 77 districts. This marks another milestone in Nepal's COVID-19 vaccination efforts which achieved the WHO global target of 70% vaccination coverage by mid-2022.

To increase the coverage and ensure all children in the target age group receive the life-saving vaccine, schools and health care posts were selected as vaccination sites. Alongside health care workers who travelled across the regions to reach children yet unreached, school staff played an important role to make the campaign a success. Many volunteered to man vaccine registration booths or educate parents and children regarding the vaccines. Although the responsibilities varied, all were unanimous in their relief to see children finally able to get COVID-19 vaccines.

Here are a few stories of school staff and healthcare workers who are working to turn the campaign into a success.

Sukalaksmi Pradhan, an Auxiliary Nurse Midwife (ANM) at Dhungkharka Health Post, Bethanchok Rural Municipality, Kavre. © WHO Nepal / S.G.Amatya

> "When the COVID-19 vaccination campaign began last year, there were times when no one showed up to receive the vaccine because people were anxious or scared. So, we went to spread awareness at the local level, moving from village to village. Our efforts have proven to be successful. (…) Even though I have to walk some 2–4 hours from the morning to reach a village to provide this vaccine, I am happy that I am contributing to ensuring no one is left behind in this campaign."
>
> **Sukalaksmi Pradhan**
> Auxiliary Nurse Midwife for seven years and contributing to the ongoing vaccination campaign

Ram Hari Khatri, 59, Principal at Shree Sharada Secondary School, Panauti, Kavre © WHO Nepal / S.G.Amatya

> "As a Nepali citizen, I have supported the nationwide COVID-19 vaccination campaign from the start and I have also requested all teachers to do the same (…) but I was disheartened to see that the children could not get the life-saving vaccines. (…) Now, with this new campaign, my school staff are I are in full swing to make sure all children receive their dose. We will make all administration and logistics go smoothly, and I am happy my school is a part of this campaign."
>
> **Ram Hari Khatri**
> Principal at Shree Sharada Secondary School
> Panauti, Kavre

Chameli Maya Magar (pictured left), a Community Health Volunteer, at Golanjor Municipality, Sindhuli. © WHO Nepal / S.G.Amatya

> "We have been organizing the mothers group meetings where we speak to the community about the importance of this [COVID-19] vaccine, the seriousness of the disease, and the efforts from the Government of Nepal to bring these vaccines to us. We want to make sure that people have accurate and verified information at their disposal so that they can make informed choices."
>
> **Chameli Maya Magar**
> Community Health Volunteer

Moving forward, the second phase of the campaign is scheduled to start in August 2022 in the remaining districts.

For more information, click here.

Social listening leads to more impactful communication and a stronger COVID-19 response in Fiji

As COVID-19 cases rose dramatically in Fiji in June 2021 and reports came of people dying at home or arriving at the hospital too late to be treated, Fiji's Ministry of Health and Medical Services, in collaboration with the WHO and other partners turned to **the "social listening" system.** Set up in Fiji in May 2021 with support from the European Union, this system helps understand what the public is thinking or doing, identify and counter rumours and misinformation and adjust the response to COVID-19.

To reverse the trend of people seeming to avoid healthcare, risk communication and community engagement specialists looked at over 600 comments, mostly on social media, which expressed people's fear of being trapped alone in hospital without care or dying there. Insights were then passed on to other teams responsible for the COVID-19 response.

A three-part communication campaign was then launched, to demystify and personalize healthcare:

1. To highlight the commitment of nurses, doctors and paramedics, the Ministry of Health posted the **Meet Our Frontliners** video on its Facebook page which shows Nurse Maria Bucago explaining in tears how she left her husband and five children to serve in Fiji's Emergency Medical Assistance Team (FEMAT) hospital in the capital, and asking her fellow Fijians to adhere to the Ministry's advice.
2. **Testimonies of patients** treated at the height of the 2021 surge in cases speaking about the professionalism, empathy and care they encountered were posted.
3. Finally, a team from the Ministry of Health was dedicated to **answering questions on social media and hotlines,** directing people to healthcare resources.

Example of risk communication and community engagement during the rollout of COVID-19 vaccines. © WHO / Arishma Devi

The online campaign was successful, generating more than 200 000 views for Nurse Bucago's video alone and hundreds of supportive comments. In real life, **this translated into a higher number of people seeking treatment for COVID-19 and other medical conditions.**

Fiji's social listening system has also helped inform the country's COVID-19 vaccination campaign. Guided by social listening insights that many people wanted to avoid further lockdowns, Fiji emphasized messages on the importance of vaccination as a mean to ease movement restrictions and provide a safer environment for communities. As a result, **the risk communication and community engagement team noticed much more positive online conversations about vaccination** and **as of 7 July 2022, almost 90% of Fiji's eligible population had been vaccinated.**

For more information, click here.

> "What happens with the COVID-19 pandemic depends to a large extent on how we behave as individuals and communities. Taking the time to listen to the public and to understand the drivers of their behaviour has given the Government of Fiji, with WHO and partners, the opportunity to ensure that their communications and the broader emergency response are better tailored to people's preferences, needs and expectations. As a result, lives have been saved. Given the excellent results and the capacity that has been built, we hope social listening will be used to address other health challenges in Fiji and elsewhere in the Pacific."
>
> **Dr Mark Jacobs**
> WHO Representative to the South Pacific and Director of Pacific Technical Support

Building emergency care capacities through training: scaling up Afghanistan's delivery of essential health services and health system resilience during the pandemic and beyond

Around the world, the COVID-19 pandemic highlighted significant gaps in emergency and critical care, showing the necessity of a fully functional Emergency Care System (ECS) providing 24 hours services for the most vulnerable. This is particularly the case in Afghanistan where the already fragile health system is facing multiple acute health crises in addition to COVID-19 – such as acute watery diarrhoea, dengue and measles – as well as various health emergencies and disasters resulting in large numbers of casualties, such as terrorism, armed conflicts, road traffic incidents, floods and earthquakes.

Responding to gaps in clinical care training, in December 2021, WHO launched in Afghanistan the WHO-ICRC Basic Emergency Care course (BEC) – a component of the Emergency Care Toolkit. Developed by WHO and the International Committee of the Red Cross, this open-access course trains frontline health care providers managing acute illness and injury with limited resources on a **systematic approach to the assessment and management of life-threatening conditions.** The course has since been cascaded throughout the country with courses run monthly. To date, there are **37 BEC trainers and 8 certified master trainers** in the training pool, all from Afghanistan, and **337 frontline health workers have been trained on the BEC in Afghanistan,** contributing to improving care for everyday and surge emergencies. **As part of the COVID-19 response this BEC course has proven life-saving,** enabling health workers to respond to severe cases while enhancing overall patient care.

When an earthquake of 5.9 magnitude struck the south eastern region of Afghanistan on 22 June 2022, affecting the lives of more than 360 000 people in Paktika and Khost provinces, causing widespread damage and resulting in over a thousand deaths and nearly 3000 injuries, WHO's investment in emergency care trainings proved invaluable to the response.

BEC participant practicing 'bag-mask' ventilation technique.
© Dr Mohammad Ismail Abid

BEC Course Master Trainer and Dr Rachel (WHO Emergency Consultant) teaching basic airway skills together. © Dr Mohammad Ismail Abid

In addition to providing clinical, logistical and technical resources, the WHO Country Office Team together with the Afghan BEC Master Trainers urgently came together to hold an **emergency care training for 48 participants in Gardez in July,** to enhance the response to the earthquake. Participants received competency-based training in Airway, Breathing, Circulation, Disability, Exposure (ABCDE) assessment, trauma care, shock, altered mental as well as other essential emergency care skills. 41% of participants were female, illustrating WHO's policy to prioritize female health workers' attendance in all BEC courses. As a result, these frontline health workers felt better prepared to respond to the aftermath of the earthquake and future potential emergencies.

Moving forward, WHO will continue to hold monthly BEC trainings across the country, expanding it in targeted provinces. By doing so, **WHO is supporting Afghanistan to enhance its health systems' resilience, improve overall patient care and ensure continuity in essential health services** delivery beyond the pandemic and during future health emergencies.

> "Thank you for the efforts to make this course exist, to take action and come to life. When the students have practical sessions this makes it real and interesting. (…) BEC is the most vital and crucial course for all frontline Afghan healthcare providers. We would like to have more courses to improve our learning and train more healthcare workers."
>
> **BEC Course Master Trainer**
> General Surgeon, Kandahar Teaching Hospital

The Bahamas receives the first pediatric COVID-19 vaccines through the COVAX Facility

Arrival of the vaccine doses, Lynden Pindling International Airport. © WHO

In July, the Bahamas received 24 000 doses of Pediatric COVID-19 vaccines through the COVAX Facility – a global effort between the Coalition for Epidemic Preparedness Innovations (CEPI), Gavi, the Vaccine Alliance, UNICEF, the Pan American Health Organization (PAHO) and the WHO. These 24 000 Pfizer vaccine doses arrived at the Lynden Pindling International Airport, sent by the PAHO Revolving Fund, which is responsible for the procurement of COVID-19 vaccines for the countries of the Americas under the COVAX Mechanism.

The arrival marks a historic step toward ensuring the equitable distribution of pediatric COVID-19 vaccines worldwide.

Various dignitaries came to receive the vaccines, among which the Prime Minister of the Commonwealth of the Bahamas, Hon. Phillip Davis; the Minister of Health and Wellness, Dr Michael Darville; the PAHO/WHO Country Representative for the Bahamas and Turks and Caicos Islands, Dr Eldonna Boisson; and other officials from PAHO/WHO and the Ministry of Health and Wellness.

Dr Boisson encouraged the public to continue adhering to the COVID-19 public safety protocols, including wearing masks which properly cover one's nose and mouth; respecting proper coughing and sneezing etiquette; remaining 3–6 feet apart; and frequently washing or sanitizing one's hands. She added, "As our children prepare to return to their classrooms, it is vital to protect our children and loved ones from the virus. Students, parents, and educators can all have greater confidence as they participate in school initiatives and extracurricular activities once vaccinated."

COVID-19 remains a global health emergency and PAHO/WHO continues to support the Ministry of Health and Wellness in monitoring the vaccination coverage, implementing the electronic immunization information systems, and rolling out communication campaigns to address vaccination hesitancy. In addition, PAHO/WHO will continue to support the Bahamian government in its work related to other public health issues, with the aim of leaving no one's health behind.

> "In the Bahamas, where children will receive the COVID-19 vaccine, we encourage parents and guardians to follow the national vaccination recommendations of the Ministry of Health and Wellness. Vaccines help to minimize disruption to children's education, routines and other things that are important to their wellbeing."
>
> **Dr Eldonna Boisson**
> PAHO/WHO Country Representative for the Bahamas and Turks and Caicos Islands

Palau establishes its national emergency medical team

Members of Palau's Team Klemat. © WHO

Following a five-day inaugural training in June 2022, Palau established its national Emergency Medical Team (EMT), thereby becoming the smallest country in the world by population to have such an EMT. This was done within the framework of a partnership between the Government of the Republic of Palau, the WHO and the United States Agency for International Development (USAID) with the aim to enhance preparedness for disasters, disease outbreaks and other crises.

Palau's EMT is named **Team Klemat** after the rope that holds the sails of the country's traditional canoes. It is composed of 18 health professionals, including doctors, nurses, and logisticians, trained to rapidly respond to sudden-onset emergencies or outbreaks, which could emerge among the country's population of 18 000 people, spread across 300 islands. In the future, Team Klemat may also look beyond Palau's borders to provide support to neighboring countries and territories, where necessary.

> "The current pandemic has reverberated across the Pacific for months and years, and has shone a light on the importance of our local first responders. The support of the WHO and the work of the Palau Minister of Health and Human Services to continue to improve and better prepare for the next time they are called upon to serve their community in an emergency, no matter how dire or austere the conditions, is commendable. Palau's Emergency Medical Team, Team Klemat, is an inspiration to us all."
>
> **H.E. John Hennessy-Niland**
> Ambassador of the USA to the Republic of Palau

WHO will provide training and technical support to Team Klemat and procure equipment and supplies to facilitate its future deployments. With these materials, known as a "cache," Team Klemat will be fully self-sufficient and ready to deploy within hours.

With support from WHO, EMTs have already been established in multiple countries, territories and areas within the Western Pacific region, including the Cook Islands, Fiji, Northern Mariana Islands, the Solomon Islands, Tonga and Vanuatu. Additional teams are currently being established including in Kiribati, the Marshall Islands, the Federated States of Micronesia, Papua New Guinea and Tuvalu.

WHO's work to establish and enhance EMT capacity in the Pacific is supported by the Australian Department of Foreign Affairs and Trade, the European Union, the Government of Japan, the New Zealand Ministry of Foreign Affairs and Trade as well as USAID.

For more information, click here.

> "WHO is delighted to work with the Government of the Republic of Palau, USAID and other partners to support the establishment and training of Klemat. In Palau, as in other Pacific Island countries and areas, establishing national EMTs is a critical part of country preparedness and will enable the rapid and life-saving response to a wide range of emergencies in future."
>
> **Dr Mark Jacobs**
> WHO Representative to the South Pacific and Director of Pacific Technical Support

Increasing COVID-19 vaccination coverage in Togo in 2021 through community dialogue and traditional leaders

In this series, WHO showcases summarized country case studies that demonstrate the Organization's progress of the implementation of the 13th Global Programme of Work.

The full country case studies appeared under the report "For a safer, healthier and fairer world" Results Report," which was shared prior to the 75th World Health Assembly.

When Togo's COVID-19 vaccination campaign started in March 2021, the country promptly took measures to encourage vaccination, including the obligatory presentation of the COVID-19 vaccination card to enter any public institution. The Prime Minister, ministers, members of the national assembly, heads of United Nations agencies in Togo as well as health workers also got vaccinated, setting the example. Yet, by mid-September 2021, only 5.6% of the population aged 18 and above had received their two doses, meaning the country was below the WHO-planned 10% threshold planned for September 2021 and far away from the 40% threshold for December 2021.

To reverse this trend and enhance vaccination coverage, the WHO Country Office in Togo provided technical and financial support to the Ministry of Health, Public Hygiene and Universal Access to Health Care, to **conduct community dialogues and awareness-raising activities in the Grand-Lomé region,** where 80% of confirmed COVID-19 cases originated. These measures aimed to **reduce misinformation, break down potential barriers to vaccine acceptance, and encourage community support for COVID-19 vaccination.**

Community dialogue session in the royal palace of the township of "adétikopé."
© Joseph Koivogui

- 13 vehicles were purchased and equipped with sound equipment to **disseminate awareness-raising messages** in markets, bus stations, crossroads and areas in front of bars and restaurants in all neighborhoods of the Grand Lomé region, under the direct supervision of mayors.
- **32 community dialogues were organized** in royal palaces under the leadership of the 11 canton chiefs of the Grand-Lomé region. These dialogues mobilized approximately 1600 traditional leaders and included local chiefs, priests of voodoo temples, women leaders of market vendor associations, leaders of car and motorcycle driver unions, as well as representatives of local development committees, youth groups and arts and crafts organizations. Topics discussed included: poor communication and misinformation circulating surrounding COVID-19 vaccines; concerns about the speed with which COVID-19 vaccines were produced and made available; and the location of vaccination sites in remote communities.
- **Traditional leaders undertook initiatives to encourage the population to adhere to COVID-19 vaccination recommendations.** Vaccination centres were set up in the traditional chiefs' palaces, markets and bus stations and chiefs personally engaged with the vaccination teams to dispels rumours. They were also vaccinated in the presence of their communities, to demonstrate by example. Practitioners of voodoo cults whose beliefs made them hostile to the use of needles were vaccinated. Finally, audio-visual messages were produced and disseminated through WhatsApp groups and community radio stations to refute false information.

By providing the right information to the public and creating a channel of exchange between traditional leaders and health workers in their respective areas, these social mobilization measures helped facilitate community acceptance of COVID-19 vaccination. As a result, the national vaccination coverage increased nearly five-fold, from 5.6% in September 2021 to 25.4% by the end of December 2021.

For more information, click here.

Representative of WHO Country Office in Togo, WHO staff and community leaders.
© WHO Country Office in Togo / Ms Fiaty

Téchne's International Multidisciplinary Summer School on "Systemic Design for Health:" responding to needs identified during the COVID-19 pandemic and beyond

Téchne International Multidisciplinary Summer School. © Adrian Lo

In April 2020, in response to Member States' need for guidance and assistance in addressing technical aspects and structural challenges related to their COVID-19 response activities, WHO created Téchne, the technical science for health network. Regrouping a range of partners, among which architects, engineers, designers and public health practitioners from several institutions globally, **the network prepares for and responds to acute public health events with urgent and customized support.**

Téchne significantly contributed to the pandemic response on all levels, **providing technical assistance to countries in all WHO Regions on improving environmental and engineering controls to make health settings and structures safer for health workers and patients and reduce the risk of hospital-acquired infections.** As part of this, Téchne notably helped to create over 6000 new beds for COVID-19 patients by setting up new health facilities and repurposing existing ones in line with WHO's safety guidelines.

Responding to a major gap highlighted by the pandemic surrounding the need to develop more resilient and flexible health structures, Téchne, in close collaboration with KU Leuven Faculty of Architecture (Belgium) and the Thammasat Design School (Thailand), with the Polytechnic di Turin's participation, recently organized the first international **multidisciplinary summer school on systemic design for health**. The summer school contributes to Téchne's long term objective of national and international capacity building through multidisciplinary and multicultural working sessions.

Held in Bangkok from 16 to 30 July 2022, the summer school was attended by 23 Belgian, Burmese, Cambodian, Thai and Vietnamese students from different backgrounds. Participants worked together to **develop a systemic design approach to improve ventilation, temperature, humidity, and daylighting control strategies for Infection Prevention and Control (IPC) in the context of mainland Southeast Asia.**

Discussions notably pursued the objective of developing **ideas for a multiple diseases treatment center** focusing not just on isolation units but on creating a safe care environment centered around patients, families and communities. Developing such multiple diseases treatment center as a new building typology for IPC could offer the flexibility needed to adapt buildings to other functions with minimal to no efforts – a big improvement compared to the major rehabilitation work usually required to convert disease-specific treatment units, such a Severe Acute Respiratory Infection treatment centers, to other purposes.

Leveraging on available WHO guidelines and standards, students had the opportunity to develop innovative context-specific spatial and structural solutions while learning from vernacular architecture and drawing upon their different backgrounds and expertise.

The summer school was opened by the Rector of Thammasat University, in the presence of the First Secretary of the Belgian Embassy in Bangkok and a representative from WHO Country Office for Thailand.

Overall, this initiative will contribute to Téchné's aim to create safer, healthier, equitable and more sustainable healthcare systems through integrated multidisciplinary, community-based and informed approaches to problem solving in the post-COVID-19 environment.

For more information, click here.

> "COVID-19 requires us to look critically at every component of the emergency planning cycle to identify what we did well and what we can do better. If a house can be a machine for living, a hospital must also be a machine for the delivery of healthcare. Smart design requires smart thinking so that hospitals are as fit for purpose as possible – in a world that is changing rapidly. Making architecture and engineering students aware early in their career of healthcare needs might be one of the best investments we can make."
>
> **Richard Brown**
> Programme Manager Health Emergencies and Antimicrobial Resistance, Thailand WHO Country Office

Building a community of learning for women leaders in health emergencies among WHO staff and Member States

Women leaders face specific challenges working in the response to health emergencies like the COVID-19 pandemic. Recognizing this, the WHO Health Emergencies Programme (WHE) launched a new **Women in Leadership community of learning** to help address these challenges through peer learning, networking and continuous learning opportunities.

This new community of learning is open to all women who participate in the Leadership in Emergencies programme, which has provided flagship training for WHO staff and member states representatives since 2019. Initially organized in-person, the Leadership in Emergencies courses were digitalized when in-person learning was disrupted by the pandemic. As a result, access to those online trainings was considerably increased and cohorts became more diverse. In particular, the proportion of women attending the courses has increased, from 31% in 2019 when courses were run in-person to 48% in 2022. Currently, 148 women leaders who participated or will participate in the Leadership in Emergencies programme and the support team form part of the Women in Leadership community of learning.

Communities of learning provide space and structure to connect people, organizations and systems that are eager to share learning and work across boundaries. Women make up almost 70% of the global health and social workforce and nearly 90% of the nursing and midwifery workforce, but it is estimated they hold only 25% of senior roles. This makes it even more important for women leaders to be able to share their experiences and learn while developing their lives and careers.

Poster for the first Women in Leadership webinar. Credit: WHO

The Women in Leadership community will help engage women who are serving in or aspiring to leadership positions in emergency response and create a sustainable network for mutual support. It will also provide an opportunity to advise senior management and human resources about gender-focused inclusivity in emergencies by creating a channel to identify concerns, barriers and solutions to the advancement of women working in emergencies.

In July 2022, a community webinar was held to discuss how gender stereotypes affect the workforce, including women's leadership styles, as well as how to build capacities and systems to address the impact of these stereotypes. In the coming months, the group will meet to discuss additional challenges women face in health emergencies, including COVID-19, and participate in virtual coffees for members to get to know one another better.

