

# Antibiotics: handle with care!



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Antibiotic resistance **keeps increasing** in Europe, threatening patient safety in all healthcare settings

The emergence of bacteria resistant to multiple groups of antibiotics is particularly concerning, as **infections** due to these bacteria can be severe, costly and sometimes fatal

Only 70 years after the introduction of antibiotics, we are facing the possibility of a future **without effective antibiotics**

Up to half of all antibiotic use in hospitals is **unnecessary or inappropriate**



**Antibiotic stewardship programmes** can contribute to reduce antibiotic resistance in healthcare settings

## Antibiotic stewardship programmes can be established by following a set of actions

Get the leadership from your setting on board: ensure support and allocation of staff and resources



Appoint leaders: one for the overall programme and one in charge of antibiotic use



Form your team: include prescribers as well as infectious disease specialists, clinical pharmacists and



Find and use tools: e.g. antibiotic guidelines and policies, electronic systems, pre-approval and post-authorizations forms for specific antibiotics



Track and report back: audit proactively antibiotic prescriptions and monitor antibiotic resistance trends, then provide feedback to the team



Ensure training and education: for medical, pharmacy, laboratory, nursing, and non-clinical staff, as well as patients and their families



## Hospitals that implemented an antibiotic stewardship programme reported these improvements:

Reduced inappropriate prescribing by **96%**

Reduced use of broad-spectrum antibiotics by **86%**

Reduced overall expenditures by **80%**

Reduced length of stay or mortality by **65%**

Reduced healthcare-associated infections by **71%**

Reduced antibiotic resistance by **58%**

## Effective antibiotic stewardship programmes across Europe

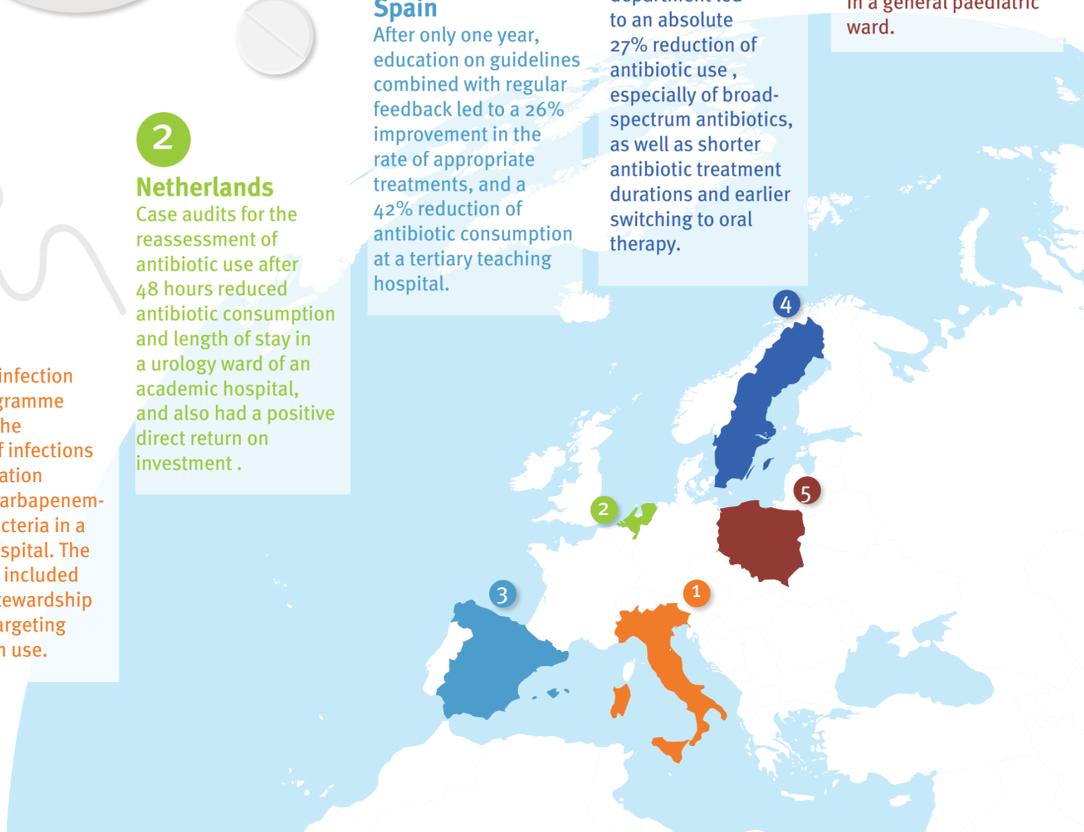
**1 Italy**  
A four-year infection control programme decreased the incidence of infections and colonisation caused by carbapenem-resistant bacteria in a teaching hospital. The programme included antibiotic stewardship measures targeting carbapenem use.

**2 Netherlands**  
Case audits for the reassessment of antibiotic use after 48 hours reduced antibiotic consumption and length of stay in a urology ward of an academic hospital, and also had a positive direct return on investment.

**3 Spain**  
After only one year, education on guidelines combined with regular feedback led to a 26% improvement in the rate of appropriate treatments, and a 42% reduction of antibiotic consumption at a tertiary teaching hospital.

**4 Sweden**  
Twice weekly audit and feedback in an internal medicine department led to an absolute 27% reduction of antibiotic use, especially of broad-spectrum antibiotics, as well as shorter antibiotic treatment durations and earlier switching to oral therapy.

**5 Poland**  
Developing guidelines for antibiotic prescriptions and pre-authorisation approval for restricted antibiotics decreased total antibiotic consumption in a general paediatric ward.



If you would like to know more about the antibiotic stewardship programme in your hospital, contact [email address] or call [phone number]. See more information at [hospital website].

The statements in this infographic are supported by scientific evidence. Visit <http://antibiotic.ecdc.europa.eu> or scan the QR code.



Remember: everyone has a role to play to ensure that antibiotics remain effective!