

“Knowing Myself First”: Feasibility of Self-testing among Health Workers in Kenya



Cover photo credit: Joseph Orero

Cover photo: Dr. William M. Muraah (Lead Consultant at Crystal Hill Consulting) demonstrates the HIV self-testing procedure to two health providers, Ms. Beatrice Ntonjira (HST Onsite Peer Coordinator) and Ms. Hellen N. Mutsi (nurse), at Mbagathi District Hospital, Nairobi (one of the eight sites covered in the study).

Knowing Myself First: Feasibility of Self-testing among Health Workers in Kenya

Sam Kalibala¹, Waimar Tun², William Muraah³, Peter Cherutich⁴,
Erick Oweya¹, and Patricia Oluoch⁵

¹Population Council, Kenya

²Population Council, United States

³Crystal Hill Ltd

⁴NASCOP, Kenya

⁶CDC, Kenya



Ministry of
Medical Services



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ACRONYMS

AIDS	Acquired immunodeficiency syndrome
CCC	Comprehensive care center
CDC	Centers for Disease Control and Prevention
FGD	Focus group discussion
HIV	Human immunodeficiency virus
HST	Home self-testing
IEC	Information, education, and communication
IDI	In-depth interview
KHWS	Kenya Health Worker Survey
MCH	Maternal and child health
MOH	Ministry of Health
NASCOP	National AIDS and STD Control Program
PEP	Post-exposure prophylaxis
VCT	Voluntary counseling and testing

EXECUTIVE SUMMARY

Introduction

This study explored the feasibility and acceptability of free HIV home self-testing (HST) among health workers in Kenya, within the range of other HIV testing options available. It was based on survey findings, from the Kenya Health Workers Survey (KHWS) of 2005, that 77 percent of health workers who had never taken an HIV test wished to test themselves were free home self-tests offered; indeed focus group discussions (FGDs) revealed that many had already tested themselves. The study was also based on the fact that HIV testing kits could already be purchased over the counter in Kenya.

Methodology

Titled “Knowing Myself First,” the project tested the HST intervention in seven district-level hospitals, preceded by a one-month pilot-test in two other hospitals. FGDs with health workers were conducted to determine the content and structure of the service. During the intervention, health workers interested in testing themselves participated in pre-HST information sessions, and were offered Calypte® Aware™ oral test¹. Further HST information was provided by on-site coordinators. A 15-hour/day toll-free cell phone hotline counseling was also offered. All HST services were free of charge. A post-intervention survey of 765 health workers was conducted a month after the HST kits were distributed, to document uptake. Post-intervention FGDs were held to clarify the survey findings. The study was limited to clinicians, namely doctors, nurses, clinical officers, laboratory technicians, social workers and voluntary counseling and testing (VCT) counselors. At no point were the study participants asked their HIV status. The pilot-test was conducted in October 2009, and the main intervention study was conducted from December 2009 to January 2010. The post-intervention survey to assess uptake was conducted in January to February 2010.

Findings

When HST kits were offered to health workers in the seven participating hospitals, acceptance and use of the HST kits were high. Approximately nine out of ten health workers (89 percent) who attended the information session on HST took the test with them after the session and of those who took the test kits, the majority tested themselves (85 percent). Most (72 percent) tested within one day of receiving the HST kit. The majority (64 percent) of health workers with partners indicated that their partners used the HST kits to test themselves, and among them, almost all (96 percent) tested within one week of receiving the test kit. Qualitative results revealed that while many of the health workers and their partners tested together, those couples who did not test together still revealed their test results to their partners.

¹ Centers for Disease Control and Prevention (FDA Approval of Calypte): http://www.cdc.gov/hiv/topics/testing/resources/qa/pdf/oralfuidqandafin1_1.pdf; accessed October 16, 2006.

Conclusions

The study clearly indicates that health workers see the urgency to test themselves for HIV. The study also found that HST kits were desired by the partners of health workers. In this implementation study, we found that the greater hurdle to uptake of self-testing was getting the health workers to attend the HST informational sessions rather than attendees of the sessions accepting the HST kits. Another major gap was the need for post-test counseling and follow-up care and support services for health workers who test HIV-positive.

Recommendations

If the HST program is implemented for health workers in a facility, the management should work out scheduling issues so health workers are given the opportunity to attend the HST sessions. Further, provision and promotion of post-test counseling or support systems is needed to provide support for those found to be HIV-positive from the HST test, as well as for those found to be negative, so they can continue to stay negative. Implementation and scale-up of this program should be considered based on these lessons learned from this study.

