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Linking Antibiotic Resistance in Animals and Humans

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Abstract:

Resistance to antimicrobial agents is an emerging problem worldwide. Awareness of the undesirable consequences of its widespread occurrence has led to the initiation of antimicrobial agent resistance monitoring programs in several countries. In 1995, Denmark was the first country to establish a systematic and continuous monitoring program of antimicrobial drug consumption and antimicrobial agent resistance in animals, food, and humans, the Danish Integrated Antimicrobial Resistance Monitoring and Research Program (DANMAP). Monitoring of antimicrobial drug resistance, combined with relevant research activities, is essential to linking AMR in animals and humans, and to guide the implementation of relevant policies to control and prevent the transmission of AMR from animals to humans.

The presentation will include a number of examples of bacterial pathogens and resistance genes in humans, which have been linked to a reservoir in food animals, and where and association to the use of antimicrobials in food animals is strongly indicated. Transmission of resistant pathogens within vertically integrated animal breeding pyramids, and in international trade of live animals as well as food, will be discussed as a particular area of concern.