



# Update on the polio situation in the EU/EEA and the world

## As of 23 August 2022

Globally, as of 23 August, 20 cases of polio due to wild poliovirus type 1 (WPV1) and 246 cases due to circulating vaccine derived poliovirus (cVDPV) have been reported this year. In 2022, the cVDPV cases have been reported in 15 countries, with 93% of the cases attributed to cVDPV type 2 (cVDPV2).

Following the detection of sewage samples positive for poliovirus type 2 (PV2) in London, United Kingdom, the UK health authorities advised a targeted booster dose with inactivated polio vaccine (IPV) to all children between 1 and 9 years of age in all London boroughs to ensure a high level of protection against the virus and to limit its further spread. **Some of the vaccine derived poliovirus type 2 (VDPV2) isolates found in the UK were genetically linked to VDPV2 isolated from a polio case that had been reported in July 2022 from New York, USA, as well as to environmental samples collected in New York, USA, and Greater Jerusalem, Israel.**

ECDC assesses the situation in the EU/EEA as follows:

The EU/EEA, as well as the UK and the wider WHO European Region have remained polio-free since 2002. Inactivated polio vaccines are used in all EU/EEA countries.

As long as there are non-vaccinated or under-vaccinated population groups in European countries and poliomyelitis is not eradicated globally, the risk of the virus being reintroduced in Europe remains.

Two EU/EEA countries (Poland and Romania) and one neighbouring country (Ukraine) remain at high risk of a sustained polio outbreak following wild poliovirus importation or the emergence of cVDPV, due to sub-optimal programme performance and low population immunity, according to the European Regional Certification Commission for Poliomyelitis Eradication (RCC) report from September 2021 assessment, referring to data of 2020. According to the same report, 11 EU/EEA countries are at an intermediate risk of sustained polio outbreaks.

The continuing circulation of wild poliovirus type 1 (WPV1) in Pakistan and Afghanistan and detection of four WPV1 cases in Mozambique in 2022 genetically linked to a strain from Pakistan show that there is still a risk of the disease being imported into the EU/EEA. Furthermore, the worrying occurrence of outbreaks of circulating vaccine-derived poliovirus (cVDPV), which emerges and circulates due to lack of polio immunity in the population, shows the potential risk for further international spread.

To limit the risk of reintroduction and sustained transmission of WPV and cVDPV in the EU/EEA, it is crucial to maintain high vaccine coverage in the general population and increase vaccination uptake in pockets of under-immunised populations. The EU/EEA countries should review their polio vaccination coverage data and ensure there are no immunity gaps in the population and there is capacity to identify virus circulation through well-performing surveillance systems.

ECDC endorses WHO's temporary recommendations with regard to EU/EEA citizens who are residents or long-term visitors (>4 weeks) in countries with the potential risk of international spread of polio, that is, they are recommended to receive an additional dose of poliovirus vaccine between two weeks and 12 months prior to international travel.

Source: <https://www.ecdc.europa.eu/en/news-events/update-polio-situation-eueea-and-world>

Global Wild Poliovirus 2016 - 2022



Country or territory <sup>3</sup>	Wild virus type 1 confirmed cases									Wild virus type 1 reported from other sources <sup>2</sup>							
	Full year total						01-Jan-23-Aug <sup>1</sup>		Date of most recent case	Full year total						01-Jan-23-Aug <sup>1</sup>	Date of most recent virus
	2016	2017	2018	2019	2020	2021	2021	2022		2016	2017	2018	2019	2020	2021	2022	
Pakistan	20	8	12	147	84	1	1	14	30-Jun-22	62	110	141	405	455	65	15	04-Aug-22
Afghanistan	13	14	21	29	56	4	1	1	14-Jan-22	2	42	83	60	49	1	2	20-Jul-22
Mozambique	0	0	0	0	0	0	0	0	05-Jul-22								
Malawi	0	0	0	0	0	1	0	0	19-Nov-21								
Iran	0	0	0	0	0	0	0	0	NA				3				20-May-19
Nigeria <sup>3</sup>	4	0	0	0	0	0	0	0	21-Aug-16	1 <sup>4</sup>							27-Sep-16
<b>Total (Type1)</b>	<b>37</b>	<b>22</b>	<b>33</b>	<b>176</b>	<b>140</b>	<b>6</b>	<b>2</b>	<b>20</b>		<b>65</b>	<b>152</b>	<b>224</b>	<b>468</b>	<b>504</b>	<b>66</b>	<b>17</b>	
<b>Tot. in endemic countries</b>	<b>37</b>	<b>22</b>	<b>33</b>	<b>176</b>	<b>140</b>	<b>5</b>	<b>2</b>	<b>15</b>									
<b>Tot. in non-end countries</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>									
<b>No. of countries (infected)</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>									
<b>No. of countries (endemic)</b>	<b>2</b> <sup>5</sup>	<b>2</b> <sup>5</sup>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>									
<b>Total Female</b>	<b>13</b>	<b>7</b>	<b>18</b>	<b>72</b>	<b>59</b>	<b>2</b>	<b>0</b>	<b>8</b>									
<b>Total Male</b>	<b>24</b>	<b>15</b>	<b>15</b>	<b>104</b>	<b>81</b>	<b>4</b>	<b>2</b>	<b>12</b>									

Countries in yellow are endemic. <sup>1</sup>Data reported to WHO HQ on 24 Aug. 2021 for 2021 data and 23 Aug. for 2022 data. <sup>2</sup>Wild viruses from environmental samples, selected contacts, healthy children and other sources. Last WPV type 3 had its onset on 10 November 2012. <sup>3</sup>Between 27 Sep 2015 and 27 Sep 2016, Nigeria was not classified as endemic, and declared Wild polio-free as of June 2020. <sup>4</sup>Exceptionally reporting case-contact of a positive index case given the date of collection is later than the onset date of the most recent WPV.



### Global Circulating Vaccine-derived Poliovirus (cVDPV)<sup>1,2,3</sup>

Country	AFP cases (Paras onset between 2016-2022)							Other sources (Human) <sup>1</sup> (Collection between 2016-2022)							Other sources (Environment) <sup>2</sup> (Collection between 2016-2022)						
	2016	2017	2018	2019	2020	2021	2022	2016	2017	2018	2019	2020	2021	2022	2016	2017	2018	2019	2020	2021	2022
Mozambique																					
Nigeria																					
Poland																					
Romania																					
Ukraine																					
<b>Total Type 1</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>12</b>	<b>33</b>	<b>16</b>	<b>10</b>	<b>3</b>	<b>0</b>	<b>7</b>	<b>10</b>	<b>0</b>	<b>23</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>26</b>	<b>9</b>	<b>31</b>	<b>63</b>
<b>Total Type 2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

<sup>1</sup>For cVDPV definition see <http://polioeradication.org/wp-content/uploads/2016/09/Reporting-and-Classification-of-VDPVs-Aug2016-EN.pdf>. <sup>2</sup>Figures include multiple emergences. <sup>3</sup>Stool collected in Sep - 2016 but the final result was reported in 2017. <sup>4</sup>Include contact, healthy and community samples. <sup>5</sup>1 cVDPV2 and cVDPV3 isolated from one child in Somalia. <sup>6</sup>No clear evidence of in-country community transmission; investigations underway

Environmental surveillance for poliovirus in selected sewage sites established and working

Changes from previous week

Data in WHO HQ as of 23 Aug. 2022

# Multi-country monkeypox outbreak

## A public health emergency of international concern (PHEIC)



During the second meeting of the International Health Regulations Emergency Committee regarding the multi-country outbreak of monkeypox on July 23, the World Health Organization declared the virus a public health emergency of international concern (PHEIC).

