



News:

- Afghanistan/UN:** On 4 April, the [Taliban announced that Afghan women would no longer be allowed to report to work in UN offices. It follows a](#) late December edict forbidding Afghan women from working for national and international NGOs. The UN, which currently assesses the humanitarian crisis in Afghanistan as the largest in the world, said banning women from participating in UN aid efforts will greatly affect its ability to reach the most vulnerable people in the country, particularly women and girls.
- WHO:** reported, that the global reach of mosquito-borne viruses like dengue, Zika, and chikungunya is expanding, driven in part by climate change, deforestation, and urbanisation. Half the world's population is now at risk of dengue.
- WHO:** The cholera outbreak in Mozambique has been categorized by [WHO as a multi-region Grade 3 Public Health Emergency](#), requiring a major WHO response. The Grade 3 categorization – the highest level within WHO's grading system – was made considering the scale of the outbreak, the potential for further international spread, the rapidity of spread, and the lack of adequate response capacity.
- ECDC/WHO Europe:** A new [Joint Mpox Surveillance Bulletin](#) has been published. A total of 25,874 cases of mpox have been identified up to 04 April 2023, from 45 countries and areas throughout the European Region. Over the past 4 weeks, 28 cases of mpox have been identified from 7 countries and areas.
- ECDC:** The annual [European Scientific Conference on Applied Infectious Disease Epidemiology \(ESCAIDE\)](#) is taking place in Barcelona and online from 22-24 November 2023. The call for abstracts is open until 15 May. Submissions are welcome in all areas related to infectious disease and public health, with a focus on informing public health actions and introducing new ideas and understanding to the field.
- ECDC:** As a continuation of previous multi-annual surveillance strategies, ECDC has published the [latest long-term surveillance framework](#) that identifies concrete objectives, actions, targets and milestones to be achieved in surveillance of infectious diseases in the EU/EEA by 2027. It focuses on innovative actions across surveillance of multiple infectious diseases, with a view to strengthen the public health and scientific use and impact of surveillance data.
- WHO:** together with Unitaid and with the support of Medicines Law & Policy, on April 11 published a [briefing document](#) to support country access to affordable COVID-19 treatments. This will brief Member States on how to navigate interfaces between public health and intellectual property.
- CDC:** [Preliminary TB data](#) show that the number of U.S. TB disease cases increased 5% in 2022 to 8,300 cases, with concerning increases among young children and other groups at increased risk for TB disease.

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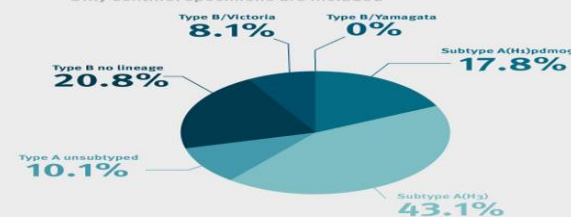
Influenza in Europe

Data from EU and EEA countries for the 2022–2023 season
Week 12 (20 Mar – 26 Mar 2023)



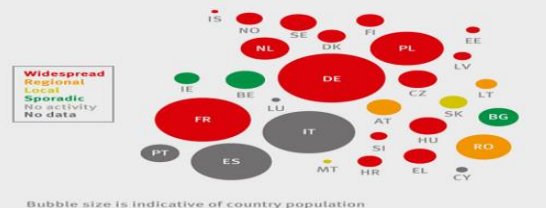
Influenza viruses circulating in 2022–2023

Only sentinel specimens are included



Influenza geographic spread

based on sentinel reports of influenza-like illness and/or acute respiratory infections



Influenza trend

based on the percentage of sentinel specimens found positive, by week



Worldwide, over 80% of people who have died from COVID-19 are over 60



Reaching 100% vaccination* of older adults globally will help save lives

76% median COVID-19 vaccination coverage among older adults¹

*World Health Organization target

¹Coverage rates reported by country for older adults completing primary vaccine series by end of 2022



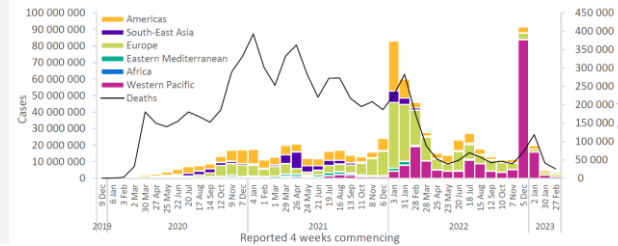
COVID-19 Situation by WHO Region, as of 30 March

Global epidemiological situation overview; WHO as of 19 March 2023

Globally, nearly 3.6 million new cases and over 25 000 deaths were reported in the last 28 days (27 February to 26 March 2023), a decrease of 27% and 39%, respectively, compared to the previous 28 days (Figure 1, Table 1). Despite this overall downward trend, it is important to note that several countries have recently reported significant increases in cases. As of 26 March 2023, over 761 million confirmed cases and over 6.8 million deaths have been reported globally.

Current trends in reported COVID-19 cases are underestimates of the true number of global infections and reinfections as shown by prevalence surveys.^{1–4} This is partly due to the reductions in testing and delays in reporting in many countries. Data presented in this report may be incomplete and should therefore be interpreted with caution. Additionally, data from previous weeks are continuously being updated to incorporate retrospective changes in reported COVID-19 cases and deaths made by countries. At the country level, the highest numbers of new 28-day cases were reported from the United States of America (678 002 new cases; -38%), the Russian Federation (333 073 new cases; +6%), the Republic of Korea (270 378 new cases; -23%), China (255 961 new cases; -52%), and Japan (242 894 new cases; -68%). The highest numbers of new 28-day deaths were reported from the United States of America (7909 new deaths; -35%), the United Kingdom (2719 new deaths; -1%), Japan (1519 new deaths; -68%), China (1230 new deaths; -79%), and Germany (1085 new deaths; -34%).

Figure 1. COVID-19 cases reported by WHO Region, and global deaths by 28-day intervals, as of 26 March 2023**



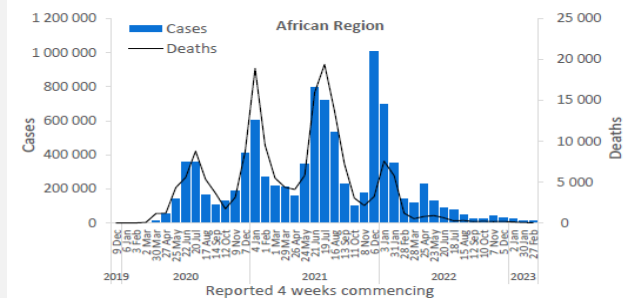
WHO regional overviews

Data for 27 February to 26 March 2023

African Region

The African Region reported over 14 000 new cases, a 10% decrease as compared to the previous 28-day period. Fifteen (30%) of the 50 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Guinea-Bissau (270 vs seven new cases; +3757%), Sao Tome and Principe (68 vs two new cases; +3300%), and Mauritania (27 vs two new cases; +1250%). The highest numbers of new cases were reported from South Africa (8856 new cases; 14.9 new cases per 100 000; +50%), Mauritius (1509 new cases; 118.7 new cases per 100 000; +72%), and Zambia (708 new cases; 3.9 new cases per 100 000; -76%).

