Towards a More Resilient Veterinary Workforce for Africa 2024

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Comparative assessment of the human and animal health surveillance systems in Cameroon:

Opportunities for an integrated one health surveillance platform

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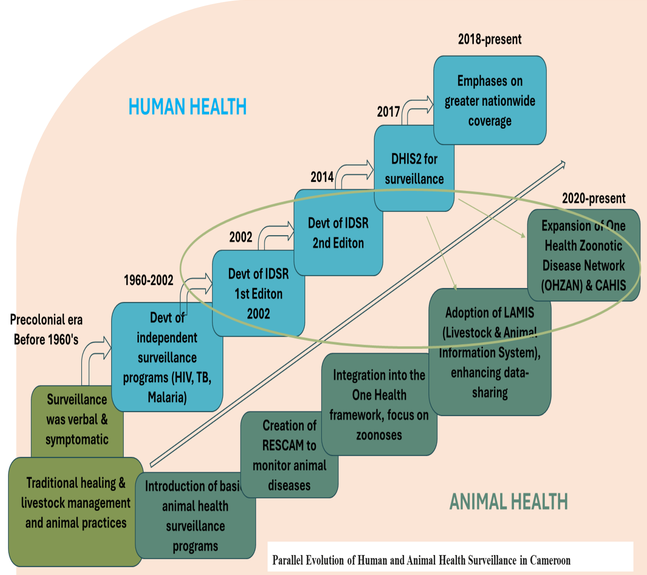
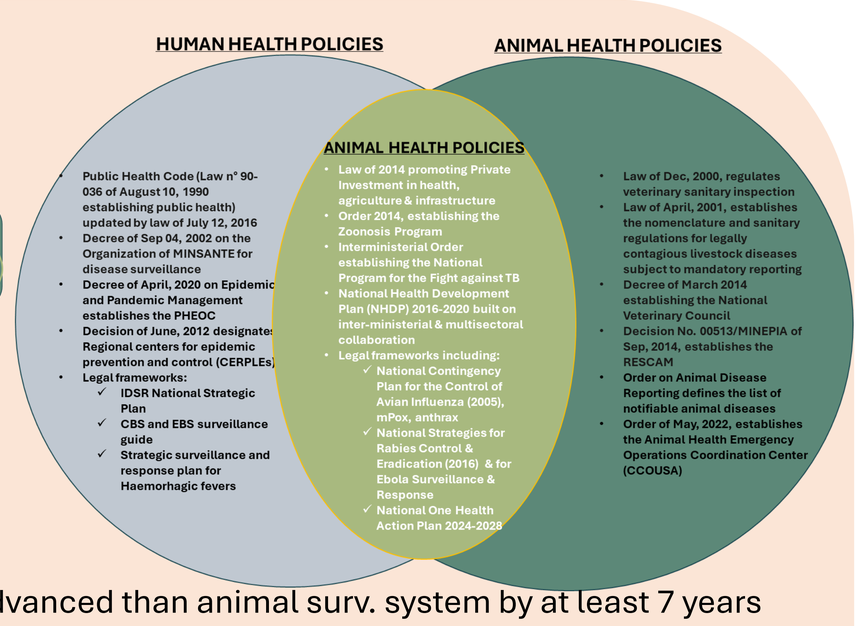
Context

In Cameroon, the health surveillance systems for humans and animals operate separately, with distinct infrastructure, resources, and operational frameworks. This segregation poses challenges in effectively detecting and responding to public health threats, especially zoonoses. This study aimed to conduct a comparative assessment of the human and animal health surveillance systems in Cameroon and identify avenues for developing an integrated One Health surveillance platform that leverages the strengths of both systems.

