

CIPARS 2018 | Executive Summary

The Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) monitors trends in antimicrobial use and antimicrobial resistance in select bacterial species from people, animal and food sources across Canada.

Key 2018 Findings

a) Antimicrobial consumption and antimicrobial use

Between 2017 and 2018, there was a 5% increase in the amount of antimicrobials (taking into account the number of animals and their weights) distributed across Canada for use in all animals (production and companion animals), from information reported to us by the Canadian Animal Health Institute. In our sentinel farm data, we noted an overall decrease in reported antimicrobial use on both broiler chicken and pig farms, and an increase on turkey farms. This use also varied by province for each of these three food animal species.

b) Antimicrobial resistance

Nalidixic acid resistance was found in *Salmonella* Enteritidis recovered from healthy chickens, sick chickens, and chicken meat purchased at the grocery store. Though there were only a few of these *S. Enteritidis* isolates, we highlight this finding because historically resistance in *S. Enteritidis* (to any drug) is extremely rare in animals or food. In contrast, *S. Enteritidis* recovered from people are sometimes resistant and usually this resistance is to nalidixic acid. These human cases may be related to travel outside of Canada.

Monitoring for highly-drug resistant (resistant to 6 or more classes of antimicrobials) *Salmonella* isolates has identified increasing numbers across people, animals and meat. For the first time, CIPARS observed a highly-drug resistant *Salmonella* (serovar Infantis) from a chicken source.

c) Antimicrobial use and resistance

3rd generation cephalosporin use and resistance in *Salmonella* and *E. coli*: people and chicken(s)

The poultry industry in Canada stopped using 3rd generation cephalosporins to prevent disease as part of a larger ban on the preventive use of Category I antimicrobials. This action appears to be reducing antimicrobial resistance. Compared to 2014 when the ban was implemented, *Salmonella* isolates from sick people showed less resistance to 3rd generation cephalosporins; a trend generally mirrored in *Salmonella* and *E. coli* isolates from chickens at slaughter and meat at the grocery store. In 2018, there was no reported use of 3rd generation cephalosporins on farms under surveillance, however we observed a small increase in 3rd generation cephalosporin-resistant *Salmonella* from healthy chickens on these farms (in comparison to recent years).

New Surveillance Activities

- Working with our stakeholders, we launched two sentinel farm surveillance projects in feedlot and dairy cattle.
- CIPARS is analyzing data from the new Veterinary Antimicrobial Surveillance Reporting (VASR) system which is generated under new regulatory authority requiring manufacturers, importers and compounders to report the quantity of medically important antimicrobials sold in Canada.

New ways of Communicating

CIPARS is improving the manner in which findings are communicated. Similar to 2017, CIPARS is releasing a suite of four documents in 2018: 1) Executive Summary; 2) the Figures and Tables, which include summarized information with little supporting text; 3) the Design and Methods; and 4) the Integrated Findings. For the 2019 data and coming years, we are working to incorporate new tools and processes to support a more rapid and user-friendly approach to communicate surveillance findings.