

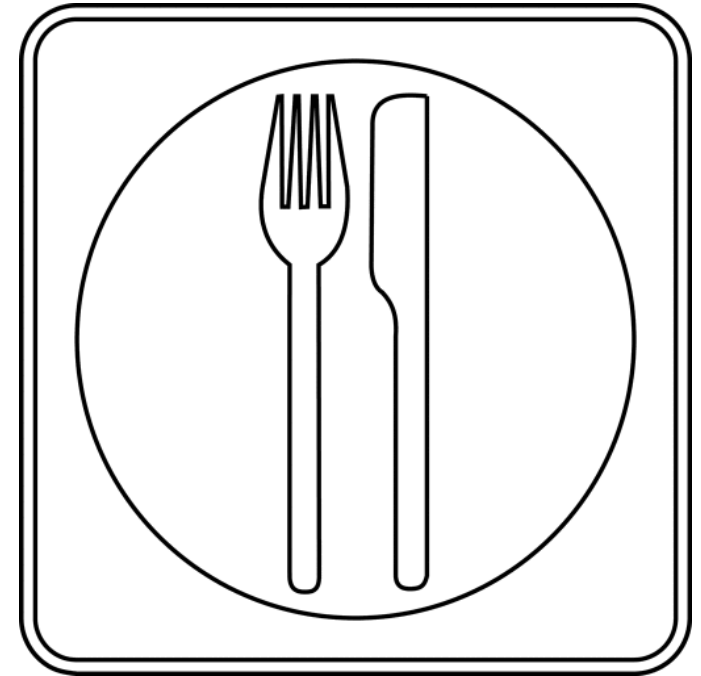


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Outline

- FSA use of Scientific Committees
- ACMSF
- Research on AMR – Systematic Review on the role of food in AMR
- EU Surveillance
- Risk assessment on Meticillin-Resistant *Staphylococcus aureus* (MRSA)



Science advice to government

Scientific Advisory Committees help government collect scientific information and make judgements about it.

They review, and sometimes commission, scientific research, and offer independent expert judgement, including where facts are missing or uncertainties exist.

ACMSF reports

Vacuum Packaging and Associated Processes (1992)

Salmonella in Eggs (1993)

Interim Report on *Campylobacter* (1993)

Verocytotoxin-Producing *Escherichia coli* (1995)

Poultry Meat (1996)

Foodborne Viral Infections (1998)

Microbial Antibiotic Resistance (1999)

2nd Report on *Salmonella* in Eggs (2001)

Mycobacterium bovis (2002)

2nd Report on *Campylobacter* (2005)

Infant Botulism (2006)

Botulism in Cattle (2006)

The Safe Cooking of Burgers (2007)

Botulism in Sheep and Goats (2009)

The Increased Incidence of Listeriosis in the UK (2009)

Toxoplasma in the food chain 2013)

Foodborne viruses (March 2015)



<http://acmsf.food.gov.uk/acmsfreps>

Current Working Groups

- Surveillance Working Group
- Newly Emerging Pathogens Working Group
- Antimicrobial Resistance Working Group (2013)
- *Ad Hoc* Group on Eggs (from February 2015)
- *Ad Hoc* Group on Campylobacter (May 2016)

ACMSF Working Group on AMR

Role

Set up 2013 to assess the risks to humans from foodborne transmission of antimicrobial-resistant microorganisms and provide advice to the FSA.

ToR

To review key documents and identify the risks for the UK food chain

To comment on progress in understanding the issue of AMR since the ACMSF produced its report in 1999 and subsequent reviews

To highlight key research or surveillance gaps

- Currently have reviewed a risk assessment on MRSA

FSA Research

- A survey of *Campylobacter* contamination in fresh, whole UK produced chilled chicken at retail sale. A subset of the *Campylobacter* isolates detected will be tested for their resistance to a range of antimicrobial agents
- A Systematic literature review to increase our understanding of the role of food production, processing and consumption in the development and spread of AMR

Systematic Literature Review

- FSA commissioned the Royal Veterinary College (RVC) to carry out a systematic review on the occurrence of AMR in foodborne pathogenic and commensal bacteria in food at retail.
- Draft technical report received in March 2016. Currently undergoing peer review. Final report likely to be published in Autumn 2016.

Systematic Literature Review

- Review will provide a description of the current state of knowledge with regard to the type of AMR bacteria at retail level.
- Will allow identification of food items which may be of potential concern.
- Suggest recommendations/knowledge gaps to guide future research efforts supported by FSA (or others).

Collaborative Research projects

- 3 Year project 'Defining reservoirs of ESBL *E.coli* and the threat posed to personal, animal and public health in the UK'
- Objective: To determine the genetic similarity between ESBL-producing *E.coli* from sewage, farm slurry and food commodities (meats and fresh produce)* compared with those from human faeces and blood.

FSA contributed to the inclusion of fresh meat and produce:

MRSA Risk Assessment

- Statement of purpose: To assess the risk to consumers associated with the preparation, handling and/or consumption of foodstuff in the UK which may be contaminated with MRSA, in particular LA-MRSA
- In house RA which collected data from 1992-2016.
- Considered by the ACMSF sub-group on AMR.
- Intention to publish in Autumn 2016.