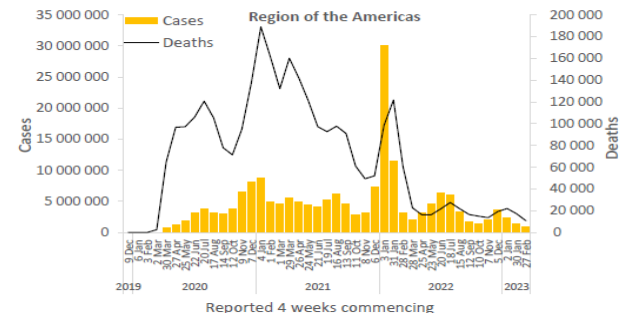
The number of new 28-day deaths in the Region decreased by 43% as compared to the previous 28-day period, with 25 new deaths reported. The highest numbers of new deaths were reported from Zimbabwe (11 new deaths; <1 new death per 100 000; +10%), Cameroon (three new deaths; <1 new death per 100 000; no deaths reported the previous 28-day period), and Zambia (three new deaths; <1 new death per 100 000; -77%).



Region of the Americas

The Region of the Americas reported over 1.1 million new cases, a 29% decrease as compared to the previous 28-day period. Six (11%) of the 56 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Chile (88 868 vs 46 079 new cases; +93%), Saint Barthélemy (27 vs 14 new cases; +93%), and Trinidad and Tobago (1998 vs 1152 new cases; +73%). The highest numbers of new cases were reported from the United States of America (678 002 new cases; 204.8 new cases per 100 000; -38%), Brazil (184 146 new cases; 86.6 new cases per 100 000; -20%), and Chile (88 868 new cases; 464.9 new cases per 100 000; +93%).

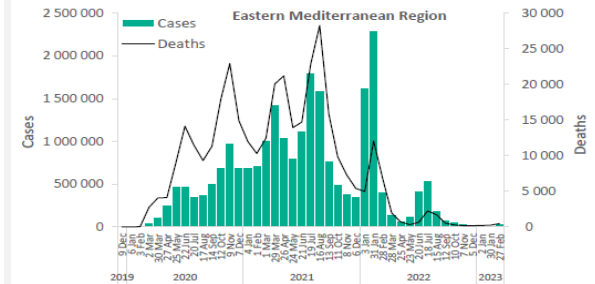
The number of new 28-day deaths in the Region decreased by 38% as compared to the previous 28-day period, with 10 736 new deaths reported. The highest numbers of new deaths were reported from the United States of America (7909 new deaths; 2.4 new deaths per 100 000; -35%), Brazil (989 new deaths; <1 new death per 100 000; -55%), and Canada (572 new deaths; 1.5 new deaths per 100 000; -29%).



Eastern Mediterranean Region

The Eastern Mediterranean Region reported over 36 000 new cases, a 142% increase as compared to the previous 28-day period. Eleven (50%) of the 22 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in the Islamic Republic of Iran (16 829 vs 3656 new cases; +360%), Kuwait (1316 vs 310 new cases; +325%), and Libya (35 vs 12 new cases; +192%). The highest numbers of new cases were reported from the Islamic Republic of Iran (16 829 new cases; 20.0 new cases per 100 000; +360%), the United Arab Emirates (4753 new cases; 48.1 new cases per 100 000; +88%), and Qatar (4188 new cases; 145.4 new cases per 100 000; +181%).

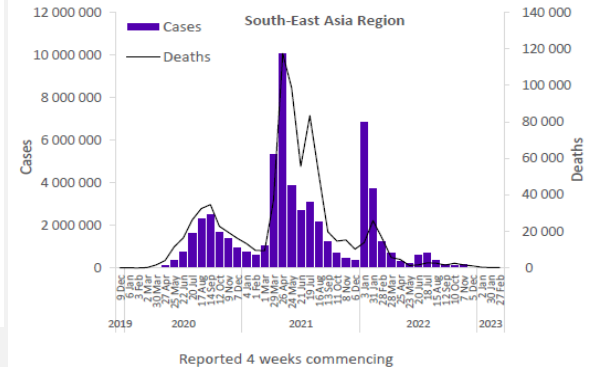
The number of new 28-day deaths in the Region increased by 95% as compared to the previous 28-day period, with 464 new deaths reported. The highest numbers of new deaths were reported from the Islamic Republic of Iran (354 new deaths; <1 new death per 100 000; +261%), Lebanon (37 new deaths; <1 new death per 100 000; similar to the previous 28-day period), and Tunisia (25 new deaths; <1 new death per 100 000; -11%).



South-East Asia Region

The South-East Asia Region reported over 27 000 new cases, a 152% increase as compared to the previous 28-day period. Seven (64%) of the 11 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in India (18 130 vs 3378 new cases; +437%), the Maldives (39 vs 17 new cases; +129%), and Nepal (83 vs 44 new cases; +89%). The highest numbers of new cases were reported from India (18 130 new cases; 1.3 new cases per 100 000; +437%), Indonesia (8405 new cases; 3.1 new cases per 100 000; +39%), and Thailand (597 new cases; <1 new case per 100 000; -43%).

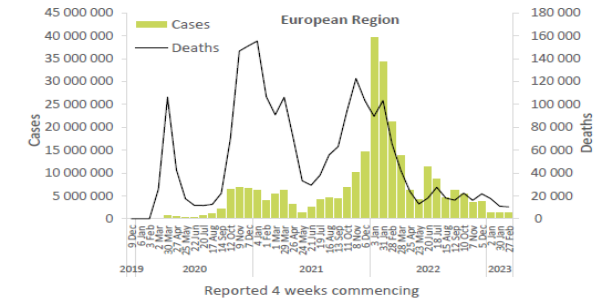
The number of new 28-day deaths in the Region decreased by 6% as compared to the previous 28-day period, with 175 new deaths reported. The highest numbers of new deaths were reported from Indonesia (86 new deaths; <1 new death per 100 000; -18%), India (62 new deaths; <1 new death per 100 000; +114%), and Thailand (24 new deaths; <1 new death per 100 000; -48%).



