

Special Report Rapport spécial

Building the antimicrobial stewardship leadership plan for animal health in Canada (workshop, Ottawa, October 3–4, 2017)

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Antimicrobial stewardship

Antimicrobial resistance (AMR) threatens to push society over a precipice and into the post-antibiotic era (1,2). Animal health and welfare require access to antimicrobials as one tool to manage bacterial infections that threaten animals; however, antimicrobial use (AMU) and misuse in human and animal settings have driven the selection of resistant pathogens that negatively impact the health and well-being of both humans and animals (3). The spring 2015 report from the Office of the Auditor General of Canada highlighted Canada's activities and deficiencies in its actions to address AMR (4). Included in this was the need to develop a pan-Canadian AMR strategy that includes components that support antimicrobial stewardship (AMS) in human and animal health.

Antimicrobial stewardship is defined as “the multifaceted approaches required to sustain the efficacy of antimicrobials and minimize the emergence of AMR” (5). In this context, the term *stewardship* refers to society's higher order management of a situation, in this case AMU and AMR, by taking personal responsibility for the management of antimicrobials as precious resources that benefit society as a whole (5). For animal health, the concept of AMS in Canada is not new and stems in part from 2 conferences to discuss agriculture's role in managing AMR through prudent AMU in 1999 and 2005 (6,7). In 2011, the Ad Hoc Committee on Antimicrobial Stewardship

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in Canadian Agriculture and Veterinary Medicine was formed as the outcome of the “AMS in Canadian Agriculture and Veterinary Medicine” conference held in 2011 (8). This meeting brought the concept of stewardship of antimicrobials as a societal responsibility to the forefront in Canada. The many activities to address AMR in Canada have included AMS as a core cross-cutting component that spans human and animal health in a “One Health” context.

In September 2017, the Government of Canada publicly released “Tackling Antimicrobial Resistance and Antimicrobial Use: A Pan-Canadian Framework for Action” (the Framework) (9) outlining Canada's strategic priorities to combat AMR with the intent that this document would go forward to the United Nations World Health Assembly as Canada's commitment under the World Health Organization Global Action Plan on AMR (10). One of the 4 pillars of focus in the Framework is AMS, which highlights the need for programs and policies to preserve the effectiveness of antimicrobials by reducing AMU through decreasing the inappropriate and unnecessary prescription and dispensing of antimicrobials in humans and animals. One of the key recommendations for AMS is to “support the development of a pan-Canadian AMS network to provide ongoing leadership and coordinated action across human and animal health sectors, while respecting the roles and responsibilities of each level of government.” As a result, and being aware of an increasing number of apparently uncoordinated and even conflicting initiatives addressing animal AMR across Canada, the Ad Hoc Committee decided to host a workshop, in collaboration with the Public Health Agency of Canada (PHAC), to discuss leadership in animal AMS. This meeting was held in Ottawa on October 3–4, 2017.

Workshop objectives and structure

The purpose of this workshop was to bring together a small group of key partners from the animal health sector in Canada to discuss leadership in AMS. The proposed objectives for the workshop were to:

1. Use existing knowledge of current AMS initiatives for AMU/AMR in animal health in Canada to identify gaps and map out a plan to identify and address future stewardship initiatives.
2. Identify a plan for immediate stewardship activities and communication in response to short-term regulatory and policy changes for animal antimicrobials and long-term activities to address AMR.

3. Formalize a leadership group to integrate government, industry, and animal health stakeholders to develop a high-level road map of future activities to ensure on-going collaboration amongst the many key players.

Twenty-one representatives, shown in Table 1, participated in the workshop, including the planning committee (John Prescott, Jean Szkotnicki, Lindsay Noad, Colleen McElwain, and Lee Gomes) and the facilitator (Simon Otto). They represented groups spanning academia, veterinary medicine, the agriculture industry, and provincial and federal governments. Dr. Siddika Mithani, President of PHAC, welcomed participants on the opening day. Ms. Carolina Giliberti, Executive Vice President of the Canadian Food Inspection Agency, provided opening remarks on the second day. Both emphasized their support and the need for collaboration to build leadership and strong communication for AMS in animal health.

The planning committee structured the workshop to focus primarily on creating dialogue amongst the participants with the ultimate goal of striking a formal leadership group to consolidate and carry forward with AMS activities in animal health in Canada. The committee recognized that, to help maintain focus, not all stakeholders could be included in the workshop but also that the group could not develop and endorse formal plans to move forward without broader input. As a result, the intended results would be taken forward to a broader group for contribution and approval.

The workshop was divided into facilitated sessions that relied on the extensive, collective knowledge of the participants to identify:

1. Current animal health AMS initiatives and gaps in Canada.
2. Short-term/immediate animal health AMS opportunities.
3. A possible structure of an animal leadership group for AMS.
4. Immediate activities to prepare for the pending regulatory and policy changes for veterinary antimicrobials in Canada.
5. Longer-term animal health AMS opportunities.
6. A plan to formalize a leadership group that will address the immediate and longer-term stewardship needs in animal health in Canada.

Workshop results

Participants attended the workshop with open minds and engaged in meaningful discussion. By consensus, the participants agreed that there is a strong need for leadership in the animal health AMS space in Canada. To do this, they considered options for a “home” for this leadership group that is capable of incorporating all parties with a vested interest in animal AMS. This includes industry (e.g., veterinary, food animal, animal health, pharmaceutical), government (federal-provincial-territorial), academia, human and public health. After thorough discussion, the participants agreed to create a proposal to form “Animal AMS Canada,” with the aid of in-kind support from the Animal Nutrition Association of Canada, the Canadian Veterinary Medical Association and the Canadian Animal Health Institute. It was suggested that it should be a self-directed body under the auspices of the National Farmed Animal Health and Welfare Council (NFAWHC). The participants recognized that a similar group, “AMS Canada,” exists in the human-public health

Table 1. Participants in the Ad Hoc Committee on Antimicrobial Stewardship workshop to discuss stewardship in animal health, Ottawa, October 3–4, 2017.

