ESTIMATING THE IMPACT OF EXISTING HARM REDUCTION INTERVENTIONS ON HIV INCIDENCE AMONG PWID IN MYANMAR: A MODELLING STUDY

Authors: Lim AG[1], McNaughton AL[1], Aung MT[2], Min AM[2], Ko SY[2], Stone J[1], Wisse E[3,*], Vickerman P[1,*]

[1]Population Health Sciences, Bristol Medical School, University of Bristol, Bristol, UK
[2]Médecins du Monde, Kachin, Myanmar
[3]Médecins du Monde, Paris, France

*Joint senior author

Background: HIV prevalence is high (>20% overall) and heterogeneous among people who inject drugs (PWID) in Myanmar, particularly in Kachin State (>40%), a hotspot with high HIV incidence and one-quarter of the country's PWID. Drop-in centres (DICs) operating since 2003 provide intervention services for PWID, including antiretroviral therapy (ART), opioid agonist therapy (OAT) and needle-syringe provision (NSP). Interventions have scaled-up massively (2-12-times) over 2011-2019. We estimated the HIV-impact of existing interventions among PWID in Myanmar over 2000-2020.

Methods: We developed a dynamic model of HIV transmission among PWID in Myanmar including ART, OAT, NSP, DIC attendance, injecting duration, and stratifying Kachin or not. The model was calibrated within a Bayesian framework using HIV incidence data from Médecins du Monde DICs in Kachin, national HIV programmatic data, and data from integrated Bio-Behavioural Surveys. Using Myanmar-specific intervention effectiveness estimates for NSP and OAT, we projected the changes in HIV incidence among PWID in Myanmar over 2000-2020 due to intervention scale-up.

Results: Model projections estimated that overall country-level coverages of DIC attendance, OAT, and ART among HIV-positive PWID reached 14.4% (95% uncertainty interval 13.1-15.3%), 4.9% (4.4-5.4%), and 10.3% (8.1-14.0%), respectively, by 2020. Coverage was typically doubled in Kachin relative to outside Kachin. Overall HIV incidence was estimated to have decreased by 21% over 2000-2020 to 28.3 (17.9-38.5) per 100 person-years (100py) in 2020. Among DIC non-attendees, this decrease was 12% to 31.3 (19.8-42.1) per 100py in 2020, contrasting with a projected 76% reduction among DICs attendees to 8.5 (5.2-12.4) per 100py, with greater reductions observed in Kachin DICs than DICs outside Kachin (82% vs 72%).

Conclusion: Scale-up of HIV-related interventions in Myanmar has substantially reduced HIV incidence among PWID. However, intervention coverage remains low and HIV incidence is very high among those not attending services. Further scale-up is needed to control the epidemic.

Disclosure of Interest Statement: Nothing to disclose.