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# Standing Committee on Health

EVIDENCE

**NUMBER 019**

Tuesday, February 3, 2026

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Chair: Hedy Fry





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• (1535)

[*Translation*]

**The Chair (Hon. Hedy Fry (Vancouver Centre, Lib.)):** I call this meeting to order.

Welcome to meeting number 19 of the House of Commons Standing Committee on Health.

[*English*]

We recognize that we meet on the unceded territory of the Algonquin Anishinabe people.

Today's meeting is taking place in a hybrid format, pursuant to the Standing Orders.

I want to remind participants of the following points.

Please wait until I recognize you by name before speaking. For those participating virtually, please click on the microphone icon to activate your mic, and please mute yourself when you're not speaking. At the bottom of your screen, you can select the appropriate channel for interpretation: floor, English or French. As a reminder, all comments should be made through the chair.

For members in the room, you know the rules. Don't forget that little decal thing to put your phone on so that you don't create any feedback for the interpreters.

The clerk and I will try to manage the speaking order. Put up your hand if you have anything you want to say, and we'll hope we can see you first.

If the committee is in agreement, I'll invite the clerk to proceed with the election of the second vice-chair before we continue with our study on antimicrobial resistance.

**Some hon. members:** Agreed.

**The Chair:** Go ahead, Madam Clerk.

[*Translation*]

**The Clerk of the Committee (Catherine Ngando Edimo):** Pursuant to Standing Order 106(2), the second vice-chair must be a member of an opposition party other than the official opposition.

I am now prepared to receive motions for the election of the second vice-chair.

Ms. Chi, you have the floor.

**Maggie Chi (Don Valley North, Lib.):** I nominate my colleague Maxime Blanchette-Joncas for the position of committee vice-chair.

[*English*]

**The Clerk:** It has been moved by Ms. Chi that Monsieur Blanchette-Joncas be elected as second vice-chair of the committee.

Are there any further motions?

Seeing none, I will now put the motion to the committee.

[*Translation*]

Is it the pleasure of the committee to adopt the motion?

(Motion agreed to)

**The Clerk:** I declare the motion carried and Mr. Blanchette-Joncas duly elected second vice-chair of the committee.

[*English*]

**The Chair:** Pursuant to Standing Order 108(2) and the motion adopted by the committee on Tuesday, September 23, 2025, the committee will resume its study on antimicrobial resistance.

I would like to welcome our witnesses.

As individuals, we have Dr. Dao Nguyen, professor at McGill's AMR Centre; Dr. Joseph Rubin, professor of veterinary microbiology, Western College of Veterinary Medicine, University of Saskatchewan; and Dr. Scott Weese, professor at the University of Guelph and director of the Centre for Public Health and Zoonoses.

From the Canadian Federation of Agriculture, we have David Wiens, director, and Scott Ross, executive director. From the Canadian Pork Council, we have René Roy, chair, and Dr. Egan Brockhoff, chief veterinary officer. From the Canadian Veterinary Medical Association, we have Dr. Tracy Fisher by video conference.

Dr. Fisher and Dr. Brockhoff, welcome. You are virtual. I don't know if you heard the opening, when I said where to go to tap the mic. There's a little globe that gives you interpretation on your screen. Thank you.

We'll begin. Here's how it works. I will give each of the individuals and one person from each organization five minutes. I will time you. With about a minute left, I will shout, literally, "A minute", and then I will give you 30 seconds so you can wrap up what you have to say. If you cannot finish everything you have to say, please remember that there will be a question and answer period later on in which you can pick up the things you wanted to say.

I will begin with Dr. Dao Nguyen, professor at McGill's AMR Centre.

Dr. Nguyen, go ahead for five minutes, please.

**Dao Nguyen (Professor, McGill AMR Centre, As an Individual):** Good afternoon, Madam Chair and members of the committee. Thank you for the opportunity to speak to you today about antimicrobial resistance, or AMR for short.

My name is Dao Nguyen, and I speak to you as a physician working at McGill University's main teaching hospital, as a professor of medicine, as a microbiology researcher who studies difficult-to-treat bacterial infections and as the founder-director of the McGill AMR Centre and a new AMR Québec network, where I lead efforts to structure and mobilize a multisectoral AMR research ecosystem of over 150 researchers in Quebec. We engage with government, private partners and public partners across the human, animal and environmental health sectors.

As this is the fifth session on AMR of this standing committee, you have undoubtedly already heard many statistics about AMR, which I will not repeat. The pan-Canadian action plan, the AMR report by the Council of Canadian Academies and numerous other global reports all provide the data to tell us that AMR is a silent pandemic that threatens the safety and health of our population, our health care system and beyond.

However, what I would like to bring to your attention to today are a few current realities about AMR and human health care in Canada.

First, antibiotics are currently used by nearly every type of doctor, even dentists and pharmacists. They are used not only to treat infections but also to prevent infection complications that arise from treatments like chemotherapy and from interventions like surgery. However, with the rise of drug-resistant bacteria, particularly those resistant to carbapenems, powerful antibiotics of last resort, the options for effective and safe antibiotics are shrinking and are sometimes not available at all.

Second, to treat the right patient with the right drug at the right time, a health care provider needs to have timely diagnostic information. Are they treating a bacterial infection? What bacteria is it? Is it drug-resistant? With the currently available diagnostic tests, it likely will take three to five days to get an answer, if at all. Antibiotics are most often used empirically, which is medical jargon to say "by guesswork".

Third, taking carbapenem-resistant enterobacteriales as an example, these very concerning drug-resistant bacteria have already reached levels of 70% to 80% in certain regions of the world today, as we speak. In Canada, although the rates are still low in comparison, they are rising exponentially despite the surveillance, infection-prevention and control programs already in place.

The AMR crisis is knocking at our doors, and we are not equipped to handle it. In fact, it is not enough to do more of the same. We are in dire need of new solutions.

We need to preserve existing antibiotics, but we also need new treatments. We need faster and accessible diagnostic tests in order to prescribe the most appropriate and effective antibiotics. We need

surveillance systems that are more comprehensive and timely enough to track where drug-resistant bacteria spread across the human, animal and environmental continuum, and to guide action.

I would therefore highlight that research and innovations done in a collaborative and strategic manner are essential to addressing the AMR crisis.

First, academic research is an important source of innovations, from discoveries to spinoff companies. Researchers are critical for understanding what the AMR problems are and for guiding effective interventions. Canadian researchers have notable strengths and expertise upon which to build.

Second, we can build teams that transcend disciplines and use cutting-edge approaches to come up with better and more creative solutions.

Third, members of the academic community are important conduits for mobilizing the AMR ecosystem, one that is rich in expertise but highly complex and fragmented across sectors and disciplines.

What do I think is lacking and what do we need to do?

To deal with the AMR crisis, we need infrastructure with adequate resources to support an AMR ecosystem that makes research and innovation an integral part of the actions taken by the government, public stakeholders, industry and end-users. Specifically, we need greater strategic funding and programs to deliver on the research strategy that the CIHR is developing. Funding for the CIHR AMR initiative is currently only at \$1.8 million per year, which pales in comparison to the \$21 million per year invested in the HIV/AIDS and sexually transmitted and blood-borne infections initiative, as an example.

This also means supporting programs that build partnerships between academia, industry and public-sector partners to turn discoveries into drugs and diagnostics, and knowledge into policy and intervention.

Finally, we need strong leadership that clearly understands the urgency of the AMR crisis and has a mandate to mobilize political will and resources, and a governance structure that allows coordinated actions across sectors and jurisdiction.

Thank you for your time and attention.

● (1540)

**The Chair:** Thank you very much.

I now go to Dr. Joseph Rubin, professor of veterinary microbiology, for five minutes, please.

**Joseph Rubin (Professor of Veterinary Microbiology, Western College of Veterinary Medicine, University of Saskatchewan, As an Individual):** Thank you for the invitation to testify today.

My name is Joe Rubin. I'm a veterinarian, microbiologist and professor in the Department of Veterinary Microbiology at the University of Saskatchewan. I've been working on antimicrobial resistance, primarily in companion animals and food products, for nearly 20 years. My roles are as an educator of veterinary students in the areas of bacteriology and infectious diseases and as a researcher studying the problem of AMR from a number of perspectives.

Antimicrobial resistance is an underappreciated pandemic that urgently requires additional action. I'm very heartened to see this topic examined by multiple parliamentary committees. The committee has already heard foundational testimony from other witnesses, so I'll focus on areas in my field where I believe action is needed.

At present, we have an incomplete picture of the scope of the problem. The committee has heard about challenges with resistance surveillance in people. In animals, our knowledge is even more fragmented. Resistance is not a problem uniformly spread across all bacteria. Some organisms are more problematic than others in terms of how common resistance is, how frequently they cause infections and what animal species, including people, are impacted.

We have a very good understanding of antimicrobial resistance in Canadian-raised agricultural animals through the CIPARS program, which is within the Public Health Agency of Canada. There are, however, some very large and important gaps, including among imported foods, companion animals—dogs, cats and horses—and wildlife, although the impact of resistance in wildlife on human health may be more difficult to quantify. Resistance surveillance programs outside of CIPARS are limited to research projects initiated by individual scientists, which lack stable funding and broad integration with other researchers and other programs.

In previous testimony, the committee has heard how prescription audit and feedback programs are among the most effective stewardship interventions. This is something we don't do, and we probably can't do it at a meaningful scale in veterinary medicine.

Antimicrobial stewardship necessarily looks different in each context where it's applied. What works in a large human hospital may or may not be appropriate in the diverse environments or for the patient populations that veterinarians care for. An individually owned dog is quite different from a dairy cow, a barn full of broiler chickens or a hive of bees, and the stewardship approach in each of these contexts will look different.

In veterinary medicine, more data is needed to support stewardship in companion animal practice. The goal of stewardship is to change prescriber behaviours. For companion animal practitioners, we've relied largely on passive antimicrobial stewardship, which has consisted of providing knowledge and information through continuing education conferences and workshops. In human infectious diseases, we know that more active approaches have a bigger impact on prescriber behaviours. Furthermore, there are areas where we simply lack data on how antimicrobial use can be optimized.

For instance, reducing the duration of therapy can greatly impact the total amount of antimicrobial that an individual animal is treated with, which, at a population level, can multiply to a big difference.

