المركز الخليجي للوقاية من الأمراض ومكافحتها
Gulf Center for Disease Prevention and Control

مجلس الصحة
لدول مجلس التعاون
Gulf Health Council

Monthly Epidemic Intelligence Report

Issue 14

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Definitions

The below is a list of commonly referred to terms and keywords in the monthly reports.

Gulf Public Health Emergency Network (PHEN)

A group of technical individuals within GCC health authorities, nominated to represent each GCC country. The composition typically includes International Health Regulations Focal Point, Ministry of Health Communicable Disease Directors and National Public Health Laboratory Directors or appointed representatives on their behalf. The Gulf CDC serves as the Network's secretariat with the PHE Department Director chairing the network meetings.

Hazard

A source/incident that has the potential to cause morbidity (including injury) or mortality in an exposed human population.

Signal

An incident/situation involving a hazard that has occurred. Signals are typically news/updates identified through Event-Based Surveillance and Indicator-Based Surveillance, utilizing both official and non-official sources. Signals can be of a disease origin or a CRNE (Chemical, Radiological, Nuclear, or Environmental) origin.

Potential Threat

Any threat that has been confirmed by the PHEN to have the potential to pose a near-future risk to the GCC countries' populations and could be monitored closely by Gulf CDC for 2 weeks.

Event of Regional Interest

Any threat, inside or outside the GCC, that has been identified by the Public Health Emergency Network to pose a certain type of risk for the GCC countries' public health. For these threats, Gulf CDC produces regular risk assessments and recommendations for their control, as well as enhances daily monitoring of it to provide regular situational updates to the GCC countries.

Rapid Risk Assessment

A prompt evaluation of the level of health risk in relation to a verified acute event within a short time frame, mainly for situation update, risk level determination and recommendation to support the GCC countries in risk communication and management.

GULF CDC Risk Scale					
Negligible	**Very Low**	**Low**	**Moderate**	**High**	**Critical**

Country names in this report are as per the UN list

Summary of the Month

This monthly report provides an overview of the signals, potential threats, and specifically Events of Regional Interest detected and identified through the Gulf CDC Epidemic Intelligence system during the month of **February 2025** (January 24 – February 23, 2025).*

74	1	3	2
Disease Signals	**CRNE Signals**	**Potential Threats**	**Events of Regional Interest**

Executive Summary

Disease Signals This month, the epidemic intelligence team at Gulf CDC detected 74 infectious disease signals. Of these, 23% were of various influenza A varietals, 15% were of dengue and 10% were of mpox. 3% of signals were detected in the GCC countries (influenza in Saudi Arabia and mpox in the UAE).

CRNE Signals 1 CRNE signal with potential public health consequences was identified: an earthquake which struck the Arabian Sea off the coast of Oman.

Potential Threats the Gulf CDC monitored 3 potential threats in February: Marburg in Tanzania, Ebola in Uganda, and Guillain-Barre in India.

Events of Regional Interest the Gulf CDC continued monitoring 2 events of regional interest in the month of February: Highly Pathogenic Avian Influenza H5N1 globally and mpox globally.

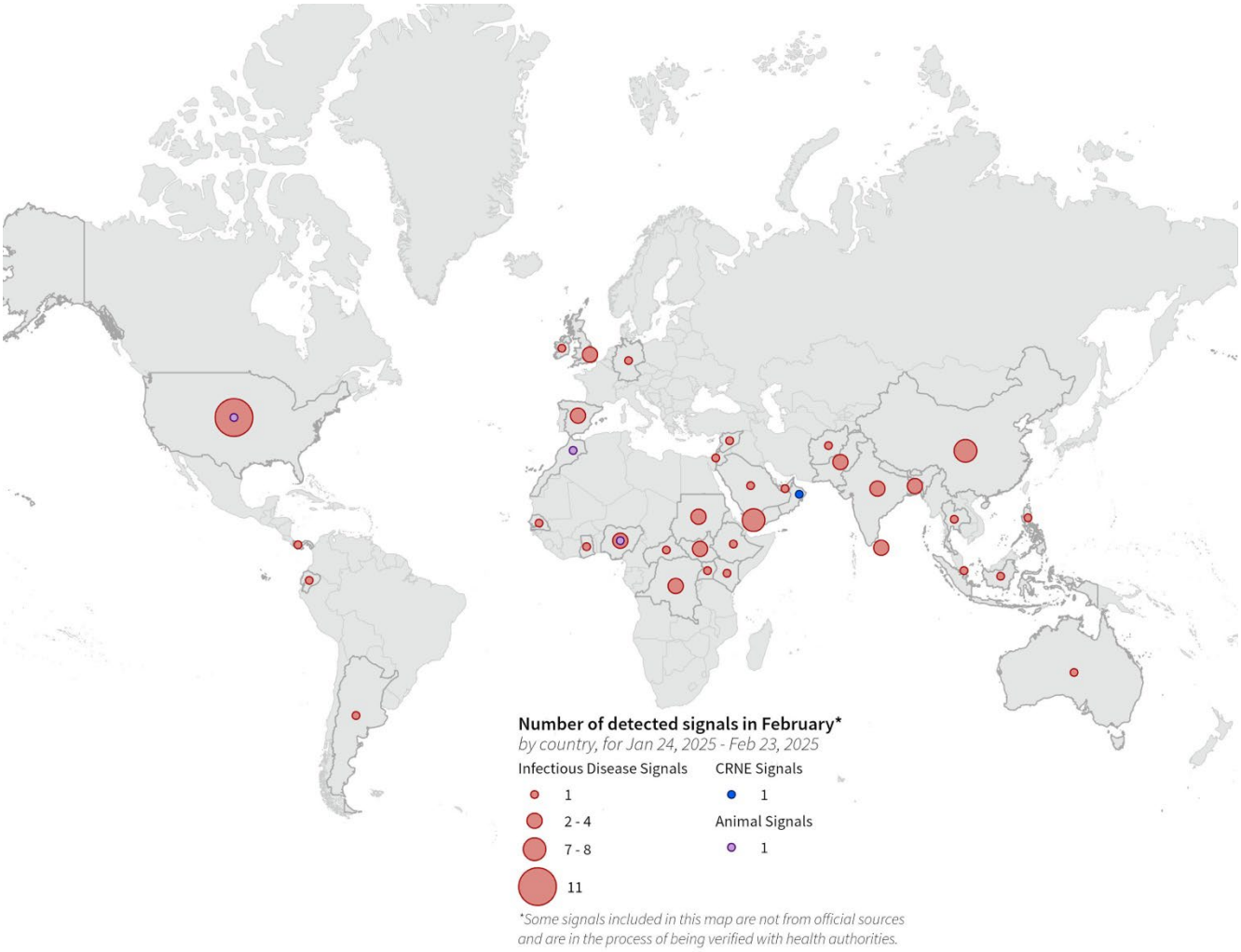
* Monthly reports cover data from the 24th of the previous month to the 23rd of the reported month, ensuring there is no gap in reported data.

