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Joint analysis of antimicrobial resistance data from human and veterinary sector - results from the project Connect One Health Data

Tuesday, 10 October 2023 14:00 (15 minutes)

In the Connect One Health Data project, routine data on resistance testing in Lower Saxony from the zoonoses monitoring (ZooMo; veterinary sector) are analysed together with data from the antibiotic resistance monitoring in Lower Saxony (ARMIN; human sector) for the years 2018-2021. Proportions of resistant isolates per antimicrobial agent in the different populations are determined.
The following germ were included in the analyses: E. coli, Enterococcus faecalis, Enterococcus faecium, and MRSA. For each germ, antimicrobials for which test results were available from both sectors were included for joined analyses.
For MRSA as an example, 15 antimicrobials could be included in the analysis. In ZooMo, 217 MRSA isolates were tested for all antimicrobials, compared to 98 - 14,460 tested isolates in the ARMIN data, where the number of tests varied by antimicrobial agent. About 20% of human MRSA isolates (n = 13,077) are resistant to tetracycline, in contrast to about 90% of tetracycline resistant broiler isolates (n=15).
When interpreting the data, the background of sampling must be taken into account: fixed sampling design of healthy animals along the food chain (ZooMo) vs. passive surveillance of human patients (ARMIN). In addition, laboratory methods and interpretation standards differ between the sectors. Therefore, we are currently analysing the impact of the use of the different standards on the proportions of resistance.

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surveillance, interpretation standards, MRSA, E. coli, Enterococcus

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Professional Status of the Speaker

Senior Scientist

Junior Scientist Status

No, I am not a Junior Scientist.

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