UNIVERSITY OF CALGARY

FACULTY OF VETERINARY MEDICINE

2023

Impact Report

Equine Health Fund

MESSAGE FROM

Dr. Renate Weller
Dean and Professor
University of Calgary
Faculty of Veterinary Medicine

We've continued our mission to contribute to the protection and promotion of animal and human health and welfare through education, research, and service throughout 2023. Our cohort continued to grow, with the admission of fifty-five eager new Doctor of Veterinary Medicine students, our largest admission since our inception in 2008.

This year has been a busy one for us, full of exciting new initiatives and partnerships. We've laid the groundwork for a permanent Community Care Clinic, which will address the growing need for affordable veterinary access to pet owners, while simultaneously providing a practice ground for our future DVM students to gain hands-on, real life experience.

Our emerging scholars and research faculty members continue to break ground on some of the most challenging questions facing us today. With multi-disciplinary focuses, from anti-microbial resistance to zoonotic diseases to animal welfare, the University of Calgary Faculty of Veterinary Medicine (UCVM) is well poised to bring forth concrete innovations to improve both animal and human health and welfare.

As explorers of the natural world, we often find that as we depart down one pathway, one research question, we encounter bumps and detours along the way. We crest one horizon, only to find another. We take one off-shoot, leading us to a bountiful world of further questions and queries. I wish to thank you for your continued support for all we do. Your contributions to our animal health funds allow us to advance animal and human health while giving exciting opportunities to our students. I welcome you to come visit, my door is always open to chat with fellow explorers.

MESSAGE FROM

Dr. Ashley Whitehead
Associate Dean,
Clinical Affairs
University of Calgary
Faculty of Veterinary
Medicine

2023 was an exciting year for the growth and development of UCVM and our corresponding Animal Health Funds. Our Bovine, Equine, Companion Animal, and Wildlife Health Funds are the catalyst of support to vital areas of teaching and research, as well as clinical and diagnostic activities.

Research is a journey, not a destination. As we answer our research questions, those answers often open a door to further questions. We continue along this road, knowing that we will always have further to go, while enjoying the journey nonetheless.

This year, I will pass along the torch of the health funds steering committee to a new lead, as I embark on a research and scholarship leave.

I feel confident passing leadership along to another of my esteemed colleagues. Over the past year we have established a robust process for application and adjudication, drawing a strong map to guide us as we navigate our research goals.

I would personally like to thank you for your support of the Health Funds, as well as invite you to continue along with us on our journey.

$157K+

awarded since 2008

Anyone who has been lucky enough to experience the love and companionship of a horse, knows why we care so deeply for these majestic beings. From their athletic prowess to the tranquility of a trail ride, the connection between horse and owner is profound.

UCVM continues to lead the herd when it comes to bettering equine treatment and knowledge, improving the length and quality of time we have with them.

We have successfully validated the use of a small, off-the-shelf global positioning system (GPS/GNSS) logger mounted on the saddle pad of Thoroughbred racehorses, enabling us to quantify stride frequency, stride length, and speed during training sessions. This innovative approach offers a user-friendly and efficient means of gathering valuable data for our longitudinal study.

Moreover, our research has shed light on the significant impact of surface properties on stride parameters. Through meticulous analysis, we have identified substantial variations in stride length attributed to differences in surface preparation. This insight underscores the importance of considering surface characteristics in injury prediction and prevention strategies.

MOVING FORWARD

Moving forward, we are poised to conduct a comprehensive longitudinal study involving 20 racing Thoroughbreds throughout the Alberta racing season. Each horse will be equipped with GPS/GNSS data loggers during canter/gallop training activities, allowing us to gather real-time data on stride parameters. Additionally, we will employ portable track surface testing devices to characterize surface parameters across various racetracks in Alberta.

Thank you from Dr. Thilo Pfau, PhD
Professor, Faculty of Veterinary Medicine & Faculty of Kinesiology

Thanks to your contribution, we have been able to embark on a longitudinal study focusing on racing Thoroughbreds and the critical interplay between stride parameters and surface properties in predicting and ultimately preventing impending injuries. Our preliminary findings have been promising, highlighting the potential of in-race measurement of stride parameters as effective predictors of injuries. Specifically, small reductions in stride length and speed have proven to be indicative of impending issues.

Your generosity has enabled us to pursue this ambitious research initiative, and we are committed to maximizing the impact of our findings within the equestrian community. With your continued support, we are confident in our ability to advance the field of injury prediction and contribute to the welfare of racing Thoroughbreds.

