



Update 153 FHP-Update 20 November 2024



News:

- WHO:** adds [LC16m8 mpox vaccine to Emergency Use Listing](#), making it the second mpox vaccine to be supported by WHO. LC16m8 is a vaccine developed and manufactured by KM Biologics in Japan. The TAG recommended the vaccine for use in individuals over one year of age as a single dose vaccine, via a multiple puncture technique using a bifurcated needle.
- WHO:** [Measles cases surge worldwide, infecting 10.3 million people in 2023](#), a 20% increase from 2022. Inadequate immunization coverage globally is driving the surge in cases. More than 22 million children missed their first dose of measles vaccine in 2023. Globally, an estimated 83% of children received their first dose of measles vaccine last year, while only 74% received the recommended second dose. Coverage of 95% or greater of two doses of measles vaccine is needed in each country and community to prevent outbreaks and protect populations from one of the world's most contagious human viruses.
- Science:** The number of adults living with diabetes worldwide has surpassed 800 million, more than quadrupling since 1990, according to [new data released in The Lancet](#) on World Diabetes Day. The study reports that global diabetes prevalence in adults rose from 7% to 14% between 1990 and 2022. The study further reveals substantial global differences in diabetes rates, with the prevalence of diabetes among adults aged 18 and older around 20% in the WHO South-East Asia and the Eastern Mediterranean Regions. These two regions, together with the African Region, have the lowest rates of diabetes treatment coverage, with fewer than 4 in 10 adults with diabetes taking glucose-lowering medication for their diabetes.
- WHO:** A new study published today in [eBioMedicine](#) names 17 pathogens that regularly cause diseases in communities as top priorities for new vaccine development. The WHO study is the first global effort to systematically prioritize endemic pathogens based on criteria that included regional disease burden, antimicrobial resistance risk and socioeconomic impact.
- ECDC:** Data published by ECDC in connection with European Antibiotic Awareness Day shows that, [despite improvement in some areas, the EU is lapsing in progress towards its 2030 antimicrobial resistance \(AMR\) targets](#). Between 2019 and 2023, antibiotic consumption in the EU increased by 1%, moving further away from the 2030 target of a 20% reduction. Although during the same period there have been significant reductions in methicillin-resistant Staphylococcus aureus bloodstream infections, the situation in other critical areas, such as carbapenem-resistant Klebsiella pneumoniae bloodstream infections, has worsened, with an increase in incidence by almost 60% between 2019 and 2023.
- WHO:** has published their [recommended composition of influenza virus vaccines for use in the 2025 southern hemisphere](#) influenza season. For trivalent vaccines for use in the 2025 southern hemisphere influenza season, the WHO recommends the following: Egg-based vaccines: an A/Victoria/4897/2022 (H1N1)pdm09-like virus; an A/Croatia/10136RV/2023 (H3N2)-like virus; and a B/Austria/1359417/2021 (B/Victoria lineage)-like virus. For Cell culture-, recombinant protein- or nucleic acid-based vaccines an A/Wisconsin/67/2022 (H1N1)pdm09-like virus; an A/District of Columbia/27/2023 (H3N2)-like virus; and a B/Austria/1359417/2021 (B/Victoria lineage)-like virus. The recommendation for the B/Yamagata lineage component of quadrivalent influenza vaccines remains unchanged from previous recommendations: a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

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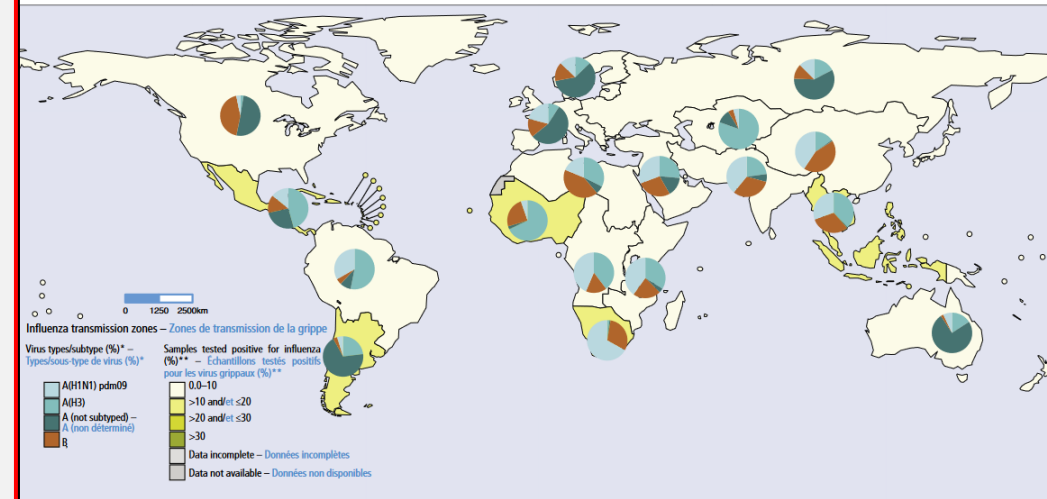
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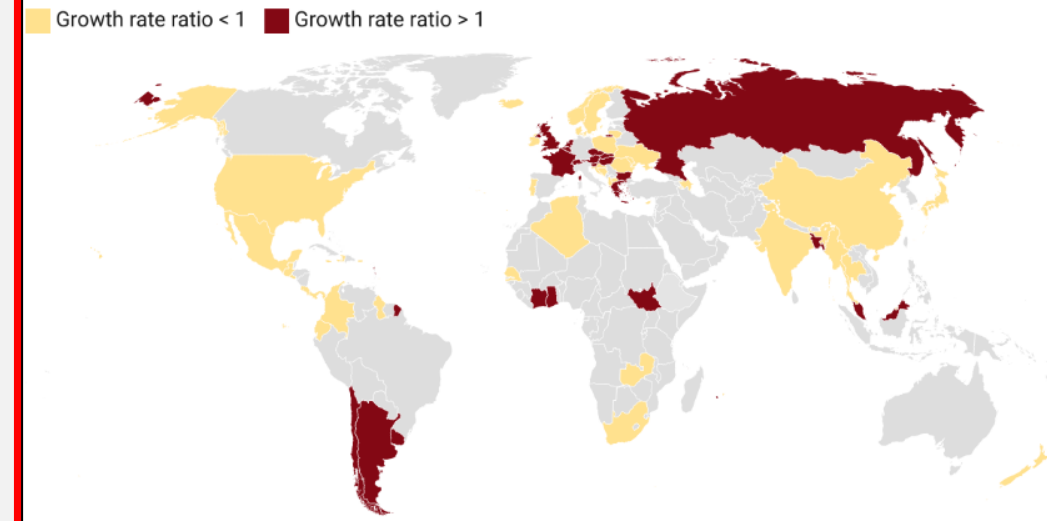
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Map 1 Distribution of influenza-virus types/subtypes by influenza transmission zone, February–August 2024
Carte 1 Répartition des types/sous-types de virus grippaux par zone de transmission de la grippe, février-août 2024



Ratio of COVID-19 case rate in the most recent four-week period (22-Sep to 19-Oct-2024) compared to the previous four-week period (18-Aug to 21-Sep-2024)



Antimicrobial resistance/consumption in the EU/EEA, 2023 report

EU targets on antimicrobial resistance

(Antimicrobial resistance (AMR) can be expressed as the estimated total incidence of bloodstream infections with antimicrobial-resistant bacteria (infections per 100 000 population).)

In 2023, the estimated total EU incidence of **meticillin-resistant *Staphylococcus aureus* (MRSA)** bloodstream infections was **4.64 per 100 000 population** (country range 0–15.5). This was 17.6% lower than in 2019 (baseline year) and **0.15 per 100 000 population lower than the 2030 target of 4.79 per 100 000 population**. For the EU overall, a statistically significant decreasing trend was detected between 2019 (baseline year) and 2023.

The estimated total EU incidence of **third-generation cephalosporin-resistant *Escherichia coli*** bloodstream infections was **10.35 per 100 000 population** (country range 0–19.56) in 2023. This was 3.6% lower than in 2019 (baseline year) and **0.68 per 100 000 population higher than the 2030 target of 9.67 per 100 000 population**. For the EU overall, there was no statistically significant trend detected between 2019 (baseline year) and 2023.

The estimated total EU incidence of **carbapenem-resistant *Klebsiella pneumoniae*** bloodstream infections was **3.97 per 100 000 population** (country range 0.00–21.44) in 2023. This was 57.5% higher than in 2019 (baseline year) and **1.58 per 100 000 population higher than the 2030 target of 2.39 per 100 000 population**. For the EU overall, a statistically significant increasing trend was detected between 2019 (baseline year) and 2023.

Overall antimicrobial resistance situation in the EU/EEA

Data from EARS-Net show that, as in previous years, **AMR levels remained high** in the EU/EEA in 2023.

Increases in the estimated EU incidences of bloodstream infections with resistant bacteria were **observed** not only for two of the above-mentioned AMR-pathogen combinations with an EU target, but also for **many other bacteria and antimicrobial groups under surveillance**, such as antimicrobial-resistant *K. pneumoniae* (other than carbapenem-resistant), vancomycin-resistant *Enterococcus faecium* and piperacillin-tazobactam-, ceftazidime-, and carbapenem-resistant *Pseudomonas aeruginosa*.

The AMR situation reported by EU/EEA countries **varied widely**, depending on the bacterial species, antimicrobial group and geographical region. The **highest estimated incidences** of antimicrobial-resistant bloodstream infections were generally reported by countries in the **south or southeast of Europe**.

