

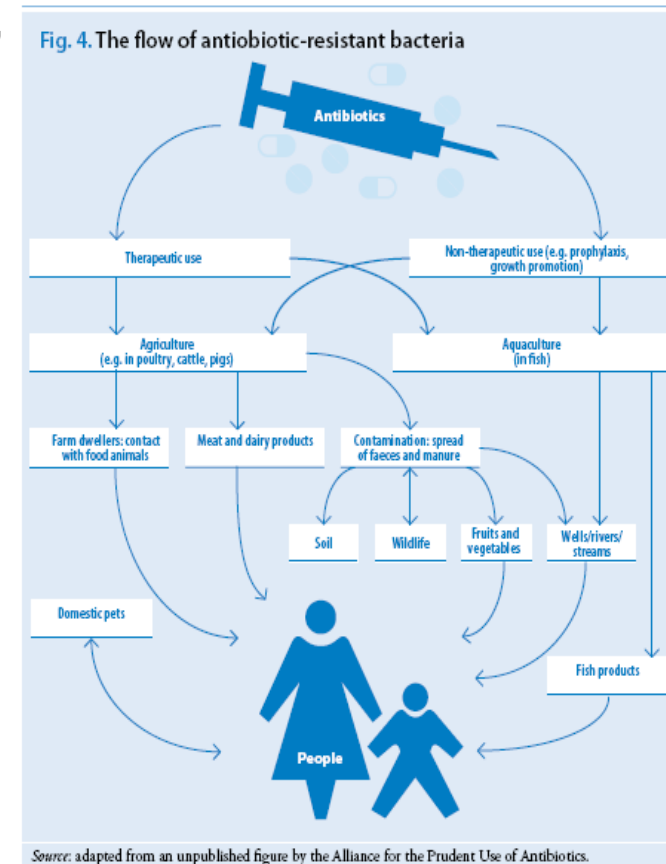
# Tackling antibiotic resistance from a food safety perspective at national level

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# “Promiscuity” of antibiotic resistance

- Any kind of antibiotic use, whether for human, animal or plant health purposes, can select for the emergence of resistance and further promote the dissemination of resistant bacteria and resistance genes.
- Antibiotic resistance does not respect phylogenetic, geographical or ecological borders.
  - Antibiotic use in one ecological “compartment”, such as food animal production, can have consequences for the resistance situation in another ecological compartment, such as public health.



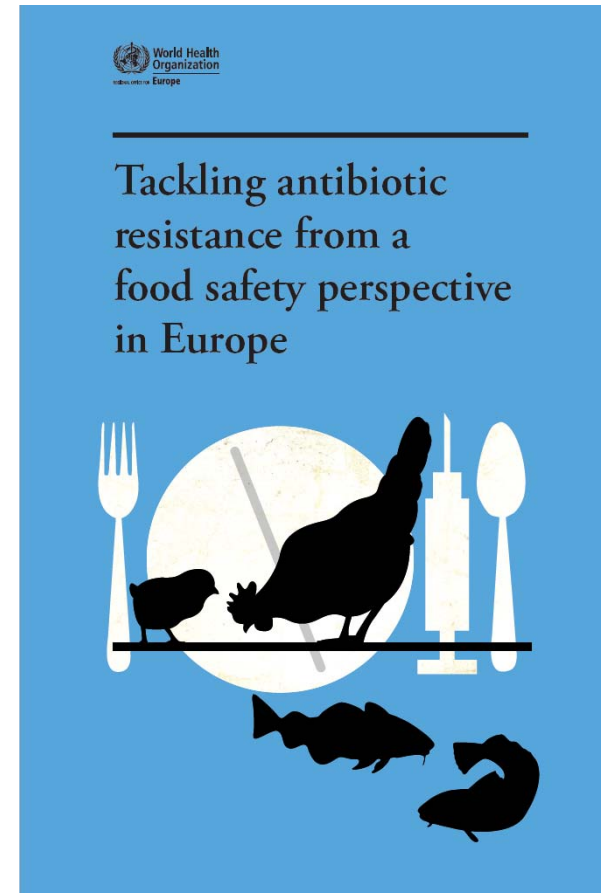
# Antibiotic use in food animals

- For therapeutic purposes
- For prophylaxis
- For growth promotion
  - Banned in the European Union since 2006
- Substantial
  - Same antibiotic classes as in human medicine
  - May outweigh use in humans in some countries
  - Relatively low usage in Nordic countries owing to policies on prudent use