European Region

The European Region reported over 1.4 million new cases, similar (-1%) to the previous 28-day period. Twenty-two (36%) of the 61 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Kyrgyzstan (136 vs 42 new cases; +224%), Ukraine (56 540 vs 19 308 new cases; +193%), and Armenia (1688 vs 615 new cases; +174%). The highest numbers of new cases were reported from the Russian Federation (333 073 new cases; 228.2 new cases per 100 000; +6%), Germany (203 983 new cases; 245.3 new cases per 100 000; -47%), and France (161 637 new cases; 248.5 new cases per 100 000; +64%).

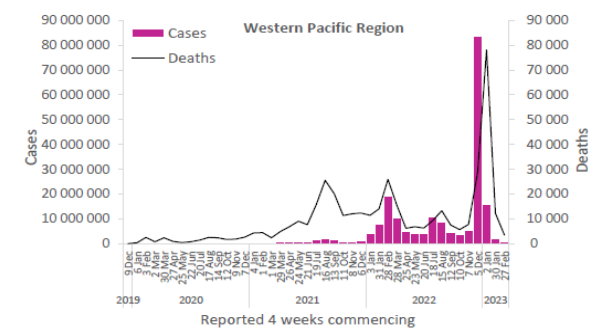
The number of new 28-day deaths in the Region decreased by 7% as compared to the previous 28-day period, with 10 357 new deaths reported. The highest numbers of new deaths were reported from the United Kingdom (2719 new deaths; 4.0 new deaths per 100 000; -1%), Germany (1085 new deaths; 1.3 new deaths per 100 000; -34%), and the Russian Federation (1043 new deaths; <1 new death per 100 000; -1%).



Western Pacific Region

The Western Pacific Region reported over 905 000 new cases, a 49% decrease as compared to the previous 28-day period. Eight (23%) of the 35 countries for which data are available reported increases in new cases of 20% or greater, with the highest proportional increases observed in Samoa (257 vs 25 new cases; +928%), Micronesia (Federated States of) (1755 vs 277 new cases; +534%), and the Marshall Islands (105 vs 34 new cases; +209%). The highest numbers of new cases were reported from the Republic of Korea (270 378 new cases; 527.4 new cases per 100 000; -23%), China (255 961 new cases; 17.4 new cases per 100 000; -52%), and Japan (242 894 new cases; 192 new cases per 100 000; -68%).

The number of new 28-day deaths in the Region decreased by 72% as compared to the previous 28-day period, with 3400 new deaths reported. The highest numbers of new deaths were reported from Japan (1519 new deaths; 1.2 new deaths per 100 000; -68%), China (1230 new deaths; <1 new death per 100 000; -79%), and the Republic of Korea (274 new deaths; <1 new death per 100 000; -51%).



Source: <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---30-march-2023>

Enhancing preparedness to tackle rising zoonotic diseases in Africa

The ongoing Marburg virus disease outbreaks in Equatorial Guinea and Tanzania are the latest of several zoonotic diseases reported in the African region. The region has seen an increase of such outbreaks, recording a 63% rise between 2012 and 2022 compared with the previous decade. Zoonotic diseases represent approximately 32% of the region's infectious disease outbreak reported between 2001 and 2022.

What are the factors behind the more frequent occurrences of Marburg outbreaks?

Since 2020, four Marburg outbreaks have been reported in Equatorial Guinea, Ghana Guinea and Tanzania, compared with only three outbreaks between 2010 and 2020. Marburg is not the only zoonotic disease for which we are observing more frequent outbreaks in Africa. In 2019 and 2020, zoonotic pathogens represented around 50% of public health events. Ebola Virus Disease and other viral haemorrhagic fevers such as Marburg constituted nearly 70% of these outbreaks.

The increase in zoonotic cases may be due to several factors including human, animal and environmental determinants. Africa faces several challenges, including changing animal and human migration patterns, poorly implemented veterinary regulations related to meat consumption, wildlife trade, complex food system, uncontrolled and poor quality of antimicrobial medicines, land use, biodiversity loss and other factors. All these increase the spill-over of emerging deadly diseases such as Marburg.

How can countries mitigate the risks and prevent outbreaks?

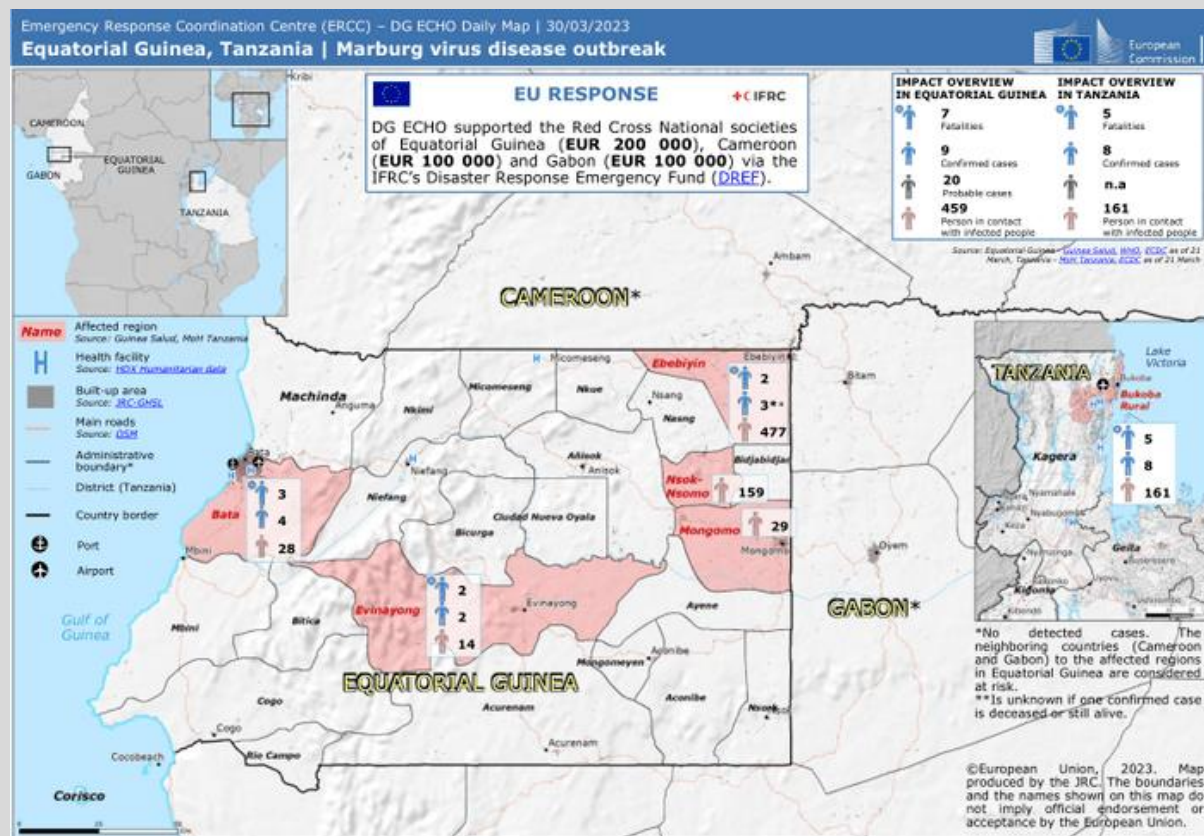
Once a zoonotic disease is detected, countries should be ready to quickly mobilize resources to prevent the spread of the disease, prevent and treat cases and engage communities for a robust and efficient response.

