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A WORD FROM BEST DOCTORS

Antibiotics are a miracle of modern medicine, contributing to the control of infectious diseases and saving countless lives.

But too much of a good thing has led to a global problem. The misuse of these drugs by health workers and patients has accelerated the pace of antibiotic resistance, one of the greatest threats to global health and development.

Patients and those working within the healthcare industry need to work together to contain this growing problem. For health professionals, this means being judicious when it comes to prescribing and dispensing antibiotics. For individuals, this means helping to prevent infection through a variety of measures (such as vaccinations and regular hand washing) while being responsible about the use of antibiotics.

The repercussions of antibiotic resistance are wide-ranging—a decreased ability to treat infection and illnesses in people, animals and plants can lead to increased illness and death, increased cost and length of treatments, and increased side effects from the use of multiple and more powerful medications.¹

Governments and policy makers recognize the severity of this public health issue and are taking steps to enact actionable solutions. Raising public awareness is one part of a multi-faceted response to this problem, and to this end, November 13th to 19th has been designated World Antibiotic Awareness Week.

At the global level, an action plan to tackle antimicrobial resistance (including antibiotic resistance) was endorsed at the World Health Assembly in May 2015. Closer to home, there are several initiatives in place, including a federal action plan on antimicrobial resistance and use in Canada and a pathogen reduction initiative.

UNDERSTANDING ANTIBIOTIC RESISTANCE

There's a difference between antibiotic resistance and antimicrobial resistance. Antimicrobial resistance is a broader term that encompasses resistance to drugs used to treat infections caused by other microbes as well, such as parasites, viruses and fungi, which includes antibiotic resistance.²

Antibiotics are the medicines used to prevent and treat bacterial infections, and antibiotic resistance is what happens when bacteria change and become resistant to these medicines. The result is a compromised ability to treat infectious diseases. An important distinction to keep in mind is that it's the bacteria, and not the person, that becomes resistant to antibiotics.

Consequences of antibiotic resistance

The major danger of bacteria becoming resistant to antibiotics is that minor infections or treatable illnesses such as pneumonia could become incurable. For context, consider this: Nearly two million Americans per year develop hospital-acquired infections, resulting in 99,000 deaths, the vast majority of which are due to antibiotic-resistant pathogens.³

Aside from increased mortality, antibiotic resistance also puts a strain on the healthcare system due to an

increase in the length of hospital stays and the use of more expensive treatments.

Without a coordinated global response to the problem, common infections could once again kill if antibiotics become ineffective. The economic implications of this, along with the enormous personal toll on individuals and families, are devastating.

PREVENTING ANTIBIOTIC RESISTANCE

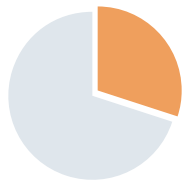
While antibiotic resistance occurs naturally, misuse of antibiotics in both humans and animals is accelerating this process. To halt its progression, change must happen at several levels.

What steps can people take?⁴

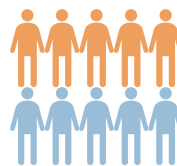
- Adopt behavioural changes to reduce the spread of infection, such as keeping vaccinations up to date, hand washing regularly, covering the nose and mouth when sneezing and following proper food hygiene practices.
- Only use antibiotics when prescribed by a certified health professional.
- Refrain from demanding antibiotics if a health professional says you don't need them.
- Never share antibiotics with others.



Each year 700,000 people die as a result of antibiotic-resistant bacteria.⁵



At least 30% of antibiotic courses prescribed in the United States are unnecessary.⁶



Nearly half of Canadian seniors who visit a family doctor about a cold or other non-bacterial respiratory infection leave with a prescription for an unnecessary antibiotic.⁷



Antimicrobial resistance is predicted to cause 10 million deaths annually by 2050 if effective action is not taken.⁵

What can health professionals do?⁴

- Ensure hands, medical instruments and the environment remains clean.
- Immediately report drug-resistant infections to surveillance teams.
- Discuss infection prevention with patients and educate them about antibiotic resistance while explaining how to take medications properly.
- Only prescribe and dispense antibiotics when they are needed, according to current guidelines.
- For physicians, use diagnostics to make informed treatment decisions when possible.

If individuals, physicians, health professionals and pharmacists all do their part to prevent antibiotic resistance, we can help ensure these vital medications remain effective for as long as possible.

A failure to do so has a very steep price. Already, a growing number of infections such as pneumonia, tuberculosis and gonorrhoea are becoming more difficult to treat as the antibiotics used to treat them become less effective.⁸ If this trend isn't reversed, our continued ability to treat infectious diseases will be severely compromised.

A GLOBAL RESPONSE TO A GLOBAL PROBLEM

At the global level, the World Health Organization endorsed an action plan in 2015 to tackle antimicrobial resistance. The action plan sets out five strategic objectives, including:

- Improving awareness and understanding of antimicrobial resistance.
- Reducing the incidence of infection through effective hygiene and infection prevention measures.
- Strengthening knowledge through research.
- Optimizing the use of antimicrobial medicines



in humans and animals.

- Developing a case for sustainable investment that takes into account the needs of all countries as well as the need for investment in new medicines, vaccines and other interventions.

A wide range of initiatives and activities aimed at addressing antimicrobial resistance have also been launched by nongovernmental alliances, private entities and governments around the world, including the Canadian government.

In Canada, the federal government released an action plan on antimicrobial resistance and use in the country, and has been working jointly with the provinces, territories and other key partners to develop a pan-Canadian framework that builds on the action plan. This framework is intended to guide collective action in tackling antimicrobial resistance while also identifying priority areas for action and desired outcomes in relation to surveillance, infection control, research and innovation, and the responsible planning and management of resources.

Other initiatives being undertaken by the Canadian government include:

- Supporting immunization programs to prevent and control the spread of vaccine-preventable diseases.

- Improving animal production practices.
- Supporting health care leadership to ensure responsible antibiotic use.
- Partnering with the Joint Programming Initiative on Antimicrobial Resistance.¹

HOW BEST DOCTORS CAN HELP

Individual actions can have a huge collective impact when it comes to halting the progress of antimicrobial and antibiotic resistance. If you or a loved one has been prescribed a course of antibiotics to treat an infection and you have questions, Best Doctors is here to help.

If you have questions about the type of medication you've been prescribed, Best Doctors can get your treatment-related questions answered by an expert

who specializes in infectious diseases. For more complex inquiries we can also provide an in-depth expert second opinion on a diagnosis and treatment plan that calls for antibiotics, ensuring that antibiotic use is necessary or suggesting alternative treatments.

Best Doctors can also help if:

- You're unsure a diagnosis or proposed treatment option, and you want a second opinion.
- You're questioning if surgery is right for you.
- You're looking for a treating physician locally or outside of Canada.
- You have medical questions and don't want to rely on the internet for answers.

If you're facing any medical uncertainty, Best Doctors is your solution.

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customer.ca@bestdoctors.com

1.877.419.2378

www.BestDoctors.com/Canada

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