For each bacterial species, country-specific information on the estimated incidence of antimicrobial-resistant bloodstream infections (including the recommended EU targets on AMR), the percentage of invasive isolates with AMR, data availability and the percentage of intensive care unit patients is available in country summaries. Results by age group and sex are available in the [ECDC Surveillance Atlas of Infectious Diseases](https://ecdc.europa.eu/en/surveillance-atlas-of-infectious-diseases).

Public health conclusions

Estimates based on EARS-Net data from 2020 indicate that **each year more than 35 000 people die** in the EU/EEA as a direct consequence of antimicrobial-resistant infections.

The overall poor progress towards the EU targets on AMR and, more particularly, the continued increase in the incidence of carbapenem-resistant *K. pneumoniae* bloodstream infections, highlights the urgent need for intensified public health action against AMR.

The plans should include key elements, such as **enhanced surveillance and strengthened infection prevention and control programmes in hospitals and other healthcare settings**, integrated with **antimicrobial stewardship** programmes and good diagnostic practices.

In the absence of stronger, swifter public health action, it is **unlikely that the EU will reach all its AMR targets by 2030**. The consequence will be an increased number of infections with antibiotic-resistant bacteria that will be more difficult to treat, leading to increasing challenges for patients and AMR-related deaths.

EU targets on antimicrobial consumption

(Antimicrobial consumption is expressed as the number of defined daily doses (DDD) per 1 000 inhabitants per day. The Anatomical Therapeutic Chemical (ATC) classification index with defined daily doses (ATC/DDD Index) 2024 was used for the analysis of 2023 data, and for historical data when possible.)

In 2023, the EU population-weighted mean total consumption (community and hospital sectors combined) of **antibacterials for systemic use** (ATC group J01) was **20.0 DDD per 1 000 inhabitants per day** (country range 9.6–28.5). This was 1% higher than in 2019 (baseline year), and 4.1 DDD per 1 000 inhabitants per day higher than the **2030 target of 15.9 DDD per 1 000 inhabitants per day**.

The EU population-weighted mean percentage of consumption of **WHO ‘Access’ group antibiotics** was **61.5% in 2023 (country range 41.7%–75.1%)**. This was 0.4 percentage points higher than 2019 (baseline year) and **3.5 percentage points below the 2030 target of > 65%**.

Public health conclusions

The poor progress towards the EU targets on antimicrobial consumption and the continued increase in the consumption of WHO ‘Reserve’ and ‘broad-spectrum’ antibiotics **highlights the need to strengthen efforts to address unnecessary and inappropriate antimicrobial use at all levels of healthcare** (i.e. community, hospital and long-term care sectors) in the EU/EEA.

Table 3a. Estimated total incidence of bloodstream infections with resistance phenotype (number per 100 000 population) and trend, 2019–2023, as well as the percentage change 2019–2023, by bacterial species and antimicrobial group/agent, EU* (excluding the UK; excluding France for results other than *Streptococcus pneumoniae*)

Bacterial species	Antimicrobial group/agent	Estimated incidence ^a of isolates from bloodstream infections with resistance phenotype (n per 100 000 population)						
		2019 (baseline year)	2020	2021	2022	2023	Trend 2019–2023 ^c	Change 2019–2023 (%) ^d
<i>Escherichia coli</i>	Aminopenicillin (amoxicillin/ampicillin) resistance	28.46	24.80	23.89	26.25	28.42	-	-0.1
	Third-generation cephalosporin (cefotaxime/ceftriaxone/ceftazidime) resistance	10.74	8.88	7.87	9.12	10.35	-	-3.6
	Carbapenem (imipenem/meropenem) resistance	0.20	0.10	0.08	0.12	0.14	-	-30.0
	Fluoroquinolone (ciprofloxacin/levofloxacin/ofloxacin) resistance	16.82	14.34	12.64	14.00	15.70	-	-6.7
	Aminoglycoside (gentamicin/netilmicin/tobramycin) resistance ^e	7.17	6.16	5.17	5.76	6.59	-	-8.1
	Combined resistance to third-generation cephalosporins, fluoroquinolones, and aminoglycosides ^e	3.81	3.01	2.54	2.89	3.36	-	-11.8
<i>Klebsiella pneumoniae</i>	Third-generation cephalosporin (cefotaxime/ceftriaxone/ceftazidime) resistance	7.59	7.26	7.67	7.93	9.25	↑	+21.9
	Carbapenem (imipenem/meropenem) resistance	2.52	2.77	3.19	3.11	3.97	↑	+57.5
	Fluoroquinolone (ciprofloxacin/levofloxacin/ofloxacin) resistance	7.48	7.24	7.46	7.65	8.83	↑	+18.0
	Aminoglycoside (gentamicin/netilmicin/tobramycin) resistance ^e	5.07	4.69	5.01	5.11	5.96	↑	+17.6
	Combined resistance to third-generation cephalosporins, fluoroquinolones, and aminoglycosides ^e	4.46	4.14	4.47	4.52	5.26	↑	+17.9
<i>Pseudomonas aeruginosa</i>	Piperacillin-tazobactam resistance	1.77	1.64	1.78	1.99	2.00	↑	+13.0
	Ceftazidime resistance	1.55	1.42	1.54	1.69	1.72	↑	+11.0
	Carbapenem (imipenem/meropenem) resistance	1.73	1.65	1.82	1.99	2.01	↑	+16.2
	Fluoroquinolone (ciprofloxacin/levofloxacin) resistance	2.02	1.74	1.82	1.94	1.94	-	-4.0
	Aminoglycoside (gentamicin/netilmicin/tobramycin) resistance ^e	1.20	0.62	0.72	0.69	0.79	NA	-34.2
	Combined resistance to ≥3 antimicrobial groups (among piperacillin-tazobactam, ceftazidime, carbapenems, fluoroquinolones and aminoglycosides) ^f	1.20	0.75	0.93	1.02	1.05	NA	-12.5
<i>Acinetobacter</i> species	Carbapenem (imipenem/meropenem) resistance	2.45	3.32	4.76	3.22	2.98	-	+21.6
	Fluoroquinolone (ciprofloxacin/levofloxacin) resistance	2.63	3.45	4.92	3.33	3.02	-	+14.8

Progress in Animal Health to Contain Antimicrobial Resistance (AMR)



For decades, the World Organisation for Animal Health (WOAH) has worked with its Members, One Health partners, veterinarians, academia, industry, and other relevant stakeholders to raise awareness of and address antimicrobial resistance. It has been 25 years since the World Assembly of WOAH Delegates adopted a resolution calling for the development of the first guidelines on AMR in the animal health sector and several milestones have been achieved ever since.

Global trends show that:

Antimicrobial use in animals

has **significantly decreased** since 2015, but we must remain vigilant, as shown by our 2024 ANIMUSE report



Use of antimicrobials for growth promotion is **no longer a practice** for nearly



The majority of antimicrobials used in animals are not from those considered

'critically important' to human health



Collective Actions Guided by One Health

Addressing AMR requires coordination across human, animal and environmental health. WOAH, as well as numerous countries and organisations, has been advancing this One Health approach as the foundation for action.

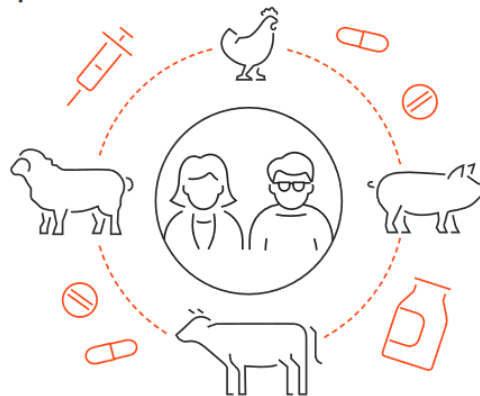
The Quadripartite – FAO, UNEP, WHO and WOAH – has deepened cross-sectoral collaboration and are leading global efforts to tackle AMR across human, animal, plant and environmental health. As a natural continuation of their collaboration to contain AMR, the [One Health Joint Plan of Action](#) reinforced and expanded guidance to address shared health issues such as reducing the risks from emerging and re-emerging zoonotic epidemics and pandemics.

One Health monitoring is limited but can provide value

Only a small number of countries collect and publish use data across humans and animals. For example:

- UK [data](#) shows that two-thirds of antibiotics are used in humans and one-third are used in animals.
- EU data found consumption [decreased 53%](#) in animals since 2011, and [decreased](#) approximately 10% in humans since 2013.

This type of One Health use monitoring is limited across other countries and accurate global figures comparing human and animal use do not exist (see box below for more detail).



Facing a global challenge like AMR requires stakeholders to collaborate with a unified vision and shared tools, ensuring that national efforts align towards a common goal. WOAH international standards, based on the most recent scientific and technical information, offer the ideal basis for its Members to design and develop local AMR frameworks that help ensure animal health, transparency, international solidarity and a sustainable sanitary situation.

Each year, WOAH's World Assembly of Delegates discusses and adopts various updates to the Terrestrial and Aquatic Codes, reflecting new technical guidance from international expert groups. [Chapters 6.7 to 6.11](#) of the Terrestrial Animal Health Code and [6.1 to 6.5](#) of the Aquatic Animal Health Code directly address AMR. This includes recommendations for controlling AMR, harmonising national AMR surveillance and monitoring programmes, monitoring use, etc. These are complemented by chapter 2.1.1 in the [Terrestrial Manual](#), related to laboratory methodologies for antimicrobial susceptibility testing, as well as by the [list of antimicrobial agents of veterinary importance](#), updated in its recommendations section through a constant dialogue and joint discussion with the World Health Organization, in light of protecting those [antimicrobials of critical importance for human health](#).



