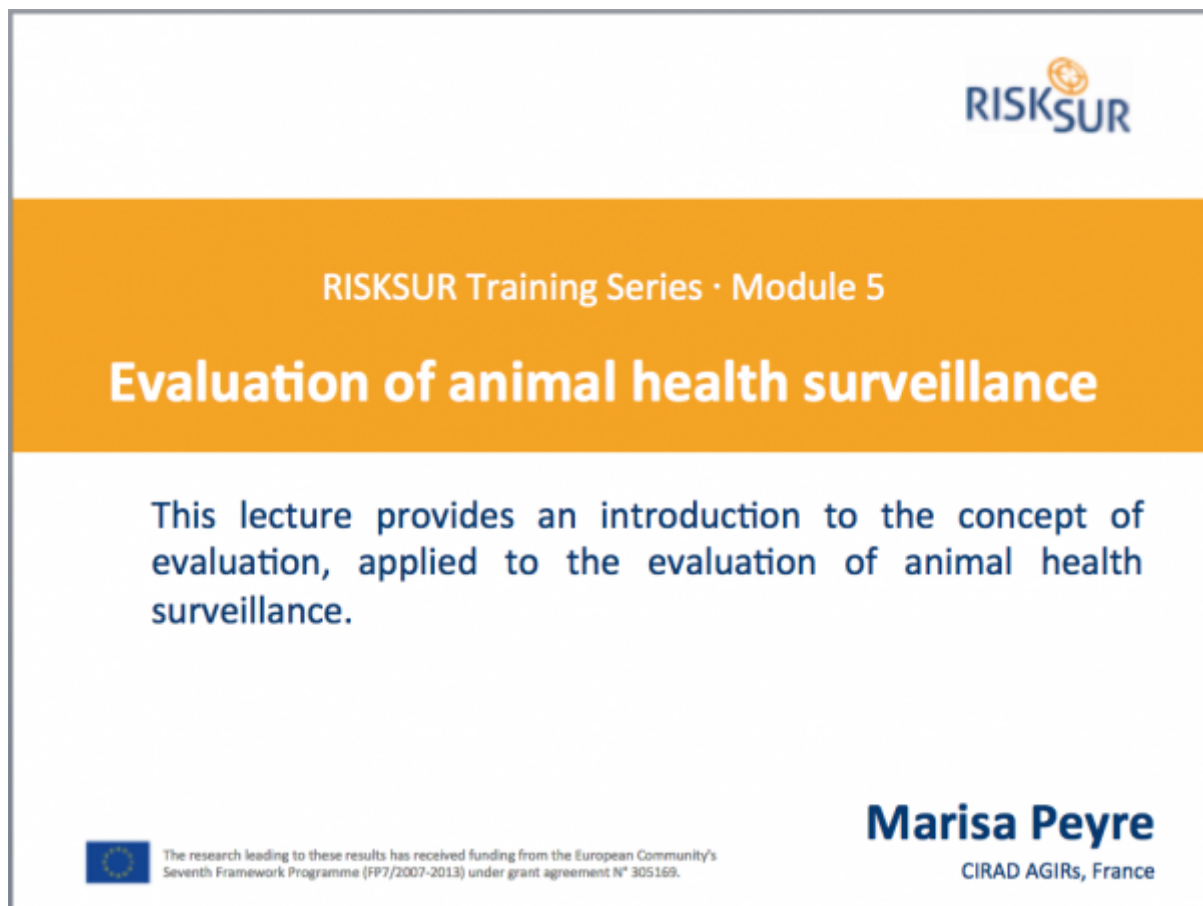


Training modules

To get specific training on the basic concepts of evaluation, please refer to the “[Introduction to animal health evaluation](#)” from the RISKSUR training modules.




RISKSUR

RISKSUR Training Series · Module 5

Evaluation of animal health surveillance

This lecture provides an introduction to the concept of evaluation, applied to the evaluation of animal health surveillance.

Marisa Peyre
CIRAD AGIRs, France

 The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement N° 305169.

To get a video tutorial on how to use the EVA tool please refer to the “[RISKSUR Surveillance Evaluation Framework](#)” training from the RISKSUR training modules and the “[EVA tool](#)” webinar from the RISKSUR project website.



