GCDC
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 06

June 2024

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

97	8	1	1	1
Disease Signals	CRNE Signals	Potential threat	Mass Gathering Monitoring	Event of Regional Interest

Executive Summary

Disease Signals This month, the epidemic intelligence team at Gulf CDC detected 97 infectious disease signals, of these 6.1% were detected in GCC countries due to increased epidemic intelligence for Hajj mass gathering. Regarding types of signals, 8.2% were animal outbreak signals, and breaking down the signals by the most signaled hazard, 10.3% were CCHF signals, and 7% were pertussis (whooping cough) signals.

CRNE Signals 8 CRNE signals with potential public health consequences were identified. Most of these were related to the high temperatures in Saudi Arabia in June, affecting many Hajj pilgrims.

Potential Threats The Gulf CDC identified 1 potential threat this month. Avian Influenza A H5N1 in the United States is being monitored as a potential threat.

Mass Gathering Monitoring The Gulf CDC conducted specialized mass gathering event monitoring in the month of June for the Hajj season.

Events of Regional Interest The Gulf CDC closely monitored one event of regional interest in June 2024: measles – globally. Daily monitoring of these events did not reveal any changes to the risk levels assessed for GCC or public health recommendations over the reporting period.

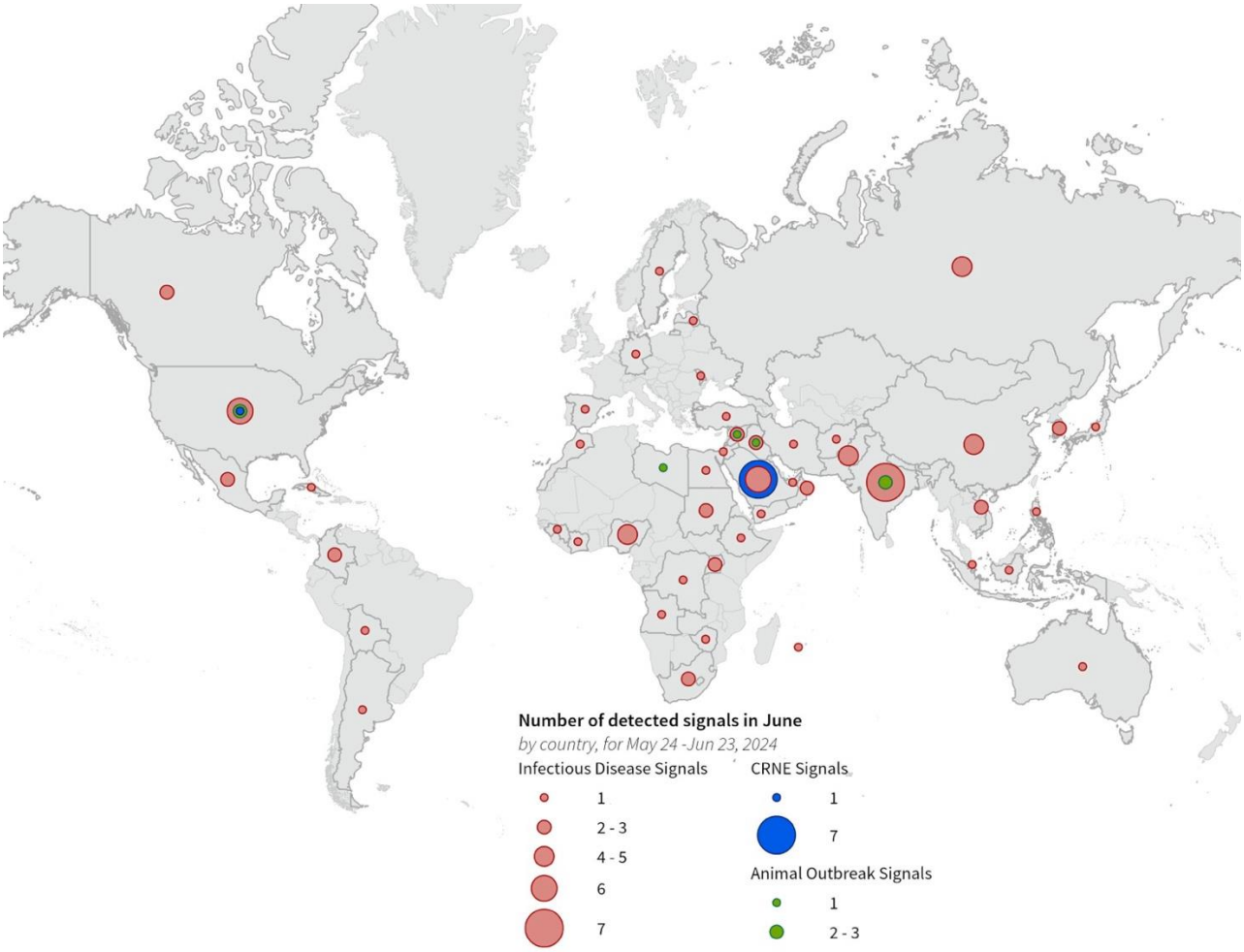
* Monthly reports cover data from the 24th of the previous month to the 23rd of the reported month, ensuring there is no gap in reported data.

