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

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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.

Threat

Any signal as assessed by the Gulf CDC PHE Department to have the potential to pose a near-future risk to the GCC countries' populations.

Threat of Regional Interest

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

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 **May 2024** (April 24 – May 23, 2024).*

83	2	5	2	2
Disease Signals	CRNE Signals	Potential threats	Threat of Regional Interest	Events of Regional Interest

Executive Summary

Disease Signals This month, the epidemic intelligence team at Gulf CDC detected 83 infectious disease signals, of these 6 were detected in GCC countries. 8.4% of the total signals were animal outbreaks signals, 9.6% were pertussis signals, 9.6% were dengue signals and 7% were CCHF signals.

CRNE Signals 2 CRNE signals of unusual environmental samples (West Nile Virus and Avian Influenza H5N1 in the US) with potential public health consequences were identified.

Potential Threats the Gulf CDC identified 5 potential threats this month. 3 of these threats are meningococcal meningitis in France, the UK, and the United States with a common travel history to Makkah, Saudi Arabia, 1 is an unspecified avian influenza animal outbreak in Iraq, and 1 is a botulism outbreak poisoning in Riyadh, Saudi Arabia.

Threat of Regional Interest the Gulf CDC continued monitoring two threats of regional interest that could impact the GCC region: cholera in Neighboring and Highly Connected countries to the Gulf, and Mpox in DRC.

Events of Regional Interest the Gulf CDC closely monitored two events of regional interest in May 2024: measles – globally and yellow fever in South Sudan. Based on the daily monitoring of yellow fever in South Sudan, and considering the level of risk assessed, the Event has met the closure criteria on 22nd of May 2024. The risk of importing a significant number of measles cases imported into the GCC Region in the upcoming 6 months remains moderate and the recommendations for public health authorities over the reporting period have not changed.

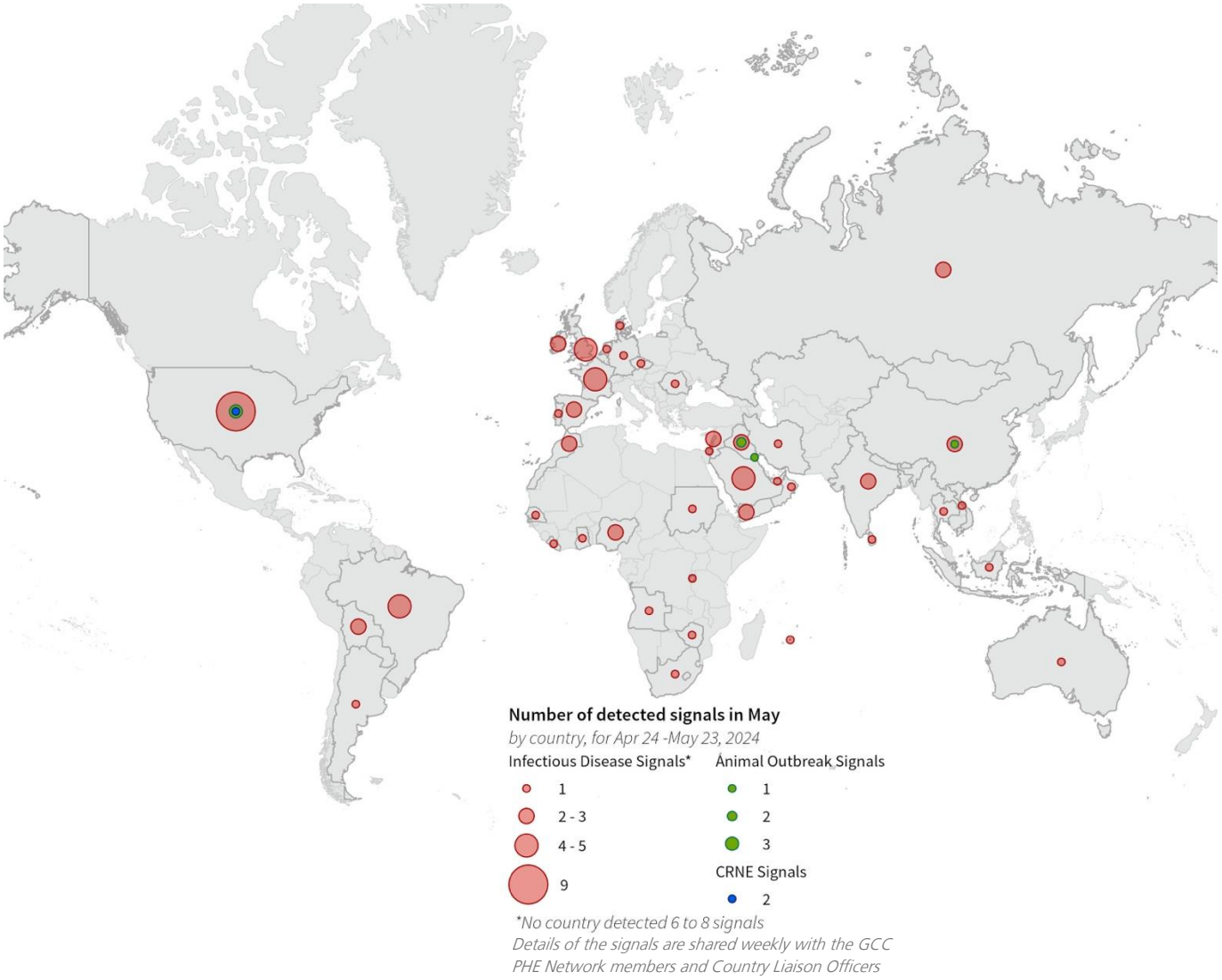
* Monthly reports cover data from the 24th of the previous month to the 23rd of the reported month, ensuring there is no gap in reported data.