This designation means the WHO now considers the outbreak a significant enough threat to global health that a coordinated international response is needed to prevent the virus from becoming increasingly challenging to control and potentially escalating into a pandemic.

While the committee was unable to reach a consensus on whether the outbreak represents a PHEIC, the Director-General highlighted that he considered five elements in deciding whether an outbreak constitutes a PHEIC.

1. The information provided by countries – which in this case shows that this virus has spread rapidly to many countries that have not seen it before;
2. Having met the three criteria for declaring a public health emergency of international concern (an extraordinary event, a public health risk to other States through the international spread of disease, and an event which may potentially require a coordinated international response);
3. The advice of the Emergency Committee, which has not reached a consensus;
4. Scientific principles, evidence and other relevant information – which are currently insufficient and leave us with many unknowns;
5. The risk to human health, international spread, and the potential for interference with international traffic.

WHO's assessment is that the risk of monkeypox is moderate globally in all regions, except in the European region where they assess the risk as high. There is also a clear risk of further international spread, although the risk of interference with international traffic remains low for the moment.

Furthermore, the Director-General added that so far, the outbreak is concentrated among men who have sex with men, especially those with multiple sexual partners. This directs the use of key strategies such as countries working closely with communities of men who have sex with men, designing and delivering effective information and services, and adopting measures that protect the health, human rights and dignity of affected communities.

The multi-country monkeypox outbreak has spread around the world rapidly, through close sexual contact in a globally mobile network. As a neglected tropical disease endemic to central and western Africa, there is limited understanding of the viral properties of monkeypox and investigations into modes of spread, control and treatment are required. The need to have a coordinated plan of action, proper distribution of resources and having met the criteria in the International Health Regulations, has prompted this declaration.

- [WHO Director-General's statement on the Press conference following IHR Emergency Committee regarding the multi-country outbreak of monkeypox - 23 July 2022](#)
- <https://www.who.int/news/item/24-08-2022-vaccines-and-immunization-for-monkeypox--interim-guidance--14-june-2022>
- [Second meeting of the International Health Regulations \(2005\) \(IHR\) Emergency Committee regarding the multi-country outbreak of monkeypox](#)

### Available Vaccines against Monkeypox

Smallpox vaccines provide a level of protection against other Orthopoxvirus such as monkeypox. The amount of vaccines available to each country depends on factors such as access to national stockpiles and manufacturing capacity. The WHO maintains a stockpile of smallpox vaccines to respond against the potential re-emergence including a physical reserve and pledged donation from select national stockpiles in the event of an emergency. [1] In 2016, this reserve accounted for more than 30 million doses including several generations of vaccines that may not currently be viable options due to safety concerns. More recent estimates suggest around 16 million doses that are appropriate to use are reserved, but access would require additional processing before they can be shipped. [2]

#### ACAM2000 [3, 4]

- Second generation vaccine containing live attenuated (weakened) cowpox virus.
- One dose primary schedule with additional boosters available.
- Administered percutaneously (through the skin) by multiple surface punctures.
- Maximal protection four weeks after immunization.
- There are increased severe adverse events associated with the vaccine containing live virus particularly in pregnant people, severely immunocompromised individuals, and children. Immunocompromised individuals are at risk of infection by close contact with a recently vaccinated individual due to the short-term shedding of the virus.

#### MVA-BN (Bavarian Nordic) [3]

- Third generation vaccine containing a modified cowpox virus incapable of replicating, thus are relatively safer for use for children and pregnant people.
- Two subcutaneous injections administered 28 days apart.
- Maximal protection 14 days after second dose.

Some countries are considering or employing alternative schedules (i.e., using one dose only) to maximize their current stock. Unfortunately, there is limited real-world data on the effectiveness of the vaccines in the current outbreak in alternative situation and uncertainty involved with deviating regimens, and further study is needed.

### Distribution of Vaccines in Countries reporting the highest number of confirmed cases as of 29 July [6,7,8,9]

	Total Confirmed Cases	Number of Monkeypox Vaccines Doses Procured
United States	4,907	> 7 million*
Spain	3,738	5,300
Germany	2,459	>5,000
United Kingdom	2,437	>100,000*
France	1,955	>100,000**

\* Doses have been ordered from manufacture but not distributed yet

\*\* Accurate number of available vaccines is unknown due to an undisclosed quantity from national stockpile

# Multi-country monkeypox outbreak

## Transmission Modes

Source: 20



### Monkeypox transmission modes

#### Asymptomatic human-to-human transmission:

- Human-to-human monkeypox transmission is currently recognized as occurring during close contact with respiratory secretions and/or skin lesions of an infected individual, or contaminated objects such as linens and towels. [3]
- A preprint article published in early July 2022 has provided new evidence for the possible asymptomatic transmission of monkeypox. Asymptomatic spread could make the identification and isolation of cases more difficult and could result in a prolonged outbreak. PCR testing of the subjects showed four men (N=224) were positive for monkeypox, **three of which did not report symptoms during sample collection, nor did they show signs or symptoms of monkeypox when they were recalled to the clinic 21 to 37 days after the initial sample collection.** The three samples were all anorectal samples, and all three men had a well-controlled HIV infection, had never been vaccinated against smallpox, and reported condomless sexual intercourse with one or more male partners up to a month before the sample collection. The PCR cycle threshold of the presumed asymptomatic anorectal samples were similar to or lower than those collected from symptomatic monkeypox anorectal and skin lesion samples that completed the same testing procedure in the same clinic. This **indicates similar infectivity of the asymptomatic anorectal cases and the symptomatic skin lesion cases**, and the possibility that monkeypox cases are being **transmitted via sexual contact in the absence of symptoms.**
- Of note, due to the retrospective nature of the study, the positivity of the individuals could not be confirmed via a second sample at a different body site. There is also the possibility of recall bias, the chance that painless lesions were unnoticed, or lab error; further research is required. [4]

#### Human-to-human transmission (skin-to-skin contact)

- Historically, monkeypox cases in endemic countries have been understood to present with a fever and influenza-like symptoms followed by a characteristic widespread rash including many simultaneous lesions. Some cases during the global 2022 monkeypox outbreak, however, are noted to have **mild or no fever or influenza-like symptoms and are followed by a rash with a low number of localized lesions, which does not typically spread to other areas of the body.**
- A peer-reviewed article published on August 8 describes how cases may present atypically and how skin-to-skin contact may be a common transmission route for monkeypox. The article outlines the atypical findings for 181 monkeypox-confirmed patients in Spain, all of whom presented with lesions. Notably, 25% presented with proctitis, and 10% had tonsillitis. These percentages increased when looking specifically at those who engaged in anal-receptive sex (38%, 41/108) and oral-receptive sex (95%, 18/19), respectively, indicating that skin-to-skin and mucocutaneous contact may be common transmission modes in the current global outbreak. **These findings may further help in identifying atypical symptoms in potential monkeypox cases and should prompt an expansion of clinical criteria for identifying cases.** [5]