Participant	Organization(s)
Dr. Jay Trenton McClure	Atlantic Veterinary College, University of Prince Edward Island
Donald Boucher	Agriculture and Agri-Food Canada
François Bédard	Agriculture and Agri-Food Canada
Dr. Cheryl Waldner	Western College of Veterinary Medicine, University of Saskatchewan
Dr. Maureen Anderson	Ontario Ministry of Agriculture, Food and Rural Affairs
My-Lien Bosch	Animal Nutrition Association of Canada
Dr. Darrell Dalton	Canadian Council of Veterinary Registrars Alberta Veterinary Medical Association
Dr. Aline Dimitri	Canadian Food Inspection Agency
Jost Am Rhyn	Canadian Veterinary Medical Association
Dr. Shane Renwick	Canadian Veterinary Medical Association
Dr. Keith Lehman	Canadian Council of Chief Veterinary Officers Alberta Agriculture and Forestry
Dr. Hélène Trépanier	Canadian Council of Chief Veterinary Officers Ministère de l'Agriculture, des Pêcheries et de l'Alimentation
Rob MacNabb	National Farmed Animal Health and Welfare Council
Dr. Manisha Mehrotra	Health Canada Veterinary Drugs Directorate
Dr. Rebecca Irwin	Canadian Integrated Program for Antimicrobial Resistance Surveillance, Public Health Agency of Canada
Dr. John Prescott* (workshop co-chair)	Ad Hoc Antimicrobial Stewardship Committee Ontario Veterinary College, University of Guelph
Jean Szkotnicki* (workshop co-chair)	Ad Hoc Antimicrobial Stewardship Committee Canadian Animal Health Institute
Dr. Simon Otto* (workshop facilitator)	School of Public Health, University of Alberta
Colleen McElwain*	Canadian Animal Health Institute
Lindsay Noad*	Public Health Agency of Canada
Lee Gomes*	Public Health Agency of Canada
Iyla So (rapporteur)	School of Public Health, University of Alberta

* Members of the workshop planning committee.

sector (*Lindsay Noad, personal communication*). Animal AMS Canada would communicate with AMS Canada to avoid any duplication and ensure that there is a One Health approach to AMS in Canada that spans the human and animal health sectors.

Participants proposed 4 strategic outcomes for Animal AMS Canada (Table 2). These were grouped around the short- and long-term animal health AMS gaps and opportunities recognized in the earlier working sessions. The immediate, critical outcome was the development of the Animal AMS leadership group (Animal AMS Canada) to coordinate, communicate, and manage AMS in the animal health sector. The rest of the outcomes stem from this. To achieve the first goal, the participants

Table 2. Proposed strategic outcomes for “Animal AMS Canada” – created by participants in the Ad Hoc Committee on Antimicrobial Stewardship (AMS) workshop to discuss stewardship in animal health, Ottawa, October 3–4, 2017.

Proposed Strategic Outcomes	
1	Form a pan-Canadian Animal AMS Leadership Group, Animal AMS Canada, to coordinate and manage animal AMS in Canada
2	Develop the animal health Pan-Canadian AMR Action Plan in coordination with the Federal-Provincial-Territorial AMR Steering Committee and the Public Health Agency of Canada
3	Coordinate and communicate on-going national AMS activities
4	Identify priorities and carry out projects to meet needs of antimicrobial stewardship in animal health in Canada

endorsed a small sub-group to develop a proposal to go forward to the NFAHWC meeting at the end of November 2017. Participants proposed initial ideas for governance, resourcing and short-, medium-, and long-term activities for Animal AMS Canada as a platform to develop the proposal. This sub-group was tasked with identifying 2 interim co-chairs to lead the proposal and work. John Prescott agreed to present the draft proposal at the NFAHWC meeting, for which there was initial general broad support. John worked closely with Scott Weese, acting as one of the interim co-chairs for Animal AMS Canada, Simon Otto and Jean Szkotnicki to develop the written proposal for the NFAHWC.

Animal antimicrobial stewardship (AMS) Canada proposal for the National Animal Health and Welfare Council (NFAHWC)

Development of the NFAHWC proposal for Animal AMS Canada is underway. The proposed Mission for Animal AMS Canada is: “Animal AMS Canada strives to provide leadership to optimize the use of antimicrobials in animals to maximize the beneficial impacts on animal health and welfare and minimize the risk of antimicrobial resistance in humans, animals and the environment.” Animal AMS Canada will, we hope, be established formally under the NFAHWC, but will operate at arm’s length with autonomy to set its agenda. It will be coordinated by 2 co-chairs guided by an Expert Advisory Committee (EAC) formed from the membership of a broader Stakeholder Advisory Group (SAG). The SAG will be comprised of representatives from the broad list of stakeholders identified in the Workshop Results. The scope of the work will be determined by the EAC with input from the SAG and will align and collaborate with other organizations (e.g., the Canadian Veterinary Medical Association, CANresist). Funding, including both cash and in-kind contributions, will be sought from various sources.

Next steps

The NFAHWC is considering the formal proposal for Animal AMS Canada. Assuming approval is granted, the co-chair will bring together initial members (still being determined) of the EAC through a conference call or webinar. If possible, funding will be sought to have an in-person meeting of the EAC early in the spring to formalize Animal AMS Canada and begin its work to finalize short-, medium-, and long-term activities.

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