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Editorial

Drug harms and drug policies in Sub-Saharan Africa: Implementation science and HIV epidemics

With opiate use documented in over half of the countries of Africa, injecting drug use reported in most of these, and linked emerging concentrated epidemics of HIV and hepatitis C infection among people who inject drugs (PWID), there is increasing attention on the incorporation of harm reduction interventions as part of national drug policy responses in African countries (Abdool, 2016; Ratliff et al., 2013; Rhodes, Guise et al., 2015, Rhodes, Ndimbii, Guise, Cullen, & Ayon, 2015). The focus of interest in relation to implementing HIV and hepatitis C prevention is contextualised by longer-standing and broader concerns linked to indicators of growing drug markets, especially of heroin in the East African countries of Kenya and Tanzania (Beckerleg & Hundt, 2004; Carrier & Klantschnig, 2012; International Narcotics Control Board, 2014; Mbwambo et al., 2012; UNODC, 2013a, 2013b). There is a growing body of epidemiological research linking the diffusion of injecting drug use with concentrated outbreaks of HIV and hepatitis C in the region (Kurth et al., 2015; Matiko et al., 2014; Nyandindi et al., 2014). HIV prevalence estimates among PWID in Nairobi, Kenya, for example, have ranged between 14.5% and 50% (Kurth et al., 2015; NASCOP, 2014), and in Dar es Salaam, Tanzania, between 35% and 50% (Dutta, Barker, & Makyao, 2014; Nyandindi et al., 2014). While data is limited, estimates of hepatitis C prevalence among PWID in these settings appear higher still (Muasya et al., 2008; Nyandindi et al., 2014). There are few robust prevalence estimates of HIV, hepatitis C or tuberculosis among people who use drugs in West African and other Sub-Saharan African countries (Bouscalliou et al., 2016; Eluwa, Strathdee, Adebayo, Ahonsi, & Adebajo, 2013; Lancaster et al., 2016; Lepretres et al., 2015; Scheibe et al., 2016).

In a number of East African countries – notably Mauritius, Kenya and Tanzania – drug policies have recently been characterised by a state of adaptation, wherein multiple stakeholders – including global, international as well as local actors – have negotiated the relative merits and evidence in support of harm reduction as a measure of HIV and hepatitis C prevention. In Mauritius, the endorsement of needle and syringe programmes (NSP) and opioid substitution treatment (OST) as cornerstone HIV prevention interventions as part of national policy since 2006 has reportedly enabled these services to be considerably expanded since their introduction, including OST within prisons, to the extent that over 50% of PWID are said to be receiving OST and around 50% NSP (Republic of Mauritius, 2012). In Tanzania, NSP was introduced in 2010 and methadone-assisted drug treatment in 2011 (Ratliff et al., 2013), while in Kenya, NSP was introduced in 2013, and methadone treatment in late 2014 (Rhodes, Guise et al., 2015). The estimated coverage of these interventions, however, is generally below optimum. For instance, assuming the numbers of PWID in Nairobi, Kenya, range between 5031 and 10,937 (0.2–0.5% of the adult population), NSP reaches between 10% and 20% of PWID (Okal et al., 2013), while OST in Nairobi was reaching an estimated 400 PWID by September 2015 (Rhodes, Closson, Paparini, Guise, & Strathdee, 2016).

Implementation science: What is it, and what should it become?

Driven by the public health emergency of HIV and viral hepatitis among concentrated populations of PWID, and shaped by a complex of global and international health interest, the introduction of harm reduction interventions may constitute something of a living experiment in drug policy adaptation in the Sub-Saharan African context. An important role for implementation science is reflecting on the delivery, efficiency and effects of intervention and policy innovations in new settings (Odeny et al., 2015). This is how implementation science in HIV prevention is generally cast. Within a mainstream framework of evidence-based intervention, it generally seeks to establish how interventions evidenced elsewhere might be implemented or replicated into new settings and at what potential cost and effect (Cunningham & Card, 2014; Odeny et al., 2015).

Drug policy adaptations occurring in the light of HIV and hepatitis epidemics in Sub-Saharan Africa focus our attention on what an implementation science can, and should, be doing. Focused primarily on the translation of evidenced interventions, most implementation science may undermine an appreciation of how evidence and intervention are open to multiple interpretations in different times, settings and contexts. The focus is exploring how an assumed-to-be stable and proven-to-be-effective intervention object – such as NSP or OST – can be made to work, with similar effect, under different social conditions. It means that the narrowing of implementation science around existing evidence-based and objectivist frameworks of knowledge production limits understanding of how the meaning, use and evidencing of interventions and policies might be done differently in different knowledge producing contexts. This amounts to a tendency to reproduce what is known rather than learn what is there; a focus on using science to aid the *translation* of an intervention object from one place to another, rather than on

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evidencing the *transformation* of an intervention subject in its context.

