



Applying participatory approaches in the evaluation of surveillance systems: A pilot study on African swine fever surveillance in Corsica



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ABSTRACT

The implementation of regular and relevant evaluations of surveillance systems is critical in improving their effectiveness and their relevance whilst limiting their cost. The complex nature of these systems and the variable contexts in which they are implemented call for the development of flexible evaluation tools. Within this scope, participatory tools have been developed and implemented for the African swine fever (ASF) surveillance system in Corsica (France). The objectives of this pilot study were, firstly, to assess the applicability of participatory approaches within a developed environment involving various stakeholders and, secondly, to define and test methods developed to assess evaluation attributes. Two evaluation attributes were targeted: the acceptability of the surveillance system and its non-monetary benefits. Individual semi-structured interviews and focus groups were implemented with representatives from every level of the system. Diagramming and scoring tools were used to assess the different elements that compose the definition of acceptability. A contingent valuation method, associated with proportional piling, was used to assess the non-monetary benefits, i.e., the value of sanitary information. Sixteen stakeholders were involved in the process, through 3 focus groups and 8 individual semi-structured interviews. Stakeholders were selected according to their role in the system and to their availability. Results highlighted a moderate acceptability of the system for farmers and hunters and a high acceptability for other representatives (e.g., private veterinarians, local laboratories). Out of the 5 farmers involved in assessing the non-monetary benefits, 3 were interested in sanitary information on ASF. The data collected via participatory approaches enable relevant recommendations to be made, based on the Corsican context, to improve the current surveillance system.

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1. Introduction

The regular and relevant evaluation of surveillance systems is essential to estimate the usefulness and the correct application of the data generated, and to ensure that limited resources are

used effectively to provide the evidence required for protecting animal and human health (Hendrikx et al., 2011; Drewe et al., 2015). According to the Health Systems Strengthening Glossary developed by the World Health Organisation (WHO), evaluation refers to 'the systematic and objective assessment of the relevance, adequacy, progress, efficiency, effectiveness and impact of a course of actions, in relation to objectives and taking into account the resources and facilities that have been deployed' (WHO, undated). Applied to surveillance, this includes the assessment of a series of evaluation attributes such as sensitivity, acceptability and timeliness, using qualitative, semi-quantitative or quantitative methods and tools (Drewe et al., 2012). The complexity of surveillance systems, and

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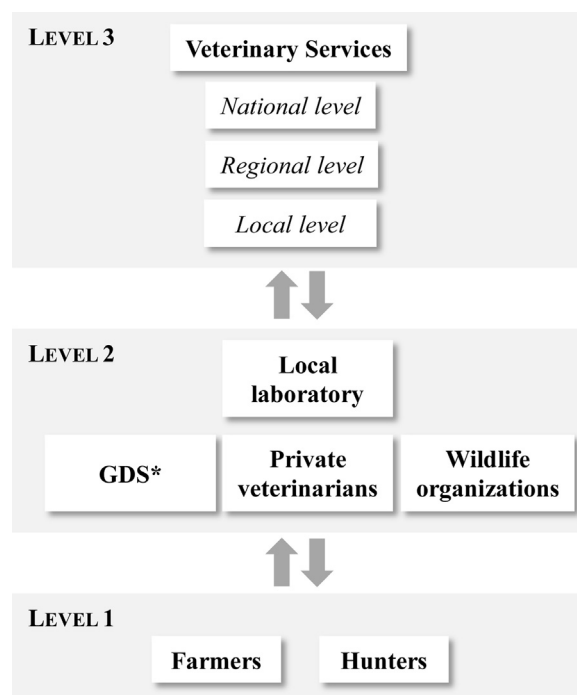
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the variable context in which they are implemented, entail the need for flexible evaluation tools designed to take into account the opinion of each stakeholder. This can be achieved by using flexible and adaptable methods based on participatory approaches within the evaluation process.

