

Some applications of spatial and spatial-temporal statistics in veterinary public health

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Abstract: Increasingly sophisticated inference concerning infections and diseases of animal and human health significance is becoming possible as a result of the collection of large routine data sets. The fact that these data sets are often both temporally and geographically referenced is leading to the application and development of methods by which atypically high risk times of the year and locations can be identified. We describe two case studies: the first develops a novel approach to modelling routine surveillance data from the UK Zoonosis Action Plan (ZAP) data which monitors *Salmonella* levels in pigs, and the second descriptive analysis, based upon the Veterinary Laboratories Agency's Farmfile database, highlights preliminary evidence of spatial dependence in the probability of antimicrobial resistance in isolates from *Salmonella* incidents in UK livestock species.

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