This said, preparedness and readiness are key. Though we do not know yet the origin of the Marburg outbreaks in Equatorial Guinea and Tanzania, we do know that there continues to be increased capacity in Africa to recognize and test samples for viral haemorrhagic fevers like Marburg and Ebola. This detection and outbreak declarations mean that the public is more aware of a potentially dangerous disease circulating within communities. This enables people trained in managing outbreaks to quickly support such incidents, including providing technical expertise or sending medical supplies. This is why it is essential to work with communities to raise awareness about potentially dangerous zoonotic diseases such as Marburg, how they can be contracted, and when to alert health authorities.

To help address the rise in zoonotic diseases, four UN agencies—the Food and Agriculture Organization, the United Nations Environment Programme, the World Organisation for Animal Health and WHO—have called for enhanced global action to achieve One Health, which aims to strengthen health systems among other actions and is a comprehensive approach to a pressing and complex challenges facing our society.

What is WHO doing to help countries manage this risk?

WHO is working with its Members States to increase their capacities in preparing, preventing, protecting, quickly responding and recovering from health emergencies, including the ongoing Marburg outbreaks. It is essential that health workers are well trained and equipped to quickly detect infectious disease and trigger the right response. The Organization has supported countries to reinforce laboratory capacities, carried out joint simulation exercises to test and improve public health emergency readiness, and through its Emergency Preparedness and Response flagship project, it aims to promote the resilience of systems for emergencies, strengthen and engage response groups for emergencies and transform Africa's disease surveillance systems.



Cholera in the WHO African Region

As of 5 April 2023

Distribution of cholera cases and deaths in WHO African Region, January 2022—April 2023

Regional Cholera Update

Grade 3

Cumulative Cases: 160 756

Cumulative Deaths: 3 288

CFR: 2.1%

Overview

The cholera outbreak in the WHO African Region continues to evolve, with 14 countries currently affected. The Kingdom of Eswatini declared a new cholera outbreak on 4 April 2023 following confirmation of the disease in a traveller from a neighbouring country who arrived on 27 March 2023.

This highlights the need for Member States to enhance readiness, heighten surveillance and institute preventive and control measures at the points of entry to prevent and mitigate cross border infection.

The concurrent climate-induced natural disasters such as cyclone and flooding in the southern African region and drought in the Horn of Africa threatens to impede the progress made in controlling the ongoing outbreaks. The cholera trends are being closely monitored as response and readiness measures are ramped up.

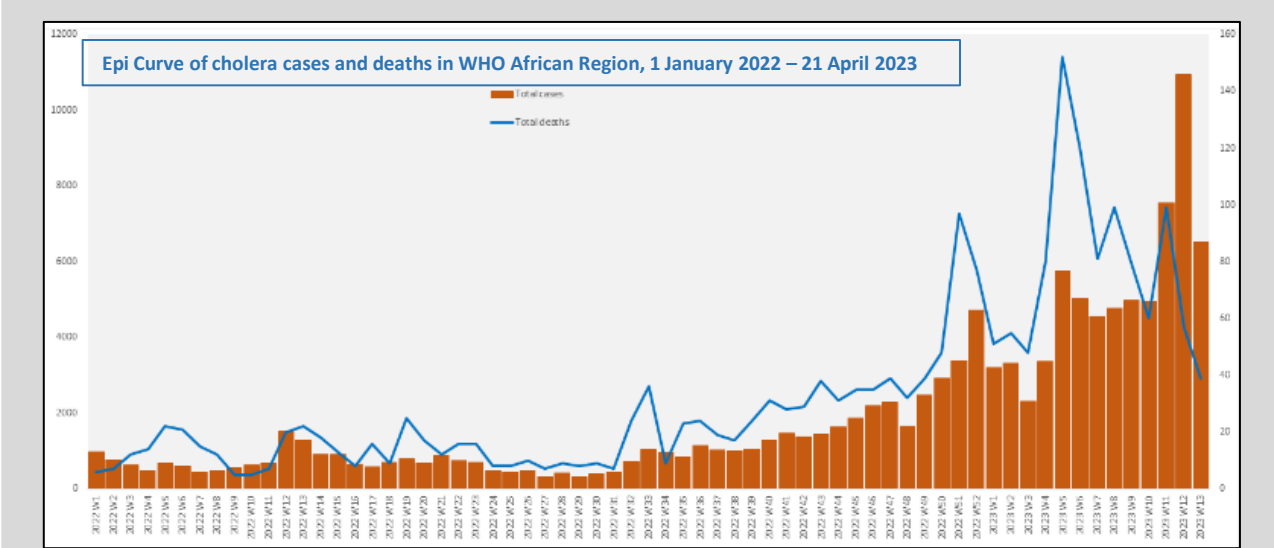
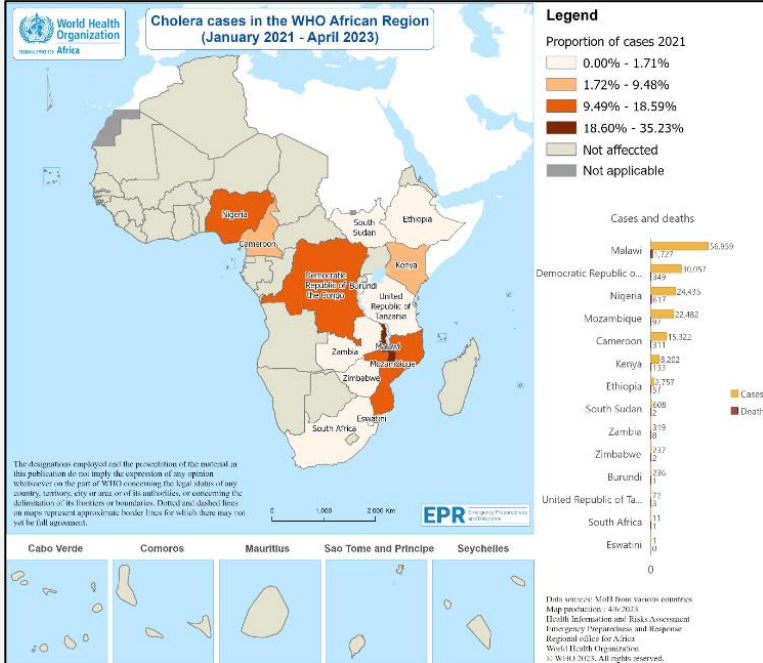
In week 13, there was a 40.7% decrease in incidence cases, with 6 464 cases recorded from seven countries compared with 10 896 cases reported from 11 countries in week 12. There was also a 29.8% decrease in deaths recorded during the same period, as 40 deaths occurred in week 13 compared with 57 in week 12 of 2023.