#### Human-to-animal transmission:

- It is known that the monkeypox virus can infect a wide range of mammal species, including monkeys, anteaters, hedgehogs, prairie dogs, squirrels, and shrews.
- It is known that the monkeypox virus is zoonotic, **but it is also possible that people who are infected could spread monkeypox virus to animals** through close contact, including cuddling, kissing, sharing sleeping areas, and sharing food.
- The first report of a dog with a confirmed monkeypox virus infection that might have been acquired through human transmission has been documented and published in a peer-reviewed article. The report account to, two men who identified as MSM in France which both were monkeypox PCR positive and reported co-sleeping with their dog who was also found to be PCR positive after swabbing skin lesions. **This indicates that the dog acquired the infection and was not only a carrier of the virus by close skin contact with humans or close contact with respiratory secretions (or both).**
- **Public health responses need to consider the risk of exposure to household pets in the containment strategies for this outbreak.** [6]

### Monkeypox Cases and Evidence of Community Transmission

#### **High Viral Contamination of Hospital Room Surfaces in Isolating Monkeypox Infected Patients**

Prior understanding of surface contaminations with monkeypox virus was limited. A recent study of hospital settings [2] suggests that high viral loads can be found on surfaces in direct contact with an infected individual and can be transferred by medical professionals to external surfaces in varying amounts. The study, conducted in Germany, was published in Eurosurveillance as a Rapid Communication. Researchers took environmental samples (swabbing) from hospital isolation rooms, including the patient room, anteroom room, and bathrooms of two monkeypox patients on their fourth day of hospitalization.

The viral load was approximated through the detection of viral DNA on swabbed surfaces. This is a limitation since DNA alone is not sufficient for infection and the other parts that make up a viable virus may be missing. However, monkeypox virus isolation was attempted for several sampled surfaces, of which three specific locations were successful, indicating the presence of live virus on these surfaces. These findings suggest the possibility of indirect transmission through contaminated objects; however, the criteria necessary for infection, including the degree of contamination and infectious dose in humans, remains unknown. While the study was conducted in a hospital setting, the results can be extended to other relevant settings, such as households and congregate living spaces. In order to limit the risk of transmission in close contacts, it is important to follow stringent sanitary measures including disinfecting common hand-contact surfaces.

*The key findings from this study are:*

1. **The highest viral loads were observed in samples taken directly from the patient's skin lesions and throat.**
2. **A high level of contamination was observed on surfaces that the infected patients had frequent direct contact with.**
  - The private bathrooms of both individuals had the highest viral copies (DNA) across several sampled surfaces, including the door handle, toilet seat surface, flush lever, and sink tap handle.
  - While some same location samples tested positive for viral DNA for each patient, various locations with undetectable viral copies in one patient demonstrated high viral copies in the other patient. This shows a limited generalizability to the greater population since the contaminated surfaces are most likely related with individual clinical presentations and lesion locations.
  - The highest viral copies were detected on the sink tap for patient 1 and in the soap dispenser for patient 2. Chair surfaces contained high levels of contamination in both individuals.
3. **Viral copies and isolated virus were detected on the medical professional's glove after contact with fabrics largely used by the patients. This provides a risk for further contamination of additional surfaces.**
  - Notably, the samples with successful virus isolation (glove, soap dispenser, patient's towel) had the highest contamination with more than 106 copies per sample.
  - Although further investigation is required, there is a possibility for infection from contact with surfaces with viral copies greater than 106.
  - All points of contacts in the (external) anteroom were positive for viral DNA but only trace amounts were detected on external door handles to the patient room and to the corridor (outside the anteroom). The presence of viral copies in these locations suggests insufficient sanitary measures when exiting the patients' room. Additional stringent protocols may be required to limit the contamination of external surfaces.

# COVID-19 Situation by WHO Region, as of 13 July

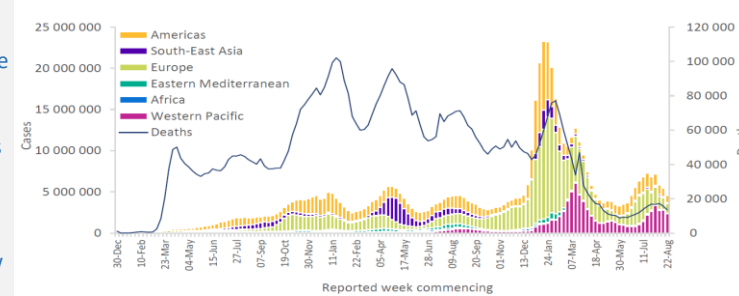
## Global epidemiological situation overview; WHO as of 28 August 2022

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%).

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%).

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



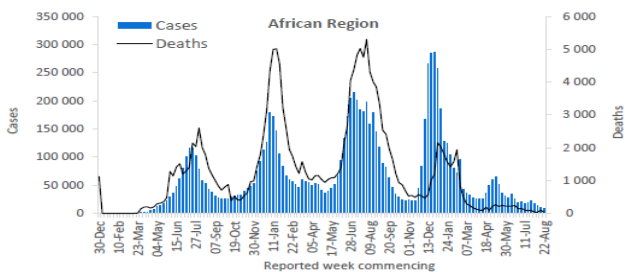
## WHO regional overviews:

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%).

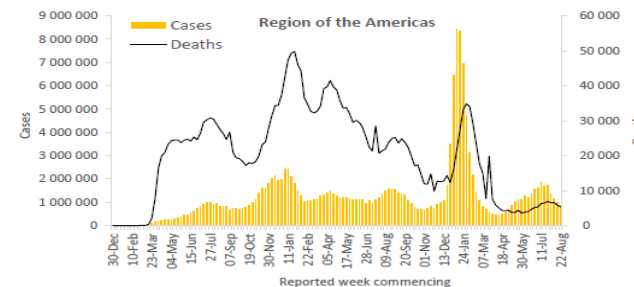
The number of new weekly deaths in the Region decreased by 64% as compared to the previous week, with 36 deaths reported. The highest numbers of new deaths were reported from South Africa (18 new deaths; <1 new death per 100 000 population; -79%), Réunion (six new deaths; <1 new death per 100 000; +200%)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



### 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%).

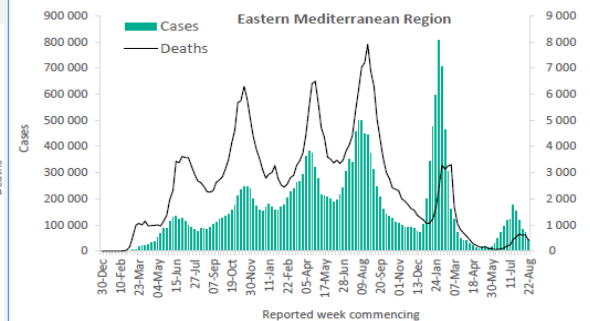
The number of new weekly deaths reported in the Region decreased by 9% as compared to the previous week, with over 5300 deaths reported. The highest numbers of new deaths were reported from the United States of America (2818 new deaths; <1 new death per 100 000; -6%), Brazil (1039 new deaths; <1 new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



