

AMR: a major European and Global challenge

What is AMR?

Antimicrobial Resistance (AMR) is the ability of microorganisms to resist antimicrobial treatments, especially antibiotics.

Excessive and inappropriate use of antimicrobial medicines and poor infection control practices have transformed AMR into a serious threat to public health worldwide.

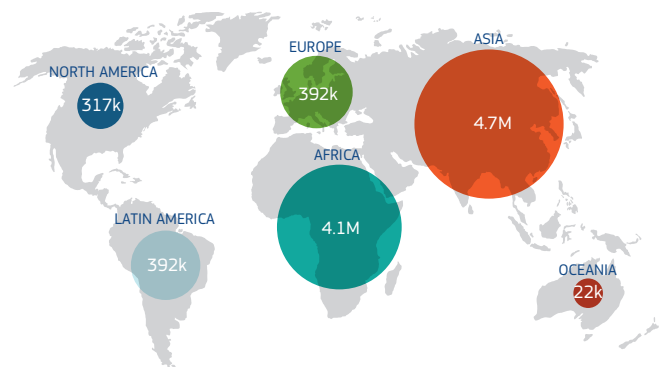
If trends continue we would revert to a world where simple infections are no longer treatable.

Why is AMR a serious threat to public health?

- **25 000 patients die annually in the EU** alone as a result of infections caused by resistant bacteria.
- **Globally this number could be as high as 700 000.**
- **10 million deaths per year are projected between 2015 and 2050** if current infection and resistance trends are not reversed. Only 0.7 million of these additional deaths would occur in North America or Europe, with the **largest numbers in Africa and Asia.**

What is the economic cost of AMR?

- **EUR 1.5 billion each year** - Extra healthcare costs and productivity losses due to multidrug-resistant bacteria in the EU.
- **USD 2.9 trillion by 2050** - Expected cumulative losses in OECD countries due to AMR.
- **USD 10 000 to 40 000** - **Additional hospital costs per patient** in OECD countries. The associated impact of lost economic outputs due to increased mortality, prolonged sickness and reduced labour efficiency are **likely to double** this figure.
- **Losses to Trade and Agriculture** - For example, in 2015 chicken sales in Norway dropped by 20% (for some distributors) following the news that a resistant strain of Escherichia coli (E. coli) was found in chicken meat.



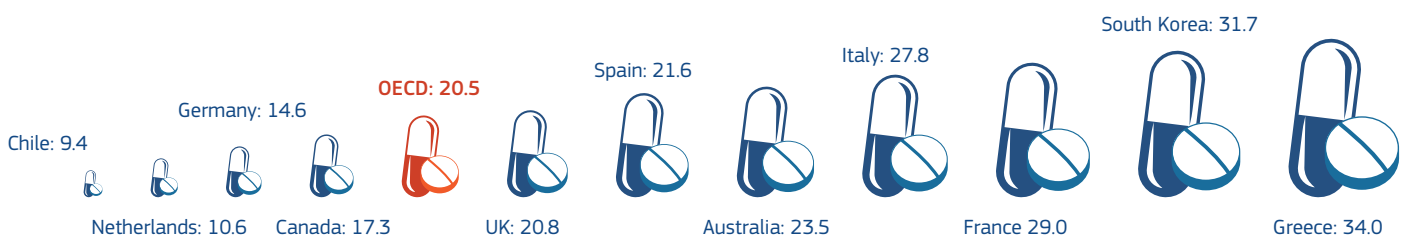
Number of deaths per year attributable to AMR by 2050 if current resistance rates increased by 40%

How much Antibiotics are we consuming?

- **The consumption** of specific antibiotics used for treatment of multidrug-resistant bacterial infections has **almost doubled in Europe** between 2010-2014.
- Some good news - **There has been a significant decrease in antibiotic consumption in the community** (outside hospitals) in 6 countries (Denmark, Estonia, Finland, Luxembourg, Spain, Sweden).
- Although **consumption of antibiotics by animals** has decreased by 12% in 24 EU countries between 2011 and 2014, **there are notable differences between countries** (decrease in 9 countries, increase in 5).

