Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Challenges facing harm reduction interventions in the era of COVID-19 in Africa

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The on-going COVID-19 pandemic is characterized by a significantly large proportion of population experiencing symptomless infections. Undesirably, the nature of symptomless infections does not motivate an active search for healthcare services by these subjects despite remaining potentially infectious to the general population. Indeed, transmission of COVID-19 aetological virus, SARS Cov-2, by asymptomatic cases contributes to the transmission for the disease globally [1]. For this reason, the push to curb the spread of COVID-19 has gained unprecedented momentum in Africa with government-led interventions majorly linked to social distancing via restriction of movement. Indications are that these restrictions might remain in place for months before a vaccine and/or a cure are introduced.

Government-led interventions in Africa target the general population and frontline medical personnel against a full blown outbreak. However, key populations particularly people who use drugs (PWUDs, $n=$ >250,000 in sub-Saharan Africa) also face the same risk as the general population and remain a threat to persistent transmission of COVID-19 by acting as a transmission bridge to the general population [2]. While numerous direct and indirect pathways along this bridge are apparent, appreciation of these threats can inform actionable interventions that contribute to the overall interrupted COVID-19 transmissions at the community level in Africa.

People who use drugs in Africa are concentrated in informal urban dwellings characterized by high population densities of >100,000 inhabitants/sq. km and intense overcrowding compounded by inadequate water, sanitation and hygiene infrastructure [3]. Erecting hand washing stations in these dwellings is a challenge not only because of the high number of stations required but also in the daily requirements of thousands of liters of clean water and soap. Certain socio-cultural dynamical aspects may hinder adherence to hand washing practices in slum settings including misbeliefs that COVID-19 is for the middle and upper class and not for the poor, misbeliefs that the constant illness experiences they have overcome in life has made them immune to many diseases while others believe that they have already experienced COVID-19 symptoms in the course of life. These settings negate the conventional disease interventions that advocate for social distancing, frequent hand-washing and advise to stay at home. People who use drugs are unlikely to adhere to these interventions for different reasons as outlined below.

Majority of PWUDs are long-term smokers of licit and illicit drugs that over time lead to weak respiratory systems (i.e. reduced respiratory reserve volume), the target body system for COVID-19 [4]. Besides, PWUDs generally and frequently

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contend with malnutrition which is likely to be an underlying risk factor for COVID-19 fatality. For instance, undernutrition is known to amplify the severity of pneumonia episodes linked to immune deficiency. Pneumonia is a common clinical sign at the severe end of COVID-19 spectrum and a prognostic indicator of death. An additional challenge among PWUDs is their relatively higher HIV incidence and prevalence compared to the general population [5]. While there is limited data currently to link HIV infection as a risk factor for excess COVID-19 mortality, HIV is known to compromise immunity making the body more susceptible to both opportunistic and non-opportunistic infections including mental ill-health arising from chronic stress. Globally, anti-retroviral therapies (ARTs) against HIV have seen the opportunistic infections decline substantially subject to adherence to recommended therapy guidelines. Unfortunately, majority of PWUDs have sub-optimal adherence to ART and this may result in increased severity and poor outcomes of COVID19 most likely due immuno-compromised status. Homeless drug users present additional challenges in their health management due to close social interaction amongst themselves in drug-using sites. Consequently, few if any of the COVID-19 interventions are implementable among homeless PWUDS. Moreover, PWUDs constantly evade police enforcement of movement restrictions implying that they must keep on relocating to new sites, meeting and mixing with other drug users and possibly facilitating transmission. Homeless drug users are hard to reach for food distribution and other provisions by governments for lack of inclusion during mainstream community registration used in emergency food disbursements especially in the informal settlements.

In mitigating effects of drug use, the current policies in many countries in Africa require PWUDs to physically visit medically assisted clinics for administration of methadone or other drug treatment options as directly observed therapy (DOT) [6]. These daily visits often using public transport present opportunities for interactions with the general population where the likelihood for bidirectional COVID-19 transmission is enhanced. These interactions increase vulnerability of PWUDs to more social and health challenges due to marginalization and the stigmatization that they largely experience. Most importantly, PWUDs are more likely to face drug-use induced mental health challenges, limiting their cognitive capacity to consume and internalize COVID-19 prevention messages and self-care actions as they are already drug dependent and suffering from varying degrees of psychosis and other mental disorders [7]. In any case, majority of them do not have phones, radios or televisions for sourcing the correct COVID-19 prevention information. In dealing with homeless drug users, the current policy recommends use of outreach teams that visit and intervene at the drug using sites. These outreach teams are at risk of exposure especially due to a shortage of personal protective equipment (PPE). This, coupled with probable delayed recognition of COVID-19 symptoms due to overlap with drug withdrawal symptoms or lack of knowledge in dealing with COVID-19 suspected cases, and exposure to large numbers of drug users during DOT are potential avenues for exposing healthcare workers in the medically assisted clinics who may be pulled out of service in case of transmission.

To go round these challenges, we focus on what and how escalated interventions on harm reduction provision can contribute to reduced COVID-19 transmission among people who use drugs. Government support in ensuring water and other sanitary measures in informal settlements needs to be insistently invigorated targeting both PWUDs and informal settlement dwellers. Measures to decongest homeless drug-using sites and medically assisted clinics need to be instituted immediately as they can easily transform into COVID-19 transmission hotspots. For instance employing take home doses of methadone as piloted in Morocco (https://www.youtube.com/watch?v=MbdwoQPz-h4&feature=youtu.be).

Training drug-use peer outreach teams on how to easily identify suspected COVID-19 cases and on principles of contact tracing is key coupled with access to PEE. This training also needs to embrace ethics of risk communication and empathetic response packaged specifically for PWUDs. Identifying safe injection places equipped with clean injection supplies is an idea toyed with in prior harm reduction discussions and more so, is a public health paradigm focused on lessening the harms of drug use and unintended consequences such as those linked to COVID-19. Moreover, drug-use peer outreach teams need to be engaged in the national and county government food distribution to ensure that PWUDs especially the homeless ones are not left out of this exercise. Lastly, it is important to engage and sensitize personnel enforcing movement restrictions to acknowledge the existence of PWUDs who may be dealing with mental health issues.

In conclusion, PWUDs are exposed to additional risks of COVID-19 linked to drug-associated behaviours and health outcomes, residence settings including drug use places and in locations where medically assisted therapy is provided. This requires more innovative mitigation strategies targeted at interrupting COVID-19 transmissions at the community level and lessening the disease burden in Africa.

Declaration of Competing Interest

We hereby declare no conflict of interest.

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