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 and Potential Threats

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 is reduced 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, and capacity levels of GCC health systems to respond to the identified hazard.



Number of detected signals and potential threats by the Gulf CDC from April 24 to May 23, 2024

Threats of Regional Interest

Cholera

Neighboring and Highly Connected countries to the Gulf

This threat is being monitored closely by Gulf CDC. In December 2022 the Gulf CDC assessed the risk of Cholera importation into the Gulf Region to be a "Low Risk", the Gulf CDC proactively reviews the risk assessments and considers updating the assessments when necessary.

Key Stats

145,900
Reported cases of cholera globally in 2024

500-1,000 suspected daily cases
in Yemen

Key Factors of Concern for Cholera	
Disease severity	Cholera is considered to have a moderate severity level. While there is vaccine availability, there is a global shortage, and logistical challenges exist in countries experiencing conflict and cholera outbreaks. Recent outbreaks have been more deadly, with case fatality rates being the highest recorded in over a decade.
Trends from previous outbreaks	According to the WHO, after decades of progress against cholera, cases have been steadily rising worldwide since 2021[1], including in countries that had not seen the disease in years. Extreme climate events like floods, cyclones and droughts in recent years have reduced access to clean water and created ideal environments for cholera to thrive. In 2022, 44 countries reported cholera cases, a 25% increase from 2021.
Healthcare capacity	Increases in outbreaks and cases are stretching the global capacity to response. There is a shortage of cholera tools, including vaccines. Further, cholera outbreaks are often triggered by countries experiencing poverty and conflict, which further reduces the healthcare capacity to respond to outbreaks.
Connectivity to the Gulf Region	Some of the countries experiencing cholera outbreaks are neighbouring Gulf countries, including Yemen, Somalia, Afghanistan, and Pakistan. • The following are the top forecasted passengers for the month of May 2024 (over 5,000 passengers):

- Pakistan – Saudi Arabia – 228,387
- Pakistan – UAE – 195,237
- Pakistan – Oman – 17,591
- Pakistan – Qatar – 14,746
- Afghanistan – Saudi Arabia – 11,196
- Afghanistan – UAE – 11,038
- Yemen – Saudi Arabia – 6,893

