

A Feasibility Study of Using a Web-based Ordering and Result Upload of HIV Self-testing (HIVST) among Men Who Have Sex with Men (MSM) in Hong Kong

Background

A person's knowledge of their and their partner's HIV status is essential to the success of the HIV response. HIV testing services are the gateway to treatment, prevention and care. Implementation of HIV prevention and treatment services, including the offer of antiretroviral therapy (ART) to all people living with HIV (PLHIV), is highly effective in reducing HIV-associated morbidity and mortality and can prevent onward transmission of HIV.

HIVST is a process by which a person who wants to know his or her HIV status collects a specimen, performs a test and interprets the test result in private. It does not provide a definitive diagnosis; instead, it is a screening test for the presence of HIV-1/2 antibodies or the HIV-1 p24 antigen. Any positive HIV result must be confirmed by laboratory-based testing with a venous blood sample. By providing an opportunity for people to test themselves discreetly and conveniently, HIVST may provide people who are not currently reached by existing HIV voluntary counselling and testing (VCT) services with information about their HIV status.

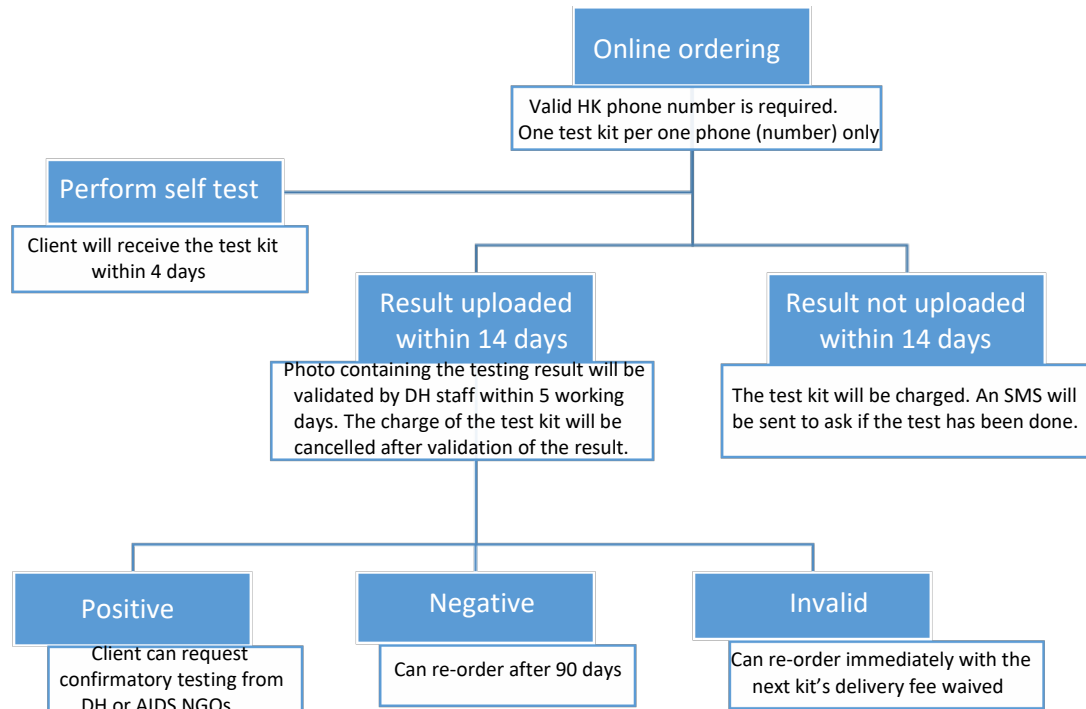
In Hong Kong, MSM contributed to more than half of the new reported HIV cases in recent years. It was recommended that sexually active MSM should receive HIV test every 6 to 12 months. However, according to a MSM behavioural survey conducted by Department of Health (DH) in 2017 (PRISM 2017), the ever HIV testing rate was only 79.4% and the HIV testing rate in the past 12 months was unsatisfactory (52.6%). Further effort was therefore needed to improve the HIV testing rate in this key population. In the same survey, it was found that only 10% of MSM respondents had ever tried HIVST before and 60% of MSM respondents expressed willingness to use HIVST without additional incentive.

Methods

In order to explore the feasibility and acceptability of HIVST, a designated website was launched for online recruitment and test kit ordering from September 2019 to June 2020. An oral fluid HIVST kit (Oraquick®) was used in this study which was approved by the US Food & Drug Administration in 2012 and prequalified by WHO in July 2017. Any adult (aged 18 or above) who ever had oral, vaginal or anal sex and possess a valid local mobile phone number was eligible for the study. Although main target of this study is MSM, it is not possible to verify subject's sexual orientation in the website. Nevertheless, the MSM status could still be ascertained by asking the subject to enter his sexual orientation in the questionnaire.



