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Influence on policy: Reports on Ebola to the World Health Organization and other international stakeholders

28 Oct 2015

This case study forms part of our annual outcomes report, looking at how the MRC delivered impact through its research in 2014/15. More can be found in the [Outputs, outcomes and impact of MRC research: 2014/15 report](#) section of our website.



Work at the MRC Centre for Outbreak Analysis and Modelling at Imperial College London has helped to inform and stimulate the international response to the ongoing Ebola epidemic.

The Ebola outbreak was first reported to the World Health Organization (WHO) in March 2014 and can be traced back to a small village in south-eastern Guinea, where the [initial infection occurred in December 2013](#). However, it wasn't until the summer of 2014 that there was sufficient information available to appreciate the scale of the problem.

The outbreak had quickly become the deadliest occurrence of the disease since its discovery in 1976. A team of more than a dozen researchers at Imperial College conducted vital work analysing the line lists — information on where the patients lived, who they were in contact with, their demographics and symptoms. They were able to track the spread of the epidemic through time to estimate the transmission rate and incubation period. By linking the Ebola cases together, the researchers were able to determine the risk factors for transmission and to identify the most effective interventions for agencies on the ground.

This work was used to provide reports on the current Ebola epidemic to the World Health Organization (WHO), the UK Government, the US Centers for Disease Control and Prevention (US CDC) and other international stakeholders. Based on this analysis, the WHO declared the epidemic to be a "[public health emergency of international concern in August 2014](#)". As of 8 February 2015, the [total number of reported cases](#) was 22,894 and the number of deaths 9,177.

This work also fed into [a report](#) published in the New England Journal of Medicine (NEJM) in October 2014 which documented current trends in the epidemic and projected expected case numbers for the following weeks if control measures were not enhanced. The report found that cases of the disease were divided equally between the sexes. Until then, one view had been that women might be harder hit because they were more likely to care for the ill; another view had been that it would be men who might be more likely to bury the dead.

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The report also made various recommendations, such as reducing the length of time from symptom onset to hospitalisation to curtail transmission in the community. The individual fatality rate was also lower for hospitalised patients.

As a result of their work, staff at the MRC centre were interviewed by several media outlets, including [the BBC](#), [The Independent](#), [Yahoo! News](#) and by [The Guardian](#) on numerous occasions.

In addition to helping steer the emergency relief efforts in West Africa and controlling the epidemic, the evidence helped convey the seriousness of the situation, providing support for the public funding from Governments and charities. It is also important to note the contribution that such “real world” analysis of epidemics makes to UK resilience as the methods are also applied to monitoring and modelling disease outbreak scenarios in this country.



Image credit: Ebola workers in Liberia. Flickr/European Commission DG ECHO [CC BY 3.0](#)

Project reference number: MR/K010174/1

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