5. MPOX - Science & Technology

The WHO has lifted the Public Health Emergency of International Concern (PHEIC) for MPOX due to a global decline in cases. This signals progress but requires continued vigilance, as the virus, endemic to Africa, remains a threat that is managed through vaccines and antiviral treatments.

MPOX - From Global Health Emergency to Continued Vigilance

The World Health Organisation (WHO) has officially announced that MPOX no longer constitutes a Public Health Emergency of International Concern (PHEIC). This decision reflects the significant progress made in controlling the global outbreak, marked by a sustained decline in the number of reported cases and deaths. This declaration comes after the WHO had initially elevated the outbreak to a PHEIC in August 2022, when the virus spread rapidly outside its traditional endemic regions in Africa.

Understanding the MPOX Virus

To appreciate the significance of this development, it's essential to understand the nature of the disease itself.

Definition and Origin - MPOX, which was formerly known as monkeypox, is a viral zoonotic disease, meaning it is transmitted from animals to humans. The virus was first identified in humans in the Democratic Republic of Congo in 1970.

Geographic Endemicity - The virus is traditionally endemic to countries in Central and West Africa. Its natural habitat is closely associated with tropical climates and rainforests, where its animal reservoirs thrive.

The Culprit Virus - MPOX is caused by the MPOX virus, which belongs to the orthopoxvirus genus. This places it in the same family of viruses as smallpox and cowpox, which explains why smallpox vaccines offer cross-protection.

Animal Reservoirs - The natural hosts of the virus are believed to be various small mammals. Key reservoir animals include squirrels, dormice, Gambian pouched rats, and monkeys. These animals can carry the virus, often without symptoms, and transmit it to humans.

Modes of Transmission - The virus can spread through several pathways -

Human-to-Human - Transmission primarily occurs through direct contact with body fluids, skin lesions (rashes, blisters), or scabs of an infected person. It can also spread through contact with contaminated objects such as bedding, towels, or utensils. While less common, it can be transmitted via respiratory droplets, but this typically requires prolonged, close, face-to-face contact.

Animal-to-Human - The virus can jump from animals to humans through bites or scratches, or during the handling and preparation of bushmeat from infected animals.

Key Symptoms - The initial symptoms of MPOX are often flu-like and can include fever, severe headache, muscle pain, backache, swollen lymph nodes (lymphadenopathy), and profound fatigue. The characteristic skin rash usually appears a few days after the fever.

Preventive Measures and Treatment

A combination of medical interventions and public health strategies is used to control MPOX.

Vaccines - Two vaccines, originally developed for smallpox, have proven effective against MPOX due to the close genetic relationship between the viruses. These are the JYNNEOS (also known as Imvanex or Imvamune) and ACAM2000 vaccines.

Antiviral Treatments - For severe cases of MPOX, several antiviral medications can be used. These include Tecovirimat (TPOXX), cidofovir, and brincidofovir.

Public Health Actions - A robust public health response is critical to contain outbreaks. This includes -

1. Intensive surveillance to quickly detect new cases.
2. Isolation of infected individuals to prevent further spread.
3. Thorough contact tracing to identify and monitor those who may have been exposed.

4. Genomic sequencing to track the evolution of the virus.
5. Promoting safe animal handling practices in endemic regions.

The Public Health Emergency of International Concern (PHEIC) Framework

The PHEIC declaration is the WHO's highest level of alert, governed by a specific international legal framework.

Definition - Under the International Health Regulations (IHR), a PHEIC is defined as an "extraordinary public health event" which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response. The International Health Regulations (IHR) - The IHR (2005) is a legally binding agreement among 196 countries, including all 194 WHO Member States, that came into force in 2007. It provides the global legal framework for countries to work together to detect, assess, report, and respond to acute public health risks that can cross international borders. Its primary goal is to enhance global health security while causing minimal disruption to international travel and trade.

Criteria for a PHEIC Declaration - The WHO Director-General declares a PHEIC based on four key criteria. A situation is considered a potential PHEIC if it meets at least two of the following conditions -

1. Is the public health impact of the event serious?
2. Is the event unusual or unexpected?
3. Is there a significant risk of international spread?
4. Is there a significant risk of international travel or trade restrictions?

Decision-Making Process - The WHO Director-General makes the final decision to declare, maintain, or lift a PHEIC. This decision is made based on advice from the IHR Emergency Committee, a group of independent international experts. Once a PHEIC is declared, the committee issues temporary recommendations to affected countries, which are reviewed every three months. Member States are obligated to notify the WHO of any potential PHEIC within 24 hours of assessment.

History of Past Declarations (2007–2020) -

1. **H1N1 Influenza** (Swine Flu) (2009)
2. **Ebola** (West Africa, 2013–15; DRC, 2018–20)
3. **Zika Virus** (2016) - This was the first arboviral (mosquito-borne) disease declared a PHEIC.
4. **Polio** - Ongoing since 2014, it is the longest-running PHEIC.
5. **COVID-19** (2020–2023)

Conclusion

The lifting of the PHEIC status for MPOX is a significant milestone, demonstrating the effectiveness of a coordinated global public health response. However, it does not mean the threat is eliminated. Continued vigilance, robust surveillance systems, equitable access to vaccines, and rapid response capabilities remain essential to prevent and manage future flare-ups of MPOX and ensure global health security.

Source - https - //www.business-standard.com/health/mpox-no-longer-a-global-emergency-but-who-warns-against-complacency-125090800441_1.html