



Antimicrobial Resistance

World Health Professions Alliance Fact Sheet

Fact Sheet

[Press Release 26 March 2001](#) - Antibiotic Resistance is a Global Public Health Threat Calling For Urgent International Action

Background

Antimicrobials, including antibiotics, are a class of medications developed to combat microbial infections and the diseases they cause. **Penicillin**, the first of the antibiotic compounds to be widely used, was introduced in the 1940s and rapidly became a "wonder drug" which saved literally millions of lives. Along with other antimicrobials, this revolutionized modern medicine, decreasing mortality and morbidity caused by bacterial infections.

However, for many antimicrobials, the development of resistance in several pathogenic bacteria now limits their effectiveness. In some cases the situation has become alarming, with the emergence of pathogenic strains that show multiple resistance to a broad range of antibiotics.

Some facts and figures about anti-microbial resistance *

- ✓ Deaths from acute respiratory infections, diarrhoeal diseases, measles, AIDS, malaria and tuberculosis account for more than 85% of deaths worldwide. Resistance to drugs in most of these pathogens causing these diseases ranges from 0-100%.

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- ✓ Some bacterial infections reported in Japan defy every antibiotic known to modern medicine.
- ✓ One of the most important examples concerns multiple-resistant strains of *Staphylococcus aureus* in hospitals. Today, many bacteria that most frequently cause hospital-acquired infections are resistant to the preferred antibiotic for treatment. In the industrialized world, anti-biotic resistant microbes cause approximately 60% of all hospital-acquired infections.
- ✓ In some areas of the world 98% of all gonorrhoea cases are multi-medicine resistant. For many other sexually transmitted diseases, penicillin-resistant bacteria has increased by as much as 60-80%.
- ✓ Malaria causes about 1 million deaths each year and anti-microbial resistance is a rapidly growing problem in treating malaria.
- ✓ Multiple medicine resistant tuberculosis ranges from a low of 5.3% in New Zealand to 100% in Russia.
- ✓ Treating one patient with multi-resistant tuberculosis can cost as much as treating 100 patients with tuberculosis.
- ✓ The risk of new resistant strains of microbes increases when patients fail to take antimicrobial medications for the full length of therapy, and when antimicrobials are prescribed or given to patients inappropriately.
- ✓ In some countries 30-60% of primary health care patients receive antimicrobials. This is about twice what is clinically indicated.
- ✓ By weight, half of all antibiotics are given to livestock and fish in a prophylactic attempt to prevent disease.

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Recommendations for action

1. *Patients and the community*

- The public should be informed that taking antibiotics (antimicrobials) for shorter than the recommended duration can increase the risk of resistant microbes emerging.
- The public should be informed that using antibiotics when not needed can increase the risk of anti-biotic resistance.
- Simple measures that may reduce transmission of infection in the household and the community, such as hand washing, food hygiene, should be encouraged and utilised.
- Patients should not self-initiate antibiotic treatment.
- Suitable alternatives to antimicrobials for relief of symptoms should be sought.

2. *Health professionals*

- Prescribe antimicrobials only when appropriate.
- Seek suitable alternatives to antimicrobials for relief of symptoms.
- Educate all prescribers and dispensers, including drug sellers, on the importance of appropriate antimicrobial use and containment of antimicrobial resistance.
- Health professionals should raise awareness amongst their patients of their antimicrobial therapy, the risks and benefits, the importance of compliance with the prescribed regimen, and the problem of antimicrobial resistance.
- Monitor prescribing and dispensing practices and utilise peer group or external standard comparisons.
- Encourage standard use of guidelines and treatment algorithms to foster appropriate use of antimicrobials.
- Link professional registration requirements for prescribers and dispensers to requirements for training and continuing education.
- National associations representing the health professions should encourage professional schools and continuing medical education programs to educate about appropriate use of antimicrobial agents.

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3. Hospitals, other health facilities

- Establish infection control programmes and effective management of antimicrobial resistance.
- Develop and update guidelines for antimicrobial treatment and prophylaxis.
- Monitor antimicrobial usage including quantity and patterns of use, and feedback results to prescribers.

4. Governments, industry and the World Health Organization

- Individual governments should cooperate with and enhance the effectiveness of the World Health Organization's global network of antimicrobial resistance surveillance.
- Governments should fund more basic and applied research directed toward development of innovative antimicrobial agents and vaccines, and the appropriate and safe use of such therapeutic tools.
- Governments to require antimicrobial agents to be available only through prescription, by licensed qualified health care and veterinary professionals.
- The pharmaceutical industry should be encouraged to pursue research and development programmes leading to the availability of innovative antimicrobial agents and vaccines.
- HPA calls for national associations of health professionals and the veterinary profession to forcefully encourage a responsible use of antimicrobial agents for humans and animals.

Source: The World Health Organization

The **International Council of Nurses (ICN)** is a federation of national nurses associations, representing the more than 13 million nurses working worldwide. www.icn.ch

The **International Pharmaceutical Federation (FIP)** is a world-wide federation of national pharmaceutical (scientific) associations and has as its mission to represent and serve pharmacy and pharmaceutical sciences around the globe. www.fip.org

The **World Medical Association (WMA)** is a global federation of national medical associations, representing the millions of physicians world-wide. Acting on behalf of physicians and patients, the WMA endeavours to achieve the highest possible standards of medical science, education, ethics and health care for all people. www.wma.net

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