

## **Briefing Note No. 1**

# **Canadian Stakeholders in Antimicrobial Resistance Governance**

### **Issue**

There are various state and non-state actors involved in the governance of antimicrobial resistance and other infectious diseases in Canada, at both the domestic and global levels. Their roles, and the means by which their input feeds into governance efforts, depend on their mandates and jurisdictions.

### **Background**

At the international level, a number of stakeholders, in particular the World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO), and World Organisation for Animal Health (OIE), also known collectively as the Tripartite, have made notable efforts toward strengthening global governance for AMR. Normative instruments that have helped facilitate governance and action include the:

- WHO Global Strategy for Containment of AMR (2001)
- WHO Global Action Plan on AMR (2015) that attempts to create a cohesive worldwide strategy against AMR
- FAO Action Plan on AMR in Food and Agriculture 2016-2020 (2016) supporting the food and agriculture sectors in implementing the WHO Global Action Plan on AMR
- OIE Strategy of Antimicrobial Resistance and the Prudent Use of Antimicrobials (2016)

These are summarized in Table 1. In addition, the Global Antimicrobial Resistance Surveillance System (GLASS) was launched in 2015 by the WHO as a means to ascertain standardized and comparable AMR data at a global level. Canada enrolled in GLASS in 2016.

At the domestic level, Canada developed and released in 2014 the *Antimicrobial Resistance and Use in Canada: A Federal Framework for Action*. The Framework:

*...maps out a coordinated, collaborative federal approach to responding to the threat of antimicrobial resistance. It also lays a foundation for action from all sectors, underscoring the need to work together... on a local, national and global scale<sup>i</sup>*

The Framework consists of three pillars:

- Surveillance: Detecting and monitoring trends and threats in order to inform strategies to reduce the risks and impacts of antimicrobial resistance.

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- Stewardship: Conserving the effectiveness of existing treatments through infection prevention and control guidelines, education and awareness, regulations, and oversight.
- Innovation: Creating new solutions to counteract loss in antimicrobial effectiveness through research and development.

It outlines the roles of the federal departments concerned: Public Health Agency of Canada (PHAC), Health Canada, Canadian Food Inspection Agency (CFIA), Canadian Institutes of Health Research (CIHR) and Agriculture and Agri-Food Canada (AAFC). Activities are to be undertaken through each department's respective mandate and with their established relationships and governance with other stakeholders.

### **Current Status**

#### ***WHO/FAO/OIE***

The WHO appointed a Director, AMR Secretariat, who heads the Department of AMR. Within this Department are four groups: One works on awareness and behaviour change; the second on surveillance and the implementation of the global AMR surveillance system (GLASS); the third on the implementation of national action plans; and the final on monitoring and evaluation of performance by countries. Other departments (e.g. medicine, food, and environment) also have their own AMR activities. The WHO provides countries with self-assessment surveys so that they can evaluate and report on their performance vis-à-vis the WHO Global Action Plan on AMR, and publishes annual progress reports based on its AMR database.<sup>ii</sup> Some of the key findings in the most recently published annual progress report (2018) include:

- Almost one-fifth of countries (18.2%) have no national policy or legislation regarding the quality, safety and efficacy of antimicrobial products, and their distribution, sale or use. Another 28 countries (18.2%) were unable to report whether they had these policies in place or not.
- Across all domains and sectors, there is less progress in low-income countries. Most countries now have national action plans but may require long-term development assistance to implement them at scale.
- Among countries with a developed national action plan, the odds of having a nationwide awareness campaign in the human sector are 4.9 times higher.
- The odds of having a nationwide awareness campaign in the non-human sector are 10.1 times higher among countries with a national action plan.

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- For every 1% increase in government healthcare spending as a percentage of GDP, the odds of a country having a functioning infection prevention control programme are 1.3 times higher.
- While 78 countries (50.6%) have regulations in place to prevent environmental contamination generally, only 10 of these have regulations that could limit the discharge of antimicrobial residues into the environment.
- As of May 2017, only 61 countries had enrolled in WHO's GLASS surveillance system, compared to the 105 countries which report having a surveillance system in place nationally.