Cumulatively, 160 756 suspected cholera cases have been reported, including 3288 deaths (case fatality ratio (CFR = 2.1%)) as of 4 April 2023 (Table 1). Malawi accounts for 35% (56 763) of the total cases and 52% (1722) of all deaths reported, and together with Cameroon, Democratic Republic of the Congo, Mozambique, and Nigeria contribute to 78% (125 837) of the overall caseload and 91% (2984) of cumulative deaths from 1 January 2022 to 4 March 2023.

The cholera outbreaks in the African Region are happening in the context of natural disasters such as cyclones (Mozambique, Malawi), flooding (Mozambique, Malawi), drought (Kenya and Ethiopia), conflict (Cameroon, Democratic Republic of the Congo, Nigeria, Ethiopia) and multiple disease outbreaks including Mpox, wild polio, measles, COVID-19 pandemic, etc. Many countries have limited and strained resources, shortage of medical commodities, including cholera kits and Oral Cholera Vaccine (OCV). Poor sanitation and unreliable water supplies with increased cross-border movements also serve as driving factors for the outbreak across the region.

Find information for specific African countries here: [Source: WHO Africa](https://www.who.int/africa)

Country	Cumulative Cases	Cumulative Deaths	CFR (%)	Data Start Date	Last update
Burundi	232	1	0.4	Jan 2023	04/4/2023
Cameroon	14 582	296	2.0	Oct 2021	30/3/2023
Democratic Republic of Congo	30 057	349	1.2	Jan 2022	03/4/2023
The Kingdom of Eswatini	1	0	0	Mar 2023	05/4/2023
Ethiopia	2 757	57	2.1	Aug 2022	03/4/2023
Kenya	8 202	133	1.6	Oct 2022	04/4/2023
Malawi	56 763	1 722	3.0	Mar 2022	04/4/2023
Mozambique	22 482	97	0.4	Sep 2022	04/4/2023
Nigeria	24 435	617	2.5	Jan 2022	13/3/2023
Zambia	317	8	2.5	Jan 2023	04/4/2023
South Africa	11	1	9.1	Feb 2023	27/3/2023
United Republic of Tanzania	72	3	4.2	Feb 2023	13/3/2023
Zimbabwe	237	2	0.8	Feb 2023	27/3/2023
South Sudan	608	2	0.3	Feb 2023	30/3/2023
TOTAL	160 756	3 288	2.1		



What do the latest research articles reveal about RSV in children?

RETROSPECTIVE STUDY ON Outcomes and severity of respiratory infections Viruses	PROSPECTIVE STUDY ON Virus prevalence in acute lower respiratory infection The Pediatric Infectious Disease Journal
RETROSPECTIVE STUDY ON RSV incidence in association with Invasive Pneumococcal Disease (IPD) The Lancet Regional Health - Americas	Key Learnings <ul style="list-style-type: none"> Over 3/4 of IPD cases were associated with the resurgence in RSV in 2021-2022. More medical intervention was needed for children less than 2 years hospitalized for RSV infection / co-infection than SARS-CoV-2.

Until recently, respiratory syncytial virus (RSV), a leading cause of severe illness and death in young children, has had no preventative treatment options beyond palivizumab, a short-acting monoclonal antibody for high-risk infants. New, longer-acting antibody treatments for infants and a maternal vaccine may be on the horizon to prevent severe disease in infants.

Overview of Recent Studies

Hybrid immunity appears to be the most effective form of immunity at 12 months following the most recent vaccination or infection. However, the protection conferred by any form of immunity (hybrid immunity, vaccine-only, or infection-only) is less durable against reinfection. (1)

Study on outcomes and severity of respiratory infections	RETROSPECTIVE STUDY
Clinical presentation and severity of SARS-CoV-2 infection compared to Respiratory Syncytial Virus and other viral respiratory infections in children less than two years of age	
PUBLISHED ON	MARCH 09, 2023
STUDY PERIOD	NOV 2021 TO APR 2022
STUDY POPULATION	Children, hospitalized < 2 years (n = 138) With either SARS-CoV-2, RSV, or co-infection with SARS-CoV-2 + additional virus From Campania, Italy
WHAT DID WE LEARN?	
Intervention Required	RSV infection Co-infection with SARS-CoV-2 SARS-CoV-2 Infection Only
Systemic Steroids	92.0% 61.5% 12.8%
Bronchodilators	85.9% 46.2% 10.6%
WHAT DOES THIS MEAN?	
Children less than 2 years of age required systemic steroids significantly more often when hospitalized with RSV infection. Based on this, the clinical course of acute RSV infection in children under 2 years appears to be more severe among those hospitalized and require more medical intervention than SARS-CoV-2 infection alone.	
BLUEDOT'S CRITICAL APPRAISAL	
This study has several key limitations that could affect the quality of evidence presented:	
<ul style="list-style-type: none"> A very small sample size Results pertain to a timeframe during which the Omicron SARS-CoV-2 variant became predominant and may not be applicable to past or future SARS-CoV-2 variants of concern. The groups were treated at different facilities, possibly with different treatment protocols that would influence clinical decision making. Differences in maternal passive immunity to RSV and/or SARS-CoV-2, or prior exposure to SARS-CoV-2 may have influenced the results given the timeframe of study during the pandemic. These limitations impact the ability to determine the true magnitude of treatment differences between children with RSV, co-infection, and SARS-CoV-2. 	
The results of the study indicating a more severe clinical course for RSV compared to SARS-CoV-2 are consistent with a previous study among hospitalized children in Germany that showed that patients with RSV had longer hospital stays, required oxygen supplementation more often, and put more pressure on the hospital than children with a diagnosis of SARS-CoV-2.	
CITATION	
Nunziata, F., Salomone, S., Catzola, A., Poeta, M., Pagano, F., Punzi, L., Lo Vecchio, A., et al. (2023). Clinical Presentation and Severity of SARS-CoV-2 Infection Compared to Respiratory Syncytial Virus and Other Viral Respiratory Infections in Children Less than Two Years of Age. <i>Viruses</i> , 15(3), 717. MDPI AG.	