Finally, the committee also heard that AMR does not respect borders, and that the threat of resistance is global. Through international travel and trade, resistant bacteria and resistance genes can be easily transported intercontinentally. It is therefore in our best interest to assist low- and middle-income countries to build regulatory, diagnostic and stewardship capacity in the veterinary and human health sectors. Meeting the threat of resistance where it's most rapidly emerging will protect Canadians and reduce the burden of resistance on vulnerable individuals living in these regions, who may be both disproportionately impacted and least able to respond.

To conclude, antimicrobial stewardship is essential in our fight against AMR. In companion animals, more resources are needed to develop effective strategies to help veterinarians optimize antimicrobial prescribing and to ensure that best practices are implemented. We must also take a global perspective and work with our colleagues internationally to help combat AMR in regions where it's most rapidly emerging.

Again, thank you for the opportunity to share my perspective.

• (1545)

**The Chair:** Thank you very much, Dr. Rubin.

I now go to Dr. Weese, professor at the University of Guelph and director of the Centre for Public Health and Zoonoses.

Professor Weese, you have five minutes.

**Scott Weese (Professor, University of Guelph, and Director, Centre for Public Health and Zoonoses, As an Individual):** Thank you, Madam Chair.

I'm an infectious disease veterinarian, and I direct our university's Centre for Public Health and Zoonoses. I deal with antimicrobial use and resistance at the animal level, but also at the human-animal interface, ranging from local to global activities.

This may be fairly high-level, but I want to emphasize the complexity of the issue, the oversimplification of the problem, the lack of action-based approaches and the need to consider animal and human health as separate but linked entities.

There's increasing recognition of AMR as a "one health" problem, because it is. However, it's not human health and one health; it's human health, animal health and environmental health under the one health umbrella, and we have to remember the animal health component of that.

The other thing with one health is that it tends to be more talk than action. It's very difficult to define. It's difficult to act upon. We need to think about one health, but we can't wait for a one health approach. We can't let one health be the anchor that slows us down.

We need individual actions in human and animal sectors. We need to keep one health in mind, but action is largely going to be done at the species and sector levels.

If we look at the World Organisation for Animal Health, they have estimated that by 2050, if AMR is unchecked, food production losses will be the equivalent of the food needs of 750 million to two billion people. That's a staggering number.

A small percentage of them will be in Canada, but a small percentage of a staggering problem is still relevant, and it's growing. That doesn't even show the whole scope of the problem. As Dr. Rubin mentioned, we have other species and have companion animals and their emotionally attached owners, and there are significant health impacts there.

One of the reasons we're here is to think about the role of animals in human health. We really don't understand the role of antibiotic use in animals and in resistance in humans. It's probably a very small proportion. Most of the resistance in humans comes from antimicrobial use in humans and most of the resistance in animals comes from use in animals, but there is some crossover in both directions. Again, a small proportion of a very large problem is something we'll still need to address.

We need to address AMR in humans and animals, but human and animal health needs are different. We have to recognize that. We can't ignore the animal health and welfare components.

The other thing is that we can't fix the problem of AMR by just addressing AMR. AMR is the end result; it's not the problem per se. Our problem is antimicrobial use. Why do we use antimicrobials? It's because of health, or a lack thereof. If we focus only on new drugs and new tests, we avoid addressing the true problem and we're perpetually trying to keep up with a problem that's more agile than we are. If we just focus on surveillance, we have a great view of a problem, but we're not actually doing anything to fix it, so we need to optimize health and welfare if we're going to have an impact.

For animal health, we need innovation, but we need it in things that improve health: better animal management, better access to vaccines and other preventive measures, nutrition, access to veterinary care, treatment guidelines, willingness to change and social science interventions to help us effect changes that we all know we need to make. These are often outside what's considered innovation and can be challenges to getting support for funding in particular.

Additionally, while we know we have a problem with AMR, we can't define it well, as mentioned before. If we can't understand a problem, we can't efficiently address it. That can lead to inaction, inefficient action or, sometimes, harmful action. We need to think about action-oriented, broad, and integrated, or at least integrable, surveillance, with an ability to understand where, why and how antimicrobials are used in my area on animals, but also more broadly anywhere.

With better surveillance, we can focus on appropriateness of use and actionable data, not crude numbers that are better for sound bites than action. For that, we need industry buy-in and commitment, political buy-in and commitment, sustained funding and sustained will.

We have to accept that there is a role for the use of antimicrobials in animals but not accept the status quo. My mantra when it comes to antimicrobials is "use as little as possible, but use enough", and we have to maintain what we have.

• (1550)

We can't rest on our laurels. Canada has done well in the AMR field. We've been well regarded, but we have slipped internationally.

We have to continue to act, continue to innovate and truly commit to addressing this problem. We have well-respected groups and individuals and the foundation to re-emerge as a world leader if there is will and support, part of which has to come from the political level to ensure action.

My final point is that it's complicated. It's a complex problem. It's going to require complex, multisectoral solutions and support for sustained and aspirational action. AMR is a problem that spans decades and generations. It's bigger than election cycles, it's bigger than administrations and it's bigger than granting cycles, and that's a problem for motivation. We need short-term wins, but we need a long-term strategic plan, commitment and support if we want to address this problem.

I thank you for addressing this important issue, and I would encourage you to consider animal health when you're thinking about the AMR crisis.

**The Chair:** Thank you, Dr. Weese.

I am now going to the Canadian Federation of Agriculture.

You have five minutes, please, Mr. Wiens.

**David Wiens (Director, Canadian Federation of Agriculture):** Thank you, Madam Chair and all members of the committee, for inviting me to speak here today on this important topic.

My name is David Wiens. I'm a dairy farmer from Grunthal, Manitoba. I'm here as a member of the Canadian Federation of Agriculture. I'm also the current president of Dairy Farmers of Canada. Joining me today is Scott Ross, executive director of the Canadian Federation of Agriculture.

Canadian farmers and veterinarians understand that human, animal and environmental health are all connected through the concept of “one health” and recognize our important role in reducing antimicrobial resistance.

Farmers and veterinarians are deeply committed to antimicrobial stewardship. At its heart, this means working together, alongside regulators, to use antimicrobials responsibly in animal care. Through practical, coordinated efforts, we promote and monitor proper use so that these important tools remain effective, while protecting the health and welfare of our animals.

Preventing and controlling infections are essential to keeping animals healthy and reducing antimicrobial resistance. On the farm, this involves implementing robust biosecurity measures that ensure animals remain healthy through proper nutrition and other health-enhancing practices.

The best way to reduce antimicrobial use on farms is through strong stewardship, responsible use and making sure farmers and veterinarians have access to the widest variety of veterinary health care tools possible. The tools currently available fall into several different categories based on how they are used. These include veterinary pharmaceuticals, veterinary health products, feed and water additives, vaccines, parasiticides and pesticides, which help maintain animal health, and livestock feeds, which help ensure nutritional requirements and meet and support optimal functions in animals.

Each of these categories has a different regulatory oversight and approval process. Domestic barriers that discourage manufacturers from entering the Canadian market have pushed access to these tools to a critical point. This has been made worse by the continued loss of approved options, forcing us to rely on an increasingly limited number of tools to protect animal health and well-being.

This isn't just a risk to animal and human health. It also leaves Canada at a competitive disadvantage compared with other countries that do not have the same barriers to access. Simply stated, the more varied tools we have available from each of these product categories, the less we need to rely on products that are important to human health.

Over the past two years, a coalition of 16 national organizations representing Canada's livestock farmers, veterinarians and product manufacturers have worked together to identify barriers and improve access to veterinary health care tools. The collaboration has led to a joint white paper containing consensus solutions, which was shared with government officials in 2024. We're very pleased to see that several of the recommendations within the white paper were reflected in the recent red tape review.

As one example, Health Canada has launched a consultation that will enable it to rely on decisions made by trusted foreign regulators. This will facilitate more efficient reviews of drug submissions for priority products. This is an extremely welcome first step that should help to address the acute shortage of veterinary pharmaceuticals. That said, it does not address many of the long-standing barriers identified in the white paper or help improve access to other product categories.

We look forward to continuing our collaborative work with government to implement this and other solutions identified in the

white paper. I'd like to thank the officials at Health Canada, the Canadian Food Inspection Agency and Agriculture and Agri-Food Canada for their continued support and collaboration. I would also like to thank parliamentarians from all parties for their ongoing support on this issue.

Again, on behalf of the Canadian Federation of Agriculture, I want to thank members of this committee for their effort to help reduce antimicrobial resistance and for studying this important issue.

We would be happy to take any further questions.

• (1555)

**The Chair:** Thank you very much.

We're now going to René Roy, chair of the Canadian Pork Council.

You have five minutes, please, Mr. Roy.

[*Translation*]

**René Roy (Chair, Canadian Pork Council):** Thank you, Madam Chair.

My name is René Roy, and I am a hog farmer from the Beauce region of Quebec. I'm here today with Dr. Egan Brockhoff, the chief veterinary officer for our industry.

We currently represent 7,000 hog farmers in Canada.

[*English*]

Our industry is not just an \$11-billion economic engine; we are a frontline partner in food safety and public health.

Canadian hog farmers and their veterinarians and nutritionists understand that antimicrobial resistance is a global one health issue. Public health, animal health and environmental health are inextricably linked.

That is why the Canadian Pork Council on-farm food safety program has a responsible use policy embedded into its PigSAFE program. This program requires pork producers to work with a licensed swine veterinarian and requires all pork producers to be audited annually by an external auditor. Through our PigSAFE program, we have eliminated the preventive use of category I antimicrobials, those of very high importance in human medicine.

The swine sector has a remarkable stewardship track record. We started working with the Public Health Agency of Canada in 2006 on AMR surveillance and antimicrobial use monitoring within the Canadian integrated program for antimicrobial resistance, CIPARS, which is a farm-level surveillance system. We introduced our first national biosecurity standard on infection prevention and control in 2010, and then updated it again in 2024. Finally, we developed and implemented our own swine health intelligence network in 2007.

To reach the next stage, we need more. Producers need tools and they need experts. Currently, we are hitting two major walls: access to veterinary medicines and a shortage of swine veterinarians and specialists. Canada has fallen behind the United States, Brazil, Australia and Europe in approving new vaccines, medications and other products. Also, our producers are facing a shortage of specialized veterinarians, university specialists and laboratory support. Without access to this expertise, producers are left vulnerable during health emergencies.

