Canadian Anti-infective Innovation Network (CAIN) Réseau Innovation Anti-infectieuse Canada (RIAC)

What is CAIN?

CAIN is a consortium of over 80 leaders, researchers, clinicians, and policymakers from Canadian universities, companies, governments, and not-for-profit organizations committed to addressing one of the most pressing Public Health challenges we face in the 21st Century: Drug-Resistant Infections and Antimicrobial Resistance (AMR). CAIN members span human and animal health sectors reflecting the fact that AMR is a One Health issue.

What is the world doing to address AMR?

In 2016, the United Nations General Assembly held an unprecedented session on AMR, its consequences, what's at stake if we do nothing, and what we can do to address the crisis. All nations, including Canada, declared this the largest threat to modern medicine and committed to *"foster innovative approaches using alternatives to antimicrobials and new technologies for diagnosis and vaccines"*. This commitment reflects the WHO Global Action Plan on AMR also released in 2016, and various international efforts are consistent with this call. The New Drugs for Bad Bugs program developed by the European Union's Innovative Medicines Initiative has committed €700 million as a broad effort to address the gaps in the antibiotic pipeline. In the US, a new program called CARB-X was launched in 2016 to speed the development of new antimicrobials funded with \$910 million USD from the U.S. government and the Wellcome Trust.

What is Canada doing?

The federal government with the participation of provincial, territorial and other stakeholders has developed a Pan-Canadian Framework for action (released in 2017) describing activities in antibiotic stewardship, surveillance, infection prevention and control, and research innovation. With this framework in place, it is now time for implementation criteria to be developed and funding support devoted to this critically important area of research and development.

What is CAIN proposing?

In Canada, we have the expertise and track record to tackle the challenges of AMR and provide solutions through a

made-in-Canada approach. We have world-leading centres of excellence and resources, and are often called upon by other jurisdictions for this expertise. CAIN believes that Canada must do its part on the national and international stage to address the pressing question of AMR. We cannot rely on the rest of the world to solve this problem for us.

We can:

- Discover alternatives to traditional antibiotics such as resistance blocking antibiotic adjuvants, immune modulators, vaccines and probiotics
- Discover new antibiotics through novel strategies
- Develop these into new drug candidates
- Develop new molecular approaches for surveillance of AMR and diagnostics to ensure we deliver "the right drug for the right bug"
- Establish innovative education strategies to inform the public, health practitioners, and policymakers of the dangers of AMR
- Extend the life of our existing drugs and preserve our new ones.

CAIN calls for a substantial and targeted investment to spur innovation across all sectors of the Pan-Canadian Framework.

CAIN is committed to providing innovative solutions and outcomes that will make a difference in the fight against AMR and drug-resistant infections.

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