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Antimicrobial resistance and the role of Vaccines



**SAVE THE DATE
NEXT EICA COURSE
APRIL 2021
DEMENTIA,
INFECTIONS
AND VACCINES**

EICA

European Interdisciplinary
Council on Ageing



Endorsed by



IAGG-ER

International Association of Gerontology
and Geriatrics for the European Region

**SAN SERVOLO
ISLAND
VENICE, ITALY**

**APRIL 6-8
2020**



GENERAL OVERVIEW OF THE CONFERENCE

SCIENTIFIC PROGRAMME

Antimicrobial resistance, which has been increasing at a disturbing rate, is now considered a threat to planetary health. The consequences of antimicrobial resistance are even now being felt in the European Union. In fact,

- The mortality linked to antibiotic-resistant infections in Europe corresponds to approximately 33,000 deaths yearly;
- The economic burden of antimicrobial resistance in Europe has been estimated to be approximately € 1.5 billion per year.

Unfortunately, there is even more bad news: the high volume of antibiotics in food producing animals has contributed to the development of bacteria that can end up in the food chain and/or environment.

Numerous interventions to reduce the global burden of antibiotic resistance such as the promotion of educational programs and campaigns and of new, safer practices in personal and public hygiene, the development of rapid diagnostic tests, reducing/eliminating routine antibiotic use in livestock production, avoiding antibiotic use when unnecessary and improved antibiotic stewardship are critical measures that are recommended by international scientific public health bodies. In light of the fact that drug resistant pathogens are continuing to emerge, these efforts need to be intensified and reinforced by solid, innovative approaches. In the UK alone, for example, one third of *Pseudomonas aeruginosa* and two third of *Escherichia coli* and *Neisseria gonorrhoea* are resistant to antibiotics. In this worrisome scenario, vaccines can be seen as an important way to block the spread of antibiotic resistance by protecting individuals from being infected and from needing antibiotics and by eradicating specific pathogens from the population, leading to herd effects or indirect protection. In fact:

- Existing flu and pneumococcal vaccines are already contributing to herd immunity;
- Pneumococcal conjugate vaccines, which protect against multiple types of pneumococcal bacteria, decrease the presence of the pneumococcal vaccine serotypes and reduce the genetic exchanges of resistance. After it was introduced in 2009, resistance to the main antibiotics (cephalosporins, macrolides, penicillins, tetracyclines) decreased by two thirds;
- New vaccines currently being developed will make it possible to reduce the use of antibiotics to treat *Staphylococcus*, *Streptococcus*, *Clostridium difficile*, *Escherichia coli* and *Mycobacterium tuberculosis*.

All of these considerations confirm the importance of including vaccination programs in national and international strategies to reduce antimicrobial resistance in humans and animals. During this meeting leading scientists and researchers from several professional fields will give presentations on a variety of aspects regarding this topic.

Prof. Stefania Maggi, EUGMS & EICA
Prof. Jean-Pierre Michel, EICA

MONDAY, APRIL 6, 2020

13.30 Registrations

14.30 **Opening remarks**

Jean-Pierre Michel, Jane Barratt, George Griffin, Stefania Maggi

ANTIMICROBIAL RESISTANCE: A WORLDWIDE PUBLIC HEALTH THREAT

Chairperson: Stefania Maggi

15.00 **Antimicrobial resistance: an historical overview**

George Griffin

15.30 **The current worldwide situation and causes
of antimicrobial resistance**

Vincent Jarlier

16.00 **A new issue: falsified medicines and antimicrobial resistance**

Yves Juillet

16.30 **General discussion**

Coffee break including physical exercises for all participants

ANTIMICROBIAL RESISTANCE: A PLANETARY HEALTH ISSUE

Chairperson: André Parodi

17.30 **The use of antibiotics in food-producing animals
and alternative approaches**

Giuseppina Avantaggiato

18.00 **Globalization, urbanism and emergence of antimicrobial
resistance in a One Health perspective**