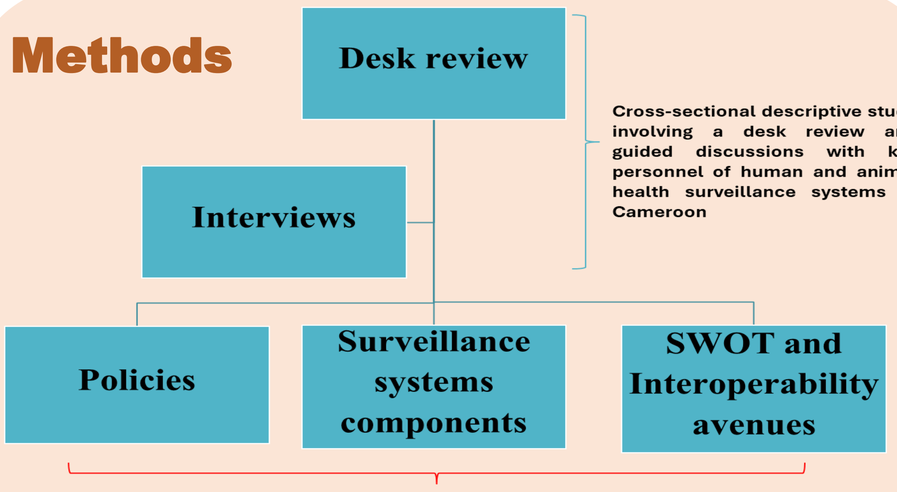


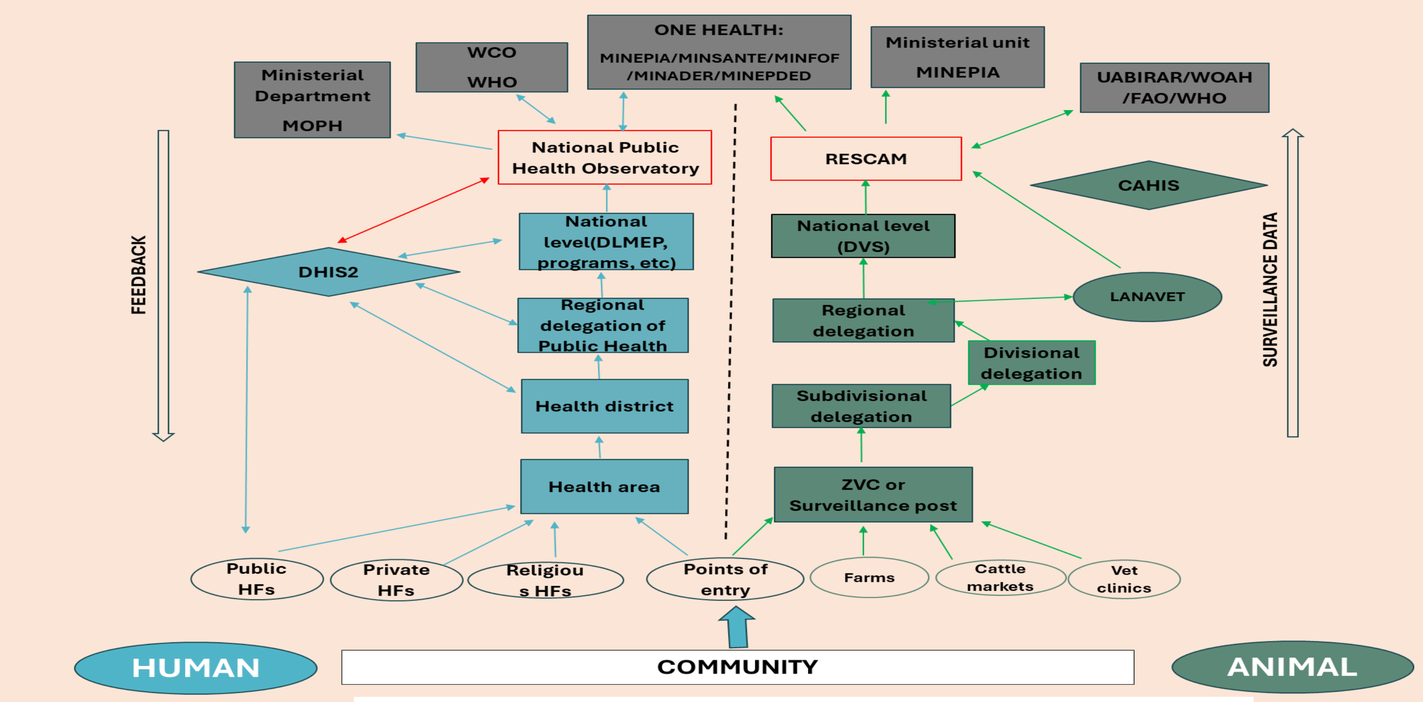
Parallel Evolution of Human and Animal Health Surveillance in Cameroon



- Human surveillance system is more advanced than animal surv. system by at least 7 years
- Several laws, regulations, and legal frameworks support surv. in human and animal health.