The 13th General Programme of Work 2019–2023 (GPW13) was approved by the World Health Assembly in 2018. It provides the strategic direction for the work of the Organization over the next five years.<sup>iii</sup>

As part of their collaborative efforts, the Tripartite has also engaged industry stakeholder and academic leaders to develop a global governance framework (called Future Global Governance for AMR) through an Interagency Coordination Group (IACG). The proposed global governance framework<sup>iv</sup> contains proposals for developing a Global AMR Steering Board, a High Level Commission on AMR, and delivering a Multi-stakeholder Agreement on AMR within 10 years (see Figure 1).

While the WHO's global governance framework for AMR issues from the WHO Global Action Plan on AMR (adopted by the World Health Assembly), the FAO and OIE each have their own action plans/strategies. All three nonetheless bear similarities as the organizations worked closely together in developing these. The Director Generals of all three organizations signed an agreement in May 2018 to develop a joint work plan with joint funding. The tripartite work plan is nearly completed and was extended to include the United Nations Environment Programme (UNEP), hence its moniker *tripartite+ work plan*.

### **PHAC**

PHAC facilitates the coordinated efforts of other federal departments, provinces and territories, and other sectors to align efforts and identify collaborative opportunities to address AMR. PHAC is addressing AMR by strengthening surveillance, promoting appropriate use of antibiotics in humans and animals, developing guidelines and best practices in infection control practices, and exploring innovative research.

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An Interdepartmental Committee on AMR has been established, with committees at the Director General, Assistant Deputy Minister and Deputy Head levels. The role of this Committee is to guide the federal response to AMR, including but not limited to the implementation of the Federal Action Plan, informing Canada's contribution to the international AMR agenda, and supporting F/P/T efforts to develop a national approach to AMR. While this Committee began with nine departments at the table, it now has eleven: PHAC, Health Canada, AAFC, CFIA, Innovation Science and Economic Development Canada, Global Affairs Canada, Fisheries and Oceans Canada, Environment and Climate Change, Canadian Institutes of Health Research, National Research Council of Canada and the International Development Research Centre.

PHAC's work on AMR governance is led by an AMR Policy and Coordination Team which reports to PHAC's Director General, Centre for Communicable Diseases and Infection Control, within the Infectious Disease Prevention and Control Branch. The team is responsible for overseeing the interdepartmental collaboration on AMR, dealing with all federal departments that are working on AMR. Its work includes stewardship initiatives, such as working with Choosing Wisely, to educate doctors and patients about responsible antimicrobial prescription practices.

The AMR Policy and Coordination Team also coordinates Canada's engagement at the international level. PHAC is committed to actively collaborating with international partners and engaging in multiple international fora that include a focus on combatting AMR, at political, policy, and technical levels. At the political level, PHAC is involved in G7/ G20 discussions and provides input on Declarations. At the policy level, PHAC provides input on the work of key international partners and engages in Member State consultations (e.g. Tripartite) and demonstrates leadership in advancing key initiatives, such as the Global Health Security Agenda AMR Action Package. At the technical level, PHAC cooperates with peers in human and veterinary medicine, for example, through the work of the Trans-Atlantic Task Force on AMR, and also builds capacity through regional organizations, such as the Pan-American Health Organization. PHAC also provides data to GLASS drawn from Canada's national AMR surveillance system, as well as data to the OIE database on antimicrobial agents intended for use in animals.

The PHAC team, in consultation with the ten departments noted above, is also tasked with putting together a pan-Canadian Action Plan on AMR (expected to be published in the fall of 2019). Canada's commitment to the WHO's Global Action Plan on AMR requires the development of such a plan, which will operationalize the pan-Canadian Framework for Action. PHAC took on the role of convener of dialogue, coalescing the key set of actions from these discussions into a draft action plan, with input from various industry stakeholders.

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### **Health Canada**

Health Canada contributes to stewardship through regulation of the sale of antimicrobial drugs for usage in animals. Strategies for stewardship include veterinary drug regulatory frameworks which increase oversight of the importation of drug products as well as active pharmaceutical ingredients.

The following regulatory changes have taken effect in this area: Since January 1<sup>st</sup>, 2018, reporting of sales information is no longer voluntary for manufacturers, importers and compounders of veterinary antimicrobials. 2018 data is to be submitted to Health Canada between January 1<sup>st</sup> and March 31<sup>st</sup> 2019 (see Figure 2). These changes largely follow suit with those implemented in the USA.

### **CFIA**

CFIA develops national biosecurity standards, protocols, and strategies with stakeholders, provincial and territorial governments, and academia to protect animal resources. CFIA contributes to stewardship through regulation of livestock feeds, including medicated feeds, and regulation of veterinary biologics.