A regional dashboard from the TrACCS showing progress in national action plan implementation

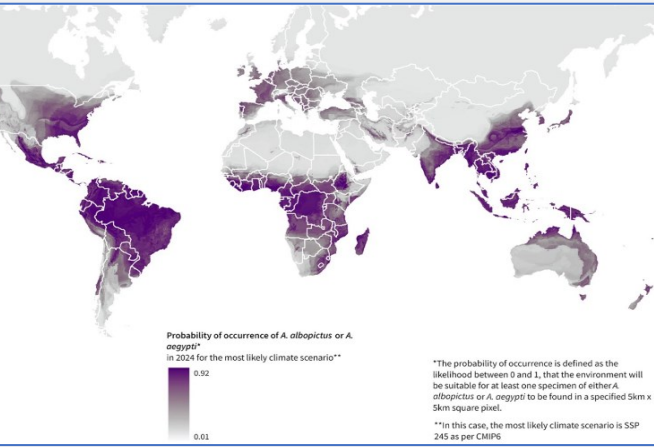
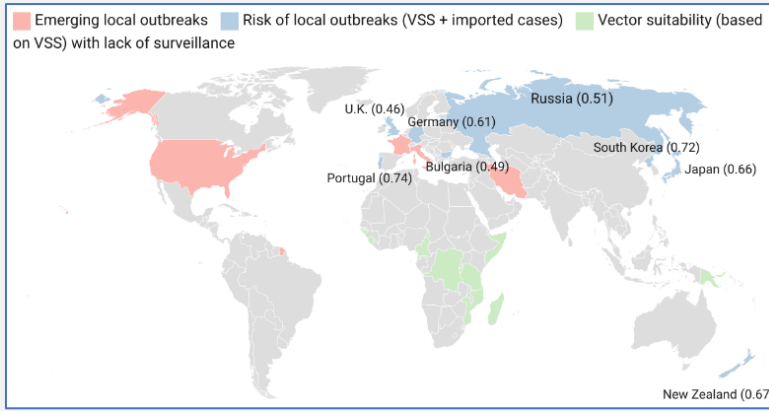
Dengue – Vector Suitability and Imported Activity 2024



In 2024, between January and September, over 13 million cases of dengue and 8,500 dengue-related deaths have been reported from 86 countries/territories.¹ Following pandemic-related disruptions which may have impacted both transmission and surveillance,² dengue activity has been climbing since 2022. To date, 2024 has seen higher annual cases compared to previous years. Most cases have been reported in the Americas, with Brazil reporting over nine million cases and 6,000 deaths.

Risk of Local Dengue Outbreaks

The following map highlights risk regions for local dengue outbreaks. Risk regions were defined by the occurrence of local outbreaks, imported cases, and BlueDot's Vector Suitability Score (VSS). BlueDot has developed a machine learning model that predicts the probability that the mosquito vector could survive in a geographic region as a mean score which was then aggregated up to the province/state level.



Predicting where the Aedes mosquito could survive

A machine-learning boosted regression model was developed by BlueDot analysts that predicts the probability that the *A. aegypti* and *A. albopictus* mosquito vector can survive in a geographic region. Historical temperature and precipitation data were used to train the model and a moderate climate change scenario for 2024 including projected temperatures and precipitation were used to make predictions at a 5km x 5km level of granularity.

The model predictions are then aggregated to determine a mean value between 0-1 for each mosquito vector species on a state or provincial level for each country, globally.

- 0 represents the lowest probability of the vector being able to survive in that region.
- 1 represents the highest probability of the vector being able to survive in that region.

Countries where BlueDot's VSS model predicts *Aedes* mosquitoes (either *Aegypti* or *Albopictus*) have a high probability of survival (>0.75 mean score) that have not reported dengue in 2024 (neither local nor imported cases):

- Burundi
- Cameroon
- Comoros
- Montenegro
- Tanzania
- Equatorial Guinea
- Guinea Bissau
- Madagascar
- Mozambique
- Papua New Guinea
- Republic of the Congo
- Rwanda
- Sierra Leone
- Somalia
- Democratic Republic of the Congo

Countries reporting imported cases but no locally acquired cases in 2024 (dengue is not endemic)

- Bulgaria (0.49)
- Germany (0.61)
- Japan (0.66)
- Latvia (0.11)
- New Zealand (0.67)
- Portugal (0.75)
- Russia (0.51)
- South Korea (0.72)
- UK (0.46)

Emergence of and/or increased incidence of locally acquired cases in 2024

There has been a significant increase in the number of imported cases in the United States, Iran, France, and Italy in 2024. An increase in imported cases may have led to increased local transmission since a suitable vector is present, as demonstrated by these country examples.

United States

- As of 11-Nov-2024, there have been 4,627 locally acquired cases reported in 2024, up 216% from 1,462 locally acquired cases reported in 2023.³
- There have been at least 2,474 dengue travel-related cases in the USA since the beginning of the year, while there were 1,890 imported cases throughout 2023.³
- In the USA, the State of California reported cases of locally acquired dengue in 2024 for the second year in a row.

France

- In 2024, as of 05-Nov, France has reported 85 locally acquired cases of dengue: the highest number of local dengue cases reported in a year.^{4, 5}
- Locally acquired cases are not unexpected in France given the establishment of *A. albopictus* across a large part of the country.
- Between 01-Jan and 19-Apr, 1,679 imported cases of dengue were reported in France which represents a 1,182% increase compared to the 131 imported cases reported during the same period in 2023.⁴

Italy

- As of 5-Nov, 213 locally acquired dengue cases have been reported in 2024.⁵
- Locally acquired cases have been reported in Italy since 2020 (when 10 cases were reported). In 2023, 82 locally acquired cases were reported.
- In 2024, up to 01-Oct, 442 cases have been imported into the country which is up from 295 imported cases reported in 2023.⁶

Seasonal Trends in ILI activity in the northern hemisphere



Several countries in the northern hemisphere have started their 2024-2025 influenza-like illness (ILI) season.

Seasonal Influenza

Among 53 countries in the northern hemisphere reporting seasonal influenza data, there were 31 that had adequate data. Of the 31 countries, two additional countries (PRT and SWE) started to observe early signs of epidemic growth for seasonal influenza during the current reporting period. This brings the total to ten countries that are now seeing increasing seasonal influenza activity.

Both PRT and SWE observed increasing activity approximately 7 weeks later this year compared to last year. Though the overall volume of cases is low, it is expected to increase in the coming weeks.

GBR, NOR, Northern Ireland, and POL are continuing to observe **increasing activity**, while **CAN, IRE, Scotland, and ESP** are still maintaining **low levels** of activity.

Respiratory Syncytial Virus (RSV)

Among 33 countries in the northern hemisphere reporting RSV data, there were 18 that had adequate data. One additional country (Iceland) started to observe early signs of epidemic growth, bringing the total number of countries to nine. Iceland saw an increase in epidemic growth approximately at the same time last year. **CAN, GBR, Northern Ireland, and Scotland** are seeing **rapidly increasing** RSV activity, while **BEL, DEN, FRA, and ESP** are maintaining **low levels** of activity.

Global COVID-19 Update

- Among countries with sufficient data, about **40%** (27/70) are observing a **growth rate ratio** (GRR) **higher than 1.0** in the most recent four weeks from epiweek 40, indicating an increase in their COVID-19 case rate compared to the previous four weeks.
- 22 countries have reported the **highest level of case rates** observed throughout this calendar year (above 80th percentile) in the most recent two epiweeks. A majority of countries experiencing high case rates are in Europe, with 23 out of 35 countries in the region reporting their highest level of case rates in the last 4 weeks.
- Though many countries in Europe are experiencing their highest rates of COVID-19 cases in 2024, other regions are also observing **increases in COVID-19** activity, including those in the **southern hemisphere** such as Chile and Argentina.
- The **recently emerged XEC variant is continuing to gain prevalence in Europe**, accounting for approximately 33% (95% confidence interval: 19.7 to 50.1%) of all sequenced cases in the region, as of 20-Oct-2024. **DEU (42%) and DEN (25%)** are reporting the **highest prevalence** of XEC sequences among all sequenced cases in Europe in early October.¹ Among non-European countries, AUS (24%), New Zealand (23%), and CAN (20%) are reporting the highest estimated proportion of XEC.²

Vaccination Efforts

- In **Greece**, flu and COVID-19 vaccinations reached 532,000 people, but high-risk group coverage remains at 50%, below the 75% target.³
- **Mexico's** 36 million flu vaccines are expected to reduce flu-related deaths by 41% and ICU admissions by 82%.⁴ The updated Pfizer COVID-19 vaccine targeting the JN.1 variant will be available by mid-November.⁵
- **Moldova** has vaccinated 5.5% of its population against the flu⁶, while North Macedonia reports 3.4% of citizens registered and over 1% have been vaccinated.⁷
- **Poland** secured 700,000 doses of Moderna's Spikevax COVID-19 vaccine targeting the JN.1 variant.⁸
- **French** health authorities are considering making the RSV vaccine mandatory for those over 65.⁹
- **Pfizer** is collaborating with PAHO to distribute an RSV vaccine in Colombia and other countries in the Americas.¹⁰

Respiratory Health Challenges and Vaccine Shortages

- **Europe's** flu vaccination rates are below WHO targets for high-risk groups, impacted by COVID-19 misinformation.¹¹
- **Latvia** faces a 21% shortfall in flu vaccine¹², and **Germany** reports RSV vaccine shortages, affecting newborns and infants.¹³
- In **Hungary**, between 21-Oct-2024 and 27-Oct-2024, there were 17,100 doctor visits for influenza-like symptoms and 172,200 for acute respiratory infections.¹⁴

Research and Treatment Advancements

- A study from **Georgia Tech** using artificial intelligence (AI) achieved 90% accuracy in predicting SARS-CoV-2 antibody binding, potentially advancing COVID-19 immunotherapy and personalized medicine.¹⁵
- **Cocrystal Pharma** is developing broad-spectrum antivirals targeting influenza and coronaviruses, with Phase 1 and 2a trials underway for drugs aimed at H5N1 avian influenza (CC-42344) and norovirus (CDI-988), using Nobel Prize-winning technology to counter evolving viral threats.¹⁶
- A **JAMA study** revealed a 50% higher risk of type 2 diabetes in children six months after COVID-19 infection compared to other respiratory illnesses.¹⁷

Takeaways

- The timing of the start of the respiratory illness season continues to vary across the northern hemisphere, with one-third to half of the countries starting to observe signs of epidemic growth in disease activity, as of the end of October.
- COVID-19 is increasing not only in countries in the northern hemisphere (primarily in Europe) but also in parts of the southern hemisphere, in countries such as Argentina and Chile.

