



## ANTIMICROBIAL RESISTANCE

People are dying all over the world because medicines no longer work

- **Common infections are becoming untreatable**
- **Few new antimicrobials are in the pipeline**

Antimicrobial resistance is a serious public health threat.

Bacteria, viruses, fungi, and parasites are all microbes. They cause diseases like pneumonia, HIV, candidemia (the most common bloodstream infection in hospital patients), and malaria, as well as severe diseases in animals. All types of microbes can develop resistance to the medicines that have been developed to kill them.

Common infections are becoming resistant to all available medicines.

To combat AMR, we need:

- ✓ **Political commitment to AMR as a national priority, intersectoral responsibility, and development issue**
- ✓ **National action plans in all countries based on the Global Action Plan on AMR**
- ✓ **Intersectoral collaboration**
- ✓ **Investment in research and development for new medicines, diagnostic tools, and vaccines**

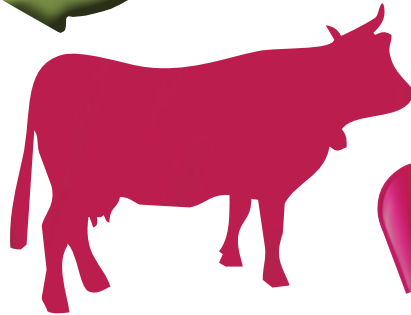
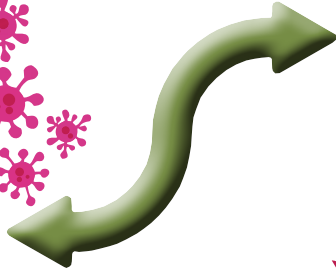


## WHY DO MICROBES BECOME RESISTANT?

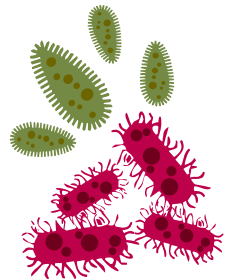
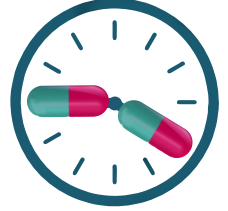
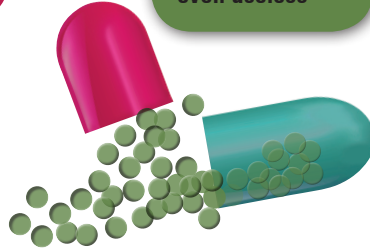


Resistance occurs naturally over time, usually through genetic changes, but misuse of medicines is speeding up the process

Antimicrobials are overused and misused in people and animals, and often given without professional oversight. These medicines are misused for viral infections like colds and flu in humans, as growth promoters in animals, and in fish and on plants



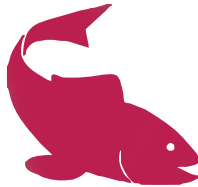
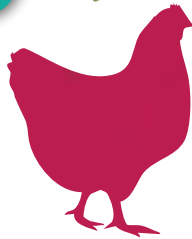
As resistance accumulates, the treatments have become less and less effective, or even useless



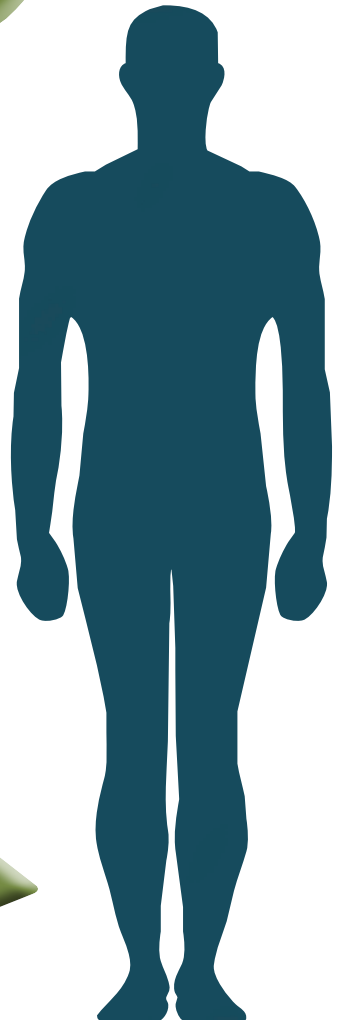
## HOW DOES ANTIMICROBIAL RESISTANCE SPREAD?