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 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.



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

**Some signals included in this map are not from official sources and are in the process of being verified with health authorities*

Potential Threats Identified in June 2024

Avian Influenza H5N1 in the United States[1]: Since April 2024 there have been 3 human cases of Avian Influenza A H5N1 identified in the United States linked to the ongoing outbreak among dairy cattle.

- On 2 April, the first human case of Avian Influenza A (H5N1) was reported in an individual with exposure to dairy cattle in Texas, United States. The patient developed conjunctivitis with bleeding in both eyes.
- On 23 May, a second case linked to dairy cattle was identified; a dairy farm worker in Michigan tested positive for H5N1 influenza in their eye. Like the case in Texas, eye infection was the only reported symptom, with the virus identified in cows on the same farm.
- On 3 June, a dairy farm worker in Michigan tested positive for H5N1 Influenza. This is the first human case of H5 in the United States to report more typical symptoms of acute respiratory illness associated with influenza virus infection.

Additional contextual information:

- As of 6 June, there were 82 affected herds/dairy farms across 10 US states.[1]
- Cattle outbreaks appear to be more widespread and under-detected due to the limited scope of testing
- Preliminary analysis of samples done by the US Department of Agriculture suggests a common ancestor (original source) to the known outbreaks among dairy cows, and further circulation within cattle with likely spillback into wild birds.
- In 2023, an experimental vaccine colloquially known as the "Pan-Flu" vaccine[2] (official name: H1ssF-3928 mRNA-LNP) underwent Phase 1 trials to test for its safety and efficacy. The vaccine targets the hemagglutinin stem proteins, which are similar across different types of flu viruses, in contrast to traditional flu vaccines which typically target the NA protein, which is known to evolve and drift independently, increasing the need for updated yearly vaccines.

Mass Gathering Monitoring

Hajj Pilgrimage

Globally

Negligible	Very Low	Low	Moderate	High	Critical

Gulf CDC Risk Assessment of this Event

- **Risk Question:** What is the risk of infectious disease transmission occurring in the GCC in the next 3 months as a result of the 2024 Hajj pilgrimage based on the diseases with the highest chance of importation or exportation during/after Hajj?
- **Likelihood & Impact:** Very Low to Moderate, depending on the disease.
    - Moderate: COVID-19, Influenza, Measles
    - Low: Dengue, Mumps, Malaria, Meningococcal disease, Cholera, Crimean-Congo Hemorrhagic Fever
    - Very Low: MERS-CoV, Yellow Fever

Please refer to the Gulf CDC Mass Gathering Risk Assessment: Hajj 1445H (2024) published on 5 June 2024 for further details.

Why is this Notable?