For more information, click here.

> "We want to empower and support women in our training programme who face gender-related barriers and biases in pursuing leadership roles. These are important learning opportunities and discussions that can help shift the field of health emergency response toward becoming a more equal one."
>
> **Heini Utunen**
> Acting head of the WHE Learning and Capacity Development Unit, which runs the leadership training

> "We will not have a sustainable tomorrow unless we have gender equality. It is not possible to deliver, and we will not be an effective programme, unless we have equity."
>
> **Dr Michael Ryan**
> Executive Director, WHO Health Emergencies Programme

Leveraging lessons learned and systems from previous epidemics, Uganda builds up its response capacities to scale up COVID-19 testing and surveillance while maintaining essential health services

Rawlance Ndejjo,[1,2] Chevy Lazenby,[1,3] Steven N. Kabwama,[2] Alice Namale,[2] Suzanne N. Kiwanuka,[2] Fred Monje,[2] Susan Kizito,[2] Rhoda K. Wanyenze,[2] Jacqueline Maloney,[3] Will Wang,[3] Chris Troeger,[3] Anne Liu,[3] Henry Kyobe Bosa.[4]

Exemplars in Global Health (EGH) identifies positive health outliers, studies successes, and shares findings so that lessons can be adapted in comparable settings to improve health across the world and be applied to future pandemics. The Exemplars in Global Health program is housed at Gates Ventures – the private office of Bill Gates – and is made possible by a coalition of global and in-country experts, funders and collaborators.

The following feature was submitted by Gates Ventures, as a WHO partner organization. It highlights Uganda's exemplary approaches to testing and surveillance, and the maintenance of essential health services (EHS), which was informed by research led by Makerere University School of Public Health between September 2020 and December 2021, with funding from the Bill & Melinda Gates Foundation and Gates Ventures. Many of these approaches were informed by WHO guidance.

Immediately after WHO declared COVID-19 a public health emergency of international concern at the end of January 2020, the Ugandan Ministry of Health activated the Public Health Emergency Operations Centre and the National Task Force – shifting from preparedness to response when the first case was recorded on 21 March 2020. Since then, Uganda has performed over 2.6 million tests and recorded just over 160 000 cases (including reinfections) and 3500 deaths (largely driven by the Delta variant around June 2021).[5]

Despite challenges in Uganda's testing and surveillance systems, the country was able to leverage lessons learned and systems developed from previous epidemics.[6]

Nurse Guloba Rhode administers a COVID-19 vaccine at Makerere University Hospital in Kampala, Uganda on 19 January 2022. © Gates Ventures, LLC / Sumy Sadurni

Using the investments in Ebola response capacities for COVID-19 rapid response

During the most recent Ebola virus disease outbreak in 2019, Uganda's community surveillance program trained more than 10 000 health workers and village health teams on infection prevention and control, epidemic surveillance and other aspects of outbreak response. These trained health workers played a pivotal role in the country's ability to rapidly respond to COVID-19, through supporting surveillance and contact tracing. Since the start of the pandemic, Uganda increased its testing capacity from one central laboratory at the Uganda Virus Research Institute to four additional central-level laboratories and GenExpert testing machines at all regional referral hospitals. The country also scaled up capacity to perform rapid diagnostic tests, introduced genotypic post-mortem surveillance and conducted several serological surveys.

Applying a multi-pronged approach to maintain access to essential health services

To maintain the provision and utilization of essential health services, Uganda established a committee, which developed and disseminated guidelines to coordinate and enhance the continuity of essential health services. Health officials also implemented a variety of interventions to mitigate supply- and demand-related obstacles, including task shifting to community health workers, leveraging technology such as the electronic logistics management information system for ordering health commodities[7] and information dissemination via mobile phones.[8] Additionally, virtual communication platforms (such as Zoom) were used to conduct training and support supervision. Strong subnational coordination mechanisms were established to facilitate the transportation of health care workers and supplies. Service delivery was adapted to maintain essential health services through special clinics, outreaches, designated facilities for COVID-19 treatment, community drug distribution and multi-month drug dispensing.

Continued on next page …

1 Corresponding author.
2 School of Public Health, College of Health Science, Makerere University, Kampala, Uganda
3 Gates Ventures
4 Ministry of Health, Kampala, Uganda; Uganda Peoples' Defence Forces, Kampala, Uganda
5 Our World In Data, accessed 31 May 2022
6 Between 2000 and 2016, Uganda experienced eight public health emergencies of international concern: five outbreaks of Ebola virus disease, most recently in 2018 and 2019, and three outbreaks of Marburg virus disease.
7 Annual Health Sector Performance Report 2019/2020; see page 107 here
8 The Pan African Medical Journal, Supplement article – Commentary, 20 May 2020

In May 2021, Uganda's Ministry of Health worked with WHO to update national Essential Health Services (EHS) guidelines and informed these updates, with support from Makerere University's School of Public Health and Exemplars in Global Health. Following their research and recommendations, Uganda's EHS Continuity Committee published updated guidelines on maintaining EHS on 24 July 2021, which included revisions surrounding: the inclusion of additional programmes (e.g. on neglected tropical diseases, noncommunicable diseases, school health, mental health, psychosocial services), updating terms of reference for regional support teams to improve coordination and for village task forces and village health teams, and adding new incentives for health care workers.

The team of researchers at Makerere University subsequently presented their findings and lessons learned at the launch of Uganda's Joint External Evaluation Plan and Global Health Security Agenda (GHSA) commitments in September 2021. Building on these, the research team emphasized the need to integrate resilience in preparedness and response planning, include EHS as a critical pandemic response pillar, and track and mitigate unintended consequences.

More information can be found in the full case studies on Uganda's approach to diagnostic testing and surveillance and the maintenance of essential health services.

Laboratory worker, Kasujja Ronald, at the COVID-19 sample testing laboratory at Entebbe Airport, Entebbe, Uganda on 21 January 2022. © Gates Ventures, LLC / Sumy Sadurni

WHO develops a method to deliver actionable infodemic insights and recommendations as part of the COVID-19 pandemic response

This feature is a summary of the following article: Delivering actionable infodemic insights and recommendations for the COVID-19 pandemic response, WHO Weekly epidemiological record, No 27, 2022, 97, 313–324. Published under the CC BY-NC-SA 3.0 IGO licence.

For more information about the WHO Weekly Epidemiological Record, click here.

Since the beginning of the COVID-19 pandemic, **infodemic has been a global issue** that may have **affected the effectiveness of public health responses.** Infodemics are defined as too much information, including false or misleading information, in digital and physical environments during an acute public health event, which can lead to confusion, risk-taking and behaviour that can harm health and lead to mistrust in health authorities and public health response.

To address this challenge, WHO has been using since the onset of the pandemic a **multiprong approach** consisting in four interlinked strategies, namely: promoting a whole of society response to the COVID-19 infodemic; supporting the science of infodemiology; enhancing workforce's capacities to respond to infodemics; and building a country toolbox to support Member States manage infodemics.

Within this framework, in March 2020 WHO's COVID- 19 incident management support team's (IMST) developed in collaboration with research partners an **integrated method for public health infodemic analysis and insights generation.** This method is able to **generate weekly analysis of social media, traditional media and other data sources, to identify, categorize and understand the concerns and narratives expressed** by individuals and communities.

> "To keep public health on the agenda, maintain a whole-of-society approach, maintain your surveillance systems, or ensure uptake of e-health initiatives or future vaccination campaigns, you need to keep managing infodemic and facilitating clear communication. Infodemic management is the mother of all public health interventions – without it, their effectiveness is threatened."
>
> **Prof. Neville Calleja**
> Director of Health Information and Research
> Ministry for Health of Malta

This three-step method (see below) identifies or anticipates areas of concern, questions, misinformation and information voids in narratives circulating, and **provides immediately actionable insights to WHO and Member States for use in decision-making and risk communication.** Overall, this helps to complement rumour-tracking and **provide the right health information at the right time in the right format to the people who need it.**

- **Step 1:** the WHO team collected data on a weekly basis from approximately 20 million publicly available social and news media sources in English, French and Spanish, and categorized into conversations according to a COVID-19-public health taxonomy. This **quantitative identification** helped **identify potential topics of concern and information voids.**
- **Step 2:** the dataset was **analysed qualitatively** and **compared** on a weekly basis to identify narratives and their changes and to characterize changes in sentiment in the conversation. WHO then developed and shared **a digital infodemic intelligence report** (50 pages) with its global and regional infodemic response networks, including Member States
- **Step 3:** the digital infodemic intelligence was reviewed by a WHO-led multi-disciplinary team of experts and triangulated with other data sources to derive insights on the infodemic. The team then compiled a **one-page memo,** shared across WHO's three levels and global and regional infodemic response networks, that recommended action to WHO for the week on: (i) messaging and communication optimization; (ii) research and evidence generation; (iii) improvements to WHO web pages; (iv) coordination with media or fact-checking organizations; and (v) risk communication-related actions.

Continued on next page …

As this public health taxonomy for analysis of COVID-19 conversations could directly help Member States to deliver digital infodemic intelligence nationally, the method was further adapted and localized by WHO Country Offices, in collaboration with respective ministries of health and UN partners. 18 countries across four WHO regions, including Canada, Indonesia, Mali and the Philippines therefore adapted the tool. The taxonomy was also tested and used for automated social listening on the pilot WHO platform "Early AI-supported response with social listening."

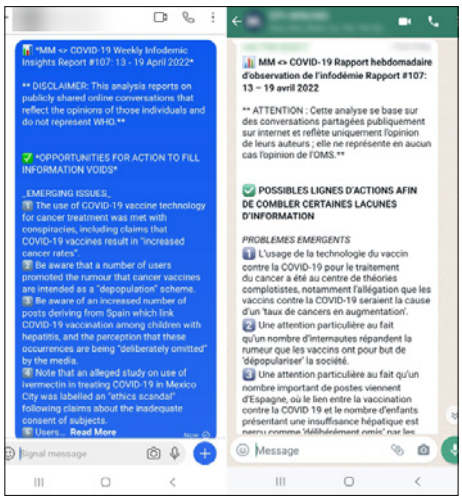
Between the start of the pandemic and 23 June 2022, **116 weekly digital infodemic intelligence reports were produced and disseminated and 4.4 billion user-generated posts and comments on social media related to COVID-19 were analysed.** Among other noticeable results based on this approach, the WHO Regional Office for South-East Asia also produced 100 weekly infodemic intelligence reports, and the Africa Infodemic Response Alliance (AIRA) produced 53 weekly infodemic trend reports between March 2021 and June 2022.

Overall, **these WHO infodemic monitoring insights and recommendations helped enhance the effectiveness of WHO's engagement** in relation to COVID-19 and supported Member States in their response. This tool has also proven to be relevant for other topics beyond COVID-19, such as for instance the recent Olympic and Paralympic Games in Beijing, China.

Way forward: disseminating and mainstreaming infodemic management practice in Member States

Moving forward, these analytical methods for infodemic intelligence monitoring and generation **could be applied in epidemic and pandemic preparedness and prevention for other vaccine-preventable diseases,** such as seasonal influenza and routine immunization. These could also **help in preparing for acute public health events or be adapted for rapid use in outbreak and emergency response,** such as for instance monkeypox.

To leverage on this opportunity, WHO developed a training programme and is developing country support packages for "pop-up" infodemic insights teams during an outbreak or emergency. **WHO recently co-hosted with UNICEF, the US-CDC and Gavi a training where 568 participants** from various Member States **learned to promote demand for routine immunization and COVID-19** vaccines by leveraging on the integrated analysis methods for infodemic insight generation. Trainees applied this knowledge to scenarios of outbreak response to COVID-19, monkeypox and other vaccine-preventable diseases and feedback was overwhelmingly positive, signaling the relevance of the method. A new round of trainings is currently under consideration.



Sample weekly short-text-message report distributed on Signal and WhatsApp messaging platforms for 13–19 April 2022. Credit: WHO

Screenshot showing a participant to the infodemic training applying the knowledge and tools gained in the field. Credit: Joel Lamika

> "I am currently participating in COVID-19 vaccination outreach and am already conducting social listening and demystifying misinformation. (…) Thanks to [the infodemic] training, I am addressing infodemics/information voids regarding monkeypox, trying to think ahead of what people need to know."
>
> **Feedback from a participant to the infodemic training co-hosted by WHO, UNICEF, the US-CDC and Gavi, the Vaccine Alliance**

Leaving no one behind: How OpenWHO.org ensures equity in health information delivery for people living with disabilities

Screenshot from the OpenWHO Indian sign language course. Credit: WHO

Across the world, the COVID-19 pandemic has disproportionally affected people living with disabilities, highlighting the need for disability-inclusive COVID-19 response. Such response measures require accessible and timely public health information, among others.

To meet the needs of people living with hearing and/or visual impairments and ensure equity of health information delivery during health emergencies, such as the COVID-19 pandemic, the OpenWHO.org learning online platform has introduced several approaches.

1. Hearing impairment

It is estimated that more than 1.5 billion people globally live with hearing loss. **OpenWHO courses have transcripts and subtitles available in different languages,** which can help facilitate access for people living with hearing impairment.

In March 2020, OpenWHO's "Introduction to COVID-19" learning materials were made available in Indian sign language to help meet the needs of learners in one of the world's most populous countries and beyond. Currently, the course hosts 55 000 learners across 150 countries, with 88.1% of learners located in India, and other key learning communities situated in Bangladesh, Pakistan, Saudi Arabia and Iraq. Half of the learners are students (33.3%), health professionals (9.6%) or personnel of non-governmental organizations (8.4%).

2. Visual impairment

Globally, at least 2.2 billion people have a near or distance vision impairment. Visual impairment can lead to lower levels of educational achievement.

OpenWHO has several features to improve accessibility for learners who are visually impaired, including:

- **Text alternatives** for non-text content;
- **High-contrast colour schemes** to improve readability of learning materials; and
- Allowing learners to **download text items** (e.g., slides, subtitles and supporting materials), which can be explored in the appropriate resolution or size on a different device or simply be printed.

In early 2022, OpenWHO began progressively rolling out a new typeface called Atkinson Hyperlegible across its learning materials, which adds several design features that make it easy for visually impaired people to recognise the letters, increasing legibility and improving readability.

Overall, **OpenWHO courses are free of charge and self-paced** so that anyone interested can complete a course at their convenience. This helps ensure that neither cost nor time serve as barriers to access for those who would benefit from the courses' accessible features.

The OpenWHO team is devoted to continuing to tailor its learning approaches to meet the needs of people living with disabilities. By doing so, OpenWHO can help make health information accessible and delivered on time across different communities, promoting equity in learning for health emergencies.

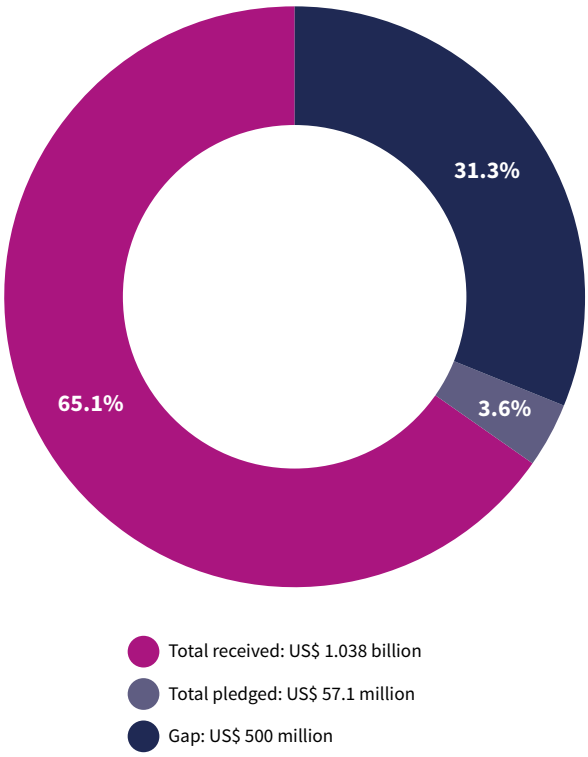
WHO's COVID-19 Response Funding in 2022: Delivering science, solutions and solidarity to end the acute phase of the pandemic

WHO's Global Health Emergency Appeal for 2022 (GHEA) contributes to our strategic target of 1 billion people being better protected from health emergencies. This new annual appeal covers WHO's requirements to meet urgent emergency and humanitarian health needs for every region, including the COVID-19 response.

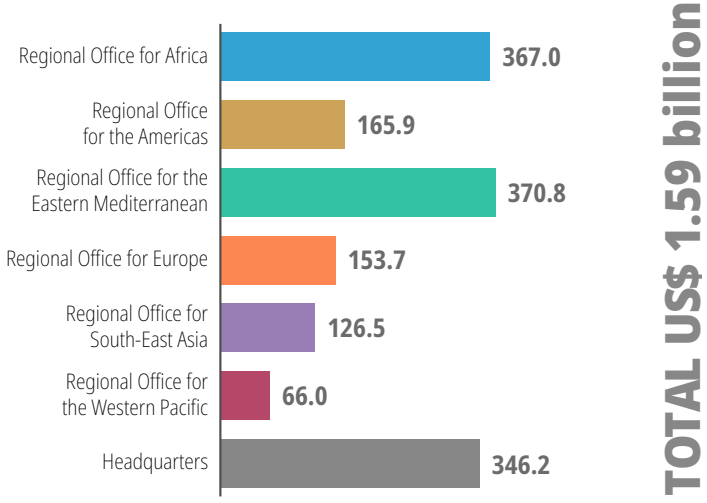
In WHO's GHEA 2022, published in March 2022, WHO called for US$ 2.7 billion to serve people around the world in the **most vulnerable settings, including US$ 1.59 billion for ending the acute phase of the COVID-19 pandemic.** Two years of COVID-19 have stretched health systems, societies and supply chains, leaving vulnerable communities with less capacity to cope. The world is witnessing a significant increase in the number of people requiring humanitarian assistance – up from 235 million in 2021 to 274 million in 2022.

Thanks to the generosity of donors, investments in WHO's COVID-19 response have helped slow the pandemic's destructive path and enabled the introduction of life-saving tools. But we have not yet addressed the inequities in access to these tools among many of the communities and countries that need them most. As of 15 August 2022, WHO has received **US$ 1.038 billion** in support of its COVID-19 response and **US$ 57.1 million** have been pledged. WHO's current funding gap against funds received and pledged is **US$ 500 million.**

Contributions to WHO for COVID-19 appeal (Data as of 15 August 2022)



WHO COVID-19 budget by major office (US$ million)

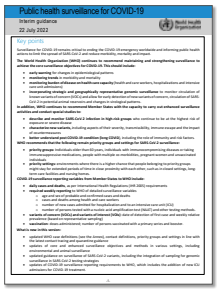


TOTAL US$ 1.59 billion

WHO's COVID-19 budget broken down by Access to COVID-19 Tools Accelerator (ACT-A) pillar (US$ million)

ACT-A Pillars	Total
Diagnostics and therapeutics	214.3
Vaccines	189.8
Health systems and response connector	332.7
Research and development	753.7
Total	**1596.1**

This section showcases new or updated guidance and publications related to COVID-19 published by WHO in the past month (as of 15 August 2022).



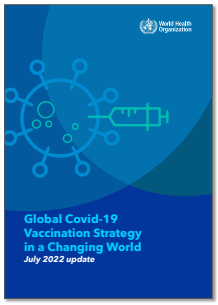
Public health surveillance for COVID-19: interim guidance (22 July 2022)

This document summarizes current WHO guidance for public health surveillance of coronavirus disease 2019 (COVID-19) in humans caused by infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This guidance includes the new elements:

- Updated WHO case definitions, contact definitions, priority groups and settings in line with the latest contact tracing and quarantine guidance
- Updates of core and enhanced surveillance objectives and methods in various settings, including environmental and animal surveillance
- Updated guidance on surveillance of SARS-CoV-2 variants, including the integration of sampling for genomic surveillance in SARS-CoV-2 testing strategies
- Updates of COVID-19 surveillance reporting requirements to WHO, which includes the addition of new ICU admissions for COVID-19 treatment.

WHO also updated the COVID-19 case definition, case report form and the process for weekly reporting aggregated data.

Read guidance

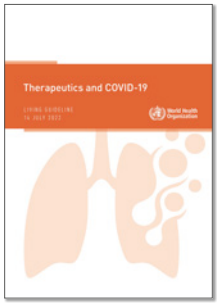


Global COVID-19 Vaccination Strategy in a Changing World: July 2022 update (22 July 2022)

This strategy brief outlines updated goals, steps, targets, and operational priorities to guide countries, policy makers, civil society, manufacturers, and international organizations in their ongoing efforts through 2022. The goals are to sustain and enhance momentum to reduce mortality and morbidity, protect health systems, and resume socio-economic activities with existing vaccines, and to accelerate the development and access to improved vaccine products.

