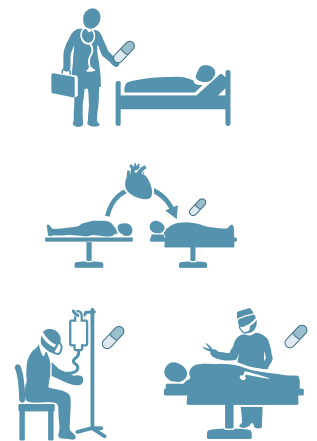


# Antibiotic resistance is...

## 1. The capacity of bacteria to adapt to antibiotics and resist their mechanisms of action

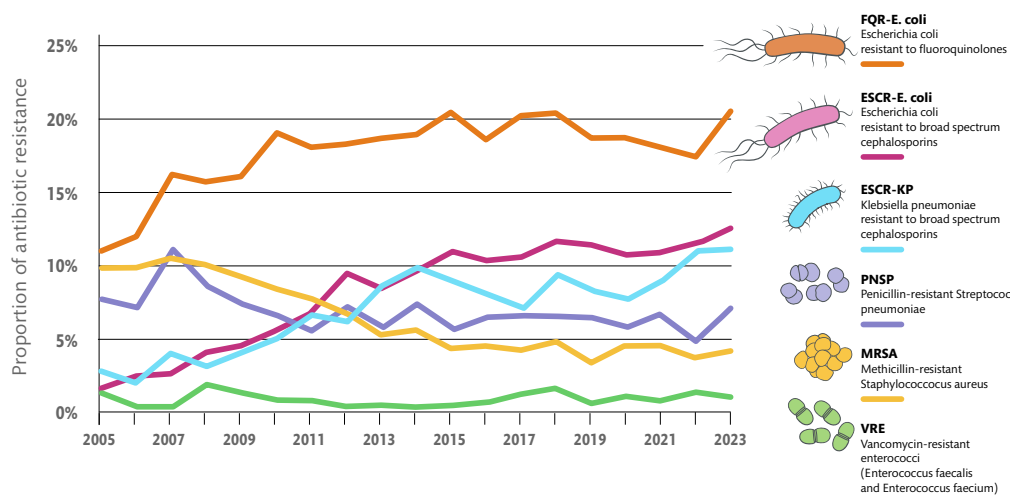
This is a worrying phenomenon because antibiotics are essential to fight against – or to prevent – many infections induced by bacteria. Antibiotics are a mainstay of modern medicine:

- They can treat bacterial infections (pneumonia, septicaemia, etc.)
- They make surgery and organ transplants considerably safer.
- They protect cancer patients undergoing chemotherapy, as well as patients on immunosuppressant drugs due to an auto-immune condition such as rheumatoid arthritis, Crohn's disease, etc.

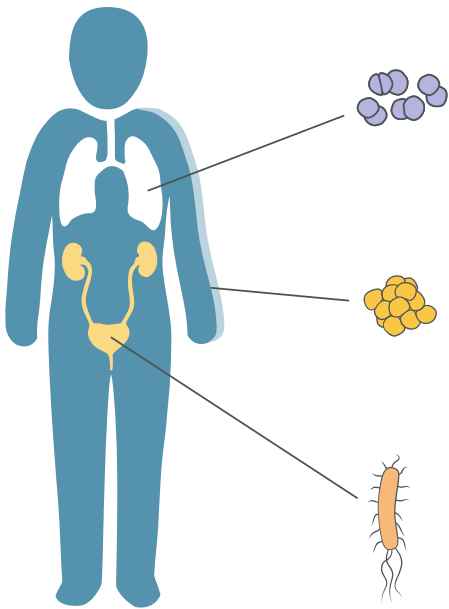


## 2. An unwanted complication during the treatment of infections

Antibiotic resistance prolongs the treatment of bacterial infections and in some cases even makes them impossible to treat. It is responsible for deaths, longer hospital stays, and higher healthcare costs. An increase in infections with antibiotic-resistant bacteria can be observed worldwide. The graph below shows the development in Switzerland of important resistant bacteria that can cause invasive infections.



Source : anresis.ch ; Illustration: Communication in Science, for FOPH.



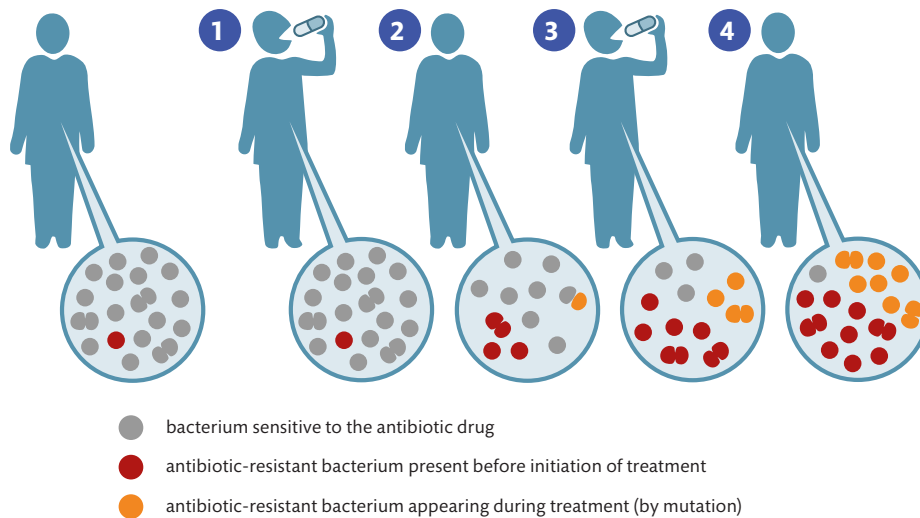
**Streptococcus pneumoniae** (pneumococci) are known to induce pneumonia. Following vaccination campaigns, the number of infections due to penicillin-resistant pneumococci has fallen since 2004.

The proportion of infections induced by **Methicillin-resistant Staphylococcus aureus** (found in skin infections) has been reduced considerably since 2004, thanks to the early identification and treatment of infected patients in hospitals.

The proportion of **Escherichia coli** (often found in urinary tract infections) resistant to fluoroquinolones has almost doubled since 2004. And resistance to a wide-spectrum antibiotic – 3rd and 4th generation Cephalosporins has been multiplied fivefold. Resistance rates have stabilised since 2015.

### 3. A problem linked to antibiotic consumption

Each time that antibiotics are used, resistant bacteria can survive. They can make the most of the elimination of susceptible bacteria around them to thrive.



### 4. A phenomenon compounded by travel

People returning from abroad can import antibiotic-resistant bacteria – especially if they were hospitalised during their stay. If they are admitted to a hospital or private clinic within 12 months of their return, they should inform the medical personnel of their hospitalisation in a foreign country. The early detection of resistant bacteria helps limit their spread and makes medical treatments easier.

