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Research interests

SRUC lecturer in quantitative science with interests in the application of statistics & maths within biological sciences

Specific research interests in

- * measuring antimicrobial resistance;
- * measuring antimicrobial usage;
- * the eradication of BVD;
- * provision of online quantitative tools in epidemiology

Employment

Lecturer

Animal Health
Scotland's Rural College
Inverness, United Kingdom
26 Jul 2023 → present

Food Security Challenge Centre

Scotland's Rural College
21 Oct 2020 → present

Lecturer

Scotland's Rural College
Edinburgh, United Kingdom
27 Oct 2008 → present

Research outputs

Improving the mental health of farmers: what types of remote support are acceptable, feasible, and improve outcomes? A feasibility RCT

Lamont, K., van Woerden, H. C., King, E., Wendelboe-Nelson, C., Humphry, R. W., Stark, C., Williams, C. & Maxwell, M., 4 Jan 2024, (First published) In: Discover Mental Health. 4, 1, 4.

Measurement of Antimicrobial Usage: What Can We Learn Across Livestock Sectors?

Humphry, RW., Hutchinson, I., Skuce, P. J., Gunn, GJ., Hayward, A., Rodrigues da Costa, M. & Henry, MK., 24 Nov 2023, 1 p.

Scotland's SAIC funded "Gill Health in Scottish Farmed Salmon" project 2018 – 2023: Highlights.

Boerlage, AS., Ashby, A., Eze, J., Humphry, RW., Duncan, AJ., Smith, C., Stewart, K., Barr, W., Pearce, M. C., Gunn, GJ. & Reeves, A., 25 Oct 2023.

A framework for assessing the confidence in freedom from infection in animal disease control programmes

van Schaik, G., Madouasse, A., van Roon, A. M., More, S. J., Graham, D. A., Frossling, J., Gethmann, J., Fourichon, C., Mercat, M., Agren, E., Sauter-Louis, C., Gunn, GJ., Eze, JI., Humphry, RW., Henry, MK., Guelbenzu, M., Nielen, M. & Santman-Berends, I. MGA., 30 May 2023, (First published) In: OIE Revue Scientifique et Technique. 42, p. 210-217 8 p.

Report to Cruickshank Trust on Public Education & Food Resilience

Humphry, RW., 3 May 2023, SRUC. 13 p.

Bacteriological Survey of Fresh Minced Beef on Sale at Retail Outlets in Scotland in 2019: Three Foodborne Pathogens, Hygiene Process Indicators, and Phenotypic Antimicrobial Resistance

Bishop, H., Evans, J., Eze, JI., Webster, CA., Humphry, RW., Beattie, R., White, J., Couper, J., Allison, L., Brown, D. & Tongue, SC., 1 Sept 2022, In: Journal of Food Protection. 85, 9, p. 1370-1379 10 p.

Output-based assessment of herd-level freedom from infection in endemic situations: Application of a Bayesian Hidden Markov model

van Roon, A. M., Madouasse, A., Toft, N., Santman-Berends, I. M. G. A., Gethmann, J., Eze, J., Humphry, R. W., Graham, D., Guelbenzu-Gonzalo, M., Nielen, M., More, S. J., Mercat, M., Fourichon, C., Sauter-Louis, C., Frössling, J., Ågren, E., Gunn, G. J., Henry, M. K. & van Schaik, G., Jul 2022, In: Preventive Veterinary Medicine. 204, 105662.

A modelling framework for the prediction of the herd-level probability of infection from longitudinal data

Madouasse, A., Mercat, M., van Roon, A. M., Graham, D. A., Guelbenzu, M., Santman-Berends, I. MGA., van Schaik, G., Nielen, M., Frössling, J., Agren, E., Humphry, RW., Eze, JI., Gunn, GJ., Henry, MK., Gethmann, J., More, S. J., Toft, N. & Fourichon, C., 7 Jan 2022, (First published) In: Peer Community Journal. 2, e4.

The mental health of NHS staff during the COVID-19 pandemic: Two-wave Scottish cohort study

De Kock, J. H., Latham, H. A., Cowden, R. G., Cullen, B., Narzisi, K., Jerdan, S., Muñoz, S. A., Leslie, S. J., McNamara, N., Boggon, A. & Humphry, R. W., 7 Jan 2022, (First published) In: BJPsych Open. 8, 1, e23.

Quantifying changes in the British cattle movement network

Duncan, A. J., Reeves, A., Gunn, G. J. & Humphry, R. W., Jan 2022, In: Preventive Veterinary Medicine. 198, 105524.