Participatory approaches refer to a range of methods and tools that enable stakeholders, to a variable extent, to play an active role in the definition and in the analysis of the problems they may encounter, and in their solution (Pretty, 1995; Pretty et al., 1995; Johnson et al., 2004; Mariner et al., 2011; Peyre et al., 2014). Indeed, the use of visualization tools through participatory approaches leads to open discussion between stakeholders and encourages a wide participation (Bradley et al., 2002). By taking stakeholders' perceptions, needs and expectations into consideration, these approaches could help us to achieve a better understanding of the system (Hoischen-Taubner et al., 2014). These methods make it possible to capture locking points in the system, such as communication and coordination between stakeholders, which can go unnoticed when using classical evaluation tools. The use of these tools should give rise to realistic and context-adapted recommendations. More importantly, these tools lead to enhanced acceptability of the evaluation, to an improved feeling of belonging to the system, and to even ownership of the evaluation outputs (Pahl-Wostl, 2002).

Factors used to assess the quality of system implementation (e.g., acceptability, communication), or the non-monetary costs and benefits of surveillance, are rarely considered despite their importance for decision makers and their impact on system performance (Calba et al., 2015; Peyre et al., 2014). Acceptability refers to the willingness of persons and organizations to participate in the surveillance system, and to the degree to which each of these users is involved in the surveillance (Hoinville et al., 2013); it has been listed by the Centers for Disease Control and Prevention (CDC) as one of the main qualities of surveillance (German et al., 2001). The decision to report a suspected event is a critical function of an emerging infectious disease surveillance system (Tsai et al., 2009). In order to limit the under-reporting of suspected cases and to identify the best ways to improve the current surveillance system, it is crucial to assess the stakeholders' willingness to participate in this system (Bronner et al., 2014). Non-monetary benefits refer to the positive direct and indirect consequences produced by the surveillance system and help to assess whether users are satisfied that their requirements have been met (definition developed by the RISKSUR¹ Consortium). The objective of this work was to develop methods and tools based on sociology, economics and participatory approaches to assess the acceptability of animal health surveillance systems and their non-monetary benefits through an estimation of the perceived economic value of sanitary information.

A pilot study was implemented in Corsica in order to test the applicability of these methods and tools in a developed context. The case of African swine fever (ASF) surveillance in Corsica was chosen for two main reasons. Firstly, current farming practices are mainly based on a traditional forest-pastoral system (outdoor free-range breeding) (Casabianca et al., 1989), and only a small number of rural private veterinarians work on the island (personal communication, Oscar Maestrini, INRA). Secondly, Corsican breeding systems are threatened by the endemic presence of ASF in Sardinia; this questions the current surveillance system faced with increased risk of introduction, spread and maintenance of ASF through Corsica (Desvaux et al., 2014; European Commission, 2011; Mur et al., 2014a). Indeed, ASF has been recognized to be among the most devastating of pig diseases with severe socio-economic consequences



* GDS: Animal health grouping

Fig. 1. Graphical representation of the African swine fever (ASF) surveillance system in Corsica (France).

(Moennig, 2000; Costard et al., 2013; Torre et al., 2013; Mur et al., 2014b).

Originally, the surveillance system targeted both ASF and Classical swine fever (CSF) but, due to the increasing threat, public authorities decided to redirect surveillance to target principally ASF. The objective of this system is to ensure the early detection of both diseases by using a passive surveillance approach based on clinical findings within the entire population of domestic pigs and wild boars. The system thus relies on the willingness of stakeholders to report suspicions, particularly given the fact that it is impossible to regularly assess the health of each animal (Sawford, 2011).

2. Material and methods

2.1. Description of the surveillance system and target population

Our first approach consisted of identifying stakeholders involved in the surveillance system. These were then divided into three levels (Fig. 1). Level 1 included farmers and hunters, who are on the front line of passive surveillance. In the event of a suspected case of ASF in farm animals, or among the wild animal population, they are supposed to contact the next level in the surveillance network (level 2) which can be composed of private veterinarians, of "Groupements de Défense Sanitaire" animal health groups (GDS, association of farmers addressing health issues, officially recognized by French law (Bronner et al., 2014)), of local laboratories, or of wildlife organizations (hunters' federations, for example). Any suspicions must be declared to the Veterinary Services, at local, regional, and national levels. These stakeholders represent the third level in the surveillance system (level 3). They are in direct contact with the authorities in charge of animal health surveillance coordination, the Directorate General for Food (DGAL), which is supervised by the French Ministry of Agriculture, Agribusiness and Forest (MAAF).

¹ Risk-based animal health surveillance systems, EU project (www.fp7-risksur.eu).

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