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PRESS RELEASE

EFSA and ECDC joint report on antimicrobial resistance in zoonotic bacteria affecting humans, animals and food

The European Food Safety Authority (EFSA) and the European Centre for Disease Prevention and Control (ECDC) have published the second joint EU report on antimicrobial resistance in zoonotic bacteria affecting humans, animals and food. The report makes an important contribution to current work being carried out at EU-level to fight antimicrobial resistance. EFSA and ECDC are among the key EU actors participating in a conference to discuss joint actions in combating antimicrobial resistance organised on 14-15 March by the Danish Presidency of the Council of the European Union.

The report, based on data collected from EU Member States for 2010, shows that resistance to several antimicrobials was commonly detected in zoonotic bacteria¹ such as *Salmonella* and *Campylobacter* which are the main causes of reported food-borne infections in the EU. The occurrence of resistance in animals and food remained similar to that of previous years.

“Zoonotic diseases are important public health threats in the EU and resistance of zoonotic bacteria to antimicrobials used to treat these illnesses is an increasing concern both at the European level and globally. EFSA recognised this early on in its establishment and has been collecting important data and reporting on antimicrobial resistance trends in animals and food since 2004. In the framework of the European Commission’s Action Plan against Antimicrobial Resistance, EFSA will further strengthen its efforts in this field and cooperation with key partners such as ECDC and the European Medicines Agency,” said EFSA’s Executive Director Catherine Geslain-Lanéelle.

ECDC’s Director Marc Sprenger added: “Campylobacteriosis is the most frequently reported zoonotic infection in humans and the high resistance of *Campylobacter* to several antimicrobials, including ciprofloxacin, is of increasing concern at EU-level. ECDC has long been aware of the threat posed by antimicrobial resistance, which is why we have been collecting surveillance data and co-ordinating the European Antibiotic Awareness day. This new report is another crucial step forward. With harmonised surveillance of human and animal data we can act to prevent its further spread in humans. ECDC will continue strengthening its links with all key stakeholders including EFSA to provide scientific support to risk managers in order to efficiently tackle antimicrobial resistance from a one-health perspective.”

¹ Zoonoses are infections or diseases that can be transmitted directly or indirectly between animals and humans, for instance by consuming contaminated foodstuffs or through contact with infected animals.

Antimicrobials are used in human and veterinary medicine to eliminate micro-organisms causing infections, such as bacteria. Certain antimicrobial groups - fluoroquinolones (such as ciprofloxacin), third-generation cephalosporins (such as cefotaxime) and macrolides (such as erythromycin) - are defined as critically important for treatment of serious human infections by the World Health Organisation. In food-producing animals, the antimicrobials used to treat various infectious diseases may be the same or similar to those used for humans.

Resistance to antimicrobials occurs when micro-organisms develop mechanisms that reduce their sensitivity to the antimicrobials and render treatments with antimicrobials ineffective. Resistant bacteria can spread through many routes. Zoonotic bacteria that are resistant to antimicrobials are of particular concern as they can be transmitted from animals to food and humans, and may compromise the effective treatment of infections in humans.

The report on antimicrobial resistance in zoonotic bacteria shows that a high proportion of *Campylobacter* in humans is resistant to the critically important antimicrobial ciprofloxacin whereas low resistance was recorded for another critically important antimicrobial, erythromycin. Campylobacteriosis is the most frequently reported zoonotic infection in humans in the EU with over 200,000 reported cases in 2010. High resistance is also recorded for commonly used antimicrobials such as ampicillin and tetracyclines. In animals and food, a very high proportion of *Campylobacter* is resistant to ciprofloxacin, particularly in chicken but also in pigs and cattle.

In humans, a high proportion of *Salmonella*, which accounted for almost 100,000 reported human cases of salmonellosis in 2010, is resistant to common antimicrobials but resistance to critically important antimicrobials for treating humans is relatively low. In animals and food, high levels of resistance in *Salmonella* were reported for commonly used antimicrobials as well as for ciprofloxacin in poultry.

Resistance in indicator *E. coli*² in poultry was high to the critically important antimicrobial ciprofloxacin while in indicator enterococci in animals high resistance was recorded to another important antibiotic, erythromycin.

The report also includes information on the occurrence of Meticillin-resistant *Staphylococcus aureus* (MRSA) in animals and food from 11 EU Member States and one EFTA country. MRSA was detected in a number of different animal species, including pigs, poultry, cattle, dogs and horses as well as in some food of animal origin.

- [Link to report](#)

For more information on antimicrobial resistance

- [EFSA's work on antimicrobial resistance](#)
- [ECDC's work on antimicrobial resistance](#)

Notes to editors

² The *E. coli* and *Enterococci* bacteria analysed in the report were non-pathogenic, that is, they do not cause diseases. These bacteria can indicate the level of antimicrobial resistance in normal bacterial flora in the guts of healthy animals.

The report covers antimicrobial resistance in *Salmonella* and *Campylobacter* in humans, animals and food as well as non-disease causing bacteria such as indicator *E. coli* and *Enterococci* from animals and food .EFSA and ECDC have analysed the information submitted by 26 EU Member States and three EFTA countries on antimicrobial resistance in 2010. EFSA has been analysing resistance to antimicrobials in zoonotic bacteria found in animals and food since 2004.

Direct comparison between antimicrobial resistance findings in humans and in food/animals presented in the report cannot be made as partly different definitions for resistance were used. The report indicates that further harmonisation of data is needed to allow for enhanced comparisons of levels of antimicrobial resistance in humans in different countries and for comparisons between humans, animals and food.

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