Towards the end of 2022, as more scientific uncertainties get resolved and more data becomes available, WHO will embark on a consultative process to develop a global Covid-19 vaccination strategy for 2023 and beyond.

Read guidance



Therapeutics and COVID-19: living guideline (14 July 2022)

The WHO Therapeutics and COVID-19: living guideline contains the Organization's most up-to-date recommendations for the use of therapeutics in the treatment of COVID-19 and is updated regularly as new evidence emerges. This tenth version of the WHO living guideline now contains 19 recommendations, including two new recommendations regarding fluvoxamine and colchicine. No further updates to the previous existing recommendations were made in this latest version.

Read guidance

Based on these WHO Therapeutics and COVID-19: living guideline, WHO produced a series of supportive tools which are intended to provide supportive information for healthcare workers who are prescribing, administering and monitoring patients for non-severe COVID-19.

- Remdesivir for COVID-19, Administration of Remdesivir for COVID-19 and Safety and monitoring in patients receiving remdesivir for COVID-19
- Nirmatrelvir-ritonavir for COVID-19, Administration of Nirmatrelvir-ritonavir for COVID-19 and Safety and monitoring for patients receiving Nirmatrelvir-ritonavir for COVID-19
- Molnupiravir for COVID-19, Administration of Molnupiravir for COVID-19 and Safety and monitoring for patients receiving Molnupiravir for COVID-19

For more information on WHO's publications, click here.

GOARN
For updated GOARN network activities, click here.

Emergency Medical Teams (EMT)
For updated EMT Network activities, click here.

WHO case definition
For the WHO case definitions for public health surveillance of COVID-19 in humans caused by SARS-COV-2 infection, published December 2020, click here.

WHO clinical case definition
For the WHO clinical case definitions of the post COVID-19 condition, click here.

EPI-WIN
For EPI-WIN: WHO Information Network for Epidemics, click here.

WHO Publications and Technical Guidance
For updated WHO Publications and Technical Guidance on COVID-19, click here.

Epidemiological Update

For 10 August 2022 Weekly Epidemiological Update, click here. Highlights this week include:

- The COVID-19 epidemiological update at the global and regional levels.
- An update on the circulating SARS-CoV-2 variants of concern (VOCs), including their geographic spread and prevalence.

For more information on COVID-19 regional response:

- African Regional Office
- Regional Office of the Americas
- Eastern Mediterranean Regional Office
- European Regional Office
- South-East Asia Regional Office
- Western Pacific Regional Office

News

- Monkeypox: experts give virus variants new names
- WHO report shows poorer health outcomes for many vulnerable refugees and migrants
- Kenya and WHO launch bold initiative to transform Africa's health emergency response
- WHO launches appeal to respond to urgent health needs in the greater Horn of Africa
- UNAIDS, UNICEF, and WHO launch New global alliance launched to end AIDS in children by 2030
- Second meeting of the International Health Regulations (2005) Emergency Committee regarding the multi-country outbreak of monkeypox
- Interim statement on COVID-19 vaccination for children
- WHO makes new recommendations for Ebola treatments, calls for improved access
- Celebrating 70 years of GISRS, decades of collaboration

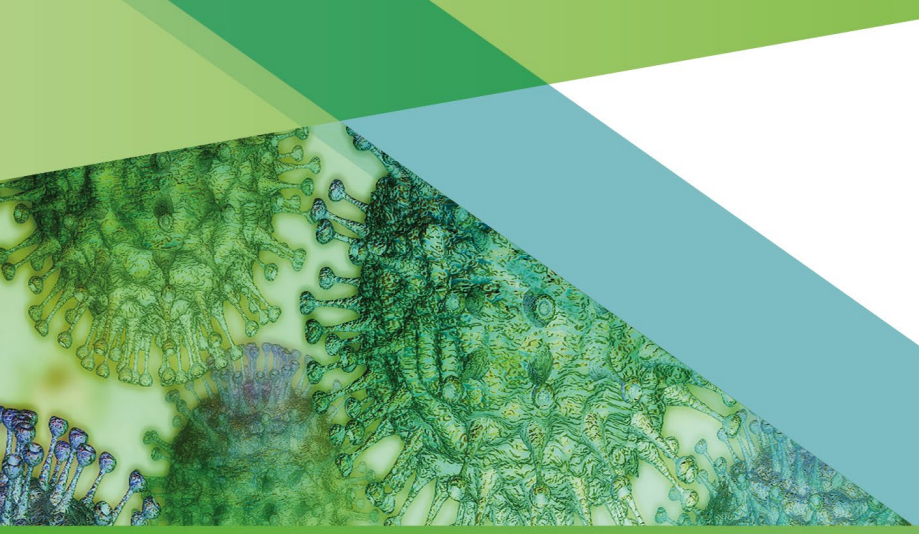
Highlights

- AFRO/WHO publishes the latest Africa Infodemic Response Alliance (AIRA) report on Infodemic Trends:
  - Information Gaps: Do COVID-19 vaccines cause death?
  - Key Monkeypox Misinformation Trends: (i) Tecovirimat is being hoarded in the US; (ii) Monkeypox Vaccine Components are Dangerous
- WHO publishes the COVID-19 Vaccine Delivery Partnership Situation Report – July 2022
  - Of the 34 countries identified for concerted support by the CoVDP in January 2022, 23 countries to date have surpassed 10% coverage, and 7 countries have reached at least 20% coverage

Science in 5 is WHO's conversation in science. In this video and audio series WHO experts explain the science related to COVID-19. Transcripts are available in Arabic, Chinese, English, French, Farsi, Hindi, Maithili, Nepali, Portuguese, Russian and Spanish.

Monkeypox: Who is at risk? (22 July)

Which communities are most at risk of Monkeypox in the current outbreak and why? WHO's Andy Seale explains how we can support the communities at risk in Science in 5.



Long-term qualitative scenarios and considerations of their implications for preparedness and response to the COVID-19 pandemic in the EU/EEA

August 2022

Key messages

- There are a wide range of potential trajectories for the progression of the COVID-19 pandemic in the coming months and years. This document sets out a number of scenarios that are intended to be plausible, internally consistent, and coherent descriptions of possible futures.
- The scenarios consider the epidemiological context that can generally anticipated in the EU/EEA from the summer of 2022 onwards. The timeframe for the scenarios is from 2022 to 2032. In publishing this document, ECDC does not ascribe a probability, nor suggest a higher likelihood of occurrence, for any of the scenarios described, which are not quantitative forecasts. The scenarios are based on the key variables of growth rate, disease severity and immune protection from severe outcomes.
- The qualitative scenarios are not mutually exclusive; over the course of the next decade it is entirely likely that there could be a transition from one scenario to another, due to changes in the virus, the level of immunity in the population or variations in societal response. The coming years will require extreme vigilance should new, more severe or more transmissible variants of SARS-CoV-2 emerge.
- The scenarios and the associated public health response priorities outlined in this document provide a potential framework for defining overall strategic objectives and actions for managing COVID-19 according to a range of possible trajectories in the future.
- Such strategic objectives need to be agreed upon so that operational discussions on the implications for a wide range of public health activities can take place according to a common understanding.
- The public health activities outlined in this document that need to be considered in preparing for potential future scenarios include, but are but not limited to, surveillance, risk communication, pandemic preparedness, early warning, vaccination, medical countermeasures, NPI measures and IPC measures.

Background

The European Commission Communication, published in April 2022, put forward an approach for the management of the pandemic in the months to come, supporting a move from emergency to a more sustainable mode [1]. This reflected the fact that many EU/EEA countries currently have or are approaching high levels of population immunity against severe disease (through vaccination and/or natural infection) and, consequently, have observed reduced severity of outcomes with the currently circulating Omicron variant of concern (VOC).

The Commission Communication also set out an analysis on qualitative long-term scenarios, developed by ECDC, that demonstrated a wide range of possible outcomes, based on the assumption that SARS-CoV-2 is here to stay

Suggested citation: European Centre for Disease Prevention and Control. Long-term qualitative scenarios and considerations of their implications for preparedness and response to the COVID-19 pandemic in the EU/EEA. August 2022. ECDC: Stockholm; 2022.

and will probably represent a long-term challenge to public health and healthcare systems. ECDC's document elaborates on those longer-term scenarios.

There are a wide range of potential trajectories for the progression of the COVID-19 pandemic in the coming months and years. The trajectory of the pandemic will ultimately be determined by a large number of parameters including, but not limited to, characteristics of emerging and circulating variants of SARS-CoV-2, effectiveness and waning protection from vaccination and/or natural infection, human behaviour, demographics and public health and political responses.

As the COVID-19 pandemic has continually demonstrated, delayed or insufficient action can be costly. Qualitative scenarios can be used to fill the gap between the need to rapidly implement evidence-informed policy decisions and the availability of sufficient scientific evidence.

Part 1 of this document presents qualitative scenarios that have been developed to focus on possible trajectories of the pandemic for an approximate ten-year period, from the present time onwards. These scenarios are intended to support decision-making until further information becomes available. The scenarios were briefly described in a European Commission Communication[1] and this document aims to provide further details.

Part 2 outlines public health priorities that are relevant across all of the scenarios, focusing on the shorter-term, as it is during the next few years that recovery from the COVID-19 pandemic and preparedness for the long-term management of COVID-19 needs to take place.

1. Qualitative pandemic scenarios

The scenarios presented in Table 1 are intended to be plausible, internally consistent, and coherent descriptions of possible futures [2]. The scenarios consider the epidemiological context generally anticipated in the EU/EEA from 2022 onwards. The timeframe for the scenarios is from 2022 to 2032. These have been developed by a multi-disciplinary team at ECDC and previously presented to the ECDC Advisory Forum.

At the time of writing, there are still many uncertainties and knowledge gaps, which ECDC has appraised through expert consultation [3]. While many factors may affect the COVID-19 pandemic, the scenarios developed consider different combinations of the primary variables presented below.

1. Viral properties

- Viral evolution
- Growth rate
- Disease severity (intrinsic)
- Seasonality.

2. Immunology

- Immune protection from severe outcomes
- Duration of protection.

3. Societal factors

- Societal tolerance for non-pharmaceutical interventions (NPI) and infection prevention and control (IPC) measures
- Societal tolerance for the residual risks of COVID-19
- Vaccination acceptance
- Healthcare system capacities.

4. Medical interventions

- Vaccines
- Antiviral medications
- Diagnostics.

[1] European Commission Communication: https://health.ec.europa.eu/publications/covid-19-sustaining-eu-preparedness-and-response_en

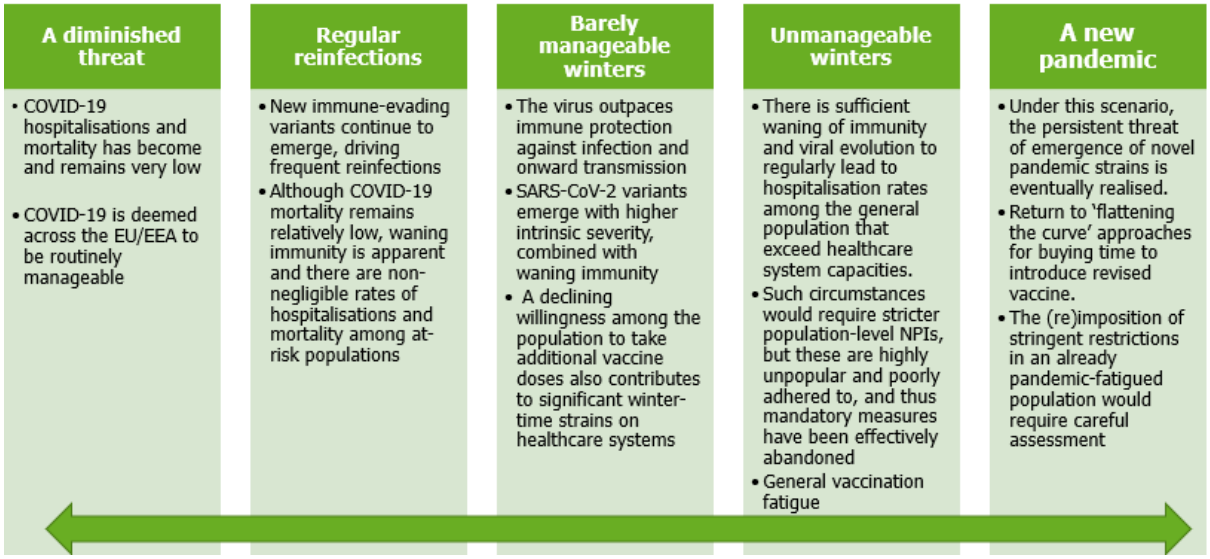
Table 1. Description of qualitative long-term scenarios

Scenario	Description	Key scenario assumptions
A diminished threat	In this scenario, the vast majority of the global population has been previously infected with SARS-CoV-2 and/or received COVID-19 vaccinations. Consequently, the observed severity of COVID-19 outcomes has been driven down to very low levels. While SARS-CoV-2 continues to circulate globally and new variants are periodically detected, the cross-protective immunity accrued through 2020, 2021 and 2022 means that while reinfections are fairly common, the impact of new variants on hospitalisations and mortality has become and remains very low. In this scenario, COVID-19 is deemed across the EU/EEA to be routinely manageable. There remains a persistent risk of a SARS-CoV-2 variants of concern emerging that reverses the dynamics of this scenario and leads to higher levels of hospitalisation and mortality.	**Viral properties** - No new variants with significant immune escape properties emerge. **Immunology** - Natural and vaccine-induced immunity against severe disease is very high globally; protection against reinfections is only partial. - Immunity from severe outcomes appears to be long-lived and rates of severe outcomes are very rare among healthy individuals. **Societal factors** - COVID-19 is not considered to be a major societal threat and the majority of the population has learned to live with the occasional SARS-CoV-2 reinfection. **Medical interventions** - Newer-generation vaccines that work across SARS-CoV-2 strains appear to be feasible and are expected to limit transmission in the future. - Antiviral medicines are effective at reducing severe disease.
Regular reinfections	In this scenario as in 'A diminished threat', a large proportion of the global population has acquired natural or vaccine-induced immunity, which provide a significant reduction of risk for severe outcomes. However, in this scenario, vaccine-induced and natural immunity are less efficient in preventing infection or transmission, and new immune-evading variants continue to emerge, driving frequent reinfections. Although COVID-19 mortality remains relatively low, waning immunity is apparent and there are non-negligible rates of hospitalisations and mortality among at-risk populations. However, since most severe cases are reported in people with known risk factors, healthcare systems can cope with this burden. Vaccines targeting the most recent variants are made available on an annual basis and are recommended for at-risk groups (e.g. immunocompromised, older adults and others with underlying comorbidities) in order to reduce pressure on healthcare systems, but vaccine uptake rates continuously decline. EU/EEA countries have generally abandoned the population-level NPIs that were implemented in 2020 and 2021. Emphasis is placed upon voluntary measures when interacting with risk groups.	**Viral properties** - Transmission levels remain high globally, with seasonal fluctuations. - Immune evasion variants periodically appear. **Immunology** - Natural and vaccine-induced immunity is very high globally but does not protect against reinfections. - Immunity from severe outcomes appears to be long-lived (e.g. multiple years) and rates of severe outcomes are low, but enough waning immunity exists to threaten the health of at-risk people. **Societal factors** - Declining uptake rates for vaccine boosters and little political or population acceptance for the re-introduction of NPIs, due to a collective sense that reinfections are inevitable but mostly harmless. - At-risk populations are generally more amenable to follow-up vaccinations and to adopting voluntary protective measures during periods of high transmission. **Medical interventions** - The high rate of reinfections and the emergence of new variants has proven to be difficult to counter with proposed variant-adapted SARS-CoV-2 vaccines. • Vulnerable populations are often the focus of annual vaccination campaigns.
Long, barely manageable winters	As in the second scenario 'Regular reinfections', the virus continues to circulate at considerable levels and reinfections are common, occurring at a rate of one or more per year for a healthy person. However, in this scenario the repeated emergence of more transmissible and immune evasive variants allows the virus to outpace vaccines and our immune system's protection against infection and onward transmission. In this scenario SARS-CoV-2 transmission intensity follows a seasonal pattern with the highest transmission in the EU/EEA between December and February. Thus, the highest SARS-CoV-2 spread coincides with that of other seasonal diseases (rhinovirus, RSV, influenza, other human coronaviruses). While the observed severity of SARS-CoV-2 is strongly reduced since the virus first	**Viral properties** - Immune evasion variants appear. - A winter seasonal transmission pattern has become apparent. **Immunology** - Combination of variants with immune evasion and some degree of waning immunity leads to severe outcomes among some at-risk groups. **Societal factors** - The regular reintroduction of a select range of targeted measures is generally accepted but there is a very visible opposition to more stringent population-level NPIs. There is a minor but steady reduction in public acceptance of additional vaccine doses.

Scenario	Description	Key scenario assumptions
	emerged, in some years SARS-CoV-2 variants emerge with higher intrinsic severity and this, combined with waning immunity and a declining willingness among the population to accept additional vaccine doses, leads to significant winter-time strains on healthcare systems. There remains considerable debate about whether and to what extent population-level NPIs should be re-implemented.	- Vulnerable populations are generally amenable to receiving additional vaccinations and adopting voluntary protective measures. **Medical interventions** - Annual vaccination campaigns target the at-risk population and, periodically, the immunological naïve, including young children. - While antiviral medicines work well when provided early in the course of disease, during seasonal surges the capacity to ensure early administration of antivirals to at-risk populations is stretched to the limit.
Long, unmanageable winters	As in the above scenario, the virus continues to circulate at considerable levels and reinfections occur frequently and with a seasonal pattern. The repeated emergence of more transmissible and immune evasive variants allows the virus to outpace vaccines as well as immunological protection against infection and onward transmission. In contrast to the above scenario, despite the fact that the perceived individual-level risk is low for most people, in winter months, the pool of susceptible people has built up more quickly. Hospital burdens increasingly become unmanageable. While much of this burden is among at-risk people, there is sufficient waning of immunity and viral evolution to regularly lead to hospitalisation rates among the general population that exceed healthcare system capacities. Such circumstances would in theory necessitate the re-implementation of stricter NPIs, but they will have to be targeted, as population-level NPIs have become highly unpopular and are poorly adhered to. In addition, attention is paid to promoting voluntary protective measures, and to annual vaccination campaigns targeting the general population, even if there appear to be diminishing returns from such campaigns.	**Viral properties** - Frequent emergence of more transmissible, immune-evasive variants - A winter seasonal transmission pattern has become apparent. **Immunology** - The combination of waning immunity and immune-evasive variants leads to high rates of severe outcomes among at-risk groups and moderate rates of severe outcomes among the general population. **Societal factors** - Adherence to unspecific population-level NPIs is low, but higher for targeted and time-bound NPI and IPC measures during periods of high transmission. - Vaccination fatigue across all groups, accompanied by a widespread sentiment that if vaccines worked the virus would no longer be so problematic. **Medical interventions** - Annual vaccination campaigns target the full population but rarely exceed 45% coverage. - While antiviral medicines work well when provided early in the course of disease, during seasonal surges the capacity to ensure early administration of antivirals to at-risk populations is stretched to the limit.
A new pandemic	Under this scenario, the persistent threat of novel pandemic strains emerging is eventually realised. A new variant of concern (or a different pandemic virus) begins to circulate and establish itself in exposed populations, with indications suggesting a significant impact on public health. The experience of COVID-19 has demonstrated the impact that enhanced public health measures can have if enacted rapidly. Hence in the initial phases, introducing restrictive and precautionary infection control and social distancing measures may be warranted. This will have the dual benefit of reducing initial spread and minimising immediate burden on healthcare systems, while also buying time to gain a better understanding of the scale of the potential public health threat. It will also help with the commencement of vaccine roll-out and extend the time window for effective development and deployment of strain-specific vaccines and other new interventions. If this scenario were to occur in the near future, the greatest challenge would arguably be to reengage with the public to aid compliance with restrictions during the period of uncertainty following initial emergence. The (re)imposition of stringent restrictions in an already pandemic-fatigued population would require careful assessment and different policy approaches may be needed to obtain public trust and support.	**Viral properties** - A new virus has emerged with a high intrinsic severity and the ability to transmit rapidly **Immunology** - The global population is immunologically naïve to this pandemic virus. **Societal factors** - Fatigue from the COVID-19 pandemic and low levels of resilience as societies are still not fully recovered from COVID-19. **Medical interventions** - Rapid upscaling of vaccine programmes will be a priority. - The advances in vaccination technologies exhibited during the COVID-19 pandemic create hope that within 4–6 months, strain-specific vaccines will become available. - As with the COVID-19 pandemic, it is expected to take many years to produce enough vaccine supplies for the entire global population.

It is important to note that the scenarios presented in Table 1 represent a range of plausible future possibilities. The range of scenarios represents a continuum, from least to most severe outcomes (Figure 1). In addition, it is important to note that the scenarios presented here are not necessarily mutually exclusive. It is entirely possible that for a period of time, one scenario will manifest itself, but this does not preclude a transition into another scenario. This underscores the importance of continued vigilance, based on effective surveillance, in order to inform timely and proportionate EU/EEA preparedness and response. However, while preparedness needs to be in place to address the most severe scenarios, there are also specific types of public health responses that should be in place for each of these scenarios – these are elaborated in Section 2.

