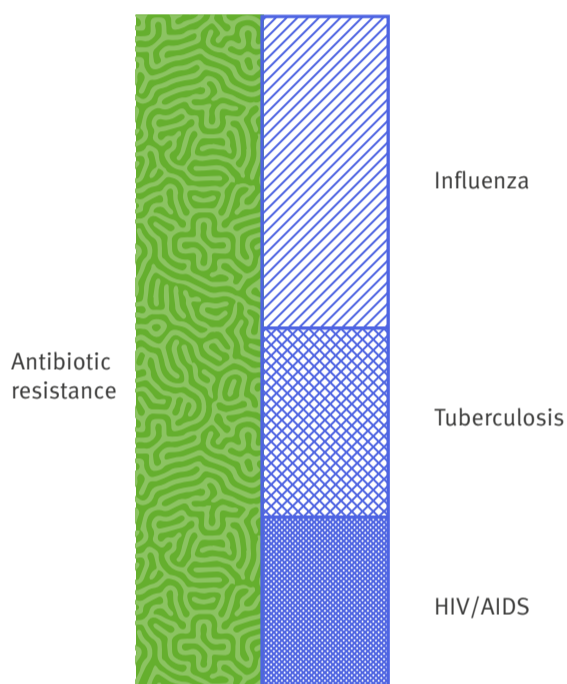


# Antibiotic resistance – an increasing threat to human health

Antibiotic resistance is the ability of bacteria to combat the action of one or antibiotics. Humans and animals do not become resistant to antibiotics, but bacteria carried by humans and animals can.

The burden of infections with bacteria resistant to antibiotics on the European population is comparable to that of influenza, tuberculosis and HIV/AIDS combined.



## 33000 deaths

Each year, 33000 people die from an infection due to bacteria resistant to antibiotics. This is comparable to the total number of passengers of more than 100 medium-sized airplanes.



## 75%

healthcare-associated infections

75% of the burden of bacteria resistant to antibiotics in Europe is due to healthcare-associated infections. This could be minimised through adequate infection prevention and control measures, as well as antibiotic stewardship in healthcare settings.

## Increasing burden

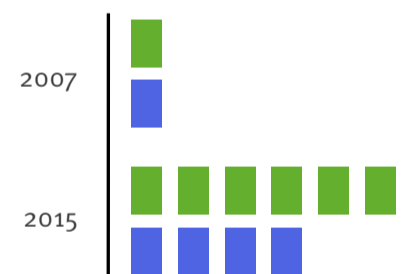
Between 2007 and 2015, the burden of each of the 16 antibiotic-resistant bacteria under study has increased in particular for *Klebsiella pneumoniae* and *Escherichia coli*:

### *Klebsiella pneumoniae*

The number of deaths attributable to infections with *Klebsiella pneumoniae* resistant to carbapenems – a group of last-line antibiotics – increased six-fold.

### *Escherichia coli*

The number of deaths attributable to infections with third-generation cephalosporin-resistant *Escherichia coli* increased four-fold.



## Solutions

There is still time to turn the tide of antibiotic resistance and ensure that antibiotics remain effective in the future by:



Using antibiotics prudently and only when they are necessary.



Implementing good infection prevention and control practices, including hand hygiene as well as screening for carriage of/infection with multidrug-resistant bacteria and isolation of carriers/infected patients.



Promoting research and development of new antibiotics with novel mechanisms of action.

## Last-line antibiotics

39% of the burden is caused by infections with bacteria resistant to last-line antibiotics such as carbapenems and colistin - the last treatment option available.

## Everyone is responsible

Everyone is responsible for addressing this threat to human health: patients, doctors, nurses, pharmacists, veterinarians, farmers, policy makers.