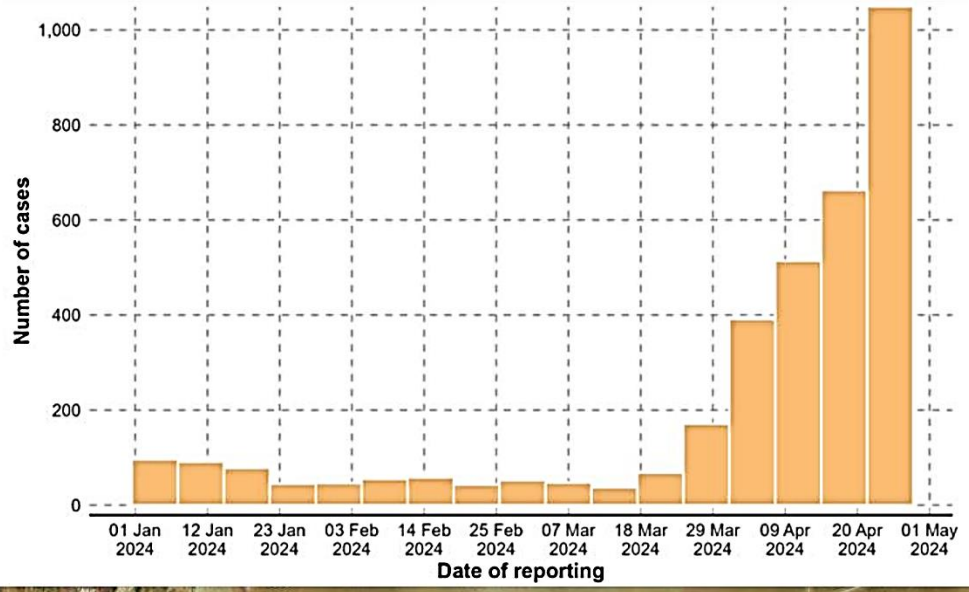
- Additionally, there is the possibility of illegal migration via land borders between Yemen and the GCC countries, both as a result of the ongoing conflict in Yemen and because the country has become a primary destination for illegal immigrants from countries in the Horn of Africa.

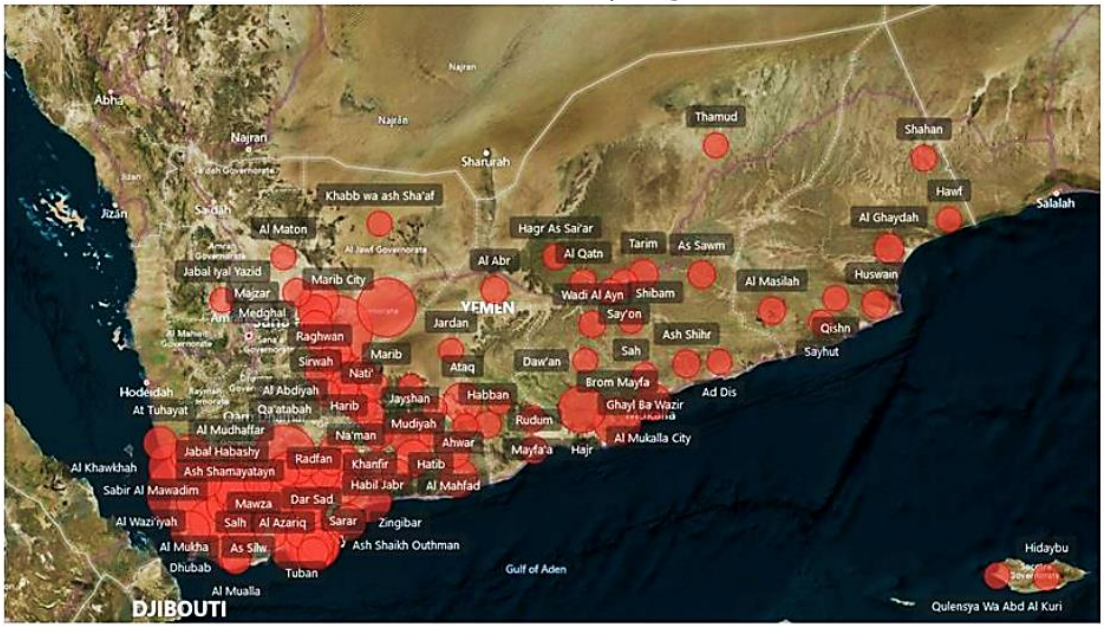
** Connections between the above-mentioned countries and the region is primarily counted based on airline data. Other routes of entry and illegal migration might contribute to the importation likelihood*

