RISKSUR webtools: building surveillance capacity through training and application

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Abstract

Between 2012 and 2015, the European Union funded research to develop novel tools for animal health surveillance (Project RISKSUR, www.fp7-risksur.eu). Its output included the release of two web-based decision support tools, for surveillance design and evaluation. RISKSUR developments have been continued in a follow-up project, SANTERO (http://santero.fp7-risksur.eu/). The main objectives of SANTERO are to increase the accessibility of risk-based surveillance methods and to reduce obstacles to implementation. The project aims to describe the strengths and weaknesses of the tools, to contribute to their improvements and their dissemination among the surveillance community. A one-week summer school was organized and delivered by distance learning using a mix of learning methods. The virtual summer school was supported by different technical formats: online webinar-style sessions, recorded webinars, web-based tools, online tutoring using a wiki forum and online tutor sessions. The participants worked on case studies which included the following tasks: to describe a surveillance system of their choice and to start the redesign or the evaluation of it. The profile of participants was in line with our target group: "anyone active in the design and/or evaluation of surveillance programmes". The training session was successful: The participants considered themselves to be at least somewhat able (60%) or completely able (23%) to apply the tools immediately after the summer school. Two years after public delivery of the RISKSUR webtools, they are being used. Their utility is considered to be strengthened by the web-based access that is free of charge.

Keywords: *Animal health surveillance, education, optimisation, risk-based surveillance, evaluation*

Introduction

Between 2012 and 2015, the European Union funded research to develop novel tools for animal health surveillance (Project RISKSUR, www.fp7-risksur.eu). Its output included the release of a set of web-based tools for surveillance design and evaluation. The aim of the tools is to support design and implementation of animal health surveillance. These tools were developed to be compatible with the needs of veterinary authorities and decision makers (1). The tools are publicly available free of charge and are meant to be user-friendly. Supported by a wiki, any user should be able to understand the process, and to find good support with regard to surveillance design decisions and documentation thereof, as well as setting up a flexible protocol for the evaluation of surveillance.

RISKSUR developments are continued in a follow-up project, SANTERO (http://santero.fp7-risksur.eu/). The main objective of SANTERO is to increase the accessibility of risk-based surveillance methods and to reduce obstacles to implementation. To achieve this, one of the activities was the design and delivery of a virtual summer school. Additionally, SANTERO aims to apply the design and evaluation approaches to surveillance programmes in the food safety and aquaculture domain; areas that were not covered in RISKSUR. It is anticipated that the results can be used to optimize programmes and to inform efforts to revise national and/or international standards.

The objectives of these actions were to highlight the strengths and weaknesses of the tools, to contribute to their improvement adoption in the surveillance community. We will report the main comments stressed by the users.

Material and methods

SANTERO virtual summer school

A one-week summer school was organized and delivered by distance learning online and using a mix of learning methods and supporting technology. It was implemented by five tutors and one coordinator.

The virtual summer school was structured in five different parts:

1. *Introduction:* this was an online webinar-style session to present the week and to contextualise the design and evaluation of surveillance system in the surveillance policy cycle.
2. *Self-study hours:* these hours were completed by students individually on- and offline; they were expected to explore the functionality of the tools through previously recorded webinars. The objective was to familiarise students with the use of the tools. This activity was supported by online tutoring using a wiki forum where students could leave questions for colleagues or tutors to answer. A total of five study hours was dedicated to these tasks.
3. *Practical hours:* during the week, the participants were asked to design their own surveillance system with the help of the design tool. This included the following tasks: to describe the surveillance system and then to start the

redesign or the evaluation of it. A total of 12 study hours was dedicated to these tasks. In parallel, to support their work and provide advice, tutor sessions were organised. These were held in real time online. Participants could connect and ask their questions directly to the tutors. These sessions were planned to help students in their progress and to avoid that they would face technical and theoretical hurdles alone. During each tutor sessions, two tutors were present: one for design, one for evaluation.

4. *Final session:* at the end of the week, four participants presented their case study followed by a discussion with two tutors present. Other participants could also ask questions.

To support our work, we used a range of software and online tools: Adobe Connect, RiskSur web tools and Wikispaces (TSL Education) web hosting. A dedicated web page was also used for general information, recommended readings and links to watch the recorded sessions later (http://santero.fp7-risksur.eu/virtual-summer-school).

Feedback on the summer school was obtained using a final debriefing session and an online questionnaire (Qualtrics LLC).

SANTERO case studies

Initially designed for animal health, the RISKSUR webtools are to be tested for application to surveillance in food safety and aquaculture. To achieve this, case studies were identified and conducted in Denmark, Germany, Norway, Switzerland, The Netherlands, and the United Kingdom. In the case studies, the design and evaluation tools were applied to describe selected current surveillance systems. They were also used to develop and assess alternative designs. Information was collected both regarding functionality of the tools (bugs) to support continuing improvement, as well as general information on the suitability and utility of the tools for application in these fields of surveillance.