EU Surveillance in Retail Meats

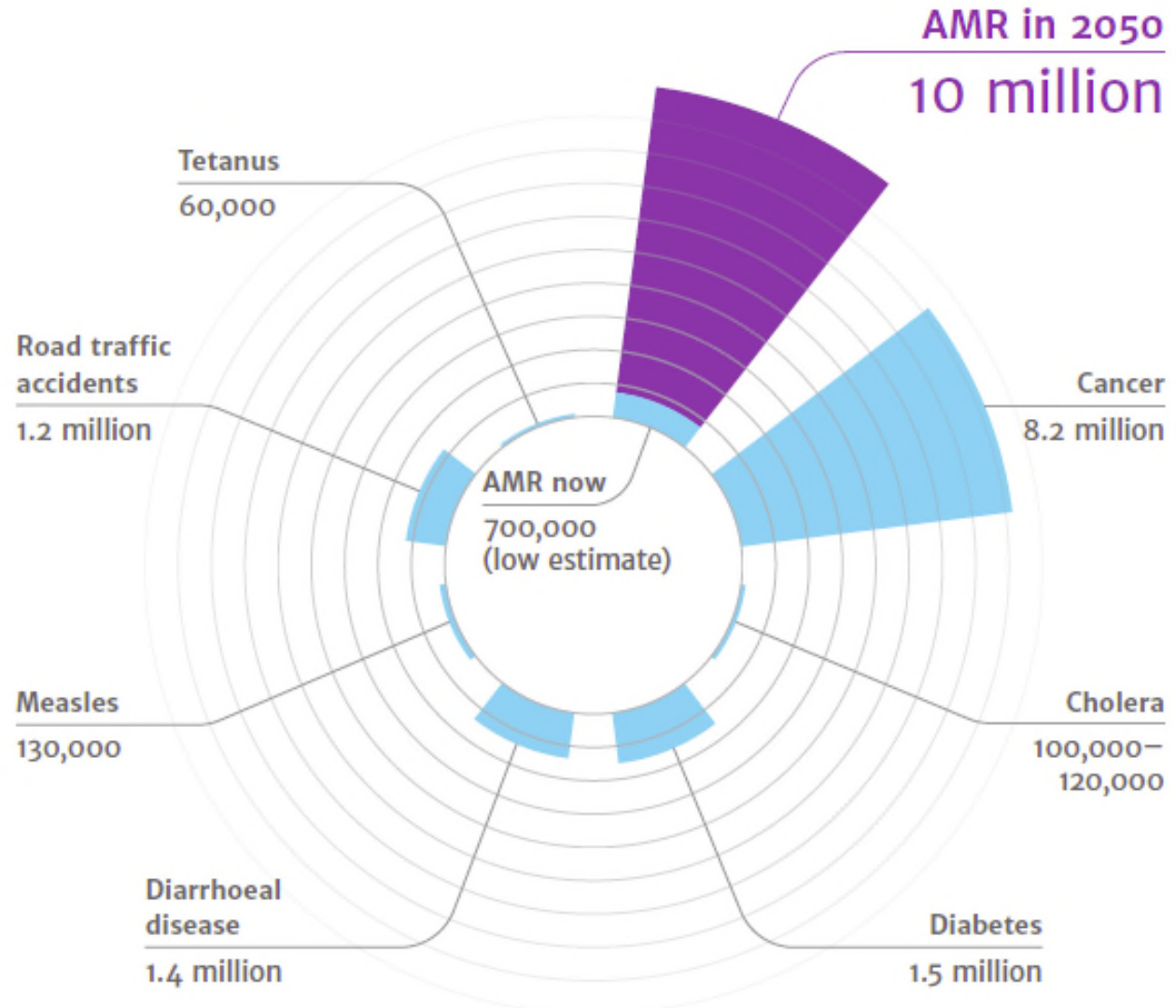
- Testing of retail meats (beef/pork/chicken) in the UK for: ESBL, AmpC and Carbapenemase-producing *E. coli*.
From 2015-2020
- In 2015: 300 Beef and 300 pork samples collected at retail level. Proportional allocation to market-share for outlet type, population coverage and an even sampling distribution throughout the year.
- In 2016: 300 chicken samples and additional testing for colistin resistance and the colistin resistant gene (*mcr-1*) in *E. coli*.

Some facts & figures: Lord O'Neil report published 19 May 2016

Now – 700,000 deaths per year

By 2050

- 10,000,000 deaths per year
- Cost \$100 trillion



Source: Tackling drug-resistant infections globally; final report and recommendations. The Review on AMR chaired by Jim O'Neill, May 2016

O'Neill report recommendations

The O'Neill report has a series of recommendations where the FSA could play a key role or could support others in their delivery.

There is one recommendation (3.4) that is central to the role of the FSA

TACKLING ANTIMICROBIAL RESISTANCE ON TEN FRONTS



Public awareness



Sanitation and hygiene



Antibiotics in agriculture and the environment



Vaccines and alternatives



Surveillance



Rapid diagnostics



Human capital



Drugs



Global Innovation Fund



International coalition for action



Review on
Antimicrobial
Resistance

Food
Standards
Agency
fda.gov.uk

Conclusions

The complex nature of the food supply chain and global sourcing of food introduces difficulties in tracing the source of AMR contaminated foods.

The control of AMR in the food chain is primarily dependent on the control of the use of antibiotics in food animals and humans.

Effective monitoring of AMR in human and animals to determine if changes in AMR seen in bacteria in food are also seen in bacteria that cause infections in people/animals and to minimise the risk to public health.- **One Health Approach**

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THANK YOU

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