

Multi-hazard surveillance is defined in this framework as surveillance activities designed to target multiple hazards at the same time (*parallel design*), or the secondary use of data/samples collected as part of a surveillance activity designed for one specific hazard (which we will call *mother component*) to investigate the presence of additional hazards (which we will call *child components*).

As an example: if a serological survey is being designed to provide evidence of freedom for porcine reproductive and respiratory syndrome (PRRS), classical swine fever (CSF) and Aujeszky's diseases (AD), this survey would be called a multi-hazard surveillance activity with parallel design. If, however, a survey has been designed to demonstrate freedom from PRRS, using only information regarding this disease (such as design prevalence, and risk characteristics of the pathogen distribution in the population of interest), and a subset of the samples collected are also tested for ASF and AD, then the PRRS serosurveillance is considered to be the "mother component" and the serosurveillance for ASF and AD are considered the "child components". This is often the case when more resources are available for one specific hazard, and surveillance for other hazards can be carried out at a lower cost by taking advantage of samples already collected.

The surveillance design framework has been created to characterise surveillance systems following the definition agreed on in Hoinville et al. (2013): "a range of surveillance components (and the associated organisational structures) used to investigate a single hazard in a specified population". That is, the framework allows the user to set only one hazard per surveillance system. Similarly, the surveillance components have been defined, within the framework, as exclusive to a specific hazard. This single hazard structure was established to avoid adding complexity to the framework, which could reduce its user-friendliness or make it difficult to assure that different users would achieve the same results when applying the framework, which is necessary if this is going to be used as a tool for documentation among institutions.

However, the surveillance design framework supports users that wish to design surveillance activities for multiple hazards in two main ways:

- 1) After documenting a surveillance system for one specific hazard, users can get advice regarding the "multi-hazard potential" of the design. That is, similarly to what has been described for the improvement of the design based on specific performance attribute targets, the user will have a chance to review the design, receiving advice about which surveillance steps are most critical to guarantee that the data collected as part of a surveillance component can be reused for surveillance for other hazards.

- 2) The user has a chance to design the components for these additional hazards (which would then, by definition, be part of a different surveillance system) side by side to the current design.

To see how this is done, access the Multi-hazard surveillance section in the [surveillance design framework](#). If you need help understanding how to use that section, make sure to consult the appropriate section in the [manual](#).

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