SPARE

Surveillance of classical swine fever, blue tongue and rabies in European targeted countries: assessment through expert elicitation

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Objective

As part of the SPARE project (https://www.spare-europe.eu/) this work aimed to assess, through an expert knowledge elicitation, the surveillance systems in place against rabies, bluetongue (BT) and classical swine fever (CSF) in Italy (IT), Switzerland (CH) and the United Kingdom (UK)

Methodology

The experts' opinion was implemented in October-November 2016. Nine experts (one for each country and each disease) were recruited from governmental agencies. Experts inputs were gathered through pre-tested questionnaires that were sent via e-mail. The questionnaire, built on a Microsoft Excel spreadsheet, was organised in 2 parts (Table 1). The first section, based on the design framework/tool developed by RISKSUR, is focused on the description of the surveillance system (i.e. objectives, susceptible species, components etc.) in place in the country, while the second section allowed the assessment of the surveillance components identified according to different assessment attributes previously used in RISKSUR and other evaluation framework.

The study targeted experts with a background in epidemiology, familiar with the epidemiological situation of the diseases and with surveillance systems implemented in each targeted country. To ensure a stronger commitment, experts were contacted through the consortium network.

Results

Only few components are shared among the different studied surveillance systems of each country. For CSF, all countries implemented a passive surveillance for domestic and wild pigs but based on different sources of data collection (Table 2). These components are event-based components with an objective of early detection. For BT, no surveillance component is common among the three countries. For rabies, only passive surveillance of wildlife is a common component.

Only one country reported surveillance components directly related to trade. This is partially unexpected considering the free trade in EU and the transboundary nature of the diseases targeted.

Figure 1 shows the assessment in one country of two components of CSF surveillance system for the different attributes. A global median score is calculated by attribute but also by components. Both components were attributed the same median score (1.5) with the attribute "flexibility" being the only one scored differently in the two components. The lowest median scores were given to the attributes "impact" and "coverage". All components are scored as 0. The higher scores were given to benefit, costs and acceptability. The median score for uncertainty is the same (2) among all criteria.

Conclusion

This work underlined the fact that for the same disease and same objectives, the implementation of surveillance components is multifactorial and related also to specific contexts, political dynamics, interest and specific concern of countries. Such differences can be of concern for harmonisation in EU and difference of performance, particularly regarding diseases with high potential impact such as the selected cases studies.

Moreover, this work confirms the flexibility and capacity of the RISKSUR design framework/tool to evaluate surveillance system. The selection of the twelve attributes to assess the surveillance systems is based on a strong scientific background and is particularly adapted to early detection systems.

Table 1: Organisation of the questionnaire

Part I: Description of the system in place and identification of surveillance components	Part II: Assessment of surveillance components based on 12 attributes
Covered topics: 1. objectives, 2. geographical coverage 3. susceptible species and targeted species 4. context details (e.g. legal requirements, economic impacts) 5. data generation (e.g. data collection points, study type, disease indicator and sample collected) 6. notification procedures 7. actions upon suspicions and confirmation	12 selected attributes for evaluation: 1. timeliness 2. sensitivity 3. representativeness 4. acceptability 5. flexibility 6. coverage 7. costs 8. effectiveness 9. efficiency 10. impact 11. benefit 12. communication/dissemination
Surveillance component: Specific surveillance activity conducted as part of a surveillance system.	**The scale of assessment** ranged from 0 to 3. Possibility to rate uncertainty on a 3-point scale.

Table 2: Description of components for CSF surveillance system in the 3 targeted countries

Country 1	Country 2	Country 3
AI (artificial insemination) centres	Serological monitoring of pig farm	Passive surveillance domestic
Pre export checks	Passive surveillance	Passive surveillance wildlife
Post import checks		
Ante and post mortem examination at slaughter		
Regional laboratory investigations		
Investigation of notification of suspicion		

