



Psychosocial effects and intervention challenges during the re-emergence of Crimean–Congo Hemorrhagic Fever (CCHF) in Senegal

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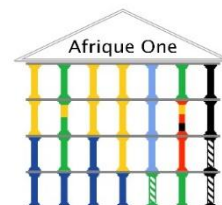
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Anthropocene Navigators community



Sénégal

Context

Climate change contributes to the emergence and spread of zoonotic diseases.

Epidemics (e.g. CCHF) fueled fear, misinformation, and denial - Cultural beliefs and mistrust hinder public health interventions

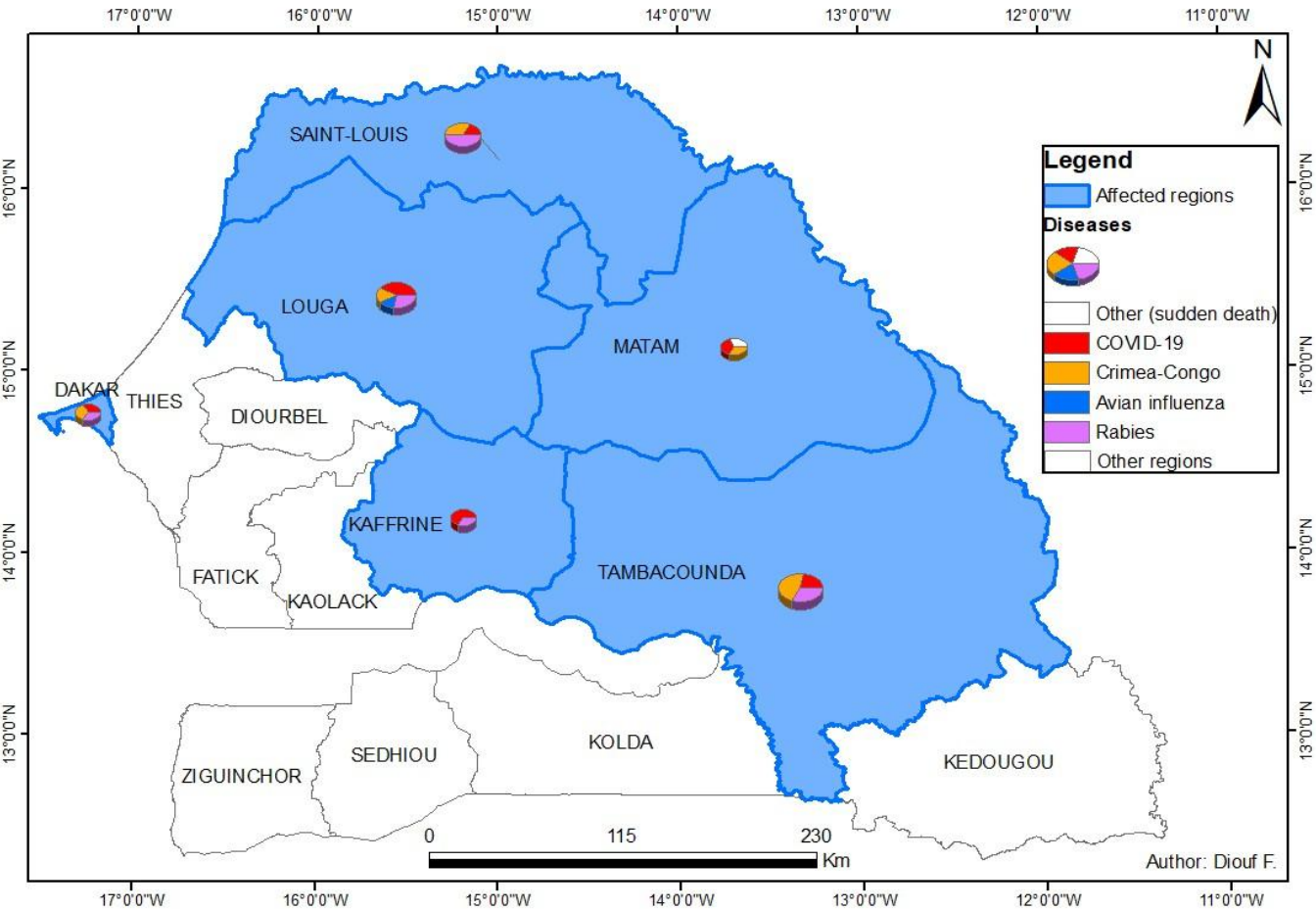
Global health initiatives (e.g. Ebola. Covid-19) using OH approach :
- lacks meaningful community inclusion - mental health dimensions remain underrepresented

This study uses CCHF as a case to show how **psychosocial factors** can undermine epidemic response in a climate-sensitive context.