The details of the detected signals and identified threats are shared weekly with the GCC Member States' technical representatives in the Gulf Public Health Emergency Network (PHEN) (available on this link) and are presented and discussed in weekly roundtable discussions. These are often verified through secondary research or communication with regional and international partners. In consultation with the PHEN members, a potential threat is escalated to an Event of Regional Interest based on its anticipated potential for causing a public health emergency in the GCC region.

Signals

The Gulf CDC monitors the globe for daily, weekly, and monthly disease signals. Based on Gulf CDC analysis, certain signals may be designated as threats and/or events of regional concern, depending on their risk level, impact, and likelihood. As outbreaks evolve, new diseases may be added to this list. Some diseases may also be removed if the risk they pose reduces below our threshold.

Potential threats are identified based on several considerations such as high connectivity between reporting country and the GCC countries, level of transmissibility of pathogens, vulnerability degree of GCC populations to the identified hazard, capacity levels of GCC health systems to respond to the identified hazard.



ore proportionally shows the size of the countries

- Number of detected signals and potential threats by the Gulf CDC from January 24 to February 23, 2025

Highlights of Signals Identified in February 2025

- **Poliovirus signals:**
  - Afghanistan (Global Polio Eradication Initiative, 2025): One wildtype poliovirus- 1 (WPV1) case was reported, with onset of paralysis on 27 January 2025 from Badghis. It is the first case from the country in 2025. In 2024, the number of WPV1 cases was 25.
    - Nine WPV1 positive environmental samples were reported in Hilmand, Kandahar, and Laghman.
    - A polio vaccination campaign (Khaama, 2025) was scheduled to start in different parts of the country, however the number of children that will receive the vaccine and the specific areas targeted were not specified.
  - Pakistan (Global Polio Eradication Initiative, 2025): Two WPV1 cases were reported in Sindh, with onsets of paralysis on 15 December 2025 and 30 January 2024. In 2024, the total number of cases was 74, compared to 2 in 2025 so far.
    - The first reported case was in D.I Khan district. (Associated Press of Pakistan, 2025)
    - Nine WPV1 positive environmental samples were reported this week from January, collected from Balochistan and Khyber Pakhtunkhwa.
  - The Global Polio Eradication Initiative (GPEI) announced on 24 February that the Kingdom of Saudi Arabia (Global Polio Eradication Initiative, 2025) has confirmed its commitment of US$500 million to help end wild polio in Pakistan and Afghanistan and stop outbreaks of variant polio around the world. Critical funds will be disbursed immediately.
  - Algeria (Global Polio Eradication Initiative, 2025): One cVDPV2 case was reported with onset of paralysis on 10 December 2024, marking the first case report in 2024.
    - One cVDPV2- positive environmental sample was reported.
  - Additionally, on 7 February 2025, the ministry of health Singapore (Ministry of Health of Singapore, 2025) confirmed one imported case of vaccine-associated paralytic polio. The patient is a 5-month-old female who arrived in Singapore on 26 January 2025.
    - The case is immunocompromised and was previously vaccinated with one dose of oral polio vaccine, and one dose of inactivated polio vaccine. Currently, there is low risk of community transmission.
- **Measles signals:**
  - Morocco (Journal Aswat, 2025) is facing a measles epidemic, with 120 deaths and over 25,000 cases since the beginning of September 2024.
    - Low vaccination rates in children are reported. In response to the rise in cases, a vaccination campaign has been launched in October.
  - Texas, United States (Texas Health and Human Services, 2025) has reported an outbreak of measles in the South Plains region. 90 cases have been identified since late January, of which, 16 patients have been hospitalized.
    - 5 cases were vaccinated, the rest were unvaccinated. Most unvaccinated cases were in children 0-17 years.
- **Diphtheria:** Since the beginning of 2025, 23 cases of diphtheria (Almasdar Online, 2025) have been reported in Abyan, Yemen.
  - The refusal of parents to vaccinate children is cited to be the biggest obstacle to combat the disease.

- Malaria: Ethiopia (Outbreak News Today, 2025) has reported an ongoing Malaria outbreak, with more than 10 million cases reported in 2024, and 774,097 and 31 deaths in the first month of 2025.
- A moderate magnitude 4.3 earthquake (AllQuakes, 2025) was reported in the Arabian Sea, about 106 km from Oman on 11 February 2025.
    - Its depth was reported to be 10km, with light shaking near the epicenter.

Potential Threats

Marburg

Tanzania

This threat is being monitored closely by Gulf CDC.