### 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%).

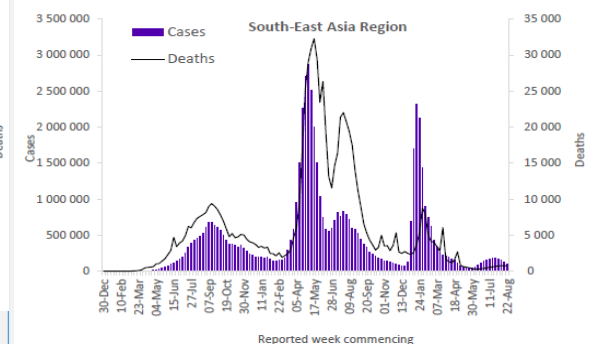


### Updates from the Eastern Mediterranean Region

#### 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%).

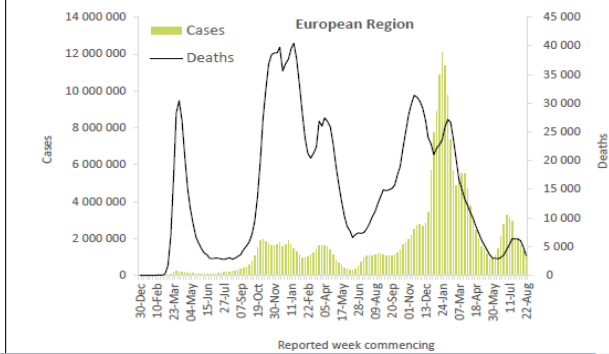
The Region reported just under 800 deaths, a 15% increase compared to the previous week. The highest numbers of new deaths were reported from India (422 new deaths; <1 new death per 100 000; +43%), Thailand (195 new deaths; <1 new death per 100 000; -2%) and Indonesia (123 new deaths; <1 new death per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



### 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%).

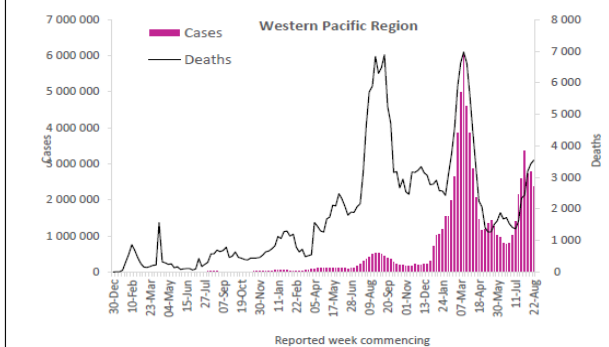
Over 3400 new weekly deaths were reported in the Region, a 30% decrease as compared to the previous week. The highest numbers of new deaths were reported from Italy (647 new deaths; 1.1 new deaths per 100 000; -4%), the Russian Federation (523 new deaths; <1 new death per 100 000; +20%) and Spain (326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



#### 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%).



# COVID-19 situation updates I

## Omicron BA.5 is the Dominant Global Variant globally



### Relative Risk of BA.5 Infection According to Prior SARS-CoV-2 Variants Infection

The World Health Organization (WHO) reports that there has been a **16% decrease in new COVID-19 cases** during the week of August 22 to August 28, 2022, when compared to the previous week. [1] According to the SARS-CoV-2 sequences shared through GISAID, **99.6% of the sequences reported globally in the past 30 days have been the Omicron Variant of Concern**. Based on a weekly prevalence with earliest available data from the week of August 14, **Omicron BA.5 remains the dominant lineage globally**, making up 78.2% (+8% increase compared to the previous week) of the sequenced samples.

### Prior Omicron Infections May Provide Some Protection Against Subsequent BA.5 Infections.

The emergence of Omicron lineages has complicated our understanding of infection derived immunity, specifically the protection conferred from a previous infection. As subsequent Omicron sub-lineages arose, early investigation suggested that prior infections, even those with an Omicron variant, were no longer as protective against Omicron reinfections. [2] However, a recent COVID-19 registry study in Portugal indicated that the **relative risk of reinfection with BA.4/BA.5 was the lowest among individuals with a prior Omicron infection (BA.1/BA.2) compared to those infected with other variants**. [3,4]

As a correspondence, the research was published in *the New England Journal of Medicine*, where they analyzed the risk of a breakthrough BA.5 infection (between June 1 to July 4) based on prior infection status in the population 12 years and older within the national COVID-19 registry (SINAVE). Individual variants of prior infection were extrapolated temporally, based on strata marked by which variant accounted for more than 90% of the sequenced samples over the course of the COVID-19 pandemic. The inability to control for potential confounders (age, demographics, comorbidities) and/or describe the individual factors differing between groups is a limitation of the study as the variant subgroups may not be readily comparable. Individual based interpretations cannot be made.

### KEY FINDINGS INDICATED [4]:

- Individuals with no prior infection were more likely to be infected with BA.5 than those with a hybrid immunity (described as the immunity developed from both vaccination and a SARS-COV-2 infection).
- People infected with BA.1/BA.2 were 75.3% less likely to be reinfected with BA.5 compared with individuals with no prior infection** [Relative Risk (RR) = 0.247 (CI:0.244–0.250)].
- In an order of increasing likelihood of a BA.5 infections based on prior infection status (lowest to highest): Omicron (Relative Benefit = 75.3%), Delta (Relative Benefit = 61.3%), Alpha (Relative Benefit = 54.8%), Ancestral (Relative Benefit = 51.6%).
- When corrected for under-reporting of cases, the protective effect (Relative Benefit =1–RR) increased among all variant subgroups.

Portugal was the first European country to observe a significant increase in cases of BA.5 driving their sixth COVID-19 wave [5]. While cases were likely significantly under-reported, the rate of severe outcomes (death and hospitalization) was similar to the initial Omicron wave and was below what was observed in prior peaks. At this time the country was citing a high vaccination coverage with over 92% of the population over the age of 12 completing their primary series and 82% of the population receiving a third dose. Therefore, the high vaccine-derived immunity is a key factor influencing interpretations of the results. Greater protection gained from BA.1/BA.2 infections may be due to the recency of infection, whereas individuals infected with variants prior to Omicron may be experiencing waning immunity, contributing to the reduced protective effect. Variations in the time since prior infection can largely confound interpretations. On the other hand, the genetic similarities between the latter Omicron variants may provide a degree of cross-recognition and enhance protection comparatively.

Variant or Omicron subvariant	Start	End
Wuhan-Hu-1	14 Feb 20	15 Dec 20
Alpha	15 Mar 21	15 May 21
Delta	1 Jul 21	12 Dec 21
BA.1	1 Jan 22	6 Feb 22
BA.2	27 Mar 22	17 Apr 22
BA.5	1 Jun 22	present*

Periods of dominance of the different SARS-CoV-2 variants and omicron subvariants in Portugal.