A policy change, effective December 2018, now requires all antimicrobial medicated animal feed, irrelevant of route, only be made available by prescription. Veterinarians are further discouraged from prescribing antibiotic medication for growth promotion (with growth promotion claims removed from all labels); as part of the veterinarian stewardship plan, antibiotics are supposed to only be used for prophylactic or treatment purposes.

### **AAFC**

AAFC facilitates the adoption of on-farm practices designed to reduce disease risk, improve animal care and/or improve food safety. In doing so, the need to utilize antimicrobials is reduced.

### **CIHR**

The Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) is a group comprising over 25 countries that coordinates international research funding and support collaborative action to fill knowledge gaps on AMR. Canada is represented in JPIAMR by CIHR through the Institute of Infection and Immunity (III). Through the JPIAMR initiative, Canada has funded multinational teams to research AMR transmission dynamics, prevention, control and intervention strategies for AMR infections, and transnational AMR networks. Canada is also leading efforts to establish the JPIAMR Virtual Research Institute, a global network of research facilities that will foster knowledge exchange in the field of AMR.

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### ***Canadian Participation in TATFAR***

TATFAR was created in 2009, following a summit between the US and the EU, to address the urgent threat of AMR. It was expanded in 2015 to include Canada and Norway. The Canadian member agencies that participate in TATFAR include: PHAC, Health Canada, CFIA, AAFC, and CIHR. TATFAR provides a venue for member entities and technical experts to discuss technical and policy issues with likeminded partners, and to drive progress in a coordinated way.

## **Key Considerations**

### ***International Governance***

Canada supports collaborative and cooperative global action to address the increasing threat of AMR, particularly from a One Health perspective. Along with other partners, Canada has reaffirmed the WHO Global Action Plan on AMR as the current blueprint for action, and has provided financial support to the AMR Secretariat of the WHO, and for OIE participation in the IACG.

However, Canada was delayed in developing and implementing a national action plan on AMR (expected by WHO to have been completed by 2017). Interview data suggest that AMR may no longer be as high a priority for Canada as it was previously. One example offered was that Canada did not reinforce the WHO's attempt to place AMR on the most recent G7 meeting agenda, despite Canada being one of the promoters of the One Health initiative and that Canada has a substantial agriculture sector. This was regarded by some interviewees as a missed opportunity.

Support for an international treaty regulating the use of antibiotics (in a similar vein to that of climate change) seems to be limited amongst some governments (especially the U.S. and Japan) and amongst industry stakeholders. The suggestion is that civil society and industry may be better able to reduce the use of antibiotics in the food chain through self-regulation (e.g. 'Chain Reaction,' a special annual report on the top 25 food chains' use/non-use of beef and poultry raised with antibiotics, produced by Consumer Reports along with a number of other civil society groups). A principal driver has been consumers demanding antibiotic-free meats, with industry changing to meet this demand.

### ***Canada's National Governance Model***

To develop the pan-Canadian Framework and Action Plan, a governance model has been created, which is structured around both human health (via F/P/T Ministers of Health) and

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animal health (via F/P/T Ministers of Agriculture). Central to this model is an AMR Steering Committee consisting of Senior F/P/T representatives from public health, health care and agriculture. The governance structure includes Task Groups for each of the four pillars of the pan-Canadian Framework -- surveillance, stewardship, research & innovation, and infection prevention & control. Task groups are comprised of representatives from F/P/T governments, industry, NGOs and academia. Terms of reference for these task groups enable them to share their expertise and advise the AMR Steering Committee. PHAC believes the Action Plan will help delineate what needs to be done to close gaps identified in the pan-Canadian Framework and who is best placed to take these actions. It anticipates the Action Plan to be released in Summer/Autumn of 2019.

### ***The F/P/T model***

Canada's federated system means input must be sought and agreed upon at both the provincial/territorial and federal levels, presenting its own governance challenge and requiring more time for discussions and decisions, bringing everyone together in a meaningful way, and achieving consensus, makes for a lengthy process.

### ***Funding for AMR work***

PHAC has funding allocated specifically to support its work on AMR surveillance (CIPARS and CNISP), with other AMR work being funded through internal reallocation. Interview data suggest that other federal departments and ministries and their provincial counterparts also tend to draw on their own internal resources to support their work on AMR. This may impact the speed and efficiency with which they are able to engage and suggests that new funding dedicated specifically to AMR might be needed to facilitate timely policy actions on AMR in Canada.

