Implementation of One Health surveillance system, opportunities, and challenges: Lessons learned from OH-EpiCap evaluations

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As the complexity of health systems has increased over time, there is an urgent need for developing multi-sectoral and multi-disciplinary collaborations within the domain of One Health (OH) (1). Despite the efforts to promote such collaborations and break through discipline silos, implementing OH surveillance in practice remains difficult. Thus, it is key to identify the main challenges and barriers for the effective implementation and functioning of an integrated OH surveillance system (2).

OH-EpiCap evaluation tool

We developed a generic, semi-quantitative evaluation tool, called OH-EpiCap, to characterize and assess OH epidemiological surveillance capacities and capabilities (3).

Each evaluation is conducted by a panel of surveillance representatives, using a user-friendly, standalone, online App: https://freddietafreeth.shinyapps.io/OH-EpiCap/

The tool focuses on multiple OH aspects, gathered in three dimensions: the organization, operational activities, and impacts of the OH surveillance system (Fig. 1).

Eleven evaluations of surveillance systems for foodborne pathogens (*Listeria*, *Campylobacter* and *Salmonella*), antimicrobial resistance, and other pathogen (psittacosis) were conducted using this tool, across eight European countries.
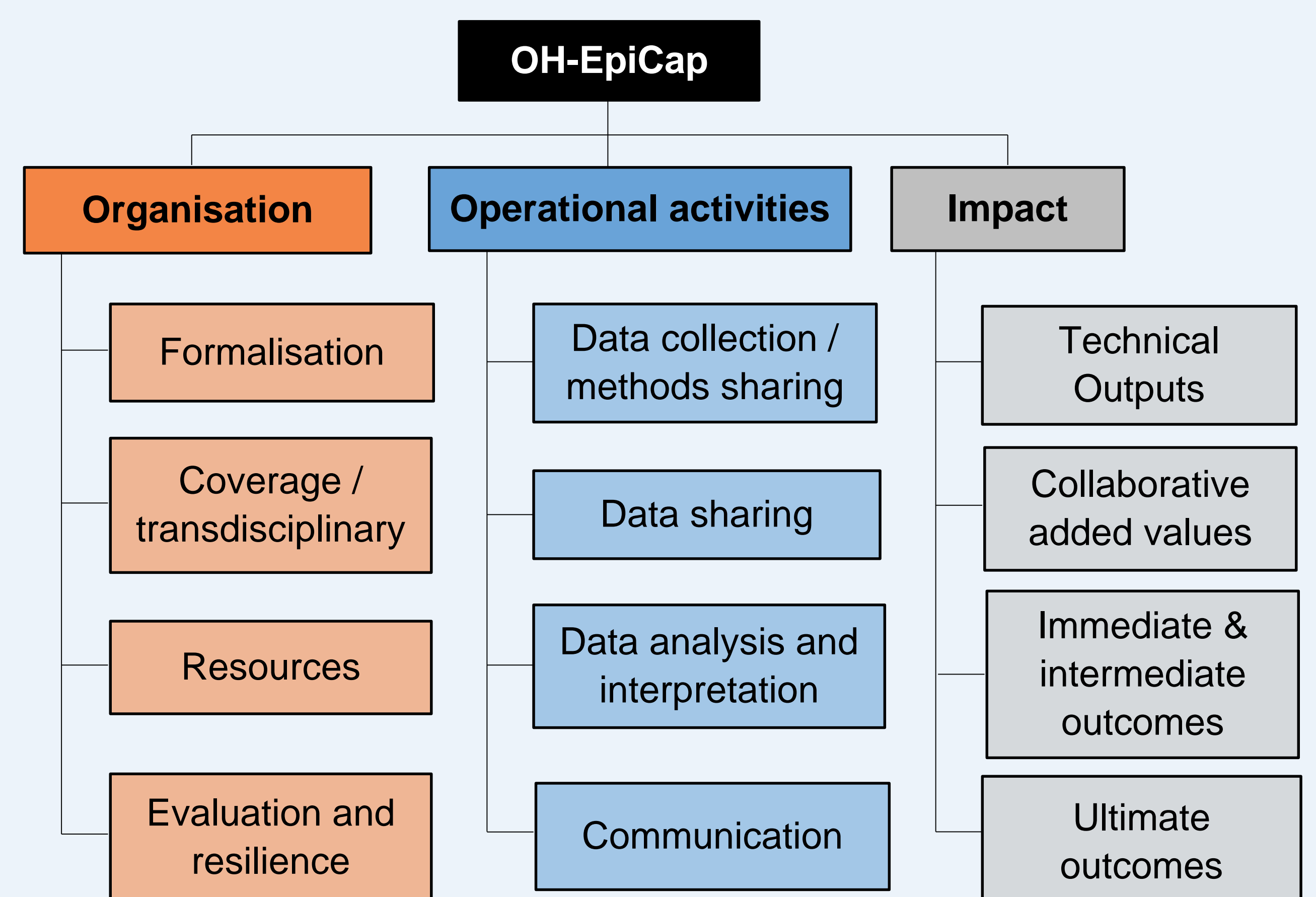

Fig. 1: Structural overview of the OH-EpiCap targets grouped by dimension of integrated surveillance.