Study on RSV incidence in association with Invasive Pneumococcal Disease (IPD)	RETROSPECTIVE STUDY
Increase of invasive pneumococcal disease in children temporally associated with RSV outbreak in Quebec: A time-series analysis	
PUBLISHED ON	FEBRUARY 13, 2023
STUDY PERIOD	JAN 2013 TO JAN 2022
All ages: 7,712; Subpopulation of children < 5 years (n = 646)	
STUDY POPULATION	Population-based and lab surveillance data of individuals diagnosed with IPD during study period From Quebec, Canada
WHAT DID WE LEARN?	
% of IPD increase in children < 5 years attributable to viruses following partial removal of NPIs	RSV 77.2% (95% CI: 33.1 - 100) Influenza 1.5% (95% CI: -29.3 - 32.2)
% of children < 5 years diagnosed with IPD pre-NPI (Jan 2013 to Feb 2020) vs. post-NPI (Mar 2021 to Jan 2022)	Pre-NPI period 7.6% Post-NPI period 16.3%
WHAT DOES THIS MEAN?	
Following the lifting of pandemic restrictions there were resurgences in cases of RSV and IPD exceeding the expected trends based on pre-pandemic period projections. Rates of IPD were temporally associated with rates of RSV in children under the age of five; in contrast, IPD was temporally associated with influenza rates in older age groups.	
BLUEDOT'S CRITICAL APPRAISAL	
<ul style="list-style-type: none"> Despite the authors' acknowledged limitations of using population-level surveillance data, this paper offers evidence that a vaccine targeting RSV would be an asset for the prevention of IPD, particularly in children. This has relevance for both the public health and pharma sectors: it highlights the importance of pursuing preventative measures against RSV to mitigate burden on the healthcare system due to IPD for public health; it also emphasizes the role pharmaceutical companies can take in addressing the need for the development of RSV vaccines for children. The results of the study are consistent with previous time-series research which established a temporal link between RSV infection and IPD in children in the USA. Potential causal mechanisms between RSV and pneumococcal pneumonia have also been explored in previous work. 	
CITATION	
Ouldali, N., Deceuninck, G., Lefebvre, B., Gilca, R., Quach, C., Brousseau, N., Tapiero, B., & De Wals, P. (2023). Increase of invasive pneumococcal disease in children temporally associated with RSV outbreak in Quebec: a time-series analysis. <i>Lancet regional health. Americas</i> , 19, 100448.	

A global meta-analysis of countries with seroprevalence data demonstrated that infection-derived immunity increased substantially from 7.7% in June 2020 to 48% in March 2022. (2)

While a greater proportion of the global population now has high levels of vaccine-derived, infection-derived and hybrid immunity compared to earlier in the pandemic, the severe toll of achieving hybrid immunity includes a reported 6.8 million deaths due to COVID-19 as of February 25, 2023.

Studies:

- <https://www.sciencedirect.com/science/article/pii/S2667193X23000224?via%3Dihub>
- <https://www.mdpi.com/1999-4915/15/3/717>
- https://journals.lww.com/pidj/Abstract/9900/A_Hypothesis_Generating_Prospective_Longitudinal.385.aspx

Overall Takeaway

The first study examined the temporal association between rates of RSV and invasive pneumococcal disease, both of which have been elevated in some countries following the removal of COVID-19 pandemic precautions. The findings suggest that a high proportion of the increase in invasive pneumococcal disease could be attributed to high rates of RSV among the young child population, consistent with findings elsewhere. While causation cannot be established from these studies, they support research on the causal mechanisms of RSV and secondary bacterial infections and indicate that the prevention of RSV in young children may alleviate the burden of other illnesses in this demographic.

The final two studies explored the relative severity of illness due to RSV in comparison with SARS-CoV-2 or influenza in infants and young children in two different geographies. The first of these studies was conducted in Italy during the timeframe in which the Omicron SARS-CoV-2 variant of concern became predominant and led to high rates of infections in Italy and globally. This study confers with similar research indicating that RSV causes typically a more severe acute illness requiring greater need for medical interventions among hospitalized infants when compared to infections with the Omicron SARS-CoV-2 variant of concern.

The final study, conducted in Israel prior to the pandemic, demonstrates that infections with RSV likely contribute to a large proportion of community-acquired alveolar pneumonia and bronchiolitis in hospitalized children under 5 years old. Given the confluence of numerous respiratory pathogens returning towards pre-pandemic levels of circulation globally, and serious healthcare challenges burdening many countries, having access to preventive options for RSV in the infant population could substantially alleviate the burden associated with hospital care in this high-risk group.

References

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- Clesrovimab (MK-1654) in Infants and Children at Increased Risk for Severe Respiratory Syncytial Virus (RSV) Disease (MK-1654-007): <https://clinicaltrials.gov/ct2/show/NCT04938830>
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Study on virus prevalence in acute lower respiratory infection (ALRI)	PROSPECTIVE STUDY
A hypothesis-generating prospective longitudinal study to assess the relative contribution of common respiratory viruses to severe lower respiratory infections in young children	
PUBLISHED ON	MARCH 08, 2023
STUDY PERIOD	JAN 2019 TO MAY 2019, NOV 2019 TO MAR 2020
STUDY POPULATION	ALRI patients: children 2-17 months old (n = 75); Controls: children 2-27 months old (n = 24) In patients with community-acquired alveolar pneumonia (CAAP) or bronchiolitis From southern Israel
WHAT DID WE LEARN?	
Study Group	RSV Prevalence Influenza Prevalence ADV / RV / CoV Prevalence
	Visit 1 Visit 2 Visit 3 Visit 1 Visit 2 Visit 3 Visit 1 Visit 2 Visit 3
CAAP (%)	67.6 27.0 5.4 8.1 2.7 0.0 48.6 40.5 40.5
Bronchiolitis (%)	65.8 31.0 0.0 2.6 0.0 4.0 47.4 58.6 64.0
Controls (%)	0.0 - - 0.0 - - 70.8 - -
WHAT DOES THIS MEAN?	
The prevalence of lower respiratory viruses (LRI) including RSV and influenza was much higher in the CAAP and bronchiolitis groups than in the control group. In contrast, the combined prevalence of adenovirus / rhinovirus / seasonal coronavirus (AdV/RV/CoV) was highest in the control group and similar in the CAAP and bronchiolitis groups across visits. The results support the causative role of RSV in the development of CAAP or bronchiolitis in infants and young children hospitalized for these conditions, whereas ADV/RV/CoV do not play a causative role but are commonly carried by young children.	
BLUEDOT'S CRITICAL APPRAISAL	
<ul style="list-style-type: none"> Despite the author's acknowledged limitations of a small sample size and incomplete follow-up amongst the patient groups, this study offers further evidence that RSV plays a major role in the development of CAAP and bronchiolitis in young children. This has relevance for both the public health sector and pharmaceutical sector in that it highlights the importance of developing and disseminating preventative measures against RSV to reduce the healthcare burden caused by severe clinical outcomes of CAAP and bronchiolitis in children. The results of this study are consistent with previous literature linking RSV to community acquired pneumonia in children. RSV has been established as a common cause of bronchiolitis in infants and young children in previous literature. 	
CITATION	
Ben-Shimol, S., Ramilo, O., Leber, A. L., van der Beek, B. A., Everhart, K., Mertz, S., Mejias, A., & Dagan, R. (2023). A Hypothesis-Generating Prospective Longitudinal Study to Assess the Relative Contribution of Common Respiratory Viruses to Severe Lower Respiratory Infections in Young Children. <i>The Pediatric infectious disease journal</i> , 10.1097/INF.0000000000003865. Advance online publication.	

