

Research Compact

Tags

MDRO, Nosocomial, EU

Title

Attributable deaths and disability-adjusted life-years caused by infections with antibiotic-resistant bacteria in the EU and the European Economic Area in 2015: a population modelling analysis

Authors

Cassini A.*, Högberg L., Placouras D., Quattrocchi A., Hoxha A., Simonsen G., et al.

*Corresponding author: Centre for Disease Prevention and Control, Solna, Schweden

Source

2018, Lancet Infect. Dis., [https://doi.org/10.1016/S1473-3099\(18\)30605-4](https://doi.org/10.1016/S1473-3099(18)30605-4)
Open Access

Aim of the study

The study aimed to estimate the burden of infections caused by antibiotic-resistant bacteria within the EU, measured by number of cases, attributable deaths and disability-adjusted life-years (DALYs).

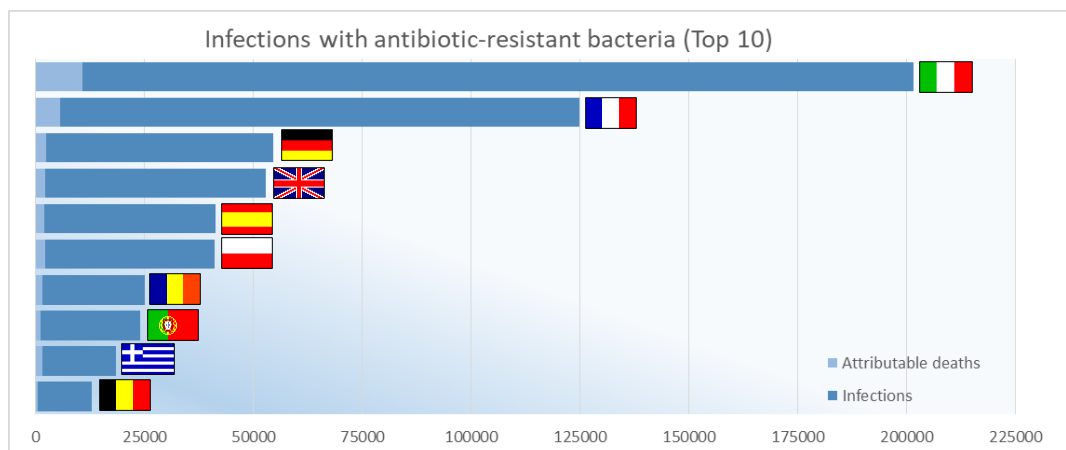
Methods

The estimation was based on the 2015 European Antimicrobial Resistance Surveillance Networks (EARS-Net) dataset, focusing on the eight most common antibiotic resistant pathogens.

Results

According to the study the rate of infections with antibiotic-resistant bacteria more than doubled in the course of the years 2007 to 2015 within the EU. Thus, around 600,000 European citizens were infected with antibiotic resistant bacteria in 2015. Especially infants and elderly patients over 55 years age are affected. A large proportion (63.5%) of these infections are healthcare-associated. The number of attributable deaths caused by antibiotic-resistant bacteria also increased considerably to 33,110. The number of deaths within Europe varies between countries. Thus, about half of all registered deaths from such infections were reported in Italy (10,762) and France (5,543). Germany ranks third with 2,363 deaths.

Special attention was paid to the burden resulting from infection with antibiotic-resistant bacteria, expressed by the so-called DALYs (disability-adjusted life-years). DALYs consist of the number of life years lost due to death and live years lived with disability. The infection with antibiotic-resistant bacteria in the EU accounted for approximately 874,541 DALYs. The burden of antibiotic-resistant bacteria in Italy and Greece is significantly higher compared to other EU states.



Conclusion

Infections with antibiotic-resistant bacteria were rapidly increasing in the EU since 2007 and the resulting burden is substantial compared to other infectious diseases. Half of the nosocomial infections can in principle be prevented by appropriate measures. These include the restrictive use of antibiotics and, above all, compliance with hygiene regulations.