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I declare no competing interests.

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## Opportunities and challenges for HIV self-testing in China

Each hour of 2017, about 220 HIV self-test kits (110 packages) were sold by a single online pharmaceutical store in China. In addition, eight community-based organisations in seven Chinese provinces are working with local centres for disease control and prevention (CDC) to develop self-testing scale-up pilot programmes (figure) among men who have sex with men (MSM).<sup>1</sup> For example, in Zhuhai—a small city with more than 12 000 MSM—782 self-testing kits were distributed by a local community-based organisation in the first 3 months of 2018 (93.3% of the testing results were reported back). In addition, there was a high HIV self-testing (HIVST) demand and uptake among Chinese MSM. For example, around 29% of Chinese MSM had already used self-testing,<sup>2</sup> and 593 (49%) of 1219 MSM in a trial used self-testing between August, 2016, and July, 2017.<sup>3</sup>

The rapid expansion of HIVST among MSM has captured the attention of the Chinese government. The State Council of China issued the *Thirteenth Five-Year Plan* (2017–22) for HIV prevention and control in 2017 and indicated that China will “explore strategies to promote HIVST through selling kits in pharmacies and online”. Meanwhile, the National Center for AIDS/STD Control, China CDC, is planning to pilot HIVST programmes in 20 Chinese cities, and the Chinese STD and AIDS Association is collaborating with six community-based organisations to develop different testing strategies. However, the Chinese Government has also met with a

few challenges in self-testing expansion among MSM, a population with high HIV prevalence and low testing rate in China.<sup>4</sup>

First, China still lacks quality assurance on HIV self-test kits. Presently, the Chinese State Food and Drug Administration (CSFDA) has only approved one oral testing kit for self-testing. Uncertainty exists about accuracy of self-testing kits, especially those sold online in China. Take the kits sold on Taobao (a Chinese online shopping website), for example: most kits were blood-based rapid-testing kits for clinical use rather than for self-testing, without monitoring from the CSFDA.<sup>2</sup> The National Center for AIDS/STD Control did an online



**Figure:** A poster used to promote HIV self-testing  
“Bring testing home — self-testing HIV kit, follow your desire, follow your heart, follow your movement”.



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survey among 54785 people who purchased of kits online. Overall, 150 (0.27%) people who self-tested positive for HIV responded to the survey and sent their blood samples to a laboratory for confirmation testing. Of those, 97 of 150 people were confirmed positive, giving an accuracy of 64.7%.<sup>5</sup> Evidence shows self-testers can accurately use rapid diagnostic tests,<sup>6</sup> and the Chinese Government should approve some quality assured rapid testing kits for HIVST and prioritise development of policies for the use of these kits.

Second, China has no national guideline to promote HIVST. Although China CDC and the China STD and AIDS Association started to focus on improving HIVST, and have piloted it in multiple cities, a national plan and guidelines for the development of policies and strategies for HIVST promotion, delivery of kits, and linkage to care service remain absent. Local authorities and community-based organisations therefore lack guidance in spreading self-testing, which could further temper the enthusiasm of stakeholders in initiating additional programmes.

Third, sustainability of current HIVST programmes remains a concern. The pilot programmes are usually initiated by local community-based organisations, with funding support from local centres for disease control. The sustainability of these programmes is jeopardised by the low capacity of the local community-based organisations, the limited funding, and the absence of national guidance on HIVST. Development of a plan to maintain sustainability of programmes should be listed as one of the top AIDS control priorities of China, and empowerment of local community-based organisations by improving their capacity would be essential.

China also faces several challenges in common with other countries, which include but are not limited to missing linkage (even though China has already piloted online-to-offline linkage-to-care models), safety, coerced testing, and legality.<sup>1,7,8</sup>

HIV/AIDS control in China already faces many challenges, and now HIVST-related challenges are

added to the list. However, self-testing offers an outstanding opportunity for further expansion of testing coverage, identifying people living with HIV who are unaware of their infection, and linking more cases to care. The provision of approved reliable testing kits, national HIVST guidelines, and increasing support to local community-based organisations will be crucial for achieving the first of the 90-90-90 targets. These measures should be in place soon to maximise the benefits of HIVST.

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