

PRESS RELEASE

Combined resistance to multiple antibiotics: a growing problem in the EU

Stockholm, 15 November 2017

On the occasion of the 10th European Antibiotic Awareness Day, the European Centre for Disease Prevention and Control (ECDC) is releasing its latest EU-wide data on antibiotic resistance, as well as its guidance on prevention and control of carbapenem-resistant *Enterobacteriaceae* (CRE). In 2016, combined resistance to several antibiotic groups continued to increase for *Escherichia coli* and *Acinetobacter* species. This situation is of great concern as patients infected with these multidrug-resistant bacteria have very limited treatment options.

Vytenis Andriukaitis, European Commissioner for Health and Food Safety, said: “with increasing resistance even to last-line antibiotics we face a frightening future where routine surgery, childbirth, pneumonia and even skin infections could once again become life threatening. To preserve our ability to effectively treat infections in humans and animals, we need to bridge differences between EU Member States and raise the level of all of them to that of the highest performer”. He added: “that is the key objective of the new EU One Health action plan against AMR adopted this June. It focuses on areas that support and add value to Member States’ actions to deliver innovative, effective and sustainable responses to AMR. It is only by working together at European and international level, collaborating and cooperating across all relevant sectors, that we can control and reverse AMR”.

For *Escherichia coli*, combined resistance, measured as resistance to fluoroquinolones, third-generation cephalosporins and aminoglycosides, increased significantly between 2013 and 2016. Furthermore, in 2016, high percentages of *Acinetobacter* species isolates, with combined resistance to carbapenems, aminoglycosides and fluoroquinolones, were reported in southern and south-eastern Europe, as well as the Baltic countries.

Nevertheless, it is encouraging to see that long-term efforts are slowly leading to positive results and that it is still possible to reverse the trends: the latest ECDC data indicate that the overall resistance situation for *Klebsiella pneumoniae* seems to be stabilising in Europe, although this was not always observed at national level, with some countries still showing an increase in combined resistance. Furthermore, the percentage of methicillin-resistant *Staphylococcus aureus* (MRSA) further decreased between 2013 and 2016. However, MRSA remains an issue as 10 out of 30 countries still report high percentages.

Andrea Ammon, ECDC Director, stated: “even though we are starting to see some slight progress, we need to remain vigilant and work even harder to reduce the levels of antibiotic resistance. There are still significant increases in combined resistance for *Escherichia coli* and *Acinetobacter* species throughout Europe, and this situation is of great concern as patients infected with these multidrug-resistant bacteria have very limited treatment options”. She added: “prudent antibiotic use and comprehensive infection prevention and control strategies targeting all healthcare sectors are fundamental. This is why today, ECDC is also launching its guidance on carbapenem-resistant *Enterobacteriaceae*”.

Zsuzsanna Jakab, WHO Regional Director for Europe said: “antimicrobial resistance is increasingly widespread in the WHO European Region as resistant microbes know no borders. Effective infection prevention and control is one of our most powerful weapons to address this global health threat”. She noted: “On this year World Antibiotic Awareness Week, WHO calls on health workers in the European Region to prevent the spread of antimicrobial resistance in health care settings through proper hand hygiene”.

Resistance to carbapenems, an important last-line antibiotic group, continues to be reported mostly by countries with already high levels of multidrug-resistant bacteria. In these countries, the options to treat patients with carbapenem-resistant *Enterobacteriaceae* (CRE) infections are often limited to combination therapy and older antibiotics, such as colistin. The further emergence of resistance to colistin is a serious warning that options are becoming even more limited. Resistance percentages varied widely across Europe, being generally higher in southern and south-eastern Europe than in northern Europe.