BACKGROUND

The availability of antiretroviral treatment for HIV has accelerated the need to increase the HIV testing options available to individuals in Kenya. More people can now learn their HIV status and get treatment without undue delay. This may be particularly the case among health workers, who face frequent occupational exposure to HIV. The 2005 Kenya Health Worker Survey (KHWS), a national survey of health workers by the Population Council's Horizons Program, the Ministry of Health's National STD Control Program (NASCOP) and the Centers for Disease Control and Prevention (CDC) found that nearly one in five health workers had experienced potential exposure to HIV in the year preceding the survey, and 45 percent of these were repeat exposures. The study also found that the majority of those who reported possible exposure did not seek post-exposure prophylaxis (PEP). The main reasons given for not seeking PEP were lack of information about it and fear of the process.

The risk of HIV among health workers is not limited to occupational causes, but little data is available to document the extent of non-occupational risk—particularly sexual risk. Tawfik and Kinoti (2001) postulate that health workers are subject to similar risk of HIV as the general population, and the main source of HIV infection is thought to be sexual transmission. There is evidence of high risk behaviors among health workers. In a study of clinicians in Zambia, Kiragu et al. (2006) found that 26 percent of sexually active respondents had multiple partners in the year preceding the survey, and among these respondents 37 percent had not used condoms even once. In South Africa, HIV prevalence among health workers was estimated to be 16 percent, at a time when it was estimated at 22 percent among the general population (Shisana et al. 2002).

The KHWS also found that nearly 64 percent of health workers had been tested for HIV. However, 73 percent of the study sample indicated they would be interested in HIV self-testing if this option was offered, including 77 percent of those who have never been tested and 71 percent of those who had been tested. Focus group discussions (FGDs) revealed that many health workers already test themselves for HIV, and the main reason they desired HST was to maintain confidentiality. As a result of these and other findings, CDC requested Population Council to explore the feasibility of HST among health workers.

HIV home testing refers to two different forms of testing:

- Home collection², or home-access testing: For this type of testing, the client obtains the specimen and mails it to a testing facility. The client then contacts the facility to obtain the results, often using a password-coded system.
- Home self-testing (HST) or home-validated testing: In HST, the client obtains the specimen and conducts the test him/herself. Thus HSTs are true do-it-yourself products, which can be used at home without advice or assistance from anyone else. This is the method that was used for the assessment in this study.

²Home Access Test: <http://www.hivaidssearch.com/hiv-testing/>. Accessed September 20, 2006

Purpose and objectives of study

The purpose of the research was to test the feasibility of voluntary HIV HST among health workers and their partners, using Calypte® Aware™ oral HIV test, within the range of other HIV testing options available. This was done by implementing the “Knowing Myself First” campaign, which was based on the premise that it is in the interest of health workers to know their HIV status.

The specific objectives of the research were to:

1. Assess the feasibility of HIV HST among health workers and to identify operational structures needed to implement HST for this target group.
2. Determine the acceptability of HST among health workers.
3. Determine how couples testing and counseling can be utilized in the context of HST.
4. Identify barriers that prevent health workers from utilizing HST.
5. Outline operational and ethical factors that should be taken into consideration before HST is scaled up.

Implementation partners

The research component was implemented directly by Population Council. The intervention was implemented through a subagreement between Population Council and Crystal Hill Limited, a local consultancy organization. In the remainder of this report the Crystal Hill team is referred to as the intervention team and the Population Council team is referred to as the study team. In addition to these teams, two on-site coordinators who were hospital staff were recruited at each of the nine hospitals involved. Two hospitals (Naivasha and Kajiado) were involved in the pilot-test and seven hospitals (Homa Bay, Bungoma, Makeni, Nanyuki, Malindi, Mbagathi and Garissa) were involved in the actual intervention.

Ethical review

The full protocol was approved by the ethical review boards of the Population Council, CDC, and the Kenyatta National Hospital.

