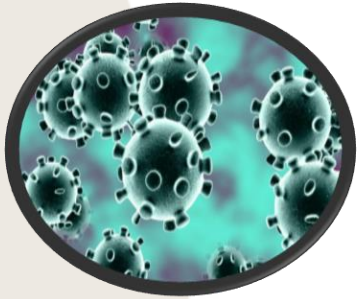

Strategic Agenda for Filoviruses Research and Monitoring (AFIRM)

WHO-AFIRM Strategy Roadmap 2021-2031

Meeting of 17th May, 2022

R&DBlueprint

Powering research
to prevent epidemics

Anticipation

1. What data needs to be collected for prevention of future outbreaks? What kind of analysis models and co-operations do we need to acquire & analyze such data?

2. Would it be worthwhile to setup a web-based filovirus surveillance database?

3. Do we have the right diagnostic tools? If not, what tools need to be implemented?

4. What tools do we have in place to prevent relapse and initiation of outbreaks via transmission from survivors?

5. What is the role of domestic animal and wildlife surveillance for outbreak prevention? What is the best strategy?

Reinforcement

1. What data is missing to allow immunobridging of filovirus vaccines? What is the fastest strategy to acquire such data?

2. Is it possible to develop multivalent virus vaccines?

3. How can we better accelerate the development of vaccines against Marburg and Sudan viruses?

4. Are there vaccines based on other platforms in the pipeline that can reinforce the response after vaccination of the current approved vaccines?

5. Is there a need to boost immunity in survivors?

6. Input on WHO protocol for filovirus vaccine trials.

Cure

1. How can we better share the knowledge gained in previous outbreaks to treat filovirus patients? Is this knowledge translatable to all filovirus diseases?

2. Which interventions improve outcome, in particular preventing multiorgan failure?

3. What post-exposure therapies or combinations thereof are preferred? Do they have prophylactic potential as well?

4. How can we improve collaboration in endemic countries?

Cure of filovirus diseases is still a major challenge. Currently, there are no filovirus-specific post-exposure therapies and there is substantial inequity of resources and outcome for patient treatment in filovirus endemic and non-endemic countries. Main points raised by experts

1- There is important knowledge gained from previous epidemics, which show for example that risk factors for severe disease (viral loads, organ failure) can be modified. There is an urgent need to share this knowledge and standardize treatment across medical caretakers globally.

2- Research in post-exposure therapies with flexibility to use also in prophylactic settings is a high priority.

3- Can multiple treatments provide augmentative protection? If so, drug combinations should be an option in endemic country emergency settings alongside supportive care.

4- Optimization of supportive care during outbreaks. Which interventions lead to an improved outcome? Better understanding of the mechanisms involved in end organ failure.

5- Point of care rapid tests for febrile illnesses using multiple panels → could this lead to faster and more accurate treatment initiation?

6- Bolster collaboration between African countries → One Health

7- Despite many improvements, contact tracing during an emergency is very undeveloped in endemic countries and needs improvement

8- Post-Ebola syndrome and Ebola relapse require research to assist in treatment and prevention

CURE breakout session

Chairs

Janet Diaz (WHO)

Simon Funnell (WHO, UKHSA)

https://who.zoom.us/j/91726763859

password: AFIRM_2022

Cure

1. How can we better share the knowledge gained in previous outbreaks to treat filovirus patients? Is this knowledge translatable to all filovirus diseases?
2. Which interventions improve outcome, in particular preventing multiorgan failure?
3. What post-exposure therapies or combinations thereof are preferred? Do they have prophylactic potential as well?
4. How can we improve collaboration in endemic countries?

Cure

1. How can we better share the knowledge gained in previous outbreaks to treat filovirus patients? Is this knowledge translatable to all filovirus diseases?

Lessons learned? Recent events ISARICC light case report form.
Pooled forms from disparate countries
South Africa was largest contributor. Enabled pooled lessons learned. Leverage ISARICC.
RECOVEY study reduced paperwork. One side of paper
Maybe reduce inputs as symptomatology is now possible to refine. Share data earlier?
PEP McAb confusion on use. Accelerate generic protocol
There is a new predictive score of death - may be possible to use this
PEP treatment – important to identify as dry or wet (division is difficult).
Many predictors identified in Gulu outbreak. Was same as Zaire.
FDA – knowledge gap – 2 drugs approved as group therapeutics.
PALM trial – some individuals may have had resistant virus
2nd gap – data suggest insufficient dosing of McAbs, Causes if known why may help

Cure

2. Which interventions improve outcome, in particular preventing multiorgan failure?

Data sets need to be time and location neutral. We need to Harmonise outputs.
How is viral RNA quantification remain constant over time?
Records were kept from Gulu. Maybe interrogate from survivors vs non-survivors and relapse?
Richard Kojan – Inflammatory markers may help along with rational approach to rehydration
CTU arrival usually have biochemistry and viral load – missing monitoring over time. Examine each death and how parameters evolve over time
McAbs now available don't arrive fast enough – need strategic and logisitic support to ensure periphery receive drugs in time for early treatment. Organ failure and shock – other treatments to supplement severe phase *eg* brain infection
Operational research – implementation of different approaches
Pathophysiology has many unanswered questions. Autopsy is difficult but can it be done? A lot to be learned but negotiate now
Need to conduct gene sequencing on all patients to compare admission vs death or survival? Systematic analysis
Longitudinal analysis and autopsy needs reinforced by other participants
Minilab for blood cultures – sepsis checks

Cure

3. What post-exposure therapies or combinations thereof are preferred? Do they have prophylactic potential as well?

PEP. Oral bioavailable form of antiviral (eg Remdesivir)
This may warrant and NHP study? Contacts may not want IV.
Some molecular are proven effective as PEP. Some high risk contacts received vaccine as PEP but still died. Maybe more McAbs?
How can we use PEP in context of vaccination?
If numbers are small, do we have biomarkers of PEP success and/or failure
Can we show evidence of viral replication to say infection was aborted
What does success look like in the context of a trial?
Vaccine can give fever and other symptoms.
Patients didn't get to ECT in time due to confusion about this
Oral antiviral also useful for follow up of survivor.
Eg Remdesivir can reduce virus in immune privileged organs in survivors
Immune modulators need to be put on the agenda for late phase disease
Need to look at medium at long term

Cure

4. How can we improve collaboration in endemic countries?

Regulatory agencies eg emergency task force for Bio Pub Health threats
Merging of trials into international trials?

EMA, FDA EDCTP ALIMA and solidarity. Trial protocols so that core data can be pooled

PEP McAbs and small molecules trials in epidemic settings
Richard KOJAN – Good governance, platforms and leadership are key
example PALM, can be done

Robust structure to ensure a longer trial remains in place over time
Needs long term buy-in over time to achieve targets