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Feature

EFSA and ECDC publish joint report on antimicrobial resistance in zoonotic bacteria

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The European Food Safety Authority (EFSA) and the European Centre for Disease Prevention and Control (ECDC) have combined their expertise to analyse Member State data and compile the first joint EU report on antimicrobial resistance in zoonotic bacteria affecting humans, animals and food.

Resistance to antimicrobials has been observed in zoonotic bacteria, such as *Salmonella* and *Campylobacter*, which can cause infectious diseases transmissible between animals and humans and which can be found in foods, the report says. The report also presents data on antimicrobial resistance among bacteria such as indicator *E. coli* and *Enterococci*, which usually do not cause disease in humans.

The report, which was published in July 2011, makes an important contribution to work being carried out at European level and the findings will be considered by the European Commission as it develops its proposals for action to fight antimicrobial resistance.

"EFSA has joined ranks with ECDC and Member States to provide policy-makers with this important benchmark report," said Dr Hubert Deluyker, EFSA's Director of Science Strategy and Coordination.

"Recognising the important public health threat from antimicrobial resistance, these two agencies, in close collaboration with their colleagues in other institutions in Europe, are leading the way in harmonising methodologies for data collection across the EU from the medical, veterinary and food sectors."

Marc Sprenger, Director of ECDC, added: "Our shared aim is to harmonise the surveillance and monitoring of antimicrobial resistance in infections that are transmitted between animals and humans. This information is critical to inform decisions on the control of antimicrobial-resistant infections that affect a growing number of people across Europe."

Antimicrobials are used in human and veterinary medicine to eliminate micro-organisms that cause infections, such as bacteria. In food-producing animals, the antimicrobials

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used to treat various infectious diseases may be the same or similar to those used for humans.

Resistance to antimicrobials occurs when the micro-organisms develop mechanisms that reduce their effectiveness or render their use ineffective. Resistant bacteria can spread through many routes. When antimicrobial resistance occurs in zoonotic bacteria present in animals and food it can also compromise the effective treatment of infectious diseases in humans.

The report, based on 2009 data, shows that a high proportion of *Campylobacter* in humans is resistant to ciprofloxacin, a critically important antibiotic for the treatment of human diseases which belongs to the fluoroquinolones group. In animals, a high or moderate proportion of *Salmonella* (in chickens), *Campylobacter* and non-disease-causing *E. coli* were also found to be resistant to this antibiotic.

The report followed publication in March 2011 of the joint EFSA/ECDC annual report on zoonoses and food-borne outbreaks in the European Union. The report revealed that *Salmonella* cases in humans fell by 17% between 2008 and 2009, marking a decrease for the fifth consecutive year. *Salmonella*, which is the second most reported zoonotic infection in humans, accounted for 108,614 human cases in 2009.

Campylobacteriosis remained the most reported zoonotic disease in humans with 198,252 cases in 2009 – a slight increase of 4% compared to 2008. In foodstuffs, *Campylobacter*, which can cause diarrhoea and fever, was mostly found in raw poultry meat; in live animals, it was found in poultry, pigs and cattle.

"The fall in *Salmonella* cases in humans is a great achievement and indicates that the control measures put in place by EU Member States and the European Commission are working. EFSA, in cooperation with its partners, will continue to support efforts to reduce zoonotic diseases across the EU," said Dr Deluyker.

Andrea Ammon, Head of the Surveillance Unit at ECDC, added: "Combining surveillance of disease in humans with information from food and animals provides invaluable information that allows the European Commission to target control measures effectively across Europe. ECDC will continue to collaborate intensively with all partners to reduce the occurrence of these diseases."

The reduction targets set by the European Commission to reduce the spread of *Salmonella* in poultry, eggs and chicken meat are likely to be the main reasons for the reduction in the number of human cases. In 2009 17 Member States met their *Salmonella* reduction targets for laying hens and the proportion of EU laying hen flocks infected with the targeted *Salmonella* types continued to fall (3.2%, compared to 3.5% in 2008).

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Interview

How data collection helps protect consumers

> **Pia Makela**,
Head of the Biological Monitoring Unit, EFSA

– Why does EFSA collect data on zoonoses, antimicrobial resistance and food-borne outbreaks?

> **Pia Makela** It is essential to gather information at EU level on these important diseases, which can be transmitted to humans from animals or by eating contaminated food. Member States collect the data, which EFSA gathers and analyses on behalf of the European Commission. These data give the Commission, EFSA, the European Centre for Disease Prevention and Control (ECDC) and Member States an overview of the risks to public health from these biological hazards across the EU. They also help risk assessors to evaluate consumer exposure to these hazards. The Commission and Member States can use the information to decide if further action is needed to protect public health and to monitor the impact of the control measures.