A modelling framework for the prediction of herd-level probability of infection from longitudinal data

Madouasse, A., Mercat, M., van Roon, A. M., Graham, D. A., Guelbenzu-Gonzalo, M., Santman-Berends, I., van Schaik, G., Nielen, M., Frössling, J., Agren, E., Humphry, RW., Eze, JI., Gunn, GJ., Henry, MK., Gethmann, J., More, S. J., Toft, N. & Fourichon, C., 1 Sept 2021, (First published) bioRxiv, 31 p. (ver. 6 peer-reviewed and recommended by PCI Animal Science).

Estimating antimicrobial usage based on sales to beef and dairy farms from UK veterinary practices

Humphry, RW., Henry, MK., Reeves, A., Innocent, G. T., Correia-Gomes, C., Smith, R., Mason, CS., Gunn, GJ. & Tongue, S., Jul 2021, In: The Veterinary Record. 189, 1, p. 1-11 11 p., e28.

Nursing stages of striped catfish (*Pangasianodon hypophthalmus*) in Vietnam: Pathogens, diseases and husbandry practices

Hoa, T. T. T., Boerlage, A. S., Duyen, T. T. M., Thy, D. T. M., Hang, N. T. T., Humphry, R. W. & Phuong, N. T., 25 Feb 2021, In: Aquaculture. 533, 736114.

Antimicrobial resistance: bringing Scottish expertise together to find the solutions

Holden, NH., Humphry, RW., Avery, L., Gunn, GJ., Foster, G., Innocent, G., Scott, K., Freitag, T., Pagaling, E., Watson, E. & Silva, N., 30 Oct 2020

Reply to Verougstraete et al. Comment on HbA_{1c} determination from HemaSpot blood collection devices: comparison of home-prepared dried blood spots with standard venous blood analysis

Hall, J. M., Fowler, C. F., Barrett, F., Humphry, R. W. & MacRury, S. M., Sept 2020, In: Diabetic Medicine. 37, 9, p. 1614-1615 2 p.

Pig Health Scheme: Assessor Report: 3rd–4th Quarter, 2019

Bishop, HKB., Henry, MK., Humphry, RW. & Pearce, MP., 2020, 212 p.

The British *E.coli* O157 in Cattle Study (BECS): Factors associated with the occurrence of *E.coli* O157 from contemporaneous cross-sectional surveys

Henry, MK., McCann, CM., Humphry, RW., Morgan, M., Willett, A., Evans, J., Gunn, GJ. & Tongue, SC., 5 Dec 2019, In: BMC Veterinary Research. 15, 444.

HbA1c determination from HemaSpot™ blood collection devices: comparison of home prepared dried blood spots with standard venous blood analysis

Hall, JM., Fowler, CF., Barrett, F., Humphry, RW., Van Drimmelen, M. & MacRury, SM., 16 Aug 2019, (First published) In: Diabetic Medicine. 37, 9, p. 1463-1470 8 p.

Denominators for national estimates of antimicrobial use may not work for herds

Humphry, RW., Henry, MK., Reeves, A., Correia-Gomes, C., Tongue, SC., Smith, R. & Gunn, GJ., Jul 2019. 1 p.

Estimating antimicrobial usage in Scottish beef and dairy herds from veterinary sales data

Humphry, RW., Henry, MK., Reeves, A., Correia-Gomes, C., Gunn, GJ., Smith, R., Innocent, GT. & Tongue, SC., Nov 2018, (First published) p. 377. 1 p.

The British *E.coli* O157 in Cattle Study (BECS): more than just prevalence estimates - implications for veterinary public health

Tongue, SC., Henry, MK., Evans, J., Webster, C., McCann, CM., Humphry, RW., Reeves, A., Gunn, GJ., Innocent, GT., McKendrick I, J., Allison, L., Hanson, M., Dallman, T., Jenkins, C. & Chase-Topping, ME., Nov 2018, (First published) p. 369. 1 p.

Measurement of antimicrobial usage & resistance

Humphry, RW., Sept 2018, *SEFARI*.

Strategies for screening young stock for antibodies - optimising numbers to test, cut-points & predictive values for bovine viral diarrhoea virus

Humphry, RW., Reeves, A. & Gunn, GJ., 22 Jun 2018, (First published) In: Scientific Reports. 8, 1, 11 p., 9532.

An empirical comparison of isolate-based and sample-based definitions of antimicrobial resistance and their effect on estimates of prevalence

Humphry, RW., Evans, J., Webster, C., Tongue, SC., Innocent, GT. & Gunn, GJ., 10 Nov 2017, (First published) In: Preventive Veterinary Medicine. 150, p. 143 - 150 8 p.