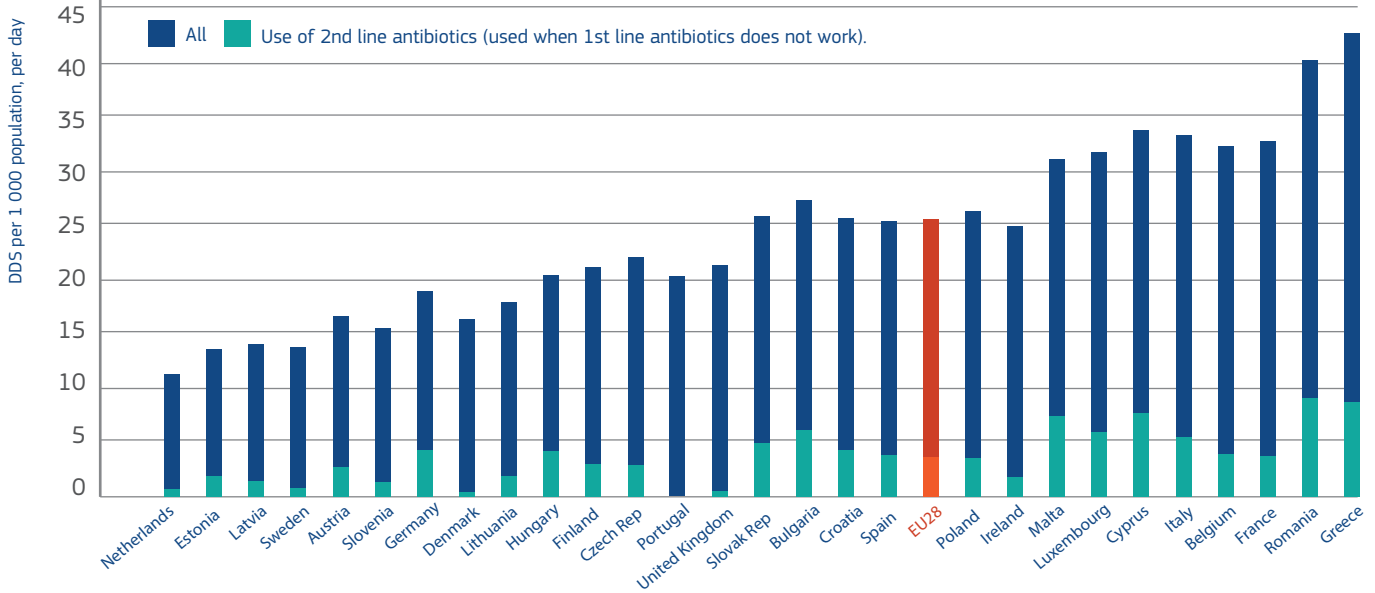
Worldwide

- **The bulk of antimicrobials are not consumed by humans, but by animals.** In the US the livestock sector accounts for about 80% of total annual consumption. **Between 2010 and 2030, global consumption of antimicrobials in the livestock sector is projected to increase by about 67%.**
- Only **25% of countries have implemented a national policy** to tackle AMR.
- **Less than 40% of countries** have put in place infection prevention and control **programmes for AMR.**
- Globally it is estimated that **only half of antibiotics** are used correctly.



There is a high variability of antibiotic consumption across OECD countries. Antibiotic consumption in 2014 (defined dose per 1000 inhabitants per day)

Overall volume of antibiotics prescribed, 2014 (or nearest year)



What is the EU doing?

The EU was quick to recognise the importance of tackling AMR, as the **2001 Community strategy** against AMR shows. This policy was reinforced with the **2011 Commission action plan**, notable for its One Health approach, addressing AMR in both humans and animals. **A new and comprehensive EU action plan on AMR** was adopted on 29 June 2017, which builds on the previous plan, its **evaluation**, the feedback received on a European Commission **roadmap** on AMR and an **open public consultation**.

This **new One Health action plan against AMR** will support the EU and its Member States in delivering innovative, effective and sustainable responses to AMR; strategically reinforce the research agenda on AMR and enable the EU to actively promote global action and play a leading role in the fight against AMR. Its **overarching goal is to preserve the possibility of effective treatment of infections in humans and animals**. It provides a **framework for continued, more extensive action** to reduce the emergence and spread of AMR and to increase the development and availability of **new effective antimicrobials** inside and outside the EU.

The **key objectives** of this new plan are built on three main pillars:



The new plan contains more than **75 concrete actions with EU added value** that the Commission will develop and strengthen as appropriate in the coming years for a more integrated, comprehensive and effective approach to combating AMR.

The global fight against AMR

The EU is not alone in recognising the threat of AMR and in addressing this issue at the highest political level. Many countries outside of the EU, as well as international organisations, are tackling this issue. International cooperation is a key element of the AMR action plan.

EU DECISION-MAKERS

SCIENTIFIC ADVICE

Committees

- CHMP
- CVMP
- ESVAC

Networks

- EARS-Net
- ESAC-Net
- SCENIHR

Scientific committees

INTERNATIONAL ORGANISATIONS



Sources:

- ECDC Data and reports: Antimicrobial resistance and consumption, 2017
- EMA: Latest figures on sales of veterinary antibiotics, October 2016
- Jim O'Neill: Tackling Drug-Resistant Infections Globally - Final Report and Recommendations, May 2016
- OECD: Antimicrobial Resistance – Policy insights, November 2016
- OECD: Health at a Glance: Europe 2016: State of Health in the EU, 2016
- World Bank: Drug-Resistant Infections - A threat to Our Economic Future, September 2016