

# Antibiotics: handle with care!



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## Fact 1.

**Resistance to antibiotics keeps increasing. This issue threatens the health and safety of patients in all healthcare settings in Europe.**

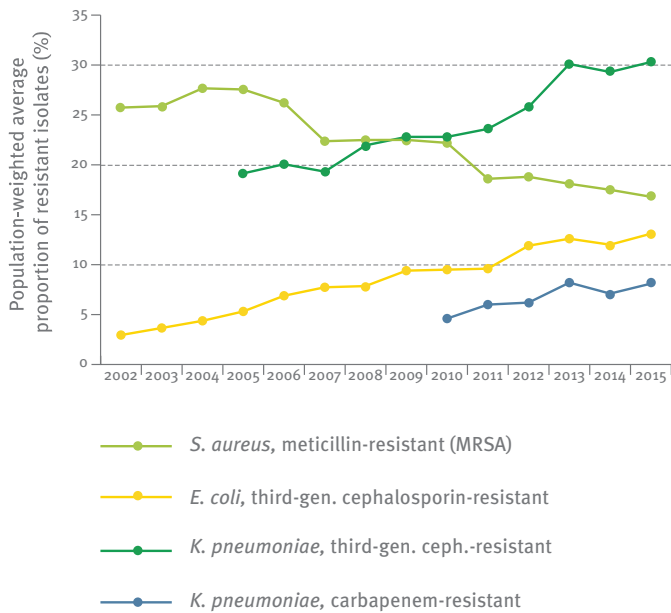


Figure 1. Trends of antibiotic resistance in bacteria from bloodstream infections, EU/EEA population-weighted average, 2002–2015. Source: EARS-Net, 2017.

## Fact 2.

**Gram-negative bacteria, such as *Escherichia coli*, *Klebsiella spp.*, *Pseudomonas aeruginosa*, and *Acinetobacter spp.*, are becoming resistant to most available antibiotics.**

The emergence of bacteria resistant to multiple groups of antibiotics is particularly concerning, as infections due to these bacteria can be severe, costly and even fatal. These infections can lead to:

- Treatment failures, longer illnesses, prolonged stays in hospitals and increased morbidity and mortality;
- More adverse events, because more toxic antibiotics must often be used;
- Higher direct and indirect hospital costs.

## Fact 3.

**Up to 50% of all antibiotic use in European hospitals is unnecessary or inappropriate.**

Antibiotics are used inappropriately when:

- The administration of antibiotics in critically ill patients is delayed;
- The spectrum of antibiotic therapy is either too narrow or too broad;
- The dose of antibiotic is either too low or too high;
- The duration of antibiotic therapy is either too short or too long;
- Antibiotic therapy is not reviewed after 48–72 hours, or the choice of antibiotic is not streamlined when microbiological culture data become available.

## Fact 4.

**Antibiotic stewardship programmes can lead to prudent use of antibiotics and reduce hospital costs.**

Hospitals that implemented an antibiotic stewardship programme, reported that they had reduced:

- Inappropriate prescribing by 96%;
- Use of broad-spectrum antibiotics by 86%;
- Overall expenditures by 80%;
- Healthcare-associated infections by 71%;
- Length of stay or mortality by 65%;
- Antibiotic resistance by 58%.

## Fact 5.

**You are responsible to ensure that antibiotics remain effective.**

If you want to know more about what you can do or about the antibiotic stewardship programme in your hospital, contact [email address] or visit [hospital website/EAAD website].