Cholera in the WHO African Region,

data as of 31 August 2024



Source: WHO



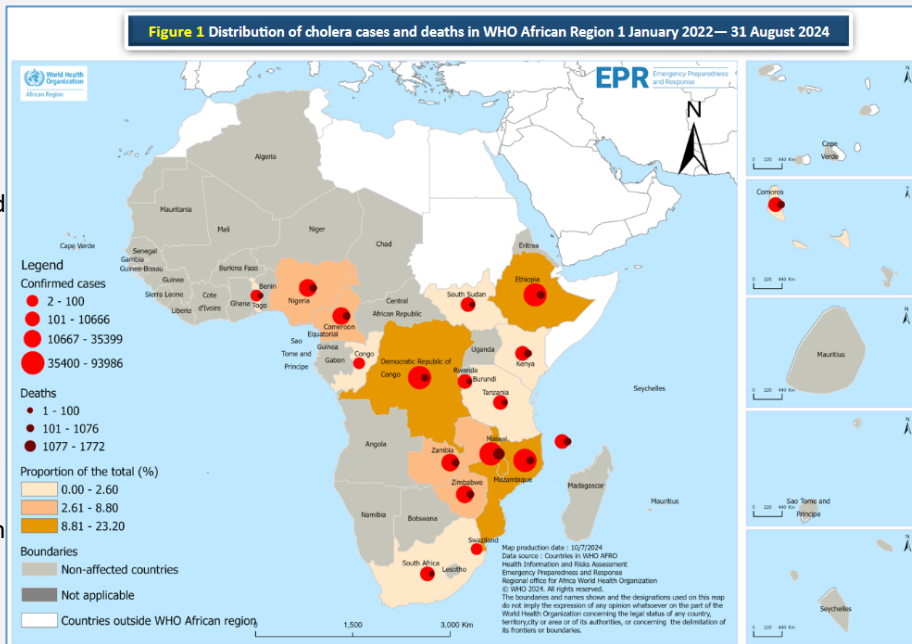
The cholera outbreak in the WHO African Region in 2024 has affected 16 countries (Burundi, Cameroon, Comoros, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Nigeria, South Africa, Togo, United Republic of Tanzania, Uganda, Zambia and Zimbabwe) with **two new countries-Ghana and Togo** reporting confirmed cases. However, the situation is particularly **severe in three countries**—The **Democratic Republic of the Congo, Ethiopia, and Nigeria**—which are currently categorized as being in acute crisis.

The Western and Eastern subregions of the continent, now in the rainy season, are experiencing resurging outbreaks. The El Nino phenomenon has caused both **droughts** in (Zambia and Zimbabwe) and an **increase in rainfall levels**, causing floods and landslides in some communities (Kenya and Tanzania). This may exacerbate the increase in cholera cases and raise the **risk of outbreaks** in districts and countries that have not reported new confirmed cases or previously controlled cholera outbreaks.

In 2024, the number of **cholera cases and deaths** reported to the AFRO as of 31 August was 119 127 and 2 048 respectively, with a **case fatality ratio of 1.7%**. Comoros, The Democratic Republic of the Congo (DRC), Ethiopia, Zambia, and Zimbabwe account for 81.5% (97 028) of the total cases and 83.2% (1 704) of total deaths reported this year.

In August 2024, nine countries – Burundi, Comoros, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Nigeria, Togo, and the United Republic of Tanzania – reported a total of 5 488 new cases and 112 deaths (CFR = 2.0%).

The number of cases in 2024 has decreased compared to 2023. From January to August, the cases decreased by 15.7%, from about 141 326 in 2023 to 119 127 in 2024 but number of death increased (3.9%). The **average case fatality ratio** from January to August was **1.4%** in 2023 compared to 1.7% in 2024.

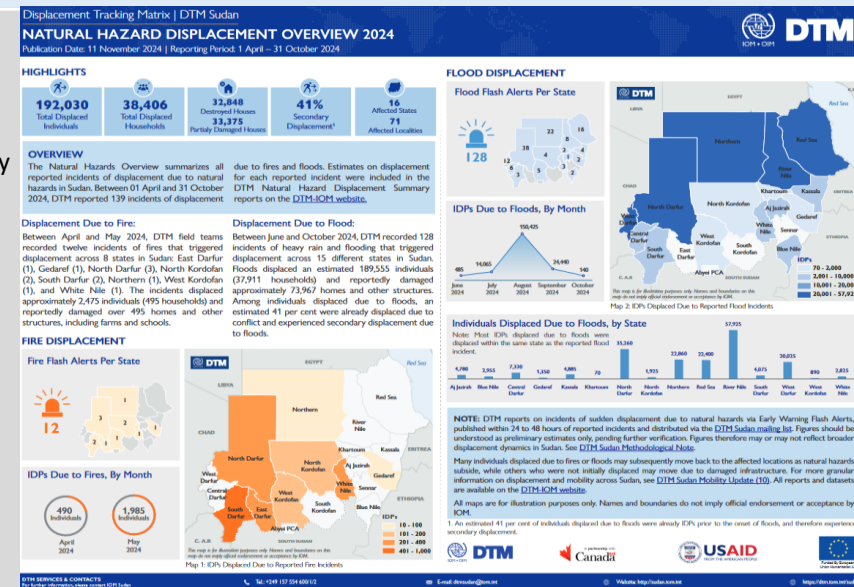


Sudan Conflict Public Health Threats



Source: reliefweb, IOM

The Natural Hazard Overview provides a summary of reported incidents of displacement in Sudan due to natural hazards, including fires and floods. DTM Sudan typically reports on increased displaced due to fires between April and July, and increased displacement due to floods between July and October. Between 01 April and 31 October 2024, DTM Sudan reported 140 incidents of sudden displacement due to natural hazard incidents, 12 incidents of displacement due to fires and 128 incidents of displacement due to heavy rain or floods in 16 different states across Sudan.



A lot of people fled from the war and the floodings to South Sudan, a country also suffering from flooding and social unrest. Now the displacement crisis brought on by the 19-month-old war in Sudan is increasing humanitarian needs across the border in South Sudan, where more than 800,000 people have fled. In the South Sudanese border town of **Renk**, in Upper Nile state, a **cholera outbreak** is putting the people who fled Sudan at risk and is also affecting the host community. Doctors Without Borders/Médecins Sans Frontières (MSF) has set up a 20-bed cholera treatment unit (CTU) at the Renk Civil Hospital in response to the cholera outbreak, so far 45 cholera cases were treated, including two deaths. Most of the patients are people arriving from the war in Sudan, where a cholera outbreak was declared in August 2024. However, MSF teams have also received patients from the local population of Renk. Contaminated water sources, open defecation, and overcrowded living conditions due to new arrivals from Sudan pose a significant threat to both refugees and the local community. Water and sanitation must be urgently improved for people fleeing war in Sudan to prevent the further spread of disease.

In **Malakal**, less than 185 miles from Renk, MSF teams have observed a **sharp rise in cholera cases**. This is an onward travel destination for many returnees and refugees coming from Renk after fleeing Sudan, whether they stay in Malakal or proceed with further travel to other parts of the country. The observed rise in cholera cases in Malakal prompted the establishment of a cholera treatment unit at MSF's Malakal Town Hospital. As of November 12, less than a week after opening, **65 patients have been admitted to the facility**.

With people moving across Upper Nile State and other parts of South Sudan, the **cholera outbreak poses a risk of spreading beyond Renk and Malakal**. An immediate reactive vaccination campaign is crucial.

Serologic Evidence of Recent Infection with Highly Pathogenic Avian Influenza A(H5) Virus Among Dairy Workers

— Michigan and Colorado, June–August 2024 –

Mellis, A. M. et al.



The US CDC in collaboration with the state health departments in Michigan and Colorado released results from a cross-sectional serologic survey of farm workers with exposures to HPAI A(H5N1) infected dairy cows, conducted from June to August 2024. Their aim was to determine if the workers had developed antibodies against the virus and understand how frequently workers with exposures to infected dairy cows may become infected with influenza A(H5N1).

