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Short presentation

My main research interests are in the application of quantitative epidemiology to problems affecting animal disease and production, including statistical and mathematical modelling of animal disease systems, appropriate consideration of diagnostic tests for evaluation of disease, and the use of stochastic modelling as a tool to understand the underlying processes of disease systems. These interests are supported by a combination of my veterinary background, statistical knowledge, experience of government advisory work, and programming skills, which have given me a unique insight into problems at the intersection between applied and theoretical aspects of epidemiology and quantitative biology. I also have extensive experience of applying computationally intensive statistical methods to problems within ecology and epidemiology through ongoing collaboration with researchers from veterinary, medical and life science departments at a variety of research and governmental institutions in Denmark, the UK and worldwide. As a researcher working in the veterinary domain I receive funding grants from various relevant government, charity and livestock industry bodies.

Research outputs

Using registry data to identify individual dairy cows with abnormal patterns in routinely recorded somatic cell counts

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Accuracy of three diagnostic tests to detect tooth resorption in unowned unsocialised cats in Denmark

Eriksson, Jacob Mattias, Denwood, Matt, Nielsen, Søren Saxmose, McEvoy, Fintan, Allberg, Clara, Thuesen, Ida Sofie & Kortegaard, Hanne Ellen, 2024, (E-pub ahead of print) In: *Journal of Small Animal Practice*.

Quantifying human toxoplasmosis risk from pork consumption in Denmark : A conceptual framework for tissue cyst-based analysis

Olsen, Abbey , Swart, A., Pires, S. M., Fagt, S., Møgelmoose, V., Houe, Hans, Denwood, Matt, Nielsen, H. V. & Alban, L. M., 2024, *Vergne, T. and Robinson, P.A. (eds). Proceedings of the Society for Veterinary Epidemiology and Preventive Medicine annual meeting held in Uppsala, Sweden, SVEPM*.

A general framework to support cost-efficient fecal egg count methods and study design choices for large-scale STH deworming programs—monitoring of therapeutic drug efficacy as a case study

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Accuracy, acceptability, and feasibility of diagnostic tests for the screening of *Strongyloides stercoralis* in the field (ESTRELLA): a cross-sectional study in Ecuador

Tamarozzi, F., Guevara, Á. G., Anselmi, M., Vicuña, Y., Prandi, R., Marquez, M., Vivero, S., Robinzón Huerlo, F., Racines, M., Mazzi, C., Denwood, Matt & Buonfrate, D., 2023, In: *The Lancet Global Health*. 11, 5, p. e740-e748

Addressing misclassification bias in vaccine effectiveness studies with an application to Covid-19

Eusebi, P., Speybroeck, N., Hartnack, S., Stærk-Østergaard, J., Denwood, Matt & Kostoulas, P., 2023, In: BMC Medical Research Methodology. 23, 55.

Estimating true prevalence through questionnaire data

Mielke, Adam, Denwood, Matt & Christiansen, L. E., 2023, In: Journal of Medical Virology. 95, 7, e28908.

Identifying areas of animal welfare concern in different production stages in Danish pig herds using the Danish Animal Welfare Index (DAWIN)

Michelsen, Anne Marie, Hakansson, Franziska, Lund, Vibe Pedersen, Kirchner, M. K., Dam Otten, Nina, Denwood, Matt, Rousing, T., Houe, Hans & Forkman, Björn, 2023, In: Animal Welfare. 32, e47.

Modeling the Risk of Human Toxoplasmosis in the Danish Population From Ingestion of Tissue Cysts Present in Pork Products

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World Association for the Advancement of Veterinary Parasitology (W.A.A.V.P.) guideline for diagnosing anthelmintic resistance using the faecal egg count reduction test in ruminants, horses and swine

Kaplan, R. M., Denwood, Matt, Nielsen, M. K., Thamsborg, Stig Milan, Torgerson, P. R., Gilleard, J. S., Dobson, R. J., Vercruyse, J. & Levecke, B., 2023, In: Veterinary Parasitology. 318, 20 p., 109936.

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A new epidemiological approach to assess reductions in animal suffering through systematic control of Salmonella Dublin in a cattle sector

Nielsen, Liza Rosenbaum, Houe, Hans, Agger, Jens Frederik Gramstrup, Denwood, Matt, Dam Otten, Nina & Nielsen, Søren Saxmose, 2022, *16th International Symposium of Veterinary Epidemiology and Economics: Connecting Animals, People, and their shared environments - Abstract book*. p. 428 749

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Determination of an optimal ELISA cut-off for the diagnosis of Toxoplasma gondii infection in pigs using Bayesian latent class modelling of data from multiple diagnostic tests

Olsen, Abbey, Nielsen, H. V., Alban, L., Houe, Hans, Jensen, T. B. & Denwood, Matt, 2022, In: Preventive Veterinary Medicine. 201, 105606.

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Effect of enhanced hygiene on transmission of *Staphylococcus aureus*, *Streptococcus agalactiae*, and *Streptococcus dysgalactiae* in dairy herds with automatic milking systems
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