

Project Details	
Project Code	MRC21PHBr Vickerman
Title	Context-specific factors that drive HIV transmission among men who have sex with men: Modelling the role of behavioural, social and legal factors
Research Theme	Population Health
Summary	Men who have sex with men (MSM) are at high risk of HIV infection. Behavioural, legal and social factors all contribute to this heightened risk. Epidemiological analysis and modelling will be used to explore the role of context-specific factors (e.g. chemsex in UK, stigma and criminalisation in Africa) in elevating HIV transmission among MSM.
Description	<p>Globally, men who have sex with men (MSM) are 28 times more likely to acquire HIV than other men. Biological, behavioural, legal and social factors all contribute to increasing the risk of HIV transmission among MSM. Stigma and discrimination towards MSM persists, with same-sex sexual activity criminalised in 72 countries (mostly Africa), limiting access to HIV prevention and care services. In Sub-Saharan Africa (SSA), where HIV prevalence amongst MSM is greatest (~18%), HIV testing and status awareness are associated negatively with severity of anti-LGBT legislation. Twenty-four percent of MSM in SSA and 18% in Eastern Europe/Central Asia (EECA) report having been arrested or convicted for being MSM, which is associated with poorer access to HIV prevention and care, including being half as likely to access condoms in SSA. In high-income countries, chemsex, the use of psychoactive and performance-enhancing drugs before/during planned sexual events, has emerged as a key risk behaviour among MSM. In London, MSM engaging in chemsex are 5 times more likely to be diagnosed with HIV than other MSM, with similar increases in risk for other sexually transmitted infections. The World Health Organisation and the Joint United Nations Programme on HIV/AIDS (UNAIDS) have set targets for eliminating HIV. To meet these targets among MSM, it is important to understand how specific factors increase the risk of HIV transmission and so aid the development of interventions to reduce these risks. In light of this, we propose to:</p> <ol style="list-style-type: none"> 1. Utilise data from systematic reviews of how chemsex is associated with HIV transmission and related risk behaviours, to undertake modelling of the potential contribution of chemsex to HIV transmission in a range of HIV epidemics. 2. For contrasting global settings, utilise available epidemiological data to develop and parameterise HIV transmission models to investigate the role of context-specific factors (including chemsex, stigma, history of arrest) in driving HIV transmission among MSM, incorporating their effects on risk behaviours and uptake of prevention and treatment services. 3. Through modelling, assess the impact of different HIV prevention and treatment interventions or structural interventions that may reduce the harms modelled in 2. Through existing collaborations, we will model settings in UK (likely Wales), EECA (likely Ukraine or Georgia) and SSA (likely Senegal or Zambia), with travel occurring to these sites. Collaborators with expertise in MSM and sexual health research will guide the modelling and interventions considered. Prospective students will be highly numerate, with the project including training in infectious disease modelling and other epidemiological methods. The PhD student will be

	encouraged to publish their work, which will influence policy through presenting at international conferences and by working collaboratively with key stakeholders and MSM in each setting and through liaising with UNAIDS.
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