We conducted comprehensive sampling in the Sundre Equine Management Zone, collecting fecal samples from feral horses and co-grazing cattle. Initial analysis showed that while feral horses generally lacked antimicrobial-resistant E. coli, co-grazing with cattle led to the acquisition of resistance to certain antimicrobial drugs commonly used in cattle. Concurrently, we collected fecal samples from hospitalized domestic horses, revealing a significant proportion carrying antimicrobial-resistant E. coli upon admission, reflecting widespread resistance in the equine population. Additionally, horses receiving antimicrobial treatment during hospitalization exhibited a heightened likelihood of carrying resistant strains, underscoring the impact of antimicrobial drug use on resistance development.

MOVING FORWARD

As we look ahead, we are committed to expanding our sample collection efforts next summer to further elucidate the factors influencing antimicrobial resistance in fecal E. coli among horses. By gaining a deeper understanding of the mechanisms driving resistance transmission and development, we aim to inform evidence-based strategies for mitigating the spread of antimicrobial resistance and safeguarding both animal and human health.

Once again, I extend my heartfelt appreciation for your generous support of our research endeavors. Your contribution has been instrumental in advancing our scientific knowledge and fostering a holistic approach to combating antimicrobial resistance.

Thank you from Dr. Marie-France Roy, DVM, PhD, DACVIM

Professor, Faculty of Veterinary Medicine

With your funding, we were able to support a summer student on a 16-week project, which culminated in a presentation at the SURE research day at the end of the summer. I am delighted to share with you the progress and findings of our research thus far.

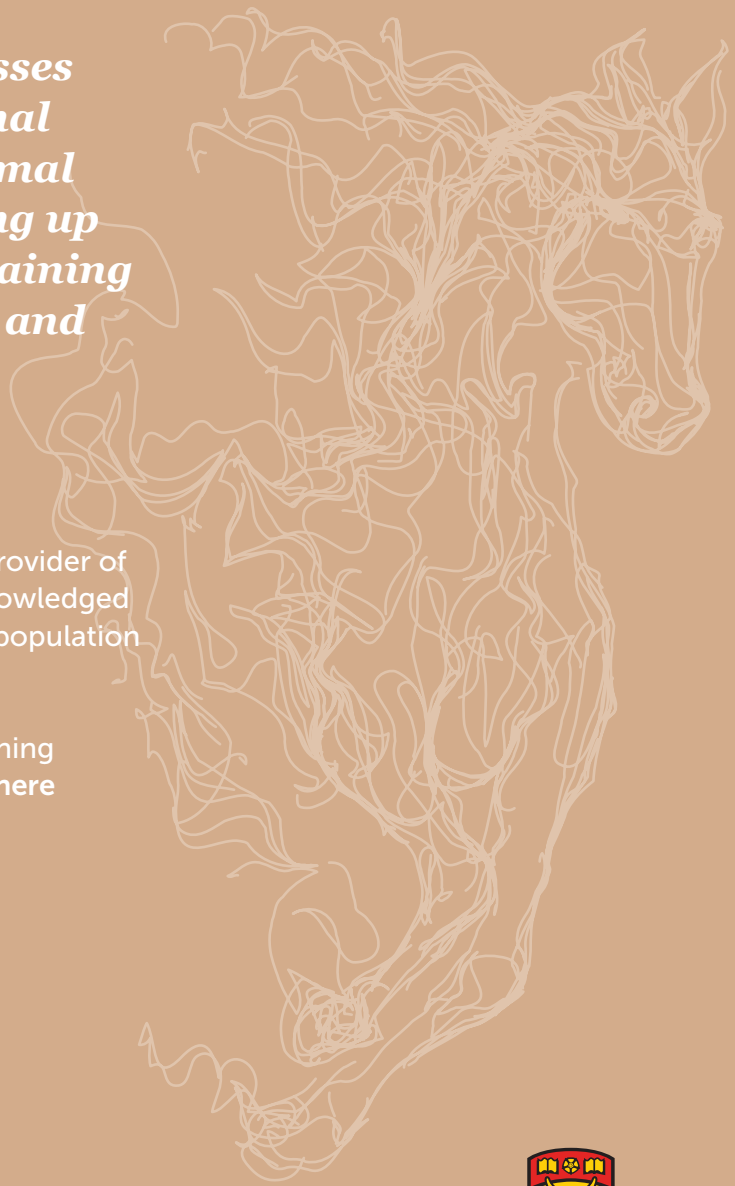
Our project focuses on investigating how antimicrobial resistance can pass from one species to another, particularly examining the commensal fecal E. coli population in Alberta horses.

Conducting research that addresses issues of importance to our animal industries at the interface of animal and human health, we are coming up with innovative solutions and training the next generation of clinicians and researchers.

For over 10 years, UCVM has worked to support a shortage of veterinarians serving Alberta.

As an internationally recognized and accredited provider of high-quality veterinary education, we are an acknowledged leader in comparative biomedical, veterinary and population health research.

Our research, graduate education and clinical training programs advance animal and human health — **where innovation meets community.**



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Contact us to learn more:

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