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An agent-based model to disentangle the epidemiology of sexually transmitted co-infections

Sexual transmission of HIV (the virus that causes AIDS) can be significantly increased when one partner is co-infected with another sexually transmitted disease (STI). The prevalence of such co-infections in populations affected by HIV being relatively high, one natural question is to what extent other STIs can affect HIV incidence and HIV-focused interventions. To answer this question, the complex interactions between the demographic, epidemiological and biological dynamics need to be understood. Mathematical modelling can definitely help, but many challenges arise when a “realistic” framework is considered. In this presentation, I will briefly describe the agent-based model I’m currently working on to try to decipher this problem.