



54 Research paper

Risk factors for ESBL-producing Escherichia coli on pig farms: A longitudinal study in the context of reduced use of antimicrobials by Dohmen, W., Dorado-García, A., Bonten, M.J.M., Wagenaar, J.A., Mevius, D. and D.J.J. Heederik
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in **Significant Impact Group(s)**: Prudent use AB \ Farmer ; Biosecurity

Species targeted: Pigs;

Age: Young;Adult;

Outcome Parameter(s): Presence of ESBL-E. coli; antimicrobial use; cephalosporin use at the farm

Summary: This study determined prevalence of ESBL-E. coli on pig farms and the effect of reducing veterinary antimicrobial use (AMU) and farm management practices on ESBL-E. coli occurrence on pig farms. During 2011 and 2013, 36 Dutch conventional pig farms participated in a longitudinal study (4 sampling times in 18 months). The number of farms with ESBL-E. coli carrying pigs decreased from 16 to 10 and the prevalence of ESBL-E. coli-positive pig samples halved from 27% to 13%. The presence of ESBL-E. coli carrying pigs was not related to total AMU, but it was strongly determined by the presence or absence of cephalosporin use at the farm. Other farm management factors, related with improved biosecurity, were less frequently seen in ESBL-E. coli-positive farms (e.g. presence of a hygiene lock, pest control delivered by a professional). In conclusion, ESBL-E. coli prevalence decreased in pigs during 2011 and 2013 in the Netherlands.

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Where to find the original material:

<http://dspace.library.uu.nl/bitstream/handle/1874/359723/journal.pone.0174094.pdf?sequence=1&isAlloved=y>; <https://doi.org/10.1371/journal.pone.0174094>

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