

What lessons have we learned from the 2014 Ebola epidemic in West Africa?

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An academic from the University of British Columbia has analysed, in a review published today in the *International Journal of Epidemiology*, what could have been done differently in the efforts to prevent the Ebola epidemic in 2014.

Professor Tom Koch remarks that: "Valuable as work so far has been, it does not address a fundamental question: How did many of the best minds in infectious disease, epidemiology, and disaster medicine miss the early spread of the Filovirus from a remote village in Guinea until its presence became regionally epidemic?" Although keen to stress that his review is in no way a criticism of efforts of medical professionals, Professor Koch does say that lessons can be learned about containing future disease outbreaks in rural areas with minimal resources.

In particular, the review focuses on the limits of patient location and travel mapping as a reason why it was difficult to contain Ebola from spreading. Because nobody anticipated such an expansive epidemic, regional disease protocols were not immediately implemented. Professor Koch argues that various forms of mapping could have helped containment. He explains that maps and census data were almost non-existent for the region in Guinea where the outbreak occurred. As a result, aggressive quarantine programmes were not quickly enacted to isolate the villages where Ebola was active and those at risk from villagers not displaying any symptoms.

Professor Koch also goes on to talk about involving the community in

mapping and education: "Employing community members in the mapping also serves anthropologically, involving [community members](#) in the disease response, teaching them about an expanding viral event and its local effects. In areas where there is distrust of foreign or official health workers, this can be critical."

A so far untested mapping approach is also discussed. Diffusion mapping, whereby smaller scale maps are used in patient interviews to identify patient travel patterns during the pre-symptomatic phase of disease incubation, could be helpful in anticipating patient load.

"This is a potentially invaluable, if so far untested, approach that would rapidly characterise local travel patterns and thus the potential for regional [disease](#) expansion." Professor Koch hopes that the review provides practical thinking on how mapping could significantly contribute towards providing a prompt response to an emergency outbreak such as Ebola in the future.

More information: Ebola in West Africa: Lessons we may have learned; Tom Koch; *International Journal of Epidemiology*; [DOI: 10.1093/ije/dyv324](#)

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