This narrowing of attention away from more constructionist approaches to exploring intervention and policy-making is in part a methodological concern (Adams, 2008). As is well known, the public health sciences give primacy to quantitative methods of data generation and analysis, and in particular the ideal of the controlled intervention trial given its claims to objectivity via its minimisation of bias, and in so doing, tend to obscure investigations, through qualitative or ethnographic methods, of how meaning, evidence and knowledge is *constructed* locally (Colvin, 2015). But it is also a political concern, especially in the context of global health interventions (Adams, 2008). In our view, how globalised evidence and intervention promise is negotiated locally should be a critical element of implementation science (Rhodes et al., 2016). Understanding alternative and competing forms of knowledge in relation to intervention is fundamental to appreciating why ostensibly the same or similar intervention – such as OST – might be deployed differently in a different context, with potentially different effects, or possibly resisted and not implemented at all. How can implementation science enable different meanings and evidencing of purportedly the same evidence-based intervention? What does it imply when interventions evidenced globally are not simply translated through adaptation into new settings but transformed into something altogether different? Can implementation science, which valorises generalisability, be open to the idea that any given intervention is, in fact, open to multiple interpretation? If, for example, the effects of methadone treatment are evidenced or cast as addiction recovery in one setting but HIV prevention in another, does this not mean that multiple forms of methadone intervention and effect co-exist? And if such intervention knowledges differ on account of context, what is going on in the negotiation between 'global' versions of what constitutes objective intervention knowledge and alternative local versions? There is an obvious *politics of knowledge* being negotiated through the discourses of drug policy and HIV prevention, arguably especially in settings under the weight of international influence (Adams, 2008; Nguyen, 2004). This means that drug policy discourses themselves, especially in moments of adaptation or change, are an untapped resource for developing a more critical approach to implementation science (Fraser & Moore, 2011; Stevens, 2011).

In our view, implementation science as currently advocated tends to bracket itself from these concerns. Let us take the example of Russia, and its vociferous policy resistance to endorsing global evidence and recommendation regarding the public health benefits of implementing OST. This tends to be interpreted as an example of grave policy failure that produced harm given the missed opportunity for averting HIV infections had OST been implemented as in Western Europe (Rhodes, Sarang, Vickerman, & Hickman, 2010). Additionally, the case of Russia's resistance to OST might be seen as an example of advocacy failure, where the combined weight of global scientific evidence with international agency investment and inter-government diplomacy failed to enact a policy change. Our point here is that the kind of implementation science generally promoted may be of little help to understanding why or how these 'failures' came about, or how to navigate them. Implementation science must of course orientate to the operation and effects of implementing otherwise evidenced interventions and policies (Cunningham & Card, 2014). But more fundamentally, it must also focus on how evidence and intervention is not a given but constituted locally. A science exploring how different contexts shape the translation, transformation or resistance of policy adaptations must at the outset be open to grounding its knowledge *within that local context*. In our view, this also invites a critical gaze upon the practices of global health intervention and implementation science itself.

The example of Russia's resistance to OST then, is also an instance of failure of implementation science to ask the right questions and deploy the most appropriate methods. There are important lessons here for any setting of policy adaptation or HIV prevention need, including the region of Sub-Saharan Africa. The encouraging policy developments being made towards HIV prevention linked to drug use, especially in East Africa, focus attention on the kind of implementation science that is needed. Of immediate concern is why, in the face of emerging evidence of HIV risk and concentrated epidemics, have policy adaptations been so slow to incorporate an emphasis on harm reduction? Evidence of the diffusion of injecting drug use in the Sub-Saharan African region, and its potential implications for drug harm, began to circulate twenty years ago (Stimson, Adelekan, & Rhodes, 1996), and in East Africa a decade later (Beckerleg & Hundt, 2004). In Kenya, the introduction of NSP began a decade after this (in 2013), and through small pilot projects delivered by local community organisations reliant upon unpredictable and short-term international funding. The internationally supported project to deliver NSP was publicly risk-managed among policy-makers so as to minimise any adverse reactions to its implementation (Rhodes, Guise et al., 2015). A similar story of fragile implementation emerged with OST. This has been piloted in two Kenyan sites since late 2014, but was at least two years in the planning, during which time the promise of its delivery shifted, generating a mix of hope and rationed expectation for people who had grown tired of alternative ineffective drug treatment options (Rhodes, Ndimbii et al., 2015). What kind of implementation science is needed to understand these structural, systemic and political conditions which shape the potential for policy adaptation and new intervention delivery? Importantly, what kind of implementation science can produce the knowledge required to advocate for the systemic and policy changes required to realise new intervention opportunities?

Implementation science tends to proffer a reactive research intervention connected to a pre-existing package of evidenced interventions. In the field of harm reduction, the focus is assessing the delivery potential of translating the combination package of NSP, OST and antiretroviral HIV treatment into new settings. But with a greater emphasis on using social science methods to understand drug policy adaptations as social systems shaped by their contexts, evidence can better orientate to developing a science of implementation driven by local knowledge and need. Implementation science seeks generalizable knowledge to close the gap between evidence and practice (Odeny et al., 2015), and yet, to some extent, accepts that intervention effects are not free of their contexts (WHO, 2011). In fact, implementation science does not go far enough in troubling the idea of there being a stable single body of intervention evidence that can be translated through a different context into similar practice. A locally grounded and context-based implementation science accepts that a package of pre-existing interventions promoted globally is re-negotiated, even transformed, into something new at a local level.

This lack of primary contextual focus of implementation science is perhaps most acute in settings of resource constraint. The focus of implementation science on exploring intervention reach and coverage is clear, especially given how woefully under-powered (and under-resourced) the pilot harm reduction interventions in the region tend to be. This inevitably means that new intervention opportunities occur in a context of rationing, and in consequence, rationed expectation. A necessary focus of implementation science then, is understanding the political-moral economy of access to care, that is, the systems of social triage and other forms of rationing which may sort the 'deserving' from the less so. Related to this, an understanding of how new intervention opportunities in relation to drug use are situated alongside competing, and often