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Filoviridae CORC Scientific Consultation

10 Research Priorities in Response to the Ebola Outbreak in DR Congo and Future Filovirus Preparedness

Working Document

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R&DBlueprint

Powering research
to prevent epidemics

Background

On 4 September 2025, health authorities in the Democratic Republic of the Congo (DRC) declared an Ebola virus disease outbreak in Kasai Province, with 28 suspected cases and 15 deaths, including four health workers. The outbreak underscores the urgent need to combine rapid field response with a coordinated research agenda to accelerate advances in Ebola medical countermeasures.

In response, on 5 September 2025, ANRS-MIE and WHO convened a Filovirus Collaborative Open Consortium (CORC) Scientific Consultation. The meeting brought together experts from the DRC and the international research community to assess the evolving situation, share lessons learned, and define joint research priorities.

From these discussions, 10 key research actions were identified, reflecting a dual imperative:

1. Support effective, real-time outbreak response
2. Strengthen long-term preparedness for future filovirus epidemics

An important recommendation emerging from the consultation was the creation of three expert subgroups to focus on therapeutics, vaccines, and laboratory science. These groups will help ensure that immediate research needs are met while advancing longer-term preparedness.

By pursuing these priorities through coordinated platforms such as the Filovirus CORC and Partner Trials, the global health community can reinforce both immediate response efforts and sustainable preparedness against future outbreaks.

Objectives of the Consultation:

- Reaffirm the importance of research before, during, and after filovirus outbreaks.
- Identify and address current knowledge gaps.
- Promote collaboration, efficiency, and transparency in research methods and the sharing of findings.

Topics covered:

1. Current outbreak situation in DRC
2. WHO & partners' response
3. Clinical trials and therapeutics
4. Post-exposure prophylaxis (PEP) research
5. Vaccine research
6. Laboratory and genomic capabilities
7. Research coordination and data sharing
8. Social science and community engagement

10 Research Priorities in Response to the Ebola Outbreak in DR Congo and Future Filovirus Preparedness

1. Strengthen Rapid Diagnostics and laboratory Capabilities

Field teams reported delays due to logistical bottlenecks, poor road access, and improper collection materials, all of which combined to push back timely diagnostic confirmation. Research priorities include validation of rapid diagnostic tests (RDTs), deployment of minimal diagnostic panels to remote sites, and expansion of metagenomic sequencing for unexplained cases. Building sustainable local capacity ensures faster case confirmation, supports differential diagnosis, and enables real-time genomic surveillance, enhancing outbreak control.

2. Advance Therapeutic Evaluations

Adaptive clinical trials must remain central to outbreak research. Partners Trials, already activated during recent Marburg and Ebola events earlier in 2025, offers a platform to evaluate small-molecule antivirals, monoclonal antibodies, and host-directed therapies. Designed for resource-limited settings, its adaptive, factorial approach allows testing multiple domains with a 28-day mortality endpoint. Current priorities include assessing remdesivir and low-dose corticosteroids (in combination with monoclonal antibodies). Increasing monoclonal doses could be also evaluated. Embedding such evaluations within routine care ensures both improved patient outcomes and cumulative regulatory evidence across outbreaks.

3. Accelerate Clinical Trial Approvals and Regulatory Preparedness

Rapid trial activation requires streamlined regulatory processes. Early submission of protocols through AVAREF and national ethics bodies is essential, despite logistical delays in outbreak settings. With pre-approvals and developing virus-specific annexes to core protocols, the DR Congo and the other 17 at-risk countries can shorten activation timelines and enable faster trial deployment during future epidemics. Collaborative frameworks like the Filovirus CORC as well as sub-studies on pathophysiology, diagnostics, and treatment center innovations, can help to ensure regulatory readiness for a rapid response.

4. Optimize Clinical Care and Supportive Therapies

Supportive care remains the backbone of Ebola treatment, in resource-limited settings, especially where advanced interventions are infeasible. Research is needed to refine standard-of-care packages: fluid and electrolyte management, transfusion triggers, tranexamic acid (TXA), antimicrobial treatment of co-infections, and oxygen therapy. Optimizing these protocols reduces mortality and provides a stable foundation for embedding therapeutic trials.