RISKSUR Training Series · Module

Evaluation framework and methods for economic assessment

This lecture provides an overview of the RISKSUR framework and tools developed for the economic evaluation of animal health surveillance .



The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement N° 305169.

Marisa Peyre
CIRAD AGIRs, France

<http://www.fp7-risksur.eu/progress/training-and-webinars>



The EVA tool: a decision support tool for the evaluation of surveillance systems

Marisa Peyre (CIRAD), Barbara Haesler (RVC), Linda Hoinville, Flavie Goutard (CIRAD), Angus Cameron, Fernanda Dorea (SVA), Daniel Traon (ARCADIA), Vladimir Grosbois (CIRAD), Birgit Schauer (FLI), and other RISKSUR consortium partners

**Within the framework of RISKSUR WP5
(Evaluation of epidemiological and economic
effectiveness of surveillance systems)**



The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement N° 305169.

<http://www.fp7-risksur.eu/node/225/>

Examples of outputs from the EVA tool.

Protocol for the Evaluation of HPAI surveillance system in RISKLAND

Report 1. Surveillance system description report

Field		Value
Surveillance System Name		HPAI_RISKLAND
1.1 Hazard		
Hazard Name		Highly pathogenic avian influenza
1.2 Surveillance Objective		
What is the state of the disease in the country?		Endemic
Based on the current disease status, what is the primary surveillance objective?		Case finding
Where disease is currently absent from the country please consider the RISK OF INTRODUCTION . The risk level may impact on the surveillance approaches used and the choice of surveillance components.		
a) Why is surveillance necessary		Protect public health
b) What will it accomplish		To identify units eligible for intervention
Other reason for surveillance		To prevent economic losses for poultry farmers
1.3 Geographical area covered		
Geographical Area		RISKLAND (nationwide)
1.4 Susceptible population		
Food Producing (Domestic)		
Poultry		Chicken, Turkey, Ducks, Geese
1.5 Risk characteristics		
Animal level risk factors		
Specify risk factor		Low immunity
Associated with risk of		Consequences
Describe details		

Herd level risk factors	
Specify risk factor	No vaccination
Associated with risk of	Introduction
Describe details	
Population level risk factors (Geographical factors)	
Specify risk factor	Poultry density
Associated with risk of	Infection
Describe details	
Population level risk factors (Temporal factors)	
Specify risk factor	Winter season and wet season
Associated with risk of	Infection
Describe details	
1.6 Other Considerations	
Legal requirements	Yes HPAI is a notifiable disease as required by OIE and is part of the national surveillance and control strategy for zoonosis in RISKLAND
Economic impact	Prevent trade but RISKLAND is not trading poultry; Economic losses could be important for private sector and nation economy
Disease control action	Stamping out, emergency ring vaccination
What change in surveillance results is required to trigger these actions?	Confirmation of positive case
Who is responsible	Veterinary services from the Province and local authorities; confirmation test is done at national level
Institutions involved	NAH field units at village, commune, district and province units; NAH at central level (coordination); central and regional laboratories; Ministry of Agriculture (funding)
Frequency of meetings	Central level: once/year or in case of emergency (multiple outbreaks)
Showing 1 to 28 of 28 entries	

Report 2. Evaluation context and Evaluation question summary

Evaluation summary

		Print	Save
Evaluation name	EVA_HPAI_RISKLAND		
Surveillance system name	HPAI_RISKLAND		
Hazard name	Highly pathogenic avian influenza		
Hazard situation	Endemic		
Surveillance objective	Case finding		
Geographical area	RISKLAND (nationwide)		
Legal requirements	Yes HPAI is a notifiable disease as required by OIE and is part of the national surveillance and control strategy for zoonosis in RISKLAND		
Surveillance components to evaluate	Passive ,LBM active,Farm_active		
Evaluation question	Assess the costs and effectiveness of surveillance components (out of two or more) to determine which achieves a defined effectiveness target at least cost, the effectiveness needs to be determined		
Evaluation criteria	Effectiveness,Cost		
Evaluation method	Least cost assessment		
Strengths and weaknesses of the current surveillance approach?	Very low sensitivity of the passive surveillance; LBM can not address the objective of the surveillance (case detection for control)		
Stakeholder concerns about current approach	Improve the effectiveness but limit the costs		
Alternative strategies to consider?	active surveillance in farms based on risks		
Do you want to evaluate the whole system or some components in the system?	Component		
Are you considering risk-based options?	Yes		
Will you consider the costs of surveillance in your evaluation	Yes		
Do you know the current cost of your system and/or components?	No		
Do you have a budget constraint for the surveillance system/components?	Yes		