For Canada to remain a leader, we are submitting three priority recommendations to the government.

The first is regulatory agility and red tape reduction. We ask Health Canada and the CFIA to work towards making Canada more attractive to the pharmaceutical sector through speeding up the approval of veterinary medicine by harmonizing this process with recognized international jurisdictions.

Second, to support infection prevention and control, we propose a biosecurity tax credit to help our family farms modernize their buildings for biosecurity.

The third recommendation is a massive investment in the production of veterinary expertise. Science is of no use if it does not reach the farm. We are calling on the federal government to increase education-related transfers specifically to expand the number of seats reserved for the production of animal medicine in our colleges. Simultaneously, we must invest in rural digital infrastructure to enable veterinary support through digital pathways.

In conclusion, farmers, including pork producers, are an essential part of the solution. Give us the vaccines, the modern facilities and the necessary experts, and we will continue to reduce our antimicrobial footprint while ensuring food security for all Canadians.

Thank you, Madam Chair. I'm willing to receive your questions.

• (1600)

**The Chair:** Thank you very much.

I now go to Dr. Tracy Fisher of the Canadian Veterinary Medical Association.

**Tracy Fisher (President, Canadian Veterinary Medical Association):** Hi there. My name is Tracy Fisher, and I'm a practising veterinarian in Regina, Saskatchewan. I am here today as the current president of the Canadian Veterinary Medical Association, or CVMA, which represents veterinarians and allied professionals nationally. Veterinarians oversee antimicrobial use in animals, including diagnosis, prescription, appropriate use and preventative strategies such as vaccination, biosecurity and improved management. We understand this is a privilege, and we take our role very seriously.

The CVMA aids our members in their stewardship role by providing guidance and decision-making tools to reduce the threat of AMR. Since 2018, all medically important antimicrobials used in animals in Canada require a veterinary prescription, positioning veterinarians as gatekeepers of antimicrobial access. Veterinarians use a precautionary framework emphasizing responsible use, reduction, refinement, replacement and review of antimicrobial use. These practices reduce selection pressure for resistance, while safeguarding animal health and welfare. Veterinarians from all areas of practice—farmed and companion animal—are committed to minimizing AMR.

Evidence shows that a coordinated one health approach is effective at reducing AMR, while protecting animal welfare, public health and the environment. Canada has established foundations through the pan-Canadian action plan and CIPARS. However, assessments by the Auditor General of Canada and the Canadian Academy of Health Sciences identify gaps in coordination, geographic and species coverage, and sustained investment. Veterinarians are essential partners in ensuring antimicrobial use stewardship and in protecting public health, but we need reliable data to ensure we can properly do our part.

Access to effective veterinary antimicrobials and their alternatives is essential for animal health and welfare, public health and food security. Between 2017 and 2022, the number of licensed veterinary medicines available in Canada declined by approximately 40%. Health Canada recently proposed changes to the categorization of antimicrobials that could reduce access to important veterinary antimicrobials and inadvertently contribute to increased veterinary use of antimicrobials that are important in human medicine.

Limited access to antimicrobials and preventative alternatives such as vaccines constrains appropriate treatment and stewardship efforts. Simply put, the ability of veterinarians to do their job—control disease, prevent suffering, manage food security—is all being put in jeopardy by either the lack of appropriate medications or potential restrictions on the medications we need every day.

Of particular concern to bovine veterinarians is the proposed reclassification of first-generation tetracyclines and phenicols, which will make treatment for the most common types of bacterial respiratory illnesses, especially in dairy cattle, extraordinarily difficult to treat.

The CVMA has the following recommendations.

First, improve the integration of veterinary expertise into antimicrobial policy and drug regulatory development. Ensure veterinarians and animal health experts are systemically involved in developing and revising antimicrobial regulations, classifications and guidelines. We need to be there at the beginning of the process, not as an afterthought. Consider the importance of ensuring the continued availability of less medically important antimicrobials for veterinary use, such as antimicrobials used in veterinary medicine that were recently affected by the Health Canada changes.

Second, maintain and improve access to veterinary medicines and alternatives. Streamline regulatory pathways and incentivize manufacturers to supply approved products in Canada, including alternatives to antimicrobials such as vaccines, probiotics, phages and other medicines.

Third, invest in one health research and surveillance. Strengthen integrated animal, human and environmental AMR research in Canada to support evidence-based disease prevention and control and enhanced antimicrobial stewardship.

Fourth, and finally, support veterinary stewardship capacity and tools. Sustain investment in national stewardship initiatives, clinical guidelines and decision support tools such as CVMA's Firstline AMR stewardship app, which helps veterinarians make informed choices.

Thank you for your time today. We appreciate the opportunity to speak with you all about a matter of great importance to our profession, our clients and the animals that depend upon us.

I'm happy to take questions.

• (1605)

**The Chair:** Thank you very much.

Now we're going to questions. The questions are going to be in a six-minute round, and the six minutes is for the question and the answer.

Everyone, please try to be as short as you can so we can get through all the questions, or else I'll just have to cut you off. There you go—a warning to members and the witnesses.

I begin with the Conservatives for six minutes.

Mr. Mazier.

**Dan Mazier (Riding Mountain, CPC):** Thank you, Chair.

Thank you to all the witnesses for coming here this afternoon.

I'm going to start with the Canadian Pork Council and Dr. Brockhoff.

Several witnesses during this study have compared Canada and the European Union in the context of antimicrobial resistance. From your perspective, is this a fair and useful comparison for the committee to rely on for its report?

**Egan Brockhoff (Chief Veterinary Officer, Canadian Pork Council):** Thank you for the question.

No, it's not a fair comparison. We live in a much different environment from the European Union livestock sector. We're not nearly as subsidized a sector in terms of housing, housing facilities and

so on, so that characteristic is unfair. We know that we are very similar in industry type to those in the United States, Mexico, Australia and Brazil. When we compare what's across those countries with what we're doing here in Canada, we see a very similar story emerge.

I think it's an unfair characterization on its own. More context is always needed.

**Dan Mazier:** Dr. Fisher, I might as well get your perspective on this as well. Do you agree with it? Should we avoid comparisons to the EU in our report?

• (1610)

**Tracy Fisher:** Yes. I think things are very different. Herd sizes, especially for bovines, tend to be much smaller in the European Union. The way those animals are handled is quite different.

There are things to learn, of course, from other countries. I also think we need to be careful and make sure that we look to our own industries and the differences, and then make the best decisions based on the evidence we have at hand.

**Dan Mazier:** Dr. Brockhoff, in analyzing the EU versus the North American type of model, it stood out to me that the countries you listed are much more vast. A lot of the challenges we have in Canada are with getting our product to market for processing and keeping it safe and disease-free, and that requires different sets of drugs.

For the committee's sake and for the analysts as we write this report, I'll note that I think a lot of people forget just how big a country Canada is, the kinds of challenges we've come across over the years and how the industry and our producers have stepped up. We've been a shining example for the rest of the world to follow, instead of trying to catch up to them and conform to them.

This is for Dr. Brockhoff, or for the Canadian Pork Council. What role does regulatory flexibility play in antimicrobial resistance, particularly in the agriculture sector? Also, should the committee make recommendations on regulatory flexibility in its report?

**Egan Brockhoff:** Absolutely, and I'm going to follow up on some of the comments that Dr. Fisher made in her testimony.

It's critically important that the livestock sectors, the veterinary profession and the nutritionists working with livestock are brought into these conversations early on. We have to be part of the solution, and regulatory flexibility is absolutely critical to that. We need access to new products.

We're just now having conversations about veterinary health products, the critical role of nutrition, new nutrition products, prebiotics, probiotics and other nutritional aids. We're just now scratching the surface, while other regions have been working with these for more than a decade. Regulatory flexibility is absolutely critical in this space.

**Dan Mazier:** COVID changed a lot of the ways things were done. Canada really stepped up, and the agriculture industry especially reacted properly to it.

What really strikes me, being a farmer, are the supply chains and how much we are held behind. Is there one recommendation, one thing that stands out to you, that you think we should be addressing when it comes to things holding us back as a nation in regard to antimicrobial resistance?

**Egan Brockhoff:** There's no question that this is a multifactorial problem. David Wiens spoke about our multisectoral coalition that authored the white paper. That white paper highlighted many of the critical roadblocks within the regulatory framework, such as access to different types of antimicrobials and how categorization could negatively impact vaccines and vaccine technology.

However, much of this boils down to how attractive a location Canada is. When we look around the world at innovation and innovation that is coming into the animal health sector, we see that we are nobody's first choice. They are going to other countries where things are easier, where markets are larger and where impediments are fewer. We are a smaller market. We have to make ourselves attractive to some of the larger players in a different way. We have to innovate in this space, or we're going to be left behind.

**Dan Mazier:** Dr. Brockhoff, do you believe that—

**The Chair:** Your time is up, Dan. I'm sorry about that.

**Dan Mazier:** Okay. Thank you.

**The Chair:** I'm going to Mr. Eyolfson for the Liberals.

You have six minutes, Doug.

**Doug Eyolfson (Winnipeg West, Lib.):** Thank you, Madam Chair.

I'd like to thank you all for coming.

My professional experience is in human medicine in the emergency department, so although AMR is a very topical problem that we've dealt with, I'm learning a lot of new things, because, of course, in my line of work we don't do a lot of agriculture or veterinary....

There's something I want to clarify. This was alluded to at a previous meeting. I guess it will dovetail with what you said, Mr. Roy. You said that Canada is no longer using antibiotics preventatively. Is that correct?

• (1615)

**René Roy:** We are not using category I for preventive use.

**Doug Eyolfson:** Are there any that you're using for preventive use?

**René Roy:** Well, I will let our veterinarian answer this question. It will be more precise.

**Doug Eyolfson:** Okay. That would be Dr. Brockhoff.

Dr. Brockhoff, are any antibiotics being used in a preventative manner?

**Egan Brockhoff:** Yes. Our on-farm food safety program, PigSAFE, prohibits the use of category I antimicrobials for preventive use. Category I antimicrobials are labelled for treatment only, and veterinarians are allowed to prescribe those to the swine sector for treatment. Category II and category III antimicrobials can be used for prevention and treatment within our model.