British *Escherichia coli* O157 in Cattle Study (BECS): to determine the prevalence of *E. coli* O157 in herds with cattle destined for the food chain

Henry, MK., Tongue, SC., Evans, J., Webster, C., McKendrick, IJ., Morgan, M., Willett, A., Reeves, A., Humphry, RW., Gally, DL., Gunn, GJ. & Chase-Topping, ME., 19 Sept 2017, (First published) In: Epidemiology and Infection. 145, 15, p. 3168 - 3179 12 p.

Optimising the measurement of antimicrobial resistance for use in epidemiology

Humphry, RW., Evans, J., Webster, C., Tongue, SC., Innocent, G. & Gunn, GJ., Mar 2017, (First published) p. 144 - 149. 6 p.

Difficulties arising from the variety of testing schemes used for Bovine Viral Diarrhoea Virus (BVDV)

Duncan, AJ., Gunn, GJ. & Humphry, RW., 2016, (First published) In: Veterinary Record. 178, 12, p. 292-300

An online calculator for assisting in the design of herd-level prevalence surveys whilst taking into account test imperfections

Duncan, AJ., Auty, HK. & Humphry, RW., Nov 2015, (First published) p. 242. 1 p.

Antimicrobial resistance (AMR): What measures should we use?

Humphry, RW., Tongue, SC., Evans, J., Webster, C., Foster, G. & Gunn, GJ., Oct 2014, (First published).

Not all cows are epidemiologically equal: quantifying the risks of bovine viral diarrhoea virus (BVDV) transmission through cattle movements

Gates, MC., Humphry, RW., Gunn, GJ. & Woolhouse, MEJ., 2014, (First published) In: Veterinary Research. 45, 110

Replicating disease spread in empirical cattle networks by adjusting the probability of infection in random networks

Duncan, AJ., Gunn, GJ., Umstatter, C. & Humphry, RW., 2014, In: Theoretical Population Biology. 98, p. 11 - 18 8 p.

Associations between bovine viral diarrhoea virus (BVDV) seropositivity and performance indicators in beef suckler and dairy herds

Gates, MC., Humphry, RW. & Gunn, GJ., Dec 2013, In: Veterinary Journal. 198, 3, p. 631 - 637 7 p.

Relative associations of cattle movements, local spread, and biosecurity with bovine viral diarrhoea virus (BVDV) seropositivity in beef and dairy herds

Gates, MC., Woolhouse, MEJ., Gunn, GJ. & Humphry, RW., Nov 2013, In: Preventive Veterinary Medicine. 112, 3-4, p. 285 - 295 11 p.

Does circumpatellar electrocautery improve the outcome after total knee replacement?

Baliga, S., McNair, CJ., Barnett, KJ., MacLeod, J., Humphry, RW. & Finlayson, D., 2012, (First published) In: The Journal of Bone and Joint Surgery. 94, p. 1228 - 1233 6 p.

Predicted costs and benefits of eradicating BVDV from Ireland

Stott, AW., Humphry, RW., Gunn, GJ., Higgins, I., Hennessey, T., O'Flaherty, J. & Graham, DA., 2012, (First published) In: Irish Veterinary Journal. 65, p. 12 - 29 18 p.

Prevalence of antibodies to bovine viral diarrhoea virus in bulk tank milk and associated risk factors in Scottish dairy herds

Humphry, RW., Brulisauer, F., McKendrick, IJ., Nettleton, PF. & Gunn, GJ., 2012, (First published) In: Veterinary Record. 171, 445

The influence of empirical contact networks on modelling diseases in cattle

Duncan, AJ., Gunn, GJ., Lewis, FI., Umstatter, C. & Humphry, RW., 2012, (First published) In: Epidemics. 4, 3, p. 117 - 123 7 p.

Divergence with age in blood pressure in African-Caribbean and white populations in England: Implications for screening for hypertension

Agyemang, C., Humphry, RW. & Bhopal, R., 2011, (First published) In: American Journal of Hypertension. 25, 1, p. 89 - 96 8 p.

Modelling the effects of previous infection and re-infection on the costs of bovine viral diarrhoea outbreaks in beef herds

Stott, AW., Humphry, RW. & Gunn, GJ., 2010, (First published) In: Veterinary Journal. 185, 2, p. 138 - 143 6 p.

How might we model an ecosystem?

Caron-Lormier, G., Bohan, DA., Hawes, C., Raybould, A., Haughton, AJ. & Humphry, RW., 2009, (First published) In: Ecological Modelling. 220, p. 1935 - 1949 15 p.

A model of the relationship between the epidemiology of Johne's disease and the environment in suckler-beef herds

Humphry, RW., Stott, AW., Adams, C. & Gunn, GJ., 2006, (First published) In: Veterinary Journal. 172, p. 432 - 445 14 p.

Assessing economic and social pressure for the control of bovine viral diarrhoea virus

Stott, AW., Gunn, GJ., Saatkamp, HW. & Humphry, RW., 2005, (First published) In: Preventive Veterinary Medicine. 72, p. 149 - 162 14 p.