## **Conclusions**

Canada continues to support collaborative and cooperative global action to address the threat of AMR, particularly from a One Health perspective, but remains uncertain about the need to create additional bodies/structures that may duplicate ongoing efforts in this area.

Canada has been a strong, early supporter of the global governance efforts surrounding AMR and a substantial donor in the early development of the WHO's AMR program; but concerns have been raised by some interviewees that Canada is now playing a declining role in the global governance of AMR.

Domestically, Canada has made progress by: formulating a Federal Framework and Federal Action Plan on AMR, with the Pan-Canadian action plan on AMR currently under development;

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imposing mandatory reporting for sales of veterinary antimicrobials; and requiring prescriptions for medicated animal feed. Canada has also improved AMR surveillance efforts through issuance of annual reports by the Canadian Antimicrobial Resistance Surveillance System (CARSS), beginning in 2015, and by expanding surveillance coverage.

### **Recommendations**

More funding could be put towards scaling up Canada's integrated surveillance system to address surveillance gaps, for example to include community level and long-term care facility data on antimicrobial-resistant pathogens, and developing alternatives to antibiotics. More funding earmarked specifically for AMR-related work within provincial/territorial and federal departments and ministries could improve governance efforts. Canada could aim to become a global champion of AMR by raising the issue simultaneously in as many global governance fora as possible, building on its comparative strength as a middle power consensus builder in international governance.

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<sup>i</sup> Government of Canada. Message from the Minister of Health: Antimicrobial Resistance and Use in Canada: A Federal Framework for Action. 13 Nov 2014. <https://www.canada.ca/en/public-health/services/antibiotic-antimicrobial-resistance/antimicrobial-resistance-use-canada-federal-framework-action.html>.

<sup>ii</sup> <https://www.who.int/antimicrobial-resistance/global-action-plan/database/en/>

<sup>iii</sup> World Health Organization. Programme Budget 2020-2021. AFR/RC68/13 27 August 2018.

<http://apps.who.int/iris/bitstream/handle/10665/275832/AFR-RC68-13-eng.pdf?sequence=1&isAllowed=y&ua=1>

<sup>iv</sup> The discussion paper 'Global Governance for Antimicrobial Resistance' can be found at:

[https://www.who.int/antimicrobial-resistance/interagency-coordination-group/IACG\\_Future\\_global\\_governance\\_for\\_AMR\\_120718.pdf](https://www.who.int/antimicrobial-resistance/interagency-coordination-group/IACG_Future_global_governance_for_AMR_120718.pdf)

### **TABLE 1: EXISTING NORMATIVE AMR GOVERNANCE INSTRUMENTS (SUMMARIES)**

#### **WHO Global Strategy for Containment of AMR (2001)**

The Strategy provides a framework of interventions to slow the emergence and reduce the spread of antimicrobial-resistant microorganisms through:

- reducing the disease burden and the spread of infection;

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- improving access to appropriate antimicrobials;
- improving use of antimicrobials;
- strengthening health systems and their surveillance capabilities;
- enforcing regulations and legislation — encouraging the development of appropriate new drugs and vaccines.

The issues specifically addressed are: patients and the general community; prescribers and dispensers; hospitals; use of antimicrobials in food-producing animals; national governments and health systems; drug and vaccine development; pharmaceutical promotion; and international aspects of containing antimicrobial resistance.

### **WHO Global Action Plan on AMR (2015)**

The World Health Assembly adopted the Global Action Plan on Antimicrobial Resistance in May 2015. It outlines five objectives:

- to improve awareness and understanding of antimicrobial resistance through effective communication, education and training;
- to strengthen the knowledge and evidence base through surveillance and research;
- to reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures;
- to optimize the use of antimicrobial medicines in human and animal health;
- to develop the economic case for sustainable investment that takes account of the needs of all countries and to increase investment in new medicines, diagnostic tools, vaccines and other interventions.

The action plan underscores the need for an effective “One Health” approach involving coordination among numerous international sectors and actors, including human and veterinary medicine, agriculture, finance, environment, and well-informed consumers. The action plan recognizes and addresses both the variable resources nations have to combat antimicrobial resistance and the economic factors that discourage the development of replacement products by the pharmaceutical industry.