Situational Highlights

- **Epidemiological information:** On 14 January 2025, the World Health Organization (WHO) released a risk assessment to inform of a suspected Marburg Virus Disease (MVD) (World Health Organization, 2025) outbreak in the Kagera region of the United Republic of Tanzania. On 20 January, the government of Tanzania and the WHO confirmed (World Health Organization | African Region, 2025) the MVD outbreak.
    - As of 28 January, the case fatality ratio (CFR) has been 100% with 10 deaths (Africa Centres for Disease Control and Prevention, 2025) among the 10 cases reported. No new cases have been reported since.
        - Among them were 2 laboratory-confirmed cases and 8 probable cases, all cases were epidemiologically linked to the index case.
    - A retrospective investigation linked the index case to a cluster of 8 deaths between December 2024 and January 2025 in the Biharamulo and Muleba districts, in Kagera region.
- **Public Health Response** (IFRC, 2025): National rapid response teams along with the WHO are supporting outbreak investigation and management. Tanzania has scaled up testing, treatment centers and outbreak detection measures.
    - As of 10 February, all 281 identified contacts (World Health Organization, 2025) had completed the 21-day follow-up.
    - 79 suspected cases have been sample tested and all have been negative.
    - The Tanzanian government has establishmedmedical camps in the affected Biharamulo district, deployed specialist doctors, and the provided essential testing equipment and medications.
    - Approximately 191 trained community health workers have been mobilized for door-to-door outreach, educating the public on the disease's symptoms and preventive measures.
    - A total of 10,893 households have been visited to enhance public awareness and remove misconceptions.
    - Designated areas have been set up for individuals who have come into contact with infected patients, and public health education continues to emphasize adherence to health regulations.
    - The government is also urging early reporting of unusual symptoms to healthcare facilities and reinforcing the need for health workers to utilize protective clothing to mitigate risks.

- WHO shipped (World Health Organization, 2025) over 2.5 tons of emergency medical supplies from its Nairobi Emergency Response Hub to Bukoba, Kagera.
- The East African Community (EAC) (IPP Media , 2025) deployed a mobile laboratory to enhance diagnostic capacity, providing two testing kits (capable of 96 tests each).
    - EAC partner (Germany's GIZ and KfW, and the Bernhard-Nocht-Institute for Tropical Medicine) are supporting laboratory diagnostics, training, and regional preparedness efforts.
- **Historical outbreaks:** The Kagera region, in Tanzania, experienced the first historical MVD outbreak in 2023 with nine cases, including six fatalities, CFR 66.7%.
- Tanzania's experience in 2023 has contributed to a stronger response infrastructure.

Ebola

Uganda

This threat is being monitored closely by Gulf CDC.

Situational Highlights

- **Epidemiological information:** On 30 January, Uganda's Ministry of Health (World Health Organization, 2025) confirmed an outbreak of Sudan Ebola Virus Disease (SUDV) in the city of Kampala, Uganda.
- As of 20 February, there have been 9 laboratory-confirmed cases (World Health Organization, 2025), including 1 death.
    - The index case was a nurse employed at Mulago National Referral Hospital who developed fever-like symptoms and sought treatment at multiple health facilities across different regions (including Kampala City, Matugga, Wakiso District, and Mbale City), including a traditional healer.
    - Official information indicates that he presented with a five-day history of high fever, chest pain, and difficulty in breathing, which later progressed to unexplained bleeding from multiple body sites.
    - The patient succumbed to multi-organ failure on 29 January at Mulago National Referral Hospital. Post-mortem testing confirmed Ebola Virus Disease, Sudan strain.
    - All eight cases at treatment centres have tested negative on two tests completed 72-hours apart and have been discharged as of 18 February.
    - Outbreak response measures will be in place for 42 days (2 incubation periods since last possible exposure) before the outbreak can be declared over.
- **Public Health Response**: (World Health Organization, 2025) The Uganda Ministry of Health initiated immediate containment measures, including:
    - A national Incident Management Team was activated, and Rapid Response Teams (RRTs) have been deployed to: Mbale City, and Saidina Abubakar Islamic Hospital in Matugga.
    - Contact Tracing: as of 20 February, there have been a total of 299 contacts listed from affected districts since the start of the outbreaks. 58 of these are still under follow-up in desginated quarantine facilities.
    - Vaccination Campaign: Immediate vaccination of all identified contacts began on 3 February, targeting high-risk individuals.
        - Two vaccines against Ebola disease due to Zaire ebolavirus have been granted market authorizations, however only one has been authorized for emergency use during outbreaks.
- **Border measures:** Uganda has strengthened airport and border screening measures, particularly in Kampala and Mbale, where the index case had travelled.
- The WHO issued a travel advisory, and the CDC released a health alert for clinicians.
    - A suspected case was reported in Manhattan, New York (New York Post, 2025), as patients presented at an urgent care facility with symptoms and were suspected to have

been exposed to someone recently returning from Uganda. Testing returned negative, and officials confirmed there was no Ebola exposure.

- **Vaccine Trial:** The first-ever clinical efficacy trial (World Health Organization, 2025) for the SUDV vaccine was launched by Uganda, the WHO and partners on 3 February 2025, just three days after the outbreak declaration.
  - The IAVI-rVSV candidate vaccine is being tested in a ring vaccination trial targeting contacts and contacts of contacts.
  - 2,160 doses of the vaccine were pre-positioned in Uganda as part of outbreak preparedness.
  - The trial is led by Makerere University and Uganda Virus Research Institute (UVRI), supported by WHO, CEPI, Canada's IDRC, EU HERA, and Africa CDC.
- **Virus Source and Genome Sequencing Analysis:** Uganda released genome sequencing (CIDRAP, 2025) information for the current SUDV in record time, just three days after the confirmation of the case.
  - Genome sequencing for 2025-SUDV outbreak suggests there is no current link to Uganda's 2022-SUDV outbreak.
  - Phylogenetic analysis indicates similarity to the 2012 Luwero lineage, suggesting a new spillover event from an animal reservoir, rather than ongoing human transmission from prior outbreaks.
  - The source of infection remains unknown, increasing concerns about possible undiscovered cases.

Acute inflammatory demyelinating polyneuropathy (Guillain-Barré Syndrome)

India

This threat is being monitored closely by Gulf CDC.