– How is the data collected?

Each year the Member States submit data on zoonoses, antimicrobial resistance and food-borne outbreaks to the Commission and EFSA. This is a legal obligation. EFSA's Biological Monitoring Unit, in collaboration with ECDC, analyses the data and produces the annual EU Summary Reports. This year, for the first time, we have teamed up to compile the joint EU report on antimicrobial resistance in zoonotic bacteria affecting humans, animals and food.

The Biological Monitoring Unit and ECDC consult their networks of national contact points on all matters related to the data collection and analyses. EFSA's network is the Task Force on Zoonoses Data Collection, which comprises representatives from Member States and international bodies such as the World Health Organization (WHO) and the World Organization for Animal Health (OIE).

– How do European consumers benefit?

The information provided by EFSA and ECDC represents a sound scientific foundation on which risk managers can build their strategies to combat zoonoses and antimicrobial resistance. For example, the number of *Salmonella* cases in humans fell by 17% across the EU in 2009, the fifth consecutive year a decrease has been recorded. This suggests that harmonised reporting, risk assessment and rigorous control measures can be an effective combination in protecting the health of European consumers.

Scientific cooperation crucial to EFSA's future

EFSA has reinforced its commitment to forging the strongest possible links with Member States by drawing up a medium-term plan for its scientific cooperation activities.

As EFSA's workload has continued to increase, particularly in the area of regulated products and claims submitted for authorisation in the EU, so has the importance of its cooperation with Member States. This collaboration takes place at all levels – from national competent authorities to scientific organisations and individual experts – and provides EFSA with valuable data, research and expertise that helps the Authority to maintain and strengthen a rigorous system of risk assessment.

A report published in 2011, *Scientific Cooperation between EFSA and Member States: Taking Stock and Looking Ahead*, summarises the Authority's cooperation activities and examines how they can be further developed to help EFSA meet the challenges ahead. It concludes that the development of links with EU Member States has brought mutual benefits, such as: the ability to deal with an increasing workload; greater efficiency; a reduction of duplication of efforts; harmonisation of risk assessment requirements; and standardised guidance for risk assessment.

EFSA's Advisory Forum, Focal Points and dedicated scientific networks are key vehicles for data and information exchange, and consultation between EFSA and Member States. The importance of networks, in particular, is expected to increase. The networks facilitate scientific cooperation through the exchange of expertise and best practice in the fields within EFSA's mission.

Other mechanisms for cooperation that will continue to be developed include the network of Article 36 organisations. Under Article 36 of EFSA's Founding Regulation, the Authority can award grants to organisations nominated by Member States to assist EFSA in its tasks. By the end of 2010 there were almost 400 organisations on the Article 36 list. EFSA's growing Expert Database – a group of more than 3,000 experts on whom EFSA can call to participate in preparatory work that feeds into panel discussions – also contributes significantly to the pooling of excellence in food risk assessment across the EU. In addition, the Information Exchange Platform – located on EFSA's extranet – facilitates the exchange of information on risk assessment activities between and amongst the EU Members States and EFSA.

As well as effective scientific cooperation, communications and dialogue on risk assessment are also extremely important. In fact, the promotion of coherence in risk communications was identified in the Strategy for Cooperation and Networking (2006) as one of the four priority areas for strengthening links between Member States and EFSA.

Cooperation and coherence in communications is implemented through the Advisory Forum Communications Working Group. *Scientific Cooperation between EFSA and Member States* concludes that EFSA's work in this area has been strengthened through: continued pre-notification of public announcements on its scientific work; proactive exchanges on key issues such as GMOs, food colours, and nanotechnology; and the exchange of information on "emerging issues" in individual Member States, focusing on the implications for communications.

EFSA aims to build on the progress made in recent years and further engage with partners and stakeholders at national and European level. As the demand for scientific advice rises and EFSA's workload increases, the Authority must become more efficient. At the centre of that drive for efficiency will be an ever growing cooperation with the Member States of the EU.

The brochure *Scientific Cooperation between EFSA and Member States: Taking Stock and Looking Ahead* and the report on which the brochure is based have been published on the EFSA website.

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EFSA renews scientific panels

EFSA launched a call in 2011 to renew the membership of its Scientific Committee and Panels. The call, which ran from 31 March to 17 June 2011, sought to identify scientific experts who could help the Authority to continue to deliver the highest-quality scientific advice to Europe's decision-makers on risks associated with the food chain.