	Uninfected June 1 <sup>st</sup> 22	1 <sup>st</sup> infection (605 944)	BA.5 infection (12 208)	Absolute Risk	RR (95% CI)	Protection Efficacy, % (95% CI)
Infection non-reported	–	–	–	0.020	–	–
Estimated true uninfected	4 722 343	–	355 575	0.075	–	–
Wuhan-Hu-1	–	267 448	9 031	0.034	0.443 (0.434, 0.453)	55.7 (54.7, 56.6)
Alpha	–	20 004	647	0.032	0.412 (0.381, 0.445)	58.8 (55.5, 61.9)
Delta	–	232 831	6 329	0.027	0.355 (0.346, 0.364)	64.5 (63.6, 65.4)
BA.1/BA.2	–	1 557 635	22 793	0.015	0.232 (0.229, 0.235)	76.8 (76.5, 77.1)

Risk of omicron BA.5 infection according to previous infection history, considering an estimate of unreported cases of infection.

### What Does This Mean?

**The findings suggest that a prior infection in a highly vaccinated population may still provide a degree of protection against future infections despite immune evasion via Omicron variants.** Generalizability to other countries is challenging given differing population- and individual-level factors and the possible bias from the unknown characteristic of each subgroup. **However, the findings would indicate a potential benefit from the bivalent vaccine formulated with a BA.1 component**, despite the current global predominance of BA.5 variant circulation. Real world vaccine effectiveness studies that adjust for age and other potential confounders are needed to further assess the relative benefit of Omicron-based bivalent vaccines.

# COVID-19 situation updates II

## Omicron Vaccination and BA.2.75 Global Update



### Omicron booster shots are coming

For the first time since the start of the pandemic, COVID-19 vaccines look set to receive an update. Boosters reformulated to protect against the Omicron variant, which has dominated globally since early this year, may get deployed on both sides of the Atlantic Ocean as early as this month.

The United Kingdom has already authorized a shot produced by vaccinemaker Moderna against the Omicron subvariant BA.1 and may start using it soon. This week, the **European Medicines Agency (EMA)** was set to review applications for Moderna's **BA.1 vaccine** and another from the Pfizer-BioNTech collaboration.

But **BA.1 is no longer circulating**; the **BA.4 and BA.5 subvariants eclipsed** it in the spring. In June, the U.S. Food and Drug Administration (FDA) asked manufacturers to develop a booster specifically targeting those two subvariants, and two weeks ago, both Moderna and the Pfizer-BioNTech collaboration said they have submitted data about their BA.4/BA.5 vaccines to FDA. President Joe Biden's administration has already placed an order for 170 million doses of such vaccines.

**The FDA issued an emergency use authorizations (EUAs) of the Moderna COVID-19 Vaccine and the Pfizer-BioNTech COVID-19 Vaccine on 31 August 2022.**

Pfizer and BioNTech have also **submitted the data to EMA**; the European Union could first approve a BA.1-based booster and switch to BA.4/BA.5 vaccines later. **On 1 Sep the EMA's human medicines committee (CHMP) has recommended authorising the two adapted BA.1 vaccines. The authorisation for the use of the BA.4/BA.5 vaccines is expected at late autumn.**

Source: <https://www.science.org/content/article/omicron-booster-shots-are-coming-lots-questions>

### Omicron booster vaccinations worldwide

On 31 August the FDA amended the **emergency use authorizations (EUAs) of the Moderna COVID-19 Vaccine and the Pfizer-BioNTech COVID-19 Vaccine** to authorize bivalent formulations of the vaccines for use as a **single booster dose at least two months following primary or booster vaccination**. The **bivalent vaccines**, which we will also refer to as "updated boosters," contain two messenger RNA (mRNA) components of SARS-CoV-2 virus, one of the **original strain of SARS-CoV-2** and the other one in common between the **BA.4 and BA.5 lineages of the omicron variant of SARS-CoV-2**.

- The **Moderna COVID-19 Vaccine**, Bivalent, is authorized for use as a **single booster dose in individuals 18 years** of age and older.
- The **Pfizer-BioNTech COVID-19 Vaccine**, Bivalent, is authorized for use as a **single booster dose in individuals 12 years** of age and older.

On 1 Sep the EMA's human medicines committee (CHMP) has recommended authorising **two vaccines adapted** to provide broader protection against COVID-19.

- **Comirnaty Original/Omicron BA.1 and Spikevax Bivalent Original/Omicron BA.1** are for use in people aged **12 years and above** who have received at least primary vaccination against COVID-19. These vaccines are adapted versions of the original vaccines Comirnaty (Pfizer/BioNTech) and Spikevax (Moderna) to target the Omicron BA.1 subvariant in addition to the original strain of SARS-CoV-2.

The two CHMP opinions will now be sent to the European Commission, which will adopt a final decision.

**No decision is made for the bivalent vaccines using BA.4 and BA.5 components. It is assumed these vaccines will be recommended to use later this year in Europe.**

Source: <https://www.ema.europa.eu/en/news/first-adapted-covid-19-booster-vaccines-recommended-approval-eu>

<https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-authorizes-moderna-pfizer-biontech-bivalent-covid-19-vaccines-use>

<https://www.ecdc.europa.eu/en/news-events/covid-19-recommendations-use-adapted-vaccines>

### Update on Omicron BA.2.75

Since our last update new evidences emerged:

1. **Two studies using laboratory data suggest that BA.5 showed a greater capacity to escape from neutralization by the immune system than BA.2.75 – despite BA.2.75 having additional mutations on the spike protein.**
  - One such correspondence published in the Lancet evaluated the degree of neutralizing antibody escape by Omicron subvariants using serum from individuals who were in one of three test groups: (1) had 2 or 3 doses of an mRNA vaccine; (2) had 2 or 3 doses of an mRNA vaccine and then experienced an Omicron (BA.1/BA.2) breakthrough infection; (3) unvaccinated then recovered from an Omicron (BA.1/BA.2) infection. Researchers found that both BA.2.75 and BA.5 could substantially escape neutralizing antibodies induced by all three test groups, though BA.5 showed a greater capacity to escape from neutralization than BA.2.75 [2]
  - Data from another pre-print study also suggested that BA.2.75, compared to BA.5, is less able to evade immunity from Omicron BA.1/BA.2 breakthrough infection convalescents. [3]
2. **A pre-print of laboratory data found that BA.2.75 additional mutations showed strong neutralization escape in BA.5 breakthrough-convalescents. [3]**
  - This suggests that there is a growing possibility of BA.2.75 causing a subsequent wave after the current global BA.5 wave. However, it would depend on each country's experiences in terms of which SARS-CoV-2 variant(s) were attributed to its prior waves. It may lead some countries to have both BA.5 and BA.2.75 co-circulating, and for some time may even result in a co-dominance pattern whereby both BA.5 and BA.2.75 occur with equal high prevalence. [4]
3. **Data from the pre-print also found that when compared to BA.5, BA.2.75 showed much higher neutralization escape in Delta variant breakthrough-infection convalescents. [3]**
  - These findings are noteworthy and offer some explanation for India's ongoing BA 2.75 wave. Prior to the onset of the Omicron variant, India's previous wave was driven by the Delta variant and today the country has not experienced a BA.4 or BA.5 wave. Thus, BA.2.75's potential increased ability to overcome immunity gained from a Delta infection may indicate why BA.2.75 had and continues to have a growth advantage in the country when compared to BA.4/BA.5.
  - India is experiencing a COVID-19 wave due to BA.2.75, [5] however due to the recent decrease in caseload, there is speculation that the wave may be starting to abate. India's seven-day rolling average of new cases decreased by 40% decrease over the past month (19,727 new cases on July 25, 2022, versus 11,437 new cases on August 25, 2022).
4. **Omicron descendant lineage BF.7 has similar mutations to BA.2.75 and is showing similar growth advantages. While pre-prints/peer-reviewed publications are not available yet, early data from experts in Germany shows that BF.7 may even have a slight growth advantage over BA.2.75. [6]**
  - At this time little is known about how BA.2.75 and BF.7 compare or whether the forthcoming Omicron booster vaccines will impact trajectories, which will depend on uptake and vaccine effectiveness. [7] However, it is recognized that Omicron descendant lineages are displaying an increasing number of mutations most suited to evading the humoral immune system. Currently, the WHO continues to list BA.2.75 as a variant under monitoring, and the ECDC continues to list it as a variant of interest. [8,9]



