Three lessons for the COVID-19 response from pandemic HIV

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The HIV pandemic provides lessons for the response to the novel coronavirus disease 2019 (COVID-19) pandemic: no vaccine is available for either and there are no licensed pharmaceuticals for COVID-19, just as there was not for HIV infection in the early years. Population behaviour will determine the pandemic trajectory of COVID-19,[1] just as it did for HIV.

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and HIV are, of course, different. Untreated HIV infection usually causes death; SARS-CoV-2 kills a minority. Behaviour changes that will slow transmission are different: sexual behaviour and needle sharing for HIV, physical proximity and hand washing for SARS-CoV-2. Early HIV cases doubled over 6–12 months,[2] for SARS-CoV-2 the serial interval is a matter of days.[1]

A severe COVID-19 epidemic in low-income and middle-income countries (LMICs) with weak health systems is a sobering prospect. In many ways, the history of HIV prevention is of a failure of global health. Some 32 million have died with sub-Saharan Africa worst affected.[3] But critical lessons have been learnt: three stand out.

First, there is a need to anticipate health inequalities. Pandemic HIV transmission accelerated among mobile, well-connected networks, but the burden shifted to poorer people and countries, young women, and marginalised groups.[4] The global burden of COVID-19 will likely fall hardest among older people and vulnerable groups in LMICs.[5] We must track the socioeconomic status and gender of those affected and extend this effort to track the economic impacts. UN member states have pledged that "no one will be left behind". The global response to COVID-19 must honour this pledge. Social conditions make it difficult for the vulnerable to change behaviours. Encouragement to "Abstain, Be Faithful and Use Condoms" could not prevent HIV where gender inequalities and stigma were the norm. Similarly, following instructions to wash hands and ensure physical distancing will be hardest for those living in poverty. Public-health initiatives must overcome barriers to reach poor people, even if they seem to be less affected by the virus now.

New advances often most rapidly benefit the better off, increasing inequalities.[6] Rich countries might seek to prioritise vaccine doses for their own people. Millions of less well-off people died because of inequitable access to life-saving antiretrovirals, and the same trend might occur with COVID-19.[7] Global policy must prioritise access to innovations for those individuals in greatest need. COVID-19 will not affect everyone equally. Our efforts should acknowledge this inequality, not increase it.

Second, create an enabling environment to support behaviour change. Fast, decisive political leadership is crucial. School closures and quarantine measures are powerful tools. But the lesson of HIV is that supporting safer behaviours means addressing structures that constrain or enable people's choices. Just as gender-based violence hindered safer sexual behaviour choices for women, the scarcity of clean water will limit handwashing. In the short term, pragmatic responses such as rapid mass distribution of soap, sanitiser, and personal protective equipment for SARS-CoV-2 will be needed (just as female condom distribution was for HIV control).

Modern approaches to HIV prevention are driven by a social-ecological framework.[8] Meaningful involvement of communities can shape social norms. Building social capital, trust, and community cohesion catalyses the impact of health messages, and can be fostered by supporting local leadership.[9] These dynamics accelerated control of HIV among gay men in the USA, sex workers in India and Thailand, and other communities. The design of the COVID-19 response will need to include older people, those with comorbidities, and those already living at the margin.

Unintended social consequences must be avoided. Laws that contribute to blaming in society lead to prejudice, which hampered efforts to control HIV. If people infected with SARS-CoV-2 become stigmatised, others could be less likely to self-quarantine. Similarly, the unfolding global economic upheaval will have resounding impacts on LMICs that might exacerbate the conditions that spread SARS-CoV-2, for example leading to social upheaval. We must be attentive to these dynamics from the start.

Third, a multidisciplinary effort is essential. Epidemiological models can predict the dynamics of the SARS-CoV-2 epidemic. But a multidisciplinary effort is essential to design, characterise, and evaluate interventions that can shape behaviour. Innovative

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elements of the HIV response include structured community mobilisation, targeted social protection, and differentiated health-care delivery.[10] Implementation science approaches have allowed timely study of novel health care and social delivery models.

LMICs must gain access to protective and sanitation equipment before their epidemics grow. Testing programmes must start urgently, and contact tracing will be essential. But, innovation and adaptation will be needed to make these efforts effective in new settings. A theory of change is necessary to describe how inputs (eg, government messaging) should lead to activities (eg, people adjusting to working alone) that will lead to outcomes (eg, fewer physical contacts) to reduce the spread of the virus. Social and behavioural theory is relevant here, to complement the epidemiological theory in the models.

See Online for appendix

As countries take different approaches to control the pandemic, we must characterise what measures are working in practice, evaluate how people respond, and be alert to unintended effects. Just as modellers must defend their predictions, so policy makers should clarify the evidence and theory underlying their behavioural interventions. Transparency facilitates evaluation and encourages scrutiny of assumptions, leads to better practice, and harnesses ideas from a range of scientific disciplines.

Three lessons from the HIV response can help stop exponential transmission of SARS-CoV-2, reduce deaths, prevent future outbreaks, and support affected communities in LMICs. Policies must create enabling environments for physical distancing and health promotion interventions to work. These policies must have a theory of change and address inequalities. Decision makers from all sectors, at all levels, should be supported to design, implement, and evaluate combination prevention approaches to reducing SARS-CoV-2 transmission. Finally, LMICs will need to be supported to strengthen the entire health system as reflected in the Sustainable Development Goal Agenda. A wave of public health action and evaluation built on these principles should be launched immediately.

We declare no competing interests.

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