METHODOLOGY

The methodology section is divided into the following sub-sections:

- Preparatory work
- Pilot-test in two hospitals
- Full intervention in seven other hospitals
- Post-intervention survey

Preparatory work

Selection of cadres of health workers to test the intervention

The study was confined to clinical cadres of health workers. These cadres were selected because they were the same ones used in the KHWS, and thus offered a baseline comparison. They were also chosen because they are the cadres more often occupationally exposed to the risk of HIV and more likely to desire HIV testing. These cadres are also involved in HIV testing and counseling in health care facilities, and are presumed to already possess adequate information about HIV. Therefore, their pre- and post-test counseling needs may differ from individuals who have less information. It is recognized that other hospital staff, such as custodial workers, are also at risk of occupational and non-occupational exposure to HIV. However, the present study was limited to the identified categories in order to test out the intervention first in a group that is relatively more knowledgeable about HIV and HIV testing, before making it more widely available.

Guidance for participants who are HIV-positive on self-test

According to the approved study protocol, participants who self-tested and got an HIV-positive result were instructed to go for a confirmatory test at a voluntary counseling and testing (VCT) center. The health worker was not required to show documentation of their self-test results when they sought confirmatory testing at a VCT center; they could simply seek VCT as anonymously as members of the general public do, and go to the VCT site of their choice. They also did not need to disclose that they had tested themselves or participated in this study. Therefore, the referral process to care and treatment would be the same as for anyone who did both screening and confirmatory testing at a counseling and testing site, i.e., the site would refer in their usual manner.

Pre-intervention assessments

Prior to implementation of the study plan in the protocol, formative research was conducted in the pre-intervention stage to gain insight into any potential areas of concern and opportunity with regard to the imminent HST study, and to inform the design and content of information, education, and communication (IEC) materials to support implementation of the intervention. Pre-intervention FGDs with health workers and in-depth interviews (IDIs) with medical superintendents were initially carried out in June 2007 and repeated

in August 2009³ in six of the proposed implementation hospitals (Homa Bay, Mbagathi, Malindi, Nanyuki, Bungoma and Makueni district hospitals, as well as Garissa provincial hospital). FGDs and IDIs were also carried out at two district hospitals (Kajiado and Naivasha) where the pilot-test was conducted prior to the main study.

The formative research brought out several challenges and lessons which helped in the planning and implementation of the next phases of the study. These include:

■ *HIV-related stigma:*

- HIV-related stigma among health workers remain an issue. For the study to run smoothly, and for HIV self-testing to become routine, there was an expressed need for good delivery of a comprehensive HIV education and counseling package tailored to building a culture of openness and support for those infected and affected among health workers and their partners. In Bugoma Hospital, it was reported that some of the HIV-infected health workers traveled over 40 km to access treatment in other health facilities because of fear of confidentiality breach with regard to their status at their work place.
- Some health workers reported being scared about the implications of society's perception of them if they were HIV-positive; especially if the community knew that a person serving them in the hospital was a person living with HIV. This had driven many not to seek an HIV test in the same environment in which they worked. In Homa Bay Hospital, where there was an ongoing HIV workplace program, the level of stigma was low and health providers were more open about HIV-related discussions and testing. There were people living with HIV among health workers who were already accessing treatment at the hospital. There was even an active support group for health workers living with HIV that was supported with necessary resources by the hospital medical superintendent.

■ *Confidentiality:*

- Many health workers reported that they were already testing themselves to know their status in the privacy of their homes and offices due to fear of breach of confidentiality if they went to VCT in their health facility. This was a good indicator that health providers would embrace and take up HST.
- Many health workers who had previous occupational exposure to potentially HIV-infected materials in the hospital indicated that they had not taken up PEP out of fear of getting tested or having their HIV status become public information within the health facility if they tested at the local VCT center. Indeed, health care workers in four study sites appealed to the hospital management to make PEP kits more accessible. They felt that this would encourage timely use by those who were accidentally exposed without fear and the need to first report the incident to anyone. Many of these health workers felt HST was a good idea to allow one to know their HIV status in the privacy of their homes and offices. Again, this suggests that many would take up HST during and after the study.

- *Scheduling of HST intervention:* The workload of a number of staff at most of the targeted hospitals made it a little difficult to get FGD participants assembled quickly. This pointed to the need to plan for longer stays at each site than the two days allotted earlier to ensure good coverage with targeted health workers.

³There was a delay between 2007 and 2009 due to administrative contractual reasons beyond the control of the study team.

- *On-site HST coordinators:* The ideal characteristics of the on-site HST coordinators remained an unresolved issue. Health facilities where the reported level of stigma was high called for an external team. But among health facilities where the level of stigma was reported to be low (like in Homa Bay District Hospital) the view was that local staff was best placed to fill this role because they understood the context and would always be on hand to help.

