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Moving towards One Health surveillance of antimicrobial resistance in France : an evaluation of the level of collaboration within the surveillance system



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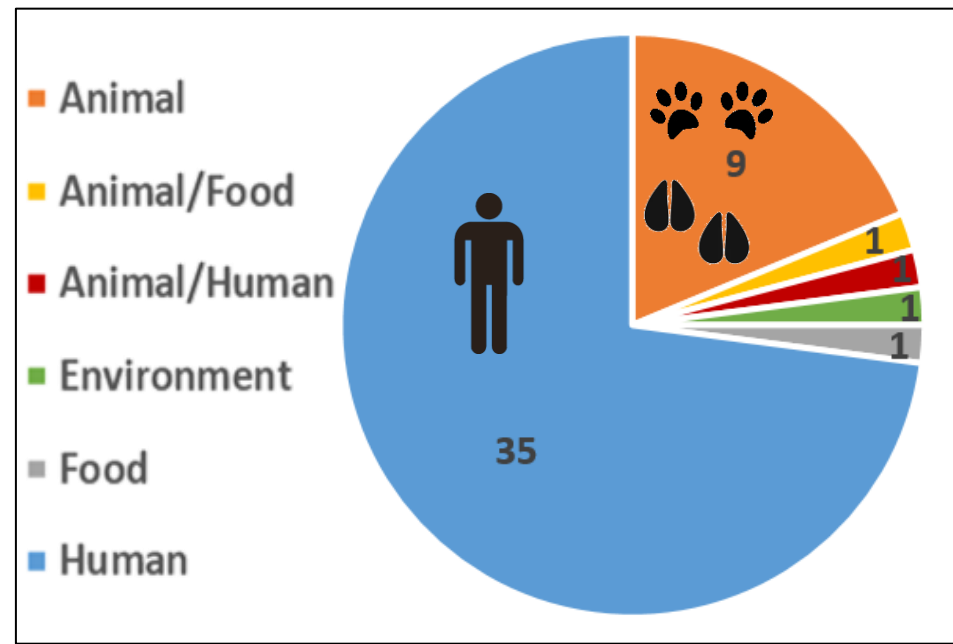
Background

- EU Action Plan for Antimicrobial Resistance 2017 => **advocacy for a One Health approach** against antimicrobial resistance (AMR)
- In France => A rich and **highly complex surveillance system consisting of many programmes** for AMR, antibiotic use (ABU) and antibiotic residues surveillance in humans, animals and the environment

Integration between surveillance programmes ?

Previous results [1]

- the French surveillance system = **48 monitoring programmes**



- 35 programmes focused on AMR, 14 on ABU and two on antibiotic residues
- **2 subsystems** = grouping together several programmes and facilitating collaboration :
 - The **RÉPias** contributing to the integration of ABU and AMR surveillance in the human sector
 - The **ONERBA** facilitating AMR surveillance integration between the human and animal sectors

- A **joint One Health Antibiotic Resistance brochure** [2] = data from 12 programmes from the 3 sectors, published every year during the World Antimicrobial Awareness Week

Objective



- to **evaluate the degree and quality of multisectoral collaboration** within the 48 surveillance programmes of AMR, ABU and antibiotic residues
- to **formulate practical recommendations** for improvement

Methods



- **Tool = adaptation of ECoSur semi-quantitative matrix** [3] to evaluate the **organization, implementation and functionality of collaboration** ; scoring grid consisting of 75 criteria evaluating 31 attributes and 3 indexes
- **Data-collection = 52 interviews** with programmes coordinators and key-informants
- **Validation = 1-day session** with 20 members of the steering committee

Evaluation of the organizational attributes regarding governance and operations

- + Well formalized national collaborative strategy
- + Objectives and implementation of the collaboration relevant with the context and issues

