Strengthening preparedness to arbovirus infections in Mediterranean and Black Sea Countries: the MediLabSecure effort towards the integrated surveillance in the context of One Health strategy

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Background

MediLabSecure network, established in 2014 following the EpiSouth Projects, comprises 55 laboratories and 19 public health institutions in 19 non-EU countries in the Mediterranean and Black Sea regions (Albania, Algeria, Armenia, Bosnia and Herzegovina, Egypt, Georgia, Jordan, Kosovo, Lebanon, Libya, Moldova, Montenegro, Morocco, Palestine, Former Yugoslav Republic of Macedonia, Serbia, Tunisia, Turkey, Ukraine). This One Health project develops through the transdisciplinary interaction of four sectors: human health, animal health, medical entomology and public health, to enhance preparedness and response to emerging arboviruses and to improve integration of surveillance.

To this aim, we implemented a new methodological approach towards a descriptive qualitative assessment of implemented One Health Surveillance integration.

Methods

We tested a conceptual framework that we had defined in prior studies to describe and assess surveillance integration and performed a MediLabSecure situational analysis (MeSa Study) on integrated surveillance (IS) of West Nile Virus (WNV) in Tunisia and Serbia and, of Crimean Congo Haemorrhagic Fever (CCHF) in Georgia, involving the human, animal and medical entomology sectors of vector borne disease surveillance.

The MeSa had the following objectives:
1. Describe how the collection, analysis and dissemination/exchange of information is organized within and between human, animal and entomological surveillance of arboviruses;
2. Identify formal procedures and informal practices for IS;
3. Discuss main challenges and success stories in establishing a functional inter-sectoral collaboration and integrating sectorial surveillances.

Results

The three surveillance systems (SS) show criteria for integration as per the proposed conceptual framework (Table 1). The establishment of an interoperable data collection system, seems the first step to promote data sharing between sectors, but this remains a rare feature in many countries. Even when well established, like in Georgia, the use of these data for integrated early warning, analysis and inter-sectoral priority setting and multisector risk assessments is still pioneeristic.

Conclusions and Recommendations

Our findings suggest that the use of this methodology could allow standardization and comparable one health surveillance analyses. The three surveillance systems prove that integrated surveillance can be operationalised with a diverse spectrum of options. However, in all countries the integrated use of data for early warning and inter-sectoral priority setting is pioneeristic and early-warning before human case occurrence is not operationally prioritized. Supporting inter-sectoral data collection and analysis can be strategic for cross-sector early warning and risk assessments. These are essential for setting national common priorities.