**Doug Eyolfson:** Can you give me an example and just name a couple of the category II antibiotics?

**Egan Brockhoff:** Yes. Penicillin—penicillin G—can be used for the treatment or prevention of bacteria like streptococcus suis in a swine population.

**Doug Eyolfson:** What would be the criteria? What conditions would need to be met in a given agricultural operation to be prescribing penicillin preventatively?

**Egan Brockhoff:** It would be the presence of a disease within the population.

I'll give a very simple example. Let's say there's a pig barn with 2,000 finisher pigs. The producer goes into the barn. They have a prescription, and they have a protocol to treat pigs with streptococcus suis with injectable penicillin. They go into the pen, and they see a pig with clinical disease. They treat that pig. If the other adjacent pigs in that pen are showing clear signs or unclear signs, they can also be treated preventatively for that same disease.

There's a clinical push in the presence of disease.

**Doug Eyolfson:** That's reassuring. Thank you.

This is, again, something that was alluded to, and I just want to confirm it. In many countries across the world—and at one point this was the case in Canada—antibiotics were simply being added to feed to increase the growth of animals. Am I to understand that this is no longer the practice in Canada?

**René Roy:** Yes, this is no longer the situation in Canada. Since 2018, this has been banned. We are not using antibiotics as a growth substance.

**Doug Eyolfson:** Good. That is very reassuring. I remember reading about this practice over 10 years ago and it worried me. I'm glad Canada has stopped doing that. I understand that some nations still do that. Of course, we have no power over that.

There was a reference to going to low- and middle-income countries and assisting their efforts. Are any of these nations still allowing this? Has there been any lobbying or dialogue with their governments to change the regulations in countries that still allow this?

Mr. Roy, I don't think you're the right person for me to be asking this.

Dr. Weese.

**Scott Weese:** I believe that as of last report, there are around 26 to 30 countries where it's still legal to use antimicrobials for growth promotion. Beyond that, there's probably some use in the grey area of what's growth promotion versus prevention. It's a small percentage and declining regularly, but it still does exist.

**Doug Eyolfson:** Does Canada import animals or animal products from any of these countries?

• (1620)

**Scott Weese:** That's outside of my area. There's no prohibition against it, but I'm not sure.

I'm not sure if Egan would know that. I don't know the dynamics of that.

**Doug Eyolfson:** I have heard references to the World Health Organization and that there's been some work with that, which of course is becoming much more difficult with the United States pulling out of the funding for it. Are there other international organizations working with governments abroad to help get a better handle on this problem internationally?

**Scott Weese:** Yes, there are quite a few. The World Organisation for Animal Health is essentially the WHO equivalent for animal health. That's an international agency. The FAO, the Food and Agriculture Organization of the UN, has a very strong mandate with agriculture and working with farms. They have a variety of programs that work within countries to improve farm management. Part of that is antimicrobial use.

**Doug Eyolfson:** Thank you very much.

I believe that's my time.

**The Chair:** It is. Well done.

I will now go to the Bloc Québécois for six minutes.

Monsieur Blanchette-Joncas.

[*Translation*]

**Maxime Blanchette-Joncas (Rimouski—La Matapédia, BQ):** Thank you, Madam Chair.

I welcome the witnesses who are here today to participate in this study.

My first questions are for you, Dr. Nguyen.

Canada is the only G7 country that has been reducing its investments in research and development since the early 2000s, and of course, these investments form part of its gross domestic product.

From a public health perspective, does this chronic underinvestment now limit our ability to effectively prevent antimicrobial resistance, in turn forcing hospitals, particularly in Quebec, to deal with the consequences, which are much more costly?

**Dao Nguyen:** Thank you very much for your question.

Investment is chronically insufficient. I think the level of investment is totally insufficient, especially when it comes to strategic investment. For example, if we ask how many millions of dollars the Canadian Institutes of Health Research, or CIHR, or granting agencies have invested in AMR research, the figures are often an overestimate of what is actually happening, because it's often in open

programs. This means that any project with a theme related to AMR will be considered in this budget.

However, if we really want to have a strategy that is designed to align specifically with actions that are identified, for example, by public health and in the Pan-Canadian Action Plan on Antimicrobial Resistance, we need more concerted investment. For example, when it comes to human health research and the CIHR, \$1.8 million doesn't go very far. I think that if we really want to be able to deliver on and implement the strategy that is currently being developed, this is clearly not enough to have an impact.

**Maxime Blanchette-Joncas:** Thank you, Dr. Nguyen.

You mentioned strategy. Despite repeated warnings, Canada still does not have a fully funded national action plan on antimicrobial resistance, as you just pointed out. As such, in practice, does this lack of federal leadership mean that the provinces, including Quebec, are absorbing the health and organizational repercussions of antimicrobial resistance on their own?

**Dao Nguyen:** First, I'm not an expert in public health policy or governance. However, in my view, based on my observations of what is happening, responsibility in the Canadian action plan should be shared. However, the implementation of this governance remains to be defined. It's not clear at all. How will responsibilities be shared, not only in terms of finances, but also in terms of governance?

In this regard, the way in which this action plan will be implemented is completely unclear. I'd say that one of the shortcomings of the action plan is how it will be implemented, particularly in the Canadian context, where there's shared jurisdiction between the provincial and federal governments.

**Maxime Blanchette-Joncas:** Thank you, Dr. Nguyen.

I'll continue with you, Dr. Weese. We know that resistant infections lead to longer hospital stays, including more complex treatments and more complications. In your opinion, is the underfunding of prevention and surveillance in hospitals already putting a heavier strain on hospital bed capacity, particularly in intensive care?

• (1625)

[*English*]

**Scott Weese:** The human health care system isn't my area of expertise, but when working with them, this has been a chronic issue. Infection control is improving. The efforts there are improving. We still have a number of gaps.

Underpinning everything is health, as I mentioned. That applies to humans, and that applies to prevention and control activities within hospitals. There is definitely a need for extra control and prevention across the spectrum.

[Translation]

**Maxime Blanchette-Joncas:** Obviously, we understand that your expertise is in the field of health, but funding is still needed to provide quality health services that are accessible, among other things. Currently, the federal government funds approximately 22% of the cost of health care in Quebec. As we know, the provinces are asking for a 35% contribution. This has created an imbalance. Funding is limited, and that concretely reduces the ability of hospitals to implement measures to prevent and control antimicrobial resistance.

You are an expert, so I'd like you to tell the committee the consequences of underfunding a health care system when operating costs exceed the financial support received.

[English]

**Scott Weese:** Again, I have no expertise in the human health care system, so my comments will be limited. There are other people who can speak to that, but we know that prevention is better than treatment.

[Translation]

**Maxime Blanchette-Joncas:** Thank you.

In 2022, Canada sold nearly three times more antimicrobials for animals than the European median, taking biomass into account. In your opinion, does this level of use reflect a structural delay in prevention? What risk does this pose to human health?

[English]

**Scott Weese:** It reflects the need to look. In terms of the earlier question on whether we should compare ourselves with other countries, my answer would be yes. It's not a direct comparison, but we need to look for opportunities, and we shouldn't rest on saying, "Okay, we're similar to someone else, so that's fine."

Some differences may be inherent in the system. Some may be because of a lack of access to things that we should be able to have. Some may be purely cultural or historical—we do it because this is the way we do it, and they've been doing it better.

We have to look at other systems to figure out how we can improve, and Europe is a strong place to look to. That doesn't necessarily mean we can replicate it. We have to look at their funding, approaches and support and see what we can implement here.

**The Chair:** Thank you, Maxime.

I'm going to start the second round. It's a five-minute round this time.

I'll begin with Mr. Bailey for the Conservatives.

You have five minutes, please, Mr. Bailey.

**Burton Bailey (Red Deer, CPC):** Thank you, Chair.

This is for the Pork Council.

Mr. Roy, please feel free to speak in French if you're more comfortable answering these difficult questions of mine.

Canada lags in access to and approvals on new vaccines and innovation. This is not the first time we've heard this, whether it's for human health or animal health. We've heard that Canada's bureau-

cracy is constantly jamming up the process. Why do you believe this is the case, and why are delays and red tape the only consistent thing in Canadian bureaucracy?

**René Roy:** It's a simple question. I'll answer it in English.

Seriously, the major burden is that we have a small market compared to other countries, and we have a lot of regulation related to accepting new products. This reduces our ability to further have these products on our market.

Once it's recognized by the industry that our market is hard to penetrate because of the regulation and red tape we have in place, firms look away from our country. This is the vicious circle we are in. If we don't correct it, soon we will have so little choice in our veterinary products that it will create a concern for animal welfare, and producers will suffer from that because we don't like having sick animals.

**Burton Bailey:** Thank you.

Dr. Brockhoff, on this side, Conservatives know that Canadian agriculture producers set the standard in the world on several fronts, including on animal health and safety, so first, I'd like to thank all of our farmers for helping feed the world.

Why do you think there tends to be a lot of misinformation circling about the Canadian agriculture industry, especially as it relates to antibiotic use or other medications?

**Egan Brockhoff:** That's a great question. It's one that we reflect upon significantly.

We perhaps don't do a great job standing up and banging the drums. We have a solid on-farm food safety program that we implemented 30 years ago. We have a drug use policy. We have a responsible use policy. Every single time there's an update to the pan-Canadian action plan on AMR, we update our policies to reflect that, and we update our programs. We audit our farms annually.

We're not getting up there as Canadians and telling our story to the world, and I think we have to tell our story to the world. We are doing good work in this space. There's always opportunity for improvement, but we don't tell our story. We get very focused on all the things we're doing wrong.

• (1630)

**Burton Bailey:** Mr. Wiens, there's a hamburger chain from 1956 that I'm not going to name, but I find it very misleading that they say none of their products have antibiotics in them. How do they get away with this misleading information?

**David Wiens:** That's an interesting question. I'm not sure how claims can be made in this fashion.

Antibiotics are simply a tool, and they're one of those things, which I think René has talked about too.... We don't want to see our animals sick, but we should first do all the prevention we can so we don't ever get to a point where we have to use antibiotics.

Where they get this claim from, I'm not sure, and I'm not sure about the validity.