Report 3. List of evaluation attributes included in the protocol

Evaluation Attributes			Edit
Show 10 entries		Search:	Print Save
Attribute Type	Attribute Name	Description	
Effectiveness	Sensitivity (detection fraction or probability)	Sensitivity of a surveillance system can be considered on three levels. • Surveillance sensitivity (relevant for case detection and prevalence estimation) refers to the proportion of individual animals or herds in the target population of interest that have the health-related condition of interest that the surveillance system is able to detect. This is determined by the sensitivity of the testing protocol used and the coverage of the population and has also been referred to as detection fraction or detection probability. • Surveillance sensitivity (for outbreak detection) refers to the probability that the surveillance system will detect a significant increase (outbreak) of disease. This may be an increase in the level of a disease that is currently present in the population at a low level or the occurrence of any cases of a disease that is not currently present. • Surveillance sensitivity (for demonstrating freedom and early detection) refers to the probability that at least one case will be detected if disease is present at a certain level (prevalence) in the population.	
Effectiveness	Timeliness	Timeliness is usually defined as the time between any two defined steps in a surveillance system, the time points chosen are likely to vary depending on the purpose of the surveillance activity. For planning purposes timeliness can also be defined as whether surveillance detects changes in time for risk mitigation measures to reduce the likelihood of further spread.	
Value	Cost	The concept of economic cost includes 1) the losses due to disease (e.g. reduced milk yield, mortality), and 2) the resources required to react to disease in a system (e.g. time, services, consumables for surveillance). In economic evaluation, the resources used to manage disease are compared with the disease losses with the aim to identify an optimal balance where a higher economic efficiency is achieved. Estimation of the total economic cost stemming from losses and expenditures is called a disease impact assessment. Estimation of the resource expenditures only is called a cost analysis.	

Report 4. Assessment methods selected to measure the evaluation attributes

Show 10 entries		Search:	Print Save
Attribute Name	Assessment Method	Data Available?	
Cost	<p>Description: A tool to select and calculate costs. Link to access the tool: surveillance-evaluation.wikispaces.com/Cost+analysis</p> <p>Data required: Knowledge on the organization of the system/component evaluated (see system mapping or surveillance system organisation for more information: surveillance-evaluation.wikispaces.com/Organisational+attributes+assessment+methods)</p> <p>Expertise required: none specific</p>	Data collection needed	
Sensitivity (detection fraction or probability)	<p>Description: Unifist CR: Model the frequency of the successive detections of the epidemiological units presenting the characteristic of interest (e.g. disease) using zero-truncated or zero-inflated count model.</p> <p>Data required: Number of times each epidemiological unit of the population has been identified as presenting the characteristic of interest.</p> <p>Expertise required: Biostatistics; R software recommended</p>	Yes	
Timeliness	<p>Description: OASIS Tool: Description of each step of the evaluation process and outputs; questionnaire provided along with scoring grid and scoring excel spreadsheet (with computed outputs). Target: interview with surveillance coordinator and selected field agents. Output: Scoring strenght and weaknesses of each step/part of the surveillance process affecting the attribute considered. The tool assess the effect of surveillance system organisation on Timeliness of the system.</p> <p>Data required: Descriptive analysis of the surveillance process (using provided questionnaire).</p> <p>Expertise required: Survey, descriptive statistics, use of Excel and Word</p>	Yes	

Report 5. Economic techniques selected in case of economic evaluation question (this will not be required if the question is not about economics)

Evaluation Economic Analysis Techniques			
Show 10 entries		Search: <input type="text"/>	<input type="button" value="Print"/> <input type="button" value="Save"/>
• Economic method	• Economic analysis technique	• Description	• Reference
Cost analysis	Excel spreadsheet	From the excel spreadsheet you can identify and select the cost to assess surveillance-evaluation.wikispaces.com/Cost+analysis	Haesler et al., 2015
Least-cost assessment	Cost ranking	Select the components which meet the effectiveness target and rank them according to their cost	Haesler et al., 2015
Showing 1 to 2 of 2 entries		First Previous Page 1 of 1 Next Last	

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