Figure 1. Continuum of plausible pandemic scenarios



2. Public health actions required across pandemic scenarios

As noted above, the pandemic scenarios presented in this document may at any point transition to a more or less severe scenario. Continued public health vigilance, and preparedness to implement specific types of measures across the scenarios will be paramount to ensure that the scenarios have the least possible health and societal impacts in the EU/EEA. A summary of some of the key public health activities that may be relevant for each scenario is summarised in Table 2 below.

Table 2. Implications and public health actions required, depending on the different scenarios

Scenario name	Diminished threat	Regular reinfections	Long, barely manageable winters	Long, unmanageable winters	A new pandemic
Scenario number	1	2	3	4	5
Viral properties: public health consequences /action	• Routine sampling and sequencing ongoing to support assurance of strain stability. • Integrated respiratory surveillance at community and hospital levels.	• Continual variant monitoring focusing on rapidly developing or atypical clusters and patients exhibiting unusual epidemiological/clinical presentation as likely sources of emergence (symptoms, severity, duration etc.) • Requirement for appropriate levels of testing implementing community wide COVID-19-specific surveillance (self-testing).	• Seasonal scale-up of variant monitoring and rapid strain characterisation. • Increased testing and sequencing requirements may go beyond 'peacetime' requirements. • Ensure seasonal rapid antigen testing capacity is in place to support routine self-testing during peaks.	• Expansive variant monitoring and rapid strain characterisation established as routine. • Testing capacity adjusted to address seasonal peaks, with potential increased reliance on self-testing and quarantine during peaks due to limits on community testing capacity.	• Expansive variant monitoring and rapid strain characterisation (genotypic and phenotypic assessment). • Increased testing and sequencing requirements, adjusted to available capacity. • Possible limits in testing availability if existing tests display reduced specificity/sensitivity to emerging strains.
Immunology: public health consequences /action	• COVID-19 vaccines introduced into routine vaccination programmes, schedules based on estimated duration of protection against severe disease. Focus on individuals at risk and those eligible but not yet vaccinated with a primary course and booster dose(s). • Challenge to maintain vaccine uptake in the absence of significant health burden.	• Routine COVID-19 vaccination programmes may be supplemented with targeted booster campaigns for at-risk groups where there is evidence of waning protection against severe disease. • Challenge to maintain vaccine uptake.	• Consider seasonal strain-specific vaccination deployment targeting at-risk groups, and their contacts. Attendant need for vaccine teams (human resources, supplies, etc) and special vaccination sites and delivery options during time-limited periods. • Supported campaigns for vaccine uptake in key groups, including healthcare workers and staff in long-term care facilities (LTCFs), for both direct and indirect protection.	• Emphasise public health value in deploying seasonal strain-specific vaccination for all. • Concerted vaccination campaign to encourage general population uptake, emphasising importance of vaccination for at-risk groups. • Utilise community-wide vaccination centres to support rapid vaccine uptake.	• Massive global research effort to develop strain-specific vaccines. • Reliance on NPIs and other 'social' measures as the primary mitigation approach in absence of effective vaccines.
Social factors: public health consequences /action	• Basic hygiene measures promoted, but specific COVID-19 mitigation/intervention measures largely absent in most settings (including towards/within vulnerable groups). • Healthcare systems prioritise non-COVID care.	• Messaging focused on voluntary isolation if symptomatic (individual responsibility). • Possible targeted 'light' mitigations (NPIs, etc.) for vulnerable groups and settings with escalating infection rates (e.g. use of masks in LTCFs, hospitals). • Hospitalised/severe COVID-19 cases integrated into normal hospital case management.	• Seasonal NPI implementation during periods of high transmission/infection including: self-monitoring, self-testing and self-isolation for all with symptoms during 'COVID season'. • Increase adherence to NPI mitigation and interventions for vulnerable groups and settings (social distancing, use of masks in LTCFs, hospitals).	• Seasonal NPI implementation during periods of high transmission/infection, including: self-monitoring, self-testing and self-isolation for all with symptoms during 'COVID season'. • Required adherence to NPI for vulnerable groups and settings (shielding, self-isolation, use of masks).	Multi-layered response based on risk-based approach that optimises NPIs to maximise public health impact, minimises societal burden, and maintains adherence. Options may include: • enhanced contact tracing, quarantine and isolation of close contacts; • increased testing requirements, including assisted and self-testing (increased diagnostic testing capacity);

Scenario name	Diminished threat	Regular reinfections	Long, barely manageable winters	Long, unmanageable winters	A new pandemic
Scenario number	1	2	3	4	5
			• The need for proportionate NPIs in other settings may need to be assessed (e.g. use of masks, social distancing). • Implement specific COVID-19 hospital management plans, with possible reprioritisation of care to address COVID-19 patient needs within existing capacity during peak season.	• Remote working/ on-line environments may be considered. • The need for proportionate NPIs in other settings will need to be assessed (e.g. use of masks, social distancing, limits on community gatherings, vaccine certification). • Possible infection/symptom monitoring in community settings (schools and workplaces, etc.) to remain open. • Community engagement and communication strategies key to support compliance in sceptical/fatigued populations. • Options for expanded inpatient/ICU hospital capacity during peaks (beds, healthcare workers, etc.) to manage COVID cases.	• NPIs in community settings including use of masks, social distancing, capacity limits etc. (schools/workplaces etc.); • viability of non-essential services. (shops, restaurants etc.); • extended use of remote working/on-line environments;. • clear communication strategies are the key to emphasising community responsibility to minimise impact; • contingencies for surge-capacity in healthcare systems (including healthcare workers) in place for months.
Medical interventions: public health consequences /action	• Broadly effective vaccines, and absence of immune escape variants reduce the need for strain specific vaccine programmes/boosters, but still require broad-level of vaccine uptake to be maintained among at-risk groups in order to retain protection against severe disease at population level. • AV stocks and usage supported under normal treatment guidelines.	• Antiviral usage employed according to standard prescribing practices to reduce severe disease.	• Increase AV usage as numbers of cases increase with possible need for prioritised prescription during in-patient surges.	• Increase AV usage as numbers of cases increase with possible need for prioritised prescription during in-patient surges.	• Reliance on social measures in the short term until strain-specific vaccines become available. • Vaccine roll-out defined by assessment of approaches to minimise health burden. • Early assessment of effectiveness of existing medical interventions and treatments to mitigate (severe) disease.

2.1 Public health objectives beyond the acute and transition phases of the pandemic

There are numerous public health actions that will require priority in the coming years. On 26 April 2022, the European Commission published a Communication on sustaining EU preparedness and response [1]. This is complemented by an ECDC-authored perspectives paper, outlining public health considerations for transitioning beyond the acute phase of the COVID-19 pandemic [4].

To summarise these documents in brief, there is still a strong need to remain vigilant in the longer-term scenarios described in this paper. The European Commission highlighted the following areas as priorities for Member State attention:

- Step up **vaccination and boosting**, taking into account the simultaneous circulation of COVID-19 and other respiratory viruses, such as seasonal influenza.
- Set up integrated **surveillance systems** that are no longer based on the identification and reporting of all COVID-19 cases, but on obtaining reliable and representative estimates.
- Continue targeted **testing and sequencing** of sufficient samples to accurately estimate variant circulation and detect new variants.
- Invest in the **recovery of healthcare systems** and assess the wider health impacts of the pandemic, including on mental health and delays in treatments and care.
- Apply EU coordinated **rules to ensure free and safe travel,** both within the EU and beyond.
- Support the development of the **next generation of vaccines and therapeutics**.
- Intensify collaboration against **mis- and disinformation** on COVID-19 vaccines and NPIs.
- Continue to **deploy global solidarity and improve global governance**.

Further details on selected cross-cutting activities that would collectively help to achieve these objectives are presented below.

2.1.1 Refining surveillance

Appropriate and sustainable surveillance will be essential for tailoring and evaluating responses in all scenarios, and detecting the early signs of transition from one scenario to another. The current sentinel ILI/ARI and SARI surveillance systems should be significantly strengthened to increase their geographical coverage, sensitivity, and representativeness [5]. Systems will need to include sufficient coverage of sequencing to detect variant emergence and trends and will need to be integrated with the overall respiratory virus monitoring strategy. Failure to do so will hamper the possibility to effectively monitor the levels of virus circulation in the community and protect the most vulnerable. Furthermore, in the absence of such systems, we will be at constant risk of missing emerging virus variants or detecting them with significant delay. Such systems will allow for the rapid detection of seasonal increases at manageable testing levels, while avoiding artefacts that can result from ascertainment bias.

2.1.2 Sequence capacity and sharing

It is in the global interest to ensure that all countries have sequence capacity to monitor virus evolution. It is also important that countries are incentivised and not disincentivised (e.g. by travel and trade restrictions) to exchange information as promptly as possible on any new SARS-CoV-2 variants, novel viruses or health threats generally. Measures are vital to ensure that information sharing from scientific or public health communities on new variants is widely supported and that the response to the pandemic is globally coordinated.

2.1.3 Enhancing preparedness and response

While much has been learned about the role and effectiveness of response measures during the last two years, there are still gaps in our understanding about what and when specific measures are optimally applied in the face of changes in the epidemiology of COVID-19.

Priority actions to address these gaps include:

- Careful assessments of the effectiveness, cost-effectiveness, and social acceptability of the range of NPIs implemented during the COVID-19 pandemic. This will inform future decision-making if time-limited introduction of NPIs is required in the future in response to enhanced viral circulation or outbreaks.
- It is critical to identify thresholds and develop protocols for outbreak identification and management, including contact tracing, with an emphasis on congregate and healthcare settings.
- Rapid identification and assessment of key epidemiological parameters (including severity, transmissibility, immune escape) is vital, particularly through the conduct of 'first few' studies, for each new variant of interest or variant of concern. This includes:
  - operational study protocols to quickly assess secondary attack rates and growth rates, and R_t and R_0 are needed to provide reliable risk assessments;
  - the ability to rapidly assess severity, including follow-up by age group, previous infection, and vaccination status of cases identified, each time a new variant emerges;
  - readiness to quickly assess immune escape and waning protection against infection and severe disease, including by age group, previous infection, and vaccination status.

2.1.4 Protection of vulnerable groups

Owing to vaccine protection and immunity from natural infection the majority of the population is currently expected to be protected from severe COVID-19. However, there will still be parts of the population that remain vulnerable to unfavourable outcomes (and repeatedly so over time, with each new variant), such as older adults, people with underlying conditions, the immunocompromised, the unvaccinated/partially vaccinated and those whose protection from vaccines or natural infection has waned. Efforts should focus on the protection of these people with both pharmaceutical (e.g. vaccine boosters, when necessary, and early access to antiviral treatments) and non-pharmaceutical interventions.

2.1.5 Prevention of healthcare-associated COVID-19

COVID-19 can be transmitted within healthcare settings, often with devastating outcomes because it affects people who are already vulnerable to severe disease and death. Optimisation of infection prevention and control practices in both acute and long-term care settings is the key to mitigating the effects of COVID-19 in terms of morbidity, mortality and healthcare burden. If variant-adapted vaccines demonstrate a greater effect against infection and transmission, their administration to healthcare workers and LTCF personnel may be considered to provide both direct and indirect protection.

2.1.6 Healthcare system management and resilience

COVID-19 has had a heavy toll on healthcare systems and the staff within them. In each of the scenarios presented it is envisaged that COVID-19 will continue to give rise to hospital admissions, albeit at manageable levels in the first two scenarios. Healthcare systems need to be capable of dealing with the accumulated backlog of non-COVID-19 patients requiring management, and to be prepared for scenarios that will place them under further pressure. This will require:

- ongoing refinement of preparedness planning in laboratory and healthcare systems to ensure that staff and resources are able to meet increasing demand;
- increased focus on the resilience and adaptability of these systems in terms of financial and human resources and allocated goods for healthcare delivery, including the direct negative impact of a decreasing workforce due to staff infections (irrespective of whether these are acquired outside or within the healthcare system);
- an increased understanding of levels of excess mortality and morbidity during the pandemic, which may also relate to backlogs in non-COVID care.

2.1.7 Behavioural and societal aspects

Two years into the pandemic, there is still insufficient understanding of the behavioural, cultural and societal drivers that have an impact on population acceptance and adherence to public health interventions (including NPIs and vaccine uptake), or on how these can change over time. The emergence of a new variant, and the resultant potential need to refine intervention approaches exacerbates this uncertainty. Therefore there is a need to improve the capacity to conduct behavioural insights research on vaccine acceptance and various NPIs.

- It can be expected that unless there is a major change in the (perceived) risk, severity or susceptibility to severe outcomes, the willingness to adhere to any reintroduced unspecific population-level NPI measures or even routine COVID-19 booster doses will decline in the general population over time (possibly less so in vulnerable groups and healthcare workers).
- It is unclear how the acute phase of the COVID-19 pandemic will lead to sustained lifestyle changes in society (e.g. from teleworking, seasonal use of NPIs such as masks, as observed in other parts of the world, adapting buildings to make them COVID-secure, etc.)
- The question of protecting the most vulnerable in society through the adoption of targeted mass vaccination programmes will need to be investigated, both in terms of effectiveness and cost-effectiveness, following the same processes and methods as are applied for non-pandemic diseases.
- Continuing management of mis- and dis-information should be maintained.

2.1.8 Ensuring proportional responses

There is a need for broad political/societal agreement on the appropriate forms, level, and targeting of response measures within any given scenario. At the milder end of the spectrum of scenarios, there are potentially substantial, negative societal consequences to reintroduced stringent disease control measures and travel bans, both directly in terms of impact on population health and livelihoods, and socially and politically if large proportions of the population do not accept them. At the severe end of the spectrum, sufficiently targeted and proportionate measures will be required to minimise the disruption to society while protecting those most at risk of severe outcomes. Furthermore, there is a need for continual re-assessment of the risks from new variants balanced against waning immunity. This will require measures to be proportional to the risk - neither too stringent, nor too relaxed.

2.1.9 Vaccine 'agility'

As long as SARS-CoV-2 is circulating widely on a global basis, we may expect new variants to arise. New VOCs may emerge at any time, with unpredictable characteristics, further affecting the duration of protection from

current vaccine formulations. However, cell-mediated immunity from current vaccines, which is important for protection against severe disease, has shown good cross-protection against different VOCs and seems broadly preserved so far, although the duration of such preserved protection cannot be known until it has been possible to follow up for a longer period.

It is important to be clear about the objectives of future vaccination and booster campaigns in the general population and vulnerable groups (e.g. reduce severe disease, hospitalisations and deaths to an acceptable level, protect vulnerable groups, reduce the overall burden of disease as much as possible, reduce viral circulation), and to balance these against the costs, opportunity costs, benefit and risks associated with repeated vaccinations. Depending on the objectives and the priorities, and also on the actual added benefit that can be obtained from additional doses, different needs for COVID-19 vaccine development and deployment may arise.

It appears likely that there will be a regular need to develop and manufacture updated vaccines at scale, whether for primary vaccination courses or boosters. At present, the mRNA technology is the platform that can deliver updated versions of approved vaccines most rapidly, although the time required to develop variant-adapted formulations at sufficient scale could be too long to have an impact on new waves of VOCs. The capacity to develop and deploy updated vaccines in a timely manner could be required for decades as the virus enters an endemic phase, especially given the unpredictability of variant emergence.

Efficiency improvements are required for the full vaccine development cycle, from processes for selecting updated vaccine targets through to manufacturing. This should be done through a governance mechanism that also prioritises equity for strain selection and includes consideration of alternative vaccine strategies such as developing and deploying multivalent vaccines or targeting conserved SARS-CoV-2 virus antigens that may offer more stable and broader protection against future variants.

Long-term vaccination strategies should align with public health priorities for managing COVID-19 burden as the situation (and population immunity) evolves, addressing immunity gaps and protecting those most at-risk. Use of vaccines will also need to be balanced against use of other pharmaceutical and non-pharmaceutical interventions, as the added benefit derived from vaccines may increase if other measures are not adopted (or do not need to be adopted).

The speed at which vaccines can be produced, distributed and administered to citizens is also vital, given the development of scenarios that envision the need for a rapid response. This will require substantial global investment to develop surge capacities, with resources to additionally monitor and respond to acceptance and concordance challenges for recurrent COVID-19 vaccination in all population groups, but particularly in the most vulnerable and at-risk population groups [7].

2.1.10 Determine the role of antiviral treatments

Novel antiviral therapeutics that are easily administered for the prevention of severe disease have the potential to significantly contribute to decreased healthcare burden. It is necessary to define the indications of antiviral agents and, if approved for use, ensure their availability at least for those who are most vulnerable to severe COVID-19 and unfavourable outcomes. The potential development of antiviral resistance that can compromise the effect of antiviral agents needs to be monitored.

2.1.11 Global health

COVID-19 has intensified existing discussions surrounding global health equity and demonstrates very clearly that no country is safe until all countries are safe. Strategic decisions are required concerning enhanced investments in global health infrastructure and bolstering the availability of COVID-19 vaccines, antivirals, personal protection equipment, medical equipment such as ventilators, and testing reagents on a global scale. Furthermore, there is a need to support countries globally in conducting epidemiological investigations into new variants of concern.

Our understanding of possible pathways for virus evolution also needs to be improved. During the COVID-19 pandemic there were multiple instances of COVID-19 outbreaks among a range of mammalian species, and there is a risk that the novel VOCs could emerge through reverse zoonoses, followed by zoonoses. Therefore, the animal-human interface is a topic deserving of more attention at global level.

2.1.12 Lessons learned and after-action reviews

The COVID-19 pandemic has had a myriad of long-ranging impacts on public health and the world at-large. It is imperative that innovations and good practices that emerged during the pandemic are safeguarded. Lessons learned must be acted upon so as to improve public health preparedness and response to future large-scale outbreaks and pandemics. An evidence-based approach should inform decision-making during the transition phase. Structured after-action reviews and lessons learned exercises should be an important activity area during the pandemic transition phase and there should be sufficient high-level buy-in to ensure that the results of these exercises are acted upon [8].

3. Long-term strategic considerations

In the longer-term, through sufficient planning, preparedness, and foresight, the EU/EEA can be better equipped to sustainably handle the additional long-term challenge that COVID-19 has created, in addition to other pre-existing and continuing infectious disease threats. In this respect, pandemic preparedness in the EU/EEA needs to be enhanced and coordination of responses between Member States optimised.

To achieve this, firstly, the overall strategic objectives and actions for future management of COVID-19 must be agreed upon so that there is a common playing field. Secondly, operational discussions are required on the implications for a wide range of public health activities, including surveillance, risk communication, pandemic preparedness, early warning, vaccination, medical countermeasures, NPI measures and IPC measures.

Finally, moving forward, it is imperative that public health agencies have the best possible information, to ensure that recommended mitigation measures are commensurate with assessed levels of risk.

Conclusion

Given the number of uncertainties surrounding possible trajectories for the COVID-19 pandemic, particularly in light of the continued high levels of viral transmission globally, and the possibility that new variants of concern may arise, it seems clear that SARS-CoV-2 is here to stay. As such, public health systems, clinical services and society in general will need to adapt to the fluctuating levels of threat that this virus is likely to present in the coming years.

The scenarios presented here are based on a range of plausible trajectories, and have been developed to support and inform decision-making concerning the type of long-term investments and arrangements required to manage the next phases of the COVID-19 pandemic. Common to all scenarios is the perpetual risk posed by new SARS-CoV-2 variants. A key message is that even when or where current scenarios appear to be less severe, adequate surveillance and monitoring systems need to be in place to detect changes in the level of threat posed by SARS-CoV-2, and preparedness must be strengthened in order to mount an effective and proportionate response to rapidly deteriorating situations. The wide range of possible outcomes presented in this document serves as a reminder that there is much work yet to be done to strengthen global and EU health security against COVID-19 and future pandemics.