5. Expand Understanding of Pathophysiology and Clinical Complications

Gaps remain in understanding Ebola-associated complications such as acute kidney injury, coagulopathy, neurologic sequelae, and bacterial or malaria co-infections, hinder effective treatment. Special populations like pregnant women, children, and survivors, require focused study. Characterizing these complications informs both clinical guidelines and trial design, improving outcomes for the most vulnerable.

6. Enhance Research on Pre and Post-Exposure Prophylaxis

Recent epidemiological data, including a peer-reviewed NEJM study led by Muyembe and colleagues (2024)[1], show that the risk of Ebola virus disease among contacts is low (6.6 per 1,000 overall). These data also confirm strong and rapid protective effects of Ervebo vaccination, with few secondary cases once the index case was vaccinated. This raises concerns about the statistical power and feasibility of post-exposure prophylaxis trials; emerging epidemiological data and risk of EVD evidence should be considered when designing these trials.

7. Continue Licensed Vaccine Deployment and Next-Generation Development

The global stockpile of Ervebo (rVSV-ZEBOV) remains a cornerstone of outbreak control, with rapid International Coordinating Group (ICG) mechanisms ensuring availability. The WHO Strategic Advisory Group of Experts (SAGE) recommends using the licensed rVSV-ZEBOV vaccine (Ervebo) in a ring vaccination strategy to control Ebola outbreaks[2]. This approach targets contacts and contacts of contacts of incident EVD cases during an Ebola outbreak response. Vaccination of third-level contacts of Ebola cases should be implemented only when vaccination of contacts and contacts of contacts is completed and if vaccine doses and human resources allow. SAGE reconfirmed the use of a single dose of rVSVΔGZEBOV-GP vaccine in these situations, in which high efficacy has been demonstrated from day 10 post-vaccination onwards. All contacts and contacts of contacts identified in a ring should be targeted for vaccination including children from birth, pregnant women and lactating women.

8. Expand Research on Treatment Center Design and Operational Innovation

Remote, resource-constrained environments demand innovative treatment models. Designs such as Integrated Disease Treatment Modules (IDTM), High-Efficiency Facilities (HEF), and CUBES warrant systematic evaluation for safety, efficiency, and community acceptability. Operational research on referral pathways, logistics, and energy/water infrastructure is equally important to strengthen both patient outcomes and health worker safety.

9. Scale-up Training, Preparedness, and Data Sharing

Scaling up responder training is essential. Initiatives like FiloTreat can expand clinical and research competencies among African responders, enabling rapid trial activation during outbreaks. Equally important is harmonization of clinical and research data across partners, ensuring that findings contribute to cumulative evidence rather than fragmented efforts. The CORC framework provides a vehicle for multi-partner coordination and transparent data sharing.

10. Support Research in Social Science and Community Engagement

During the 2018-2020 outbreak in North Kivu, and despite the outbreak occurring in a setting of armed conflict and insecurity, more than 95% of contacts were successfully listed, and more than 95% of listed contacts were vaccinated. These high levels of participation were achieved through sustained community engagement and trust-building efforts[1]. Social science research must remain integral to outbreak response. Communicate research findings and limitations clearly to non-specialists using robust methods to address epidemic challenges. Integrate social science with epidemiology to study sociocultural and behavioural determinants of health, engaging communities early to build trust, address

[1] Muyembe-Tamfum J-J, Ahuka-Mundeke S, Ilunga Kalenga O, et al. Ebola Virus Disease Outbreak — Democratic Republic of the Congo, 2018–2020. New England Journal of Medicine. 2022;386(8):780–791. doi:10.1056/NEJMoa2119224

[2] Extraordinary meeting of the Strategic Advisory Group of Experts on Immunization on Ebola vaccination, May 2024: conclusions and recommendations. 5 July 2024. Meeting Report. WER: No 27, 2024, 99, 355–362. https://iris.who.int/bitstream/handle/10665/378109/WER9927-355-362.pdf

misinformation, and promote acceptance of clinical trials. Simplify and share results in actionable formats, and institutionalize Good Participatory Practices (GCP) to ensure transparency, accountability, and culturally relevant, ethical vaccine and therapeutic trials. A multidisciplinary approach integrating virology, epidemiology and the social sciences is crucial to addressing critical gaps in Ebola research, including identifying spillover mechanisms and understanding viral persistence. Developing targeted interventions to prevent re-emergence from survivors is essential for strengthening outbreak prevention.