WHO has declared mpox a global health emergency. What happens next?

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The World Health Organization (WHO) has declared mpox a public health emergency of international concern, after rising cases in the Democratic Republic of the Congo and the potential for further spread.

This now triggers a coordinated international response to an extraordinary event and the mobilization of resources, such as vaccines.
and diagnostic testing, to curb the spread of this infectious disease.

But WHO has not declared mpox a pandemic. Rather, the measures it has triggered are designed to prevent it from becoming one.

**What triggered this latest alert?**

Mpox, once known as monkeypox, is a viral infection closely related to smallpox. Initial symptoms include a fever, headache, swelling of the lymph nodes and muscle ache. A typical rash follows, mainly on the face, hands and feet.

The spread of mpox through certain African countries led the Africa Centers for Disease Control and Prevention to declare mpox a public health emergency of continental security. This is the first time the organization has issued such an alert since it was established in 2017.

The situation in the Democratic Republic of the Congo in central Africa has been particularly worrying for more than a year.

There are two types or clades of mpox. Clade II, which originates in west Africa, is less severe. It has a fatality rate of up to 1% (in other words, roughly one in 100 are expected to die from it). But clade I, from central Africa, has a fatality rate of up to 10% (up to one in ten die). This compares to a 0.7% fatality rate for the omicron variant of SARS-CoV-2, the virus that causes COVID. The Democratic Republic of the Congo is seeing large epidemics of the more deadly clade I mpox.

Mpox is endemic in some parts of central and west Africa, where the virus exists in animals and can spread to humans. Outbreaks have been increasing, with more human-to-human spread, since 2017.
This is partly due to very low levels of immunity to the mpox virus, which is related to the virus that causes smallpox. Mass vaccination against smallpox ceased more than 40 years ago globally, resulting in minimal immunity in populations today against mpox.

The WHO designation announced this week relates to clade I. Not only does this have a higher fatality rate, it has new mutations that enhance spread between people. These changes, and the global lack of immunity to mpox, make the world's population vulnerable to the virus.

**There are two different epidemics**

In 2022, an epidemic of mpox swept through non-endemic countries, including beyond Africa. This was a variant of clade II originating from Nigeria, called clade IIb. This was sexually transmitted, predominantly affecting men who have sex with men, and had a low fatality rate.

That epidemic peaked in 2022, with vaccines made available to people at risk in high-income countries, but there has been an uptick in 2024.

At the same time, large clade I epidemics were occurring in the Democratic Republic of the Congo, but with far less attention.

Vaccines were not available there, even in 2023, when there were 14,626 cases and 654 deaths. Mortality was 4.5%, and higher in children.

In fact, most cases and deaths in the Democratic Republic of the Congo have been children. This means most transmission there is non-sexual and is likely to have occurred through close contact or respiratory aerosols.

However, in 2023 an outbreak in a non-endemic part of the country, South Kivu in the east, appeared to be by sexual transmission, indicating
more than one epidemic and different transmission modes in the Democratic Republic of the Congo.

By mid-2024, there were already more cases in the country than all of 2023—more than 15,600 cases and 537 deaths.

Testing capacity is low in the Democratic Republic of the Congo, most cases are not confirmed by lab testing, and the data we have are from a small sample of genomic sequences from the Kamituga region of South Kivu.

This shows mutations to the clade I virus around September 2023, to a variant termed clade Ib, which is more readily transmissible between people. We do not have much data to compare these viruses with the viruses causing cases in the rest of the country.

**Mpxo is spreading internationally**

In the past month, the virus has spread to countries that share a border with the Democratic Republic of the Congo—Rwanda and Burundi. It has also spread to other east African countries, such as Kenya and Uganda. None of these countries have had mpxo cases previously.

In an interconnected, mobile world, cases may spread to other continents, as mpxo did in 2018 from Nigeria to the United Kingdom and other countries.

A few travel-related cases between 2018 and 2019 may have led to the large multi-country 2022 clade IIb epidemic.

**We have vaccines, but not where they are needed**
As the mpox virus and smallpox viruses are related (they are both orthopoxviruses), smallpox vaccines offer protection against mpox. These vaccines were used to control the 2022 clade IIb epidemic.

However, most of the world has never been vaccinated, and has no immunity to mpox.

The newer vaccine (called Jynneos in some countries and Imvamune or Imvanex in others) is effective. However, supplies are limited, and vaccine is scarce in the Democratic Republic of the Congo.

WHO's declaration of mpox as a public health emergency of international concern will help mobilize vaccines to where they are needed. The Africa Centers for Disease Control had already begun negotiations to secure 200,000 doses of vaccine, which is a fraction of what is required to control the epidemic in the Democratic Republic of the Congo.

**What happens now?**

Ultimately, a serious epidemic anywhere in the world is a concern for all of us, as it can spread globally through travel, as we saw with the COVID pandemic.

Controlling it at the source is the best measure, and WHO's latest declaration will help mobilize the required resources.

Surveillance for spread of this more serious version of mpox is also essential, bearing in mind that many countries do not have the capacity for widespread testing. So we'll have to rely on "suspected cases," based on a clinical definition, to keep track of the epidemic.

Open-source epidemic intelligence—such as using AI to monitor trends
in rash and fever illness—can also be used as an early warning system in countries with weak health systems or delayed reporting of cases.

A further complication is that 20%–30% of people with mpox may simultaneously have chickenpox, an unrelated infection that also causes a rash. So an initial diagnosis of chickenpox (which is easier to test for) does not rule out mpox.

Effective communication and tackling push-back against public health measures and disinformation is also key. We saw how important this was during the COVID pandemic.

Now, WHO will coordinate the global mpox response, focusing on equity in disease prevention and access to diagnostics and vaccines. It is up to individual countries to do their best to comply with the International Health Regulations, and the protocols for how such a global emergency are managed.

The World Health Organization has more information about mpox, including symptoms and treatment. For information about vaccine access and availability, contact your local health department or doctor, as this varies from country to country.

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