Major findings:

- Eight of the 115 individuals (7% of participants) included in the study showed evidence of recent H5N1 virus infection.
- Of these eight seropositive individuals: all were Spanish speakers, all reported cleaning the milking parlour, while most (7 seropositive individuals; 88%) reported milking cows. Four (50%) did not remember feeling sick or showing symptoms, while those with symptoms said symptoms began before or within a few days of HPAI A(H5) virus detections among cows.
- Findings indicate that affected farm worker cases are likely going undetected and further work in terms of testing and culturally appropriate communication is required to reduce worker exposures. This is in conjunction with the need for more timely identification of infected dairy cattle herds through expanded herd testing and bulk milk testing programs, which can enable early outreach to dairy workers.
- Important limitations of this study include that it was based on a convenience sample of individuals as such it may not be representative of all farm workers, there was no demographic or medical history collected to understand underlying health conditions that might increase susceptibility and/or severity to infection, and PPE questions were not cross-referenced with specific job duties.

US CDC Interim Recommendations for Prevention, Monitoring, and Public Health Investigations of HPAI A(H5N1)

Because of the findings of the study the CDC updated their recommendations for actions to prevent exposures to HPAI A(H5N1) infected animals. Recommendations including updates highlight:

- Individuals should avoid exposure to sick or dead animals. In cases where exposure is unavoidable (including exposure to animal feces, litter, or contaminated materials) PPE should be donned appropriately.
- For those with exposures (with or without PPE), individuals should monitor themselves for respiratory illness and/or conjunctivitis after first exposure and for 10 days following their last exposure. If symptoms develop, individuals are urged to seek medical attention quickly.
- For symptomatic individuals with infected animal exposures, they should be referred for medical evaluation, testing, and begin antiviral treatment with oseltamivir promptly for greatest clinical benefit.
- Increased testing and outreach should be conducted for all workers, including those who do not report symptoms and especially for those who report not wearing appropriate PPE or experienced a PPE breach or failure.

Source: [CDC](#), [CDC](#)

WHO study lists top endemic pathogens for which new vaccines are urgently needed



Source: [WHO](#)

A new World Health Organization (WHO) study published today in [eBioMedicine](#) names 17 pathogens that regularly cause diseases in communities as top priorities for new vaccine development. The WHO study is the first global effort to systematically prioritize endemic pathogens based on criteria that included regional disease burden, antimicrobial resistance risk and socioeconomic impact.

The study reconfirms longstanding priorities for vaccine research and development (R&D), including for HIV, malaria, and tuberculosis – three diseases that collectively take nearly 2.5 million lives each year.

The study also identifies pathogens such as Group A streptococcus and *Klebsiella pneumoniae* as top disease control priorities in all regions, highlighting the urgency to develop new vaccines for pathogens increasingly resistant to antimicrobials.

WHO asked international and regional experts to identify factors that are most important to them when deciding which vaccines to introduce and use. The analysis of those preferences, combined with regional data for each pathogen, resulted in top 10 priority pathogens for each WHO region. The regional lists were then consolidated to form the global list, resulting in 17 priority endemic pathogens for which new vaccines need to be researched, developed and used.



*Provisional result due to lack of systematic burden data

Global Priority Pathogens for Vaccine R&D. Dots indicate where each pathogen appears on regional top 10 lists.

Action categories:	Research	Advance Product Development	Prepare to Implement	Actions continue to introduce new vaccines and improve existing ones
Pathogens:	<ul style="list-style-type: none"> • Group A streptococcus • Hepatitis C virus • HIV-1 • <i>Klebsiella pneumoniae</i> 	<ul style="list-style-type: none"> • Cytomegalovirus • Influenza virus (broadly protective vaccine) • Leishmania species • Non-typhoidal Salmonella • Norovirus • <i>Plasmodium falciparum</i> (malaria) • <i>Shigella</i> species • <i>Staphylococcus aureus</i> 	<ul style="list-style-type: none"> • Dengue virus • Group B streptococcus • Extra-intestinal pathogenic <i>E. coli</i> • <i>Mycobacterium tuberculosis</i> • Respiratory syncytial virus 	
Characteristics:	Few candidates in early clinical development or substantial technical challenges	Diverse candidates in development, including those in phase 2 studies	Candidates with high potential for approval by a WHO-listed authority before 2030	
Recommended actions:	<ul style="list-style-type: none"> • Identify research gaps • Improve surveillance and burden estimates • Develop target product profiles • Assess potential vaccine value • Develop tools to improve technical feasibility 	<ul style="list-style-type: none"> • Stimulate investment by raising awareness of opportunities for impact • Develop tools to inform decision-making (such as correlates of protection and economic models) • Create consensus on regulatory and policy pathways 	<ul style="list-style-type: none"> • Build awareness of emerging products • Assemble evidence needed for policy decisions • Establish mechanisms for long-term, equitable access to approved products 	

Action categories for global priority pathogens for vaccine R&D, based on the most advanced unmet use case for each pathogen as of December 2023

Progress towards measles elimination – worldwide, 2000–2023

During 2000–2023, an estimated 60.3 million deaths due to measles were averted by vaccination. During the coronavirus disease 2019 (COVID-19) pandemic, estimated worldwide coverage with a first dose of measles-containing vaccine (MCV1) decreased to 81%, the lowest rate since 2008. During 2022–2023, the estimated number of measles cases increased by 20% globally, from 8 645 000 to 10 341 000; and the number of countries that experienced large or disruptive outbreaks increased from 36 to 57.

During 2000–2019, estimated **MCV1 coverage** increased worldwide from 71% to 86%, then decreased to 81% in 2021 during the COVID-19 pandemic, increased to 83% in 2022 and remained unchanged in 2023. No region regained its 2019 MCV1 coverage levels.

In 2023, MCV1 coverage was 64% in low-income countries, 86% in middle-income countries and 94% in high-income countries.

In 2023, 22.2 million children did not receive MCV1 in routine immunization services, an increase of 472 000 (2%) over that in 2022 but a decrease of 2.1 million (9%) from 2021 (data not shown). The 10 countries with the most infants who did not receive MCV1 were in AFR (4 countries), the Eastern Mediterranean Region (EMR) (4) and in the South-East Asia Region (SEAR) (2), representing 57% of all children worldwide who did not receive MCV1.

During 2000–2019, estimated **MCV2 coverage** increased from 17% to 71% then increased to 73% in 2022 and 74% in 2023. The number of countries that offered MCV2 increased by 101%, from 95 (49%) of 194 countries in 2000 to 190 (98%) in 2023, including 2 additions in 2023. Approximately 112 million people received MCV during SIAs in 37 countries in 2023 and another 9.4 million during measles outbreak response activities in 14 countries.

During 2023, the **number of reported measles cases** increased by 224% over that in 2022, corresponding to a 225% increase in incidence, from 28 to 91 cases per 1 million population. In 2023, measles incidence was 583 per million in low-income countries and 37 and 26 per million in middle- and high-income countries.

In 2023, 57 countries in 5 WHO regions had **large or disruptive measles outbreaks**, an increase of 58% over the 36 countries in 4 regions in 2022. Among the 57 outbreaks in 2023, 27 (47%) occurred in countries in the AFR, 13 (23%) in the EMR, 10 (18%) in the EUR, 4 (7%) in the SEAR and 3 (5%) in the Western Pacific Region.

By the end of 2023, 82 (42%) countries had been verified as having achieved or maintained measles elimination, but **no WHO region had achieved and sustained elimination**, and no country in the AFR had yet been verified to have eliminated measles.

Globally, MCV coverage stagnated during 2022–2023, and no region has regained pre-COVID-19 MCV1 coverage levels. AFR experienced improvements in MCV1 and MCV2 coverage in 2022–2023; however, the number of unvaccinated children will increase if coverage stagnates and cannot outpace a rapidly growing population.

Routine vaccination coverage – worldwide, 2023

WHO and UNICEF Estimates of National Immunization Coverage (WUENIC) are produced annually at national, regional and global levels after reviews of national data, including administrative and survey-based coverage.

Diphtheria-tetanus-pertussis-containing vaccines

By 2023, coverage had partially recovered (DTPcv1, 89%; DTPcv3, 84%) but still had not reached 2019 pre-pandemic levels. The Region of the Americas was the only region in which coverage was better than in 2019 (DTPcv1 increased to 91% from 89%; DTPcv3 increased to 86% from 84%).

Other vaccines

In 2023, **global IPV1** coverage returned to the 2019 level (83%). Despite an interruption in vaccine introductions in 2020, 18 many vaccines were introduced during 2019–2023, including HepB-BD (9 countries) and rotavirus vaccine (17 countries). IPV2 was introduced in 58 countries that use oral polio vaccine during 2019–2023; by 2023, global coverage with IPV2 was 42%.

HPV vaccination was introduced in 73 countries during 2010–2019 and in 30 countries during 2020–2023. Global first-dose HPV coverage (HPV, first) among girls increased from 17% in 2019 to 27% in 2023, and full HPV coverage from 13% in 2019 to 20% in 2023.

Between 2019 and 2021, **global coverage with the following vaccines decreased**: **BCG** from 89% to 85%; **HepB-BD and third dose HepB** from 43% to 41% and from 86% to 81%, respectively; **Hib3** from 74% to 72%; **IPV1** from 83% to 80%; **Pol3** from 83% to 81%; and **RCV** from 69% to 66%.

Countries with fragile, conflict and vulnerable settings

In 2023, the United Nations Office for the Coordination of Humanitarian Affairs defined **31 WHO countries as having FCV settings**, including humanitarian crises, protracted emergencies and armed conflict. In these countries, **DTPcv1 and DTPcv3** coverage decreased from 81% and 75%, respectively, in 2019 and to 78% and 70%, respectively, in 2023.