Drug-resistant microbes circulate through food, water, and the environment



Drug-resistant microbes are found in people, animals, food and hospital environments. They can spread between people and animals, and from person to person



Drug-resistant microbes spread through trade, travel, and migration of people and animals



RESISTANCE  
DEVELOPS  
RAPIDLY  
THROUGH MISUSE  
AND **OVERUSE**  
OF ANTIMICROBIAL  
MEDICINES



## WHY WE NEED TO ACT NOW

We cannot afford to return to a pre-antibiotic era

### Medicines won't work

Diseases that have become resistant to a wide range of antimicrobial medicines include:

**Bloodstream infections (sepsis)**

- Pneumonia • Tuberculosis
- HIV/AIDS • Malaria • Gonorrhoea
- Urinary tract infections

Treatment for many common conditions will soon become risky or impossible. These include:

- Complications of childbirth • Infections in newborns • Hip and knee replacements
- Organ transplantation • Chemotherapy for cancer • Many common surgical procedures

No new classes of antibiotics have been developed in 40 years

**NEW DRUGS,  
DIAGNOSTICS, AND  
VACCINES ARE  
URGENTLY NEEDED**

### The costs of AMR will be high

AMR will increase healthcare costs for individuals, health systems, and countries. People and society will suffer from lost wages and decreased productivity.

- AMR may kill millions of people every year
- Human lives • Lost productivity
- Decreased food production
- Unsafe foods
- Overburdened or bankrupt health systems

**BY 2050, ANTIMICROBIAL  
RESISTANCE MAY CAUSE  
3.5% DROP IN  
GLOBAL GDP**  
(O'Neill 2014)

### AMR is not just a human health issue

Many sectors are affected by antimicrobial resistance. These include:

- Animal health and welfare
- Food supply and production
- Crops, livestock and fish
  - Environment
  - Social and economic development
- Water and sanitation
- Trade and commerce
- Travel and tourism

**ANTIMICROBIAL  
MEDICINES ARE  
GLOBAL PUBLIC  
GOODS**

### Gains of MDGs will be lost; SDGs in danger

The Millennium Development Goals helped slow the spread of HIV/AIDS, malaria, and TB, and accelerated declines in maternal and child deaths. But AMR can turn back the clock on these achievements. AMR also threatens progress on the health-related Sustainable Development Goals. AMR will affect poor people in developing countries the most.

**GOVERNMENTS  
MUST TAKE  
THE LEAD IN  
TACKLING  
ANTIMICROBIAL  
RESISTANCE**

**AMR IS A GLOBAL THREAT THAT REQUIRES URGENT DEVELOPMENT AND ACTION BY GOVERNMENTS AND SOCIETY AS A WHOLE. IT THREATENS THE ACHIEVEMENTS OF MODERN MEDICINE. COMMON INFECTIONS AND MINOR INJURIES THAT HAVE BEEN TREATABLE FOR DECADES MAY ONCE AGAIN KILL MILLIONS**





## WHO CAN HELP COMBAT AMR?

All sectors must work together

### Policy makers

Reducing antimicrobial resistance requires strong political will and leadership. The Global Action Plan for AMR, established with the input of many stakeholders,

is in place. Now national action plans must be developed and their progress monitored and evaluated. Governments are responsible for protecting the health of their people. By tackling AMR, countries can prevent needless deaths, mitigate economic losses, and contribute to social and economic development.



### Farmers, veterinarians & food producers

All three can prevent infections on farms through good practices (good husbandry, safe quality of feed, hygiene, proper waste and manure management). Should use antimicrobials responsibly to treat diseases and only on the advice of a veterinarian or crop specialist. Veterinarians should prescribe antimicrobials only after proper diagnosis. All must promote sustainable food and agricultural systems with improved hygiene to prevent infections. Alternatives to antimicrobials, like vaccines, can drastically reduce the spread of antimicrobial resistance.



### Health workers & patients

Both play a vital role in preserving the power of antimicrobial medicines. Inappropriate prescribing and dispensing can lead to misuse and overuse. Health workers may lack up-to-date information, be unable to identify the type of infection, yield to pressure to prescribe antibiotics, or benefit financially from supplying the medicines. In most countries, antibiotics can be purchased without a prescription or the involvement of a health professional or veterinarian. Poor hygiene and infection prevention and control practices in hospitals can spread drug-resistant infections.



## UNITED NATIONS GENERAL ASSEMBLY AMR HIGH-LEVEL EVENT

New York, September 2016

SUCCESS WILL DEPEND UPON:

- Political commitments by Heads of State
  - Multisectoral collaboration
- Agreed, time-bound deliverables
  - Accountability framework

More information:

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