Results

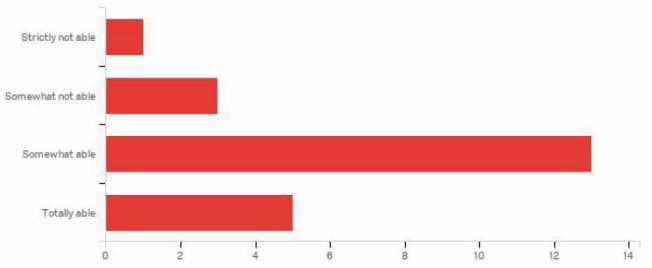
SANTERO virtual summer school

A total of 107 individuals registered for the course. The advertising was conducted via social media, SANTERO website, email-lists, master students' networks and conference flyers. The students were from 27 different countries, mainly UK and Ireland. During the introduction session, 45% of participants declared working in governmental agencies, 29% at the university and 16% were consultants. The rest of them were in a process of studying towards a post-graduate degree. Regarding geographical spread, 94% lived in Europe. The profile of participants was considered to be in compliance with our defined target group: "anyone active in the design and/or evaluation of animal health surveillance programmes at industry or government level".

At the end of the week, 19 certificates of attendance were sent based on the deliverable, i.e. the completion of a summary presentation of the case study topic selected by the participant. The deliverables covered the following topics: bluetongue virus surveillance in Ireland (2), AMR in swine in Ireland, bovine tuberculosis surveillance in Switzerland, surveillance of furunculosis in Germany, pet food HACCP surveillance in Ireland, Brucella surveillance in Greece, passive surveillance for Bluetongue in the UK, dog bite case surveillance in Nigeria, surveillance of foot-and-mouth disease (FMD) in Tehran, surveillance of rabies in Singapore, ovine Johne's disease in Australia, surveillance of Lyme disease in Quebec, surveillance for the Crimean-Congo haemorrhagic fever virus, Campylobacter in poultry in Greece, bovine tuberculosis in game in Portugal, West-Nile surveillance in France, antibiotic residue in cattle in France, porcine epidemic diarrhoea virus surveillance in Ukraine, bovine, ovine and caprine Brucellosis in Germany, FMD surveillance in the UK.

Regarding feedback on learning progress, 60% of the participants considered themselves to be "somewhat able" and 23% "totally able" to apply the tools right after the summer school (Figure 1) (22 answers in total).

Figure 1. Answers of 22 participants completing an online training course on surveillance to the question: *would you be able to apply the tools right after this summer school?*



SANTERO case studies

When applying the tools to the defined case studies, the following observations were made:

1. The tools will support countries in the legal obligation to describe the current surveillance systems for the European Commission. With this tool, countries can assure not to forget details about the systems using a systematic and complete process in describing their activities. The tools would allow homogenizing the reports between the countries but also between the different programmes.
2. These webtools also provide quality gains. When the program is well known, the time needed for documentation is relatively short and considered acceptable. If a programme is not very well known or if the user is not entirely familiar with surveillance, the process and support from wikispaces help to keep track of work and progress step by step. Thus, it guides the user and helps improve the design of surveillance programmes in general.
3. However, users also highlighted that their background

was too far from surveillance and some epidemiological terms were difficult to understand. This indicated a need to provide further training, explanations and guidance to assure wider application of the tools across all competency levels among veterinary services.

Discussion

After two years of public availability, several training programmes in different contexts have applied the RISKSUR webtools. This indicates that they start to be known, albeit mainly in Europe. The first reason for their use is utility (Table 1). Users often mentioned the benefit of accelerated accessibility when compared to other, more complex, offline tools or classical methods. As proven by the use during the virtual summer school and the diversity of the case studies or for other purposes (2), the tools are clearly adaptable to a wide range of subjects.

Table 1. Selected number of answers of 23 participants to the online feedback survey about the design and the evaluation tool.

Question	Design tool	Evaluation tool
What is your main positive remark about the tool?	Easy to use: 7 Useful: 8	Easy to use: 4 Useful: 6
What is your main negative remark about the tool?	Technical issues: 7 Complicated tool: 4	Technical issues: 3 Complicated tools: 3
Do you have some recommendations about the tool?	Usage of the tools: improve online accessibility, make it more simple for new users , resolve the technical matters Suggestion of technical points: 3	Usage of the tools: Make it easy to access via smartphones, resolve the technical matters, and make it accessible/known outside of Europe. Simplify the tool.

The tools are not restricted to European examples or animal health topics. Also, the tools can provide a standard description of surveillance systems allowing a better understanding and overview. As a further strength, the tools can be used at any time during the policy cycle: design, redesign and evaluation steps. Its use can be totally integrated in daily work.

The format of an online media for capacity building can be attractive for several reasons: its ease to use within different technical situations, its accessibility for countries but also in the context of capacity-building efforts and training as delivered by organisations, agencies or consultants. The possibility to print a report in pdf format was mentioned positively as a way to help spread and share of surveillance system documentations.

The tools offer a mix of formats, increasing their didactic attractivity. If one student is less comfortable with a particular format, he/she can compensate in a subsequent, different format. Also, the tools are supplemented by wikis that can be consulted in parallel for a better understanding.

These successful experiences are encouraging for further implementation of surveillance trainings and capacity building. The results of the SANTERO case studies (yet to be completed) will also be shared within the surveillance community, providing further evidence of tools' utility.

Acknowledgements

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