**Burton Bailey:** If antibiotics are used, my understanding is that there's a period when an animal remains in quarantine—I'll use that word. What is that period? I guess it would matter what animal, but let's use beef as the example.

**David Wiens:** Depending on the antibiotic used, there will be different withdrawal times. I'm sure one of the veterinarians could speak to that.

There's a range. It can be anywhere from, let's say, a 48-hour withdrawal to even up to a month, depending on what it is. That protocol is very important, and it's followed very closely.

**Burton Bailey:** I know I'm running out of time.

How many seconds do I have?

**The Chair:** You have six.

**Burton Bailey:** Thank you for my time.

**The Chair:** Now we have Ms. Jaczek for the Liberals, please.

**Hon. Helena Jaczek (Markham—Stouffville, Lib.):** Thank you so much, Madam Chair.

Thank you to all the witnesses for your contributions today.

I'll start with Dr. Nguyen.

Dr. Nguyen, you made the comment that we need to speed up diagnostic tests to get results to see if we need to prescribe antibiotics in the first place. Who is responsible for making this happen? We all know hospitals have their own labs. We know there are major chains out there like LifeLabs, but how should we make this happen so that we get results from diagnostic tests more quickly?

**Dao Nguyen:** I will only speak to what I know about the Quebec system. I believe every single province has its own regulations and ways of doing things. On one level, diagnostic tests or devices have to be approved at the federal level; however, the question subsequently becomes about approval on a formulary, uptake at a given hospital and then implementation and availability.

From a practical standpoint, there are many barriers to this being a reality. Also, if we think about diagnostic tests in human health care, there are many different types of tests that one can imagine, whether it's something available in a hospital setting or it's perhaps more point of care and point of use, which has become more of a reality. There's even home testing. There is a spectrum.

A number of those products at this time probably do not have a track record yet of how to properly regulate and implement them. There are certainly many local barriers as well as federal level regulatory steps.

**Hon. Helena Jaczek:** As we're learning, things are really complicated.

Dr. Weese, you implied that perhaps there was limited crossover between the use of antibiotics in food in the agricultural sector and human health. Has anyone looked at quantifying how much impact the use of antimicrobials in animals has had in relation to resistance in humans?

• (1635)

**Scott Weese:** It's very difficult. If we look at the impact of antimicrobial resistance, whether that's globally or by high-income or low-income countries, and look at the organisms that cause the most deaths, for most of them you can't see a solid link with animals. For some of them you can.

We know that certain organisms are being driven by antibiotic use in humans and human-to-human transmission. Things like salmonella and E. coli we associate with food and food animals. Those definitely play a role, but E. coli, for example, could be driven by human use or animal use. It's very hard to tease that out. We do know, however, from the really nice Canadian example of CIPARS, as mentioned, that changes in antimicrobial use practices in food animals can influence resistance in people who are sick.

There definitely is a role. We just have no idea how much. My guess is that it's low. I think that's reasonable, but it's very hard to get a number.

**Hon. Helena Jaczek:** In essence, though, the less use, the better, presumably, when it's inappropriate.

**Scott Weese:** Yes, absolutely.

**Hon. Helena Jaczek:** Canada has made some efforts to get new products through the regulatory pathway. There's been criticism, obviously, of red tape and the difficulty of getting new therapies to market. There is an effort now by Health Canada to move toward greater international collaboration and reliance on foreign regulators, including the FDA.

Mr. Roy, perhaps, or Dr. Brockhoff, do you have any comments on this? Is this going to help?

**René Roy:** I'll let Mr. Brockhoff go ahead.

**Egan Brockhoff:** It is a positive step forward. Will it be the entire solution? We're not sure. We have been exploring a lot of ideas across the different livestock sectors, the veterinary community and the nutritionist community. A lot of barriers have traditionally been built up. That white paper we spoke about earlier covered a very broad gamut of what we think some of the barriers are, but a cultural shift has to happen as well. There will be a need to become attractive: How do we become attractive as a nation?

Reducing red tape is absolutely critical. Making Canada an attractive place to do business for investment in vaccination development, in medication development and in feed additives and water additives—all of these holistic things that can help us reduce the need for antimicrobials—will be critically important, but it will be about more than just checking boxes.

**The Chair:** Thank you.

Mr. Blanchette-Joncas, you have six minutes, please.

[*Translation*]

**Maxime Blanchette-Joncas:** Thank you very much, Madam Chair.

My first question is for you, Mr. Roy.

Quebec has already adopted stricter restrictions on the use of certain critical antimicrobials in agriculture and has had positive results. Does this show that tailored approaches, such as the one in Quebec that I just mentioned, can be more effective, considering that the context varies depending on where you are in Canada, provided that there is stable financial support rather than an underfunded uniform framework?

**René Roy:** There are certainly different realities. There is disease pressure in certain regions and territories, and so I'd say yes, adapting to the realities on the ground is important.

I'd also like to point out that in several provinces, farmers have decided to go beyond the legislation because they recognize the importance of responsible antimicrobial use.

**Maxime Blanchette-Joncas:** That's interesting. I'd like us to continue in that vein.

There are things that can be done in certain places because the will or the context is different. However, aren't you concerned that a uniform national framework could diminish or even prevent such good faith or goodwill initiatives?

• (1640)

**René Roy:** A coordinated initiative among the various stakeholders is still a good approach.

That said, to move forward more quickly and to go farther, we often need a more structured, closer-to-the-ground approach. We're adopting such an approach with various provincial organizations. We're adapting, given that, for example, animal pressure and diseases are different in western Canada and eastern Canada. We have to adjust to different realities in order to be effective.

**Maxime Blanchette-Joncas:** In your field, as a Quebec resident, you are, of course, familiar with issues affecting Quebec. Are there any initiatives that Quebec wanted to put forward but was not necessarily able to fully implement, possibly because of a uniform national framework that did not necessarily align with the different strategies that may have been adopted across the board?

**René Roy:** Generally speaking, it's not difficult to be more disciplined than average if you want to be. What we've seen in the field is that some industries, particularly those in Quebec, have decided to go a little farther in this area. I can't single out anything that could not be carried out. Some groups of producers decided to do more, without necessarily being required to do so by the rules, just by being disciplined and committing to making reductions. I did that on my farm. I reviewed my use and asked myself whether it was really necessary in light of the different tools. As a good steward, I reduced my use of antimicrobials on my farm.

**Maxime Blanchette-Joncas:** I understand your point of view as a farmer. It's all well and good to have a strategic plan or to try to have a national framework, but you need flexibility to be free to do the things you want to prioritize, not to disadvantage others, but to

be forward-thinking. These initiatives should not be delayed or hindered by funding requirements in the context of a uniform national framework.

**René Roy:** Flexibility and willingness must be tailored to the reality on the ground. We must not forget that these tools come at a cost. We operate in a competitive environment, so we need to make sure we remain efficient.

I'd also like to point out that we have changed many of our animal management practices over the years, simply to reduce disease pressure and improve biosecurity. As such, beyond antibiotics, there are other practices, including setting aside resources that can be used to improve practices and reduce the use of antibiotics that have an impact on antibiotic resistance.

**Maxime Blanchette-Joncas:** Thank you, Mr. Roy.

I'd like to continue with you, Dr. Nguyen.

Experts agree that there will be other pandemics, which will be compounded by antimicrobial resistance. This phenomenon is aggravated by two factors, namely global warming and a lack of funding for health and research to ensure we're better prepared.

Do you think there is a lack of political will, or is it just a lack of interest?

**Dao Nguyen:** I think there is a lack of political will to truly unlock the necessary resources and overcome the many obstacles. I think we can agree that this is a very complicated problem that requires a lot of partners to come to an agreement. I therefore think that the political will is lacking.

**Maxime Blanchette-Joncas:** If I were to give you the keys to power tomorrow, what would you recommend?

**Dao Nguyen:** We need an antimicrobial resistance czar.

**Maxime Blanchette-Joncas:** Did you hear that, Madam Chair? We need an antimicrobial resistance czar. Should we give him or her a nickname? How about the antimicrobial resistance warrior?

That's all. Thank you.

[*English*]

**The Chair:** I think she's here because of that, Mr. Blanchette-Joncas.

Now we're going to Ms. Konanz for five minutes.

• (1645)

**Helena Konanz (Similkameen—South Okanagan—West Kootenay, CPC):** Thank you, Chair.

Dr. Fisher, I believe you mentioned, or it has been mentioned today, that there's a severe shortage of veterinarians in Canada and it's causing huge problems, particularly as they've been called the gatekeepers of antimicrobial use.

We're studying the shortage of professionals in Canada. In your opinion, what can we do as a government to solve this problem?

**Tracy Fisher:** There are several things. One is that we need to grow more of our own veterinarians. We are not graduating enough veterinarians to keep up with the demand.

Another is that we can encourage the immigration of veterinarians into Canada, get them certified into the system faster and reduce some of those barriers. The CVMA has a proposal to develop a national testing centre for foreign-trained graduates.

For those who don't know, foreign-trained graduates constitute an extra veterinary school in Canada as far as the numbers of people who join our workforce every year is concerned, so they're a really important part of our system.

Finally, we need supports for mental health and all of the things that prompt veterinarians to leave the workforce a bit too early. Those are really important things. I've been in this profession for nearly 30 years, but unfortunately, that's not true for some of my colleagues; they leave far too soon. If we keep pouring water into a leaky bucket, we'll never get to the end of it.

**Helena Konanz:** Thank you for that.

We were studying human doctors and the lack of MDs in our previous study. That's throughout Canada, but we're really seeing it in rural communities, where we've had to close hospitals and emergency rooms constantly.

What we're talking about today is rural doctors, which I imagine many of them would be, because they're working on livestock. Is it particularly with veterinarians in the rural areas that we're having difficulty in addressing this issue?

**Tracy Fisher:** Yes, absolutely, and there are a number of reasons for that. Work, lifestyle and finances all play a part, but there are some roles for government.

One thing is that veterinarians in rural areas currently don't qualify for the student loan forgiveness program for rural professionals, so that would be helpful.

Among the vet schools and in the veterinary profession, there's a big push to start to select veterinarians entering school who have an interest in food, animal and rural medicine.

Those are all positives, but at the end of the day, you have a small workforce, and if you look at the life of a rural vet—which can be extraordinarily rewarding but involves very hard work and long hours—sometimes when there are other jobs available that maybe need fewer hours, and there are lots of them, they gravitate towards other areas of practice, which is unfortunate, because we really and truly do need people in rural areas.