In general, the formative research pointed to the urgent need for this study to inform policy formulation by the Ministry of Health (MOH) on providing health workers with a non-invasive capability to know their HIV status in the privacy of their own homes and/or offices as envisioned in the study protocol.

HST-related IEC materials

IEC materials were developed to promote the HST program at the health facilities. Effort was made to use them in earnest to mobilize and train health workers at the target sites. The intervention team traveled to the sites, put up posters and visited with the on-site coordinators to remind health workers of the upcoming sessions. Some of the IEC materials developed and deployed to support the HST study included:

- *The HST poster:* One-hundred fifty copies of the poster were printed and placed in strategic places within the sites to encourage health workers to volunteer and attend the sessions.
- *Leaflet on the HST study and test process information:* This information leaflet was designed to provide additional HST-related information to health providers who volunteered to attend the pre-HST group awareness and counseling sessions to undertake HIV self-testing. The leaflet listed names and phone numbers of HST coordinators in case health workers wanted additional information or support during and after the test.
- *Leaflet on frequently asked questions on HIV testing:* This leaflet was designed to provide additional HST-related information to health workers and their partners who volunteered to attend the pre-HST group awareness and counseling sessions to undertake HIV self-testing.
- *“I Know” red ribbon:* A uniquely designed metallic red ribbon with the words “I Know” engraved on it was developed. These ribbons were designed and procured to be given to health workers and their partners who completed the pre-HST group training and counseling in readiness for the test.

Identification of cell phone companies and utilities

To ensure support services were provided to clients when needed, the intervention team identified a provider for a cell phone network with the capability to reroute calls within the intervention team and the clients they were meant to serve in the study. Orange wireless network was chosen from among four providers due to competitive cost structure (free calls within the network of 22 phones, with a base charge of Ksh. 1,000 (US\$ 12.50) per month per handset for the study period). While the eventual platform selected could not reroute calls, it allowed speed and low cost calling capability for the intervention team.

Development of training materials for on-site coordinators and for the HST sessions

The “HST On-site Coordinators’ Training Curriculum” was developed to train on-site HST study coordinators and includes instructions on staff mobilization, issuance of test kits after the intervention team moves on to the next study site, and facilitation of group counseling sessions for health workers on HIV and self-testing before provision of test kits to those who completed the sessions, consented and signed for the kits. Providing the necessary knowledge and skills on appropriate use of the kit was instrumental in ensuring that health workers used the test kits correctly and increasing the likelihood of them adhering to minimum standards.

Selection and training of on-site coordinators to support HST study

During the intervention team’s visits to the study sites the team explained fully what the HST study entailed and those in attendance were asked to suggest the best methods for identifying and recruiting capable on-site HST study coordinators to support implementation. Based on feedback from the hospital management and other hospital staff, two staff members from each hospital were selected and formally invited to train for the role. The hospital management needed to agree to release these selected staff from their normal duties to attend the planned HST study training.

The individuals selected to be trained as on-site coordinators consisted of twelve women and six men from the following cadres: one doctor, several nurses, clinical officers, VCT counselors, laboratory technicians and social workers. The group travelled to Nairobi for the 2-day training which took place in September 2009. The topics included: overview of HIV and AIDS in Kenya, overview of the HST study, available methods and services for HIV testing, the Aware Oral Test Kit, post-intervention FGDs, communication, behavior change, counseling, and roles and responsibilities. This was followed by small group work which included practicing the correct use of the HST kit and demonstrating it to others.

Telephone log and test kit issuing record sheet

A special telephone log and the HIV test kits issuing record sheet/card were developed and printed for use in recording the phone numbers calling/called, the duration of these calls and the subject matter discussed. To ensure accountability and to track demand for future planning, the number of test kits issued and to whom was also recorded. All health workers who attended the HST-related training sessions signed an attendance list; this helped the intervention team to establish the proportion of the health workers who attended the sessions and took the HST test kits.

Pilot-test in two hospitals

Scheduling of HST sessions at the two pilot-test sites

In close consultation with the two on-site coordinators and the hospital management, the intervention team scheduled the HST study pilot-test sessions at Kajiado and Naivasha District Hospitals, located 1.5 hours drive from Nairobi. The intervention team visited the sites a week before the start of the pilot-test sessions to remind hospital management of the

imminent study and ensure that the HST poster to mobilize health providers for the training sessions was posted. The on-site coordinators also undertook one-on-one mobilization and eventually made an announcement through a circular to staff and during staff meetings. Working with both the on-site coordinators and hospital management made it possible for the necessary internal authorizations to be given as well as re-alignment of work to ensure patients were still served as the HST study implementation sessions took place.

