

Can the combination of TasP and PrEP eliminate HIV among MSM in British Columbia, Canada?

INTRODUCTION

In British Columbia (BC), the HIV epidemic continues to disproportionately affect the gay, bisexual and other men who have sex with men (MSM). Treatment as Prevention (TasP) has been relatively less responsive in reducing HIV transmission among MSM in BC. In this study, we aimed to evaluate how TasP and pre-exposure prophylaxis (PrEP), if used in combination, could lead to HIV elimination in BC among MSM.

METHODS

We developed a compartmental model stratified by age and risk-taking behaviour for the HIV epidemic among MSM in BC, informed by clinical, behavioural and epidemiological data

FINDINGS

- The incidence rate was estimated to be 1.2 (0.9–1.9) per 1000 susceptible MSM under the Status Quo scenario by the end of 2029.
- Optimizing all aspects of TasP and the simultaneous provision of PrEP to high-risk MSM resulted in an HIV incidence rate as low as 0.4 (0.3–0.6) per 1000 susceptible MSM, and an Re as low as 0.7 (0.6–0.9), indicating that disease elimination was possible when TasP and PrEP were combined.
- Provision of PrEP to younger MSM or high-risk and younger MSM resulted in a similar HIV incidence rate, but an Re with credible intervals that crossed one.

PUBLIC HEALTH IMPLICATIONS

- Further optimizing all aspects of TasP and prioritizing PrEP to high-risk MSM can achieve the goal of disease elimination in BC.

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