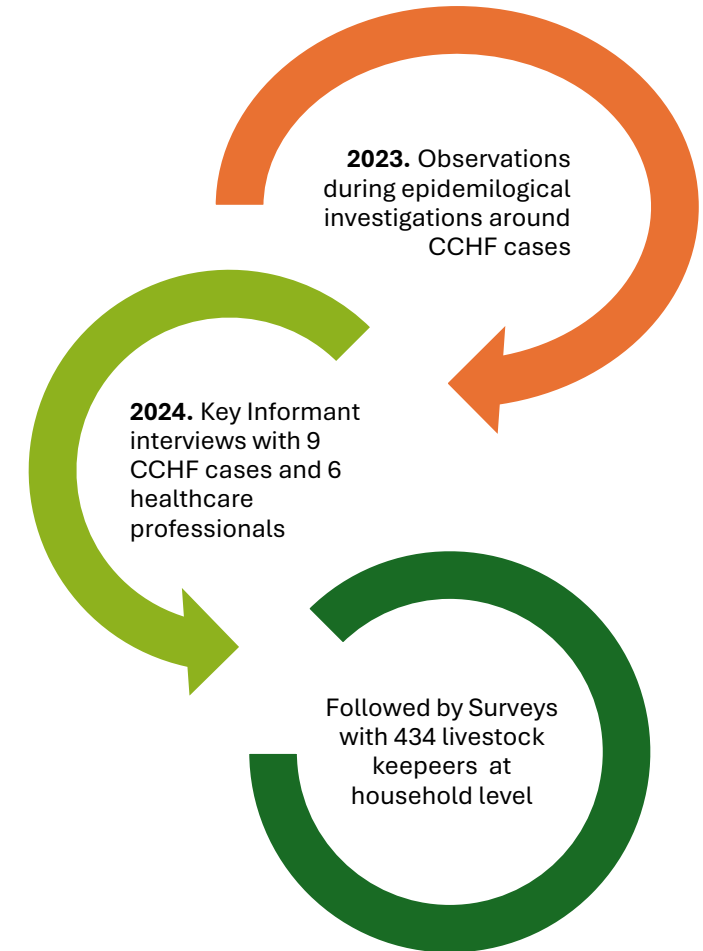
How do psychosocial mechanisms shape community responses to emerging zoonotic diseases (e.g., CCHF) and influence the effectiveness of public health interventions?

Methods

Senegal, affected regions



Data collection process and tools



Results

Psychosocial Mechanisms & Community Response

- **Fear & stigma**
High fear, panic, and **social stigma** during outbreaks (e.g CCHF)
- → *Avoidance of care & disengagement from health services*
- **Breakdown of trust**
Control measures (isolation, quarantine) perceived as coercive or unclear
- → Resistance to interventions and reduced cooperation
- **Health worker strain**
High stress, risk exposure, and ethical dilemmas
- → *Weakened response capacity & potential decline in care quality*



Results

Low risk perception & knowledge gaps

Limited awareness of zoonotic diseases and reliance on informal practices

→ *Delayed reporting & poor adherence to prevention*

Table 2: Perception of the Severity of Crimean-Congo Hemorrhagic Fever (CCHF)

Response Category	n	%
No idea	245	56.5%
Not serious	3	0.7%
Slightly serious	29	6.7%
Very serious	157	36.2%
Total	434	100%