Notes to the editor:

- The new ECDC guidance on CRE defines which patients, at hospital admission, are 'at-risk' of CRE carriage and provides a decision-making flowchart for when to use supplemental infection prevention and control measures. These measures should be implemented by European hospitals and other healthcare settings to prevent entry and further spread of CRE. Both prudent use of antibiotics and infection prevention and control measures are essential to stop the spread of these bacteria.
- An increasing number of infections and outbreaks are being reported from healthcare settings which are caused by bacteria resistant to last-line antibiotics, notably the carbapenem class of antibiotics. The carbapenem-resistant Enterobacteriaceae (CRE), in which *Escherichia coli* (*E. coli*) and *Klebsiella pneumoniae* (*K. pneumoniae*) predominate, are responsible for a large number of patient deaths and higher hospital costs.
- *Klebsiella pneumoniae* is a common cause of urinary tract, respiratory tract and bloodstream infections. It can spread rapidly between patients in healthcare settings and is a frequent cause of hospital outbreaks, if appropriate prevention and control measures are not taken.
- *Escherichia coli* is one of the most frequent causes of bloodstream infections and of community- and healthcare-associated urinary tract infections worldwide.
- *Acinetobacter* species mainly cause healthcare-associated infections such as pneumonia and bloodstream infections, and often result in hospital outbreaks if appropriate prevention and control measures are not implemented. *Acinetobacter* species can persist in the healthcare environment and are difficult to eradicate once established.
- Methicillin-resistant *Staphylococcus aureus* (MRSA) is one of the most frequent causes of antibiotic-resistant healthcare-associated infections worldwide. In addition, increasing levels of community-associated MRSA are being reported from many parts of the world, including Europe.

European Antibiotic Awareness Day

European Antibiotic Awareness Day (EAAD) is a European health initiative coordinated by ECDC which provides a platform and support for national campaigns on the prudent use of antibiotics. Each year, EAAD is marked by national campaigns during the week of 18 November. Prudent use means only using antibiotics when they are needed, with the correct dose, dosage intervals and duration of the course <http://antibiotic.ecdc.europa.eu>.

This year, the date of 18 November marks the 10th European Antibiotics Awareness Day. ECDC, in cooperation with the European Commission, will host an EU-level event entitled 'Keeping antibiotics working'. The event will take place in Brussels on 15 November 2017, from 9:00 to 13:00 CET. ECDC and partner organisations will be tweeting live using the hashtag #EAAD. Web stream: <https://youtu.be/Biw-5Jx64jE>.

Furthermore, ECDC is launching a social media initiative called #KeepAntibioticsWorking, which aims to highlight the fact that everyone has a role to play in ensuring that these medicines remain effective. ECDC is asking policymakers, governmental institutions, professional and patient organisations, as well as health professionals and the general public to show what action they are taking to address the problem of antibiotic resistance. Anyone can take part by sharing messages, pictures or videos during the week of 13–19 November 2017 on different social media channels, using the hashtag #KeepAntibioticsWorking.

World Antibiotic Awareness Week

The World Health Organization is leading World Antibiotic Awareness Week (WAAW) with the slogan 'Antibiotics: Handle with Care'. The campaign calls on individuals, governments and health and agriculture professionals to take action to address this urgent health problem. The third WAAW will take place on 13–19 November 2017. EAAD partners with WAAW.

Follow #AntibioticResistance. <http://www.who.int/campaigns/world-antibiotic-awareness-week/en/>.

More information:

[EAAD 2017 news release](#)

[Infection prevention and control measures and tools for the prevention of entry of carbapenem-resistant Enterobacteriaceae into healthcare settings: guidance from the European Centre for Disease Prevention and Control](#)

Other links:

[ECDC Surveillance Atlas of Infectious Diseases \(select health topic: 'Antimicrobial resistance'\)](#)
[European Antimicrobial Resistance Surveillance Network \(EARS-Net\)](#)
[European Surveillance of Antimicrobial Consumption Network \(ESAC-Net\) interactive database](#)
[ECDC Antimicrobial Resistance and Healthcare-associated Infections Programme](#)
[European One Health Action Plan against Antimicrobial Resistance \(AMR\)](#)
[European Commission, AMR](#)
[WHO Regional Office for Europe, AMR](#)
[WHO Headquarters, AMR](#)

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The European Centre for Disease Prevention and Control (ECDC) is an EU agency tasked with identifying, assessing and communicating threats to human health posed by infectious diseases. It supports the work of public health authorities in the EU and EEA Member States.