

## ANTIMICROBIAL RESISTANCE (AMR)

### Facts, figures, and challenges

#### Resistance to antibiotics is a global threat.

Antibiotics play an important role in modern medicine<sup>1</sup>:

- They enable the treatment of bacterial infections (such as blood poisoning or pneumonia)
- They help to prevent infections in the case of surgical procedures
- They protect people with a weakened immune system, e.g. during chemotherapy to treat cancer.

Antibiotic resistance refers to a bacteria's ability to adapt and to withstand the effect of antibiotics<sup>1</sup>. Resistant bacteria can make it more difficult to treat an infection, prolong a course of treatment, or in the worst-case scenario make it impossible to treat the infection at all. Resistance trends are decreasing the efficacy of antibiotics worldwide<sup>2</sup> and forecasts suggest that these growing resistances could lead to ten million deaths annually by 2050<sup>3</sup>.

#### Antimicrobial resistance drives up healthcare costs

Antimicrobial resistance is one of the most pressing health threats worldwide. The World Bank has compared the potential economic impact with 2008 financial crisis<sup>4</sup>. Antimicrobial resistance leads to<sup>5</sup>:



Higher mortality and disability



Long-term illnesses and extended hospital stays



Increased need for expensive drugs



Laboratory examination of bacteria

#### Why resistance happens

The main contributing factor to antimicrobial resistance is the excessive and improper use of antibiotics in humans and animals<sup>2</sup>. The resistant bacteria can multiply and be transmitted from one person to another<sup>1</sup>. Humans are not the only transmission routes, however; the bacteria can also be transmitted from humans to animals, and vice-versa, as well as through tourism, food imports or water<sup>2</sup>. Some pathogenic bacteria amass multiple types of resistance. These so-called multi-resistant bacteria can continue to grow even if they are treated simultaneously with different classes of antibiotics. A small number of these bacteria are even immune to all available antibiotics<sup>6</sup>



## Major hurdles in the research and development of new antibiotics

In addition to promoting the responsible use of antibiotics, it is important to safeguard access to effective antibiotics. It is crucial to understand causes and contexts when using antibiotics in order to keep AMR in check. New findings form the basis for product developments, for example in diagnostics or in the field of antimicrobial substances<sup>7</sup>.

However, not only is it extremely difficult from a scientific perspective to research new antibiotics; misdirected incentives in the market also stifle their development and market launch<sup>4</sup>. Newly approved antibiotics should be used exclusively as back-up medications so as

to delay the inevitable development of resistance for as long as possible. For manufacturers, this means that they generate only low margins on new antibiotics which by no means offset the associated research and development costs.

## Interpharma advocates incentives for the research and development of new antibiotics

→ Alongside incentives for research, market incentives are equally important. New instruments are needed that ensure new antibiotics are remunerated appropriately irrespective of the quantity actually prescribed.

→ New antibiotics should be regarded as insurance against future health risks. When setting prices, consideration should therefore be given not only to the value for patients, but also to the value for society, that is by preventing the propagation of resistance.

→ The process for setting tariffs and prices for new antibiotics needs to be simplified and accelerated.

## What is already being done to inhibit AMR

The urgency of the global problem is increasingly being recognised by the public and private sector, and the pharmaceutical industry is stepping up its efforts to combat expanding antimicrobial resistance by developing new therapeutic and diagnostic approaches.



The Swiss Round Table Antibiotics is an interdisciplinary non-profit organisation whose ranks are filled with experts from medicine, research, and the economy from practically all Swiss universities and colleges of applied sciences, as well as committed individuals from industry. The network of

experts is of the firm opinion that it is high time in Switzerland as well to coordinate and expand activities to introduce and launch on the market new antimicrobial agents and diagnostic rapid tests. Interpharma is a member of the Swiss Round Table Antibiotics.

### Strategie Antibiotikaresistenzen



The Strategy on Antibiotic Resistance Switzerland (StAR) aims to safeguard the efficacy of antibiotics for treating humans and animals. The measures include promoting the proper use of antibiotics, preventing infections in hospitals, monitoring resistance, and antibiotic

consumption, fostering research, and improving knowledge and awareness among the general public. Switzerland needs to explore incentive systems that support the availability and development of new antibiotics.



The Global Action Plan (GAP) of the WHO on antibiotic resistance addresses the economic framework and calls for sustainable investments in new drugs, diagnostic products, and vaccines. To achieve this goal, the WHO has called

upon the individual states to encourage innovative ideas for funding research and development as well as new market models that enable investments in new antibiotics and safeguard access.

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