Evaluation of HPAI surveillance in Mali

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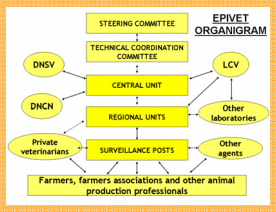
INTRODUCTION

EPIVET: the network used for HPAI surveillance in Mali

- EPIVET = epidemiosurveillance network established in 2001 in Mali and reorganised in 2008
- Highly pathogenic avian influenza (HPAI) added in 2006 to the list of diseases targeted by EPIVET. Various projects (PALCGA, SPINAP, STOP-AI, etc) thereafter funded to support the surveillance of HPAI in Mali
- Problem = no review of the surveillance system available to know where to best allocate resources

⇨ Objectives: - Evaluate the organisation and functioning of HPAI surveillance
- Identify strengths and weaknesses
- Provide recommendations for improvement



METHODS

Semi-quantitative evaluation of HPAI surveillance

Design of a semi-quantitative evaluation grid

- Adapted from evaluation grid for rinderpest surveillance used by PACE program
- Includes 8 components, 28 criteria, 128 subcriteria
- Each subcriterion corresponds to a question

Extract from evaluation grid

Component	Criteria	Subcriteria
5. Data management	5.1 Existing and functioning database	5.1.1 Is there a computer-based database for surveillance data?
		5.1.2 Is there enough computer equipment?
		5.1.3 Is one person identified as responsible for the database?
		5.1.4 Is there a regular database back-up in accordance with the pre-established timetable?
	5.2 Efficient data entry	5.2.1 Is there a data management procedure (validation, entry, analysis)?
		5.2.2 Are data entered regularly in accordance with the pre-established timetable?
		5.2.3 Are data entered by an identified and skilled person?
		5.2.4 Are entered data verified and validated?
	5.3 Efficient data analysis	5.3.1 Are data analysed regularly in accordance with the pre-established timetable?
		5.3.2 Does data analysis include the production of maps?
		5.3.3 Is there a multidisciplinary analysis and interpretation of data?
		5.3.4 Is a data analysis report produced regularly in accordance with the pre-established timetable?

Field survey and scoring by different experts

- Visits, face to face interviews, and questionnaire fill-up in all regional units and surveillance posts of EPIVET network
- Questionnaire data entered in database then used to score each question from 1 (worst) to 4 (best) based on scoring tables specific to the type of question
- Scoring by four different experts: two members of EPIVET, two outside observers
- Scores averaged after discard of minimum and maximum scores

Scoring table for questions answered as %
(E.g. % of samples arriving at the laboratory in a proper state of conservation)

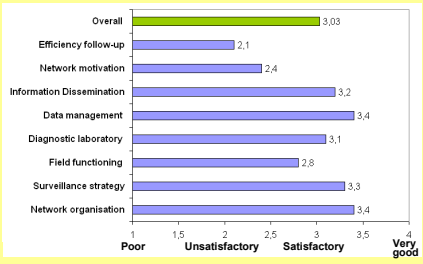
Possible answer	Score
≤15%	1
15< ≤30%	1.5
30< ≤45%	2
45< ≤60%	2.5
60< ≤75%	3
75< ≤90%	3.5
>90%	4

RESULTS

Overall satisfactory surveillance efficiency

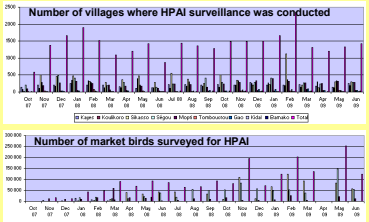
Evaluation scores vary among components of the surveillance system

- Overall score just above the satisfactory level
- Components linked to organisation of the surveillance system have good scores
- Components linked to functioning have higher scores at the central level than at the field level



Surveillance efforts vary over time and among regions

- Surveillance efforts increased during dry cool season and decreased during dry hot season
- Surveillance efforts significantly higher in the regions of Sikasso, Segou and Mopti, which have the largest poultry populations



DISCUSSION

Towards improvement

- Semi-quantitative evaluation methods are simple and useful to identify the weakest components of surveillance systems when stochastic scenario tree models are not applicable
- Subjectivity is inherent to this type of evaluation but was reduced by using scoring tables and four scorers

- Some improvements of surveillance can easily be implemented without much financial input (E.g. database back-up, distribution of outbreak investigation manuals)
- External support is needed for other improvements (E.g. availability of vehicles and gas coupons, trainings, simulation exercises)

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