### **FAO Action Plan on AMR in Food and Agriculture 2016-2020 (2016)**

The FAO Action Plan on AMR addresses four major ‘focus areas, each with specified outputs/goals’:

- improve awareness on AMR and related threats;
  - awareness on AMR is improved among food and agriculture stakeholders
  - consideration of AMR is integrated into policy-level discussions on food and agriculture
- develop capacity for surveillance and monitoring of AMR and AMU (antimicrobial use) in food and agriculture;

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- knowledge on AMR and antimicrobial use in the food and agriculture sectors is improved
- laboratory capacity on AMR and antimicrobial residue monitoring is improved
- country-specific integrated surveillance/monitoring systems for AMU and AMR are developed
- strengthen governance related to AMU and AMR in food and agriculture;
  - information provided in support of improved policy- and decision-making
  - development and revision of regulatory frameworks supported, in line with internationally agreed principles and standards
  - enhanced implementation of an integrated “One Health” approach to AMR
- promote good practices in food and agricultural systems and the prudent use of antimicrobials
  - international standards and guidelines relevant to addressing AMR and applying good practices are adopted at country level
  - awareness and knowledge on approaches to prudent and responsible use of antimicrobials in the food and agriculture sectors is improved
  - biosecurity, good practices and other measures to support prudent use of antimicrobials throughout the food chain are improved at country level

This Action Plan supports the WHO-led Global Action Plan on Antimicrobial Resistance in highlighting the necessity of adopting a “One Health” approach, with the involvement of public health and veterinary authorities, the food and agriculture sectors, financial planners, environmental specialists, and consumers.

### **OIE Strategy of Antimicrobial Resistance and the Prudent Use of Antimicrobials (2016)**

The OIE Strategy on Antimicrobial Resistance is also aligned with the WHO Global Action Plan and recognizes the importance of a “One Health” approach.

The Strategy is centered on four main objectives, each accompanied by descriptive work plans:

- improve awareness and understanding;
  - support Member Countries through the development of targeted communications and advocacy materials designed to foster understanding of the risks of AMR
  - promote awareness of AMR more especially through veterinary statutory bodies and veterinary education establishments
  - organize and conduct workshops, conferences and symposia that promote the prudent use of antimicrobials
  - expand the portfolio of OIE guidance, educational and scientific reference materials
- strengthen knowledge through surveillance and research;
  - support Member Countries in developing and implementing monitoring and surveillance systems