**Helena Konanz:** Thank you for that answer.

Dr. Weese, you mentioned that there's an AMR crisis and that antibiotics should be used as little as possible. How up to date would you say Canada's biosecurity monitoring is at present? Are there outdated methods or technologies that should be rethought in regulations?

**Scott Weese:** No, not necessarily from a regulation standpoint. Infection control and biosecurity are separate issues. Canada has

quite robust biosecurity on farms to prevent things from accessing farms, especially foreign diseases and new diseases. That doesn't account for a lot of the diseases that are normally there that we have to control with antimicrobials, so they are two separate issues.

Testing is a challenge based on cost. It's always difficult to get testing done because the cost of the test may be much more than the cost of the animal, or the time frame may not be appropriate. Testing, whether that's testing in general or novel testing methods, is a very important control tool, as well as testing to identify disease processes so we know when to use and when not to use antimicrobials. There is definitely some ground to be made up there.

**Helena Konanz:** Okay. Thank you.

**The Chair:** Thank you very much.

I will now go to Ms. Sidhu for the Liberals.

You have five minutes, please.

• (1650)

**Sonia Sidhu (Brampton South, Lib.):** Thank you, Madam Chair.

Thank you to all of the witnesses for being with us today.

My first question will go to Dr. Nguyen.

Dr. Nguyen, most of your authored research focuses on host-pathogen interactions and resistance in respiratory infections. How can insights from molecular and animal model research help identify resistance patterns earlier, before they translate into severe human infections?

I would also like to talk about sepsis, which remains one of the most serious consequences of AMR. From a research perspective, where are the biggest diagnostic or therapeutic gaps when a resistant infection progresses to sepsis?

**Dao Nguyen:** I can speak from my perspective of research. What we're interested in—one of the topics—is the intersection of the microbe and the host. That's a very interesting paradigm that parallels, perhaps, some aspect of sepsis.

When we think of human infections and syndromes, these syndromes are often complicated to diagnose. First is understanding the basic science of where sepsis comes from or, for example in my case, something as simple as pneumonia. You would think that pneumonia is very straightforward, but as a clinical syndrome, it is very ambiguous. It actually leads to the overuse, most certainly, of antibiotics, because somebody who has a cough, an abnormal chest X-ray and a few other relatively non-specific symptoms is assumed to have a bacterial infection that we're going to treat with antibiotics.

The basic science is important to understand: What is a disease and how would we properly diagnose it? From there, the molecular level or the epidemiological level is about understanding what molecules are important in order to design the right diagnostic tools, to which we'll apply either the proper stewardship or the proper therapy.

**Sonia Sidhu:** Let's talk about the pan-Canadian action plan for AMR stewardship, which is described as "a system-wide approach that recognizes the role of patients, prescribers, producers and the public". What role can public education play in the fight against AMR?

How knowledgeable are Canadians? Do you think they are knowledgeable? If there's public awareness, what kind of public education do you think is going to be needed?

**Dao Nguyen:** Is this a question for me?

**Sonia Sidhu:** Yes.

**Dao Nguyen:** My experience has been that the general public is very ill-informed with regard to what AMR is and what the implications are. Something as basic as the fact that AMR is about a microbe and not the host and it's not something that they carry.... I think that level of fundamental understanding is often lacking.

I think the general public's understanding and behaviour are critical, particularly at the level of stewardship. Prescribing behaviour among physicians is partly driven by patient expectations. If a patient comes in and asks for an antibiotic, it makes it that much harder for a physician to say no. Educate the public on the conditions, on what they can do to prevent the emergence of resistance and on their own part to play in stewardship interventions.

**Sonia Sidhu:** My last question is for you, Dr. Nguyen.

Are there any new emerging technologies, like AI or quantum computing, that can help advance research in antimicrobial resistance?

**Dao Nguyen:** Absolutely. The uses are numerous, such as in the world of drug discovery, which is already well under way. The use of genomic technology for a variety of diagnostic or surveillance methodology would really accelerate that. I think AI would be a fantastic tool to have in our armamentarium, which is currently not yet available.

**The Chair:** Thank you very much.

I now go to another round. It's a five-minute round.

Mr. Mazier.

• (1655)

**Dan Mazier:** Thank you, Chair.

Dr. Brockhoff, do you believe that agriculture has been mis-characterized in the antimicrobial resistance discussion?

**Egan Brockhoff:** I believe agriculture is an easy target. A number of the witnesses earlier talked about the one health concept. One health doesn't just mean medicine. It has to mean veterinary medicine. It has to mean the environment.

Yes, we are an easy target. We have lots of animals. We have lots of biomass and we're front and centre.

**Dan Mazier:** What key points or corrections do you think are important for the committee to clearly reflect in its report, given Canada's agriculture industry?

**Egan Brockhoff:** There are some key things today. We don't use antimicrobials for growth promotion. That has to be shared. People should know that. We are all working in an antimicrobial stewardship framework. We're all working within the pan-Canadian action plan and we are all working to implement the pan-Canadian action plan into our programs. Our producers participate in these programs. They're audited in these programs. We need to tell people that.

People need to be aware that we are participating in the Public Health Agency's CIPARS program. We are monitoring for resistance. We're not seeing issues. We should be telling people about that. We are using the use data that's generated by CIPARS to help create education opportunities, to help work with our veterinarians, to help work with our nutritionists, to help work with our surveillance and intelligence bodies and to ask for and promote new products.

We have a great story to tell, but we're not telling it.

**Dan Mazier:** Thank you.

Dr. Fisher, is Health Canada's approval process for drugs impacting the use of antimicrobials?

**Tracy Fisher:** The changes would definitely have a big impact on how we would use antimicrobials and on how we select. Veterinarians are required to use, first, antimicrobials of a lower importance to human medicine. If we're going to use antimicrobials of a higher importance, then we definitely need good evidence to support that. We use those very cautiously.

The proposed changes would definitely hamper the treatment of a number of really common diseases and unfortunately could result in the removal of some of the things we use more commonly and are of less importance to human medicine. The removal of them from the market would leave us with not a whole lot of choices. It is, honestly, pretty devastating to look at that future.

**Dan Mazier:** I have a follow-up to that. When Health Canada re-classifies veterinary drugs, do you believe the agricultural context of on-farm realities is being accurately assessed?

**Tracy Fisher:** No, I don't. I think sometimes there is a miscategorization of that industry, as Dr. Brockhoff has insinuated. I think there's an idea out there that we use these drugs wantonly, without a whole lot of thought or consideration, but that is simply not the case. They are used very cautiously.

Most producers I know of do everything in their power to prevent animal disease in the first place. They would love to have access to more vaccines and alternatives to antimicrobials. When they do use these drugs, they do so with a very precautionary principle and in concert with their veterinarian.

**Dan Mazier:** What risks arise when agriculture is not adequately considered?

**Tracy Fisher:** Largely, number one, animal welfare is at the top of my concerns, as is the welfare of the producer. There's also food security. If these animals are dying, they're not getting treated. That causes a massive chain reaction down the road and massive increases to the costs to produce food. I think that's something we all need to remember as well.

**Dan Mazier:** Thank you.

**The Chair:** Thank you.

I go to Ms. Chi for the Liberals.

You have five minutes, please.

• (1700)

**Maggie Chi:** Thank you, Madam Chair.

I listened to Mr. Mazier's line of questioning and the testimony very intently. What really resonated with me is the interconnectedness, or the lack thereof.

Dr. Weese, you mentioned the one health lens. Based on the best available evidence, I know there are a lot of gaps, in that sense. What do we actually know about the relative contribution of antimicrobial use in humans versus animals to the resistance that affects human medicine?

**Scott Weese:** We don't.

**Maggie Chi:** Do you mean not at all?

**Scott Weese:** We know some things. We know that antimicrobial use will drive resistance, whether it's humans or animals. We know there are some bacteria that move from animals to humans, so if we create resistance in animals, we can move that there.

As I said, one study showed changing antibiotic use practices. Reducing antibiotic use in food animals resulted in a decrease in resistance in humans. Is that a very niche component of the AMR problem? Is it 1%, 5%, 10%? We don't know. It's still relevant because it's such a big problem. It's important to try to figure that out, because we have to figure out where to put our efforts.

We approach this in an overly simplistic manner, without thinking about the nuances, and we could more efficiently approach it.

**Maggie Chi:** Dr. Weese, you mentioned the oversimplification of the public debate on these relationships, so my question is for you and Mr. Brockhoff. What risks arise, from your perspective, when AMR is framed as, for example, a responsibility of a single sector rather than a shared-system challenge?

**Scott Weese:** Well, we can put all our work in one sector and have very minimal gains. Sometimes, it's easy to say there's a problem over there, so they should fix their problem, and when they fix it, we'll fix ours. That won't work for this.

When we try to oversimplify things, we also run the risk of ineffective or potentially harmful approaches. There have been examples internationally where something has been brought in without enough thought and it's led to poor animal health and welfare and an increased use of antimicrobials. There are things we could do that would make sense to the general public, but when you actually look at the details, they would be harmful.

**Maggie Chi:** Thank you.

Mr. Brockhoff, do you have anything to add?

**Egan Brockhoff:** I would support Dr. Weese's comments and go beyond them. It's critically important that we don't work in silos, that we don't isolate ourselves. We, for example, work within an organization called Animal Health Canada, where we work with dairy producers—not just the pork producers, but also the dairy industry, the beef industry and the sheep and goats sector. We're working with all of them within Animal Health Canada on an antimicrobial resistance stewardship leadership group.

We recognize that it's critically important to be involved and not be trapped in silos. We know we have to work in a pan-Canadian framework. We are having conversations with our colleagues in the United States and Mexico, because we move livestock around and we move people around.

We also know that we have to have a one health conversation, and that's a difficult conversation to have. We need the Public Health Agency to be part of Animal Health Canada so we can have those conversations.

**Maggie Chi:** Thank you so much.

My next question is for Dr. Rubin.

Dr. Rubin, you mentioned antimicrobial stewardship and the responsibility for protecting animal health and welfare. Could you describe the practical challenges that veterinarians face when implementing antimicrobial stewardship on farms in general?

