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PRESS RELEASE

Better surveillance needed to fight spread of antimicrobial resistance in zoonotic infections

The European Centre for Disease Prevention and Control (ECDC), the European Food Safety Authority (EFSA), the European Medicines Agency (EMA) and the European Commission's Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) have published a joint scientific opinion on antimicrobial resistance (AMR) focused on infections transmitted to humans from animals and food (zoonoses).

The joint opinion concludes that bacterial resistance to antimicrobials has increased in recent years worldwide, making it more difficult to treat some human and animal infections. It says surveillance activities should be strengthened and the development of new antimicrobials and new strategies to combat the spread of resistance encouraged. Research is needed on other strategies to control infectious diseases in animals, such as vaccination programmes.

The opinion says there is specific concern about bacterial resistance to antibiotics used in the treatment of *Salmonella* and *Campylobacter* infections - the two most reported zoonotic infections in Europe, and points out which antibiotics are considered of high concern for their treatment¹. It says that although the use of antibiotics is considered the main factor in the development of bacterial resistance, the use of biocides (including disinfectants, antiseptics and preservatives) may also contribute to bacterial resistance.

“Antibiotic resistance is one of the biggest threats to public health in the European Union and a priority area of work at ECDC. The major cause of antibiotic resistance in humans remains the use of antibiotics in human medicine. If the misuse and overuse of antibiotics continue, we will lose the means to treat serious infectious diseases,” said Dominique L. Monnet, Senior Expert and Coordinator of the Antimicrobial Resistance and Healthcare-Associated Infections at ECDC.

The opinion on antimicrobial resistance in zoonotic infections highlights that globalisation of food trade and frequent travel to countries outside the EU make it difficult to compare resistance data from surveillance programmes at EU level and to assess the impact of those strains coming from outside the EU. It also adds that the differences in levels of antimicrobial resistance in the various EU countries make it difficult to have a single strategy to fight against this threat.

“Resistance is caused by the ability of bacteria to undergo changes, given their increasing exposure to antimicrobials used in human and veterinary medicine. Most antimicrobial-resistant strains of zoonotic bacteria are found in the gastrointestinal tract of healthy food animals, particularly poultry,

¹ When antibiotic treatment is required for *Salmonella* infections, the antibiotics concerned are quinolones in adults and cephalosporins in children, and for *Campylobacter* infections, macrolides and quinolones.

42 pigs, and cattle,” said Professor Dan Collins, Chair of EFSA’s Biological Hazards (BIOHAZ)
43 Panel.

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45 Food-borne infections caused by these bacteria very often originate from contamination during
46 slaughter of animals or food processing. The opinion says that at present there are no data available
47 to demonstrate that the use of antibiotics in human medicine may also have an impact on the
48 resistance of zoonotic bacteria.

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50 The three EU agencies and the SCENIHR have worked together on this issue, sharing their
51 scientific expertise and advising EU decision-makers on risks and making recommendations for
52 action. “This exercise has been an example of how different institutions within the EU can
53 successfully work together to tackle the issue of antimicrobial resistance which currently represents
54 a significant threat to human health,” David Mackay, Head of Unit Veterinary Medicines and
55 Product Data Management at the European Medicines Agency, said.

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57 The opinion on antimicrobial resistance in zoonotic infections was published ahead of European
58 Antibiotic Awareness Day on November 18, which focuses on resistance to antibiotics. The opinion
59 confirms previous recommendations that prudent use of antimicrobials in animals should be
60 strongly promoted and that veterinarians and farmers should be educated on strategies to minimise
61 antimicrobial resistance. Other previous recommendations said antibiotics such as fluoroquinolones
62 and cephalosporins should be reserved for treating conditions which respond poorly to other
63 antimicrobials.

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65 See the full joint report [here](#)

67 **Note to editors**

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69 The European Centre for Disease Prevention and Control (ECDC) is the EU agency in charge of identifying,
70 assessing and communicating current and emerging threats to human health posed by infectious diseases.

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72 The European Medicines Agency (EMA) deals with the protection and promotion of public and animal
73 health, through the evaluation and supervision of medicines for human and veterinary use.

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75 The European Food Safety Authority (EFSA) is the keystone of risk assessment regarding food and feed
76 safety in the EU and provides independent scientific advice and communication on existing and emerging
77 risks associated with the food chain.

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79 The Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR), managed by the
80 Directorate-General Health and Consumers of the European Commission, provides independent scientific
81 advice to the European Commission on questions concerning emerging or newly identified health and
82 environmental risks, and on broad, complex or multidisciplinary issues requiring a comprehensive
83 assessment of risks to consumer safety or public health and related issues not covered by other Community
84 risk assessment bodies.

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87 **Some definitions:**

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89 **Antimicrobials**

90 An active substance of synthetic or natural origin which destroys bacteria, suppresses their growth or their
91 ability to reproduce in animals or humans, excluding antivirals and antiparasites. In this opinion, the term
92 antimicrobial has been used generically to encompass antimicrobial agents, antibiotics and antibacterial
93 agents.

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95 **Antibiotic**



96 A chemical substance produced by a bacterium which has the capacity, in dilute solution, to inhibit the
97 growth of, or to kill other micro-organisms.

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99 Biocide

100 An active chemical molecule that is present in a biocidal product and used to control the growth of or kill
101 bacteria.

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105 **Links to related work:**

106 Joint scientific report of ECDC, EFSA and EMEA on Meticillin Resistant *Staphylococcus aureus*
107 (MRSA) in livestock, companion animals and food:

108 http://www.emea.europa.eu/pdfs/vet/sagam/report_joint_ecdc_emea_mrsa_20090615.pdf

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110 EFSA's work on Zoonoses:

111 http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902183576.htm

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113 Opinion of EFSA's BIOHAZ Panel on Foodborne antimicrobial resistance as a biological hazard

114 http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902034881.htm

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116 Opinion of EFSA's BIOHAZ Panel on: Assessment of the Public Health significance of Meticillin
117 Resistant *Staphylococcus aureus* (MRSA) in animals and foods.

118 http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902408708.htm

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120 EMEA's Reflection paper on MRSA in food-producing and companion animals in the European Union:
121 epidemiology and control options for human and animal health:

122 <http://www.emea.europa.eu/pdfs/vet/sagam/6829009en.pdf>

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124 EMEA's CVMP strategy on antimicrobials 2006-2010 and status report on activities on antimicrobials
125 (EMEA/CVMP/353297/2005):

126 <http://www.emea.europa.eu/pdfs/vet/swp/35329705.pdf>

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128 EMEA/ECDC technical report, 'The bacterial challenge: time to react':

129 http://www.emea.europa.eu/pdfs/human/antimicrobial_resistance/EMEA-576176-2009.pdf

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131 SCENIHR (Scientific Committee on Emerging and Newly Identified Health Risks),

132 Assessment of the Antibiotic Resistance Effects of Biocides:

133 http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_021.pdf

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