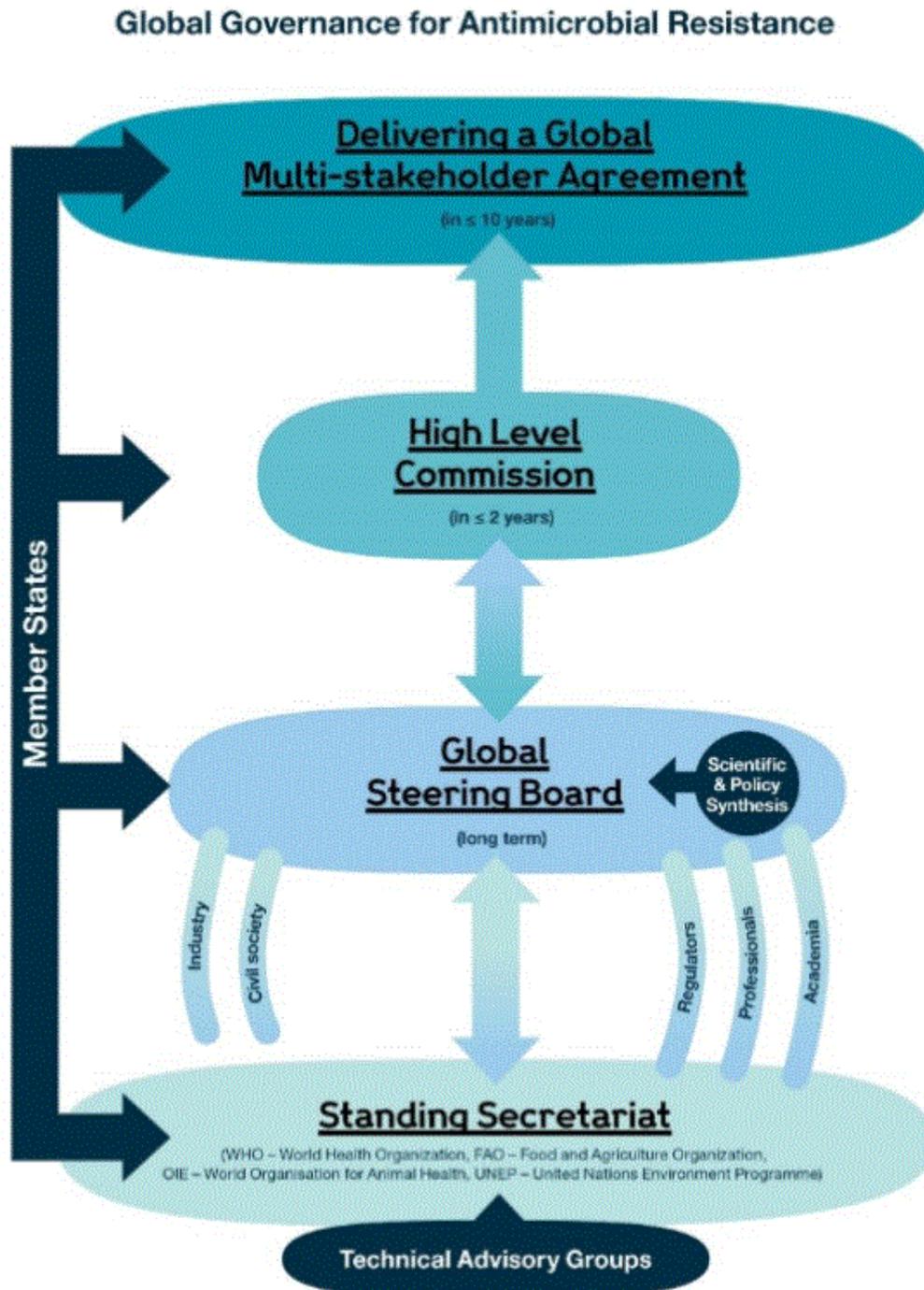
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- build and maintain a database for collecting and holding data
  - enhance the development, use and functionality of WAHIS
  - guide and support research into alternatives to antibiotics
  - identify and pursue opportunities for public-private partnerships in AMR research and risk management
- support good governance and capacity building;
  - provide assistance and leadership to Member Countries as they develop and implement National Action Plans and policies
  - provide tools and guidance to assist Member Countries in their AMR risk-assessment initiatives
  - ensure Veterinary Services have the capacity to implement OIE standards
  - develop and modernize legislation governing the manufacture, marketing authorisation, importation, distribution and use of veterinary products.
  - provide regular training of Focal Points in Member Countries on veterinary products
  - ensure that well-trained veterinarians and veterinary para-professionals are at the forefront of national and regional effort
- encourage implementation of international standards
  - support individual Member Countries in their efforts to implement OIE international standards
  - disseminate and encourage adoption of the recommendations in the OIE List of Antimicrobials of Veterinary Importance
  - strengthen multilateral support for implementation of OIE standards
  - collaborate with WHO and FAO to support the development of a comprehensive and aligned framework

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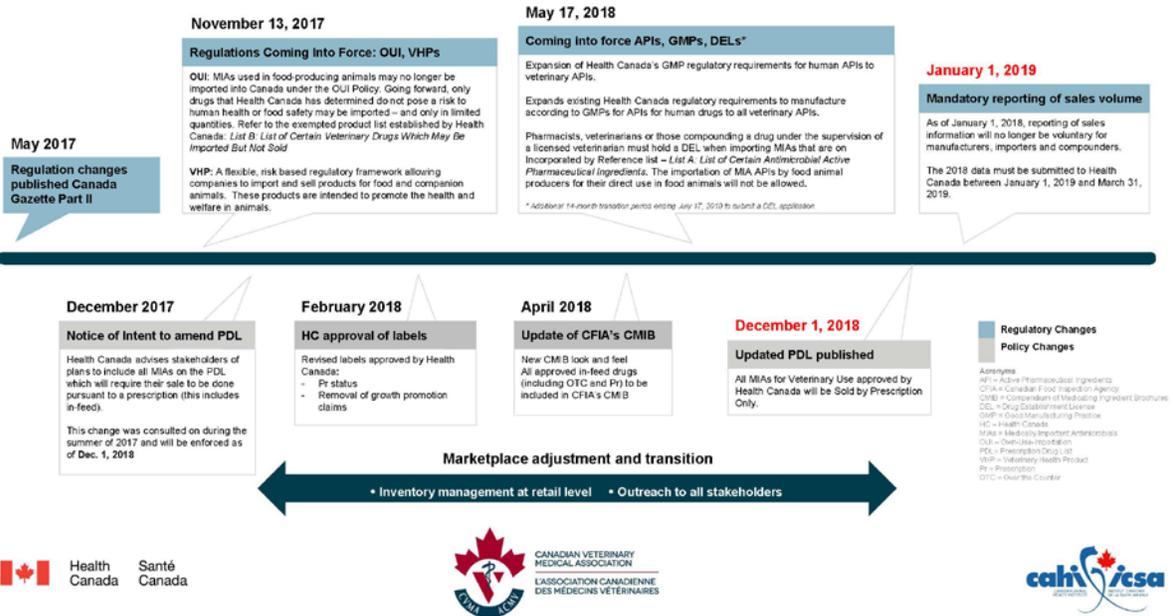
Figure 1: IACG Global Governance Framework