Situational Highlights for Cholera globally

- According to the World Health Organization (WHO)[2], from January to April of this year a total of 145,900 cholera cases and 1,766 deaths were reported globally across five WHO regions.
- In April 2024[2], a total of 27,696 new cholera cases were reported from 19 countries across four WHO regions, showing no significant change from the previous month at the global level.
  - Eastern Mediterranean Region: 14,541 cases in 5 countries, marking a 28% increase compared to cases reported in the previous month.
  - African Region: 13,126 cases in 12 countries
  - European Region: 26 cases, 1 country
  - South-East Asian Region: 3 cases, 1 country
- This global resurgence continues to be categorized as a grade 3 emergency by the WHO, with the global risk evaluated as extremely high.
- **Africa:** the African region continued to have high numbers of reported and confirmed cholera cases throughout the month of May[3].
  - **Ethiopia[3]:** Over 5,000 cases were reported in May
  - **Comoros[3]:** Since the official cholera outbreak declaration on 2 February 2024 through 8 May 2024, Comoros has reported a cumulative total of 5,062 cases and 102 deaths (CFR 2.0%) across all three islands.
  - **Somalia:** From 1 January to 20 May 2024, a total of 10,647 cases and 120 deaths have been reported. The UN OCHA[4] said the heavy rains pounding the country are expected to worsen the current outbreak of acute watery diarrhea (AWD)/cholera, which is already significantly high in some hotspot locations. It said the case fatality rate is slightly above the WHO emergency threshold of less than or equal to 1 percent.
  - **DRC[3]:** From 1 January to 14 April 2024 13,360 suspected cholera cases including 217 deaths (CFR 1.6%) were reported from 13/26 provinces. North Kivu, Haut Katanga, South Kivu, and Haut Lomami are the most affected provinces.

- **Yemen:** according to the WHO, between 1 January and 28 April 2024, Yemen reported 3,504 cases and 22 deaths.
    - Notably, 2,617 of the total cases (75%) in 2024 were reported between 31 March and 28 April, which might suggest a worsening of the outbreak in the country.
    - However, the WHO estimates that these reported cases are only a fraction of the epidemiological situation in Yemen, as reported cases come from the Government areas in Yemen and are underreported from the other areas.
    - The WHO estimates the total cases in Yemen to be closer to 30,000, with suspected cases rising by 500-1,000 each day.





Figures 1 & 2: Yemen (IRG areas): cholera cases by reporting date, as of 28 April 2024
Source: WHO Multi-country outbreak of cholera, External situation report #14 – 16 May 2024

Mpox

Democratic Republic of the Congo

This threat is being monitored closely by the Gulf CDC. In October 2022 the Gulf CDC assessed the risk of Mpox for populations living in the Gulf Region to be a "moderate", the Gulf CDC proactively reviews the risk assessments and considers updating the assessments when necessary.

Key Stats

5,768

Reported mpox cases in the DRC in 2024 (Jan. 1 – Apr. 21)