MCV1 coverage decreased from 70% in 2019 to 66% in 2021 and 2022 and to 67% in 2023.

The number of **zero-dose children** increased by 25%, from 6.4 million in 2019 to 8.0 million in 2021, and remained stagnant throughout 2023.

The number of children who were **not immunized against measles** increased by 17%, from 10.4 million in 2019 to 12.2 million in 2021, and remained unchanged in 2023.

Discussion

Strategies such as periodic intensification of routine immunization and routine catch-up vaccination will be required to build resilience and are critical components of the Big Catch-Up strategy for immunization recovery. This strategy includes catching up children who missed vaccination during 2019–2022, restoring vaccination coverage rates for the current birth cohort to at least 2019 levels, and strengthening immunization systems in primary health care.

Other Infectious Disease Outbreaks and disasters – Asia/Oceania



Yezo Virus Infection - China

On 07-Nov-2024, retrospective research from Shandong University published in The Lancet Infectious Diseases identified the presence of an emerging tick-borne Yezo virus (YEZV) in 2% of the 988 participants in a hospital surveillance study conducted in Heilongjiang Province, northeast China. This represents a significant development given that the virus was previously only reported once in China since its initial discovery in Japan in 2021.

Of the 18 participants found to be infected (12 male, 6 female, median age 53 years), eight required hospitalization. No deaths have been documented. Symptoms observed included fever (100%), headache (56%), gastrointestinal problems (50%), rash (50%), and neurological issues (28%). Furthermore, high liver transaminase levels were found in 72% of cases, with other markers like lactate dehydrogenase elevated in 50%.

Analysis of 119 taiga ticks (*Ixodes persulcatus*) revealed that 7% tested positive for YEZV, with three virus strains isolated from patient sera. Phylogenetic analysis showed the virus strains clustered into two clades with specific mutations.

Source: [TheLancet](#)

Yezo Virus Infection - China

The Guangdong Provincial Center for Disease Control and Prevention continues to report new dengue cases weekly with a notable increase in cases occurring in Oct-2024. For epi week 43 (21-Oct-2024 to 27-Oct-2024), 1,785 new dengue cases were reported across the coastal province, of which 1,775 are locally acquired. From epi week 40 to 43 (30-Sept-2024 to 27-Oct-2024), a total of 7,589 dengue cases and no deaths have been reported. This follows the 3,711 dengue cases reported in Sept-2024. Throughout Oct-2024, three cities account for the majority of cases: Foshan, Guangzhou, and Shenzhen. According to news media, in Foshan (the hardest hit city) some hospitals experienced a shortage of beds for dengue patients given the sudden increase in dengue affected patients. Although case numbers for Oct-2024 are incomplete, the 7,589 cases reported thus far represent a 273% increase when compared to the 2,037 dengue cases reported for Oct-2023.

Health authorities continue to urge the public to take preventive measures, such as clearing stagnant water and taking actions to prevent mosquito bites.

Source: [GPCDCP](#), [GPCDCP.2](#)

Japanese Encephalitis - Nepal

Compared to previous years, there has been an increase in the number of cases of Japanese encephalitis (JE) and associated deaths since the beginning of the 2024 season (June-July, peaking in August and declining by October). As of 21-Oct-2024, there have been 80 laboratory-confirmed JE infections, including 23 deaths (CFR: 28,75%). Confirmed cases have been found across 30 districts out of Nepal's 77, of which Kailali, Kapilvastu, and Palpa, have the largest number of cases. Children under the age of 15 are the most affected.

JE is endemic to Nepal, and the risk of contracting it is highest in the Terai region during and after the monsoon season (June–October). Amid climate change, similar to other vector-borne diseases, the seasons are usually longer and more favourable for mosquitoes. The WHO estimates the ratio of confirmed to undetected cases 1:300, which is concerning.

Source: [NewsMedia](#)

Dengue - Bangladesh

Bangladesh is reporting the largest number of monthly deaths due to dengue for the year, in October, while also reporting strains in medical resources. Total cases among hospitalized patients are 69,456 cases including 337 deaths (CFR: 0.49%). This is likely an underestimate of the total number of cases, given that non-severe or asymptomatic cases are not captured. However, Bangladesh primarily reports dengue activity through hospital surveillance.

Nationally, the total number of hospitalized cases and deaths due to dengue have nearly doubled in October 2024. Notably, Bangladesh experienced its most severe dengue outbreak in the last few decades in 2023, where deaths due to dengue in that year, were greater than the combined number of deaths in the past two decades.

Source: [NewsMedia](#); [reliefweb](#)

Visceral Leishmaniasis - India

On 10-Nov-2024, a **rare and sporadic case** of visceral leishmaniasis (also known as Kala-Azar) was reported in Lucknow, Uttar Pradesh's capital, specifically in the Triveni Nagar area. This case is notable for being **the first isolated instance of this disease in the city**. The affected individual is a 17-year-old male, who presented with persistent low-grade fever and chronic fatigue over a month-long period. Importantly, the patient had no travel history to regions commonly associated with the disease, such as parts of eastern Uttar Pradesh and neighbouring states like Bihar and West Bengal.

Source: [ProMed](#)

Pertussis – French Polynesia

The Ministry of Health in French Polynesia has reported an ongoing pertussis (whooping cough) outbreak affecting multiple islands since mid-June 2024. French Polynesia is experiencing an increasing trend in cases, while cases are spreading to new locations.

Across French Polynesia, there have been at least 146 confirmed cases since mid-June. Cases are highly concentrated in Tahiti (the largest island in French Polynesia), which had 38 active cases as of 15-Oct-2024. On 29-Oct-2024, at least 33 new confirmed cases of whooping cough were identified in both Tahiti and Moorea. Current disease activity may be the highest since the start of active circulation of pertussis in French Polynesia in 2024. With a test positivity rate of around 12% has put Tahiti and Moorea into the epidemic phase as reported in the latest Health Bulletin. Recently, 15 new cases were documented, including two on the island of Rangiroa, suggesting disease circulation beyond Tahiti Other islands are also affected, however, less screened: Raromatai, and the Gambier Islands.

The affected population spans various age groups, of which 17% are infants under one year. Severe cases have resulted in hospitalizations: 10 children have required inpatient care, with eight being infants under eight months of age, underscoring the increased vulnerability among young children. One adult case required hospitalization at a maternity ward.

Local health authorities have launched a targeted vaccination campaign prioritizing pregnant women, recent mothers, healthcare workers, and professionals in contact with young children. The aim is to curb the spread among high-risk groups and reduce overall incidence.

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

Other Infectious Disease Outbreaks - Americas



Oropouche - Panama

On 16-Nov-2024, the Ministry of Health, through the National Department of Epidemiology, together with the Gorgas Memorial Institute, reported a case of Oropouche fever in a 31-year-old male.

There is very limited information about the affected individual, the specific location, if there was any history of recent travel to countries with confirmed Oropouche virus (OROV) transmission, and/or laboratory capacity and surveillance strategy given multiple OROV alerts recently in the PAHO region. However, the affected individual is reported to have since recovered.

Source: [NewsMedia](#)

Yellow Fever - Colombia

Colombia has been experiencing upward trends in yellow fever cases since the beginning of 2024. On 07-Nov-2024, the Ministry of Health and Social Protection reported the emergence of 11 cases of yellow fever in Tolima, located in the Andean region, in the center-west of Colombia.

Since January 2024, there have been 26 yellow fever cases and nine deaths. Affected districts include Caquetá (2), Huila (1), Nariño (1), Putumayo (4) and Vaupés (1). The most recent outbreak, in Tolima district, is now the largest reported across the country with 11 total probable cases, of which eight have been laboratory-confirmed. Furthermore, this outbreak has resulted in three fatalities and five individuals in critical condition, prompting the swift implementation of an epidemiological cordon encompassing 11 municipalities, notably Cunday, Prado, Purificación, and Villarrica, all in Tolima district,

The current transmission pattern is identified as part of the sylvan (forest) yellow fever virus cycle, involving non-human primates and forest mosquitoes, with the risk of spreading to human urban populations.

Despite Tolima's 93% vaccination coverage exceeding WHO recommendations, authorities stress vigilance in isolated rural areas where coverage may be incomplete.

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

Mayaro Virus Disease - Suriname

In February 2024, a travel-associated cluster of Mayaro virus (MAYV) infections was identified among four members of a film crew who recently returned from Suriname. Across the film crew of 40 people, there were four MAYV-laboratory confirmed infections. All had many mosquito bites despite the use of repellents. In all four, initial symptoms appeared around seven days after exposure. Out of the four individuals, it is known that two were from Germany. Initial symptoms, including a febrile episode followed by severe, persistent joint pain in the hands, ankles, and feet, a clinical course common for MAYV.

Brazil has recently reported a rise in MAYV cases, particularly in the Amazonas and Pará regions. Para regions borders Suriname. The potential for MAYV to spread to regions with suitable vectors, such as *Aedes aegypti* and *Aedes albopictus*, raises concerns of urban transmission similar to yellow fever.

Source: [Eurosurveillance](#)

Highly Pathogenic Avian Influenza A H5N1 - United States (update)

As of 13-Nov-2024, influenza A(H5N1) has been identified in six states with 46 affected humans (25 infected cattle exposures, 20 infected poultry exposures, one unknown exposure). Two states, California and Washington, have reported new human case confirmations since 30-Oct-2024.