Situational Highlights

- **Epidemiological information:** On 27 January, health officials in India's Maharashtra state reported an outbreak of Guillain-Barré Syndrome (GBS), a rare neurological disorder which often follows infections, like campylobacter jejuni, Epstein-Barr Virus (EBV), cytomegalovirus (CMV), Zika, Influenza, Varicella zoster virus (VZV), SARS-CoV and others. The outbreak was first identified in and around Pune city. Since then, new cases and deaths have been reported across different states in India.
- As of 19 February, the state of Maharastra (India TV News, 2025) had reported 211 cases (183 confirmed, 28 suspected) and 11 deaths.
    - Other states in India are also reporting GBS cases, though not at the same level as Maharastra.
- Most cases have occurred in Pune (Times of India, 2025), where contaminated water sources are suspected to be a contributing factor.
    - Pune recorded its highest-ever caseload of vector-borne diseases in 2024; with 382 cases of dengue, 485 cases of chikungunya, and 109 cases of Zika virus. It is unclear if individuals with GBS have been linked to any of these infections.
- **Source of the Infection:** 160 water samples across Pune were sent for chemical and biological analysis at the Public Health Laboratory.
- Preliminary results (The New Indian Express, 2025) have indicated eight different sources found contaminated with *E.coli* raising concerns over a potential environmental link.
    - Officials confirmed that recent testing of raw chicken samples (Hindustan Times, 2025) in Pune revealed no contamination by *Campylobacter jejuni*. Concerns had previously been raised about potential links between poultry consumption and the neurological disorder.
- **Public Health Response:** health officials have launched response measures (Reuters, 2025) including launching a rapid response team to affected areas to assess the outbreak, health promotion activities, house-to-house surveillance activities (in Pune), and issuing preventive guidance (including boiling water to reduce contaminant exposure).
    - Additionally, medical experts are calling for a new approach to recognizing GBS as an outbreak-prone disease.

- **Disease Information:** GBS is a disorder where the immune system attacks the peripheral nerves, leading to weakness, pain, and in severe cases, paralysis or death.
    - Transmission: GBS itself is not contagious; however, its triggers—viral or bacterial infections—can spread through person-to-person contact or environmental exposure.
    - Symptoms include numbness, muscle weakness, and pain, typically emerging days or weeks after an infection.
    - Most patients recover fully within weeks, but severe cases can lead to long-term weakness or complications.

Events of Regional Interest

Highly Pathogenic Avian Influenza H5N1

Globally

Negligible	Very Low	Low	Moderate	High	Critical

Gulf CDC Risk Assessment of this Event – 6 August 2024

- **Risk Question:** What is the likelihood of HPAI H5N1 human-to-human transmission occurring in the GCC countries and what is the impact of that transmission?
- **Impact:** Moderate. Despite the global unavailability of specific antiviral drugs for HPAI H5N1, case management capacities of the GCC countries for influenza infections are generally high.
- **Likelihood:** Unlikely. The likelihood of HPAI H5N1 importation to the GCC countries from the United States is unlikely given the low number of cases. Further, there is no evidence of human-to-human transmission at this time.

Please refer to the Gulf CDC Rapid Risk Assessment: Highly Pathogenic Avian Influenza H5N1 from 6 August 2024 further details.

Why is this Notable?

The Gulf CDC EI team escalated the Avian Influenza H5N1 outbreaks in the United States to an event of regional interest on 3 August 2024. The Gulf CDC has detected new signals of Highly Pathogenic Avian Influenza H5N1 (HPAI H5N1) infections caused by contact with infected cattle in multiple states within the United States of America.

Key Stats

5 confirmed cases

of HPAI H5N1 in humans globally in 2025

Key Factors of Concern for Avian Influenza H5N1	
Disease severity	Avian Influenza H5N1 with a severe pathogen severity level. The mortality rate for this infection can be as high as 60%. Infection is mainly through contact with infected poultry, however there are growing concerns that this virus could mutate and cause more efficient person-to-person transmission.
Trends from previous outbreaks	In 2023, there were 12 reported human infection cases of H5N1 across 4 countries (Cambodia, China, Chile, United Kingdom). In years prior, there have been small numbers of sporadic reported human infection cases of H5N1 across several countries. In 2024, the HPAI H5N1 outbreak in cattle in the United States caused human infection cases of H5N1 to significantly increase. Additionally, multiple countries reported human infection cases.
Healthcare capacity	All GCC countries have set up infectious disease programs or services for zoonosis, but lack strategic plans or programs needed to control and prevent the spread of avian influenza. For example, there are limited systems in place developed for ensuring regular collaboration and coordination between the Health and Agricultural sectors. This detection delay may lead to the infected individual seeking healthcare at a later stage of the infection, risking further complications and severe symptoms. While recent clades of the H5N1 virus have not been detected in Gulf countries, the connectivity to other countries through agricultural trade and bird migration increases the likelihood of importation of the virus, and the possibility of spillover to humans (particularly those in close contact with poultry). *Please refer to the Gulf CDC Rapid Risk Assessment on Avian Influenza H5N1 (6 August 2024) for further details.* In November 2024, the Gulf CDC and GCC Member states conducted a regional simulation exercise, using H5N1 as the scenario to simulate and test the Public Health Emergencies Response Coordination Plan and identify areas of cooperation, communication channels, and potential gaps.
Connectivity to the Gulf Region	While the United States is highly connected via air travel to the Gulf Region, the low number of cases in humans and the lack of evidence thus far regarding human-to-human transmission makes the likelihood of importation 0%.