Jean-Yves Madec

18.30 **Agri-food chain and antimicrobial resistance; the importance
of farmer, farm advisor and veterinarian behaviour**

Lynn Frewer

19.00 **General discussion**

TUESDAY, APRIL 7, 2020

ANTIMICROBIAL RESISTANCE: MECHANISMS AND SURVEILLANCE

Chairperson: Jos Van der Meer

- 08.30 **The main mechanisms of emergence and spread of antimicrobial resistance**
Stephan Harbarth
- 09.00 **Prioritization of prevention: public health vaccine program decision making**
Justin Ortiz
- 09.30 **Surveillance for control of antibiotic resistance**
Giovanni Rezza
- 10.00 **General discussion**

Coffee break including physical exercises for all participants

ANTIMICROBIAL RESISTANCE STRATEGIES

Chairperson: Gonçalo Sousa Pinto

- 11.00 **The global WHO action plan against antimicrobial resistance**
Martin Friede
- 11.30 **The French responses to antimicrobial resistance**
Anne-Claude Crémieux
- 12.00 **General discussion**

VACCINES TO FIGHT ANTIMICROBIAL RESISTANCE

Chairperson: George Griffin

- 13.30 **The alternatives to antibiotics**
Sara Boccalini, Paolo Bonanni
- 14.00 **The existing vaccines and the fight against antimicrobial resistances (NOT EACCME)**
Mark Doherty
- 14.30 **The latest vaccine innovations to fight antimicrobial resistance (NOT EACCME)**
Giuseppe Del Giudice
- 15.00 **General discussion**
- ### PRIORITIZING VACCINES AGAINST ANTIMICROBIAL RESISTANCE
- Chairperson: Justin Ortiz*
- 16.00 **Impacts of Flu vaccines on antimicrobial resistance**
Giovanni Gabutti
- 16.30 **Impacts of Pneumococcal conjugate vaccines on antimicrobial resistance**
Henri van Werkhoven
- 17.00 **An emerging new vaccine: Clostridium difficile**
Eduard Kuijper
- 17.30 **Groups discussion: Which are your priorities to control antimicrobial resistance?**
4 multidisciplinary groups



SCIENTIFIC PROGRAMME

GENERAL INFORMATION

WEDNESDAY, APRIL 8, 2020

WHICH EFFORTS ARE NEEDED TO DECREASE ANTIMICROBIAL RESISTANCE

Chairperson: Jane Barratt

08.15 **Report of the groups discussion**

09.30 **Considerations by the old population and the media of antimicrobial use and antimicrobial resistance**

Barbro Westerholm

10.00 **Role of the pharmacists in education, awareness and tools for prescribers and users**

Gonçalo Sousa Pinto

Coffee break including physical exercises for all participants

Chairperson: Jean-Pierre Michel

11.00 **The future of vaccines**

Jos Van der Meer

11.45 **General discussion**

Jane Barratt

12.15 **Conclusions**

Stefania Maggi

FACULTY

Giuseppina Avantaggiato	Italy	Yves Juillet	France
Jane Barratt	Canada	Eduard Kuijper	Netherlands
Sara Boccalini	Italy	Jean-Yves Madec	France
Paolo Bonanni	Italy	Stefania Maggi	Italy
Anne-Claude Crémieux	France	Jean-Pierre Michel	Switzerland
Giuseppe Del Giudice	Italy	Justin Ortiz	USA
Mark Doherty	USA	André Parodi	France
Lynn Frewer	United Kingdom	Giovanni Rezza	Italy
Martin Friede	Switzerland	Gonçalo Sousa Pinto	Portugal
Giovanni Gabutti	Italy	Jos Van der Meer	Netherlands
George Griffin	United Kingdom	Henri van Werkhoven	Netherlands
Harbarth Stephan	Switzerland	Barbro Westerholm	France
Vincent Jarlier	France		

SCIENTIFIC ORGANIZATION

EICA

European Interdisciplinary Council on Ageing

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Prof. Stefania Maggi, EICA - Prof. Jean-Pierre Michel, EICA

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