# Fighting antibiotic resistance is a priority for WHO/Europe

- European strategy under development
- New publication suggests actions for tackling antibiotic resistance from a food safety perspective



# WHO European strategy on antibiotic resistance

Seven action areas:

1. Promote national coordination
2. Strengthen surveillance
3. Promote rational use of antibiotics, including surveillance of antibiotic consumption
4. Improve infection control and stewardship of antibiotic use in health care settings
5. Promote surveillance, prevention and control of antibiotic resistance in the food chain
6. Promote research and innovation on new antibiotics
7. Improve awareness on antibiotic use and risk of increasing resistance

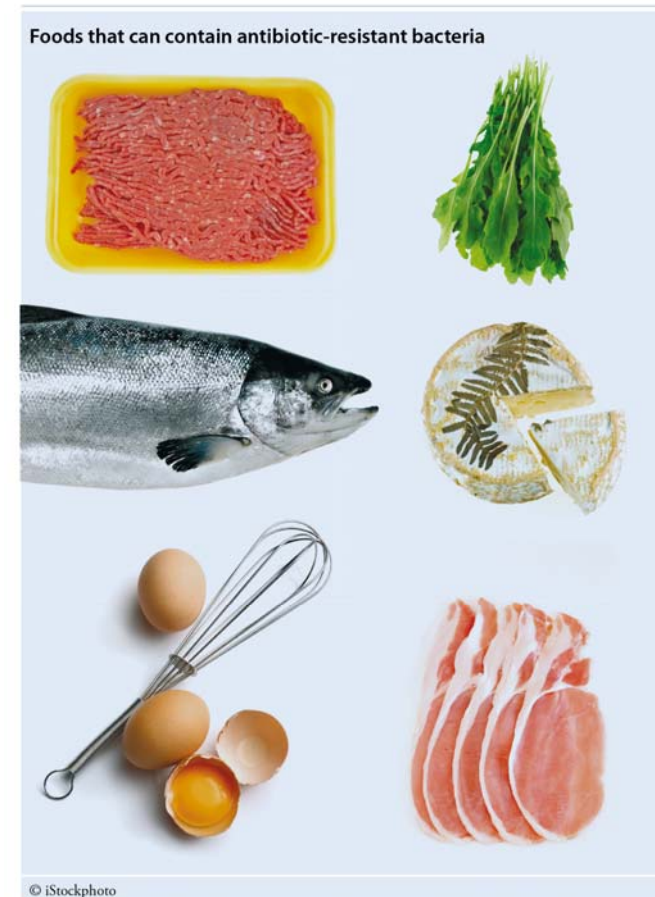
# Key messages for countries

1. Improve overall coordination
2. Improve regulatory framework
3. Reduce the need for and promote prudent use of antibiotics
4. Improve surveillance
5. Advocate and communicate
6. Build capacity and provide training
7. Address knowledge gaps and research needs



# Action points for countries - I

- Overall coordination
  - National and international interdisciplinary cooperation
  - National intersectoral holistic strategy and action plan with an intergovernmental steering committee
  - Formal mechanism between health authorities and food safety/veterinary authorities



# Action points for countries - II

- Improved regulatory framework
  - Eliminating the use of antibiotics as growth promoters
  - Requiring that antibiotics be administered to animals only when prescribed by a veterinarian
  - Requiring that antibiotics identified as critically important in human medicine – and especially fluoroquinolones and third- and fourth-generation cephalosporins – only be used in food animals if their use is justified