Hajj is a mass gathering that has a high possibility of spreading infectious diseases and requiring public health monitoring. The risk of infectious disease transmission during Hajj may extend to the local population, other GCC countries, and the home population of returning pilgrims after Hajj. There are several public health risks increased in mass gatherings such as Hajj, including heat-related illnesses and the risk of transmission of respiratory diseases, food and water-borne diseases, meningococcal diseases.

Key Stats

86 signals*

Detected during Hajj Mass Gathering Monitoring from 39 countries

**As of 23June 2024*

21 signals

Detected in 8 of the 10 priority countries monitored

Key Factors of Concern for Hajj Mass Gathering Monitoring

Trends from previous mass gatherings	There have been some documented public health emergencies that previously occurred during the Hajj, most notably: • **Meningococcal disease:** In 1987, serogroup A caused an outbreak, while serogroup W135 was responsible for outbreaks in 2000 and 2001 • **Cholera:** In 1821, an estimated 20,000 pilgrims died during the Hajj due to a cholera epidemic, which started in India in 1817 and spread across the world. Similarly, in 1865, an estimated 15,000 out of 90,000 pilgrims died due to the cholera epidemic that spread throughout the world. • Other public health hazards have been documented in the past, such as **heat-related illnesses, stampedes, and suffocation**.

Situational Highlights for Hajj Mass Gathering Monitoring

- **Priority countries:** for the Hajj, the Gulf CDC focused on mass gathering monitoring of 10 priority countries. These 10 countries are the origins of the highest number of Hajj pilgrims coming from outside Saudi Arabia; these were Indonesia, India, Bangladesh, Pakistan, Iran, Turkey, Iraq, Nigeria, Egypt and Algeria.
- **Priority hazards:** The Gulf CDC focused on three potential hazard categories to monitor during the Hajj pilgrimage.
    - Infectious diseases with a risk of immediate transmission (e.g. COVID-19, measles, etc)
    - Infectious diseases that can have high consequences but are typically reported sporadically (i.e. MERS, anthrax, Meningococcal disease, avian influenza, Crimean-Congo hemorrhagic fever, Ebola, botulism, Kyasanur forest disease, Marburg virus disease)
    - Infectious diseases that do not present as an immediate transmission risk during the Hajj but have a risk of long-term establishment in Saudi Arabia due to the presence of a competent vector (i.e., Chikungunya, malaria, yellow fever, Zika, dengue).
- On June 1st (24 Dhu Al-Qi'dah 1445), the Gulf CDC implemented a Hajj-focused epidemic intelligence system. This system included scanning over 3,000 open sources, both manually and using an AI engine.
    - Social media posts on platforms like Twitter, Reddit, and Facebook were screened in the ten most spoken languages at Hajj.
    - Additionally, publicly shared Snapchat stories from high-density crowd locations within the Hajj area were monitored.
    - Daily reports containing Hajj Signals are shared with Saudi Arabia, while weekly reports are distributed to other GCC countries. To further inform public health efforts, a weekly Hajj technical epidemic intelligence report was also circulated among GCC countries, detailing the epidemiological situation of priority hazards in the top priority countries.