California confirmed **five additional** influenza A(H5N1) cases in the last two weeks, accumulating in 21 human cases during the 2024 outbreak. These cases belong to the clade 2.3.4.4b (clade responsible for the current global H5N1 epizootic) genotype B3.13 (genotype associated with the 2024 dairy cattle outbreak across the United States), suggesting continued sporadic spillover from affected dairy cattle. Additionally, in the last 30 days, California continues to report the **highest number of detections in dairy cattle** out of all affected states in the United States.

Washington state confirmed **two additional** influenza A(H5N1) cases, and **three cases** have been reported as **probable** in the last two weeks. These cases belong to the clade 2.3.4.4b (clade responsible for the current global H5N1 epizootic) genotype D1.1 (genotype associated with birds moving south along the Pacific Flyway during fall migration) and are not a part of the 2024 dairy cattle outbreak across the United States.

Washington has **not reported** any detections in **dairy cattle**, however, as of 07-Nov-2024 the State Department of Agriculture continues to report confirmed HPAI detections in commercial and backyard flocks.

Source: [CDC](#), [WSDH](#), [WSDA](#)

Mpox Clade I – United States

On 16-Nov-2024, the California Department of Public Health reported to the CDC a single confirmed human case of mpox Clade I among a traveller. This marks the **first confirmed detection of mpox Clade I** in the United States.

The case was identified through laboratory testing in an individual who recently travelled to an unspecified location in Africa. The case is reported to be related to the ongoing outbreak of mpox Clade I in Central and Eastern Africa.

Source: [CDPH](#)

Avian Influenza – Canada

On late 09-Nov-2024, health officials in British Columbia (B.C.) reported the **first historical presumed human case of influenza H5N1** from **avian origin** in Canada. Genomic sequencing result indicates that the virus is related to the avian influenza H5N1 viruses from the ongoing outbreak in poultry in British Columbia (Influenza A (H5N1), clade 2.3.4.4b, genotype D1.1). There have been no further cases identified at this time. The investigation has not yet determined how the individual became infected with avian influenza. The individual remains hospitalized, and contact tracing and source of investigation is ongoing, according to the B.C. Government.

Since early October, 22 poultry facilities have reported infections, and numerous wild birds have tested positive for the virus. The infection has raised attention due to recent outbreaks in local poultry and a severe case where a petting farm on Vancouver Island had to cull its entire flock. Source: [GovCAN](#), [BCGovNews](#), [NewsMedia](#)

Other Infectious Disease Outbreaks – Americas/Middle East/Europe



Lassa Fever - United States

On October 28, 2024, the Iowa Department of Health and Human Services (IDHHS) reported a fatal case of Lassa fever in a patient who had recently returned from a trip to West Africa. There have been eight travel-related Lassa virus cases in the United States in the past 55 years, and the last imported case was reported in 2015.

The patient was not sick while traveling so the **risk to fellow airline passengers is extremely low**. The patient was hospitalized in isolation at the University of Iowa Health Care Medical Center where he died. Testing by the Nebraska Laboratory Response Network lab found the illness was presumptively positive for Lassa fever and confirmatory testing by the CDC was done.

Source: [CDC](#), [IOWA](#),

Vaccine-derived Poliomyelitis - Venezuela

On 05-Oct-2024, the Pan American Health Organization (PAHO) reported a case of vaccine derived poliomyelitis (VDP) in Venezuela specifically involving a strain of poliovirus derived from the Sabin P3 vaccine. This is the first confirmed case of poliomyelitis in Venezuela for at least 30 years. There are minimal epidemiological and case details, the PAHO report indicates that a child presented to a local hospital from an unspecified location with acute flaccid paralysis (AFP). The immunization status of the affected child is unknown. Later, the "Rafael Rangel" National Institute of Hygiene released laboratory confirmation of the VDPV3 to PAHO.

According to UNICEF, Venezuela's polio vaccination coverage in 2023 was just 61%, far below the 95% threshold recommended by the World Health Organization (WHO) to prevent outbreaks.

Sources: [NewsMedia](#), [ProMed](#)

Poliomyelitis – Pakistan

Pakistan has been experiencing upward wild-poliovirus (WPV) human cases trends since the beginning of 2024. According to the most recent weekly case data from the Global Polio-Eradication Initiative (GPEI), there is a 450% increase in human cases when compared to cases in 2023. There have been 34 human cases of WPV1 since the beginning of 2024. There were six WPV1 human cases in 2023, 20 in 2022, one in 2021, and 231 between 2019 (147) and 2020 (84). This highlights that there is continued spread in regions affected by the virus, including urban and rural areas. So far, Balochistan has recorded the highest number of cases this year, with 16, followed by Sindh (10), Khyber Pakhtunkhwa (4), Punjab (1), and Islamabad (1). Kashmir and Gilgit-Baltistan remain the only two polio-free regions in the country. WHO data indicates that vaccination coverage for the 3rd dose polio vaccine stood at 86% in 2023, down from 93% in 2022. In September 2024, the Pakistan Polio Eradication Programme conducted a nationwide vaccination campaign, targeting nearly 33 million children under the age of five across 115 districts.

Pakistan remains one of only two countries, along with Afghanistan, where wild polio remains endemic. Despite extensive vaccination campaigns, challenges persist in reaching children in conflict zones, remote regions, and among migrant populations.

A recent report from the Institute for Disease Modeling (IMD) warns that the total number of cases in Pakistan could reach 55 to 65 by the end of 2024 if efforts to close vaccination gaps are not intensified.

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

Pertussis – Latvia

On 09-Nov-2024, the Centers for Disease Prevention and Control (SPKC) reported a significant surge in pertussis cases in Latvia, with 2,517 total cases registered so far this year, a steep rise from the total 112 cases recorded throughout 2023. This increase in incidence is attributed to cyclical outbreaks that occur every few years, compounded by a rising trend of vaccine hesitancy. For context, in 2023, 16% of 7-year-olds and 20% of 14-year-olds in Latvia had not been vaccinated against whooping cough, raising concerns among healthcare professionals. Other countries within the European region have reported similar trends.

Source: [NewsMedia](#)

Mpox Clade I – United Kingdom

On 04-Nov-2024, the UK Health Security Agency (UKHSA) confirmed **two additional cases** of mpox Clade Ib in the United Kingdom (UK) among household contacts of the confirmed index case (imported from an African country). The UKHSA has indicated that there are now three total cases of mpox Clade Ib in the UK. The additional two cases are limited to close-contact household transmission linked to the index case.

The UKHSA maintains that the **risk to the general UK population remains low** at this time.

Source: [UKHSA](#)

Mpox Clade I – Germany

On 22-Oct-2024, the Robert Koch Institute (RKI) in Germany announced a confirmed case of mpox Clade I in the country. This marks the **second confirmed detection of Clade I in Europe**. RKI specified that the mpox Clade I case was detected in Germany on 18-Oct-2024 and that it was acquired abroad.

RKI and the ECDC have stated that the **risk to the general public** is still considered to be **low**. But the ECDC advises enhanced preparedness, continued vigilance and rapid implementation of control measures upon case detection. Germany has reported 136 cases of mpox Clade II (the variant responsible for the 2022 mpox PHEIC) in 2024 up until epidemiological week 41 (12-Oct-2024). Clade I is associated with a higher risk of severe illness and death and is thought to be more contagious.

Source: [RKI](#), [Reuters](#), [RKI](#), [ECDC](#)

Vaccine-derived Poliomyelitis - Poland

On 18-November 2024, Poland's Chief Sanitary Inspectorate reported the **first environmental sample** of circulating vaccine-derived poliovirus type 2 (cVDPV2) in sewage from Warsaw, the largest city in Poland.

No confirmed human cases of cVDPV2 have been reported as of this update. The samples were obtained as part of routine environmental surveillance, which aims to monitor poliovirus transmission in the population.

The state has stocked up on poliovirus vaccine and a campaign has started to inform the public and provide polio vaccines to unvaccinated children.

In Poland, the last two reported cases of infection due to wild poliomyelitis virus were in 1982 and 1984. The current vaccination rate of children aged 3 in Poland in 2023 was 86%.

Vaccine-derived polio occurs when the weakened virus in the oral polio vaccine mutates and regains the ability to cause paralysis, typically in areas with low vaccination coverage. Transmission is closely linked to factors such as poor sanitation, lack of access to clean water, and inadequate hand hygiene

Source: [HealthMinistryPOL](#)

Other Infectious Disease Outbreaks - Africa



Mpox – Angola

On 16-Nov-2024, the Ministry of Health (MINSa) confirmed the **first case of mpox** in Angola. The affected individual is a woman of Congolese nationality. Currently, the individual is in isolation at the specialized Center for the Treatment of Endemic and Pandemic Diseases (CETEP). No further details regarding the individual's demographics, exposures, or whether they had recently travelled have been provided. Officials are working towards disinfecting contaminated areas, identifying and tracing contacts, and are conducting an in-depth epidemiological investigation.

Source: [MinistryofHealth](#)

Marburg Virus disease - Rwanda

On 9 November 2024, the recommended 42-day countdown to declare the end of the Marburg virus disease (MVD) outbreak in Rwanda commenced, the day after the last confirmed patient tested negative for MVD by polymerase chain reaction (PCR). As of 8 November 2024, 66 confirmed cases, including 15 deaths with a case fatality ratio (CFR) of 23% have been reported and 51 confirmed cases have recovered. The country has reported no new confirmed cases since 30 October 2024. The outbreak will only be declared over if no new infections arise during the 42-day countdown.