Situational Highlights for Avian Influenza H5N1

- **Epidemiological situation in humans:** There have been 5 human cases of avian influenza in H5N1 in 2025 so far. 3 (1 confirmed, 1 probable, and one under investigation as of 17 February 2025) are from the United States, 1 case leading to death in Cambodia, and 1 in the United Kingdom. Since January 2024, there have been a total of 82 confirmed human cases to date.
    - In the United States, on 9 February 2025, a suspected case of influenza A(H5N1) is under investigation in a dairy worker in Nevada (Central Nevada Health District, 2025) . There is limited information surrounding the suspected case, except that the individual developed conjunctivitis.
    - While the associated genotype is not known, at least two affected herds in the state (Animal Plant Health Inspection Service | US Department of Agriculture, 2025) involve genotype D1.1.
    - Ohio and Wyoming (United States Centers for Disease Control and Prevention, 2025) have reported their first human cases of influenza A(H5N1) due to likely exposure to infected poultry. The case in Ohio is classified as probable, and in Wyoming, the case is under investigation.
        - In Ohio (CIDRAP, 2025) a commercial poultry worker was in close contact with infected birds before developing unspecified symptoms.
        - Ohio is currently reporting the largest number of poultry outbreaks in 2025, with over 10 million birds affected in the last 30 days.
        - In Wyoming (CIDRAP, 2025), an older adult with pre-existing comorbidities is currently hospitalized after a likely direct exposure to an infected poultry from a backyard farm. The status of poultry was not specified.
        - The two cases represent the third and fourth human cases requiring hospitalization in the US, highlighting potential severe manifestations of disease in high-risk individuals.
    - The UK Health Security Agency (UKHSA) (UK Health Security Agency, 2025) confirmed a human case of avian influenza A(H5N1) in the West Midlands, England on 27 January 2025. The affected individual had prolonged exposure to confirmed infected birds on a farm.
        - The case was identified through routine monitoring after an avian influenza outbreak.
        - A nationwide Avian Influenza Zone (APIZ) has been declared, requiring all bird keepers to follow strict hygiene protocols. All infected birds on farms are being humanely culled, with disinfection of the premising being conducted. The UK has also introduced the H5 vaccine to its stockpile (UK Health Security Agency, 2025).
        - The infected birds were identified with the D1.2 genotype, which has been the known circulating strain amongst birds in the UK.
        - Cases remain sporadic, but the event underscores the ongoing risk in agricultural settings and the potential for viral mutations that could enhance human-to-human transmission.

- **Epidemiological situation in animals:**
    - In Hoogstede, Lower Saxony, Germany (Wiadomosci, 2025) a HPAI outbreak affected 30,000 birds was confirmed at a poultry farm. The farm is located near other susceptible farms, with over 2.3 million birds in the area.
        - Additionally, the Nuremberg Zoo (La Provincia Pavese, 2025) has temporarily closed following detection of HPA A(H5N1).
    - Several states in India are reporting increased presence of Influenza A H5N1.
        - Maharashtra state (The Times of India, 2025) reported the third HPAI outbreak for 2025 within 15 days, leading to the culling of 1,000 birds.
        - Over 400,000 wild birds were found dead in several districts in Andhra Pradesh (The Times of India, 2025) with HPAI suspected among some detections.
        - Authorities in Chhindwara town, Madhya Pradesh (The Times of India, 2025) state have imposed a ban on the sale and consumption of chicken and mutton within a 1-km radius of affected houses after cats tested positive for H5N1. Family members of affected households have been quarantined, and all poultry-related shops have been ordered to close. A broader 10-km area has been placed under surveillance.
    - In the United States, several states are reporting outbreaks in animal populations:
        - In Seymour, Indiana (WHAS11, 2025), US, a poultry facility operated by the second largest egg producer in the US has reported cases of HPAI within its flocks.
        - Massachusetts (Mass Live, 2025) is experiencing the largest AI outbreak since the arrival of clade 2.3.4.4b viruses to North America. Officials warn of the risk to outdoor cats.
        - HPAI has been detected at four commercial facilities in Maryland (Maryland Department of Agriculture, 2025) in 2025, raising concerns about the increased potential of human infection and the economic effects on the poultry industry. This is the state's largest poultry outbreak since 2022.
        - The West Virginia Department (WTRF.com, 2025) of Agriculture (WVDA) has announced the suspension of all poultry-related activity in response to the threat of HPAI in neighboring counties.
        - Over 140 wild bird deaths have been reported across New Jersey (NJ.com, 2025) since late December, with Avian Influenza Virus (AIV) being the suspected cause.
        - A CDC article that was briefly available described unconfirmed transmission of HPAI A (H5N1) (New York Times, 2025) between a cat and human in two independent instances.
        - New York City (NBC New York, 2025) and some surrounding suburbs have ordered the temporary closure of all live poultry markets for a week following the detection of seven bird cases of avian influenza. Although there is no immediate threat, these measures are precautions.
        - The Illinois Department of Agriculture (25 News Now, 2025) has issued a 30-day suspension on the exhibition or sale of poultry at swap meets, flea markets, and auction markets as a response to the spread of avian flu.

- **Recent findings:**
- Scientists discussed knowledge gaps involving the transmission of HPAI (Campbell, Brizuela, & Lakdawala, 2025) between cattle, farms and humans.
- Key gaps in knowledge include:
    - How a cow becomes infected by a person or contaminated equipment is currently unclear
    - the number of cows infected with H5N1 on a given positive farm is largely unknown
    - The mechanism of the spread of the H5N1 B3.13 clade from dairy to poultry is largely unknown
- In a seroprevalence study (Leonard J, 2025), researchers evaluated evidence for recent HPAI infections among 150 bovine veterinary practitioners who had been exposed to cattle in the previous three months. Evidence of a recent infection was found in three US-based practitioners, one of which was exposed to infected poultry. The study raises concerns for undetected transmission events and/or subclinical infections in both cattle and occupationally exposed humans, given that two out of three practitioners did not report known exposure to infected animals, and none reported influenza-like symptoms, including conjunctivitis.
- Researchers simulated the spread of HPAI in dairy cattle in the US (Thomas Rawson, 2025) through a stochastic metapopulation transmission model. Arizona, Wisconsin, and Florida were identified as the most likely states to identify cattle outbreaks next. The study highlighted that measures focusing on interstates cattle movement are insufficient for reducing transmission; targeted surveillance and farm-level biosecurity interventions are important. However, the study does not take into consideration the impact of possible re-infections, viral evolution, and/or risk of infection from new strains through sporadic spillover events from birds.
- The ECDC and the European Food Safety Authority (EFSA) (EFSA AHAW Panel (EFSA Panel on Animal Health and Animal Welfare), 2025) published a comprehensive report assessing the pandemic risk of AIV and associated mutations. The analysis identified 34 key mutations linked to phenotypic traits of mammalian adaptation. Key findings from part one of the analysis are summarized below.
    - Phenotypic traits include increased receptor binding specificity, increased hemagglutinin (HA) stability, increased polymerase activity, and evasion of innate immunity and/or restrictive factors.
    - H7N9 (60%), H5N6 (36%), H9N2 (34%), H3N8 (5%) were identified to possess multiple mutations with a higher number of phenotypic traits of sequences isolated between January 2000 to May 2024 (percentage represent the frequency of sequences within each subtype that met this condition). H5N1, H10N3 and H10N8 were identified with similar traits at less than 4% frequency.
    - In the last three year, H5Nx viruses of clade 2.3.4.4b have acquired the highest number of mammalian adaptive traits.
    - Only H9N2 viruses were found to have acquired all five traits. Sporadic detections of virus with at least four traits were detected in several subtypes including H5N5, H5N8, H5N1, H3N8, H7N7, H10N3, and H13N8.
    - The first death associated with clade 2.3.4.4b was reported in US at the end of 2024.
    - The majority of non-human mammal detection in 2024 were reported by the American Region including marine mammals in South America and dairy cattle in the US.

