Shedding curves in *E. coli* O157 strains

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# Background

* State that *E. coli* O157 is an important disease in Scottish livestock with severe consequences to human health.
* Describe the problem of heterogeneity
* The gap in the knowledge: how *E. coli* O157 is shed in livestock
* Aim: to understand the shedding curves of *E. coli* O157 and predict the occurrence of super shedders
* Our approach: data + models + model fitting.

# Methods

* Data collected from transmission experiments
* Describe mathematical models to examine spread
* Fitting models to data using MCMC techniques

# Results

* Fit of data
* Parameters

# Discussion

* How these results will be used
  + Use the parameters to construct a metapopulation model to examine *E. coli* O157 spread throughout Scotland
  + Predict the efficacy of vaccines at the point of contact