NEED FOR A HARMONISED APPROACH FOR SURVEILLANCE OF ANTIMICROBIAL RESISTANCE IN ANIMALS – THE CANADIAN EXPERIENCE

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Surveillance information in itself is powerful. Harmonisation is critical within a surveillance infrastructure to enable robust comparisons of the findings; as a means to make sense of the data. For example, data could be compared over time, between regions, between animal species, or between production sectors with different risk factor exposure (such as antimicrobial use). To achieve a harmonised approach to surveillance requires a good understanding of the reasons for conducting surveillance in the first place and a very good knowledge of the underlying system. Harmonisation can then occur at the levels required, such as during sample or data collection, laboratory analysis, data analysis and reporting and communicating to interested parties.

The Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) tracks trends in antimicrobial resistance in certain enteric bacteria obtained at different stages of food production and from people. CIPARS also collects information on antimicrobials used in people (community pharmacies) and animals (national distribution data and swine farm data). CIPARS, as an example of a harmonised approach to conducting surveillance of antimicrobial resistance, supports the creation and evaluation of policies to contain antimicrobial resistance and to better manage antimicrobial use. Through a description of why CIPARS was created and the underlying Canadian system, followed by the details of CIPARS surveillance components, the different levels of harmonisation will be illustrated. Finally a discussion of a specific case-study of ceftiofur-resistant *Salmonella* Heidelberg will emphasise the integrated nature of the surveillance programme.

The Public Health Agency of Canada coordinates CIPARS with the assistance of Health Canada, the Canadian Food Inspection Agency, provincial health and agriculture ministries, academic institutions, and private industry. Data from CIPARS (www.phac-aspc.gc.ca/cipars-picra/index-eng.php) are published as annual reports (synthesis/integration of surveillance findings), short reports (data only), and as *ad hoc* reports as per risk manager requirements.