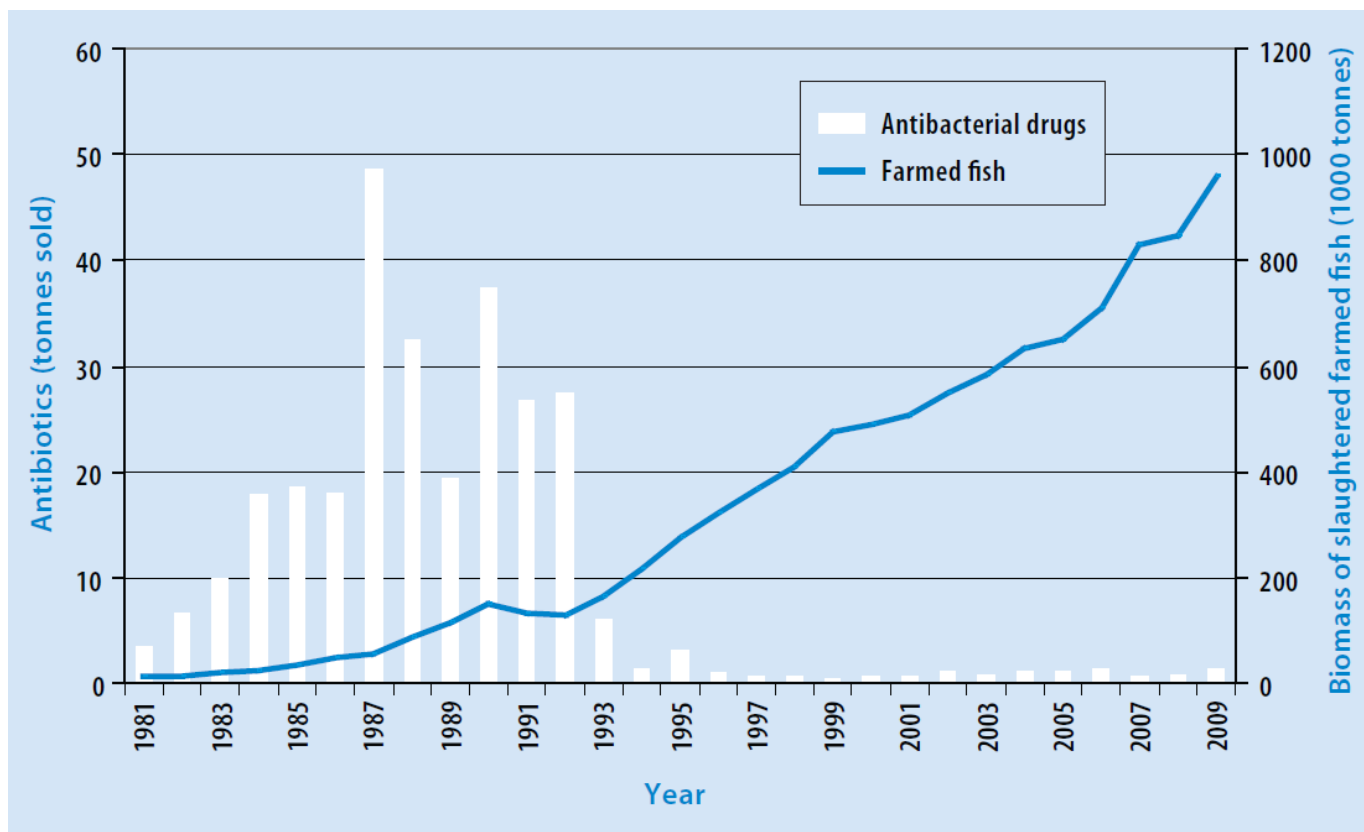
# Action points for countries - III

- Reduce the need for and promote prudent use of antibiotics
  - Reducing the need for antibiotics in animal husbandry, by improving animal health through biosecurity measures, disease prevention (including vaccine use), and good hygiene and management practices
  - Eliminating economic incentives that facilitate the inappropriate prescription of antibiotics



# Lessons learnt: the experience from Norway

Antibiotic usage versus salmon and trout production in Norway, 1981-2009



Source: Markestad & Grave (39).