**Joseph Rubin:** I have less expertise on farms and agriculture. I think the committee has already heard some really good testimony from other witnesses.

One thing I can say is that I've always been really impressed by the real leadership of industry associations. This is an area where agriculture has advanced quite far beyond what we see in companion animals. For dogs and cats, we don't really have industry associations like the Canadian Pork Council or the provincial milk or poultry councils to support innovation, stewardship and best practices.

As far as the limitations that happen on farms are concerned, we've maybe heard about some of those already today.

With respect to companion animals, one very insightful comment by Dr. Nguyen was about diagnostic turnaround times and the fact that we don't always get laboratory results as quickly as we would like. This highlights the importance of having very solid evidence-based stewardship guidelines so that veterinarians can empirically, or as sort of the first line before they have laboratory evidence, pick the best and most likely to be effective antimicrobial that has the lowest impact on antimicrobial resistance.

• (1705)

**Maggie Chi:** Thank you so much, Dr. Rubin.

Do I have more time?

**The Chair:** You have 53 seconds.

**Maggie Chi:** Does anybody want to share my time?

**Doug Eyolfson:** I'll take it.

**Maggie Chi:** Sure.

Those are all the questions I had for today.

**The Chair:** That's it? Are you ceding your time?

**Maggie Chi:** Yes.

**The Chair:** Thank you.

I'm going now to Monsieur Blanchette-Joncas for two and a half minutes, please.

[*Translation*]

**Maxime Blanchette-Joncas:** Thank you, Madam Chair. I have only two and a half minutes, but thank you all the same.

Dr. Weese, I'd like to ask you a fairly simple question. How can we coordinate a strategy to tackle antimicrobial resistance with the one health initiative, which you support, without interfering in health care, which is the responsibility of Quebec and the provinces?

[*English*]

**Scott Weese:** The challenge in both human and animal health is the multiple groups involved. We need central coordination for communication. It doesn't need to all be directed at one level, but we need to make sure that we bring in the provinces, the territories and all of the relevant players so we can have those discussions to move efficiently.

[*Translation*]

**Maxime Blanchette-Joncas:** Aren't you concerned that there will be resistance to change, especially because local health care delivery is the responsibility of Quebec and the provinces? If they disagree and the federal government wants to impose conditions on funding to support a national action plan on antimicrobial resistance, how do you see that playing out?

In my view, it's always a question of effectiveness, cost and speed. Is it more expensive? Is it more effective? I'm thinking of countries like Switzerland and Germany, which advocate an approach that allows for coordination without centralizing health care systems, which really vary from place to place. Quebec and other provinces have socio-demographic and even socio-economic realities that often differ significantly.

[*English*]

**Scott Weese:** The coordination doesn't have to be directive; it needs to be educational. If you look internationally, there's an independent panel on evidence for action being developed for AMR to provide information to member states of the UN about how to act. That doesn't direct the activity. You want independent, expert-driven assessments that can then be used for recommendations, not directives.

[*Translation*]

**Maxime Blanchette-Joncas:** How would you characterize the collaboration with local health care authorities, including in Quebec? Currently, is there a coordination table to ensure that they are heard and respected within their own jurisdiction?

[*English*]

**Scott Weese:** I don't think there is one now. I think it has to be a discussion. How do you develop the coordination? How do you get it from the national level to the local and sub-provincial levels? That's the challenge. You have to have the communication networks in place.

[*Translation*]

**Maxime Blanchette-Joncas:** Thank you.

[*English*]

**The Chair:** Thank you very much.

I'll go to Mr. Bailey for the Conservatives for five minutes.

**Burton Bailey:** Thank you, Chair.

Dr. Nguyen, on the animal-to-human transfer of antimicrobials, can you discuss with me...? Some countries have open butchers' markets; it's more common than what we would experience in Canada. What have you experienced with the transfer from animals to humans? I know you would study that more in a hospital or long-term care setting, but have you seen any animal-to-human cases?

**Dao Nguyen:** Thank you for your question. I will try to answer it to the best of my ability, focusing more on what we see on the human side.

In the absence of more advanced genomic-level studies, which are done on a case-by-case basis, it is often difficult to make a direct link when there's a case of infection to where it came from, and whether a particular case of salmonella or E. coli could have come from a zoonotic source.

Overall, on a surveillance, non-individual level, there is probably some evidence that has been reported and mentioned before—for example, on enteric infections or *E. coli*—but again, to attribute where something came from on an individual level is much more challenging and is not something we typically do on a routine basis unless there are clear zoonotic interactions. Certainly, exposure to food products, in the absence of an outbreak, is not something we would be able to identify.

• (1710)

**Burton Bailey:** You gave the statistic of \$1.8 million being spent on AMR and \$22 million being spent on AIDS. Is that the federal funding received in Canada as a whole? I need just yes or no.

**Dao Nguyen:** This is what the CIHR receives and disburses as part of its targeted initiative.

**Burton Bailey:** Is there a percentage of patients in hospitals or long-term care settings who acquire AMR? Is there an actual percentage, like one in 10 or 10% or 5%? Are there any percentages you can share?

**Dao Nguyen:** Currently, the only information I am aware of that is broadly available to the community comes from hospitalized patients. In fact, one gap we have is not knowing what is happening outside of hospitals, including in long-term care.

We do not know the incidence.

**Burton Bailey:** Thank you.

Dr. Fisher, you spoke about the lack of veterinarians. How is this shortage affecting response times during a health emergency on a farm?

**Tracy Fisher:** It can profoundly affect it. There might not be a veterinarian available in the area, period. A veterinarian might not be able to get there for a day or two. It can be very challenging.

Many veterinarians cover service areas of 200 kilometres in each direction. If you're in one area, you can't get to another area, necessarily. If you're lucky enough to have good relationships with your producers, you can talk to them on the phone for the initial consult, but sometimes you just need to see them, and definitely in a big outbreak, you need to take samples. That's a huge problem.

**The Chair:** You have one minute.

**Burton Bailey:** Can a producer administer a type I, or is it something that a vet must come out to the farm and administer?

**Tracy Fisher:** I don't know the exact particulars of that in every industry, but I would never prescribe a type I without setting eyes on the creature and probably trying something else first.

**Burton Bailey:** Was it you, Dr. Fisher, who indicated that there's an international vet school now in Canada?

**Tracy Fisher:** No, there's not. The point I was trying to make is that the number of international veterinarians entering our workforce is over 100 veterinarians every year, and that is the equivalent of an extra vet school in Canada.

**Burton Bailey:** Thank you for clarifying that.

**Tracy Fisher:** They are not an insignificant portion of our workforce.

**Burton Bailey:** The Canadian Food Inspection Agency has recently laid off some people—

**The Chair:** Thank you.

**Burton Bailey:** I didn't get a one-minute warning again.

**The Chair:** Yes, you did. I gave one.

**Burton Bailey:** Oh my goodness, did you? I apologize. I'm going to get an egg timer.

**The Chair:** You'll have another round, I think.

We'll have Mr. Eyolfson for five minutes, please.

**Doug Eyolfson:** Thank you, Chair.

Thank you to all the witnesses.

Just as a comment to Dr. Brockhoff, I agree with you. When good things are happening, not just the veterinary community but all of us are not good about getting those.... I didn't know, until we did this study, about the issue of growth promotion. I knew that years ago it was happening. I did not know that in Canada, it was no longer the case. These are things that I think a lot of the public still think happen, so you're right that they need to be broadcast. People need to know, because it's a good thing we're not doing that.

Dr. Nguyen, we talked about how we need new treatments and research into new options. As you know, one problem—we talked about this earlier in the study, and I've known it from my medical practice for years—is that we rely very heavily on the pharmaceutical industry for clinical trials, which are very expensive. The challenge is that they are corporations. They're responsible to their shareholders. Antibiotics are not a terribly profitable line of medications compared with, let's say, statins.

What is the challenge? How do we get around this? This is something we very desperately need, so how do we overcome the fact that we're relying on an industry in which there isn't a great business case for doing the research?

• (1715)

**Dao Nguyen:** That question probably warrants a whole study of its own, so I could not possibly do justice to the possible problems and potential answers.

All I would say is that this is something the Government of Canada has put thought into. It was raised, as part of the pan-Canadian action plan, through the proposal of a pull incentive. That is one of the avenues that are being explored in Canada and elsewhere.

Beyond that, I think there are many other structural barriers, certainly in what the replacements are for pharmaceutical companies to develop drugs and provide clinical trials. There are multinational and international initiatives, such as GARDP or CARB-X, that are trying to stand in lieu of what pharmaceutical companies used to do. The next few years will tell us whether this will be successful or not.

**Doug Eyolfson:** Thank you. That is very helpful.

Dr. Weese, you talked about prescribing guidelines, and we have the same in medicine. One of the problems we have is the dissemination of these guidelines. Being in emergency, I'm in a purely hospital-based practice. We have direct conversations all the time with our ID specialists.

Online, there are the latest guidelines and databases, which are good, but particularly with antibiotics, when we're told, "Here's the latest literature for this infection; give this antibiotic", there's a little star saying, "Be aware of antibiotic resistance in your community. This may change your patterns."

We have trouble, when working in an emergency room surrounded by specialists, keeping up with that. Physicians in the community, in their doctors' offices, have an even harder time. Is there a strategy in the veterinary profession to try to get the latest evidence-based guidelines and local resistance patterns?

**Scott Weese:** I think that was mentioned earlier. There are some app-based guidelines now that the CVMA has done, and we have a parallel version for companion animals that are app- and web-based and provide up-to-date information.

There are a couple challenges with them. One is the data that goes into them, because we're lacking a lot of research on really basic things for drugs and duration. The other is the ability to keep them fresh, and updating them. If a guideline was made 10 years ago and not touched, it's not relevant.

**The Chair:** You have 30 seconds.

**Scott Weese:** The other thing is getting people to adapt them. A large percentage of the antibiotics we use are psychotherapeutics for the prescribers. They make the vet, the physician, the parent or the farmer feel better. Ultimately, I'm not sure if you've talked to social scientists, but we need to. We need to get people to adapt guidelines and adapt change. Just having the information is one step.

