

PRESS RELEASE

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First-of-its kind survey reveals gaps in European healthcare workers' knowledge and attitudes about antibiotics

Knowledge and awareness of antibiotic resistance and related issues is generally high among European healthcare workers, according to the first European survey to examine attitudes and behaviours in relation to antibiotic resistance in this group. However, the study also illustrates important knowledge gaps.

The study, published today, can serve as an important resource and baseline for EU/EEA countries when developing approaches and interventions to tackle antibiotic resistance, says the European Centre for Disease Control and Prevention (ECDC), which commissioned the study.

"I thank my fellow EU health workers for taking part in this survey. They are key actors in fighting the antimicrobial resistance. While it shows that the overall knowledge about antimicrobial resistance is good, it also highlights the need to make more efforts to put it into practice. In particular, in terms of moderating prescriptions and improving infection prevention in order to better protect citizens and treat patients notably through training and guidance." said **Vytenis Andriukaitis**, European Commissioner for Health and Food Safety. "As a medical doctor, I know that we have a great responsibility to stand in the forefront of the fight against antimicrobial resistance and we should spare no effort in our work to continuously improve our knowledge and practices."

"Healthcare professionals play a fundamental role in tackling antibiotic resistance. We need to make sure that their knowledge about the prevention and emergence of this threat is up-to-date so they can act accordingly and inform their patients correctly", highlights ECDC Director **Andrea Ammon**. "With our study results, we now have a wealth of data about key issues concerning healthcare workers and antibiotic resistance, across all EU/EEA countries, all healthcare professions and healthcare settings. These can be used when developing locally adapted interventions to ensure prudent use of antibiotics, focused on changing behaviour and practice among healthcare workers."

Healthcare workers from all EU/EEA countries participated in the online study, [*Survey of healthcare workers' knowledge, attitudes and behaviours about antibiotics, antibiotic use and antibiotic resistance, EU/EEA, 2019*](#), which included 43 questions. The objective was to gain a better understanding of healthcare workers' capabilities, opportunities and motivations around prudent antibiotic use in order to support future policy, education and communication interventions.

To test knowledge about antibiotic resistance related to human health, the 18,365 survey participants were asked seven true/false knowledge questions. Across the EU/EEA, only 58% of the respondents were able to answer all seven questions correctly. There was considerable variation in scores, depending on country and profession.

Nonetheless, the survey results also showed that healthcare workers have, in general, a good knowledge and awareness of several key concepts regarding antibiotics and antibiotic resistance, with 97% of respondents correctly

identifying that antibiotics are not effective against colds and flu. This is significantly higher than among the general public, of whom only just over half know that antibiotics are ineffective against colds¹.

However, among healthcare workers with direct patient or public involvement, 25% reported that they do not have easy access to guidance on infection management, and 33% do not have easy access to materials for advice on prudent antibiotic use and antibiotic resistance. This suggests that more investment is needed in producing and disseminating locally adapted guidance, resources and toolkits aimed at healthcare workers.

75% of the health burden of antibiotic resistance in the EU/EEA is due to healthcare-associated infections, and over 50% of healthcare-associated infections are estimated to be preventable. Although the misuse or overuse of antibiotics, particularly in human health, is a multifactorial issue, a lack of understanding, clarity and knowledge about prudent antibiotic use and spread of antibiotic-resistant bacteria is a key driver of antibiotic resistance.

Key results from the ECDC survey:

- Perceived knowledge about antibiotic use and antibiotic resistance was high amongst healthcare workers, with more than 89% of these respondents acknowledging the connection between prescribing, dispensing and administering of antibiotics and the emergence and spread of antibiotic resistance.
- To test knowledge of antibiotics, antibiotic use and antibiotic resistance, healthcare workers were asked seven true or false knowledge questions. Across the EU/EEA, only 58% of respondents were able to answer all seven knowledge questions correctly, with an average score of 6.35/7. This score varied significantly across countries (range 40-73%) and professions (range 29-68%).
- The questions 'Antibiotics are effective against viruses', 'Antibiotics are effective against cold and flu', 'Taking antibiotics has associated side effects or risks such as diarrhoea, colitis, allergies', had the highest proportion of respondents providing the correct answer (98%, 97% and 97%, respectively).
- The question with the lowest proportion of respondents providing the correct answer (75%) was 'Every person treated with antibiotics is at increased risk of antibiotic-resistant infection'.
- The majority (89%) of respondents agreed or strongly agreed that excessive use of antibiotics in livestock and food production contributes to antibiotic resistance in bacteria from humans.
- Nurses and nursing associates were the professions most aware of the WHO's 'Five moments for hand hygiene' (73%), and the most likely to perform hand hygiene even if using gloves when dealing with patients or biological material (96% and 92%, respectively).
- 43% of prescribers stated that they had prescribed antibiotics at least once in the previous week even when they would have preferred not to, because of the fear of patient deterioration or of complications.
- Of those respondents with direct patient or public involvement, 75% reported that they have easy access to guidelines on managing infections, with 68% reporting easy access to materials for giving advice on prudent antibiotic use and informing about antibiotic resistance. 72% agreed or strongly agreed that they had good opportunities to provide advice on prudent antibiotic use and antibiotic resistance
- Most respondents (89%) agreed or strongly agreed there was a connection between their prescribing, dispensing or administering of antibiotics and antibiotic resistance, but only 58% agreed or strongly agreed they had a key role to play in helping control antibiotic resistance.
- The proportion of respondents who strongly agreed or agreed that they have a key role in controlling antibiotic resistance was higher for those working in primary health care settings (65%) than those working in hospitals (56%) and other settings, such as pharmacies and long-term care facilities (55%).

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NOTES TO EDITORS

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>.

To mark EAAD 2019, ECDC in coordination with the European Commission, will host a high-level conference on "*Prudent use of antibiotics and antimicrobial resistance in Europe - are we doing enough?*". The conference will include key note speeches, a panel debate, and a public debate with stakeholders and citizens. The event will take place on Monday 18 November 2019 in Europahuset, Regeringsgatan 65, Stockholm, Sweden between 9.30 and 15.00 CET.

¹ Special Eurobarometer 478: Antimicrobial Resistance (in the EU)
http://data.europa.eu/euodp/data/dataset/S2190_90_1_478_ENG

The event is organised by ECDC in coordination with the European Commission and the EU representation in Sweden. Event participants include professional organisations with an interest in antibiotics and antibiotic resistance, representatives from EU/EEA countries and national and international media. Watch the live stream on [ECDC's YouTube channel](#) or [EAAD's Facebook page](#).

World Antibiotic Awareness Week

In 2019, the WHO Regional Office for Europe organises its World Antibiotic Awareness Week between 18 and 24 November. Follow the hashtag #AntibioticResistance, and see <http://www.who.int/campaigns/world-antibiotic-awareness-week/en/> for more information.

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 \(AMR\)](#)
[EU Guidelines for the prudent use of antimicrobials in human health](#)
[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.