Ebola: missed opportunities for Europe–Africa research

The current unprecedented Ebola virus disease outbreak in parts of west Africa, which has caused more than 11,200 deaths, has emphasised how the medical and scientific communities lack specific pathways for tackling relevant logistical, design, and ethical issues for assessment of novel diagnostics, treatments, and vaccines through implementation of appropriate clinical trials. The phenomenal outbreak arose because of several weaknesses in local, regional, and international public health responses, which delayed provision and implementation of effective interventions. However, several initiatives greatly supported outbreak management. In particular, the immediate support for Ebola virus disease advanced diagnostics provided by the European Mobile Laboratory Consortium and QUANDHIP represented an exemplary vision of long-term planning and coordination for the support of public health interventions and capacity bundling.

On the research front, several important weaknesses were identified, especially in the implementation of translational research. A remarkable time-lapse between the start of the Ebola virus disease epidemic and the initiation of clinical research projects was reported. The main hindrance to research was insufficient infrastructure to promptly implement an ethically sound and solid research framework, to run in parallel to outbreak management interventions. Several issues hampered the effective and timely use of grants for Ebola virus disease research. First, funds for research were not readily forthcoming, and only made available when the number of patients with Ebola virus disease was declining. Second, operating research consortia on emerging infections could not play a substantial part in the current outbreak. Finally, most research groups or consortia that did research into the Ebola virus disease outbreak did not have any substantial involvement with partners from affected African countries.

These drawbacks reveal an urgent need for an effective action plan, including an ethical and logistical framework, to be established at the European level in close collaboration with institutions in low-income countries, particularly in Africa, for coordination and implementation of translational research during infectious disease outbreaks. This plan should be managed by an inclusive, goal-driven, and strongly committed Europe-African consortium focusing on novel and re-emerging infectious diseases threatening global health security.

The consortium should bring under the same umbrella the main European experts and institutes focusing on preparedness, diagnostics, clinical management, and infection control for diseases with epidemic potential, together with the most relevant European networks of isolation and high isolation facilities, biosafety level-4 laboratories, emergency departments, travel medicine experts, intensive care physicians, and selected surveillance and clinical networks from developing countries, with a special focus on southeast Asia and sub-Saharan Africa. This consortium should have a dual operational mode: to do research (during the interepidemic periods) and to promptly translate results into rapidly implementable actions during epidemics.

To implement rapid and effective clinical research programme including randomised controlled trials in case of epidemics or pandemics, the consortium should prioritise the several actions, as outlined in the panel. Research that integrates and streamlines skills and knowledge, avoids duplication, focuses efforts on specific topics with the use of the best available expertise alongside a long-term and well planned strategy, can be of added

Panel: Suggested priority actions for a European–African consortium focusing on novel and re-emerging infectious diseases threatening global health security

- Constitution of a strong, unified coordination body, able to integrate and streamline all existing networks and promote strong participation of African institutions
- Development of a pre-arranged, flexible, ready-to-apply methodological framework, including regulatory and ethical aspects, for the immediate implementation of clinical studies, with special focus on randomised controlled trials
- Development of syndrome-based clinical protocols that can be rapidly adapted to any new emerging diseases
- Development of an integrated system to predict the emergence of zoonotic diseases by epidemiological modelling of human and animal interfaces
- Development of innovative and smart platforms for data sourcing, collection, and analysis, to give clinicians continuously updated information (eg, smartphone-based systems)
- Development of a set of potentially useful interventions that could be rapidly available for translational research or investigational use during outbreaks
- Establishment of a system for rapid, web-based training within a European Union perspective
- Practical training of a pool of professionals from European and African institutions to improve proper skills to do translational research in different scenarios
- Post-outbreak assessments of research and preparedness activities to assess the real effect of the EU-funded project during the outbreak, and to identify the many lessons to be learned
value for Europe and the rest of the world. Establishment of an adequate and effective plan for future outbreaks will need strong commitment and earmarked financial support from all funding agencies, particularly the European Commission. Effective preparedness for clinical research is also critically dependent on establishment of longlasting, trusting, international partnerships before an event. The time has now come to align these resources, scientific expertise and experience, and political commitment and goodwill so that the next Ebola virus or other infectious disease outbreak can be stopped in its tracks before it becomes an epidemic.


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We declare no competing interests.