Other Infectious Disease Outbreaks

[Marburg Virus Disease - Equatorial Guinea – Follow up](#)

The Equatorial Guinea Ministry of Health and Social Welfare (MINSABS) reported a newly confirmed case and death in Nsork, Wele-Nzas Province, which is located in the eastern portion of Equatorial Guinea (EG). It borders the provinces of Centro Sur to the west and Kié-Ntem to the north with Gabon's Woleu-Ntem Province to the east and south.

Surveillance Data as of 02-Apr-2023:

- Laboratory-Confirmed: 14 human cases (including 10 death)
- Overall Reported (confirmed and probable): 35 human cases (including 30 deaths)
- Case Fatality Ratio: 85.7%

Additional information:

- Bata currently has the largest number of confirmed cases and deaths (8 cases and 5 deaths). The city is a major economic center for EG, has the largest commercial port, and has the second-largest population in the country. Therefore, outbreaks in this region increase the risk of cases being exported to other densely populated areas both domestically and internationally.

Marburg Vaccine Trials:

On 29-Mar-2023, the WHO released a statement that clinical trials for three vaccine candidates for the Marburg disease are ready for Phase 3 with the agreement and cooperation of Tanzania and Equatorial Guinea. The vaccine distributors are:

1. Sabin Vaccine Institute - 750 doses available
2. The University of Oxford - 1000 doses available
3. Public Health Vaccines - 250 doses available.

Source: [BlueDot](#)

[Pneumococcal meningitis - Togo](#)

Since mid-December 2022, Togo has been responding to a meningitis outbreak that has so far resulted in a total of 141 cases and 12 deaths (CFR 8.5%), with almost half of the cases affecting children and young adults between 10 and 19 years of age. Overall, 22 samples have been confirmed as Streptococcus pneumoniae.

Togo is located in the African meningitis belt, with seasonal outbreaks recurring every year. However, the current outbreak is concerning due to different concomitant factors, including the security crisis in the Sahel which causes population movements, and suboptimal surveillance capacity. This is also the country's first time dealing with a pneumococcal meningitis outbreak.

WHO risk assesment:

- WHO assesses the overall risk posed by this outbreak as **high at the national level, moderate at the regional level, and low at the global level.**

Source: [WHO](#)

[Vaccine-derived Poliomyelitis - United States – Follow up](#)

On 22-Mar-2023, Rockland County (New York State) reported one new positive poliovirus environmental sample had been collected from wastewater in February 2023. It was not reported whether this sample was genetically linked to the individual case of paralytic polio in Rockland County which was found on 21-Jul-2022. The last positive environmental sample from Rockland County was reported on 21-Oct-2022.

Surveillance data (as of 22-Mar-2023):

- Confirmed: 1 human case (21-Jul-2022) – By Official Source
- Environmental Samples (ES): 101 positive samples (1 new positive on 22-Mar-2023), 94 genetically linked to the confirmed case

Source: [DepartmentOfHealth NYS](#)

[Highly Pathogenic Avian Influenza H5N1 – Chile – Follow up](#)

Source: [WHO](#)

On 29 March 2023, the Ministry of Health of Chile notified WHO of a laboratory-confirmed case of human infection caused by avian influenza A(H5) virus in the Region of Antofagasta. This is the first human infection with avian influenza A(H5) virus reported in Chile and the third reported in the Region of the Americas to date. This is a single human infection, and no further case has been identified so far. Three close contacts of the case were asymptomatic and tested negative for influenza and have concluded the monitoring period. Additionally, a total of nine contacts among health care workers were identified, all concluded the monitoring on 4 April, however on 5 April one of them developed respiratory symptoms, therefore, further testing is ongoing, and the period of monitoring was extended for 7 more days for this contact of the case.

Surveillance data as of 6-April-2023:

- On 29-March-2023, one laboratory-confirmed case (index case) by the Institute of Public Health of Chile (ISP) was reported.

Major Highlights in this update:

- Three close contacts of the index case were asymptomatic and tested negative for influenza and have concluded the monitoring ILI period.
- An additional nine close-contacts (all healthcare workers) were identified. They had successfully concluded the ILI monitoring period on 4-April-2023.
- However on 5-April-2023, one of the nine close contacts developed symptoms of ILI. Laboratory testing at ISP is ongoing and the period of monitoring has been extended for seven more days for this close contact (until at least 11-April-2023)

[Tick Borne Encephalitis - United Kingdom](#)

Source: [GOV.UK](#)

The first locally acquired human case of tick-borne encephalitis (TBE) has been confirmed in England, United Kingdom (U.K.).

Highlights:

- 2019: Public Health England (PHE) confirmed the presence of the TBE virus (TBEV) in Thetford Forest, Norfolk (in the eastern part of England), and on the Hampshire-Dorset border (in the southern part of England) for the first time.
- In addition, in 2019, PHE indicated at least two suspected human cases of the disease in the U.K. for the first time in the same area where the infected ticks were found.
- On 5-March-2023, PHE indicated in a press release that the first TBE human case has been laboratory-confirmed.
- The affected developed symptoms in 2022 and is located in the Yorkshire area (in the northern part of England).
- Presently, there is limited information on the specific TBE species that has affected the individual.

[Influenza Europe: Weeks 13/2023 \(27 March – 02 April 2023\)](#)

- The percentage of all sentinel primary care specimens from patients presenting with ILI or ARI symptoms that tested positive for an influenza virus decreased to 16% from 22% in the previous week, which is above the epidemic threshold set at 10%.
- 13 of 41 countries or areas reported medium or high intensity and 20 of 40 countries or areas reported widespread activity indicating substantial seasonal influenza virus circulation across the Region.
- Of the 17 countries that reported sentinel primary care specimen influenza virus positivity above the 10% epidemic threshold, Estonia and Hungary reported activity above 40%.
- Both influenza type A and type B viruses were detected in both sentinel and non-sentinel surveillance, with influenza type B viruses predominating in both systems.
- Hospitalized patients with confirmed influenza virus infection were reported from ICU (with higher proportions of type B viruses) and SARI surveillance (with higher proportions of type B viruses).
- Of 13 countries and areas across the Region that each tested at least 10 specimens, four countries or areas reported influenza virus positivity rates above 10% in SARI surveillance (Lithuania, Ukraine, Serbia and North Macedonia).