# Action points for countries - IV

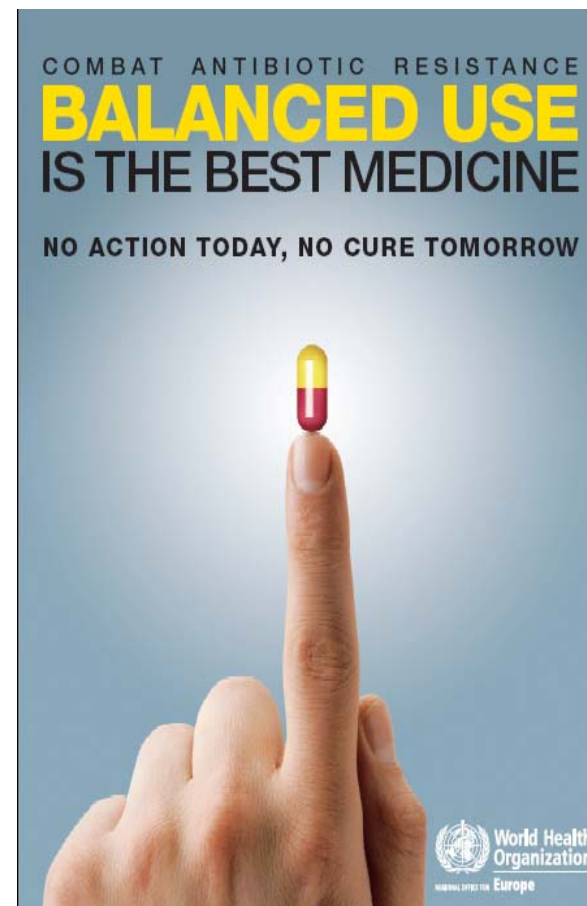
- Surveillance

- Establishing a surveillance system to monitor the use of antibiotics in food animals
- Establishing an integrated (among public health, food and veterinary sectors) surveillance system to monitor antibiotic resistance in selected foodborne bacteria



# Action points for countries - V

- **Advocacy and communication**
  - Raising awareness of antibiotic resistance from a food safety perspective
  - Prompting action that prevents the development and spread of antibiotic resistance in the food chain



# Action points for countries - VI

- Training and capacity-building
  - Developing guidelines on the prudent use of antibiotics in food animals, using a multidisciplinary approach
  - Providing the training needed to implement them

# Action points for countries - VII

- Knowledge gaps and research needs
  - Supporting studies that help provide comparable data on antibiotic resistance and usage for risk assessment and risk management
  - Strengthening research on the development and spread of resistance and on the development of new antibiotics and alternative approaches to antibiotic therapy



# Conclusions

- Antibiotic resistance needs a multifaceted intersectoral response, nationally and internationally
- Many actions are necessary at the national level to address antibiotic resistance in a food safety perspective
- WHO hopes that the booklet will be useful for national authorities in developing and carrying out policies to contain antibiotic resistance and protect public health

# Thank you!

The screenshot shows a Windows Internet Explorer browser window displaying the WHO Europe website. The address bar shows the URL: <http://www.euro.who.int/en/what-we-do/health-topics/disease-prevention/food-safety>. The page header includes the WHO logo and the text "World Health Organization REGIONAL OFFICE FOR Europe". Navigation links for "Home", "Where we work", "What we do", "What we publish", and "Who we are" are visible. The main content area is titled "Food safety" and features a photograph of a pear with a stethoscope around it. Below the photo is the text: "Safe food is a prerequisite for health (Photo: iStockphoto)". To the right of the photo is a "News" section with two articles: "Antibiotic resistance from a food safety perspective: WHO seminar in Rome, Italy, on 7 April 2011" and "No action today, no cure tomorrow: antimicrobial resistance is the theme of World Health Day 2011". A "Related health topics" section lists "Antimicrobial resistance" and "Cancer".

<http://www.euro.who.int/foodsafety>