The 42-day countdown period is twice the maximum incubation period for Marburg virus infections, since the last potential exposure to the last reported case. The country has reported no new confirmed cases since 30 October 2024 and no new deaths since 14 October. All listed contacts will continue to be followed up until the end of their 21-day observation period. The outbreak will only be declared over if no new infections arise during the 42-day countdown.

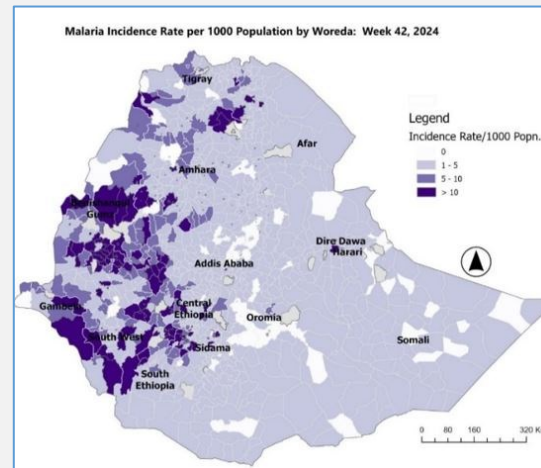
Source: [WHO](#)

Malaria - Ethiopia

Between 1 January and 20 October 2024, over 7.3 million malaria cases and 1157 deaths (CFR 0.02%) were reported in Ethiopia, the highest number of annual cases recorded in the last seven years. Of the total cases reported in 2024, majority (95%) were laboratory-confirmed, with *Plasmodium falciparum* accounting for more than two-thirds of the cases. Four regions accounted for 81% of the reported cases and 89% of health facility malaria deaths in 2024: Oromia (44% cases; 667 deaths), Amhara (18% cases; 56 deaths), Southwest (12% cases; 250 deaths) and South Ethiopia Regional State (7% cases; 45 deaths). Due to favourable geo-ecological conditions, the Western part of the country is experiencing a high malaria burden and is highly affected by the current unprecedented surge.

Malaria poses a significant public health challenge in Ethiopia, where approximately 75% of the land mass is considered to be endemic to malaria.

Source: [WHO](#)



Mpox Clade I - Democratic Republic of the Congo

On 22-Oct-2024, preliminary genomic data analysis (yet to be peer-reviewed) highlighted that the Clade Ia strain for mpox is likely spreading from person-to-person, adding complexity to controlling the mpox outbreak in Central Africa. The Democratic Republic of the Congo (DRC), especially the capital city of Kinshasa, has seen a significant surge in infections linked to this strain, raising concerns among health officials and researchers.

The DRC has reported more than 38,000 suspected cases, and 1,000 deaths since the start of 2024 – accounting for 90% of the cases reported from the African region so far this year.

The outbreak involves sustained human-to-human transmission potentially including sexual contact, with the Clade Ia strain primarily affecting Kinshasa. Genomic sequencing detected **specific mutations** in samples from Kinshasa, suggesting a pattern of **adaptation linked to human-to-human transmission**. Clade Ia transmission marks a notable shift, as mpox in Central Africa has traditionally been associated with animal-to-human spread. Similar to Clade IIb, which caused a global mpox outbreak in 2022, **Clade Ia** appears to be **spreading in more densely populated urban regions**, posing a heightened risk to the 17 million residents of Kinshasa.

So far, more than 50,000 people have been vaccinated against mpox in the DRC and Rwanda according to the WHO. The vaccine campaign in Kinshasa was expected to begin on 05-Nov-2024 but must have been delayed because of shortage of doses. The EU was shipping 122,300 doses on 14 November.

Source: [Reuters](#), [EC](#), [Reliefweb](#), [CNBCAfrica](#), [WHO](#), [nature](#)

Cholera - Malawi

The cholera outbreak in Malawi has primarily affected the northern region, posing a significant public health concern with persistent local transmission and a potential intensification of cases.

From the beginning of the outbreak on 26 August 2024, there have been 67 cumulative cases and two deaths, with one death happening in Lilongwe and one death reported in Chitipa, showing a case fatality rate of 3.0%. Of the total cases, 96.0% were reported in the two northern districts Malawi, with 46 cases (69.0%) concentrated in Chitipa and 18 cases (27.0%) in Karonga. Chitipa remains the epicentre of the outbreak, with Karonga also reporting ongoing transmission. Despite no new cases were reported from new districts in recent weeks, the cholera outbreak is facing key challenges like limited laboratory supplies, delayed sample transport, and inadequate WASH facilities that impede efficient response. The situation demands focused monitoring and rapid interventions to strengthen surveillance, laboratory, and community-level interventions to control the spread, manage active cases, and enhance outbreak preparedness, especially as the future cholera season approaches.

Source: [WHOAFRICA](#)

Floods – South Sudan

As of late October 2024, extensive flooding in South Sudan had impacted more than 735 000 people across 38 of its 78 counties. In Northern Bahr el Ghazal State, rapid assessments identified 154 960 people severely affected, significantly damaging 29 health facilities, 103 water points, and 127 schools. Upper Nile State saw increased displacement in Panyikang and Nasir counties, where thousands urgently needed WASH, food, and shelter assistance. These floods have destroyed homes and submerged agricultural land, resulting in severe food insecurity and heightened health risks, including outbreaks of malaria and diarrheal diseases, disproportionately impacting women, children and all vulnerable demographics within the impact radius.

Source: [WHOAfrica](#)

Other Infectious Disease Outbreaks – Africa/Southeast Asia



Cholera - South Sudan

South Sudan Ministry of Health has officially declared a cholera outbreak in Renk County, Upper Nile State. The outbreak is exacerbated by ongoing population movements— including refugees and returnees from Sudan and flooding in affected area.

Source: [WHOAfrica](#)

Anthrax - South Sudan

The ongoing anthrax outbreak in South Sudan saw three new human cases with no deaths during epidemiological week 42 (ending October 20, 2024) in Warrap and Western Bahr el Ghazal, South Sudan. Cumulatively, since the beginning of 2024, 162 human anthrax cases have been reported from two states: Western Bar El Ghazal (87 cases) and Warrap (75 cases). Among these 162 cases, three have resulted in deaths, with a case fatality rate (CFR) of 1.9%. The majority of cases, 63 (38.9%), are reported from Kuach North Payam in Warrap State, where multiple cattle camps have minimal WASH and infection prevention and control services.

Since 2024, a total of 36 861 animals have contracted the disease, of which 36 694 have died, representing a case fatality rate of 99.6% in animals. A total of 1 741 animals have been vaccinated across three Boma (Majok-Yienhliet, Malual-lukluk and Waar-Alel/Kuajok).

Source: [WHOAfrica](#)

Food Poisoning - Angola

The incident occurred earlier this week, when dozens of residents of Camena village sought care at Doctor Walter Strang Hospital. The suspicion is that the contamination occurred through the consumption of corn (protected with pesticide) used in the preparation of food for a funeral event. A total of 111 people, between 2 and 80 years, sought medical attention. Of these, 48 were discharged, 36 were transferred to other health units and the others are still under observation. There were no fatalities.

Source: [WHOAfrica](#)

Floods - Mali

Mali is dealing with a complex situation worsened by widespread flooding nationwide. The floods have affected cities and rural areas, with some of the hardest-hit regions being Ségou, Gao, Mopti, and Bamako. The floods have complicated access to basic needs like shelter, clean water, healthcare, and sanitation. As of 11 October 2024, nearly 69 000 households had been affected by the floods, with 88 958 people displaced across the country, 338 people have lost their lives, and 77 health facilities have been impacted, with 33 no longer functioning. Damaged roads and ongoing security issues are making it difficult to reach affected areas. Displacement sites are overcrowded, and sanitation is worsening, raising fears about potential outbreaks of diseases like cholera. Disease surveillance has been strengthened in all the affected areas to monitor and prevent disease outbreaks

Source: [WHOAfrica](#)

Dengue - Senegal

As of week 41, of 2024, Senegal reported a cumulative total of 81 confirmed dengue cases, with 14 new cases occurring in the previous week. Dengue cases have been identified in 18 districts across nine regions in Senegal, with Pikine district in Dakar region having the most cases (16), 20% of all cases. Other regions reporting a high number of cases include Thies 16 (20.0%), Louga 7 (9.0%), Fatick 6 (7.0%), Kaffrine 6 (7.0%), and Saint-Louis 4 (5.0%).

The recent spikes in cases in week 40 highlight the risk of escalation, especially during this time when Senegal and the Sahel region are experiencing a rainy season whose weather conditions favour mosquito breeding.

Source: [WHOAfrica](#)

Measles - Ethiopia

Between Week 1 and Week 42 of 2024, Ethiopia reported 29 391 suspected measles cases, including 27 423 (93.3%) confirmed cases and 210 deaths, resulting in a case fatality rate (CFR) of 0.7%. Of the confirmed cases, laboratory tests confirmed 1 492, 25 903 were epidemiologically linked, and 28 were clinically compatible.

As of Week 42, 2024, the national incidence rate is 248 cases per 1 million people, an increase from 100 cases per 1 million in 2023. Gambella has the highest incidence rate, with 1 027 cases per 1 million people, followed by Sidama with 581 cases per 1 million. The ongoing measles outbreak in Ethiopia highlights significant gaps in immunization coverage, especially among unvaccinated children under five. The continued transmission in some areas and delays in vaccination campaigns due to security challenges underscore the critical need for strengthened surveillance and vaccination efforts.

Source: [WHOAfrica](#)