# Notable Public Health Events

*Happening during summer break*



## First autochthonous case of vaccine-derived poliomyelitis in the United States in 40 years

On **July 21, 2022**, health authorities in **Rockland County**, New York state confirmed a **human case of circulating-vaccine-derived poliomyelitis type 2 (cVDPV-2)**. Given the strain identification, New York state health officials have indicated that the affected individual is an **unvaccinated young adult** who presented with symptoms of paralysis about a month ago and has not travelled internationally. Thus, the **likely source of infection** is another individual who may have received the **oral polio vaccine (OPV) abroad**, since OPV hasn't been given in the United States since 2000. Officially available information indicates that **the last case of poliomyelitis** that was **locally acquired** in the United States was in **1979** while the **last imported case** was reported in a **traveller in 1993**.

Health authorities are conducting surveillance of family members and close contacts. In addition, health authorities in Rockland County will hold a polio vaccination clinic on July 22 and July 25 and are encouraging all populations to ensure their immunizations are up to date. Those already **vaccinated are considered to be at lower risk**. On August 27 poliovirus has been detected **in wastewater samples** from an **additional county**, Sullivan County which is located dozens of miles from Rockland County. Genome sequencing of the most recent samples from Sullivan county performed by the CDC are **linked** to a paralytic polio case already detected **in Rockland County**. Poliovirus recently has now been identified in sewage samples from **New York City** as well as three adjacent counties north of New York City: **Rockland, Orange, and Sullivan**. These findings **indicate geographic expansion and ongoing circulation of the poliovirus**. On November 23, 2021, the Emergency Committee under the International Health Regulations (2005) agreed that the **risk of the international spread of poliovirus remains a Public Health Emergency of International Concern**.

Source: [Reliefweb](#)

## Vaccine-derived Poliomyelitis in United Kingdom

**Follow up from June 22** - The UKHSA reports that between February 8, 2022, and July 5, 2022, 116 types two poliovirus (PV2) isolates were identified from 19 sewage water samples. The number of isolates and level of genetic diversity between them indicates that viral transmission is occurring and there is the potential for spread to areas adjacent to London. The detection may also indicate suboptimal sanitation in the region and a reduction in vaccination uptake over recent years. Most isolates are vaccine-like (non-pathogenic), and no cases of paralysis have been reported. The risk for developing the disease is higher among under-vaccinated sub-populations, particularly children. To prevent disease among those most at risk, a booster dose of inactivated polio vaccine is highly recommended for all children (1–9-year-olds) in affected areas, even if they have received a full regime of polio vaccines.

Source: [GOV.UK](#)

## Diphtheria in Switzerland

News media reports that cases of diphtheria have been confirmed in a **federal asylum centre in Bern**, Switzerland. Government officials confirm that two individuals have had a positive test result for the toxin, while four more individuals are awaiting test results. It is reported that none of the affected individuals have respiratory symptoms. Health officials state that two floors of the asylum centre have been isolated, this includes 92 unaccompanied minor asylum seekers on one floor and 83 asylum seekers on another. The country of origin of the affected individuals has not been described, however, news media notes that diphtheria is still widespread in regions where vaccination coverage is low, such as Africa and Eastern Europe. It was also reported that the **last case of respiratory diphtheria** in Switzerland was recorded in **1983**.

**We're notifying you because this is a new outbreak or is the first activity of the season in this country.**

Source: [ECDC](#)

## Swine Influenza H3N2 in United States

On **August 4, 2022**, the West Virginia Department of Health and Human Resources (DHHR) indicated that they were investigating reports of some individuals who have developed the influenza-like illness (ILI) after working closely with pigs that exhibited respiratory symptoms and fever at the Jackson County Fair (agricultural fair). In addition, the DHHR's Office of Laboratory Services confirmed the **first human case of swine influenza A H3N2v for 2022**. After the case was forwarded to the CDC, laboratory confirmation was released on August 5, 2022. Officially available information indicates that the affected individual was 18 years old, participated in the **mentioned agricultural fair**, and had **contact with pigs**. The infected person was not hospitalized and is recovering from the illness. Epidemiological investigations also confirmed that **pigs at this fair tested positive for the same strain of influenza A**. There have been reports of respiratory illness among an **unspecified number of people who attended the same agricultural event**. Laboratory specimens from these suspected cases have been forwarded to the CDC for additional testing. To date, **no human-to-human transmission** has been confirmed.

Source: [CDC](#)

## Marburg Virus Disease in Ghana

Public health authorities from the WHO have confirmed **two more cases** of Marburg virus disease (MVD) in Ghana. According to information displayed on social media platforms, the two new cases are the wife and the child of one of the two individuals who passed away on June 27, both of whom later received confirmed diagnoses of MVD. It was also said that the child, who has unfortunately died, **acquired the disease from the mother** and not an unknown source. Further information regarding the onset of symptoms, the laboratory confirmation of the diagnosis, and the public health response to these new cases is limited. On July 22, the WHO stated that after the confirmation of the first two cases, the Ghanaian public health response included the follow-up of over 108 contacts that included health care workers and immediate family members of the cases. All the contacts were reported to be in good health, completing the follow-up period on July 20.

Source: [WHO](#)

## Ebola in Democratic Republic of the Congo

The WHO announced on August 20, 2022, that health authorities are investigating the death of a suspected case of Ebola virus disease in the Democratic Republic of Congo's (DRC) eastern province of North Kivu. As reported in a press release from the WHO, the suspected case is a 46-year-old woman who died on August 15, 2022, in the town of Beni. The woman received care at the Beni Referral Hospital for other ailments before exhibiting symptoms consistent with Ebola virus disease. On August 22, 2022, the Democratic Republic of Congo's (DRC) National Institute of Biomedical Research (INRB), Pathogen Genomics Lab confirmed the sample was positive for Ebola Virus disease (EVD). Genomic sequencing showed that the sample was most closely related to samples from the 2018-2020 Nord Kivu/Ituri EVD outbreak. Due to the few mutations present in the recently tested sample, the INRB does not believe that this is representative of a new spillover event. Instead, they report that it is plausible that the infection was transmitted from a persistently infected survivor or a survivor who experienced a relapse.

