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Mathematical models to quantify and optimize HIV interventions in British Columbia

The BC Centre for Disease Control has developed an internet-based service for testing for HIV and other sexually-transmitted diseases, primarily targeting MSM.

We want to learn how to quantify and optimize the impact and cost-effectiveness of this tool to reduce the number of new cases of HIV and the number of people who were not aware they were infected. We start with a simple ODE model of the MSM community and show how survey and behavioural data is used to guide the mathematical modelling process, and how model parameters are extracted.