One month of intervention at the two pilot-test sites

In Kajiado District Hospital the HST sessions took place on 14 October 2009. At Naivasha District Hospital the sessions took place on 16 and 17 October 2009. Due to the heavy workload and tight work schedule, the pre-HST information and counseling sessions were conducted in the morning, afternoon and evening to give those covering the day and night shifts an opportunity to attend. The study ethical consent form was read to all attending health workers as a group before the start of each session and was signed by a health worker after all in attendance had given verbal consent to proceed with the intervention. Then the group training session was conducted by the intervention team and included modules on the HIV epidemic in Kenya and associated risks, the available HIV testing options, and skills on the appropriate use of the HST test kits including a live demonstration on its use and video show. Group counseling was then undertaken, examining the challenges that health workers may face when taking a HIV test and effective ways to address them. Next the health workers who completed the full session were offered HST test kits, and those who took kits signed a kit-issuing form indicating the number of kits they took. The health workers were also provided with HST study support IEC materials and reminded that the HST intervention team would be back in a month to get their feedback on their experience with this new approach to testing. They were also told that to share or not to share the results of their own HST remained their prerogative, and that the intervention team was not interested in knowing their HIV test results but rather in receiving feedback on the acceptability of HST and factors that would improve access to HST for health workers.

The two on-site coordinators for each hospital who had been identified and trained during the coordinators' training workshop were introduced to the rest of the health workers. It was explained to all that their mandate as on-site coordinators was to provide support after the departure of the HST intervention team, further counseling through a hotline service and additional HST kits as necessary.

Of the 269 eligible health workers in the two hospitals, 245 (91 percent) attended the pre-HST informational sessions. Of the 245 who attended the sessions, 230 (94 percent) took the HST kits. The proportion taking the test kits was higher in Naivasha District Hospital (90 percent) than in Kajiado District Hospital (85 percent). This difference could reflect a higher level of awareness and lower HIV-related stigma in Naivasha compared to Kajiado. Both Naivasha and Kajiado District Hospitals are about 1.5 hours drive from Nairobi. However, Naivasha is in a more urban setting and on the main transport corridor from Mombasa to Malaba. The transport corridor is a risk factor for HIV transmission especially due to high HIV risk behaviors associated long distance truck drivers. Intensive HIV education efforts have been undertaken along this important highway and trade route by various stakeholders to address this challenge.

Post-intervention FGDs and IDIs in the two pilot-test sites

From the post intervention FGDs and IDIs, the following themes emerged:

- *Immediate self-testing:* Most health workers who took HST kits tested shortly after getting the test kit.
- *Partners interested in testing:* Many took the test kit to their spouses/sex partners. Some helped their partners to test, while others left them to test themselves after providing the instructions.
- *HST affords much-wanted privacy:* Health workers felt that HST offers more privacy than VCT.
- *Oral tests preferred:* Oral testing was preferred over the blood testing that is typically done at VCT centers.
- *Interest in self-testing regularly:* There was also a general view that health workers should regularly test for HIV to ensure that they know their correct status.
- *More test kits needed:* There was a desire for more kits so health workers can confirm their test results by doing a second test and to get their family members to test their status. Site coordinators distributed additional HST kits with IEC materials to previously consented health workers even after the HST informational sessions.
- *Information about the test kit:* While health workers found the sessions informative enough for them to make the decision to test and to perform the test procedure, they wanted more information on the kit's performance such as sensitivity and specificity compared to tests using blood samples. They also felt that the information should be simplified and that partners should be invited to attend the sessions.
- *More in-depth post-test counseling needed:* It was felt that pre-test counseling was adequate but that post-test counseling, especially for the HIV-positive clients, requires more information on coping with HIV. Health workers preferred to have their test results confirmed at a VCT center located outside of their place of work.
- *Hotline was useful for procedural issues:* Site coordinators reported receiving calls on the hotline mainly for clarification about HST procedures but not for counseling.

In summary, the pilot testing showed that HIV self-testing can be successfully implemented among hospital-based health workers. The results also suggested that there was high demand for HST and that kits should be made available on a larger scale. A key issue however, was the need to strengthen post-test counseling for those who test HIV-positive.

