

A modeling the impact of combining HIV prevention interventions on HIV dynamics in fishing communities in Uganda survey

Cecile Kremer

Hasselt University, Belgium



Abstract

HIV-1 remains a major global health problem, and in countries with mature generalized epidemics such as Uganda there are groups of individuals that are more disproportionately affected. Among these groups in Uganda are fishing communities, which also have extensive sexual networks bridging into the general population. This modelling study investigates the impact of combined HIV prevention interventions on HIV dynamics in these high-risk fishing communities. A deterministic compartmental model was calibrated to the observed HIV prevalence among these fishing communities obtained from a 2016 census, using an active learning approach. The model was then used to examine the impact of different combinations of prevention interventions on HIV prevalence.

The considered interventions were voluntary medical male circumcision, condom use, counseling and testing, antiretroviral therapy, and pre-exposure prophylaxis (PrEP). Compared to a baseline scenario without interventions, a relative reduction in HIV prevalence over 15 years of at least 50% should be feasible using a combined package with reasonable coverage of the specific intervention components. Uncertainty analyses showed that PrEP uptake among HIV-negative women was the most important component of this intervention package. These study findings are believed to provide additional insight on the use of targeted intervention combinations in the fight against the HIV epidemic. Future work could incorporate sexual partnerships formed with individuals outside the fishing communities to investigate the interplay between reducing prevalence in either inland and lakeside areas.

is currently working on her PhD at Hasselt University. Her main research interests are in infectious disease modeling, more specifically HIV and viral hepatitis.

[11th International Conference on Emerging Infectious Diseases](#); Webinar- November 23-24, 2020.

Abstract Citation:

Cecile Kremer, A modelling the impact of combining HIV prevention interventions on HIV dynamics in fishing communities in Uganda survey, *Emerging Diseases 2020, 11th International Conference on Emerging Infectious Diseases; Webinar- November 23-24, 2020* (<https://emerging-diseases.infectiousconferences.com/abstract/2020/modelling-the-impact-of-combining-hiv-prevention-interventions-on-hiv-dynamics-in-fishing-communities-in-uganda>)



Biography:

Cecile Kremer holds master degrees in Psychology (Maastricht University, 2015) and Statistics (Hasselt University, 2017), and