Source: [Flu News Europe](#)

Other Infectious Disease Outbreaks



[Humanitarian disaster - Democratic Republic of the Congo](#)

Médecins Sans Frontières (MSF) has warned that a humanitarian disaster is unfolding in eastern Democratic Republic of the Congo and that far more aid is urgently needed. MSF said about a million people have been forced from their homes in North Kivu in the past 12 months as a result of violence linked to the M23 rebel group.

Most of the displaced are living in appalling conditions, and MSF said its teams are “completely overwhelmed” amid increasing cases of measles and cholera.

Source: [MSF](#)

[Water rationing - Tunisia](#)

Strict water rationing has been introduced as the country struggles with a fourth year of drought.

The agriculture ministry has banned the use of potable water for irrigating farmland and green spaces, while quotas will be introduced for mains supply to households until September. For civilians the water will be cut off daily from 9pm until 4am.

Source: [MediaSources](#)

[Cholera – Mozambique – Follow up](#)

More than a million people across eight provinces of Mozambique – Gaza, Inhambane, Manica, Maputo, Sofala, Tete and Zambezia are bearing the brunt of the compounding effect of cholera, floods and cyclone Freddy. Freddy displaced over 184,000 people, who have sought shelter in accommodation centers across the affected districts. The impact of the multiple crises, on top of the emergency in northern Mozambique, means that every province of Mozambique is affected.

These conditions accelerated a cholera outbreak that had been growing since September 2022. The first case of cholera was reported from Lago district in Niassa province on 14 September 2022. The cholera outbreak continues to spread. As of 4 April, 24,075 cases have been reported. Cholera has affected 38 districts and eight provinces out of a total of 161 districts and 11 provinces. In the last week of March, 4,829 cases and 12 deaths were reported. The majority of new cases and deaths were reported from Quelimane district (3,184 cases, 10 deaths). Following a first Oral Cholera Vaccination (OCV) campaign carried out at the end of February, a second OCV campaign started on 30 March in the provinces of Zambezia, Manica and Sofala. The campaign, conducted between 30 March and 3 April reached approximately 1,176,553 people out of 1,277,539 targeted with is equivalent to 92 per cent of the total caseload.

The cholera outbreak in Mozambique has been categorized by WHO as a multi-region Grade 3 Public Health Emergency, requiring a major WHO response. The Grade 3 categorization – the highest level within WHO’s grading system – was made considering the scale of the outbreak, the potential for further international spread, the rapidity of spread, and the lack of adequate response capacity. Low levels of access to safe drinking water and sanitation and hygiene facilities and a fragile surveillance system, are contributing to conditions that drive the spread of the cholera throughout the first quarter of the year.

Source: [reliefweb](#), [OCHA](#)

[Lassa fever - Ghana](#)

The Ghana Health Service (GHS) has declared the end of the Lassa fever outbreak recorded in the country since 26-February-2023. The Director of Public Health at the GHS has confirmed that no new cases have been reported over the past 28 days. During the outbreak, the GHS activated several measures that allowed to control the further spread of the virus

Source: [GhanaHealthService](#)

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[Measles - Australia](#)

According to recent media reports from 06-Apr-2023, a second case of measles has been recorded in an infant in western Sydney. The first case was reported on 29-Mar-2023, in an infant with recent travel history to India. Investigations are underway to determine the source of the second infant’s exposure, as the child had no travel history and no contact with the case reported on 29-Mar-2023. Several locations have been listed as potential exposure risks as the second case had visited a large number of public venues while infectious. As a result, health officials are urging people to be alert for signs and symptoms of measles and to ensure complete vaccination coverage.

Source: [GovernmentofSouthAustralia](#), [NewsMedia](#)

[Pertussis – New Zealand](#)

On 04-Apr-2023, another infant under the age of one has died from pertussis, bringing the death toll to three, among a total of 11 recently-reported cases in the country.

These deaths have prompted Te Whatu Ora Public Health New Zealand to create a taskforce to investigate, since the number of deaths is unusually high for the number of detected cases, and they have occurred in different regions of the country. Viral strain genomic sequencing is underway, in addition to an investigation to determine whether there is more widespread undetected transmission.

Officials are urging the public to ensure babies and children are up to date with vaccination against pertussis and are encouraging vaccination among pregnant women and those in close contact with newborns.

Source: [HealthNewZealand](#), [NewsMedia](#)

[Malaria - Indonesia](#)

Health authorities in the Nunukan Regency, North Kalimantan Province located in the northeastern corner of Indonesia confirmed a case of malaria due to the Plasmodium knowlesi parasite. They stated that several others are suspected to have contracted the same disease. A majority of the affected are reported to work in forested areas and interact with long-tailed macaques (*Macaca fascicularis*), a wild monkey species that is a known animal reservoir for *P. knowlesi*. Investigations to determine the source of infection are ongoing, although health authorities have advised the public to avoid close interactions with macaques, due to the risk of exposure through mosquitoes. As an emerging pathogen, *P. knowlesi* is often misidentified as one of the more common pathogens that cause malaria (*P. falciparum*, *P. ovale*, and *P. vivax*) due to laboratory resourcing challenges. As such, the geographical distribution of malaria disease caused by *P. knowlesi* is unclear outside of the cases which have been reported in nearby countries such as Thailand and Malaysia

Source: [BlueDot](#)

[Iatrogenic botulism – Europe – Follow up](#)

Since late February 2023 and up until 30 March 2023, 87 cases of botulism linked to intragastric injection of the botulinum neurotoxin (BoNT) have been reported in Germany (30), Austria (1), France (1), Switzerland (2), and Türkiye (53). This is an increase of 18 cases in Germany, and one new case each in France and Switzerland, since the last update.

The information currently available indicates that all the cases had medical interventions aimed at helping them lose weight. These were performed between 3 February and 1 March 2023 in Türkiye. The cases are reported to have received intragastric botulinum neurotoxin (BoNT) injections for the treatment of obesity at two private hospitals: one in Istanbul and another in Izmir. Germany has reported that for the German patients, the injected doses ranged between 1 000 and 2 500 units of BoNT. The symptoms ranged from mild to severe, and several cases have been hospitalised. Among those hospitalised, a number are reported to have been admitted to intensive care units (ICU) and received treatment with botulinum anti-toxin.

Source: [ECDC](#)