Source: [Reliefweb](#), [INRB](#)

## Varicella

**Ukraine** - An outbreak of varicella (chicken pox) has been reported among 20 residents of a regional children's crisis centre in the Chernivtsi region of Ukraine in 2022. The affected individuals were evacuated from the Mykolaiv regional children's home in Mykolaiv, Ukraine, to a crisis centre in Chernivtsi in March 2022. The affected individuals are children between the ages of two and four years of age and all are reported to have experienced symptoms characteristic of the disease; however, specific symptoms were not reported. While 19 of the 20 affected children are receiving outpatient treatment, one child has been hospitalized. During their stay at the crisis centre in Chernivtsi, the affected children were in contact with other internally displaced persons from other regions of Ukraine. In response to the outbreak, officials have recommended that the crisis centre temporarily suspend the reception of new internally displaced persons. While a vaccine is available to protect against the virus that causes the disease (varicella zoster virus), it is not included in the Ukrainian basic immunization recommendations and children in the country are therefore unlikely to be immunized.

Source: Insights by BlueDot – [News Media](#)

## Coverage of WASH facilities is still uneven across different regions and income groupings –Global-

- Facilities in sub-Saharan Africa are lagging on **hygiene** services. While **three-quarters (73%) of health care facilities** in the region overall have alcohol-based hand rub or water and soap at points of care, only one-third (37%) have handwashing facilities with water and soap at toilets. The vast majority (87%) of hospitals have hand hygiene facilities at points of care, compared to 68% of other healthcare facilities.
- In the Least Developed Countries, only **53%** of health care facilities have access on-premises to a protected **water source**. To compare, the global figure is 78% with hospitals (88%) doing better than smaller health care facilities (77%), and the figure for eastern and south-eastern Asia is 90%. Globally, around 3% of health care facilities in urban areas and 11% in rural areas had **no water service**.
- Of the countries with available data, 1 in 10 health care facilities globally had **no sanitation service**. The proportion of health care facilities with no sanitation services ranged from 3% in Latin America and the Caribbean and in eastern and south-eastern Asia to 22% in sub-Saharan Africa. In the Least Developed Countries, just 1 in 5 (21%) had basic sanitation services in health care facilities.
- The data further reveals that many health care facilities lack basic environmental cleaning and safe segregation and disposal of health care waste.

Source: [WHO](#)



# Other Infectious Disease Outbreaks/ Conflicts

## Yellow fever - East, West, and Central Africa

Yellow fever is endemic in the WHO African Region and was among the **top five most frequently reported** events in the region in 2019 and 2020. **Twenty-seven countries** in Africa have been classified as **high-risk** by the Eliminate Yellow fever Epidemics (EYE) global strategy. From 1 January 2021 to 26 August 2022, a total of **12 countries** in the region have reported 184 confirmed cases and 274 probable cases, including 21 deaths, reflecting **ongoing complex viral transmission**.

Risk factors for onward spread and amplification include low population immunity, population movements, viral transmission dynamics, and climate and ecological factors that have contributed to the spread of Aedes mosquitoes. Response measures, most notably **reactive and preventive vaccination campaigns**, are ongoing in the affected countries. Since the beginning of 2021, over 3.9 million people have been vaccinated through reactive vaccination campaigns in Cameroon, Central African Republic, Chad, Ghana, and Kenya.

### Description of outbreaks

In 2021, **nine African countries** - Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Ghana, Nigeria, and Republic of the Congo - reported a total of **151 confirmed cases of yellow fever** (for more details, please see the [Disease Outbreak News published on 23 December 2021](#)<sup>1</sup>). Of these nine countries, **six continue** to report confirmed cases of yellow fever with ongoing transmission in **2022**, while Côte d'Ivoire and Nigeria have reported probable cases<sup>2</sup> and Gabon has not reported further cases since 2021.

In 2022, **two additional countries**, Kenya<sup>3</sup> and Uganda<sup>4</sup>, have reported confirmed cases of yellow fever. From 1 January to 26 August 2022, a total of **33 confirmed cases** of yellow fever were reported from **eight African countries** including Central African Republic (33%, 11 cases), Cameroon (24%, eight cases), Democratic Republic of Congo (13%, four cases), Kenya (9%, three cases), Chad (6%, two cases), Republic of the Congo (6%, two cases), Uganda (6%, two cases), and Ghana (3%, one case).

**Ten countries** - Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of Congo, Ghana, Kenya, Niger, Nigeria, and Republic of the Congo - have also reported a total of **274 probable cases** of yellow fever from 1 January 2021 to 26 August 2022 (Table 1).

The majority of cases over the entire period were reported in the last quarter of 2021 (Figure 1), with **Ghana reporting around 33% of all confirmed cases**. Of 184 confirmed cases, 73% are aged 30 years and below, and the male-to-female ratio is 1.2. The case count and the number of outbreaks are anticipated to continue evolving as the Region enters the seasonal period when there is often an increase in cases notified.

### WHO risk assessment

**WHO assesses the risk at regional level to be high.** Current multi-country outbreaks and active virus circulation in West, Central and East Africa have resulted in increased morbidity and mortality, with continued risk of amplification and spread. The **immunization coverage** for yellow fever has been **suboptimal** in most of the affected countries and in specific populations. According to WHO and UNICEF estimates, in 2021, the routine childhood vaccination immunization coverage for yellow fever in the African region was **47%**. This is much lower than the 80% threshold required to confer population immunity against yellow fever, indicating that a large population remains susceptible to yellow fever with a risk of continued transmission.

Immunization coverage by countries reporting probable and confirmed cases in West, Central and East Africa are as follows: Cameroon (54%), Central African Republic (41%), Chad (45%), Republic of the Congo (67%), Côte d'Ivoire (65%), Democratic Republic of the Congo (56%), Gabon (53%), Ghana (94%), Kenya (7%), Niger (80%), and Nigeria (63%). Uganda plans to introduce yellow fever vaccine into routine immunization in August 2022. Further information on immunization coverage can be found [here](#).

Many countries in West, Central, and East Africa have been **facing political instability and insecurity**, in **addition to concurrent outbreaks** (including COVID-19, Ebola virus disease, cholera, meningitis, malaria, monkeypox, circulating vaccine-derived poliovirus type 2 (cVDPV2), chikungunya, leishmaniasis, plague, Lassa fever, etc.). These could contribute to **delayed case investigation and hinder the surveillance and response** efforts against yellow fever.

**The risk at global level is assessed to be low** as no exported cases of yellow fever linked to these 12 countries with probable or confirmed cases since January 2021 have been reported.

Source: <https://www.who.int/emergencies/disease-outbreak-news/item/2022-DON405>

**12500+**  
injured

**33M+**  
affected

**6.4M+**  
in dire need of  
humanitarian aid

**633K+**  
in camps

**1460+**  
health facilities  
damaged

**27**  
health partners  
on the ground

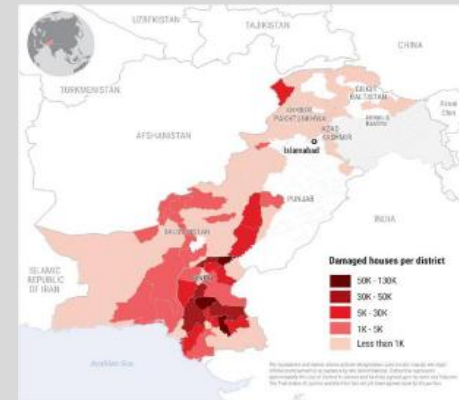
**4553**  
medical camps

As of 03 September 2022

### Pakistan crisis

Pakistan is affected by massive monsoon rainfall and unprecedented levels of flooding and landslides. The rains last since mid-June 2022 and has affected Balochistan, Sindh, Gilgit-Baltistan, Punjab, Azad Jammu and Kashmir, and Khyber Pakhtunkhwa (KPK) provinces of Pakistan.

