

Integrating Research Synthesis and Translation Methods into Risk-Based Policy Making in Veterinary Public Health

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Session: Oral

Date/Time: Monday, April 23; 2-3PM

There is an increasing momentum to adopt more systematic approaches when using diverse sources of scientific evidence to make decisions. Concurrently, qualitative and quantitative research synthesis methods such as systematic review (SR) and meta-analysis (MA) have improved over the last decade. These methods provide an ideal mechanism for screening and translating scientific evidence into decisions or as inputs for a risk assessment. Our research group has initiated several independent, but complementary SR/MA targeting prioritized veterinary public health issues. A multiple-method approach was implemented and evaluated using one veterinary public health issue, but the approach is applicable to other issues. *Salmonella* issue in swine/pork was selected based on its overall importance to public health and agri-food trade. A systematic review on the effectiveness of interventions for reducing *Salmonella* in swine from farm-to-processing was also conducted. A meta-analysis on prevalence and risk factor data for *Salmonella* in swine was completed, and a quantitative risk assessment model for *Salmonella* in swine within the context of the Ontario swine industry is being developed. We will present our preliminary findings; underline the challenges and opportunities for applying research synthesis methods in veterinary public health and for integrating research synthesis methods into the risk assessment and decision modeling process in veterinary public health. We will also highlight the opportunities for integrating these methodologies as the corner stones of scientific based policy making in veterinary public health.

Biography:

Dr. Scott McEwen obtained his DVM and Doctor of Veterinary Science degrees from the University of Guelph. He is currently a Professor in the Department of Population Medicine, Ontario Veterinary College. His research focuses on the epidemiology of foodborne infections in food animal populations, particularly *E. coli* and antibiotic resistant organisms, but also *Salmonella* and other pathogens. He has extensive experience in conducting epidemiological studies in cattle, swine and other food animal species and has also participated in a number of studies of zoonotic infections in humans, including *E. coli* O157:H7 and antimicrobial resistance in commensals. His research on *E. coli* O157:H7 and related organisms focuses on the distribution of fecal shedding in cattle, and risk factors for infection in cattle and humans. He and his co-workers are also active in simulation modeling of potential intervention strategies (including vaccination) for this infection on farm and throughout the food chain. His research program in antimicrobial resistance focuses on the determinants of selection and assessment of human health risks. Since 1986 he has taught food safety to veterinary students and graduate students in a variety of degree programs and has been the principal research advisor of over 25 MSc and PhD students. He is author or co-author of over 120 publications in refereed scientific journals and has delivered invited research presentations in nine countries. He serves on several national and international public health committees and boards.
