

CIPARS

Surveillance Over the Years (2002 to 2021)



START

2002

Launching CIPARS

The **Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS)** was developed as a coordinated suite of pilot projects to assess the feasibility of a representative and methodologically unified national surveillance system.

The program was modeled after similar international initiatives and developed into a national integrated surveillance program that collects, analyzes, and communicates trends in antimicrobial use (AMU) and antimicrobial resistance (AMR) for select enteric bacteria from humans, animals, and retail meat across Canada.

AMR

Human: *Salmonella* and *Shigella* retrospective surveillance data (1993-2001) (Passive; National)

Abattoir: Beef cattle, chickens, pigs started (Active; National)

Animal Clinical: Cattle, chickens, pigs, turkeys started (Passive; National)

Feed and Feed Ingredients: (Passive; National)

AMU

Human: Antimicrobial sales data (Pharmacy sales, Intercontinental Medical Statistics (IMS); National)

2006

AMR

Farm: Pigs started (Active; AB, SK, MB, ON, QC)

AMU

Animal: Canadian Animal Health Institute (CAHI) antimicrobials distributed for sale for use in animals data started (Manufacturer and distributor sales; National)

Farm: Grower-finisher pigs started (Feed, water, injectables AMU data; AB, SK, MB, ON, QC)

2005

AMR

Retail: Saskatchewan added

2003

AMR

Retail: Beef, chicken, pork started (Active; ON & QC)

Human Clinical: started (Enhanced Passive; National)

AMU

Human: AMU data started (Pharmacy sales; National)

2007

AMR

Retail: British Columbia added (pilot)

Animal Clinical: Horse reporting added

AMU

Human: AMU data (NL & PE added)

2008

AMR

Retail: Maritimes added (pilot); fish/shrimp added (pilot)

Discontinued *Enterococcus* spp. isolation in retail chicken and farm pigs in 2010 and 2011, respectively

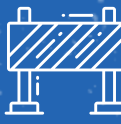
2012

AMR

Retail: Turkey added (BC, SK, ON, QC; Maritimes sampling paused for 2012 due to sampling delays)

AMU

Began provincial stratification of the quantity of antimicrobials distributed for sale for use in animal data



SAMPLING ISSUES

2015

AMR

Retail: (2015 onwards) due to budgetary constraints, sampling in Atlantic region was discontinued and partial sampling was conducted in ON & Prairies.

2014

AMR

Retail: Alberta added

Farm: Turkey started (BC)

AMU

Farm: Turkey started (Feed, water, injectables AMU data; BC)

2013

AMR

Farm: Broiler chicken started at placement & pre-harvest (BC, AB, ON, QC)

AMU

Human-animal-crop integrated AMU comparison began

Farm: Broiler chicken started (Feed, water, injectables AMU data; BC, AB, ON, QC)

Plants/Crops: Sales reporting data collection started (Pest Management Regulatory Agency (PMRA), Regulated; National)

2016

AMR

Human: *Campylobacter* data from FoodNet Canada acquired

Farm: Feedlot beef started (AB)

Farm: Turkey (ON & QC added)

AMU

Farm: Turkey (Feed, water, injectables AMU data; ON & QC added)

2017

AMU

Marine and freshwater finfish aquaculture: AMU data started (Department of Fisheries (DFO), Regulated; National)

2018

AMR

Farm: Broiler placement sampling discontinued.

Farm: Turkey (AB added)

AMU

Farm: Feedlot and Dairy Cattle surveillance launch (pilot).

Farm: Grower-finisher pig water and injectables AMU (quantitative data) started

Veterinary Antimicrobial Sales Reporting (VASR): Joint Health Canada and Public Health Agency of Canada; veterinary pharmaceutical manufacturers, importers, and compounders data started (Regulated; National)

2021

AMR

Farm: Layer chicken data combined with 2020 data

Retail: BC was only province sampled (Jan; July-Aug; Dec)

AMU

VASR: Refinement of populations included VASR denominator

Farm: Broiler chicken & turkey added mg/kg animal biomass metric

2020

AMR

CIPARS sampling and operations heavily impacted by the COVID-19 pandemic

AMR

Farm: Layer chicken started (pilot; BC, AB, ON, QC)

Human: *Salmonella* isolates; began testing by Whole Genome Sequencing (WGS)

Retail: QC sampled (Jan-Mar), BC (Jan-Mar & Sept-Dec), Prairies and ON had no sampling

AMU

VASR: new denominator used for average live weight at slaughter calculation (mg/kg biomass slaughter)

2019

AMR

Farm: Feedlot beef expanded (AB, SK, ON)

AMU

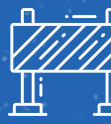
Farm: metrics for estimating quantity of antimicrobials administered (water) for farm animals were revised

Farm: Feedlot beef data started (AB, SK, ON)

VASR: Data incorporated into the CIPARS report



COVID-19



COVID-19