

Research Project for PhD Student

Project Title:

Antimicrobial susceptibility patterns of bacterial isolates from horses

Project Supervisor:

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One Sentence Project Summary: (single sentence for Google-style search results)

This project will investigate the most common types of bacteria that cause disease in horses in Australia, the antimicrobial drug susceptibility patterns of these bacteria and explore any evidence for the development of antimicrobial resistance in bacteria of equine origin.

Project Synopsis: (about 250 words max)

This project aims to use both retrospective and prospective approaches to investigate the most common types of bacteria that cause disease in horses in Australia and the antimicrobial drug susceptibility patterns of these bacteria. This project will give an insight into the development of antimicrobial drug resistance in bacterial pathogens of equine origin by comparing antimicrobial susceptibility patterns over time.

This project consists of two parts, a retrospective analysis of archived microbiology records and a prospective analysis of the antimicrobial susceptibility of bacterial pathogens collected from horses during the course of the project. The retrospective analysis will involve the creation of a database of bacterial isolates, antimicrobial susceptibility patterns and clinical data using data archived from samples collected from horses submitted to the University of Sydney Veterinary Teaching Hospital Camden (UVTHC) over the past 15 years. Examination of this data will enable an investigation of trends in antimicrobial susceptibility and resistance over time. The prospective analysis will involve the qualitative and quantitative assessment of antimicrobial resistance by comparing susceptibility patterns in bacteria collected from clinical patients during the course of the project with those of "historic" organisms available from a collection of freeze dried bacteria held by the Faculty of Veterinary Science.

The results of the project will be used to establish rational guidelines for the use of antimicrobial drugs in horses in Australia. This project is also a logical starting point for the development of a national antimicrobial susceptibility database used for surveillance of antimicrobial resistance in bacteria of equine origin, and potentially bacteria of other animal species.

Other Information: (e.g. scholarships/funding available, etc.)

This project has funding support from RIRDC and the University of Sydney. Suitably qualified candidates may be eligible to apply for an APA or UPA.