Full intervention in seven hospitals

Scheduling of HST sessions at seven sites

The scheduling of the actual implementation of the HST study was done by the intervention team in close consultation with the two on-site HST study coordinators at each site and the hospital management. Working with both the on-site coordinators and hospital management made it possible for the necessary internal authorization to be given and work re-alignment done to ensure patients were still served as the HST study implementation sessions were ongoing.

The on-site HST coordinators put up the posters and mobilized staff before the intervention team visited the study sites for the actual implementation. The intervention team also sent letters to management and called to remind them of the imminent study implementation to ensure buy-in from the management for effective implementation. The on-site coordinators undertook one-on-one mobilization of health workers to remind them of the planned sessions.

Implementation of the HST sessions at seven sites

The implementation of the actual HST study in the seven sites mirrored that of the implementation of the two pilot-test sites of Kajiado and Naivasha District Hospitals. The sessions were conducted over two days at each site with the HST information and counseling sessions divided into three sessions (morning, afternoon and evening) to give those covering the day and night shifts an opportunity to attend. The study ethical consent form was read to all present before the start of each session and signed by a health worker after all in attendance had given verbal consent to proceed with the intervention. Then the group training session was conducted by the intervention team and included modules on the HIV epidemic in Kenya and associated risks, the available HIV testing options, and skills on the appropriate use of the HST test kits including a live demonstration on its use and video show.

The team's nurse counselor conducted the group counseling sessions, examining the challenges that health workers may face when taking a HIV test and exploring ways to effectively address them. Then the health workers who had gone through the full session were offered the HST test kits with accompanying IEC materials. Those who took the kits signed a kit-issuing form for the number of kits they took and were reminded that the HST intervention team would be back in a month to get feedback on their experience with this new approach to testing. They were also told that to share or not to share the results of their own HST remained their prerogative, and that the intervention team was only interested in receiving feedback on the acceptability and factors which would improve access to HST for health providers.

The two on-site coordinators for the study were introduced to the rest of the health workers, with explanation that the mandate of the on-site coordinators was to provide support after the departure of the HST intervention team, including further counseling through a hotline service and additional test kits as necessary.

Sexual partners

The study protocol had proposed that sexual partners would be invited to attend the self-test training sessions. However, this was not possible due to reluctance of the health workers and logistical challenges. Health workers stated that in order for their partners to attend, the sessions would have to run over the weekends. Others stated that many partners would be reluctant to come and attend sessions involving health workers especially if they themselves did not belong in the health sector. Many stated that all they needed were the IEC materials, knowledge on use of the test kit and the kits, and that they would instruct their partners on how to test.

One-month observation period

A one-month period was intended to provide enough time for those who attended the HST study training sessions and took the kits to carry out the self-test and internalize their test results. The HST intervention team and the on-site coordinators were available during the period to provide support to any clients who needed it, via hotline and/or referral. The intervention team maintained regular phone contact with the on-site coordinators and provided additional kits and materials as necessary to the study sites through courier service. The team remained ready to make physical visits as necessary, as it did to Kajiado and Naivasha District Hospitals during the pilot-test, to check on any issues. During the actual implementation, actual visits during the one-month post-HST study implementation did not become necessary.

Post-intervention survey

Sample size

The study aimed to document the proportion of health workers who would accept HST were it made widely available. While 73 percent of health workers (70 percent among those ever tested and 77 percent among those never tested) in the KHWS said they would be interested in self-testing, this could not be taken as an indicator of those who would actually use HST when it was made available to them. The sample size calculation to estimate the proportion that would test was based on the conservative estimate that half would accept to do the HST, and half would decline. In order to estimate this proportion at 95 percent confidence, the minimum sample size needed was 384 health workers across the seven hospitals. Taking into account the cluster design effect caused by the fact that the hospital was the unit of sampling, the minimum sample was doubled to 768. A cushion of 30 percent for non-response, unusable data, and rounding off the figures generated a sample of 1038 health workers from the seven hospitals.

Recruitment of respondents for the post-intervention survey

The size of the total population of eligible health workers in the seven hospitals was obtained from lists available at the MOH. According to these lists the total number of eligible health workers (i.e. doctors, nurses, laboratory staff, social workers and counselors) in the seven hospitals was 1,545 (Table 1). Since the desired sample was about two-thirds of this population a decision was made to aim to recruit all available eligible health workers on the days of the survey. The study team spent two days at each hospital and a total of 1,081 health workers were approached for interviews. Those health workers who were within the health cadres targeted by the study were consecutively recruited and interviewed until all available eligible health workers were interviewed. Eligible health workers were interviewed regardless of whether they had participated in the HST sessions. Overall, 765 health workers were eligible and were interviewed; this number is distributed among the hospitals as shown in Table 1. See Appendix-2 for Survey Questionnaire.