EFSA's Scientific Panels are composed of experts who deliver their advice in the form of scientific opinions. These opinions are published in the *EFSA Journal*, which has been accepted for indexation by leading bibliographic databases.

Scientific experts were sought with expertise covering a wide range of areas: plant health and plant protection, GMOs, food additives and nutrient sources, food contact materials, enzymes and flavourings, feedstuffs, animal health and welfare, toxicology, contaminants in the food chain, biological hazards, dietetic products, allergies, novel foods, and nutrition. Applicants had to demonstrate experience in carrying out scientific risk assessment and have proven scientific excellence in one, or preferably several, of the fields in EFSA's remit.

Dr Hubert Deluyker, EFSA's Director of Science Strategy and Coordination, said: "EFSA's Scientific Committee and Panels are made up of leading scientists who have gained experience through working in universities, research institutions, national food safety authorities and risk assessment bodies in Europe and internationally. We want to attract experts to EFSA who are interested in making a real difference to European food safety."

The nominated experts will be offered a three-year mandate starting either in mid-2012 or, in the case of the Panel on Food Additives & Nutrient Sources (ANS) and the Panel on Food Contact Materials, Enzymes & Flavourings (CEF), from mid-2014.

BfR workshop on active substances in plant protection products

The German Federal Institute for Risk Assessment (BfR) held a workshop on active substances used in plant protection products in Berlin in 2011. The workshop debated cooperation at the European level in the assessment of human health hazards of active substances under Regulation (EC) No 1107/2009, and the harmonised classification and labelling of active substances under Regulation (EC) No 1272/2008.

About 80 delegates attended from the European Food Safety Authority (EFSA), the European Chemicals Agency (ECHA), the European Commission's Directorate-General for Health and Consumers and Directorate-General for the Environment, and from Member State authorities responsible for the authorisation of plant protection products and for the classification and labelling of chemicals.

The focus of the workshop was on how the two processes can most efficiently be linked between Member State authorities, EFSA and ECHA.

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Stakeholders meet to discuss EFSA guidance on GM plant comparators

EFSA held a consultative workshop in Brussels in March 2011 to discuss the views of stakeholders on its draft guidance for the selection of genetically modified (GM) plant comparators. The workshop brought together interested parties, including representatives from academia, industry, non-governmental organisations (NGOs), the European Commission, the European Parliament and scientific experts from EFSA. The meeting was also available to the public through a live webcast which was viewed by more than 900 people.

The aim of the workshop was to allow those who had submitted comments in the online public consultation on the draft guidance to further elaborate and discuss their views and to engage directly with scientific experts from EFSA's Panel on Genetically Modified Organisms (GMO Panel) and Working Group on Comparators.

The meeting was chaired by Dr Riitta Maijala, EFSA's former Director of Scientific Evaluation of Regulated Products, and the proceedings were opened by José Bové MEP, Vice-Chair of the European Parliament Committee on Agriculture and Rural Development. The discussions were moderated by Dr Helmut Gaugitsch from the Austrian Environmental Agency.

The workshop began with a wide-ranging debate on the concept of substantial equivalence, giving context to the regulatory environment in which EFSA operates when carrying out risk assessment of GMOs.

Dr Sébastien Goux, Policy Officer for the Commission's Directorate-General for Health & Consumers, outlined the current regulatory environment for GMO risk assessment in the European Union. Dr Hartmut Meyer from the European Network of Scientists for Social and Environmental Responsibility (ENSSER) spoke about the advantages and disadvantages of different approaches to environmental risk assessment of GM plants.

Dr Peter Kearns from the Organisation for Economic Co-operation and Development (OECD) gave an overview of the concept of substantial equivalence. Their presentations were followed by a broad discussion with workshop participants.

The second half was dedicated to discussing EFSA's draft guidance document on the selection of comparators. A series of four discussions was held to explore comments made during the public consultation on the document. Each discussion focused on different areas of the document, including the risk assessment of single events, stacked events, stacked events from methods other than conventional crossing of plants, and risk assessment when no comparator is available.

Dr Maijala stressed the importance of stakeholder consultation and public debate in the development of EFSA's guidance documents. "The questions, remarks and contributions put forward in our stakeholder workshop are very welcome and, together with the comments from the recent public consultation, will serve to enhance the scientific and technical quality of EFSA's final guidance document on the selection of comparators," she said. "EFSA is grateful to all those who assisted us in advancing our work on this important topic," she added.

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