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In the 21st century, the integration of innovative technologies with the One Health approach enhances disease control efforts and supports sustainable global health efforts—specifically in dog-mediated human rabies control in Africa.

BACKGROUND

- Rabies, a neglected tropical disease, kills 59,000 people globally each year.
- Mali and Ivory Coast experience significant rabies burdens, with estimated annual human deaths of 136 and 637, respectively.
- Insufficient resources and poor coordination hinder effective rabies control, requiring strong multisectoral and adaptive approaches.
- Blockchain technology offers a promising solution for transparent and secure information sharing in the management of dog bites, enhancing coordination across sectors.
- This study aims to assess the effectiveness of a blockchain-based strategy in achieving the goal of zero human rabies by 2030 in two endemic West African countries.

METHODS

- The project uses a step-wedge design with a blockchain-based conceptual framework, leveraging a shared, immutable ledger to ensure efficient vaccine stock management and avoid shortages.
- The study integrates social interventions targeting humans, animals, and the environment.
- Five key areas are addressed:
 - Integrated bite management training using blockchain technology.
 - Implementation of a shortened intradermal rabies vaccination protocol.
 - Diagnostics for both animal and human rabies.
 - Increasing social awareness about rabies prevention and control.
 - Strengthening the health information system for better tracking and reporting.

METHODS CONTINUED

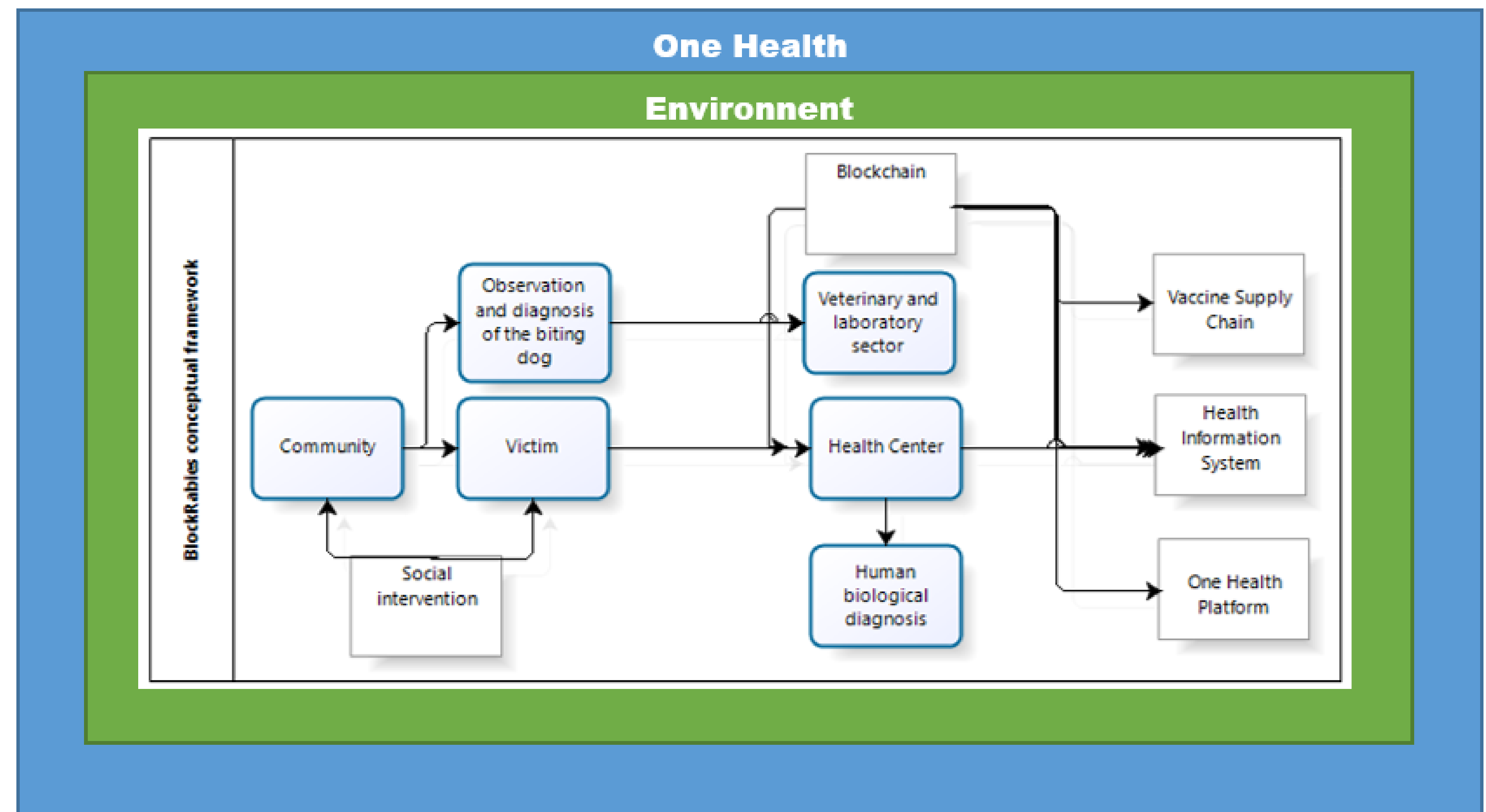


Figure 1: Conceptual framework of the study.

RESULTS

Anticipated outcomes:

- Strengthened implementation of the One Health approach.
- Creation of a secure electronic data system to reduce vaccine wastage.
- Prevention of rabies vaccine stock-outs through an electronic supply chain management system.
- Increased community participation and engagement in the vaccination process.

CONCLUSIONS

A transdisciplinary approach, utilizing the BlockRabies App integrated with Blockchain technology, aligns with the goal of eliminating dog-mediated human rabies in Africa by 2030 and supports sustainable global health efforts.

ADDITIONAL KEY INFORMATION

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