References

1. European Commission (EC). Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COVID-19 - Sustaining EU Preparedness and Response: Looking ahead. 26 April 2022. Brussels: EC; 2022. Available at: https://health.ec.europa.eu/publications/covid-19-sustaining-eu-preparedness-and-response-looking-ahead-0_en
2. Amer M, Daim TU, Jetter A. A review of scenario planning. Futures. 2013;46. Available at: https://www.sciencedirect.com/science/article/pii/S0016328712001978
3. European Centre for Disease Prevention and Control (ECDC). ECDC expert consultation on knowledge and research gaps related to the COVID-19 public health response. Stockholm: ECDC, 2022. Available at: https://www.ecdc.europa.eu/en/publications-data/ecdc-expert-consultation-knowledge-and-research-gaps-related-covid-19-public
4. Suk JE, Pharris A, Beauté J, Colzani E, Needham H, Kinsman J, et al. Public health considerations for transitioning beyond the acute phase of the COVID-19 pandemic in the EU/EEA. Eurosurveillance. 2022;27(17):2200155. Available at: https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2022.27.17.2200155
5. European Centre for Disease Prevention and Control (ECDC)/World Health Organization Regional Office for Europe (WHO). Operational considerations for respiratory virus surveillance in Europe. Copenhagen and Stockholm: WHO/ECDC, 2022. Available at: https://www.ecdc.europa.eu/en/publications-data/operational-considerations-respiratory-virus-surveillance-europe
6. European Centre for Prevention and Disease Control (ECDC). COVID-19 surveillance guidance. Transition from COVID-19 emergency surveillance to routine surveillance of respiratory pathogens. Stockholm; ECDC: 2021. Available at: https://www.ecdc.europa.eu/en/publications-data/covid-19-surveillance-guidance
7. European Centre for Disease Prevention and Control (ECDC). Facilitating COVID-19 vaccination acceptance and uptake in the EU/EEA. Stockholm: ECDC; 2021. Available at: https://www.ecdc.europa.eu/en/publications-data/facilitating-covid-19-vaccination-acceptance-and-uptake
8. European Centre for Disease Prevention and Control (ECDC). Conducting in-action and after-action reviews of the public health response to COVID-19. Stockholm: ECDC; 2020. Available at: https://www.ecdc.europa.eu/en/publications-data/conducting-action-and-after-action-reviews-public-health-response-covid-19
9. Verelst F, Hermans L, Vercruysse S, Gimma A, Coletti P, Backer JA, et al. SOCRATES-CoMix: a platform for timely and open-source contact mixing data during and in between COVID-19 surges and interventions in over 20 European countries. BMC Med. 2021 Sep 29;19(1):254. Available at: https://www.ncbi.nlm.nih.gov/pubmed/34583683
10. Pastor-Satorras R, Castellano C, Van Mieghem P, Vespignani A. Epidemic processes in complex networks. Reviews of Modern Physics. 2015;87.3 (2015): 925. Available at: https://journals.aps.org/rmp/abstract/10.1103/RevModPhys.87.925

LAST UPDATED: 23 AUGUST 2022

Monkeypox & mass gatherings

RECOMMENDATIONS FOR MASS GATHERINGS DURING A MONKEYPOX OUTBREAK

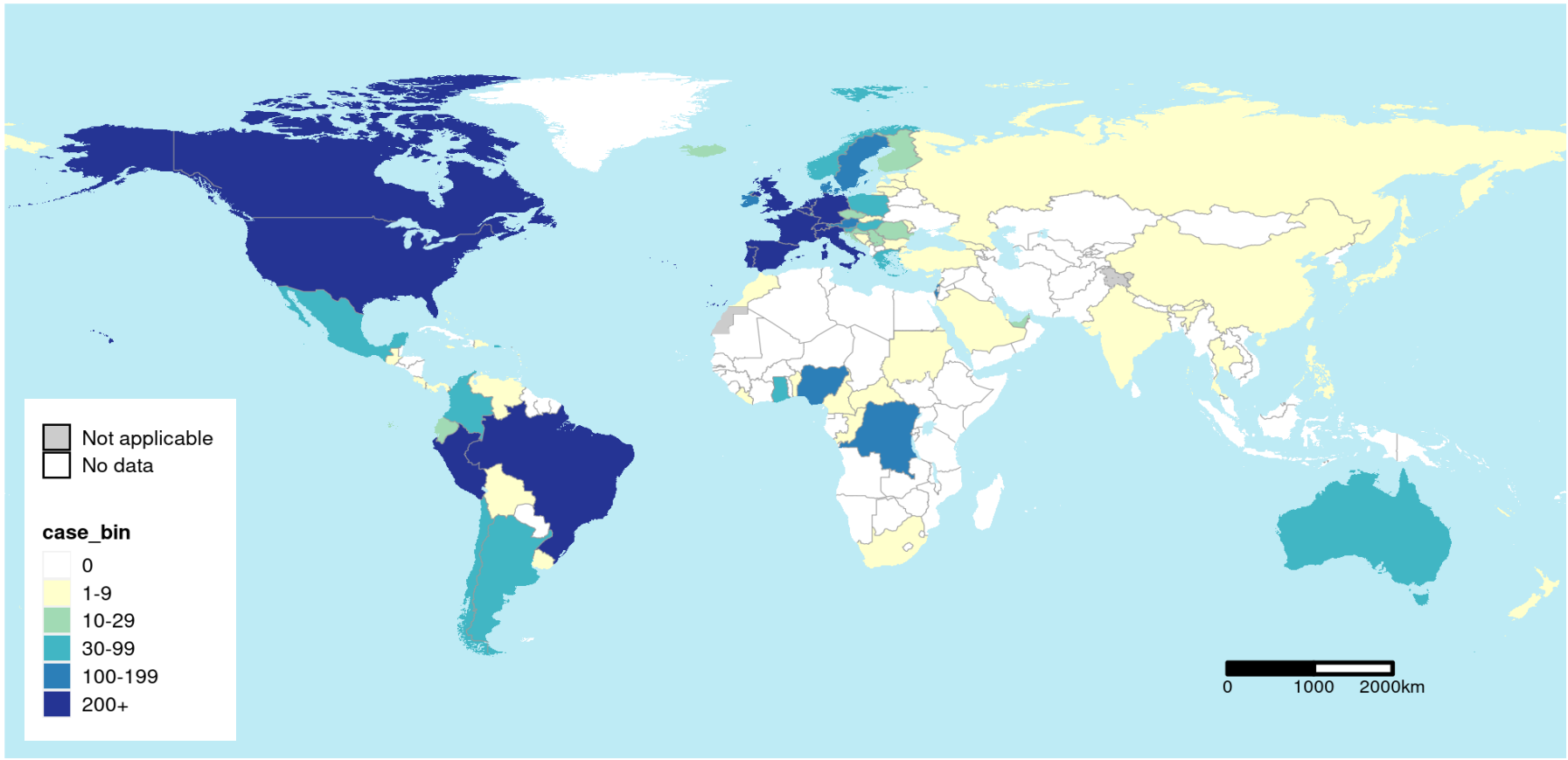
UPDATE NO.

78

World Health Organization | EPI·WiN | infodemic MANAGEMENT

Confirmed cases of monkeypox

from 1 Jan 2022 to 17 Aug 2022



Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme

World Health Organization

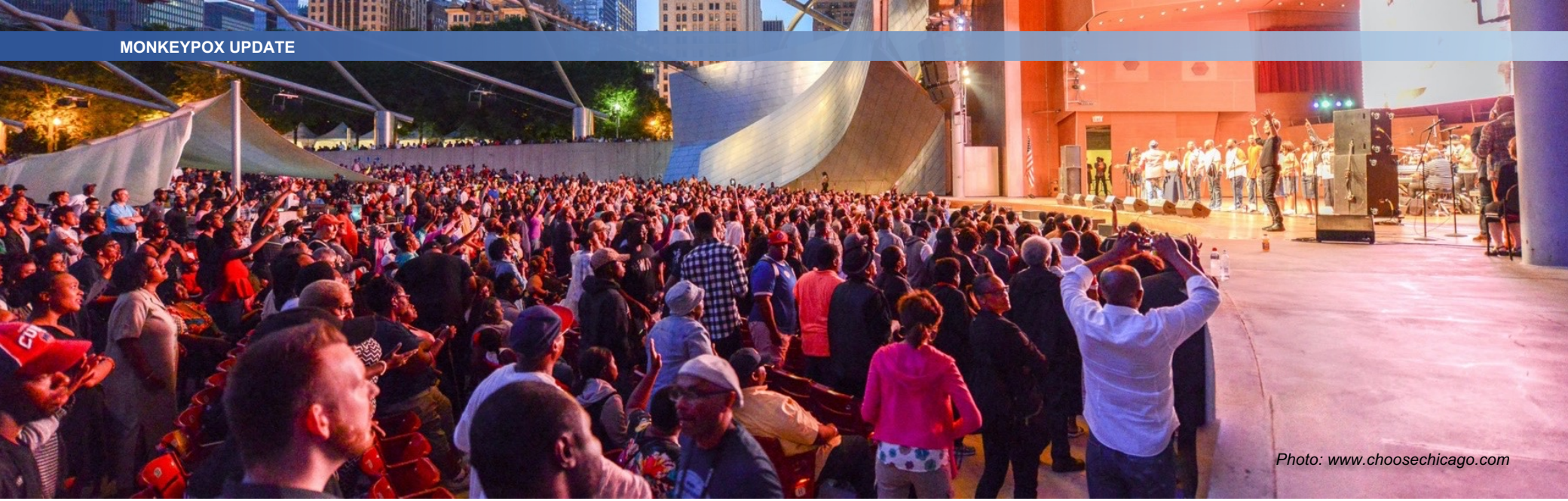


Photo: www.choosechicago.com

Why mass gatherings matter

Mass gatherings include activities and events of any size and type

All have in common:

- the attendance of small or large number of people
- in close proximity and
- prolonged and frequent interaction between people.

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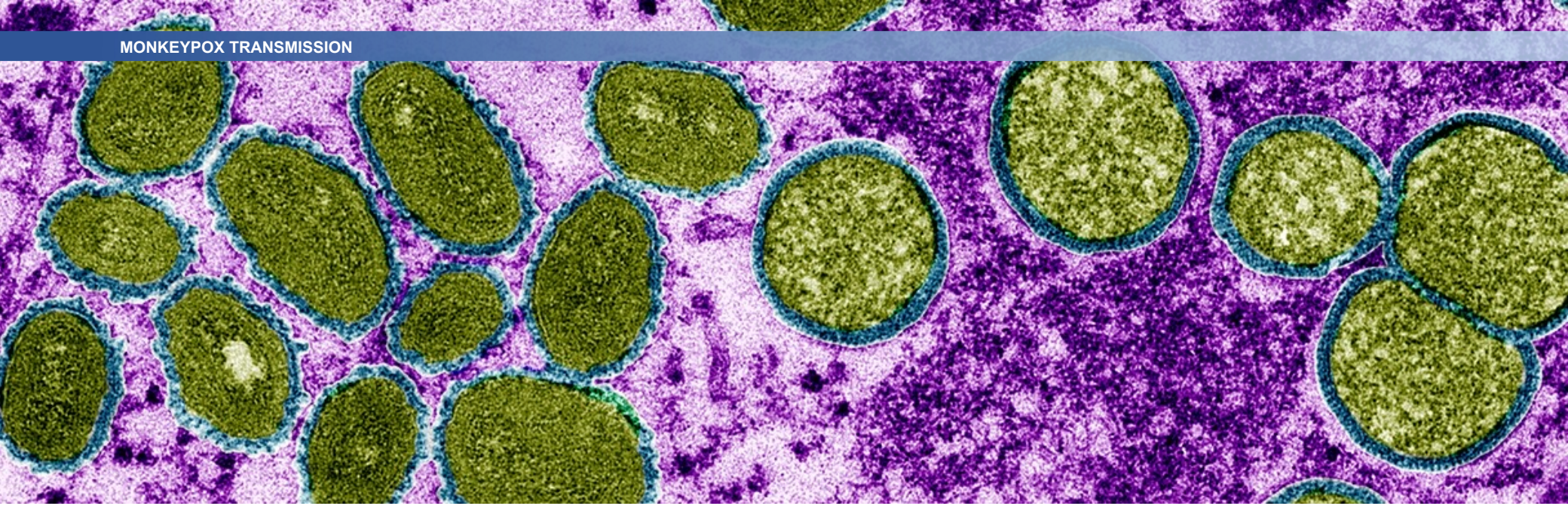


Monkeypox transmission

Monkeypox is caused by the monkeypox virus

- Monkeypox virus is transmitted by close contact with someone who has signs and symptoms (face-face, mouth-mouth, skin-skin, mouth-skin) or through contaminated particles of the virus if infected person has lesions in the mouth.

World Health Organization

Photo: CDC

Monkeypox transmission and mass gatherings

Gatherings do not amplify transmission by themselves – it is the risky behaviour during events that matters

- Common exposure settings for monkeypox are gatherings like parties, prides, parades, festivals, concerts, and other congregation of people and these may be a conducive environment for the transmission.
- Gatherings are the opportunities for information outreach and risk communication and community engagement (RCCE) activities.

World Health Organization

A risk-based approach for holding safe gatherings

- WHO recommends that the decision-making process related to holding, modifying, postponing or cancelling gatherings should rely on a **risk-based approach**, *tailored to the characteristics of the event.*
- In the context of the current outbreak monkeypox-associated risks should be considered and factored in when planning a gathering event.

Postponing or cancelling gatherings in areas where monkeypox cases have been detected is currently not required as a default measure.

Fig. *3-step WHO Risk Assessment approach*

Public health advice for event organizers during the current monkeypox outbreak

Consider if the event you are planning is most likely to be associated with risks of monkeypox transmission

- Link with health authorities and be aware of monkeypox situation in the host area
- Instruct event staff on how to manage a possible case of monkeypox during the event
- Facilitate the adoption of appropriate PHSM to prevent risk of transmission of monkeypox

https://www.who.int/publications/i/item/WHO-MPX-Gatherings-2022.1

World Health Organization

Public health advice for gatherings during the current monkeypox outbreak

Purpose

The purpose of this document is to provide public health advice to:

- host governments, public health authorities, national or international organizers and professional staff involved in the planning and delivery of gathering events;
- people organizing smaller gatherings or attending gatherings of any size and type.

Information on this outbreak is changing rapidly as we learn more. Check Monkeypox outbreak 2022 - Global (who.int) for the most up to date information.

Background

- The unexpected appearance of monkeypox in several WHO regions in the initial absence of epidemiological links to areas that have historically reported monkeypox suggests that there may have been undetected transmission for some time. Epidemiological investigations are ongoing.
- Most reported monkeypox cases have presented through sexual health or other health services in primary or secondary healthcare facilities.
- The identification of confirmed and suspected cases of monkeypox with no direct travel links to previously affected areas is atypical, and even a single case of monkeypox in a newly affected country is considered an outbreak.
- For the latest information on transmission, signs and symptoms please refer to *Clinical management and infection prevention and control for monkeypox: Interim rapid response guidance.*

Scope

- Gatherings are events characterized by the concentration of people at a specific location for a specific purpose over a set period of time, and may be public or private, planned or spontaneous, recurrent or one-off, and also of varying size, duration and visibility. They can be of different nature, including, although not limited to, sports, religious, cultural, entertainment, political, business and health-campaign events.
- During gatherings, the likely high density and mobility of attendees (crowding) represents a conducive environment for close, prolonged and frequent interactions between people. Some gatherings may lead to attendees socially interacting with people previously unknown to them. For some, these new interactions could lead to sexual activity which can play a role in the spread of the monkeypox virus.

Risk-based approach for gatherings

Principles

- WHO recommends that the decision-making process related to holding, modifying, postponing or cancelling gatherings of any size and type should rely on a risk-based approach, tailored to the characteristics of the event under consideration and be repeated at regular intervals.
- The risk-based approach entails three steps:
  1. Risk evaluation: identification and quantification of the baseline risks based on the characteristics of the event and the context in which it takes place;
  2. Risk mitigation: application of a package of precautionary measures aimed at decreasing the baseline risk;
  3. Risk communication: proactive dissemination of information on the measures adopted, their rationale and purpose, and on how the relevant decisions were taken.
- In the context of the current outbreak, monkeypox-associated risks should be considered and factored in when planning a gathering event.
- Postponing or cancelling gatherings in areas where monkeypox cases have been detected is not required as a default measure.

Monkeypox-associated risks during the current outbreak

- In the context of the current monkeypox outbreak, cases have been primarily identified among some gay, bisexual and other men who have sex with men including those who have reported recent sex with a new partner or multiple partners.
- Key transmission routes include skin-to-skin, mouth-to mouth and mouth-to-skin contact during sexual activity. Transmission can also occur through skin-to-skin contact not related to sexual practices, face-to-face contact via respiratory droplets and from contaminated surfaces or material; it is still unclear if infected people with no symptoms can transmit the monkeypox virus, making it important for anyone attending gatherings to exert additional care.

28 June 2022

health authorities and be aware of the epidemiology of monkeypox in the host area.

- Gatherings should be used as opportunities for information outreach and for risk communication and community engagement (RCCE) activities; these should also target individual behaviours associated with side gatherings, unplanned congregation, and unstructured socialization in public or private spaces.
- Health authorities and event organizers should facilitate the adoption of appropriate public health and social measures, including those aimed at infection prevention and control, to decrease the risk of transmission of monkeypox virus in conjunction with the event.
- Information specifically designed for communities of gay, bisexual and other men who have sex with men is now available, including updated public health *advice*.

Gatherings attendees should always be reminded to apply individual-level responsibility to their decisions and actions, with the aim of preserving their health, that of the people they interact with, and ultimately that of their community.

WHO continues to monitor the current monkeypox closely for any changes that may affect the advice included in this document. Should any factors change, WHO will issue a further update.

WHO reference number: WHO/MPX/Gatherings/2022.1

World Health Organization

What you need to know

The event organizers should:

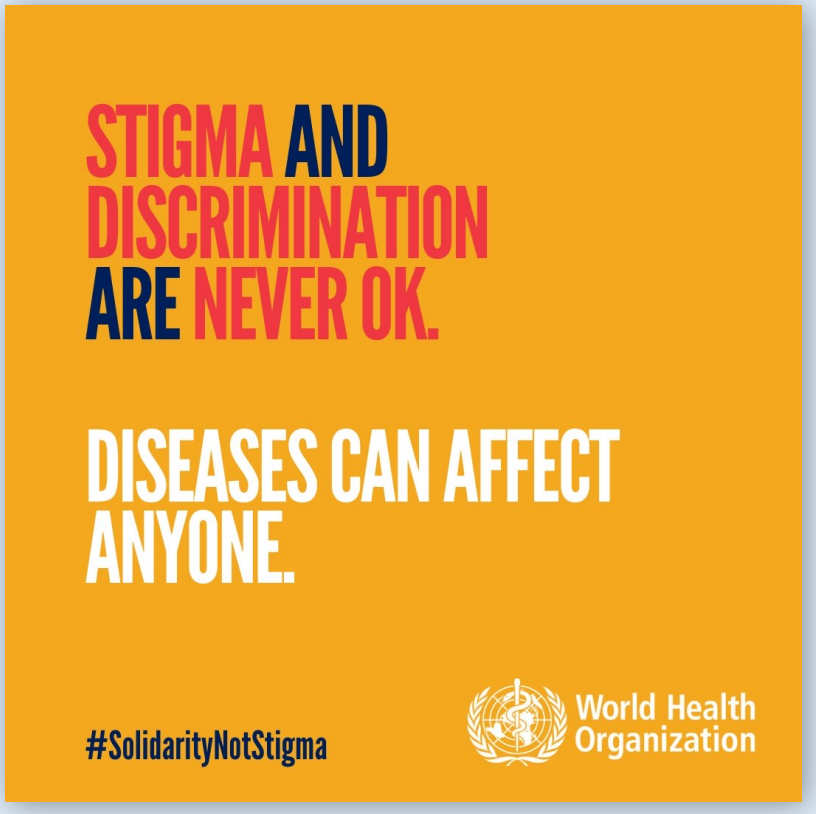
- Share information about monkeypox with prospective attendees and all those involved in the event.
- Advise that anyone showing signs and symptoms consistent with monkeypox symptoms should stay at home.

Individual protective measures to stay safe during gatherings

- **Get local health advice** on monkeypox if attending any specific event that might be related with increased risk for monkeypox transmission
- **Refrain from close contact** with any other individuals and avoid attending gatherings if you present signs and symptoms consistent with monkeypox.
- As skin-to-skin, mouth-to-month transmission during sexual activity has been frequently reported as a likely source of infection, **sexual contact should be avoided if you feel you may be infected with monkeypox–** even if you have not yet had a confirmatory test.

