

Genomics Data Connect: One Health Antimicrobial Resistance Initiative

BETTER DATA, BETTER DECISIONS

The World Health Organization identifies antimicrobial resistance (AMR) as one of the greatest global health threats, as germs are increasingly resistant to the medicines used to treat and cure infections. Governments worldwide are working together to address this challenge. Alberta's One Health Antimicrobial Resistance Framework for Action calls for collaboration across sectors to protect human, animal, and environmental health. A key priority is harmonized surveillance to track antimicrobial use and resistance over time and place. Genomics offers cost-effective tools to generate critical data; however, much of this information is fragmented and underused for coordinated analysis and benefit.

Genome Alberta, supported by the Government of Alberta, is investing in a new initiative to improve coordination, accessibility and interoperability of AMR data to support planning, responses and action.



PROGRAM INVESTMENT
\$750,000

Leverage ratio 1:1+ with co-funding

BENEFITS OF AMR DATA COORDINATION



**Reduce duplication
in data collection**



**Leverage
historical datasets**



**Integrated One Health
Approach**



**Long-term data
stewardship and
accessibility**

KEY OBJECTIVES OF THE INITIATIVE

- **Improve One Health collaboration** and shared responsibility for action through cross-sector leadership from human health, animal health, environment and data sciences.
- **Reduce barriers** to accessing available information to track, analyze, and respond to antimicrobial resistance through coordinated data use.
- **Coordinate** data usage by integrating existing AMR data and expertise for human, animal, agricultural, and environmental domains.
- **Prioritize** practical, scalable solutions for efficient regional surveillance aligned with national surveillance efforts, including the incorporation of active environmental monitoring of water and air to strengthen population and ecosystem insights.

DRIVING FOR OUTCOMES

This collaborative research initiative will:

- Harmonize existing surveillance by organizing and linking high-quality genomic, clinical, agricultural, and environmental data through provincial scale AMR data infrastructure.
- Make de-identified aggregate AMR surveillance data accessible across organizations and sectors.
- Include historical datasets to provide longitudinal insight.
- Enable an integrated system that can be maintained over the long-term with improved data stewardship and accessibility.
- Create open access for researchers, public health authorities, and policymakers to support coordinated decision-making.

WORKING TOGETHER TOWARDS PRACTICAL SOLUTIONS

This initiative is collaboratively led by world-leading AMR experts across sectors from the University of Calgary, the University of Alberta, and Agriculture and Agri-Food Canada – Lethbridge Research and Development Centre. The team will also draw upon the collective expertise and perspectives from across Alberta, as well as other Canadian and international researchers, public health authorities, and policymakers to shape the project with an integrated One Health approach.

KEY DATES

