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An outbreak of Ebola in the DRC has been contained. What went right this time?

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An elaborate alert system is needed to test for Ebola. Baz Ratner/Reuters.

The World Health Organisation recently declared the end of the most recent outbreak of Ebola in the Democratic Republic of Congo (DRC).

By the time the outbreak was contained, eight people had been infected. Four survived. The first patient diagnosed in the outbreak (the index case) – a middle aged man who died on his way to hospital - got ill in April. It's not clear how he became infected. But those who helped transport him to the hospital also became sick.

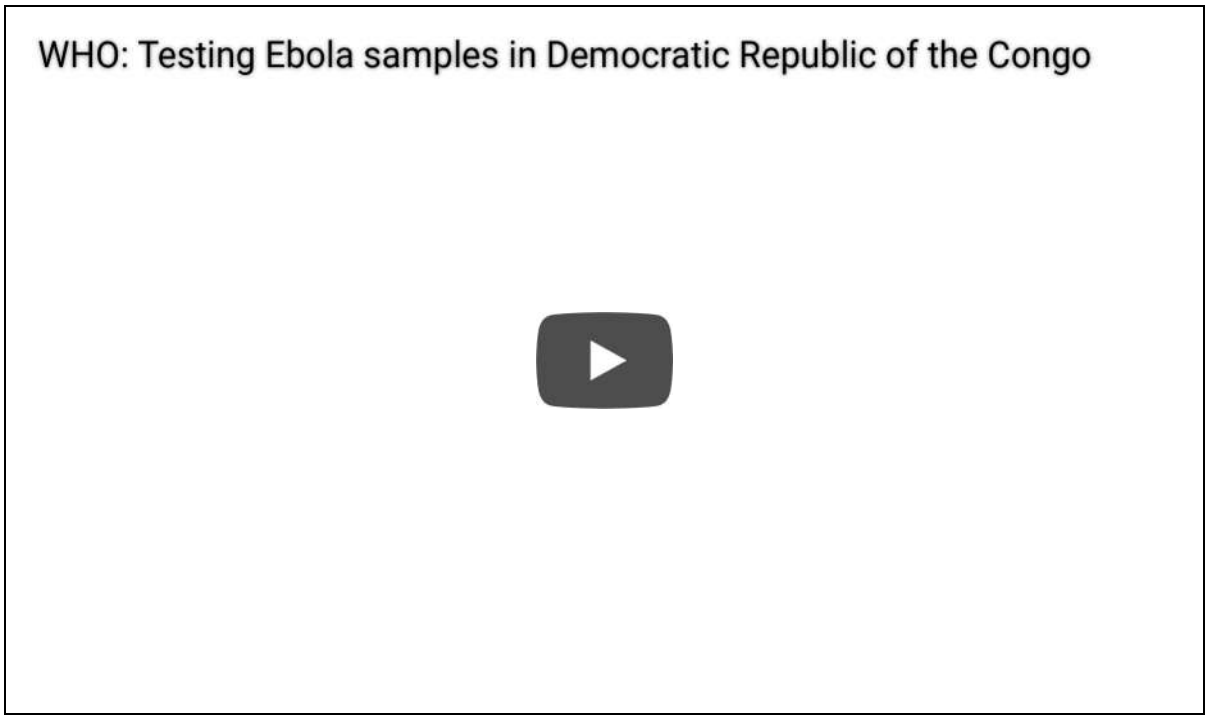
This outbreak had the second lowest number of patients among all the eight Ebola outbreaks in DRC since 1976. The last one in 2014 lasted for three months and three quarters of the 66 people diagnosed with the disease died. The outbreak was traced back to a pregnant woman who had slaughtered a monkey brought home by her husband. The disease spread when she underwent a traditional surgical operation after becoming ill.

The most recent outbreak was controlled more efficiently than the 2014 outbreak and sets an example for other countries. A combination of factors meant that it was possible to stop the disease from spreading. These included a prompt response, immediate diagnosis and treatment, a coordinated approach and the involvement of the community in identifying the case and minimising the spread of the outbreak.

The logistics

Following reports that an unknown illness had been identified in a remote community 1400 kilometres from the state capital, a multidisciplinary team of health workers and administrative officers was dispatched. They immediately swung into action conducting field investigations. They traced and collected blood samples from the suspected cases and sent the samples back to the capital for testing. The tests came back positive.

The response team used an alert system to notify members of the community of the cases. It also collected samples and tested them using a mobile laboratory.



WHO: Testing Ebola samples in the Democratic Republic of the Congo.

The team also succeeded in ensuring that health workers were not infected. In previous outbreaks in West Africa this had been a problem. Many health workers who came to help contracted the disease and transmitted it to patients and community members.

Tracing the source

Studies show that bats are the reservoir of the Ebola virus. Wild animals get infected when they come in contact with infected faeces or body fluids from the bats.

The virus is transmitted to people when they come in direct contact with fluids or when they eat meat from infected bush meat. An infected person then spreads the disease to other people. An outbreak ends when the human to human transmission is interrupted.

The incubation period of the virus ranges from 2 to 21 days which means that an infected person can take up to 21 days to develop symptoms.

An outbreak of Ebola is declared over when 42 days have passed since the last confirmed case tests negative for the virus. So, the count of the 42 days starts when the last confirmed case is declared free of the virus.

During these 42 days an elaborate surveillance system is put in place. This includes an alert system that can be activated if a new suspect is identified, as well as testing capability. The surveillance system remains in place for several weeks after the last confirmed case has been declared negative. This is to make that any cases can be identified. An eye is also kept open for possible infections from the wild.

Lessons learnt

The DRC experience underscores the fact that there are a number of areas that need special attention in an Ebola outbreak.

First, governments should have efficient nationwide surveillance systems to monitor priority health conditions, beginning at the community level. This early warning system can detect deviations from the norm, including suspected Ebola cases.

The surveillance systems should be linked to laboratory diagnostics for rapid confirmation of cases. This is especially possible today with the advent of field ready technologies reducing the turnaround time for diagnosis.

Secondly, an outbreak response team with regional operation centres should be established and tested before an outbreak begin. It requires coordination among the different stakeholders to enable a rapid response. They should also be in touch with international agencies in case of cross-border emergencies.

Thirdly, public health education plays a pivotal role because the quick spread of the disease is often fuelled by community practice like burial rites and acceptance of disease survivors. This means that appropriate communication on the risks of the disease, infection, treatment and management should be delivered to the public in a culturally appropriate way.

And finally, a resourceful public health system is necessary for a timely response. Governments should improve primary health care facilities by hiring and training more health workers and having efficient infrastructure, logistics, health information, governance and drug supply systems.

In all, we need to remain vigilant because we're dealing with "when" rather than "if" the next large outbreak happens.

Public health **Democratic Republic of Congo** **Ebola** **Haemorrhagic fever** **Ebola virus**