Qualitative interviews

In addition to the post-intervention survey, the study had a qualitative component that included FGDs of health workers and IDIs of hospital managers and on-site coordinators of the HST program. The FGDs and IDIs were conducted one month after the intervention was initiated in each hospital. For the FGDs and IDIs, one interviewer conducted the interview while another study staff took notes and audio taped the interviews.

FGDs: Each FGD comprised of 10 to 12 participants that were selected by the on-site coordinator. One FGD was comprised of health workers who had attended the self-test sessions. A second FGD was comprised of health workers who had not attended. Thus for each of the seven hospitals two FGDs were conducted giving a total of 14 FGDs (See appendix-1 for FGD/IDI guide).

IDIs: For each hospital one IDI was conducted with a hospital administrator, either the Medical Superintendent or the Sister in Charge and a second IDI was conducted with an on-site coordinator. Since there were two on-site coordinators, one was conveniently selected by the head of the study team based on availability on the day of the interviews. Where both on-site coordinators of a facility were available, they both participated in the same interview. Thus a total of 14 IDIs were conducted (See appendix-1 for FGD/IDI guide).

Data management

The interview notes were typed. The typed notes were read by the Principal Investigator and together with the objectives of the study were used to develop a coding tree for the qualitative interviews. The audio tapes were transcribed and typed into Microsoft Word files. These Word files were then imported into Atlas In, qualitative data management software, out of which data was retrieved according to the codes. The Principal Investigator read the data in each code category and derived emerging themes as well as quotes. These themes and the quotes are presented in the results section below, usually after the survey data to expand on the quantitative findings.

RESULTS

Characteristics of respondents

Respondents across hospitals

The 765 health workers who were interviewed for the survey represent approximately 50 percent of the total population of eligible health workers in the survey hospitals (Table 1). This percentage varied from 37 percent in Garissa to 77 percent in Homa Bay. However, these proportions may not be accurate as the lists were not up to date in a number of the facilities.

Table 1 Number of respondents per hospital

Name of facility	Number of eligible health workers on the list received from MOH	Number interviewed	Percent interviewed
Homa Bay District Hospital	143	110	77
Bungoma District Hospital	238	109	46
Makueni District Hospital	191	87	46
Nanyuki District Hospital	174	80	46
Malindi District Hospital	165	96	58
Mbagathi District Hospital	330	171	52
Garissa Provincial Hospital	304	112	37
Total	1,545	765	50

Sociodemographic characteristics of respondents

Table 2 shows the characteristics of the 765 surveyed respondents. As expected, the largest proportion of respondents was nurses (56 percent), followed by clinical officers (24 percent) and laboratory personnel (10 percent).

The majority (67 percent) of respondents is female, which is expected since the dominant profession was nurses, the majority of whom are female. Over half (58 percent) were currently married, 36 percent were single and 5 percent were divorced, separated or widowed. Very few were living with non-spousal partners.

Table 2 Demographic characteristics of respondents (n = 765)

