

# »» Antimicrobial resistance jeopardises efficiency of healthcare systems

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Author: Dr Anna-Maria von Roda  
Editor: Dr Sebastian Prediger

The performance of healthcare systems is measured in terms of their preventive, diagnostic and therapeutical capacities and the health situation of the population. The efficiency of medical therapies is increasingly being endangered by the growing resistance of antimicrobial organisms (i.e. bacteria, viruses, fungi and parasites) towards conventional medicines. This constitutes huge challenges for public healthcare systems. The problem affects countries with high and low incomes alike, but it is more pronounced and problematic in low-income countries since their healthcare systems are already structurally weak and underfinanced.

The challenge is especially great where antibiotic resistance is concerned. The reason for this is the uncontrolled, unregulated and excessive use of antibiotics by healthcare professionals, and patients who do not take their medicine properly. There are also links to antibiotic use in veterinary medicine and the transfer of resistant germs to humans through the environment. Similar problems are arising in many other (less well known but no less dangerous) fields, such as the advance of multiresistant tuberculosis in Russia and the countries of Central Asia (the WHO estimates that there were approx. 0.5 million new cases in 2017), drug-resistant malaria in the Mekong Delta or the development of HIV strains resistant to conventional therapies.

## **Antimicrobial resistance (AMR) has grave health and economic consequences**

The humanitarian and financial repercussions of increasing resistance are immense:

- Worldwide, there are approx. 700,000 deaths per year according to estimations of the World Health Organization.
- Many illnesses last longer than necessary and infectious diseases spread more quickly.
- Loss of earnings and an increased risk of poverty for the sick and their families (cost of treatment and medicine).
- High financial burden on the healthcare system through the need to constantly develop new medicines and therapies against resistant pathogens. Existing therapies against resistant pathogens are generally much more expensive and carry more risk, and their success in curing illness is often lower than standard therapies.

## **Concerted and coordinated measures are necessary**

The measures for avoiding and combating the spread of AMR are deployed at various points in the healthcare system:

- Improving the data held on AMR through national and international surveillance systems
- Reduction of the infection rate through improved measures in the areas of hygiene, sanitary systems and infection prevention
- Setting up of national reference laboratories and networking them
- Adequate diagnosis to detect infectious diseases and resistance
- Raising awareness among and providing training for healthcare professionals
- Better monitoring/supervision of healthcare services (diagnosis and prescriptions) and support to help patients take their medicine correctly (e.g. by receiving reminders on their mobile phone).

- Development of effective and safe medication against resistant pathogens
- Preventive immunisation through vaccines

Which of these measures is necessary and most promising must be decided on a case-by-case basis by carrying out a detailed analysis of concrete weaknesses. Experience has shown, however, that isolated individual measures are generally not as effective as a well-coordinated package of measures. This package often requires changes in behaviour on the part of healthcare professionals (diagnosis and prescription) as well as on the part of patients (risk behaviour and medication compliance) together with systematic measures (improved supervision and information systems).

## **Outlook: joint action is necessary on a national and international level**

AMR has become a serious problem worldwide and is one of the top items on the political agenda (as demonstrated at the last G7 and G20 summits and the WHO action plan). AMR knows no country boundaries – coordinated global measures are just as necessary as national programmes. Within the framework of development cooperation, developing countries with weak healthcare systems can be supported in their national efforts towards combating AMR.

A half-hearted response to the spread of AMR could lead to a further increase in resistance rates, which in turn carries serious health risks and can entail huge costs to the economy. Investments in the fight against AMR are therefore vitally important. ■