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OH-EpiCap: a semi-quantitative tool for the evaluation of One Health surveillance capacities and capabilities

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The international community is actively calling for the implementation of One Health (OH) surveillance systems. OH emphasises collaborations across disciplines and different sectors to coordinate and implement hazard surveillance (1). However, the organization of the national surveillance system remains mostly compartmentalized, with limited collaborations among sectors (2). There is a need to characterize existing OH surveillance systems, identify strengths and weaknesses in multi-sectoral collaborative activities, in order to implement actions for improvement. The OH European Joint Project MATRIX aims to advance the implementation of OH surveillance in practice by building on existing resources, adding value to them, and creating synergies among sectors. Thus, a generic benchmarking tool, OH-EpiCap, is being developed that enables to characterize, assess and monitor OH surveillance capacities and capabilities.

OH-EpiCap evaluation

The OH-EpiCap tool is generic and can be used for the evaluation of surveillance systems of any hazard in the human, animal and environmental health sectors.

The evaluation of OH surveillance capacities and capabilities for a given hazard is conducted through a **half-day workshop** of a panel of representatives from different sectors and disciplines.

The panel answers a set of questions (corresponding to 48 indicators) regarding three dimensions of One Health: **organization**, **operationalization**, and **impact** (Fig. 1), through an R Shiny **online application**.

The App allows the user to visualize in real time the outcomes and generate a **synthetic OH-ness profile** for the studied system (Fig. 2).

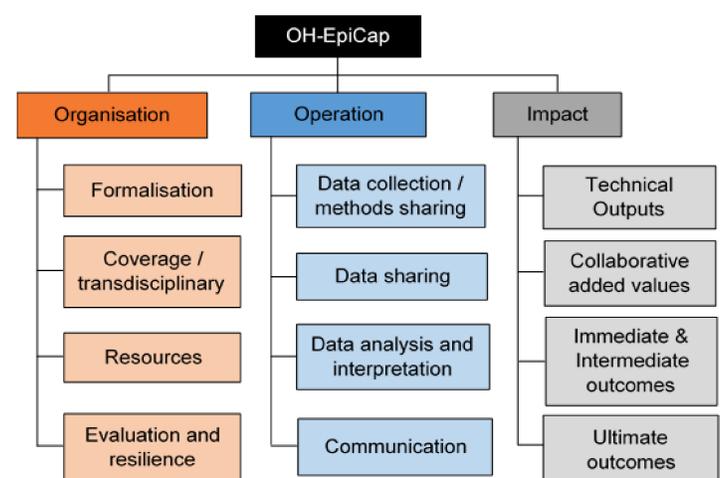


Fig 1 Structural overview of the OH-EpiCap targets grouped by dimension.

Applications and expected outcomes

In the MATRIX project, applications focus on foodborne hazards (*Salmonella*, *Campylobacter*, *Listeria*) and emerging threats (antimicrobial resistance) in different European countries.

The tool provides a manageable "first step for action" where there is an interest in updating or renewing existing collaborations across surveillance systems, strengthens trust between stakeholders from across the systems, and builds a foundation for professional network and long-term collaboration.

The tool also allows to benchmark outcomes with results from previous evaluations or from other relevant surveillance systems (for the same system over time, or for multiple hazards of interest in a country, or for the same hazard in other countries).

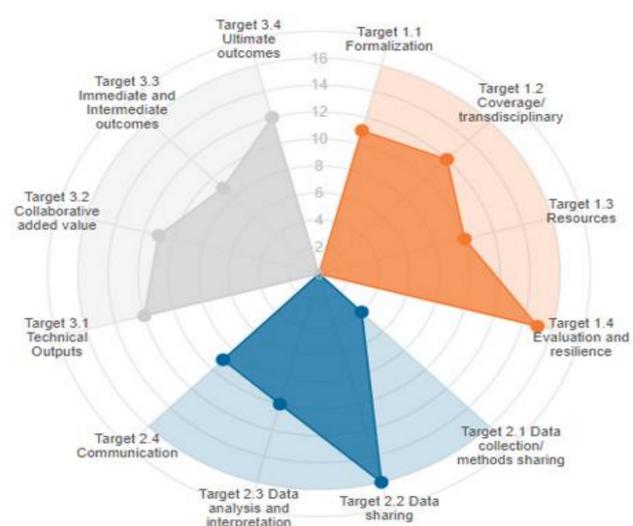


Fig 2 Example of results for each target across the three dimensions. The result for each target corresponds to an aggregated score based on the answers to the corresponding questions in the online application.

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