



# COMPANION ANIMAL

Research Award



## **The Antimicrobial Stewardship and Pets-project (ASAP): antimicrobial use in 44 Dutch companion animal clinics prior to and during the implementation of an Antimicrobial Stewardship Improvement Strategy**

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Using trend extrapolation from auto-regressive models, a further decrease in total, 2<sup>nd</sup> and 3<sup>rd</sup> choice AMU was seen after implementation of the ASP in many clinics, resulting in an overall significant decrease for total and 2<sup>nd</sup> choice AMU. Participants reported to be more aware of AMU after participation in the ASP and the project was positively evaluated.

The ASAP-project shows that AMU in Dutch companion animal clinics could be optimised by implementing an antimicrobial stewardship improvement strategy.

### Conflicts of interest

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Use of antimicrobials in humans and animals promotes the selection of antimicrobial resistance (AMR). Antimicrobial Stewardship Programmes (ASPs) have been implemented worldwide in human healthcare to improve the appropriateness of antibiotic use and to reduce antimicrobial resistance rates. The ASAP-project was started to develop, implement and evaluate an ASP in Dutch companion animal clinics.

Baseline AMU data were collected (July 2012-June 2015) from 44 Dutch companion animal clinics and an ASP was developed based upon a qualitative study among Dutch companion animal veterinarians. The ASP used a multifaceted approach and consisted of post educational training, benchmarking of AMU data, an information leaflet for pet owners on AMU and individual feedback per clinic. The effect of this ASP was assessed over a three year follow-up period (2016-2018).

Number of Defined Daily Doses Animal (DDDA) per clinic was calculated from prescription data, for total, 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> choice AMU (according to Dutch policy on veterinary AMU). Time trends and seasonality before start of the ASP were explored using statistical modelling and the ASP effect was estimated by meta-analyses of estimated intervention effects for each individual clinic.

Before start of the ASP (2012-2015), total, 2<sup>nd</sup> and 3<sup>rd</sup> choice AMU already decreased, while 1<sup>st</sup> choice AMU increased. Strong seasonal patterns were observed in AMU, with highest use around August.