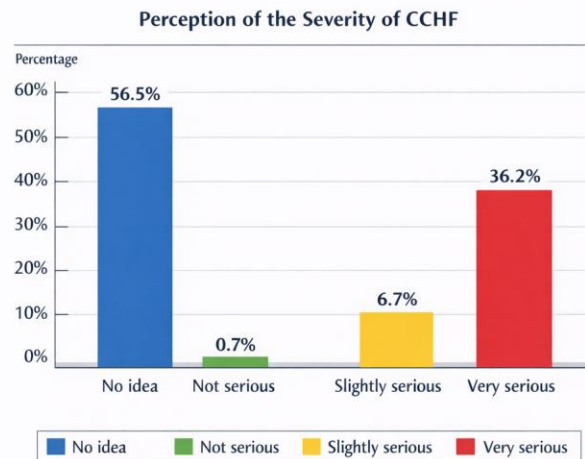
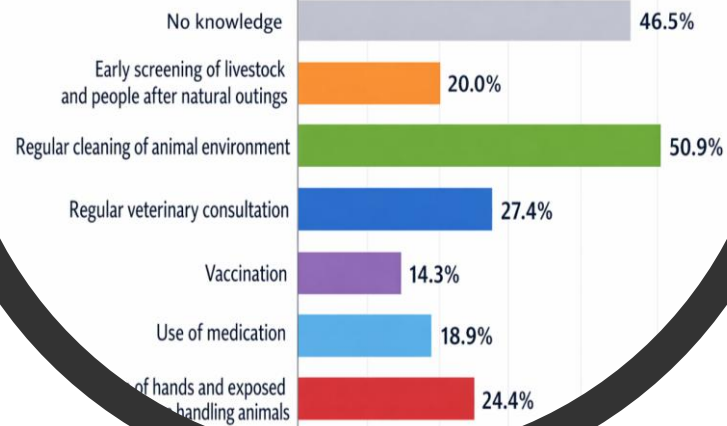


Table 1: Knowledge of Animal-to-Human Transmission Diseases

Variable	Response Option	n	%
Knowledge of animal-to-human diseases			
Yes		80	18.4%
No		354	81.6%
Total		434	100%
Knowledge of viral diseases transmitted by ticks			
Yes		138	31.8%
No		296	68.2%
Total		434	100%
Modes of transmission (ticks)			
No knowledge		6	1.4%
By blood contact from an infected animal to a human		106	24.4%
By a bite from any tick		32	7.4%



Results



Psychosocial mechanisms shape how communities perceive risk, trust authorities, and adopt - or reject - public health measures.

Risk perception :

- People do not respond to objective risk, but to perceived risk
- Local languages and practices ≠ Medical terms



Conclusion & Recommendations

- **Move beyond a purely biomedical approach**
 - Zoonotic risks require systemic and multidisciplinary responses
- **Integrate psychosocial dimensions**
 - Structured mental health support
 - Community engagement and trust-building
 - Culturally adapted communication
- **Strengthen system-level understanding**
 - Link environmental change, disease emergence, and human behavior
 - Improve preparedness and resilience in climate-vulnerable settings

Effective responses need to take into account local beliefs, communication, and trust-building.

Thank you !

- **Climate challenges link to [emerging zoonotic diseases](#) :**

- **Rising temperatures**

- Mosquitoes and ticks survive in more regions
- Pathogens replicate faster inside vectors
- Result: higher transmission rates

- **Shifting geographic distribution of vectors**

- Diseases move to previously unaffected areas
- Populations lack immunity and preparedness
- Example: West Nile, Rift Valley Fever, CCHF

- **Changes in animal migration and behavior**

- Loss of biodiversity alters host–pathogen balance
- Favors species that carry zoonotic diseases
- Increases spillover risk

- **Changes in rainfall patterns**

- Heavy rain → more mosquito breeding sites
- Drought → animals & humans cluster around water
- Result: increased transmission opportunities

- **Extreme weather events (floods, droughts, storms)**

- Floods, droughts, storms disrupt ecosystems
- Wildlife, livestock, humans mix more than usual
- Sanitation breakdown increases exposure

- **Indirect pressure on food systems, etc.**



<https://www.brookings.edu/articles/confronting-the-challenges-of-climate-change-on-africas-coastal-areas/>