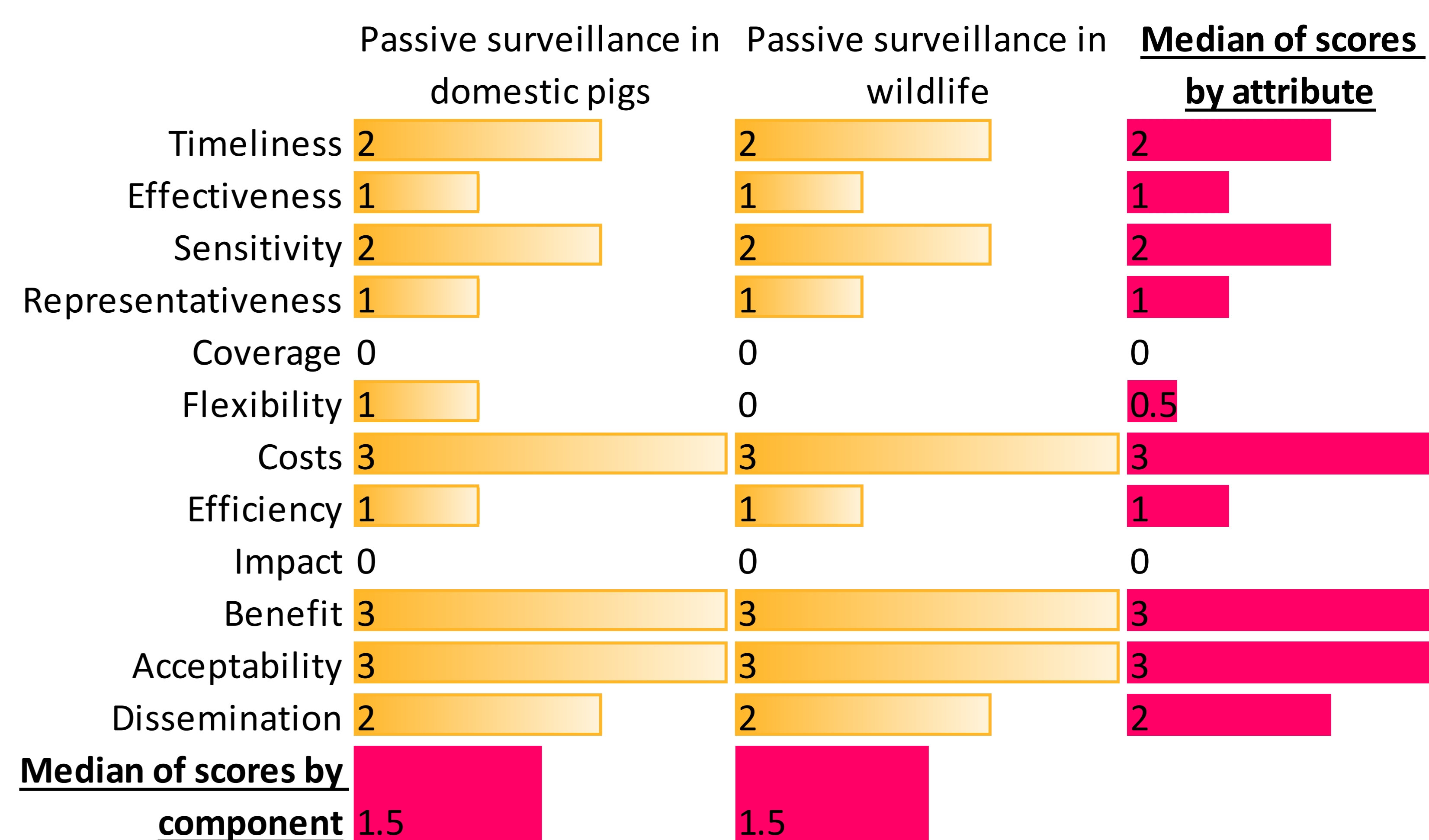|	Passive surveillance in domestic pigs	Passive surveillance in wildlife	**Median of scores by attribute**
Timeliness	2	2	2
Effectiveness	1	1	1
Sensitivity	2	2	2
Representativeness	1	1	1
Coverage	0	0	0
Flexibility	1	0	0.5
Costs	3	3	3
Efficiency	1	1	1
Impact	0	0	0
Benefit	3	3	3
Acceptability	3	3	3
Dissemination	2	2	2
Median of scores by component	1.5	1.5	

Figure 1: Evaluation summary for Country 3 surveillance system of CSF by components and by attributes

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