The participants ordered the test kit from study website which requires no personal information except contact number, a questionnaire and preferred place of collection. The participant paid for the kit HK\$115 through e-payment which would be reimbursed upon result and photo upload within 14 days after ordering. DH staff then verified the result uploaded and informed the participant the verified result via Short Message Service (SMS). Confirmation test will be arranged for positive participants if consent of releasing contact information to DH staff was obtained. Another test kit will be offered with waived delivery charge if invalid result was found.



Results

(A) Characteristics of participants

A total of 1426 test kits were ordered. After de-duplicating subjects who had reordered the kits more than once within the study period, the actual number of subjects recruited was 1260 and 86.8% of them were self-reported MSM. The majority (84.3%) of the MSM subjects were aged between 20-39 years old, and 97.6% reported their ethnicity as Chinese.

(B) Sexual behaviours

Among MSM participants, the condom use rate during last sex with male sex partner was 58.1% which was lower than previous community survey findings (62.3%/75.6%/85.5% for emotional sex partner, regular sex partner and non-regular sex partner in PRISM 2017).

(C) HIV testing behaviours

Among MSM participants, as high as 30.8% were "first time tester" when they joined this study. The ever-testing rate (69.2%) was lower than previous community survey findings (79% in PRISM 2017), while the age of subjects in this study was generally lower. The testing rate within past 12 months was also lower (42.1%) compared with the 52.6% in PRISM 2017.

(D) Self testing result and experience

Over 93% of results (n=1328) have been uploaded by the participants. Upon verification by DH staff, there were 15 positive (1.1%) and 17 invalid (1.3%) test results identified among 1325 verified results. 6 out of 15 tested positive left contact information for DH and was referred to the AIDS Counselling and Testing Service (ACTS) for further confirmatory testing. The level of agreement for result interpretation between self-testers and DH staff was high at 98.5%. Overall, 96.8% subject uploaded result showed interest in ordering again on this website and 85.9% of them claimed they would increase their frequency of HIV testing because of the additional option of HIV self-testing.

Provided with clear written and audiovisual instructions for use, 98.5% of results could perform the tests by themselves without any technical assistance needed in using the test kit and result interpretation while 97.9% did not require emotional support during the process. There was no report of social harm and adverse event during the study period.

Among all subjects, 142 of them (10.0%) had ordered the test kit more than once during the study period (excluding 9 who had re-ordered the test kits due to invalid result). The re-ordering rate among MSM was the highest (11.6%) among all groups.

Satisfaction ratings were high (>95% answered "strongly agree" or "agree") among website information, video instruction, ordering process, delivery time, test kit user-friendliness and simple result interpretation. The satisfaction rate of result upload process was relatively lower (91.2% answered "strongly agree" or "agree").

Discussions

1. HIV self-test by oral fluid was found to be well-accepted by local MSM community as reflected by the satisfaction rate from the participants. The result upload rate was optimal (>90%) and the level of agreement between testers and (DH) professionals were high. The participants very seldom required technical assistance when performing the test. Self-testing also serves as an alternative testing option during the period of COVID-19 pandemic when testing services by NGOs and the clinics were suspended.
2. This study also generated a similar finding from other studies that offering self-test kits could attract a certain number who had never been tested for HIV (29.7% in our study). A very high proportion of MSM participants (86.5%) reported that they would increase HIV testing frequency in the future.
3. Overall, HIV self-test by oral fluid was well-accepted by the target participants, in view of their feedback and result upload rate. Provided with clear graphical and written instructions of use, majority of the participants were able to correctly interpret the results. Cross-checking by DH staff upon result upload could provide additional assurance provided that the uploaded photo was of good quality.
4. The study could be regarded as an observational study that reported outcomes of interest (such as testing uptake, positivity, linkage to care, etc.) but did not directly compare HIV self-testing to standard testing services. The study provided incentive to the participants as they would not be charged the kit provided that the results were uploaded. Their willingness to pay for buying self-test kits could not be determined. Moreover, due to short duration of this study, the behavioural changes (such as use of condoms) before/after using HIV self-test could not be investigated in this study.

5. Nevertheless, the study could reasonably reach a certain proportion of individuals having higher sexual risk as revealed from their lower condom use rate and lower ever testing rate when compared with the findings in previous community-based surveys, HIV self-testing is able to fill the service gap of current facility-based HIV testing.



FACTSHEET on A Feasibility Study of Using a Web-based Ordering and Result Upload of HIV Self-testing (HIVST) among Men Who Have Sex with Men (MSM) in Hong Kong

Published by Special Preventive Programme

Centre for Health Protection, Department of Health

Telephone: 3143 7225 Fax: 2780 9580

Website: <http://www.aids.gov.hk> Email: aids@dh.gov.hk

Sep 2020