Financial incentive to control paratuberculosis (Johne's disease) on dairy farms in the United Kingdom

Stott, AW., Jones, GM., Humphry, RW. & Gunn, GJ., 2005, (First published) In: Veterinary Record. 156, p. 825 - 831 7 p.

Modelling BVD at herd level compared with individual animal level

Humphry, RW., Stott, AW. & Gunn, GJ., 2005, (First published) In: Preventive Veterinary Medicine. 72, p. 169 - 175 7 p.

Optimal risk management versus willingness to pay for BVDV control options

Santarossa, JM., Stott, AW., Humphry, RW. & Gunn, GJ., 2005, (First published) In: Preventive Veterinary Medicine. 72, p. 183 - 187 5 p.

A practical approach to calculate sample size for herd prevalence surveys

Humphry, RW., Cameron, A. & Gunn, GJ., 2004, (First published) In: Preventive Veterinary Medicine. 65, p. 173 - 188 16 p.

Estimation of scrapie prevalence in cull and found-dead sheep on the Shetland Islands

Humphry, RW., Clark, AM., Begara-McGorum, I. & Gunn, GJ., 2004, (First published) In: Veterinary Record. 154, p. 303 - 304 2 p.

Modelling and costing BVD outbreaks in beef herds

Gunn, GJ., Stott, AW. & Humphry, RW., 2004, (First published) In: Veterinary Journal. 167, p. 143 - 149 7 p.

A linear programming approach to estimate the economic impact of bovine viral diarrhoea (BVD) at the whole-farm level in Scotland

Stott, AW., Lloyd, J., Humphry, RW. & Gunn, GJ., 2003, (First published) In: Preventive Veterinary Medicine. 59, p. 51 - 66 16 p.

Influence of tetracycline exposure on tetracycline resistance and the carriage of tetracycline resistance genes within commensal *Escherichia coli* populations

Blake, DP., Humphry, RW., Scott, KP., Hillman, K., Fenlon, DR. & Low, JC., 2003, (First published) In: Journal of Applied Microbiology. 94, p. 1087 - 1097 11 p.

Optimum replacement policies for the control of subclinical mastitis due to *S. aureus* in dairy cows

Stott, AW., Jones, GM., Gunn, GJ., Chase-Topping, M., Humphry, RW., Richardson, H. & Logue, DN., 2002, (First published) In: Journal of Agricultural Economics. 53(3), p. 627 - 644 18 p.

The quantitative measurement of antimicrobial resistance in *Escherichia coli* at the meta-population level (meta-population analysis)

Humphry, RW., Blake, D., Fenlon, D., Horgan, G., Low, JC. & Gunn, GJ., 2002, (First published) In: Letters in Applied Microbiology. 35, p. 326 - 330 5 p.

The effect of plant density on the response of *Agrostemma githago* to herbicide

Humphry, R. W., Mortimer, M. & Marrs, R. H., 1 Dec 2001, In: Journal of Applied Ecology. 38, 6, p. 1290-1302 13 p.

Biosecurity and screening for disease

Caldow, GL., Gunn, GJ., Humphry, RW., Crawshaw, M. & Rusbridge, SM., 2001, (First published) In: Irish Veterinary Journal. 54(9), p. 461 - 470 10 p.

Analysis of late-glacial and Holocene rates of vegetational change at two sites in the British Isles

Bennett, K. D. & Humphry, R. W., Apr 1995, In: Review of Palaeobotany and Palynology. 85, 3-4, p. 263-287 25 p.

Diiodobis (triphenylphosphine) nickel (II)

Humphry, RW. & Welch, D. A., Oct 1988, In: Acta crystallographica. Section C, Structural chemistry. 44, 10, p. 1717-1719

Activities

Can our AMR metrics be better?

Roger Humphry (Speaker)

4 Jun 2024

University of Edinburgh

Roger Humphry (Visiting researcher)

30 Jan 2024

Bayesian modelling & stoc-free

Roger Humphry (Speaker)

1 Oct 2021

Preventive Veterinary Medicine (Journal)

Roger Humphry (Reviewer)

2021 → ...

Awards

RESAS 22-27: SRUC-a2-3 A Systems Understanding Of The Flow Of Amr From Livestock Production To The Environment And Humans: Informing Antimicrobial Stewardship And Optimal Use

Hutchings, M., Webster, C., Tongue, S., Baker, E., Henry, M., Humphry, R., Holden, N., Rodrigues da Costa, M., Smith, L. & Lowe, A.

Scottish Government: Rural & Environment Science & Analytical Services: £1,051,642.44

1/04/22 → 31/03/27