



CANADIAN
WILDLIFE HEALTH
COOPERATIVE

ANTIMICROBIAL RESISTANCE

CREATING A WORLD THAT IS SAFE AND SUSTAINABLE FOR WILDLIFE AND SOCIETY

Emerging RESISTANCE

In nature, many organisms produce chemicals that inhibit the growth of microbial species. Exposure to these antimicrobial substances creates a selective force promoting microorganisms to develop adaptations that make them resistant to these chemicals. In some cases antimicrobial resistance (AMR) adaptations can be transmitted among related or unrelated microbes.

Global over use and misuse of antimicrobial drugs for human and veterinary purposes has greatly increased the frequency in the development of these adaptations. This has created a situation where important drugs are rapidly losing their efficacy in treating serious diseases (e.g. TB, HIV, Malaria, Influenza, etc.).

Health & Economic IMPACTS

AMR is one of the greatest challenges to global health and food security. Microbes exhibiting AMR pose significant threats to human and animal health, exposing infected individuals to increased risk of more severe illness and possibly death.

Urban encroachment into wilderness areas has increased human wildlife interactions. This has raised the potential for AMR adaptations to develop in diseases of wildlife. Zoonotic diseases are responsible for billions of cases of human illness and millions of deaths. Development of AMR in zoonotic diseases can further increase their pathogenicity.

AMR can also impose severe economic costs. Estimates suggest the global economic impact resulting from declines to global GDP caused by AMR could be as great as \$6.1 trillion by 2050.

PREVENTION & Reporting

The following precautions can be used to help reduce the risk of promoting AMR:

- Ensure to only use antimicrobials when necessary and that the correct antibiotics are used.
- Use antimicrobials exactly as prescribed, do not skip doses and complete the entire treatment prescribed.
- Prevent infections by practicing proper hygiene and getting recommended vaccines.

Report any sick/dead animals to the Canadian Wildlife Health Cooperative. Find your closest regional centre at: <http://www.cwhc-rcsf.ca>

Background image: Scanning electron micrograph of a human neutrophil ingesting Methicillin-Resistant Staphylococcus aureus (MRSA) Courtesy: National Institute of Allergy and Infectious Diseases.

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