General advice for the public

- Provide emotional and practical support to any friends or family members who may be asked to self-isolate.
- Contribute with combating misinformation by sharing only reliable, evidence-based and non-stigmatizing information from trustworthy sources.
- **Stigmatizing people because of the disease is never okay.**



We all have a common goal: stop the outbreak and suppress onward transmission

WHO encourages event organizers to:

- Raise awareness and avoid stigma
- Apply necessary PHSM according to the risk assessment results
- Protect people at risk and prevent transmission in all settings

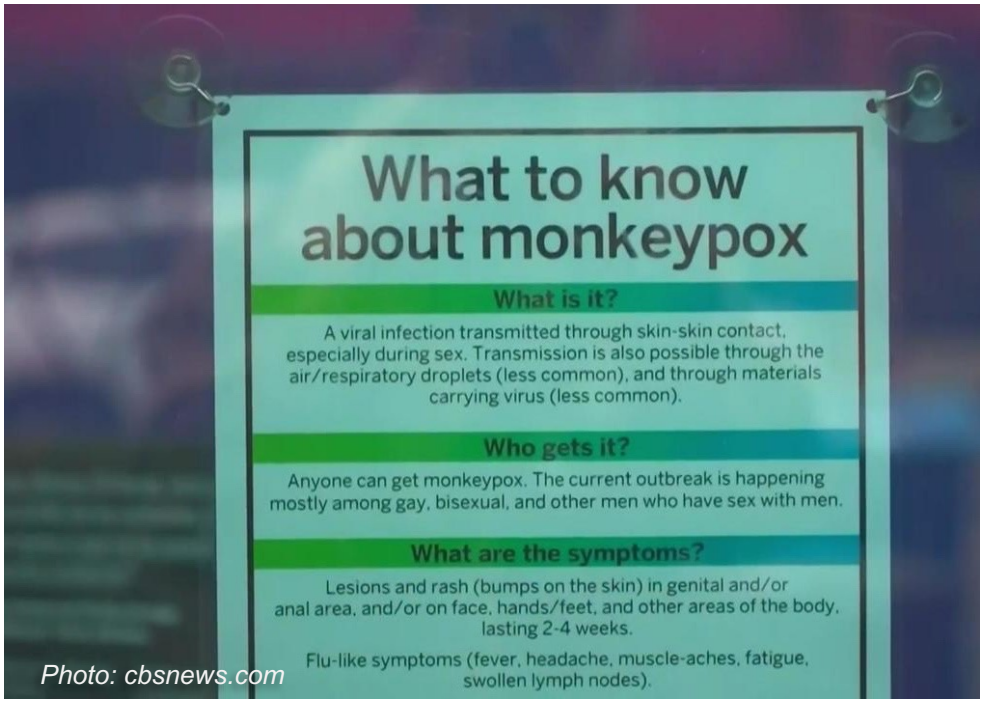


Photo: cbsnews.com

Additional resources

EPI-WIN Webinar on Monkeypox outbreak and mass gatherings (recording and presentations)

https://www.who.int/news-room/events/detail/2022/06/24/default-calendar/WHO-EPI-WIN-webinar-monkeypox-and-mass-gathering

WHO EURO: Monkeypox outbreak: Resource toolkit for event organisers

https://www.ecdc.europa.eu/en/publications-data/monkeypox-outbreak-resource-toolkit-event-organisers

WHO Monkeypox outbreak toolbox

https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/monkeypox-outbreak-toolbox

WHO EURO, ECDC: Interim advice for public health authorities on summer events during the monkeypox outbreak in Europe, 2022

https://cdn.who.int/media/docs/librariesprovider2/country-sites/interim-advice-for-public-health-authorities-on-summer-events-during-the-monkeypox-outbreak-in-europe-2022.pdf?sfvrsn=230439fc_1&download=true

Monkeypox Q&A

https://www.who.int/philippines/news/q-a-detail/monkeypox

World Health Organization

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MANAGEMENT

LAST UPDATED: 27 AUGUST 2022

Monkeypox outbreak update

SITUATION – TRANSMISSION – COUNTERMEASURES

UPDATE NO.

79

World Health Organization | EPI·WiN | infodemic MANAGEMENT

Monkeypox declared a Public Health Emergency of International Concern (PHEIC)

Cases reported across all 6 WHO regions and 92 countries

- Reported since 1970s, but since May 2022, the outbreak has rapidly spread to many new countries and shown atypical symptoms
- New modes of transmission are being reported
- Clear risk of further international spread

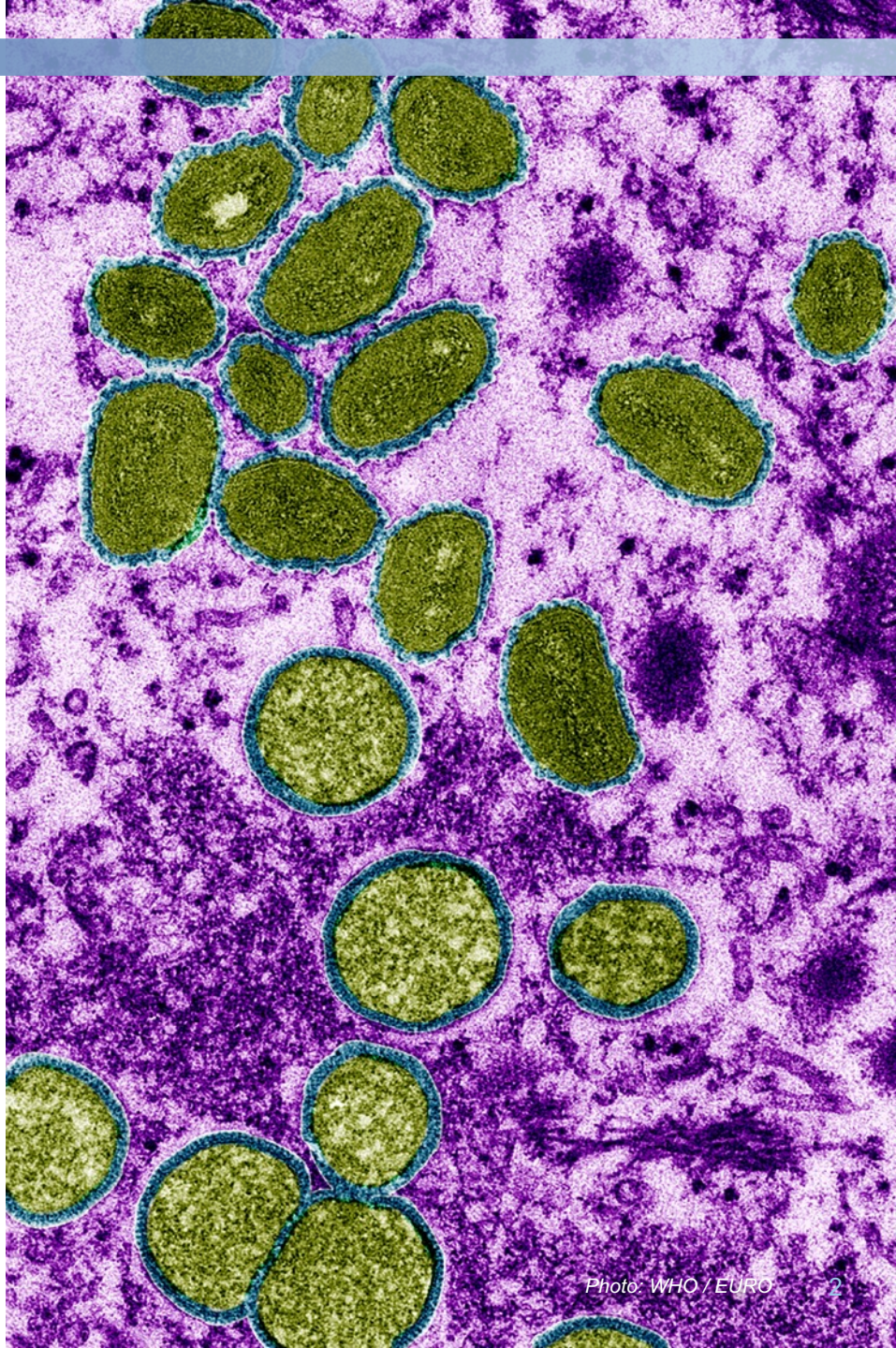
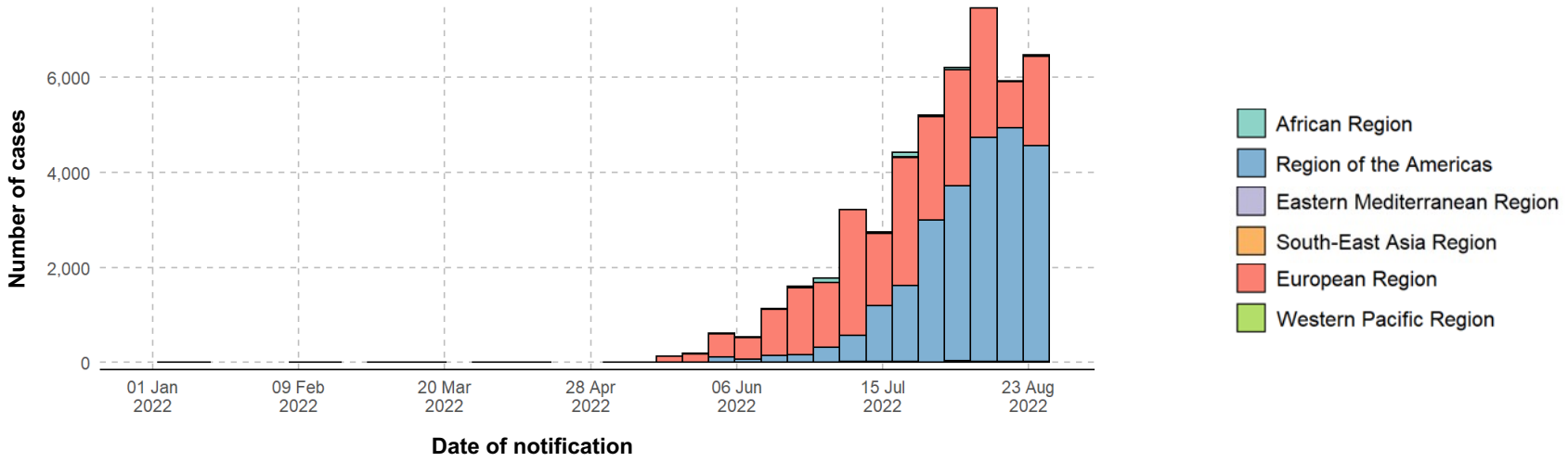


Photo: WHO / EURO

World Health Organization

Global epidemiological situation

Data as of 27 August 2022, 17:00 CEST



Since 1 Jan 2022, cases reported to WHO from 101 (5 new) Member States / territories across all 6 WHO regions

- As of 27 August 2022 (17h CEST), a total of **47,751 laboratory confirmed cases** including **15 deaths (3 new)**, have been reported to WHO
- **Number of cases has increased by 9.3%** compared to the previous week

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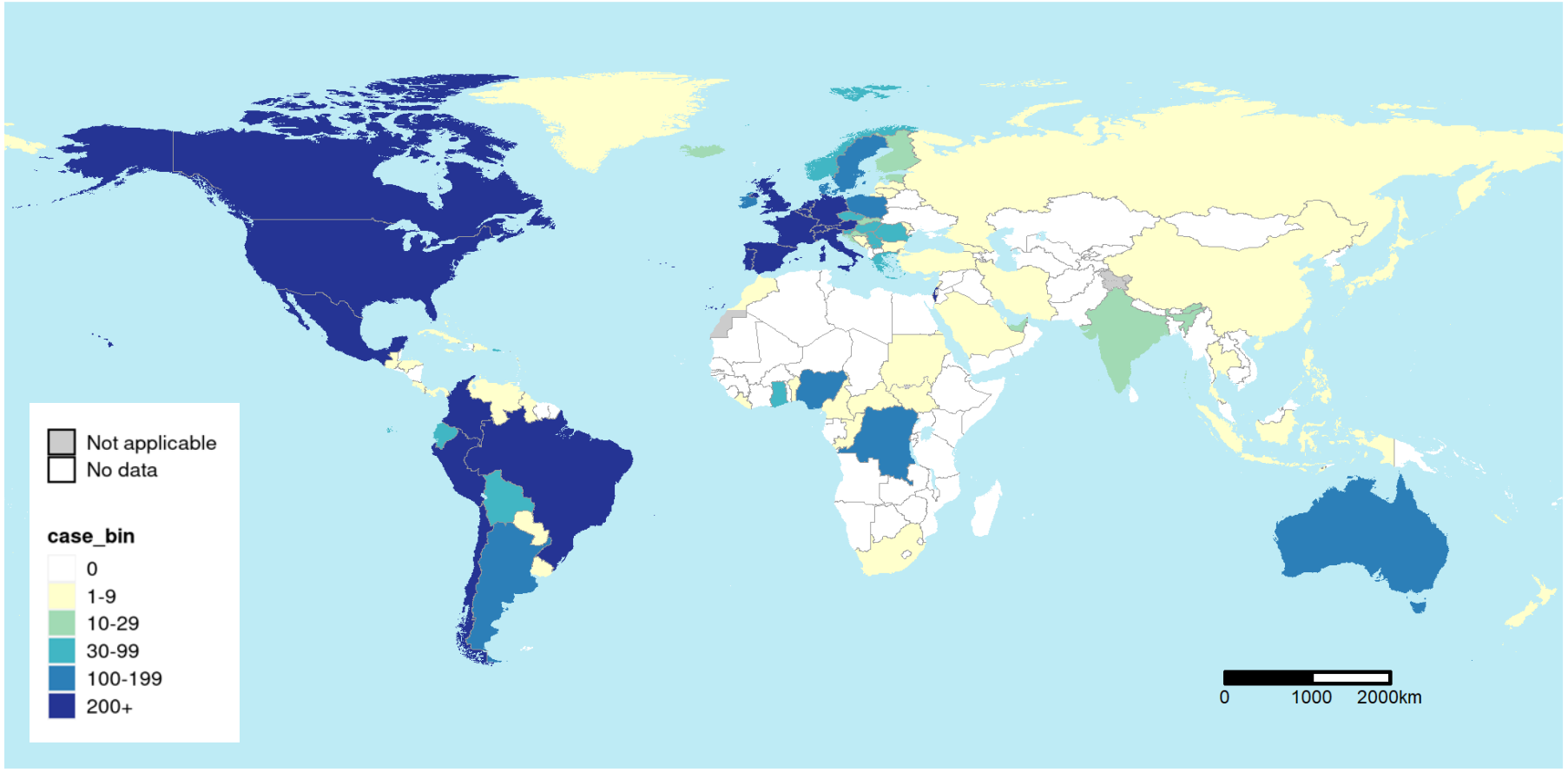
Confirmed cases of monkeypox

from 1 Jan 2022 to 29 Aug 2022



Data source: World Health Organization
Map production: WHO Health Emergencies Programme

World Health Organization

Current outbreak is due to variant named Clade IIb

Monkeypox clades have been renamed on 13 August 2022

- Monkeypox virus is part of the Orthopoxvirus genus which includes variola virus (smallpox) and cowpox virus
- There are two variants of monkeypox: Clades I and II
- Clade I was formerly known as the Congo Basin Clade (Central African)
- Clade II was formerly known as the West African Clade
- Clade II has two sub-clades, Clade IIa and Clade IIb
- Clade IIb is attributed to most cases in the current outbreak

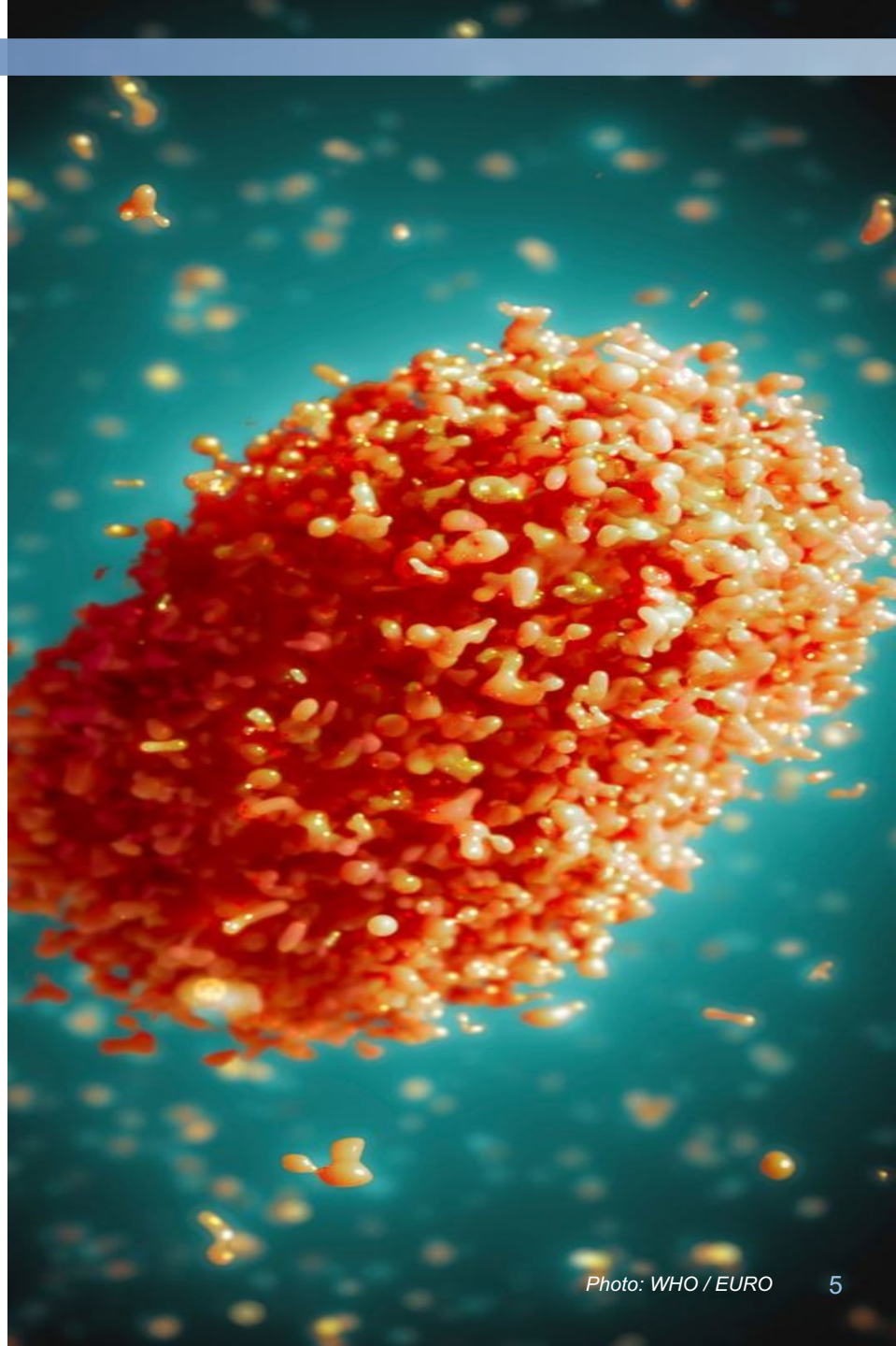


Photo: WHO / EURO

Symptoms in current outbreak

People may experience all, only a few or no symptoms

- Symptoms can include:
  - fever,
  - swollen lymph nodes,
  - typical or atypical rash
- New clinical features include severe inflammation of the rectum - proctitis (which is characterised by rectal bleeding, pain, diarrhoea), inflammation of the urethra (urethritis) and urinary retention
- Many cases are without any symptoms
- Complications include severe pain, secondary infections, abscesses, blindness, inflammation of the heart muscle and the brain (myocarditis and encephalitis)

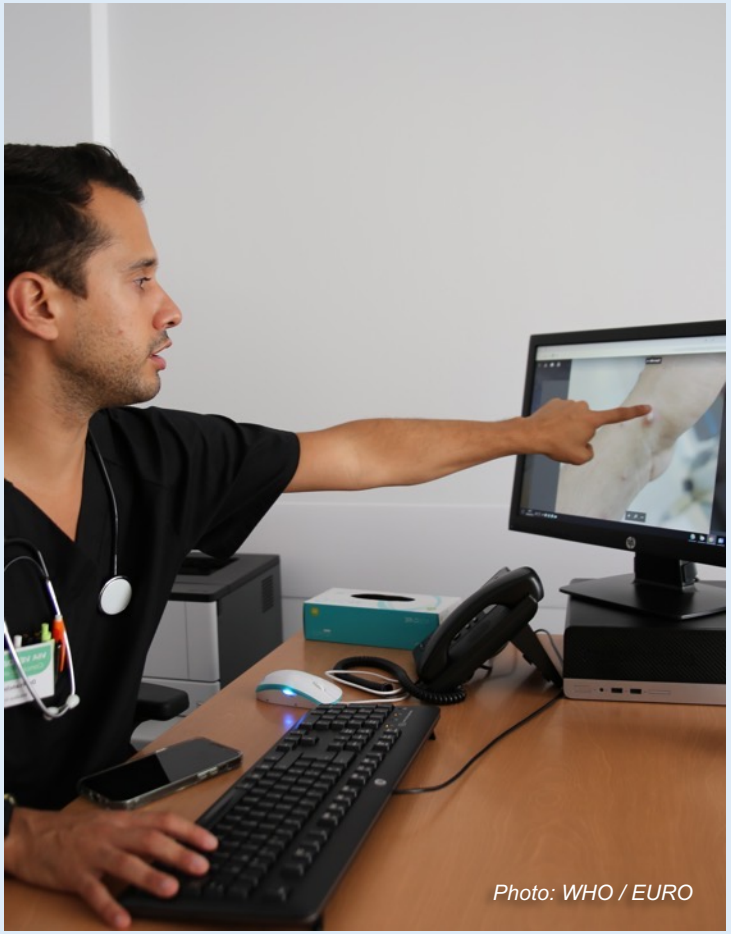

Photo: WHO / EURO

World Health Organization

Some atypical presentations

This outbreak has seen atypical clinical presentation, such as:

