

Center for Outcomes Research and Epidemiology

Annual Newsletter 2017

Message from the Director



Greetings from the Center for Outcomes Research and Epidemiology (CORE). Every day we are striving toward enhancing our research, education, and service programs, but it is a great pleasure to take some time to reflect and share some of our recent accomplishments.

In this second annual newsletter, we have highlighted some of our excellent collaborations with industry partners. In the past year, we have been fortunate to have several exceptional opportunities to collaborate on student training, research, continuing education, and strategic planning for our future. In addition, we have expanded our ability to be a service provider. This has enabled timely access to our expertise in project planning and needs assessment, study design, data capture and management, disease modeling, statistical analysis, and many other areas. This has been particularly useful for industry partners who have immediate needs for expert services. When I look at the research, service, and training needs of our collaborators and stakeholders, as well as the success of our former students, the future of CORE certainly looks bright.

One important development is that we have combined our traditional epidemiology and population health group with CORE, thereby streamlining some of our educational and research activities, and providing more inclusive involvement of other faculty and students.

We are excited about the new talented people, both internally and externally, that we will get to work with in this coming year. We welcome you to contact us to learn more about CORE and opportunities to collaborate or support our Center.

Thank you for your interest in CORE.

David Renter, Director of CORE, drenter@vet.ksu.edu.

Collaborations with Industry

Public-private partnerships are highly valued by CORE. We understand the need to provide timely, high quality responses to industry research and technical service needs. In addition, collaborations with industry partners have very positive impacts on our teaching and training programs.

In this issue of our newsletter, we have highlighted a few examples of our collaborations with industry and private sector entities.



New Faculty and Staff: Welcome to **Dr. Charles Dodd** who joined CORE in August as a Research Assistant Professor. Chuck is a veterinary epidemiologist (and alumnus), most recently serving as a Fulbright Scholar at the Jordan University of Science and Technology. **Dr. Tariku Jibat Beyene** will be joining CORE in January as a Post-Doctoral Research Associate. Tariku is a veterinarian currently completing a PhD in applied epidemiology and economics at Wageningen University (The Netherlands).

CORE Highlights from the Past Year

Roundtable Event at Olathe Campus: Industry members in the Kansas City region were invited to join us at the Olathe campus on December 13 for a discussion to explore how outcomes research can benefit the animal health community, particularly as the Kansas City region expands its influence and expertise in outcomes research and information technology. Our goals were to provide an overview of the discipline of outcomes research and the value for decision-makers, and to facilitate discussion on how outcomes research (OR) could best be understood, used, and enhanced by the animal health community.

Dr. Royce Ann Collins, Associate Professor in Adult Education, facilitated the discussion. There were nearly 50 attendees from several segments of industry and academia, who provided broad perspectives on the topics discussed. Participants were divided into groups and given specific questions related to OR to discuss and then reported back to the bigger group. The feedback from the discussion was recorded and analyzed. This feedback will assist us with future plans and directions for CORE.



PHOTO COURTESY OF JODY DONOHUE, CEVA

Seminars by Dr. Nora Bello, Department of Statistics: The first seminar, held February 24, was titled “Towards reproducible research in animal health and production.” We received a great response to the first seminar, so a second follow-up seminar was held May 18 titled “Further thoughts for reproducible research in animal health and production.” Dr. Bello and Dr. Renter developed the idea for these seminars, which emphasized the most critical study design and analysis issues for valid research, based on their years of experience consulting and collaborating with animal health researchers. Drs. Bello and Renter are currently writing an invited paper for a peer-reviewed journal in order to share these concepts with a broader audience.

Technical Training Program for a Corporate Partner: In February, we kicked off this program with a day and a half training session onsite in Manhattan, KS, and then held our second onsite session in June. The year-long program involves a total of four onsite modules, as well as online materials, comprising approximately 60 hours of continuing education overall. This customized course is designed to provide tailored continuing education for technical services professionals through immersion into epidemiology, outcomes research, economics, and study design/analysis issues that are directly relevant to their animal health business.

K-State Olathe Research Showcase: For the second year, we participated in the K-State Research Showcase. This year the showcase was held at the Olathe campus, which attracted industry partners from the Kansas City Animal Health Corridor (a region comprising over half of the world’s animal health, diagnostics and pet food sales).