- As of 23 June 2024, a total of 86 signals from 39 countries were identified in Hajj Mass Gathering Monitoring
    - 14 signals were detected in 3 GCC countries (Saudi Arabia, United Arab Emirates and Oman)
    - 21 signals were detected in 8 of the 10 priority countries (Egypt, India, Indonesia, Iran, Iraq, Nigeria, Pakistan and Turkey)
    - Of the priority hazards, the following signals were identified:
        - Dengue – 11 signals
        - CCHF – 7 signals
        - Cholera – 5 signals
        - Measles – 4 signals
        - Malaria – 1 signal
        - Meningococcal disease – 4 signals
        - Yellow fever – 3 signals
    - CRNE hazards: given the high temperatures reached in Saudi Arabia in June, 6 CRNE signals related to heat exhaustion were identified during the Hajj mass gathering monitoring. Official reports confirmed that over 1,000 pilgrims died because of heat exhaustion during the Hajj.
- **Saudi Arabia Ministry of Health**: the Saudi Minister of Health, released a statement[3] on 23 June highlighting the successful execution of health management efforts during the Hajj. Notably, over 465,000 specialized treatment services were provided, and there were no recorded outbreaks of epidemics or widespread diseases. Mortalities reached 1,301 mostly due to heat stroke, with 83% of these being unauthorized pilgrims who walked long distances under direct sunlight without adequate shelter or comfort. Further, over 1.3 million preventative services were delivered, including early detection, vaccination, and medical care.
- The Gulf CDC is continuing to monitor priority hazards following the Hajj given incubation periods of priority hazards, delays in event-based and indicator-based reporting, and continued travel in the GCC countries, particularly within Saudi Arabia, by pilgrims following completion of the Hajj pilgrimage.
    - So far, the Gulf CDC has identified a report from Senegal where they found a high positivity rate of COVID-19 cases among pilgrims returning from Makkah (20 - 60% per flight)[4]. Senegal recommended pilgrims wear masks and get tested upon returning to Senegal.
    - Additionally, the media in Maldives[5] reported that a 38-year-old man was admitted to the ICU suspected to be due to a respiratory infection he obtained after returning from Hajj.

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.

Key Stats

15,384

Individuals immunized in Yemen, as part of the King Salman Humanitarian Aid and Relief Centre campaign

178,378

Confirmed measles cases globally in 2024

As reported by the WHO, 8 June 2024

Key Factors of Concern for Measles

Disease severity	Measles is a virus most commonly transmitted between humans via 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.[6] 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 are existing 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%)).[1]
Connectivity to the Gulf Region	Yemen, being a neighbouring country to GCC with Measles outbreak, could have 59% importation likelihood to to Saudi Arabia. For the rest of the GCC countries, the importation likelihood is below 2%. It is important to note that importation likelihood only considers flight connectivity and given the land borders that Yemen shares with Saudi Arabia and Oman, the importation likelihood is likely to be higher via ground travel. Pakistan: Given the high number of cases being reported in Pakistan and the high degree of connectivity, there is a 99% importation likelihood from Pakistan to Saudi Arabia and the United Arab Emirates. For the rest of the GCC countries, the importation likelihood is: 43% to Oman, 34% to Qatar, 25% to Bahrain and 21% to Kuwait. * *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 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 since the beginning of 2024 and as of 8 June 2024.[1]
    - UAE: 368 confirmed cases
    - Bahrain: 6 confirmed cases

- Saudi Arabia: 301 confirmed cases
- Oman: 27 confirmed cases
- Qatar: 34 confirmed cases
- Kuwait: 4 confirmed cases

- **Yemen:** As of 30 May 2024, The King Salman Humanitarian Aid and Relief Centre implemented a measles immunization campaign[7] and census of pregnant women in the Hajja Governorate in Yemen. In total, 15,384 individuals were immunized against measles. In cooperation with the Yemeni Ministry of Public Health and Population, the immunization campaign targeted children under the age of 18. Additionally, educational awareness campaigns were implemented for all segments of the population, explaining the signs and symptoms of measles, how to avoid and limit its spread, and prominent preventative measures. Finally, a third activity focused on immunization and education campaigns targeting pregnant women to ensure the promotion of early childhood immunization. The outcomes of this campaign are expected to decrease the ongoing risk of measles in children in Yemen and begin to decrease the size of the outbreak.

- **Pakistan:** Pakistan is one of the high-connectivity countries to the GCC, and it is witnessing a large measles outbreak in the Punjab region, where 220 cases[8] of measles were reported on the 23rd of June 2024. Since the beginning of 2024, Pakistan has reported 14,809 suspected cases of measles. According to WHO reporting, Pakistan reported a total of 17,515 cases of measles in 2023, meaning that by mid-year 2024, the country has already reached 84% of total reported cases in 2023.