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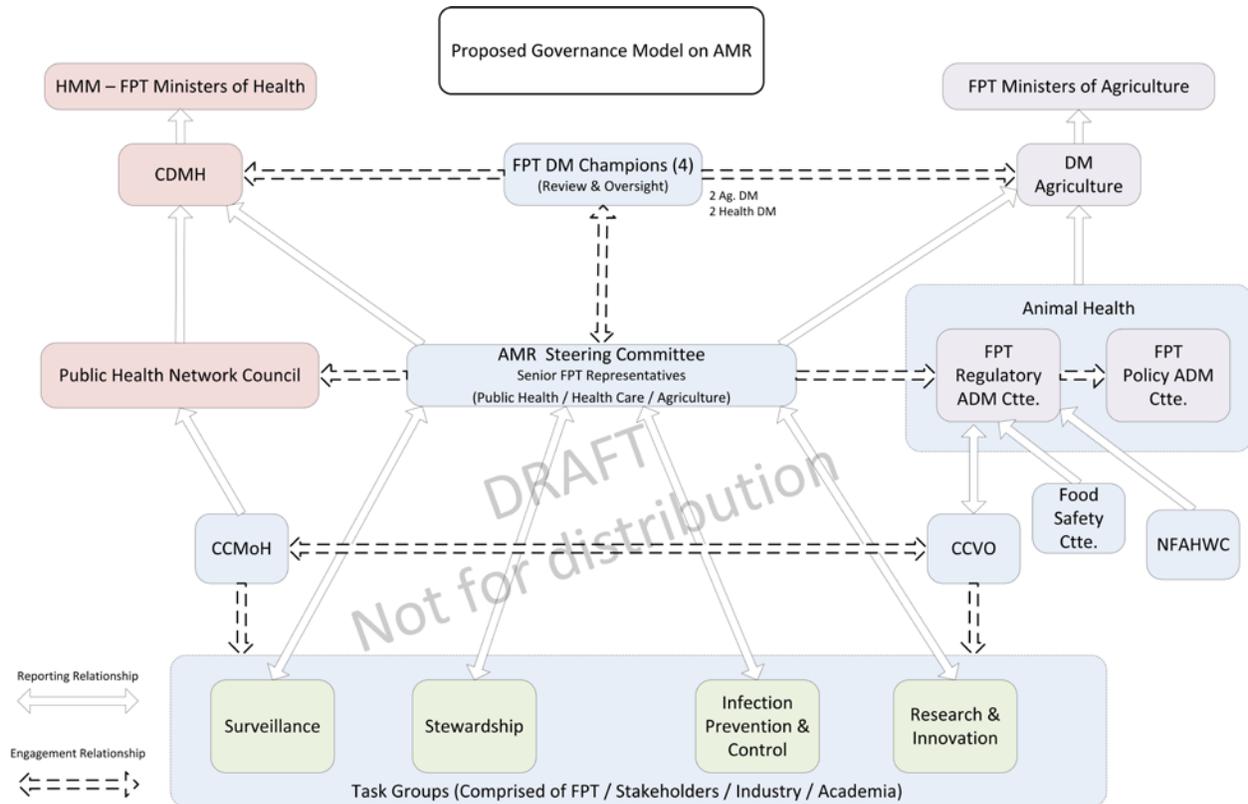


## Health Canada is strengthening Canada's regulatory framework for veterinary antimicrobials



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**Figure 3: Engagement Schematic**



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