Key Factors of Concern for Mpox	
Disease severity	Severe complications of Mpox may include secondary bacterial infections, pneumonia, sepsis, and encephalitis and immunocompromised individuals are particularly susceptible to severe infections. Mpox is divided into two distinct clades,[5] clade I and clade II, falling under clade II are the subclades IIa and IIb. Clade I is predominantly found in central Africa around the Congo basin while Clade IIa 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[6] 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 IIb, lineage B.1 and its descendants.
Healthcare capacity	The DRC has a limited capacity to respond to public health emergencies due to limited testing capacity, medical countermeasure (MCM) access, and the implementation of appropriate healthcare interventions. In addition, competing priorities with other pervasive endemic and epidemic diseases and local conflict and displacement further constrains national public health responses against mpox. The DRC has also not requested to purchase or applied for donations for the limited supply of mpox vaccines, hindering the procurement of much needed vaccines which has not approved by any endemic country in Africa including the DRC. Support from multi-lateral institutions

	such as Africa CDC and WHO[7] have also been important for public health responses against mpox. Both institutions have helped in coordinating responses against the current outbreak and have provided technical and resource support such as by providing diagnostics and expertise. Further, Mpox cases are usually diagnosed using RT-PCR tests, however, the mpox clade I strain in the current outbreak has mutated to be undetectable[8] when using specific clade I CPR gene primer.
Connectivity to the Gulf Region	The UAE is one of the top 10 connected destinations to the DRC (forecasted air travel passenger volumes for May 2024), with an expected 3,280 passengers travelling from the DRC to the UAE throughout the month. Forecasted air travel passenger volumes for May 2024 for the rest of the GCC countries are below 300 passengers. ** Connections between DRC and the region is primarily counted based on airline data. Other routes of entry and illegal migration might contribute to the importation likelihood*

Situational Highlights for Mpox in DRC

- There is currently an ongoing mpox clade I outbreak[9] in the DRC that begun in 2023.
  - From 1 January to 21 April 2024[10], a total of 5,768 cases have been reported (632 confirmed), and 332 deaths (CFR 5.8%).
  - Mpox clade I has spread across 23 out of 26 provinces in the DRC including the capital Kinshasa, and may be fuelling the outbreak across the border in the Republic of the Congo
  - Children under 15 account for 70% of cases and 87% of deaths
- On 24 April 2024, the Republic of the Congo[11] declared an Mpox epidemic after 19 cases were confirmed across five departments, including the capital Brazzaville.
- **South Africa:** The National Institute of Communicable Diseases of South Africa[12] confirmed that on 9 May a 35-year old man tested positive for Mpox. A second case was reported and laboratory-confirmed on 27 May. Both men were not found to have done any notable travelling.
  - The first case identified belongs to MPXV clade I. There has been no confirmation on the clade of the second case.
  - Given the ongoing outbreak in the DRC, the National Department of Health of South Africa has been investigating and conducting contact tracing. They are working to identify if the 2 cases are linked.
- On 16 May, the US CDC[13] released a Morbidity and Mortality Weekly Report focused on the mpox outbreak in DRC, citing that the increasing number of reported clade I Mpox cases poses a global threat.
  - Limited data on genetic diversity among circulating clade I MPXV strains suggest that outbreaks involve multiple introductions from animal hosts within DRC, rather than a single introduction that has spread nationwide.
  - Geographic differences in demographic characteristics and viral genetic diversity suggest various transmission drivers, including zoonotic, household or sexual, in different provinces, resulting in a complex epidemiologic picture.

Events of Regional Interest

Measles

Globally

Negligible	Very Low	Low	Moderate	High	Critical

Gulf CDC Risk Assessment of this Event

- **Risk Question:** What is the risk of a significant number of measles cases being imported into the GCC Region in the upcoming 6 months, in terms of the likelihood and impact of the importation?
- **Impact:** Moderate. Despite an increase in likelihood, the impact remains moderate, due to varying immunization coverage across the region, potentially exacerbated by upcoming mass gatherings.
- **Likelihood:** Almost certain. The likelihood of measles importation to the GCC countries from countries with current measles outbreaks has been escalated to almost certain driven by the detection of several cases with travel history to the UAE and the high travel volume from endemic regions and countries reporting an increase in measles cases.

Please refer to the Gulf CDC Rapid Risk Assessment on Measles – Version 3 (updated 21 March 2024) for further details.

Why is this Notable?

The Gulf CDC EI team escalated the measles outbreaks globally from a potential threat to a threat of regional interest on 19 February because of an increase in the expected incidence of measles globally. On 21 March, the Gulf CDC EI team updated the RRA to a likelihood of 'almost certain,' due to the detection of several cases with travel history to the UAE.