Lessons learned and challenges identified

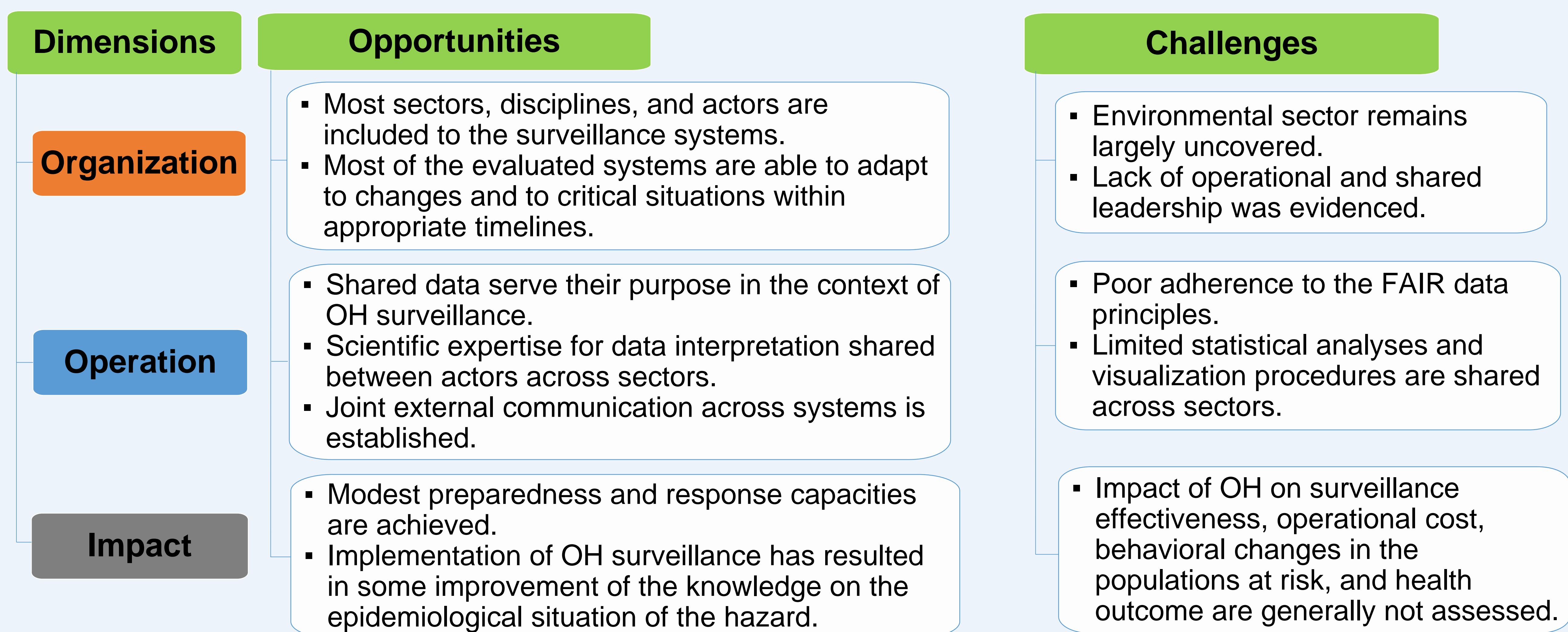| Dimensions	Opportunities	Challenges
Organization	▪ Most sectors, disciplines, and actors are included to the surveillance systems. ▪ Most of the evaluated systems are able to adapt to changes and to critical situations within appropriate timelines.	▪ Environmental sector remains largely uncovered. ▪ Lack of operational and shared leadership was evidenced.
Operation	▪ Shared data serve their purpose in the context of OH surveillance. ▪ Scientific expertise for data interpretation shared between actors across sectors. ▪ Joint external communication across systems is established.	▪ Poor adherence to the FAIR data principles. ▪ Limited statistical analyses and visualization procedures are shared across sectors.
Impact	▪ Modest preparedness and response capacities are achieved. ▪ Implementation of OH surveillance has resulted in some improvement of the knowledge on the epidemiological situation of the hazard.	▪ Impact of OH on surveillance effectiveness, operational cost, behavioral changes in the populations at risk, and health outcome are generally not assessed.

Fig. 2: Opportunities and challenges towards the implementation of OH surveillance system. Based on the results from the 11 study cases.

The establishment of a formal governance body with representatives from each sector could assist in overcoming long-standing barriers in OH surveillance. Moreover, demonstrating the impact of OH-ness to policymakers may facilitate the formalization and development of multi-sectoral collaborations.

REFERENCES
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Authors who are attending the SVEPM conference

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Scan here to access OH-EpiCap tool