Strengthening Community Event-Based Surveillance in Senegal

Introduction

Since 2016, with the support of the United States Agency for International Development (USAID), MEASURE Evaluation has assisted Senegal to set up a community event-based surveillance (CEBS) system to monitor the eight priority human diseases in four pilot districts. This system has enabled community stakeholders to identify diseases when they emerge in the community and to inform the nurse in charge of the area to enable rapid response to disease threats.

In 2017, MEASURE Evaluation revised the CEBS system to include Senegal's six priority zoonotic diseases and adopt a "One Health" approach that involves other non-traditional health sectors. The One Health approach focuses on multisectoral collaboration and information sharing among stakeholders at all levels. It also allows for rapid response to events —illnesses that emerge in the human-animal-environment interface—to prevent the spread of disease.

Priority human diseases	Priority zoonotic diseases
1. Yellow fever	1. Rabies
2. Neonatal tetanus	2. Ebola virus disease/ Marburg virus disease
3. Measles	3. Rift Valley fever
4. Meningitis	4. Anthrax (cutaneous)
5. Cholera	5. Avian influenza
6. Bloody diarrhea	6. Bovine tuberculosis
7. PFA (polio)	

Objectives

1 Improve and expand CEBS of emerging infectious diseases, including those of zoonotic origin

2 Establish an interoperable system among animal and human health surveillance databases and an alert system at central and regional levels

3 Develop a model of CEBS with a "One Health" approach that could be scaled up nationwide

Training of community health volunteers in Tambacounda District, Djinkore Health Post. Group photo of participants and facilitators. Photo by Scott Moreland

Period of implementation

October 2017–August 2019

Budget

USD $3,000,000

Intervention area

Saint Louis (3 districts) and Tambacounda (3 districts)

Summary of activities

- Developed community case definitions for priority human diseases and zoonoses
- Reorganized community volunteers (Comités de Veille et d'Alerte Communautaire, or CVAC), including livestock auxiliaries and eco-guards (environment)
- Reconfigured the "mInfoSanté" electronic platform – Senegal's early warning system, which:
  - Integrates priority human diseases and zoonoses
  - Is accessible via internet
  - Enables community volunteers to send disease signals via SMS
  - Enables community volunteers to receive instructions and feedback from nurses and livestock workers

  - Enables the visualization and the sharing of information among health, livestock, environment professionals, and the representatives of local authorities, (agents des collectivités territoriales) and administrative authorities
- Developed tools for CVAC training and supervision
- Trained multisectoral groups in the One Health approach:
  - 150 nurses of health posts (ICPs)
  - 32 heads of veterinary posts (CPVs)
  - 5 private veterinarians
  - 6 environmental officers (CPEs)
  - 3,377 CVAC members
- Raised community awareness through the schools about the One Health approach and human diseases and zoonoses
- 391 high school students and 50 mentors sensitized and oriented
- Developed a national technical guide for the operationalization of the CEBS system using a One Health approach

Activities of community volunteers

From November 2017–May 2019:

- 1,650 community signals indicating potential disease were sent by the CVACs
- 999 of these cases were verified by providers
- 744 (among the 999) were verified by providers within 48 hours
- 617 verified signals were categorized as suspect cases

	Human priority diseases Nov. 2017–May 2019	Zoonotic priority diseases March 2019–May 2019	Total
Signals sent by CVACs	1,515	135	1,650
Signals verified by ICPs/CPVs	946 (62%)	53 (39%)	999 (60%)
Signals verified by ICPs/CPVs within 48 hours	719 (47%)	25 (18%)	744 (45%)
Suspect cases among signal verified	599 (63%)	18 (34%)	617 (62%)

Challenges

- There is a need to institutionalize the CVAC role and strengthen supervision to motivate community volunteers.
- Limited logistical support of service providers (ICP, CPV, and CPE) affects the verification of signals identified in the field and during joint investigations.
- There was only one livestock provider for every five health providers.
- Unstable or absent telephone networks in certain areas pose a challenge for sending and receiving signals

Success factors and lessons learned

- A participatory and inclusive approach during the preparatory and implementation phases allows strong ownership at all levels (central, regional, and operational).
- Organizing diverse groups of community actors (nursing assistants, traditional healers, teachers, priests, imams, livestock assistants, eco-guards, eco-guides, etc.) is beneficial.
- Real-time notification of cases by community actors reduced delays between the onset of symptoms and the response.
- The involvement and support of management teams has an important impact on the performance of community stakeholders.
- Although data is available on the electronic platform, data analysis meetings are needed to identify gaps and implement corrective actions in the implementation of the CEBS system.

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This publication was produced with the support of the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation cooperative agreement AID-OAA-L-14-00004. MEASURE Evaluation is implemented by the Carolina Population Center, University of North Carolina at Chapel Hill in partnership with ICF International; John Snow, Inc.; Management Sciences for Health; Palladium; and Tulane University. Views expressed are not necessarily those of USAID or the United States government.
FS-19-391

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