  ** The above statistics come from event-based surveillance. WHO reporting does not have confirmed cases for measles in Pakistan beyond March 2024.*

- **Global measles situation as per WHO reporting[6]:**
  - In 2024, Yemen, Azerbaijan and Kyrgyzstan are the most affected countries
    - Azerbaijan has reported 16,122 cases
    - Kyrgyzstan has reported 9,011 cases
    - Yemen has officially reported 7,307 cases

Region	Member states reporting/ total member states	Suspected Cases	Confirmed Measles Cases
AFR	43/47	59,993	44,366
AMR	27/35	5,954	145
EMR	**20/21**	**52,822**	**41,568**
EUR	49/53	78,698	70,878
SEAR	10/11	58,492	16,347
WPR	23/27	18,609	5,074
TOTAL	**172/194**	**274,568**	**178,378**

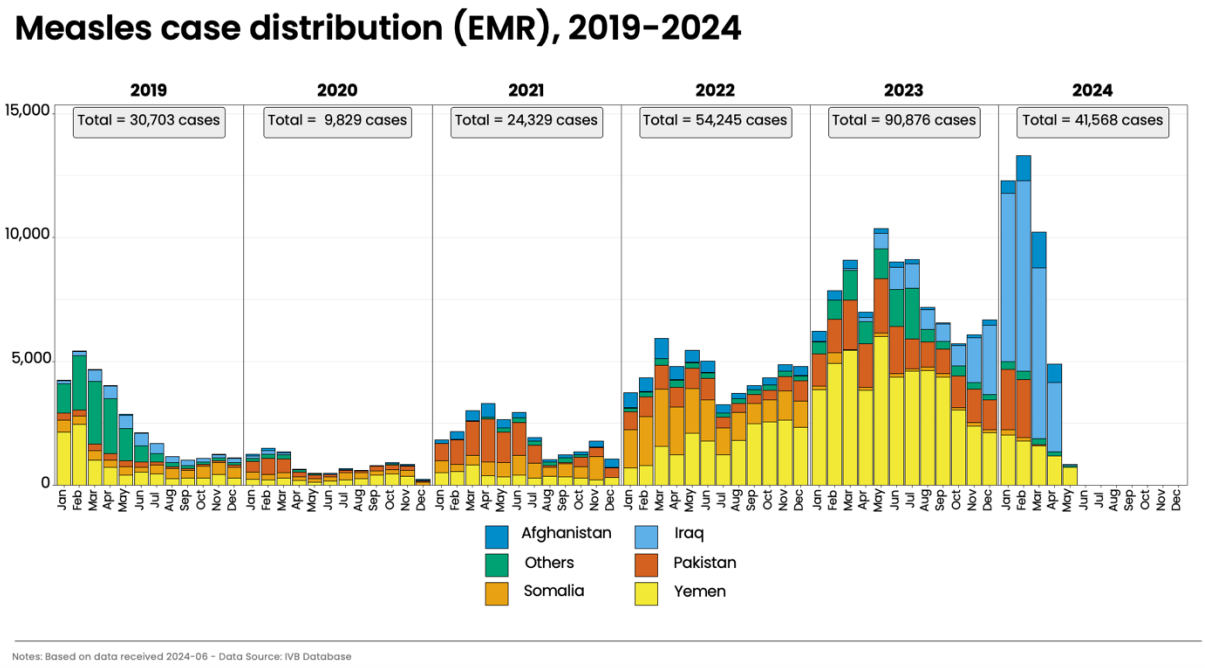


Figure 1: Measles case distribution for WHO Eastern Mediterranean Region (EMR), 2019-2024[1]

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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 the risk posed by the hazards detected.

In addition, the Gulf CDC acknowledges the insights, review, and consultation provided in its risk assessments by international and GCC subject matter experts..

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

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Connectivity data is collected via the BlueDot Data Portal, June 2024.