

MODELLING THE IMPACT OF RUSSIA'S DRUG POLICY ON HIV TRANSMISSION AMONG PEOPLE WHO INJECT DRUGS.

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Abstract – 308 of 300 words

Background: Russia has the largest HIV epidemic in Europe. The coverage of HIV prevention interventions for PWID in Russia have progressively decreased since 2008, while levels of incarceration and HIV prevalence have increased. We evaluated the impact of historical coverage levels of prevention interventions and increases in incarceration among PWID in Russia.

Methods: A dynamic HIV transmission model among PWID, incorporating NGO interventions and incarceration, was calibrated in a Bayesian framework. This included programmatic data on the decreasing number of people attending NGO interventions (2004-2020) and survey data on increasing levels of ever incarceration (2003-2014). Based on Russian and systematic review data, NGOs were assumed to halve HIV transmission risk while recent incarceration was assumed to increase HIV transmission by 81%. We modelled the impact of removing historical levels of NGO interventions over 2004-2025, and estimated the impact of incarceration over 2004-2025 and 2025-2034.

Results: The number of PWID accessing NGOs reduced from 122,997 to <30,000 per year over 2008-2020, while levels of ever incarceration increased from 28% to 44% (2010-2014) and HIV prevalence increased from 24% to 44% (2000-2020). Model projections estimate a HIV incidence of 12.0 (95% credibility intervals 7.5-16.0) per 100pyrs and 22,780 (4,778-49,894) new infections per year among PWID in Russia in 2025. Over 2004-2025, existing prevention interventions are estimated to have prevented 34,114 (17,836-64,418) infections, while historical levels of incarceration are estimated to have resulted in 514,407 (51,364-1,069,311) new infections. Going forward, 44% (12–63%) of new HIV infections over the period 2025-2034 will be due to incarceration.

Conclusion: Low and decreasing levels of NGO coverage paired with high and increasing levels of incarceration have created a perfect storm of HIV transmission in Russia, with our model projections suggesting a quarter of new HIV infections occurring among PWID globally are in Russia. Both these issues need to be remedied to control the HIV epidemic.