

In future, visa issues must not prevent African health workers from helping with clinical trials.

time involved. Although the various teams of researchers worked hard to collaborate, for instance by standardizing methods and sharing data, on the ground it felt as if we were in a chaotic 'land grab' for sites and patients.

## **READY FOR NEXT TIME**

Despite the lack of a proven treatment for Ebola, our efforts and those of other researchers over the past year will have been worth it if they help to ensure that, next time, the global community is better prepared. Humanitarian organizations routinely mobilize diverse groups of people, including local workers, to help to deliver aid after earthquakes or tsunamis; research teams need to be mobilized just as quickly.

First, an on-call global task force consisting of, say, 100-200 clinical-trial staff spread across five different countries should be established. This could be funded by agencies such as the Wellcome Trust, or by philanthropic organizations, such as the Bill & Melinda Gates Foundation (which partners with medical humanitarian charities). These people should be employed in everyday studies and be trained for outbreak research so that they can be deployed immediately to coordinate a trial in the event of an epidemic. Research centres that are well positioned and located to handle outbreaks could collaborate and provide the missing diagnostic capacity by making their laboratory expertise known and available.

Second, contractual agreements between parties with stakes in a clinical trial will always be necessary. Probable snagging points such as concerns over drug pricing or data ownership - are easy to predict and should be addressed to some degree ahead of time. According to one contract template, the company providing the drug would have, say, exclusive access to the data for a limited amount of time; in another, the data would be made public as soon as they are generated.

Finally, an international, neutral body needs to be put in charge of outbreak research. Before the next outbreak, such a body could hammer out the details of crisis trial staffing and contracts. Most importantly, this organization could set the research priorities during an epidemic and ensure that adequate numbers of sites and patients are allocated to the different teams involved. The WHO is the obvious agency to do this but it currently lacks the necessary funds, mandate and support.

In the case of the Ebola epidemic, instead of having multiple research groups, each struggling to complete their trial because of insufficient numbers of patients, the WHO could have directed all the teams to recruit patients for an agreed prioritized trial. This would have been a better approach scientifically and ethically. If a trial is stopped because of insufficient numbers of participants, then every patient who has taken part in it has taken a risk needlessly.

## **EBOLA CLINICAL TRIALS**

## Three successes

The trial conductors (the Epidemic Disease Research Group Oxford) showed that clinical trials do not have to be expensive, slow and difficult.

The clinical staff employed did an incredible job. Many had never been to Africa before, and were plunged into gruelling conditions. Their willingness to leave their families and work long hours without dropping standards speaks to the feasibility of an on-call global task force for clinical trials.

The research teams set a precedent for data sharing, spurred by the International Severe Acute Respiratory and Emerging Infection Consortium. Teams agreed on what endpoints to measure in trials and standardized the types of data collected. They also shared experiences in meetings led by the World Health Organization, teleconferences and on a dedicated website (www.ebolaclinicaltrials.org). T.L.

To obtain a solid evidence base for the treatment, prevention and management of infectious diseases, everyone involved in outbreak response - aid agencies, ministries of health, health-care workers on the ground - needs to have research embedded in their plans long before an epidemic takes hold. Only then can experimental treatments be tested within days, not months. 
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- Lamberti, M. J., Brothers, C., Manak, D. & Getz, K. *Ther. Innov. Regul. Sci.* **47**, 101–109 (2013).
- 2. Nature 513, 143-144 (2014).
- 3
- Cohen, J. Science **346**, 911 (2014). Florescu, D. F. & Keck, M. A. *Expert Rev. Anti. Infect. Ther.* **12**, 1171–1178 (2014). 4.
- Matthes-Martin, S., Boztug, H. & Lion, T. Expert 5. Rev. Anti. Infect. Ther. 11, 1017-1028 (2013).
- 6 Painter, W. et al. Antimicrob. Agents Chemother. 56, 2726-2734 (2012).

## **CLARIFICATION**

The Comment 'Agree on biodiversity metrics to track from space (A. K. Skidmore et al. Nature 523, 403-405; 2015) referred to Copernicus as a European Space Agency (ESA) initiative. In fact, it is a European programme to which ESA contributes.