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Latest technology could help curb repeat Ebola crisis, experts say

Recent developments in surveillance technology could enable a swifter, more effective response to potentially deadly outbreaks of disease, a study has found.

The Ebola crisis has highlighted a need to bolster global surveillance and enhance the capability to react appropriately to further outbreaks, experts say.

This should include making use of modern technologies for detecting disease, sharing information in real time and analysing data.

A team of infectious disease experts from the University of Edinburgh and the Wellcome Trust Sanger Institute reviewed the global response to recent outbreaks, including Ebola, swine flu and Middle East Respiratory Syndrome (MERS).

They found that shortcomings in the response to Ebola highlight the need to adopt state-of-the-art techniques to detect and monitor potential infectious disease outbreaks anywhere in the world.

Technological advances such as rapid testing of patients and fast genetic analysis of viruses could help experts deal more effectively with emergency situations as they unfold, thereby saving lives.

Researchers say such tools are already available, and should be brought into public health planning around the world in order to help combat future disease outbreaks.

Their work, published in *Science Translational Medicine*, was supported by the Wellcome Trust and the EU Horizon 2020 programme (COMPARE).

Professor Mark Woolhouse, of the University of Edinburgh's Centre for Immunity, Infection and Evolution, said: "We cannot afford to wait for the next outbreak of infectious disease before putting effective systems in place to safeguard public health. Global surveillance would be costly, but in our highly connected world, early detection and rapid action against outbreaks are to everyone's benefit."

Professor Paul Kellam, Group Leader of Virus Genomics at the Wellcome Trust Sanger Institute, said: "Real-time analysis of virus genomes such as Ebola is an important addition to

our toolkit for investigating disease outbreaks. When combined with the date and location of the sample, we can determine how the virus spreads. These technologies can improve the management of an outbreak, thereby saving lives."

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