Methods





Data flow diagram for Cameroon's disease surveillance circuit

Interoperability can be enhanced via training of multi-skilled community agents, organization of intersectoral technical and data validation meetings for zoonoses, interconnecting digital and data management tools for accessibility and data exchange

Results

- Existence of firm legal backing for surv. in both systems.
- There is a functional One Health platform but the legal framework is pending signature.
- Human surveillance system is more advanced than animal surv. system (animal production is prioritized compared to animal disease surv.)
- Both system work in silos leading to unoptimized infrastructure, resources and unshared data.
- Avenues for interoperability include:
  - ✓ Conducting crossed capacity building and training multi-skilled community agents
  - ✓ Interconnecting data management platforms (DHIS2+CAHIS)
  - ✓ Establishing data sharing protocols at ministerial level

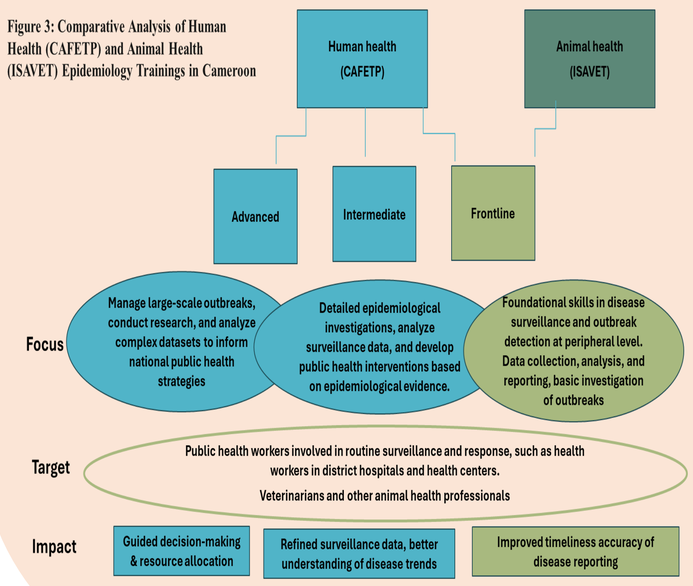


Figure 3: Comparative Analysis of Human Health (CAFETP) and Animal Health (ISAVET) Epidemiology Trainings in Cameroon

Strengths	Weaknesses	Opportunities	Threats
HUMAN HEALTH			
• Firm policies and legal frameworks on disease surveillance • Strong data management and reporting system (DHIS2) • Well-resourced and supported by external partners • Effective case detection and response for epidemic-prone diseases (e.g., cholera, yellow fever).	• Limited cross-sectoral collaboration with animal health • Reliance on traditional surveillance methods in some regions • Limited geographical coverage	• Potential to integrate with animal health surveillance for a more comprehensive system • Use of mobile health applications and GIS for real-time monitoring. • Existence of funding partners	• Emergence of zoonotic diseases that require a multi-sector response
ANIMAL HEALTH			
• Strong community-based reporting through RESCAM and Zootechnical Veterinary Centers • Engagement with local communities for early signal detection	• Lack of a functional digital infrastructure (no comprehensive electronic reporting system) • Limited number of trained personnel on the field for surveillance and response • Peripheral levels are under-equipped • Animal laboratory network is under-represented at the peripheral level • Underfunding	• Potential to leverage technology (e.g., mobile apps, dashboards) for faster reporting • Collaboration with the human health system to improve zoonotic disease surveillance • Presence of some funding partners (FAO, USAID, RACE)	• Resource constraints make it difficult to respond to outbreaks efficiently • Zoonotic disease outbreaks (e.g., Avian Influenza) that affect both human and animal populations • Open borders making surveillance vein in the face of epidemics in neighboring countries

Cross training of field epidemiologists at all levels reduces costs in terms of human, financial and infrastructural resources

Conclusions and recommendations

The study reveals gaps in the parallel functioning of the human & animal surveillance systems and unveils significant disparities between both systems, emphasizing the need for an integrated One Health surv. platform. By operationalizing the One Health legal framework, updating intersectoral collaboration policies, & investing in digital tools & cross-training, Cameroon can improve timely detection & response to public health threats, especially zoonoses, enhancing overall public health outcomes.

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