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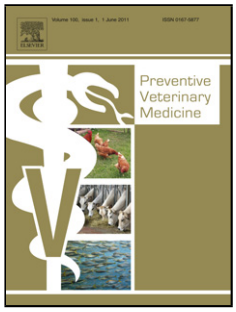

Title: New approaches to pharmacosurveillance for monitoring prescription frequency, diversity, and co-prescription in a large sentinel network of companion animal veterinary practices in the United Kingdom, 2014 to 2016

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PII: S0167-5877(17)30833-4
DOI: https://doi.org/10.1016/j.prevetmed.2018.09.004
Reference: PREVET 4530

To appear in: *PREVET*

Received date: 12-12-2017
Revised date: 4-4-2018
Accepted date: 4-9-2018

Please cite this article as: Singleton DA, Sánchez-Vizcaíno F, Arsevska E, Dawson S, Jones PH, Noble PJM, Pinchbeck GL, Williams NJ, Radford AD, New approaches to pharmacosurveillance for monitoring prescription frequency, diversity, and co-prescription in a large sentinel network of companion animal veterinary practices in the United Kingdom, 2014 to 2016, *Preventive Veterinary Medicine* (2018), https://doi.org/10.1016/j.prevetmed.2018.09.004

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Original research

New approaches to pharmacosurveillance for monitoring prescription frequency, diversity, and co-prescription in a large sentinel network of companion animal veterinary practices in the United Kingdom, 2014 to 2016

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Abstract

Pharmaceutical agents (PAs) are commonly prescribed in companion animal practice in the United Kingdom. However, little is known about PA prescription on a population-level, particularly with respect to PAs authorised for human use alone prescribed via the veterinary cascade; this raises important questions regarding the efficacy and safety of PAs prescribed to companion animals. This study explored new approaches for describing PA prescription, diversity and co-prescription in dogs, cats and rabbits utilising electronic health records (EHRs) from a sentinel network of 457 companion animal-treating veterinary sites throughout the UK over a 2-year period (2014 – 2016).

A novel text mining-based identification and classification methodology was utilised to semi-automatically map practitioner-defined product descriptions recorded in 918,333 EHRs from 413,870 dogs encompassing 1,242,270 prescriptions; 352,730 EHRs from 200,541 cats encompassing 491,554 prescriptions, and 22,526 EHRS from 13,398 rabbits encompassing 18,490 prescriptions respectively. PA prescription as a percentage of booked

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