- only a few or a single lesion
- absence of skin lesions in some cases, with anal pain and bleeding
- lesions in the genital or perineal/perianal area which do not spread further
- lesions appearing at different (asynchronous) stages of development
- the appearance of lesions before the onset of fever



Vulnerable populations

The overwhelming majority of cases (99%) are male*

- Males between 18-44 years of age continue to be disproportionately affected (77%)
- The majority of cases (98.1%) have been detected in Men having sex with men (MSM)
- Those who identify as gay, bisexual or MSM and those with recent multiple partners have been primarily affected
- Among cases with known HIV status, 39% are HIV positive
- Many health workers have also been infected, mostly in the community. At least three cases of infection due to occupational exposure has been reported
- Pregnant women, children and those immunocompromised continue to be vulnerable and should take precautions

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A sexual health worker who got infected. Photo credit: WHO / EURO

Modes of transmission

Monkeypox virus is transmitted from one person to another by close contact

- Knowledge of monkeypox transmission is evolving
- Most commonly reported mode of transmission was **sexual encounters**
- **Person to person contact**
  - Close contact with skin lesions, body fluids
  - Ulcers, lesions or sores in the mouth and other mucocutaneous lesions
  - Inhaling contaminated particles or virus, usually in close proximity
- **Contaminated materials**
  - Needles, tattoos, bedding, linens, clothing, eating utensils, sex toys
- **Common exposure settings include parties, bars, and large gatherings**

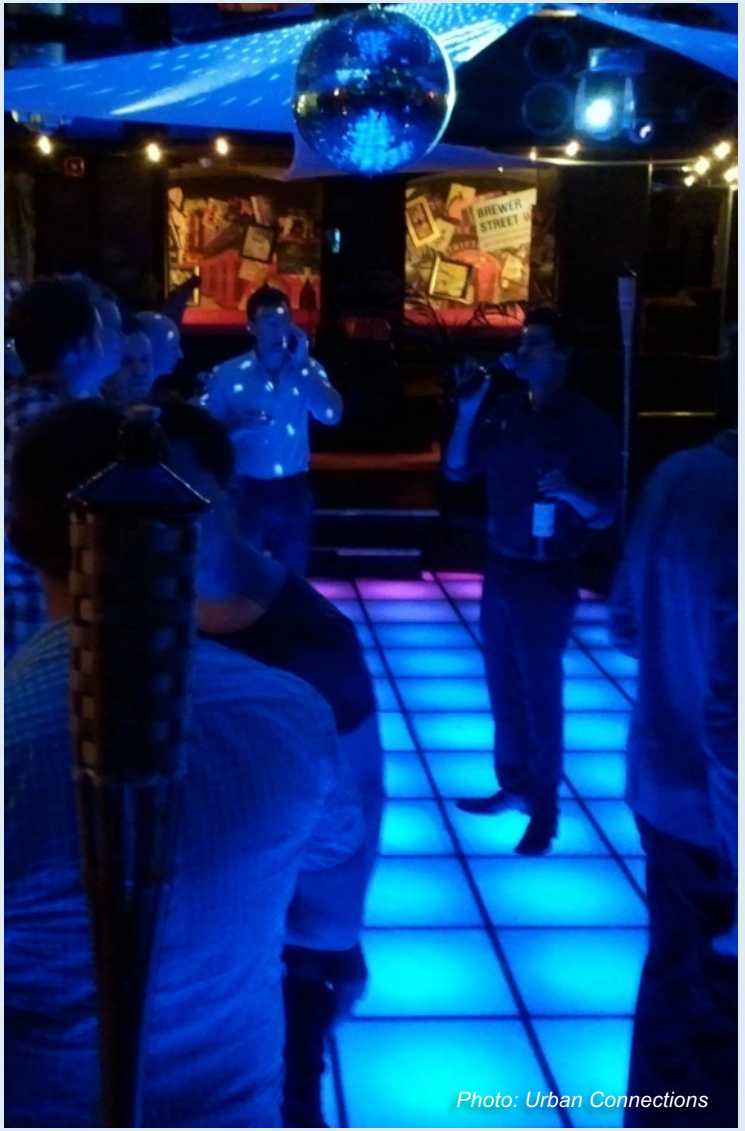


Photo: Urban Connections

Managing the spread

Persons remain infectious while they have symptoms, normally for between 2- 4 weeks

- Household members and sexual partners are at greater risk of infection
- Those at risk should avoid close contact with people who have suspected or confirmed monkeypox
- Any person with suspected or confirmed monkeypox should be isolated until their lesions have crusted and the scabs have fallen off

Managing the contacts of monkeypox infected persons

Contacts should be monitored daily for the onset of symptoms for a period of 21 days

- **Asymptomatic contacts:**
  - should not donate blood, cells, tissue, organs, breast milk, or semen while they are under symptom surveillance
  - can continue daily activities such as work and school (i.e., no quarantine is necessary)
- Health workers exposed while not wearing appropriate PPE do not need to be excluded from work if asymptomatic, but should undergo active monitoring
- Proper information and training is needed for health workers and services providers

Vaccines against monkeypox

In the past, vaccination against smallpox was demonstrated to be about 85% effective in preventing monkeypox

- Research has yielded several safer vaccines for smallpox
- Second generation smallpox vaccines (ACAM 200)
- Third generation MVA – BN & LC16 smallpox vaccines approved for monkeypox
- Supplies and access remain limited
- Primary (pre-exposure) preventive vaccination (PPV) is recommended for persons at high risk of exposure
- men who have sex with men, others with multiple sex partners
- health workers, clinical laboratory personnel working on monkeypox,
- Others who may be at high risk

Post-exposure vaccination (PEPV) is recommended for close contacts of cases, ideally within 4 days (within 14 days if asymptomatic), especially for those at high risk of severe disease

Therapeutics & antivirals

Photo: siga.com

- **Tecovirimat**
  - is approved for treatment of smallpox in the US and Canada
  - has received full market approval for monkeypox by the European Medical Agency (EMA) under ‘exceptional circumstances’
  - WHO recommendation is for use under randomized control trial or Monitored Emergency Use of Unregistered and Experimental Interventions (MEURI)
  - not approved by WHO for Emergency Use Listing (EUL)
  - on grounds of compassionate use, limited supplies may be made available to governments for treatment of severe disease

WHO public health actions to support member states

WHO and partners are working with Member States to understand the source and characteristics of the current outbreaks and raise awareness of monkeypox symptoms and protective measures

- WHO has developed *surveillance case definitions* and *new guidance* for laboratory testing for the current monkeypox outbreak in non-endemic countries
- **Public health investigations are ongoing**, including extensive case finding and contact tracing, laboratory investigation, clinical management and isolation provided with supportive care
- WHO is working on ensuring **rapid access to testing** for monkeypox
- **Genomic sequencing** has been undertaken to determine the monkeypox virus clade(s) in this outbreak
- **Vaccination for monkeypox is being deployed in some countries** to manage close contacts, such as health workers. WHO is convening experts to discuss recommendations on vaccination
- **Participation in coordinated clinical trials for vaccines and therapeutics** with standardized collection of clinical and outcome data has been encouraged

Additional resources

Multi-country monkeypox outbreak: External situation reports

https://www.who.int/emergencies/situation-reports

Key facts about Monkeypox

https://www.who.int/news-room/fact-sheets/detail/monkeypox

OpenWHO: Monkeypox introduction

English: *https://openwho.org/courses/monkeypox-introduction*

Français: *https://openwho.org/courses/variole-du-singe-introduction*

WHO website: Monkeypox

https://www.who.int/health-topics/monkeypox/#tab=tab_1

OpenWHO: Monkeypox epidemiology, preparedness and response

English: *https://openwho.org/courses/monkeypox-intermediate*

Français : *https://openwho.org/courses/variole-du-singe-intermediaire/*

Monkeypox Q&A

https://www.who.int/philippines/news/q-a-detail/monkeypox

Monkeypox outbreak toolbox

https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/monkeypox-outbreak-toolbox

Monkeypox: public health advice for gay, bisexual and other men who have sex with men

https://www.who.int/publications/m/item/monkeypox-public-health-advice-for-men-who-have-sex-with-men

EPI•WiN

infodemic
MANAGEMENT

Multi-country outbreak of monkeypox

External Situation Report 4, published 24 August 2022
Data as received by WHO national authorities by 17:00 CEST, 22 August 2022

Risk assessment	Laboratory confirmed cases	Deaths	Countries/ areas/ territories
Global risk – Moderate WHO Regional risk • European Region – High • African Region, Region of the Americas, Eastern Mediterranean Region, Southeast Asia Region – Moderate • Western Pacific Region – Low-Moderate	41 664	12	96

Highlights

- During the week of 15 to 21 August, the number of cases reported in the Region of the Americas shows a continuing steep rise, confirming trends seen over the last several weeks. Globally, after four consecutive weeks of increase, the number of monkeypox cases reported declined by 21% overall during the same week (n=5907 cases) as compared to the previous week (n=7477 cases). This decrease may reflect early signs of a declining case count in the European region, which would need to be subsequently confirmed.
- On 8 August, WHO convened a meeting of two WHO Collaborating Centres for orthopoxviruses and other experts in poxvirology and viral evolution to consider the naming of monkeypox virus (MPXV) variants. Henceforth, the Congo Basin or Central African clade will be referred to as Clade I; the West African clade will be referred to as Clade II, with subclades IIa and IIb, the latter referring to the variant that is predominant in the multi-country outbreak.
- WHO has updated the interim guidance on vaccines and immunization for monkeypox. Updates include a clearer emphasis on the groups at risk of monkeypox for consideration for preventive vaccination, and updated terminology for pre- and post-exposure vaccination. To reduce confusion with the terms used in the management of HIV, the changes include using primary preventive (pre-exposure) vaccination (PPV) rather than pre-exposure prophylaxis (PrEP), and post-exposure vaccination (PEPV) rather than post-exposure prophylaxis (PEP).

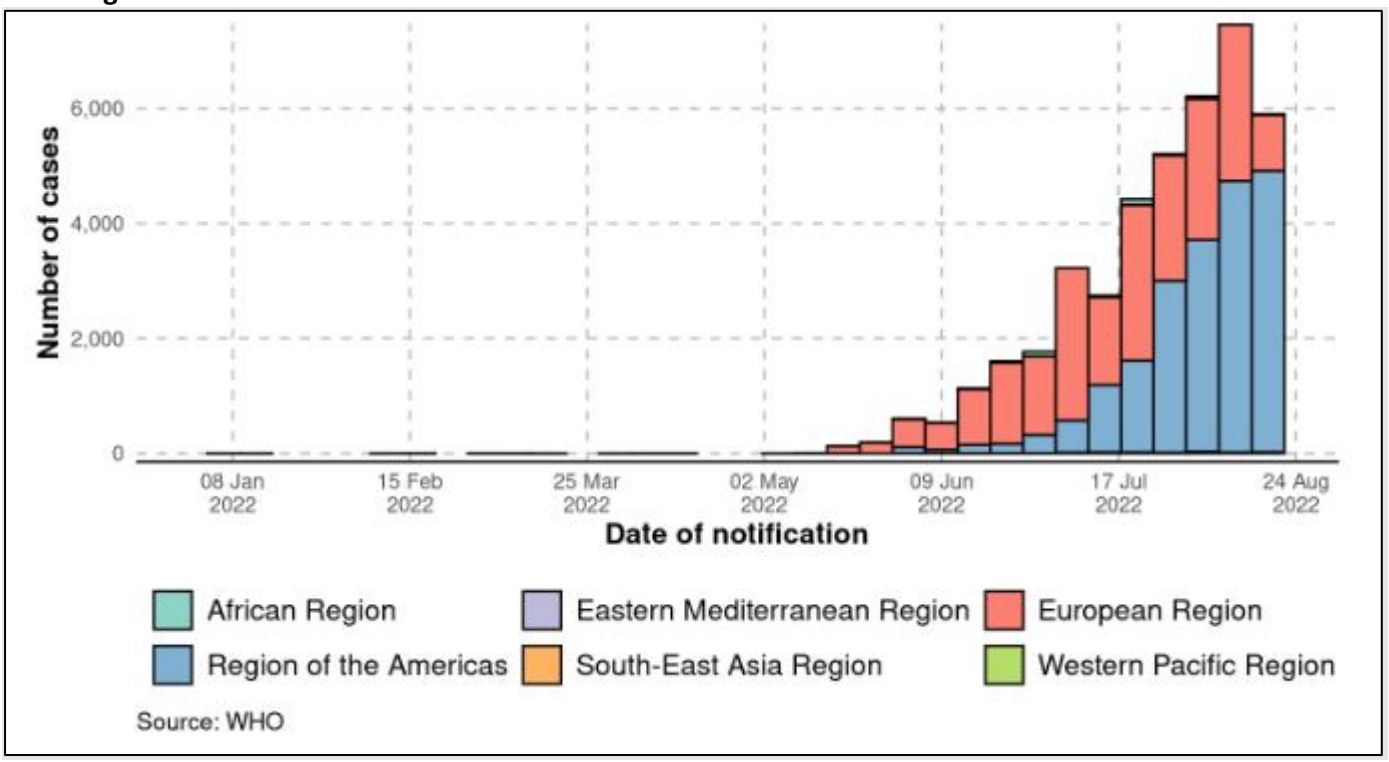
From 1 January through 22 August 2022, 41 664 laboratory-confirmed cases of monkeypox and 12 deaths have been reported to WHO from 96 countries/territories/areas[i] in all six WHO Regions (Table 1). Since the last edition of this report published on 10 August 2022, 13 859 new cases (50% increase) and 1 new death were reported; and 7 new countries reported cases. In the past seven days, 23 countries reported an increase in the weekly number of cases, with the highest increase reported in the United States of America. There are 16 countries that have not reported new cases for over 21 days, the maximum incubation period of the disease.

The number of weekly new cases reported globally decreased by 21% in week 33 (15-21 August) (n=5907 cases) compared to week 32 (8-14 August) (n=7477 cases). The majority of cases reported in the past 4 weeks were notified from the Region of the Americas (60.3%) and the European Region (38.7%).

As of 22 August, the ten countries that have reported the highest cumulative number of cases globally are United States of America (n = 14 049), Spain (n = 6119), Brazil (n = 3450), Germany (n = 3295), The United Kingdom (n = 3225), France (n = 2889), Canada (n = 1168), Netherlands (n = 1090), Peru (n = 937), and Portugal (n = 810). Together, these countries account for 88.9% of the cases reported globally.

In the past seven days, two countries reported their first case. These include Iran (Islamic Republic of) and Indonesia.

Figure 1. Epidemiological curve of weekly aggregated confirmed cases of monkeypox by region, from 1 January to 22 August 2022 17:00 CEST*



*This figure shows aggregated weekly data, for epidemiological weeks ending on Sundays. Data on the current week, with incomplete data, will be presented in the next situation report.

Table 1. Number of cumulative confirmed monkeypox cases and deaths reported to WHO, by WHO Region, from 1 January 2022 to 22 August 17:00 CEST

WHO Region	Confirmed cases	Deaths
African Region	404	7
Region of the Americas	20 438	2
Eastern Mediterranean Region	35	0
European Region	20 652	2
South-East Asia Region	14	1
Western Pacific Region	121	0
Cumulative	41 664	12

Other key epidemiological findings:

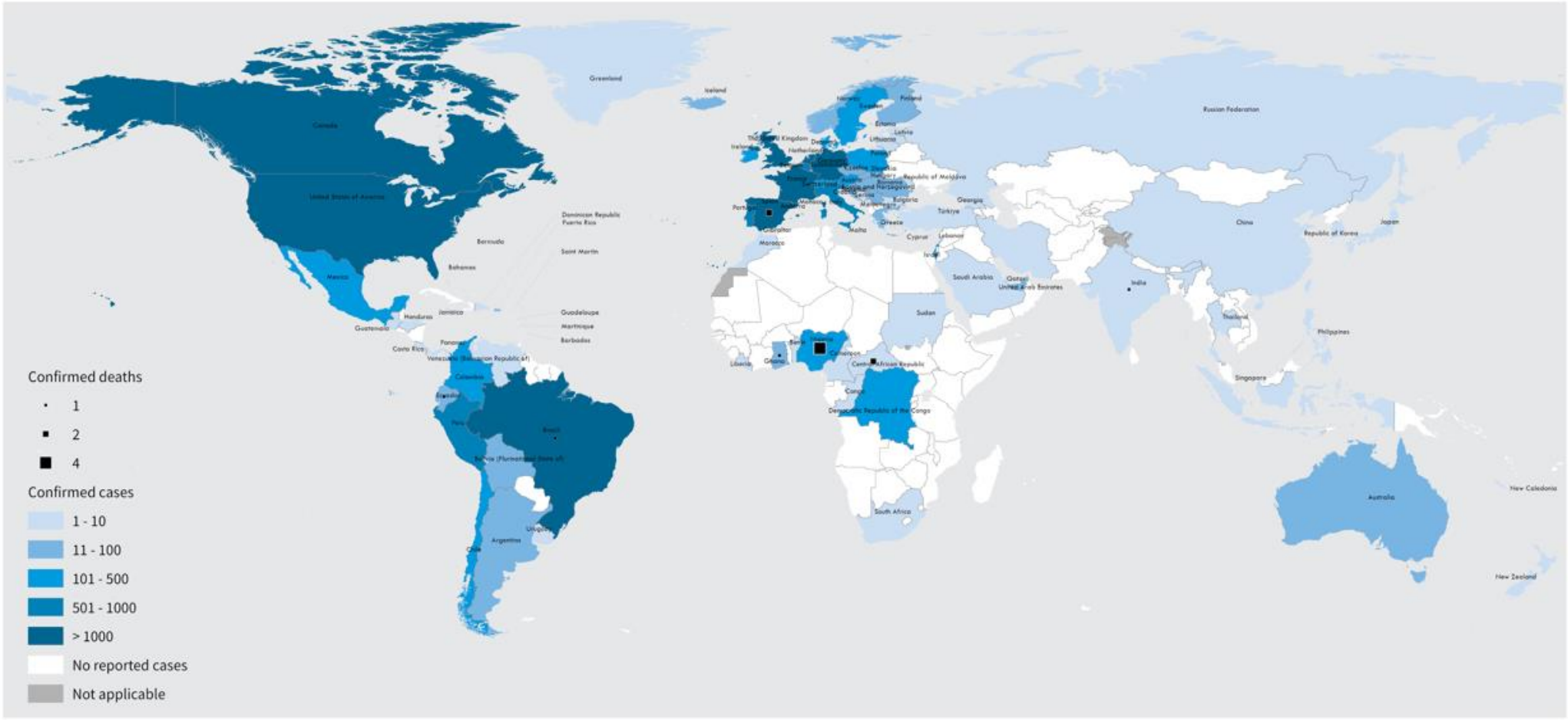
- The outbreak continues to affect young people of male gender, with 98.2% (20 138/20 500) of cases with available data on the gender being males with a median age of 36 years (Interquartile range: 30-43 years). Fewer than 1% (140/23 626) of cases with age data available are aged 0-17 years. This proportion differs between countries, with those in West and Central Africa reporting a greater proportion of cases among young age groups: 38.7% (65/168) of cases for whom age was available were among the age group 0-17, out of which 12.5% (21/168) were aged 0-4.
- Among cases with sexual orientation reported, 95.8% (9484/9899) identified as men who have sex with men. Of all reported types of transmission, a sexual encounter was reported most commonly, with 5954 of 7250 (82.1%) of all reported transmission events.
- The majority of cases were likely exposed in a party setting with sexual contacts, with 2204 of 3639 (60.6%) of all likely exposure categories.
- Among cases with known HIV status, 45% (4501/10 036) are HIV positive.

Infection among Health Care Workers

As of 22 August 2022, a small proportion of cases have been reported among health workers (HW) (n=256; 5.2% of cases with information available on the route of transmission), however, most were infected in the community and further investigation is ongoing to determine whether the remaining infection was due to occupational exposure. Healthcare-associated infection (HAI) has been confirmed in three cases to date.

For further information, please see the WHO Multi-country Monkeypox Outbreak – Global Trends.

Figure 3. Geographic distribution of confirmed cases of monkeypox reported to or identified by WHO from official public sources from 1 January 2022 to 22 August 17:00 CEST



The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: WHO Health Emergencies Programme
Map Date: 23 August 2022

Updates and WHO Advice

WHO continues to closely monitor and respond to the outbreak and support international coordination and information sharing with the Member States and partners. Clinical and public health incident response have been activated by Member States to coordinate comprehensive case finding, contact tracing, laboratory investigation, supported isolation, clinical management, implementation of infection prevention and control measures, risk communication and community engagement, and vaccination activities, as well as support ongoing epidemiological and countermeasures research.

Surveillance and Laboratory

WHO has updated the Monkeypox Case investigation form (CIF), as well as a minimum dataset Case reporting form (CRF), to include the latest information on symptomatology and epidemiological parameters, and to align with the Temporary Recommendations issued by the Director General, after the declaration of the Public Health Emergency of International concern (PHEIC).