- Available seroprevalence data for H5, H7, and H9 subtypes indicated that asymptomatic and/or unreported AIV infections in the general public are uncommon. A low seroprevalence (i.e.evidence of past infections) was described in exposed individuals, namely those with occupational and recreational exposure (live bird markets, backyard farm, commercial farms).

- **Mammalian adaptive traits and relevant mutations** (EFSA AHAW Panel (EFSA Panel on Animal Health and Animal Welfare), 2025):

Phenotypic traits	Key mutations	Additional context
Receptor binding specificity	HA:156A, HA:156V, HA:186D,221D; HA:186V; HA:221D; HA:222L; HA:224S	Noted as a relatively rare occurrence
Hemagglutinin (HA) stability	**HA:222L**	
Polymerase activity	**PA:356R**; PA:552S; PA:85I; PA:97I; PB1-F2:66S; **PB2:271A**; **PB2:292V**; **PB2:526R**; PB2:588I; **PB2:588V**; **PB2:591K**; PB2:591R; **PB2:627K**; **PB2:627V**; **PB2:631L**; **PB2:701N**; PB2:702R	Noted as the most frequently acquired trait
Evasion of innate immunity and/or restrictive factors	**MP1:95K**; NP:100I; NP:100V; NP:283P; NP:313V; NP:313Y; NP:52H; **NP:52N**	Noted as another frequently acquired trait Interestingly **NP:52N** was detected in all H13NX viruses identified
Disruption of second sialic acid binding site in Neuraminidase	NA:399R; NA:432E	

- **Preparedness measures:** On 19 February, the Public Health Agency of Canada (PHAC) (Public Health Agency of Canada, 2025), in collaboration with its partners, secured an initial supply of 500,000 doses of GSK's human vaccine against avian influenza – Arepanrix™ H5N1 A/American wigeon clade 2.3.4.4b.
  - This vaccine will be used as part of Canada's contingency planning to protect individuals at increased risk of exposure to avian influenza through infected animals. While the current risk to the public remains low, individuals with higher-

level exposure to infected animals are at increased risk and should take appropriate precautions.

- **Treatment information:** A Canadian study published (CIDRAP, 2025) in Open Forum Infectious Diseases shows that adults 65 years and older had a significant reduction in mortality risk if given the antiviral oseltamivir (Tamiflu®) during influenza hospitalizations, regardless of vaccination status.
    - Risk reduction was significant only for infections from influenza A and not influenza B, which is typically less common. The authors wrote, healthcare providers should prioritize early oseltamivir administration to reduce the mortality risk and potentially redefine protocols for this high-risk group."
    - Oseltamivir recipients had a 18% lower risk of 30-day mortality (hazard ratio [HR], 0.82; 95% confidence interval [CI], 0.69 to 0.98). The overall mortality rate was 8.32 per 1,000 person-days, with 53.9% of the deaths occurring within the first week of hospitalization, the authors said. The overall mortality ratio within 30 days of hospitalization was 8% (653 deaths among 8,135 patients).

Mpox

Globally

Negligible	Very Low	Low	Moderate	High	Critical

Gulf CDC Risk Assessment of this Event – 14 August 2024

- **Risk Question:** What is the likelihood of importing a mpox clade 1b case into the GCC causing an occurrence of subsequent cases in the GCC in the next 3 months?
- **Impact:** Moderate, With the low transmission potential of the virus in the Gulf communities, and the high national capacities established for mpox prevention and control, the level of potential impact of mpox has been characterized as moderate.
- **Likelihood:** Likely, as there is a large volume of travelers to the Gulf from countries reporting mpox clade 1b cases, it is likely that unlinked cases/clusters to be detected within the next 3 months.

Why is this Notable?

The Gulf CDC EI team escalated the global mpox to an event of regional interest on 14 August 2024 due to an increase in the expected incidence of epidemic activity. Furthermore, On 14-Aug-2024, the WHO declared mpox as a public health emergency of international concern (PHEIC) for the second time.

Key Stats

2 mpox clade I total reported cases
in the GCC region

Key Factors of Concern for Mpox

Disease severity	Severe complications of mpox may include secondary bacterial infections, pneumonia, sepsis, and encephalitis; immunocompromised individuals are particularly susceptible to severe infections. Mpox is divided into two distinct clades, clade I and clade II, with clade II being further divided into the clade IIa and clade IIb subclades. Clade I is predominantly found in central Africa around the Congo basin while clade Ia is found in West Africa. Clade IIb however, was able to spread and cause outbreaks globally in 2022.