Private Sector Research Collaborations: Faculty, staff and students at CORE truly value the opportunities to conduct high quality, impactful research in collaboration with industry and private sector partners. Success is achieved when CORE contributes new knowledge and tools that decision-makers use to solve real-world problems. Many of these problems – particularly regarding population health and food safety issues – must be addressed in the private sector.

“We recently completed a unique research project in collaboration with a corporate partner and CORE faculty and students”, said Dr. Kelly Lechtenberg. “It was very rewarding to participate in evaluating new diagnostic/prognostic innovations in models that mimic natural disease. We were able to advance the science for the benefit of our fellow cattlemen, their veterinarians and ultimately for beef consumers. It was refreshing to work alongside the CORE faculty and students. The knowledge, energy and intellect that they brought to work each day was inspiring. Working together, we were able to address an industry need, in a timely and efficient manner, more thoroughly than any of the groups could have done alone. The project also provided a tremendous educational opportunity for the students.”

Through leadership on advisory councils, Dr. Lechtenberg also has had exposure to the major food safety research initiatives that CORE faculty members have led. He noted, “It’s difficult to conduct, analyze and report well designed, high quality research at the speed of commerce. The CORE team has quickly become an integral part of that process. CORE is designed to help address some of the critical functions along the path from the recognition of a data gap to making “science-based” recommendations. Without proper design, diligent adherence to quality standards and appropriate analysis, we run the risk of generating mountains of anecdotal information instead of scientific data.”

STEC CAP Project: Several CORE faculty have had major leadership roles in this \$25 million, multiyear initiative funded by USDA. The overarching goal of the Coordinated Agricultural Project (CAP) project is to reduce the occurrence and public health risks of Shiga toxin-producing *Escherichia coli* (STEC) in beef using a quantitative microbial risk assessment platform. Drs. Cernicchiaro, Sanderson, Renter and Schroeder, along with their graduate students, participated and presented at the 2017 STEC CAP Annual Conference in June.



CORE Advisory Council member Dr. Kelly Lechtenberg is highly regarded for his research experience and leadership in the private sector. Dr. Lechtenberg owns and manages a contract research organization, a feedlot and grazing beef cattle operation, and an Iso-wean swine facility. He understands why it is so important to generate data that is relevant to producers, the veterinarians that serve them, and the world that depends on good decisions from analysis of high quality data.

“I feel lucky to have such handy access to CORE and proud to have them as part of the Kansas State University, College of Veterinary Medicine.”

Student Training Experiences: The CORE faculty and students are involved in many different types of training programs for undergraduate, professional, and graduate student education. However, one student training opportunity unique to CORE stems from a collaboration with Banfield Pet Hospital's Banfield Applied Research and Knowledge (BARK) team.

(<https://www.banfield.com/state-of-pet-health/the-bark-team>)



VETERINARY STUDENT KAITLYNN BANKS, 2017 EXTERN (SITTING), ALONG WITH MEMBERS OF THE BARK TEAM

CORE and BARK leadership teams have partnered to provide an exciting summer externship opportunity for veterinary students interested in companion animal epidemiology. BARK is responsible for generating new knowledge in support of evidence-based medicine utilizing electronic medical record data from nearly 3 million cats and dogs seen at Banfield hospitals each year.

Kansas State veterinary students Tae Rim (Jennie) Kim and Kaitlynn Banks were chosen from a very talented pool of candidates to participate as externs in the summers of 2016 and 2017, respectively. When Dr. Renter and Jennie Kim spoke to students interested in participating this year, Jennie told them that this was an incredible opportunity to learn about real-world use of pet population health data.

Upcoming Event

This fall CORE will be hosting Dr. John Berezowski, Veterinary Public Health Institute, University of Bern. Dr. Berezowski leads a creative group of researchers at the University of Bern who aim to develop new methods for creating useful knowledge from the many diverse, new sources of data that are now emerging in animal health. John is recognized as a world leader in the design and implementation of real-time animal health surveillance systems. Dr. Berezowski will be coming to K-State in November to share information on their work, and explore opportunities to collaborate more formally with CORE on research and training programs.

Please see the CORE website for more information on our people and programs!



CORE Advisory Council member and Senior Director of Research, Dr. Liz Lund, initiated the expansion of Banfield's clinical externship program ([veterinary-students](#)) to include a unique student opportunity through CORE.

"The partnership with CORE enables Banfield to provide companion animal epidemiology experience to DVM students as well as expose future veterinary professionals to career options that they might not have considered."