It done damage to health infrastructure, shortages of health workers, and limited health supplies are disrupting health services. Significant public health threats include the spread of water- and vector-borne diseases, with outbreaks of diarrheal diseases, skin infections, respiratory tract infections, malaria, dengue, injuries, and more. With health services reduced, the management of non-communicable diseases are also affected. In addition, the loss of crops and livestock will have a significant impact on the nutrition and health of many communities who depend on these resources.



### Situation Overview as of 03 September 2022

- Over 1290 lives lost and almost 12500 people injured. Over 33 million affected, including over 6.4 million in dire need of humanitarian aid. Almost 634,000 displaced people living in in camps.
- Over 1460 health facilities affected, of which 432 fully damaged and 1,028 partially damaged. Access to health facilities, healthcare workers, and essential medicines and medical supplies is limited.
- Ongoing outbreaks of COVID-19, acute watery diarrhea, typhoid, measles, leishmaniasis, HIV, and polio are at risk of being further exacerbated.
- Increased transmission of malaria remains a threat and many cases are already presenting to clinics in the flood-affected areas.
- Early disease surveillance indicates tens of thousands were identified as patients affected by diarrhea, malaria, acute respiratory infections (ARI), skin and eye infections, typhoid, and others.
- More than 134,000 cases of diarrhea and 44,000 cases of malaria have been reported in Sindh province so far. Additionally, more than 100,000 skin-related conditions have also been reported, along with 101 snake bites and 500 dog bites so far among flood victims.

### Immediate WHO and Health Sector Priorities

- Rapidly expand access to essential health services to the flood-affected population through provision of medicines and other medical supplies, while ensuring reliable supply chain, supporting medical camps and mobile clinics and undertaking necessary repairs in affected health facilities.
- Strengthen and expand disease surveillance, outbreak prevention, and control and reinforce laboratory capacities to detect epidemic-prone diseases.
- Strengthen health sector coordination by ensuring a well-coordinated response at national and sub-national levels, including involvement of all relevant partners.

Source: WHO

# Ukraine

## Situation Report Last updated: 8 Jul 2022

### Highlights

- Security conditions in the east and south continued to worsen, prompting authorities to extend mandatory evacuations to parts of Kharkivska, Mykolaivska and Zaporizka oblasts.
- According to IOM, 330,000 people were newly displaced inside the country in the last month. Most newly displaced Ukrainians come from the east and south of the country.
- Closer to the front line, a humanitarian base of the Ukraine Red Cross Society sustained severe damages as a result of an attack on Sloviansk in eastern Donetsk oblast.
- The area close to the Zaporizhzhia Nuclear Power Plant was again affected by hostilities. Meanwhile, IAEA announced on 29 August that its expert mission was on its way.
- Despite the worsening security situation and persistent access constraints, the humanitarian community has reached 12.7 million people.

### General security and humanitarian situation

The war in Ukraine was marked during the reporting period by ongoing hostilities, worsening humanitarian conditions and increased displacement in the east and south of the country, deadly missile strikes elsewhere, the launch of the mission to Zaporizhzhia by inspectors from the International Atomic Energy Agency (IAEA), the start of the new school year both in person and online, the first field mission by the new Humanitarian Coordinator, and the successful deployment of two more humanitarian convoys to Donetsk and Mykolaivska oblasts. Besides civilians continuing to be injured and killed daily and civilian infrastructure being damaged and destroyed, the need to help millions of Ukrainians prepare for the coming winter is becoming more and more acute.

The heaviest fighting continued to be reported in the eastern Donetsk oblast, where at least 65 civilian casualties were recorded in both Government-controlled areas (GCA) and non-Government-controlled areas (NGCA) over the weekend of 26-28 August. The Government-controlled cities of Bakhmut, Kramatorsk and Sloviansk were reportedly significantly impacted. The International Committee of the Red Cross (ICRC) condemned the reported shelling of its former base in Sloviansk on 29 August – which damaged the premises and vehicles belonging to a Ukrainian Red Cross Society evacuation team – writing that “the ICRC stands with the Ukraine Red Cross Society to reaffirm the importance of protection of civilians, humanitarians, health workers and facilities.” In NGCA of the oblast, most civilian casualties and damage to civilian buildings



and infrastructure were reported in the front-line cities of Donetsk, Horlivka and Makiivka. Also in the east, a dozen civilian casualties were reported on 30 August due to more-intense shelling in Kharkiv, Ukraine’s second-largest city. The authorities reported shelling and casualties across Kharkivska oblast.

Elsewhere, Mykolaiv and the southern Mykolaivska oblast also continued to suffer daily attacks, and missile strikes reportedly killed two civilians and injured another 24 in the city on 29 August. There was no repeat this week of the kind of single deadly incident like the missile strike at and around a train station in Chaplyne in the central Dnipropetrovska oblast on 24 August that reportedly killed 25 people and injured 31 more. But there were more strikes there and in other oblasts.

There was an intensification of hostilities in the south-eastern Zaporizka oblast. There were reports of civilian casualties in the non-Government-controlled settlement of Kamianka on 26 August and then reportedly in the Government-controlled town of Orikhiv on 28 August, as well as the reported regular shelling of front-line towns, including Huliaipole and Kamianske, and missile strikes on the administrative centre, Zaporizhzhia. At the same time, there continued to be reports of military activity and shelling at and around the Zaporizhzhia Nuclear Power Plant (ZNPP), located in the city of Enerhodar in NGCA of the oblast. The United Nations has been calling for the demilitarization of the area and access for IAEA inspectors, who had not been able to visit the plant since the war began. On 29 August, Director General Rafael Mariano Grossi announced that “the day has come, IAEA’s Support and Assistance Mission to Zaporizhzhia is now on its way,” and that he would be leading the mission to ZNPP later in the week.

### Cluster Status on Health Needs

- Some 14.5 million people in Ukraine are estimated to need health assistance.
- Access to health care continues to be severely impacted by security concerns, restricted mobility, broken supply chains and mass displacement. According to the WHO Surveillance System for Attacks on Health Care, there have been 495 attacks on health care, resulting in 129 injuries and 100 deaths, reported between 24 February and 31 August. Attacks on health care deprive people of urgently needed care, endanger health-care providers and undermine health systems.

### Gaps

- The risk of disease outbreaks has considerably increased due to the lack of access to water, sanitation and hygiene, crowded conditions in underground shelters and collective centres, as well as suboptimal coverage for routine vaccinations.

### KEY FIGURES

**17.7M**  
People in need

**11.5M**  
People targeted

**12.7M**  
People reached as of 31 August 2022

**6.9M**  
Internally displaced people

**7M**  
Refugees in European countries