



SORT IT SUPPLEMENT: POST-EBOLA RECOVERY IN WEST AFRICA **EDITORIAL**

What was the effect of the West African Ebola outbreak on health programme performance, and did programmes recover?

Tom Decroo,¹ Gabriel Fitzpatrick,² Jackson Amone³

<http://dx.doi.org/10.5588/pha.17.0029>

The West African Ebola virus disease (EVD) outbreak was the largest in history. The vast majority of cases were reported in Guinea, Sierra Leone and Liberia. Altogether, 28 646 people were infected and 11 323 died.¹ One of the explanations for the extent of the outbreak was the lack of response of local health systems. These health systems were incapable of responding adequately to the outbreak due to a lack of human resources, information, research, supply of medical products, financing and governance.² The devastating effect of the Ebola outbreak stretched far beyond the number of Ebola cases, and resulted in the deterioration of the provision and utilisation of routine health care. On the one hand the EVD outbreak compromised the functioning of the health system, due to the deaths of many health care workers and the closure of health facilities,^{3,4} while at the same time communities had little trust in the capacity of providers to secure safe health care. In Ebola-affected communities many individuals feared to seek care, even for curable conditions.^{4,5}

The manner in which the provision and utilisation of programmes were affected by the outbreak was difficult to monitor during the outbreak response, given the state of emergency. All the attention of national and international health care providers was focused on limiting further spread of EVD, and reducing mortality in infected patients. We therefore studied in retrospect the effect of the Ebola outbreak on health system performance. Two Structured Operational Research Training Initiative (SORT IT) courses were organised, one in Liberia and one in Sierra Leone. The participants, the first authors of the manuscripts included in this supplement, were involved in the local health programmes during the Ebola outbreak. Course participation was defined as successful if the participant submitted a scientific manuscript to a peer-reviewed journal by the end of the course.⁶

Sixteen studies were conducted, and are assembled here for this special issue.^{7–22} Through the study of routine data the performance of a wide range of programmes was assessed before, during and after the outbreak. These studies present data from mother and child health care services, the human immunodeficiency virus (HIV), tuberculosis, vaccination, malaria, malnutrition and non-communicable diseases programmes. In addition, infection prevention monitoring, community health worker

programme and performance-based financing are included.

The different studies illustrate how service delivery and utilisation of most programmes dropped significantly during the Ebola outbreak. The greater the area affected, the sharper the decline, and the longer it took for performance to recover to pre-Ebola levels. The level of programme performance pre-Ebola also affected recovery post-Ebola. For example, in Liberia the already struggling immunisation programme was further weakened during the outbreak and took significant time to recover post-Ebola.¹⁹ Nevertheless, most programmes showed rapid recovery post-Ebola, while in others performance was sustained during the outbreak. This is illustrated by studies of the HIV programmes in both countries. Although the number of individuals tested for HIV declined, the proportion starting antiretroviral treatment increased during the outbreak. On the other hand, activities that implied examination of bodily fluids, such as HIV testing and sputum smear microscopy, were more likely to drop in terms of volume.

Some adaptive approaches were documented. In Sierra Leone, community health workers stopped using rapid diagnostic tests for suspected malaria cases and treated clients based on symptoms.¹⁵ Another Liberian study illustrated the feasibility of using a checklist to monitor infection prevention and control measures and thus guide safe health care delivery.²¹ Output from scarce human resources may also increase when appropriate motivation is present. One Liberian study showed that primary health care indicators recovered more quickly post-Ebola in a county that benefited from performance-based financing.²² Nevertheless, improved and sustained coverage of the population's health care needs will only be possible when the dramatic workforce gap is addressed, as shown by a Sierra Leone study.¹⁵

The operational research performed demonstrates the importance of studying the effect of the EVD outbreak on health system performance, and how adaptive approaches may improve the utilisation and provision of health services. Moreover, the results of these studies may inform priorities for the allocation of scarce resources. Another important output of the SORT IT course is the capacity building of the participants in operational research. Previous experiences of SORT IT courses have shown that an important pro-

AFFILIATIONS

- 1 Unit HIV & Infectious Diseases, Department of Clinical Sciences, Institute of Tropical Medicine, Antwerp, Belgium
- 2 Department of Public Health, Dr Steevens Hospital, Dublin, Ireland
- 3 Department of Clinical Services, Ministry of Health, Kampala, Uganda

CORRESPONDENCE

Tom Decroo
Unit HIV & Infectious Diseases
Department of Clinical Sciences
Institute of Tropical Medicine
Antwerp, Belgium
e-mail: tomdecroo2@gmail.com

portion of participants apply the acquired knowledge and skills to the monitoring of their programmes and new operational research projects. Some become mentors for junior researchers, thus increasing the critical mass of researchers.²³

When confronted by unprecedented challenges, the call for solutions generated by thinking outside the box grows louder. However, during the West African Ebola outbreak there was little space for the implementation and evaluation of innovative programmatic interventions. Currently there is a predominant call for increasing and fast-tracking research on diagnostic, preventive and curative interventions.²⁴ It is obvious that a rapid test, cure or vaccine would be true game changers, but as always the delivery of such new interventions will require complementary innovative programmatic approaches.

The SORT IT courses on the health system response to the Ebola outbreak were conducted after the outbreak. However, the research community should find ways to embed operational research in the response to such extended and devastating outbreaks. Although emergencies require quick decision making, these decisions would be more effective if evidence-informed. We therefore end this editorial with a concrete question: would it be feasible for the research community to organise a 'rapid response' operational research team to inform health system responses during an outbreak? Such operational research could employ quantitative and qualitative methods, and ensure that policy makers have access to evidence for decisions when time and resources are scarce.

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e-ISSN 2220-8372

Editor-in-Chief: Dermot Maher, MD, Switzerland

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