<https://climateaction.africa/5-environmental-challenges-africa-2024/>

- E.g. [Global Health initiatives](#) not aligned with southern context
 - Community resistance
 - Failing of partnerships
- Evidence from past outbreaks (Ebola, Covid-19...)
 - Mistrust and low compliance with health measures
- Distrust in foreign intervention
 - Global health measures



One Health Technical Meeting of ECOWAS Member States

<https://www.wahooas.org/web-ooas/en/actualites/benin-burkina-faso-cabo-verde-cote-divoire-gambia-ghana-guinee-guinee-bissau-liberia-11>



https://www.ecdc.europa.eu/en/about-ecdc/partners-and-networks/international-cooperation/africa-cdc-ecdc-partnership?utm_source=chatgpt.com



<https://climatestrategy.ecowas.int/en/>



Source: https://www.eeas.europa.eu/delegations/sierra-leone/actions-say-more-words-illustrations-eu-africa-partnership_en?s=119

References

1. Binagwaho, A., & Mathewos, K. (2022). Infectious disease outbreaks highlight gender inequity. *Nature Microbiology*, 7, 361–362. <https://doi.org/10.1038/s41564-022-01075-2>
2. Carlson, C. J., Albery, G. F., Merow, et al. (2022). Climate change increases cross-species viral transmission risk. *Nature*, 607, 555–562. <https://doi.org/10.1038/s41586-022-04788-w>
3. Food and Agriculture Organization of the United Nations. (2025). *Understanding zoonotic diseases: A global health challenge*. <https://www.fao.org/one-health/highlights/understanding-zoonotic-diseases/en>
4. Gueye, Y.-B., Dieye, et al. (2025). Crimean-Congo Hemorrhagic Fever in Senegal in 2023: Epidemiological Situation and Response. *Santé Publique*, 37(2), 239–244. <https://doi.org/10.3917/spub.252.0239>
5. Hawman, D. W., & Feldmann, H. (2023). Crimean–Congo haemorrhagic fever virus. *Nature Reviews Microbiology*, 21(7), 463–477. <https://doi.org/10.1038/s41579-023-00871-9>
6. Ilboudo, A. K., Oloo, S. O., Sircely, J., et al. (2025). Spatial analysis and risk mapping of CCHF in Sub-Saharan Africa. *Scientific Reports*, 15, 2292. <https://doi.org/10.1038/s41598-025-85873-8>
7. Karanam, S. K., et al. (2025). CCHF: Pathogenesis, transmission and public health challenges. *World Journal of Virology*, 14(1), 100003.
8. Mora, C., McKenzie, T., Gaw, I. M., et al. (2022). Over half of known human pathogenic diseases can be aggravated by climate change. *Nature Climate Change*, 12, 869–875. <https://doi.org/10.1038/s41558-022-01426-1>
9. Ngom, D., Khoulé, A., Faye, E. T., et al. (2024). CCHF outbreak in Northern Senegal: prevalence in livestock and ticks and epidemiological implications. *Zoonoses and Public Health*, 71(6), 696–707. <https://doi.org/10.1111/zph.13136>
10. Norman, F. F., et al. (2025). Changes in the epidemiology of CCHF: impact of travel and a One Health approach. *Travel Medicine and Infectious Disease*, 64, 102806.
11. Onyeneho, N. G., et al. (2023). Impact of Ebola epidemic on women in DRC. *Journal of Immunological Sciences*.
12. Rocklöv, J., & Dubrow, R. (2020). Climate change: an enduring challenge for vector-borne disease prevention and control. *The Lancet Infectious Diseases*, 20(5), e78–e85. [https://doi.org/10.1016/S1473-3099\(20\)30106-8](https://doi.org/10.1016/S1473-3099(20)30106-8)
13. Sene, O., Sagne, S. N., Ngom, D., et al. (2025). Crimean–Congo Hemorrhagic Fever outbreak in Podor, Northern Senegal in 2022: Two independent emergences and unprecedented mortality. *The American Journal of Tropical Medicine and Hygiene*, 113(3), 555–563.
14. World Health Organization. (n.d.). *Crimean-Congo haemorrhagic fever*. <https://www.who.int/news-room/fact-sheets/detail/crimean-congo-haemorrhagic-fever>