	Clade I has been shown to cause more severe disease than clade II, with case fatality rates (CFRs) of approximately 10% and 1% respectively.
Trends from previous outbreaks	Although ongoing human-to-human transmission of mpox in the DRC has been documented since the 1970s, there are still gaps in knowledge of all the dynamics involved. Initially, infections happened within minor domestic or local clusters, believed to be predominantly caused by the transmission from animals to humans, as sexual transmission of the MPXV clade I was not officially reported until April 2023. Most cases in the multi-country outbreak (non-endemic) in 2022 were clade II, lineage B.1, and its descendants, while the current outbreaks in several countries in Africa (DRC, Uganda, Kenya, Rwanda, Burundi) are primarily clade I.
Healthcare capacity	In 2024, the majority (96%) of mpox cases were reported from the DRC and Uganda. The current outbreak in the DRC (started in 2023) is due to mpox clade I with at least one new strain of clade I, proposed as clade Ib, and around 70% of cases reported in children under 15. However, within the DRC, testing in rural areas is limited and just 24% of the clinically compatible (reported as suspected) cases in the country have been tested in 2024. Of those tested, the positivity is approximately 65% at the national level. Surveillance and response capacity have been strengthened within the DRC by government initiatives with the aid of institutions such as the WHO, particularly in the most affected provinces such as South Kivu. Risk communication has also been updated and increased to inform the population about the risks and precautions to take to avoid acquiring mpox. The Interim Medical Countermeasures Network (i-MCM-Net) (World Health Organization, 2024) that the Gulf CDC participates in, established an access and allocation mechanism for the mpox response. As of 27 September, 2.7 million MBA-BN, 3 million LC16 and 50,000 ACAM2000 vaccines had been pledged y both public and private donors. Countries outside of Africa that have imported mpox clade Ib cases have thus far managed to contain cases to households and close contacts.
Connectivity to the Gulf Region	Of the African countries reporting high cases of mpox clade 1b, the GCC has the highest connectivity with Uganda (via the UAE) and Nigeria (via Saudi Arabia). Below are the passenger volumes between the 5 highest connected countries in Africa to the Gulf region from February 2024 (BlueDot Portal, 2025):

	DRC	Burundi	Uganda	Nigeria
UAE	2,479	471	14,875	3,464
Bahrain	119	4	73	141
Saudi Arabia	238	136	2,163	9,657
Oman	60	68	157	372
Qatar	44	29	1,229	2,374
Kuwait	59	7	136	165

Connections between the above-mentioned countries and the region are primarily counted based on airline data. Other routes of entry and illegal migration might contribute to the importation likelihood.

Situational Highlights for Mpox

- **New cases of mpox clade I outside Africa:** United Arab Emirates, China, the United Kingdom, Ireland and the United States reported additional cases of mpox clade I.
    - **United Arab Emirates:** According to the WHO Multi-country outbreak of mpox, external report #47 (World Health Organization, 2025), the UAE reported its first case of mpox clade Ib on 5 February. The case had a history of travel to Uganda. This marks the second confirmed mpox clade Ib case in the GCC region; the first was reported in Oman on 10 December 2024.
    - **China**: The Center for Health Protection (CHP) (The Standard Hong Kong, 2025) is investigating a confirmed mpox case involving a 37-year-old man with underlying health conditions. The patient developed symptoms on 28 January and sought medical attention on 4 February. He is currently stable and isolated at a health facility. The CHP is continuing its investigation and will report to WHO.
    - **United Kingdom:** On 31 January the UKHSA (UK Health Security Agency, 2025) confirmed an additional case of clade Ib mpox. This is the eighth case of clade Ib mpox confirmed in England since October 2024 and it has no epidemiological links to the previously reported cases.
        - The affected individual recently returned from Uganda and is currently receiving medical care at the Royal Free Hospital High Consequence Infectious Diseases unit in London.
        - This is the third clade Ib mpox case with recent travel history to Uganda reported in 2025. The previous cases were reported on 20 and 27 January. No epidemiological links have been identified between the cases.
        - Health officials at the UKHSA state that risk to the UK population remains low.
    - **Ireland**: On 6 February Ireland's Health Service Executive (HSE) (Ireland Health Protection Surveillance Centre, 2025) reported one imported human case associated with mpox clade I.
        - The affected individual had recently returned following travel to the Democratic Republic of the Congo (DRC), where there is ongoing community transmission of both subclades of mpox clade I and is currently receiving medical attention at a hospital in Dublin.
        - Additionally, a low level of mpox clade II cases continue to be reported in the country (2025: 8 cases, 2024: 25 cases, 2023: 13 cases, 2022: 227 cases).
        - Health officials state that the risk to the general population remains low.
        - At the same time, authorities are monitoring the situation in the UK where nine mpox clade I cases have been reported, with six imported cases and three household contact cases (i.e., limited household transmission).

- **United States**: Three additional mpox clade Ib cases were reported in the US between January and February 2025.
  - The second case of clade Ib mpox in the United States was confirmed in Georgia (United States Centers for Disease Control and Prevention, 2025) on 14 January, in a traveller from an unspecified country that has been "experiencing sustained mpox transmission."
  - On 10 February, the New Hampshire (New Hampshire Department of Health and Human Services, 2025) Department of Health and Human Services confirmed the first mpox clade Ib in the state, the third case in the country since the second PHEIC declaration.
    - The infected individual, a resident of Merrimack County (New Hampshire Department of Health and Human Services, 2025), had recently travelled to Eastern Africa, where an ongoing outbreak of clade I mpox is occurring.
  - On 11 February, the New York (United States Centers for Disease Control and Prevention, 2025) State Department of Health confirmed the first mpox clade Ib in the state.
  - According to the US CDC (United States Centers for Disease Control and Prevention, 2025) the four cases are not linked.
- **Yemen:** On 19 February, a medical clinic in Al-Qaida City, Ibb Governorate, issued health warnings after reporting the first suspected case of mpox (Facebook | Dr. Taha Al Nakhlani Center, 2025) although the clade was not specified. The Ministry of Health has been informed, and the necessary measures have been taken.

