

Critically Important Antimicrobials for Human Medicine

5th Revision 2016

Ranking of medically important antimicrobials for risk
management of antimicrobial resistance
due to non-human use



World Health
Organization

**WHO Advisory Group on Integrated Surveillance
of Antimicrobial Resistance (AGISAR)**

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1. Preamble

The WHO List of Critically Important Antimicrobials for Human Medicine (WHO CIA List) was originally developed following recommendations from two consecutive expert meetings organized by the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE), and World Health Organization (WHO). The first workshop was convened in Geneva, December 2003 (1) and the second workshop in Oslo, March 2004 (2) to address the public health consequences associated with the use of antimicrobial agents in food producing animals.

The first expert workshop concluded that antimicrobial resistance was a global public and animal health concern that has been impacted by the use of antimicrobial agents in all sectors, and highlighted that the types of antimicrobials used in animals for growth promotion, prophylactic or therapeutic purposes were frequently the same, or closely related to those used in human medicine.

The first expert workshop concluded that, firstly, there was clear evidence of adverse human health consequences due to resistant organisms resulting from non-human usage of antimicrobials: increased frequency of infections, increased frequency of treatment failures (in some cases death) and increased severity of infections, as documented by fluoroquinolone-resistant human *Salmonella* infections. Secondly, it concluded that the amount and pattern of non-human usage of antimicrobials affected the occurrence of resistant bacteria in animals and on food commodities and thereby human exposure to these resistant bacteria. Thirdly, the consequences of antimicrobial resistance were particularly severe when pathogens were resistant to antimicrobials critically important in humans. The workshop therefore recommended that an expert clinical medical group, appointed by WHO, define and provide a list of antimicrobials that were considered critically important in humans.

The second expert workshop made the recommendation that the concept of “critically important” classes of antimicrobials for people should be developed by WHO: "WHO should convene an international expert group (including a broad range of clinical experts in infectious diseases and

(including a broad range of clinical experts in infectious diseases and microbiology), to develop first criteria for defining critically important antimicrobials for human by class and/or subgroup, and then to propose a list of those antimicrobials. This list needs to take into account relevant bacteria-both pathogens and commensals (or their genes) that are likely to transfer to people from animals, food products or the environment".

The experts recognized that the implementation of the concept at national levels required that national considerations would be taken into account, and consequently lists may vary from country to country, and that the lists should be made publicly available and could be used for the following purposes:

- to give guidance on resource allocation and prioritization of risk assessment and management processes for both new and existing drug applications
- to estimate consequences (for harm to people) in risk assessment
- to develop risk management options that involve restriction of use in a country

The same FAO/OIE/WHO expert workshop recommended that the OIE identify and list antimicrobial agents that are critically important for veterinary medicine. The overlap of the two lists should be considered for risk management options, allowing an appropriate balance between animal health needs, human health needs, and public health considerations.

A third FAO/OIE/WHO expert meeting met in Rome in 2007 (3) to consider the WHO and OIE lists of critically important antimicrobials and begin to address the overlap of the two lists for example the potential hazards to

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