Key Stats

466

Confirmed cases across all 6 GCC countries in 2024 as of 8 May 2024

Key Factors of Concern for Measles

Disease severity	Measles is a virus most commonly transmitted between humans vias airborne route and respiratory droplets. It is considered to have a moderate severity level. It is highly contagious, needing hospitalization in 25% of people who are infected. Complications such as pneumonia, otitis media, meningitis and encephalitis may occur.
Trends from previous outbreaks	According to WHO data, there has been a 79% increase in reported measles cases from 2022 to 2023.[14] The most affected regions were the WHO European region, which reported 937 cases in 2022 and 58,115 cases in 2023; the WHO Eastern Mediterranean region, which reported 54,245 cases in 2022 and 88,598 cases in 2023, and the WHO South-East Asia region, which reported 49,492 cases in 2022 and 84,720 cases in 2023. There exist immunization gaps related to pandemic disruptions to routine public health programs and growing vaccine hesitancy in several regions including the United Kingdom, the United States and Europe, leading to recent concerning outbreaks.
Healthcare capacity	The WHO recommends a vaccination threshold of 95% for the Measles, Mumps, and Rubella (MMR) vaccine. According to the WHO, no region in 2022 met that suggested threshold for the 1st dose (the highest reporting regions were the European Region (93%), Western Pacific Region (92%), and South-East Asia Region (92%)).[15]

Situational Highlights for Measles

- **Global overview:** there continues to be a high number of measles cases across countries worldwide, including high-connectivity countries, neighboring countries with the Gulf region, and within GCC countries.
- **GCC countries:** According to WHO data, all GCC countries reported suspected and confirmed measles cases as of 8 May 2024.[12]
    - UAE: 306 confirmed cases
    - Bahrain: 6 confirmed cases
    - Saudi Arabia: 73 confirmed cases
    - Oman: 47 confirmed cases
    - Qatar: 32 confirmed cases
    - Kuwait: 2 confirmed cases
- **Yemen:** As a response measure, on May 2024, the King Salman Humanitarian Aid and Relief Center (Saudi Arabia) signed a joint cooperation agreement[16] with the World Health Organization to confront the outbreak of measles among children under the age of five in Yemen.

- The agreement aims to limit the spread of measles by launching a campaign to vaccinate 1,205,336 Yemeni children by equipping 1,125 health centers with medicines, intravenous solutions, and consumables necessary to treat cases in several governorates, and purchasing equipment to support the cold chain to ensure sustainable routine immunization services in the selected areas, in addition to support basic activities in water and environmental sanitation sectors to limit the spread of the epidemic.
- The outcomes of this campaign are expected to decrease the ongoing risk of measles in children under 5 in Yemen and begin to decrease the size of the outbreak.

- **Global measles situation as per WHO reporting[12]:**
  - In 2024, Yemen, Azerbaijan and Kyrgyzstan are the most affected countries
    - Azerbaijan has reported 15,138 cases
    - Kyrgyzstan has reported 7,100 cases
    - Yemen has officially reported 1,021 cases, underreporting is expected

WHO Region	Member states reporting/ total member states	Suspected Cases	Confirmed Measles Cases
AFR	36/47	25,681	17,977
AMR	26/35	4,445	213
EMR	**20/21**	**39,264**	**29,816**
EUR	48/53	63,521	56,908
SEAR	10/11	45,072	13,556
WPR	23/27	12,116	2,895
TOTAL	**163/194**	**190,199**	**121,410**

Yellow Fever

South Sudan

Negligible	Very Low	Low	Moderate	High	Critical

Gulf CDC Risk Assessment of this Event

- **Risk Question:** What is the risk of one case of YF being imported into the GCC Region from South Sudan in the upcoming 3 months, in terms of likelihood and impact of the importation?
- **Impact:** Moderate, due to severity of disease and low rate of immunization against yellow fever among GCC country populations. Robust vector control measures are in place to combat mosquito-borne diseases.
- **Likelihood:** Unlikely, there is a low number of travelers forecasted to travel between South Sudan and GCC countries, and South Sudan MOH has reported that entry and exit screening is in place as all travelers are requested to present their yellow fever vaccination cards.

