

Inadequate provision of treatments driving drug-related HIV epidemics

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Of the estimated 16 million injecting drug users (IDUs) worldwide, some 3 million are thought to be HIV positive. To curtail the HIV epidemic in IDUs, a combination of interventions are needed specific to the location and population profile. In the new paper in *The Lancet Series on HIV in People Who Use Drugs*, Dr Steffanie Strathdee, University of California San Diego, CA, USA, and colleagues conclude that inadequate provision of opioid substitution (OST), needle and syringe programmes (NSP) and antiretroviral therapy (ART), along with laws preventing OST, are all driving the HIV epidemic in people who use drugs.

Latest estimates of HIV prevalence among IDUs are 20 to 40% in five countries and over 40% in nine. The authors examine case studies in Odessa (Ukraine), Karachi (Pakistan) and Nairobi (Kenya). The authors' first key finding was the evidence backing scaling-up of combination HIV prevention interventions was compelling. Using Odessa as an example, the authors show that if the unmet need of OST, NSP and ART was reduced by 60% over the next 5 years, 41% of incident HIV infections could be prevented. This impact was synergistic—being much more effective when scaled up together as opposed to scaling up OST or NSP alone.

They also found [sexual transmission](#) could account for one fifth of new HIV infections in Odessa, but only 5% in Karachi, where the attributable risk (meaning the contribution that a risk factor makes to the overall risk of [HIV infection](#)) for use of non-sterile injection equipment was much

higher.

The impact of scaling up combination HIV prevention interventions was also compelling. Using Odessa as an example, the authors show that if the unmet need of OST, NSP and ART was reduced by 60% over the next 5 years, 41% of incident HIV infections could be prevented. This impact was synergistic—being much more effective when scaled up together as opposed to scaling up OST or NSP alone.

Inadequate ART access can have a significant impact on some IDU-related epidemics over the next 5 years. The attributable risk due to suboptimal ART access was 38-50% in Odessa and 19-40% in Karachi; thus better ART access would substantially reduce this risk.

In epidemics where the force of infection may be currently be great (meaning the rate at which people are becoming infected is high), such as Nairobi which is experiencing an HIV outbreak among IDUs, simply scaling up coverage of OST and NSP was not enough to significantly curtail the epidemic. For example, scaling up OST and NSP by 80% in Nairobi reduced HIV incidence by 29%. However, if the efficacy of NSP and OST was improved from 50% to 70% in the presence of scaling up these interventions and ART scale up, over 60% of HIV infections could be prevented. Examples of ways to improve efficacy include for OST offering a choice of treatment modalities such as methadone and buprenorphine. For both OST and NSP, providing mobile services; and for NSP, offering 24-hour access, and no limits on the number of syringes exchanged.

The authors also showed that local HIV epidemics are sensitive to different types of structural changes, such as a change in the macro-physical environment. For example, in Karachi there are a large number of heroin smokers—drug market fluctuations such as decreases in heroin availability or drug purity, or increases in price, could lead to an increase

in the rate of transition from non-injection to injection drug use. For example, if the proportion of heroin smokers who transitioned to injection increased by 8%, 10% or 12%, the increase in the number of HIV infections could grow by 65%, 82% or 98% over the next 5 years, a situation which is compounded by the fact that OST is virtually absent and thus the number of IDUs who reduce or stop injecting will remain low. Here, scale-up of OST should be an urgent priority. In Odessa, police beatings and other intimidation tactics such as being arrested for carrying needles, whether clean or used, also increase risky behaviour among IDUs. The authors estimate as many as 1 in 5 new HIV infections could be prevented if police beatings ceased through reduction of exposure to contaminated equipment.

In Nairobi, the authors examined the impact of removing the law prohibiting OST from being prescribed to IDUs. If the OST law were to be removed and if both NSP and OST were scaled up to 80% coverage, thereby reducing the frequency of injection and the number of years that people inject drugs, up to 29% of HIV infections could be prevented. Therefore, it is a public health imperative that Kenya make the bold move to follow in the footsteps of 4 of its other African neighbours who have recently endorsed OST.

The authors conclude: "Our modeling scenarios show that HIV epidemics among IDUs can be significantly curtailed ... Adequate coverage of these interventions could not only avert thousands of HIV infections, but also substantially reduce local HIV epidemics through protection of the rights of IDUs to access effective [HIV](#) prevention and treatment and services."

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