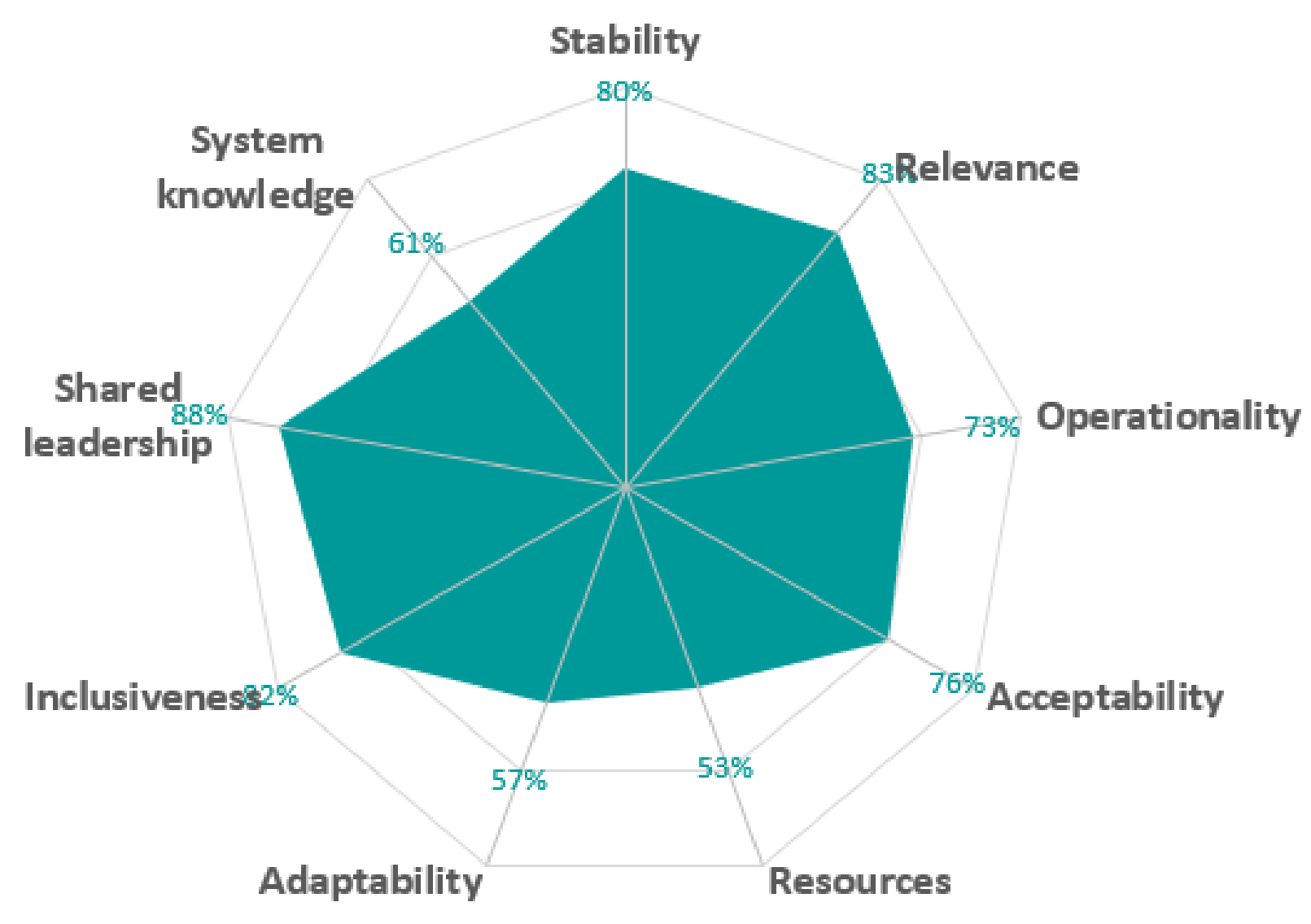
- ! Lack of a structured surveillance programme in the environment
- ! Issues not addressed by the surveillance system, (e.g. impact of antibiotic residues on ecosystems)

- ! Lack of a cross-sectoral coordination body for the practical implementation of the national collaborative strategy

- ! No specific performance indicators for routine evaluation of collaborations

Attribut	Result	Attribut	Result
G.1 Formalization and endorsement of the collaborative surveillance strategy		O.1 Collaboration for surveillance design	
G.2 Relevance of collaborative objective(s) and purpose		O.2 Collaboration for sampling	
G.3 Coverage		O.3 Collaboration for laboratory testing	
G.4 Collaborative mechanism(s) for steering the multi-sectoral surveillance system		O.4 Collaboration for data management and storage	
G.5 Collaborative mechanism(s) for coordinating the multi-sectoral surveillance system		O.5 Collaboration for data sharing	
G.6 Collaborative mechanism(s) for supporting scientifically and technically the multi-sectoral surveillance system		O.6 Collaboration for data analysis and interpretation	
G.7 Formalization and endorsement of collaborative modalities for the implementation of surveillance activities		O.7 Collaboration for sharing surveillance results	
G.8 Relevance of collaborative modalities for the implementation of surveillance activities		O.8 Collaboration for communication to surveillance actors	
G.9 Training		O.9 Collaboration for external communication	
G.10 Performance and evaluation		O.10 Collaboration for dissemination to decision-makers	
G.11 Information and communication		G.12 Engagement	

Evaluation of functional attributes of collaboration



- ! No development or promotion of common indicators for AMR or antibiotic exposure in human, animals or the environment
- ! No dedicated financial resource for joint laboratories analysis

- + Annual One Health joint communication, facilitating collaboration between actors of different sectors

- + Operational and relevant communication and dissemination of the results, including to decision makers

Top-3 recommendations to improve the One Health-ness of the French AMR surveillance system

1. **Create a national One Health operational committee** to help actors to develop inter-sectoral collaboration. E.g. : facilitate interoperability of surveillance data across sectors, help mutualisation of resources and tools
2. **Reinforce and enlarge AMR surveillance in the environment**, including impact assessment on ecosystems as a dedicated surveillance objective
3. **Create a dedicate inter-sectoral working group** to work on the implementation and production of common indicators and the joint analysis of data (on the model of the European JIACRA report)

Discussion

- A total of **12 recommendations** came out of this study and were disseminated to policy-makers of the three sectors to inform the revision of the French interministerial roadmap for controlling AMR. This will serve to improve the One Health-ness of the French AMR surveillance system.
- Additionally, 2 large national meta-networks (PROMISE and ABRomics-PF) funded through the French Priority Research Programme on AMR were launched in 2021, and appear as excellent opportunities to further facilitate integration of surveillance programmes, and address some of the gaps identified in this study.

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