Please refer to the Gulf CDC Rapid Risk Assessment for further details.

Closure Announcement

The Gulf CDC has closed this event based on the following closure criteria:

"The local capacity is sufficient to detect and respond to every new case detected, and there is a limited possibility of transmission into the Gulf region." (SOP 001)

- The Gulf CDC assessed a limited possibility of transmission into the Gulf region
- The outbreak is considered contained as there were no exported yellow fever cases from South Sudan detected, and the country has been supported by international organizations such as WHO and UNICEF to conduct massive vaccination campaigns for South Sudan's citizens.

Key Stats

78
Suspected yellow fever cases from 24 Dec 2023 to 5 Mar 2024

3
Confirmed yellow fever cases

Key Factors of Concern for Yellow Fever	
Disease severity	Yellow fever is a mosquito-borne disease considered to have a severe pathogen severity. It has a mortality rate of 15-50% in individuals who evolve from a flu like illness to a toxic phase. Prevention measures through immunization are available, however there are no approved treatments for yellow fever.
Trends from previous outbreaks	In 2023, a total of 13 countries in the WHO African Region (Burkina Faso, Cameroon, the Central African Republic, Chad, Republic of the Congo, Côte d'Ivoire, Democratic Republic of the Congo, Guinea, Niger, Nigeria, South Sudan, Togo and Uganda) have documented suspected and confirmed cases of yellow fever. According to the WHO, preliminary data for 2023 indicates a CFR of 11%.[17]
Healthcare capacity	South Sudan is classified as a high-risk country in the Eliminate Yellow Fever Epidemics initiative.[10] Population immunity is negligible. The vaccination campaign launched aims to protect populations at high risk and support in South Sudan's plans to introduce the yellow fever vaccine into their routine immunization systems. The country's previous experience with outbreaks allowed for rapid response team mobilization and improved surveillance to enhance case detection and reporting.
Connectivity to the Gulf Region	There is relatively low connectivity between South Sudan and GCC countries. The importation likelihood of yellow fever from South Sudan to GCC countries is less than 0.5%.* ** Connections between South Sudan and the region is primarily counted based on airline data. Other routes of entry and illegal migration might contribute to the importation likelihood*

Situational Highlights for Yellow Fever

- On 24 December 2023, the Ministry of Health in South Sudan confirmed an outbreak of yellow fever in Yambio County, Western Equatoria State, located close to the border with the Democratic Republic of the Congo.
    - As of 5 March 2024, 78 suspected and 3 confirmed yellow fever cases were reported from 6 counties of Western Equatoria State.[18]
    - A cumulative total of six suspected deaths were recorded, resulting in a case fatality ratio of 9.4%.
    - 70.3% of reported cases have come from Yambia and Tambura counties.
- In late February 2024, the Ministry of Health, in partnership with UNICEF and other international partners, launched a vaccination campaign[19] aimed at immunizing over 608,000 individuals in Western Equatoria State.
- The campaign achieved a 77% vaccination rate.

Acknowledgements

The production of this monthly epidemic intelligence report was made possible through the collaboration and contributions of multiple individuals and organizations. Thus, the Gulf CDC is grateful to, and would like to acknowledge, all contributing individuals and organizations for their expertise and dedication to epidemic intelligence that were essential to our collective efforts in detecting, monitoring, and preparing for potential public health threats to the GCC region.

The Gulf CDC is grateful for insights on GCC countries' capacities and national data provided by members of the Public Health Emergency Network members. This provided valuable contextual understanding that enhanced the PHE team's assessment of risk posed by the hazards detected.

In addition, the Gulf CDC acknowledges the insights provided by international and GCC subject matter experts on reviewing risk assessment reports and on sharing best practices and lessons learned to improve preparedness for the hazards detected.

For queries regarding this publication, please contact us at eidetect@gulfcdc.org

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