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Modelling the short-term dynamic impact and implications of control strategies for *Chlamydia trachomatis*

Chlamydia has a significant impact on public health provision in the developed world. Using simpler models (including pairwise approximation equations) we investigate how much effect control programmes could have over short time-scales relevant to policy makers. At this scale dynamic effects are important to take into account, and the responsiveness of each model is just as important as steady state predictions. We use output from the models to estimate critical measures namely prevalence, incidence and positivity in those screened and their partners. We combine these measures with costing data and tools to estimate the economic impact of different intervention strategies. This dynamic approach highlights the importance of model selection when performing cost-effectiveness analysis, and shows that simpler models can be useful in conjunction with more complex stochastic simulations. However, too simple a model can result in dramatically different predictions.