**Doug Eyolfson:** I agree completely with that point. Thank you very much. That's my time.

**The Chair:** I now go to Mr. Mazier for five minutes, please.

**Dan Mazier:** Thank you, Chair.

Dr. Fisher, can you explain how export market conditions influence antimicrobial use in Canadian agriculture and why this factor is important for the committee to recognize in its report?

**Tracy Fisher:** Well, there are a couple of factors to that. Number one is that we need to follow certain guidelines to make our products available to enter certain markets. The European Union has different guidelines.

Also, on that point, if we are not able to access certain medications and.... Here, in Canada, it's not necessarily always antimicro-

bials; it's vaccines, probiotics and all of those types of things to prevent disease in the first place. We are not competitive with our international partners, and it is more expensive to produce food here. The market is driven mostly by price, and it can definitely hamper our ability to compete on an international level, and unnecessarily so. We're not looking to misuse these medications. In fact, we're looking to reduce our use but have the proper tools available.

• (1720)

**Dan Mazier:** Farmers are telling me that they have fewer tools to treat sick animals because veterinarians are losing access to key drugs because of Health Canada regulations. I think you alluded to the 40% drop. Can you explain what's being lost and what this means to animal health on Canadian farms?

**Tracy Fisher:** It's everything from...really common antimicrobials that were used on a regular basis and were very reliable to treat disease. Because Canada is a small market and there are a lot of regulatory barriers, sometimes those drugs aren't big sellers, which is a good thing, but it also means that there was less motivation for the drug companies to go through another regulatory approval, so they just decided to look elsewhere.

One of the medications we didn't have available for a while was injectable oxytetracycline for dairy cattle. It's very important for treating pneumonia. We finally got it back, but now with reclassification, who knows what's going to happen next? That's extraordinarily frustrating. Things like that are really important drugs to keep our animals healthy with short withdrawal times. It's a drug that is not used in human medicine, and it can be really frustrating.

**Dan Mazier:** Should this be included in our antimicrobial resistance report?

**Tracy Fisher:** I believe so.

**Dan Mazier:** Thank you.

Mr. Wiens, there was a reference to the white paper. I think Dr. Brockhoff mentioned it. Can you table that report? What's the official title of it? How many recommendations were there in it?

Answer briefly, if you have it on you.

**David Wiens:** I could get Scott to speak to that, certainly.

**Scott Ross (Executive Director, Canadian Federation of Agriculture):** I don't have the title or the number of recommendations in front of me, but we can certainly table that report. There's no question.

It's important to recognize that there has been a lot of dialogue with officials and manufacturers since that time. I know that there's been consideration about updating it in light of some of the more recent developments we've seen through the red tape reduction efforts.

There is no question that we can put that forward to the committee.

**Dan Mazier:** I think everybody is getting rather frustrated with the dialogue, though.

There's a lot of concern in public health. It's not only on the agriculture side but also on the public health side. We are losing access to many drugs and we're getting left behind in Canada. That's another thing that's happening. It's government intervention. It's the bureaucracy that's really slowing us down.

Governments need to act here. I can't explain or express enough that agriculture needs to step up, and so does health care. These things are being lost to us. We're going to end up in a big pickle if we don't step up and listen to the people on the ground who it's going to impact. We're talking about food supply and food sovereignty in Canada.

There was an explanation of how the agriculture industry has a drug use policy with various categories, but I have not heard that from the health care industry. What does human health care do? Do they have regimes for antimicrobial resistance? Is it a well-laid-out plan that the public can see, as in agriculture, or do they have some catching up to do?

I guess we'll start with Dr. Weese on that, or whoever would be able to answer it.

**Scott Weese:** I'd say that varies from the hospital to the.... There are good guidelines and increasing guidelines, and there are stewardship practices that are quite rigorous in a lot of situations.

**Dan Mazier:** It's not national.

**Scott Weese:** There are some national guidelines that have been developed or released recently online.

The guideline field is an emerging field. The stewardship practices have been more at the local level or at the level of different organizations.

**Dan Mazier:** Is agriculture leading on that? That's a really good story to tell, if we could tell it.

**Scott Weese:** I'd say there are similarities. There are challenges, too.

• (1725)

**The Chair:** Thank you very much.

I now go to Ms. Jaczek.

**Hon. Helena Jaczek:** We've talked about the need for new antimicrobials, but there are also alternative therapies. As we have learned, antimicrobials are not necessarily being used for the stimu-

lation of growth of food animals, but there are other alternative therapies, such as vaccines, probiotics and immune modulators.

How are these being used? Are there difficulties in terms of red tape? Is the need for regulation causing difficulties with the veterinary profession?

Dr. Fisher, perhaps I will address my question to you.

**Tracy Fisher:** Vaccines are one of the more frustrating categories we have. There are lots of cases where we would love vaccines to prevent disease, but they are not available sometimes because of some regulatory barriers, especially in a small market case.

That is particularly acute for some of the smaller industries, like sheep, goats and those types of species. There is almost nothing out there, which is really frustrating. There are vaccines out there that we can't get a hold of for cattle for something like Q fever, which is potentially zoonotic. We currently don't have access to that vaccine in Canada.

Those types of things are really frustrating. A lot of the barriers are on the regulatory side. Other markets have access. I can tell you that producers are very happy to use them if they are available.

**Hon. Helena Jaczek:** These are vaccines that are available internationally. Is that what you're saying?

**Tracy Fisher:** That's correct.

**Hon. Helena Jaczek:** There are regulatory changes needed in Health Canada to access some of these alternative therapies.

Mr. Roy, go ahead.

**René Roy:** I'll just add that we could also gain ground in the category of feed additives. Sometimes we're comparing ourselves with Europe, but some products that are available there we would like to have available here. The precaution at the red tape level is so high that it kills, because we don't have any other thing. When the precautionary principle is so high that it kills, we have a problem with the level we have.

**Hon. Helena Jaczek:** I think that will make a good recommendation for the study.

Do I have time left?

**The Chair:** You have two minutes and 13 seconds.

**Hon. Helena Jaczek:** Oh, that's wonderful.

Dr. Rubin, on companion animals, we know that during COVID many people decided they needed pets to assist them through that difficult period. In fact, my children have not provided me with grandchildren, but they have provided me with one grand-puppy and three grand-kitties.

Are you having the same difficulty in trying to talk to the owners of companion animals about an antibiotic perhaps not being needed? Is it a question of diagnostic tests and not being able to know whether an antimicrobial is needed? Perhaps you could talk a bit about some of the difficulties you're facing in your practice.

**Joseph Rubin:** I should clarify that while I am a veterinarian, I am not a practising veterinarian. I spend my time in the microbiology lab working on petri dishes, although I do consult with practising veterinarians. I have certainly heard many anecdotes similar to what we've heard is happening on the physician side. People come in with expectations. They want to receive an antibiotic or a specific treatment for their pet, and those pressures certainly have an impact.

There are absolutely diagnostic issues. Cost is a big one, as Dr. Weese mentioned. That's oftentimes a barrier. Veterinary medicine is not like public health care. The owner of an animal has to pay for those services. They can be quite expensive. That is a barrier.

On a very day-to-day level, again, I think it's about stewardship guidelines and having the best available evidence on what therapy is most appropriate in each case and when we need to treat. We do know that some antimicrobial use is probably not necessary and shouldn't be happening. As Dr. Weese mentioned, in some realms we simply lack data. We don't even have enough evidence to make the best recommendations that we'd like to.

• (1730)

**The Chair:** Thank you.

Mr. Blanchette-Joncas, you have two and a half minutes, please.

[*Translation*]

**Maxime Blanchette-Joncas:** Dr. Nguyen, if Canada continues to talk about a national strategy on antimicrobial resistance, without reinvesting heavily in research and surveillance in health care systems in Quebec and the provinces, aren't we going to end up making the same mistakes we saw at the beginning of the COVID-19 pandemic, but on a larger scale?

**Dao Nguyen:** For the national strategy, we need sustained investment commensurate with the ambitions set out in the plan. If the investment is insufficient, it will not be surprising if the plan fails, given those ambitions.

It's very difficult to compare different pandemics, so I will not do so. Besides, with regard to the impact of antimicrobial resistance, the longevity and the repercussions make this pandemic significantly more complex.

That said, I believe that the will and commitment to provide financial oversight for the national strategy are absolutely essential.

**Maxime Blanchette-Joncas:** As you know, time is of the essence in tackling antimicrobial resistance. Based on your experience, how does governance that is closer to the clinical field, such as the model in the Quebec network, also allow for faster and more consistent implementation of evidence-based measures?

**Dao Nguyen:** I think the question of what structure should be put in place is very complicated, and I'm not claiming to be in a po-

sition to propose a concrete plan. However, it's clear that, first, there is a need for communication between the different levels of jurisdiction. Some activities are local, such as the responsible management of antimicrobials that is under way in the field. Any plan should allow for flexibility and actions in the field that are appropriate to the context on the ground, but also coordinated. Indeed, without coordination, everyone does their own thing, which causes a great deal of inconsistency and inefficiency. In my opinion, striking the right balance between coordination across the country and local activities is a major challenge that must be addressed.

**Maxime Blanchette-Joncas:** Thank you.

[*English*]

**The Chair:** Thank you very much.

It's 5:30. Before I adjourn the meeting, I want to thank the witnesses very much. We have learned a lot today. We've been hearing the same things—that animals are fed all these antibiotics so they can grow, produce better milk and those sorts of things. It's very good to debunk some of that.

Before we close, I would like to ask one question. If, as you said earlier on, stewardship is local, how are you monitoring whether people are following guidelines? I mean, we do the same thing in medicine. We don't know what the family doctor is doing out there. How do you monitor, and is it mandatory for audits every year?

Mr. Roy.

**René Roy:** Yes, it is monitored. We have an established program in place where it is monitored by producers and audited by a third party. We are recording everything we are using, and this is reported and audited.

**The Chair:** Thank you.

Mr. Weese, do you want to say something?

**Scott Weese:** I think it's highly variable, and it's largely high-level and not as actionable. It's different in some industries where we have much more information. Ultimately, this is a need for technology to be able to pull out information.

At a high level, “this is how much we used” doesn't tell me how much is used appropriately or inappropriately, or when, how and why. We have a better foundation in some industries than in others, but we have a lot of work to do to make it actionable.

• (1735)

**The Chair:** Thank you all very much for sharing your expertise and wisdom with us.

I declare the meeting adjourned.







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