- **Cases in Africa:** The Democratic Republic of Congo (DRC) remains the most affected country, followed by Burundi and Uganda. The Africa CDC (CIDRAP, 2025) warns that the mpox outbreak in the DRC and neighboring countries is worsening, with almost 10,000 suspected cases and 85 deaths reported across Africa in the first 3 weeks of January. The DRC, Burundi, and Uganda have the highest case numbers. Conflict in Goma, which has displaced over 1 million people, is exacerbating the crisis.
  - The increasing frequency and geographic expansion of mpox outbreaks in both endemic and non-endemic regions highlight the need for enhanced regional surveillance.
- **South Sudan:** On 7 February, the Ministry of Health of South Sudan (World Health Organization, 2025) declared a mpox clade I outbreak in Juba, Central Equatoria State, following the confirmation of a case by the National Public Health Laboratory on 6 February.
  - The index case was identified as a Ugandan national residing in Kupuri Camp, Juba. The patient was diagnosed at Gudele Hospital, where they remain isolated and under treatment.
  - The MoH and WHO have mobilized a response team to conduct field investigations, contact tracing, and case management.

- 141 suspected cases have been tested using enhanced diagnostic methods.
- The Public Health Emergency Operations Center (PHEOC) has been activated to coordinate outbreak response and monitor potential cases at five high-risk border entry points with Uganda, Kenya, and the DRC.
- 40 clinicians have been trained in mpox case management to support outbreak containment efforts.

- **Sierra Leone:** since its first confirmed case in January, there have been 22 confirmed cases (Africa Centres for Disease Control and Prevention, 2025). The National Public Health Agency (World Health Organization, 2025), with support from partners, including WHO, is stepping up disease surveillance to swiftly detect cases, provide care and prevent further spread of infection.

- Since the beginning of 2025, there have been 19,614 suspected and 5,041 confirmed cases (Africa Centres for Disease Control and Prevention, 2025) of mpox in 15 African countries.

Cumulative confirmed cases by African country reporting mpox cases in 2025 (Africa Centres for Disease Control and Prevention, 2025)

Country	Confirmed	Deaths
Burundi	413	0
Cameroon*	0	0
Central African Republic	6	0
Congo	2	0
Côte d'Ivoire	4	0
DR Congo	2,884	177
Ghana*	0	0
Kenya	10	0
Liberia	5	0
Nigeria	59	2
Sierra Leone	22	0
South Sudan	1	0
Rwanda	20	0
Uganda	1,596	15
Zambia	19	0
TOTAL	**5,041**	**194**

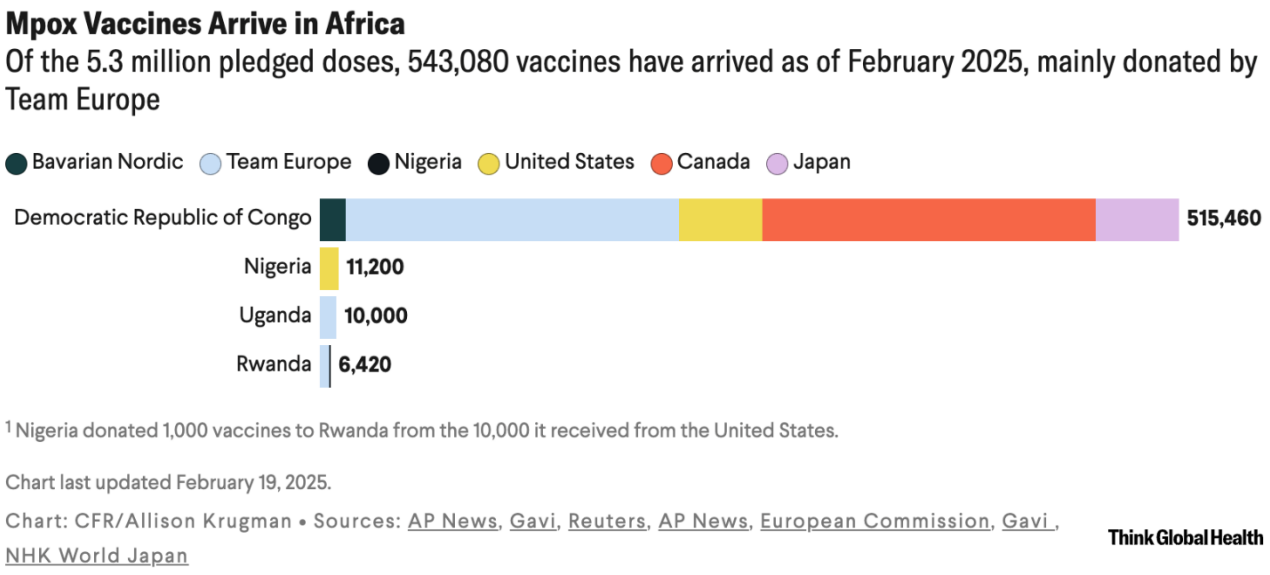
*Cameroon and Ghana have 0 confirmed cases and 0 confirmed deaths but are among the 15 African countries reporting mpox cases in 2025.

- **Vaccine and treatment information:** On 2 February, the Ugandan Ministry of Health (Xinhua, 2025), in collaboration with the WHO and Africa CDC, launched an mpox vaccination campaign targeting high-risk populations in Kampala, the current epicentre of the outbreak in Uganda.
  - Uganda has been reporting increases in mpox cases (Africa Centres for Disease Control and Prevention, 2025) in recent weeks. In January, there were 278 new laboratory

confirmed cases, a 38% average increase in the new cases reported than in the four weeks.

- Since the beginning of this year, 1,596 laboratory-confirmed cases and 15 deaths (CFR: 0.9%) of mpox were reported. Cumulatively, 2,949 laboratory-confirmed and 10 deaths (CFR: 0.7%) of mpox have been reported from 88 of 146 districts in Uganda.

- The campaign aims to curb human-to-human transmission of the virus, which has been spreading predominantly through close physical contact.
- Phase 1 Target Groups: High-risk populations, including sex workers, bar attendants, commuter taxi drivers, commercial motorcyclists, and roadside vendors in Kawempe and Makindye divisions of Kampala.
  - Frontline health workers in areas with active transmission.
  - Close contacts of confirmed cases.
- Expansion Plan: The campaign will extend to other divisions of Kampala and the central districts of Wakiso and Mukono.
- Vaccine Supply: Uganda has received 10,000 doses (Think Global Health, 2025) of the mpox vaccine from European partners



Mpox vaccines delivered to African countries by global partners (Think Global Health, 2025)

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