Currently, WHO has received the CRF for around 90% of the total confirmed cases reported at the global level. The consistency and completeness of these data vary widely between countries, but overall the analysis of the collected information in the global report provides a good view of the ongoing outbreak.

WHO is piloting a systematic collection of information about the outbreak response implemented by countries for monkeypox through a Policy and Response Tracker, which includes information about surveillance, testing, isolation, quarantine and vaccination.

On 8 August, WHO convened a meeting of two WHO Collaborating Centres for orthopoxviruses and other experts in poxvirology and viral evolution to consider the nomenclature of monkeypox virus (MPXV) variants. Going forward the Congo Basin or Central African clade will be referred to as Clade I; the West African clade will be referred to as Clade II, with subclades IIa and IIb, the latter referring to the variant that is predominant in the global outbreak.

Clinical management, vaccines and therapeutics

Vaccines

WHO has updated the interim guidance on vaccines and immunization for monkeypox. Updates include a clearer emphasis on the groups at risk of monkeypox for consideration for preventive vaccination, and updated terminology for pre- and post-exposure vaccination. To reduce confusion with the terms used in the prevention of HIV infection, the changes include using primary preventive (pre-exposure) vaccination (PPV) rather than pre-exposure prophylaxis (PrEP), and post-exposure vaccination (PEPV) rather than post-exposure prophylaxis (PEP). The guidance emphasizes that the effectiveness of vaccination in the context of the current monkeypox outbreak remains uncertain. As before, WHO strongly encourages Member States to convene their national immunization technical advisory groups (NITAGs) to review the emerging evidence and develop policy recommendations for

the use of vaccines as relevant to the national context, both to ensure readiness in countries where there are few or no cases reported, as well as to support a timely response when required. It is recommended to implement vaccine efficacy studies during vaccine roll-out to document vaccine effectiveness and evaluate immunization strategies.

Post-exposure vaccination (PEPV) is recommended for close contacts of cases, ideally within four days of first exposure (and up to 14 days in the absence of symptoms), to prevent onset or mitigate severity of the disease.

Primary preventive vaccination before exposure (PPV) is recommended for individuals at high risk of exposure (importantly but not exclusively gay, bisexual and other men who have sex with men and/or have multiple sexual partners) and for health workers at high risk of exposure, laboratory personnel working with orthopoxviruses, clinical laboratory personnel performing diagnostic testing for monkeypox, and outbreak response team members (as designated by national public health authorities).

Persons at risk of exposure and at higher risk of severe disease (e.g. immunocompromised persons, pregnant women, or children who are potential contacts or members of the same household as persons with monkeypox) should be offered vaccination with appropriate vaccine on a case-by-case basis. All decisions around immunization of individuals with monkeypox or smallpox vaccines (before or following potential exposure) should be by shared clinical decision-making between the health care provider and prospective vaccinee, based on a joint assessment of risks and benefits, on a case-by-case basis.

Member States using vaccines against monkeypox are strongly encouraged to do so within a framework of collaborative clinical studies using standardized design methods and data collection tools for clinical and outcome data, in order to rapidly increase evidence generation, especially on vaccine efficacy/effectiveness and safety. Where participation in placebo-controlled clinical efficacy trials for monkeypox vaccines and schedules is not considered feasible, the use of a range of other robust study designs to assess vaccine effectiveness should be rapidly put in place employing standard data collection methods, where resources allow.

Therapeutics

Caring for patients with suspected or confirmed monkeypox requires early recognition through screening protocols adapted to local settings, and rapid implementation of appropriate IPC measures (including implementation of transmission-based precautions and prompt isolation), testing to confirm diagnosis, symptomatic management of patients with mild or uncomplicated monkeypox and monitoring for and treatment of complications and life-threatening conditions such as progression of skin lesions, severe pain, proctitis, urinary retention, secondary bacterial infection of skin lesions, ocular lesions, and rarely, encephalitis, myocarditis and/or death. Patients with mild or uncomplicated monkeypox who isolate at home require careful assessment of the ability to safely isolate and maintain required IPC precautions in their home to prevent transmission to other household and community members and have access to care if they progress or worsen. Precautions (isolation and IPC measures) should remain in place until lesions have crusted, scabs have fallen off and a fresh layer of skin has formed underneath.

To enable reliable evaluation of therapeutic interventions, randomized trials using CORE protocols are the preferred approach. Unless there are compelling reasons not to do so, every effort should be made to implement randomized trial design. It is feasible to conduct placebo-controlled studies, especially in individuals at low risk for serious disease. Harmonised data collection for safety and clinical outcomes using the WHO Global Clinical Platform for monkeypox, would represent a desirable minimum dataset in the context of an outbreak, including the current event.

WHO is seeking feedback on the Target Product Profile (TPP) therapeutics for monkeypox cases from experts in the industry, product developers, the scientific community, national infection control programme personnel and clinicians currently involved in the management and control of monkeypox. The TPP is intended to guide and prioritize the evaluation of repurposed therapeutic agents for monkeypox or the development of new therapeutic agents.

Risk Communication and Community Engagement

Balanced risk communication and community engagement approaches need to reach the most affected populations. It is most effective to use existing trusted networks to reach those who identify as gay, bisexual or men who have sex with men (MSM) and those with recent multiple sex partners. In most countries these networks can be accessed by partnering with HIV/AIDS networks. Engagement efforts should include open questions with detailed advice and answers, that present alternatives to high-risk activities which are co-developed with affected population groups.

Affected persons should be aware of emerging information and knowledge about symptoms and updated behavioural advice to avoid further spread of monkeypox. As vaccines, testing and therapeutics become more available, communication with individuals on; 1) who should access these measures, 2) how they can be accessed, 3) how they work, 4) the known limitations of specific measures, should be consistently communicated. This information should be shared through trusted channels, key influencers and community based and civil society organizations representing affected populations. Unknowns and nuances of vaccines, testing and therapeutics should be consistently and transparently shared with people receiving these.

Technical guidance and other resources

WHO Guidance and Public Health Recommendations

- WHO Vaccines and immunization for monkeypox: Interim guidance, 24 August 2022. https://apps.who.int/iris/bitstream/handle/10665/361894/WHO-MPX-Immunization-2022.2-eng.pdf
- WHO Second meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox, 23 July 2022. https://www.who.int/news/item/23-07-2022-second-meeting-of-the-international-health-regulations-(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox
- WHO Director-General's statement at the press conference following IHR Emergency Committee regarding the multi-country outbreak of monkeypox, 23 July 2022. https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-the-press-conference-following-IHR-emergency-committee-regarding-the-multi--country-outbreak-of-monkeypox--23-july-2022
- WHO Global clinical data platform for monkeypox case report form (CRF), 15 July 2022. https://www.who.int/publications/i/item/WHO-MPX-Clinical_CRF-2022.2
- Public health advice for gatherings during the current monkeypox outbreak, 28 June 2022: https://www.who.int/publications/i/item/WHO-MPX-Gatherings-2022.1
- WHO Surveillance, case investigation and contact tracing for Monkeypox: Interim guidance, 24 June 2022. https://www.who.int/publications/i/item/WHO-MONKEYPOX-surveillance-2022.2
- Clinical management and infection prevention and control for monkeypox: Interim rapid response guidance, 10 June 2022. https://www.who.int/publications/i/item/WHO-MPX-Clinical-and-IPC-2022.1
- WHO Technical brief (interim) and priority actions: enhancing readiness for monkeypox in WHO South-East Asia Region, 7 July 2022. https://cdn.who.int/media/docs/default-source/searo/whe/monkeypox/searo-mpx-tbrief22.pdf

Data management

- The WHO Global Clinical Platform for monkeypox, 14 June 2022. https://www.who.int/tools/global-clinical-platform/monkeypox
- Global clinical data platform for monkeypox case report form (CRF), 14 June 2022. https://www.who.int/publications/i/item/WHO-MPX-Clinical-CRF-2022.1
- Case and contact investigation form (CIF), 16 June 2022. https://www.who.int/publications/m/item/monkeypox-minimum-dataset-case-reporting-form-(crf)
- WHO Go.Data: Managing complex data in outbreaks. https://www.who.int/tools/godata
- Monkeypox Case investigation form (CIF) and minimum dataset Case reporting form (CRF). https://www.who.int/publications/m/item/monkeypox-minimum-dataset-case-reporting-form-(crf)

Risk communication and community engagement

- Monkeypox Q&A, 23 August 2022. https://www.who.int/philippines/news/feature-stories/detail/frequently-asked-questions-about-monkeypox
- Risk communication and community engagement (RCCE) for monkeypox outbreaks: Interim guidance, 24 June 2022. https://www.who.int/publications/i/item/WHO-MPX-RCCE-2022.1
- Interim advice for public health authorities on summer events during the monkeypox outbreak in Europe, 2022. 14 June 2022. https://www.who.int/europe/publications/m/item/interim-advice-for-public-health-authorities--on-summer-events-during-the-monkeypox--outbreak-in-europe--2022
- Interim advice on Risk Communication and Community Engagement during the monkeypox outbreak in Europe, 2022. Joint report by WHO Regional office for Europe/ECDC, 2 June 2022. https://www.euro.who.int/__data/assets/pdf_file/0009/539046/ECDC-WHO-interim-advice-RCCE-Monkeypox-2-06-2022-eng.pdf
- WHO Monkeypox outbreak: update and advice for health workers, 26 May 2022. https://www.who.int/docs/default-source/coronaviruse/risk-comms-updates/update_monkeypox-.pdf?sfvrsn=99baeb03_1
- Monkeypox: public health advice for gay, bisexual and other men who have sex with men, 18 July 2022. https://www.who.int/publications/m/item/monkeypox-public-health-advice-for-men-who-have-sex-with-men

- Risk communication and community engagement. Public health advice on the recent outbreak of monkeypox in the WHO European Region, 24 May 2022. https://www.euro.who.int/__data/assets/pdf_file/0004/538537/public-health-advice-monkeypox-eng.pdf

Laboratory and diagnostics

- WHO Laboratory testing for the monkeypox virus: Interim guidance, 23 May 2022. https://apps.who.int/iris/handle/10665/354488
- WHO Guidance on regulations for the transport of infectious substances 2021-2023, 25 February 2021. https://www.who.int/publications/i/item/9789240019720
- Genomic epidemiology of monkeypox virus. https://nextstrain.org/monkeypox?c=country
- Monkeypox: experts give virus variants new names, 12 August 2022. https://www.who.int/news/item/12-08-2022-monkeypox--experts-give-virus-variants-new-names

Disease Outbreak News and situation reports

- Monkeypox outbreak 2022: https://www.who.int/emergencies/situations/monkeypox-oubreak-2022
- Multi-country outbreak of monkeypox, External situation report #3 - 10 August 2022: https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--3---10-august-2022
- WHO Multi-country outbreak of monkeypox, External situation report #2 – 25 July 2022: https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--2---25-july-2022
- WHO Multi-country outbreak of monkeypox, External situation report #1 - 6 July 2022: https://www.who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--1---6-july-2022
- WHO disease outbreak news: Monkeypox, all items related to multi-country outbreak: https://www.who.int/emergencies/emergency-events/item/2022-e000121
- WHO disease outbreak news: Monkeypox, all previous items including endemic countries and traveler-associated outbreaks: https://www.who.int/emergencies/emergency-events/item/monkeypox

Training and Education

- WHO monkeypox outbreak toolbox, June 2022. https://www.who.int/emergencies/outbreak-toolkit/disease-outbreak-toolboxes/monkeypox-outbreak-toolbox
- WHO factsheet on monkeypox, 19 May 2022. http://www.who.int/news-room/fact-sheets/detail/monkeypox
- Health topics – Monkeypox: https://www.who.int/health-topics/monkeypox
- Open WHO. Online training module. Monkeypox: Introduction. 2020
  English: https://openwho.org/courses/monkeypox-introduction
  Français: https://openwho.org/courses/variole-du-singe-introduction
- Open WHO. Extended training. Monkeypox epidemiology, preparedness and response. 2021.
  English: https://openwho.org/courses/monkeypox-intermediate;
  Français: https://openwho.org/courses/variole-du-singe-intermediaire

Other Resources

- WHO AFRO Weekly Bulletin on Outbreaks and Other Emergencies, all previous items: https://www.afro.who.int/health-topics/disease-outbreaks/outbreaks-and-other-emergencies-updates
- WHO 5 moments for hand hygiene. https://www.who.int/campaigns/world-hand-hygiene-day
- WHO One Health. https://www.who.int/health-topics/one-health
- World Organisation for Animal Health, founded as OIE: Monkeypox. https://www.woah.org/en/disease/monkeypox/
- Joint WHO Regional Office for Europe - European Centre for Disease Prevention and Control, Monkeypox surveillance bulletin Situation reports (who.int)

- Joint WHO Regional Office for Europe - European Centre for Disease Prevention and Control, Monkeypox Resource toolkit to support national authorities and event organizers in their planning and coordination of mass and large gathering events. https://www.who.int/europe/tools-and-toolkits/monkeypox-resource-toolkit-for-planning-and-coordination-of-mass-and-large-gathering-events/
- WHO European Region Interim advice for public health authorities on summer events during the monkeypox outbreak in Europe, 2022 https://www.who.int/europe/publications/m/item/interim-advice-for-public-health-authorities--on-summer-events-during-the-monkeypox--outbreak-in-europe--2022
- Weekly epidemiological record (WER) no.11, 16 March 2018, Emergence of monkeypox in West Africa and Central Africa 1970-2017. http://apps.who.int/iris/bitstream/handle/10665/260497/WER9311.pdf;jsessionid=7AB72F28D04CFE6CE24996192FC478FF?sequence=1 Jezek Z., Fenner F.: Human Monkeypox. Monogr Virol. Basel, Karger, 1988, vol 17, pp 1-5. doi: 10.1159/isbn.978-3-318-04039-5

Annex 1: Data, table and figure notes

Caution must be taken when interpreting all data presented. Differences are to be expected between information products published by WHO, national public health authorities, and other sources using different inclusion criteria and different data cut-off times. While steps are taken to ensure accuracy and reliability, all data are subject to continuous verification and change. Case detection, definitions, testing strategies, reporting practice, and lag times differ between countries/territories/areas. These factors, amongst others, influence the counts presented, with variable underestimation of true case and death counts, and variable delays to reflecting these data at the global level.

[i]'Countries' may refer to countries, territories, areas or other jurisdictions of similar status. The designations employed, and the presentation of these materials do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Annex 2: Confirmed cases of monkeypox by WHO region and country from 1 January 2022 to 22 August 2022, 17:00 CEST*

WHO Region	Country	Confirmed Cases	Confirmed Deaths
African Region	Benin	3	0
	Cameroon	7	0
	Central African Republic	3	2
	Congo	3	0
	Democratic Republic of the Congo	163	0
	Ghana	47	1
	Liberia	2	0
	Nigeria	172	4
	South Africa	4	0
Eastern Mediterranean Region	Iran (Islamic Republic of)	1	0
	Lebanon	6	0
	Morocco	1	0
	Qatar	3	0
	Saudi Arabia	6	0
	Sudan	2	0
	United Arab Emirates	16	0

European Region	Andorra	4	0
	Austria	218	0
	Belgium	624	0
	Bosnia and Herzegovina	3	0
	Bulgaria	4	0
	Croatia	22	0
	Cyprus	4	0
	Czechia	39	0
	Denmark	169	0
	Estonia	9	0
	Finland	22	0
	France	2889	0
	Georgia	2	0
	Germany	3295	0
	Gibraltar	6	0
	Greece	50	0
	Greenland	2	0
	Hungary	63	0
	Iceland	12	0
	Ireland	113	0
	Israel	208	0
	Italy	689	0
	Latvia	4	0
	Lithuania	5	0
	Luxembourg	45	0
	Malta	31	0
	Monaco	3	0
	Montenegro	2	0
	Netherlands	1090	0
	Norway	76	0
	Poland	114	0
	Portugal	810	0
	Republic of Türkiye	1	0
	Republic of Moldova	2	0
	Romania	34	0
	Russian Federation	1	0
	Serbia	31	0
	Slovakia	12	0
	Slovenia	43	0
	Spain	6119	2
	Sweden	141	0
	Switzerland	416	0
	The United Kingdom	3225	0
Region of the Americas	Argentina	72	0
	Bahamas	2	0

	Barbados	1	0
	Bermuda	1	0
	Bolivia (Plurinational State of)	37	0
	Brazil	3450	1
	Canada	1168	0
	Chile	189	0
	Colombia	164	0
	Costa Rica	3	0
	Curaçao	1	0
	Dominican Republic	6	0
	Ecuador	19	1
	Guadeloupe	1	0
	Guatemala	4	0
	Honduras	3	0
	Jamaica	4	0
	Martinique	1	0
	Mexico	252	0
	Panama	4	0
	Peru	937	0
	Puerto Rico	66	0
	Saint Martin	1	0
	United States of America	14 049	0
	Uruguay	2	0
	Venezuela (Bolivarian Republic of)	1	0
South-East Asia Region	India	9	1
	Indonesia	1	0
	Thailand	4	0
Western Pacific Region	Australia	89	0
	China	3	0
	Japan	4	0
	New Caledonia	1	0
	New Zealand	4	0
	Philippines	4	0
	Republic of Korea	1	0
	Singapore	15	0
Cumulative	**96 countries/territories/areas**	**41 664**	**12**

Corrigendum: This report was revised on 25 August to correct the number of cases reported in week 32 (8-14 August) from 5213 cases to 7477 cases.

JAPAN COVID UPDATES

New requirement for inbounds from September 7, 2022

The government announced that they would change the criteria for inbound people who may enter Japan by air effective from **September 7, 2022**.

Before departure from their home countries

Regardless of the countries' categories by the Japanese quarantine authority, all seafarers coming from all countries and areas shall follow the following criteria.

[Seafarers who had a vaccination certificate (Boosted: 3 doses or more) *]

- A Covid-19 certificate (negative certificate) is not required.
  They must have a vaccination certificate (boosted) by allowable vaccines in Japan.
  (https://www.mhlw.go.jp/content/mesure_en.pdf).
- A three-day of isolation is recommended.

[For other seafarers]

- Persons visiting Japan shall get a negative certificate of COVID-19 test (PCR test or other method authority allows) seventy-two (72) hours before flight departure.
  (Twenty-four (24) hours test instead 72 hours is highly recommended)
- A three-day of isolation is required.

On-arrival Testing at the airport

Red-category:	Yes
Yellow-category	
(Not boosted):	Yes
(Boosted):	No
Blue-category:	No

Note: Persons who may be positive by the airport testing cannot pass an immigration check until released (7 days at least).

Required Isolation after arrival

Red-category

(Not boosted): Three days in designated accommodation. The third-day testing is required. They cannot use public transportation after the third-day testing (negative results). After then they can move to their domestic destination using public transportation.

Red-category

(Boosted): Three (3) days in accommodation.

Yellow-category
(Not boosted): Three (3) days in accommodation.
Transfer to the hotel (or to the vessel) using public transportation within 24 hours after testing (specimen collection) at the airport. After the isolation period (3 days), move to the destination using public transportation (using non-public transportation is recommended).

Yellow-category
(Boosted): Not required
Blue-category: Not required
They may move to the destination any time after arrival. They may use public transportation. **For details, kindly refer to the following URL:**
https://www.mofa.go.jp/ca/cp/page22e_000925.html

Categories as of July 27

Red-category Countries-None

Yellow-category Countries

- [Asia & Oceania]-India, North Korea, Kiribati, Cook Islands, Samoa, Sri Lanka, Solomon Islands, Tuvalu, Tonga, Nauru, Niue, Pakistan, Vanuatu, Fiji, Bhutan, Brunei, Vietnam, Marshall Islands, Macau, Micronesia, and Maldives.
- [North America]-None
- [Middle & South America]-Antigua and Barbuda, Uruguay, Guyana, Cuba, Grenada, Suriname, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Saint Lucia, Dominica, Sierra Leone, Trinidad and Tobago, Nicaragua, Haiti, Bahamas, Barbados, Venezuela, Belize, and Honduras
- [Europe]-Albania, Andorra, Ukraine, Uzbekistan, Kazakhstan, North Macedonia, Cyprus, Kosovo, San Marino, Georgia, Tajikistan, Turkmenistan, Vatican City, Belarus, Portugal, Malta, and Liechtenstein.
- [Middle East & Africa]-Angola, Yemen, Egypt, Eswatini, Eritrea, Oman, Cape Verde, Gabon, Gambia, Guinea, Guinea-Bissau, Kuwait, Comoros, Republic of the Congo, Democratic Republic of the Congo, Saudi Arabia, São Tomé and Príncipe, Syria, Zimbabwe, Sudan, Seychelles, Equatorial Guinea, Senegal, Somalia, Chad, Central African Republic, Tunisia, Togo, Turkey, Namibia, Niger, Palestine, Burkina Faso, Burundi, Botswana, Mali, Mauritius, Mauritania, Libya, Liberia, Lesotho, and Lebanon (in no particular order)

Blue-category Countries- Other than the above-listed countries