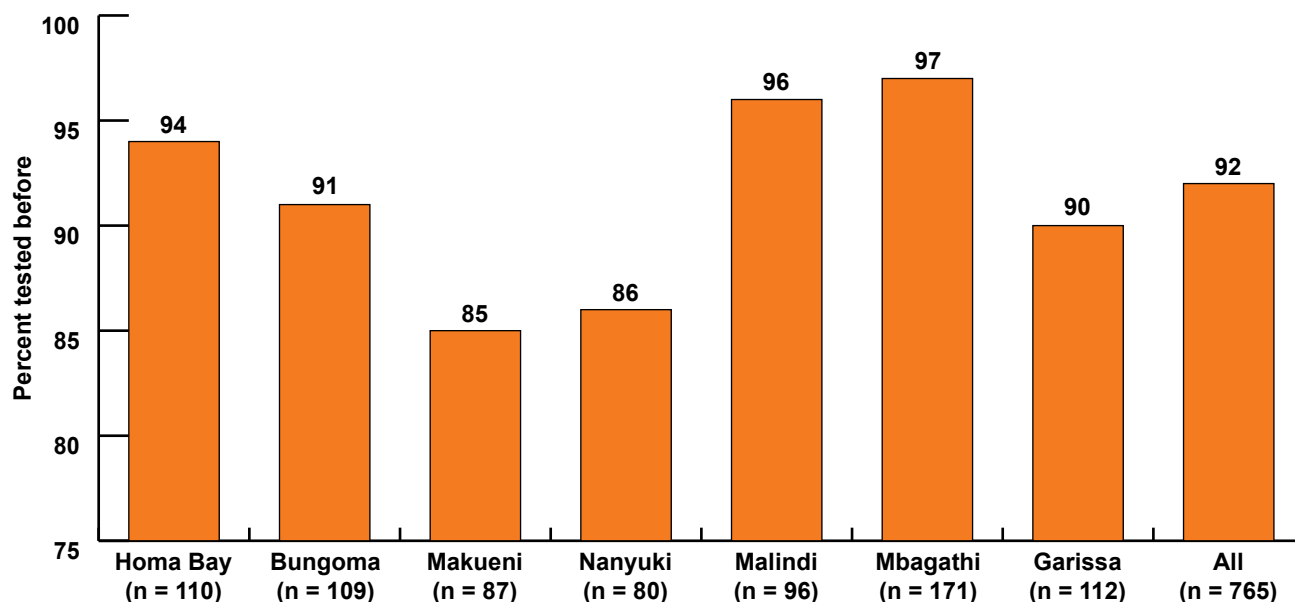
Characteristics	Number	Percent
Professional cadre		
Registered nurse	243	32
Enrolled nurse	182	24
Clinical officer	183	24
Lab technician/technologist	73	10
VCT counselor	35	5
Medical doctor	32	4
Social worker	17	2
Sex		
Female	509	67
Male	256	33
Marital status		
Single (Never married)	273	36
Currently married	445	58
Not married but living with partner	9	1
Divorced/widowed/separated	38	5

Previous HIV testing experience

The vast majority (92 percent) had tested for HIV before. This means that the experience of undergoing HIV testing was almost universal among these respondents.

Figure 1 shows that the proportion of health workers that had ever been tested for HIV before the HST program varied widely by site from 85 percent in Makueni to 97 percent in Mbagathi, and the difference between these two sites was significant ($p = 0.0035$). The reason for this variation is not clear, but could include the level of access to HIV testing at the facilities as well as issues of stigma versus openness about HIV which could differ by geographical area.

Figure 1 Health workers who had been tested before, by site



Respondents who reported to have been tested before were asked how recently they had been tested for HIV. The majority (76 percent) reported having tested in the last twelve months, while 9 percent had tested between 12 and 23 months ago and a good minority (15 percent) had last tested more than two years ago (Table 3). Thus, while the general trend is that most health workers had recently tested, quite a few had not. Since these are clinical health workers and likely to be under a constant risk of exposure to HIV, it is noteworthy that one in six of them did not test in the last two years.

Among those who had tested before, 15 percent had tested once, 20 percent had tested twice, 24 percent had tested three times, 13 percent had tested four times and over a quarter had tested 5 or more times (Table 3). This data clearly shows that frequent HIV testing is the norm among these health workers. In fact, this was confirmed by results from FGDs with the health workers after their experience with HST. FGD respondents indicated that they wanted and needed regular HIV testing since they are occupationally exposed and that they preferred self-testing since they were reluctant to go to VCT counselors who were their colleagues. Some also stated that they are sexually at risk, especially through their partners.

It is a good idea to be tested regularly because you know your status at least after every three or six months you will know how you are going on.

Garissa health worker

It is very important, because today you may be negative, tomorrow you may not know because you are sexually active, we also work in risky places and so now you expect anything.

Homa Bay health worker

Table 3 Health workers' previous testing

	Number	Percent
Time of last HIV test before HST campaign	(n = 704)	
Less than 12 months ago	537	76
12–23 months ago	61	9
2 or more years ago	106	15
Number of times previously tested for HIV	(n = 703^a)	
Once	108	15
Twice	143	20
Three times	169	24
Four times	91	13
5 or more times	192	28
Type of location of last HIV test	(n = 697^a)	
At the facility where I work	424	61
At another facility	242	35
College/school	9	1
Home/self-testing	22	3

^aThe number of respondents varies slightly due to missing data for this question.

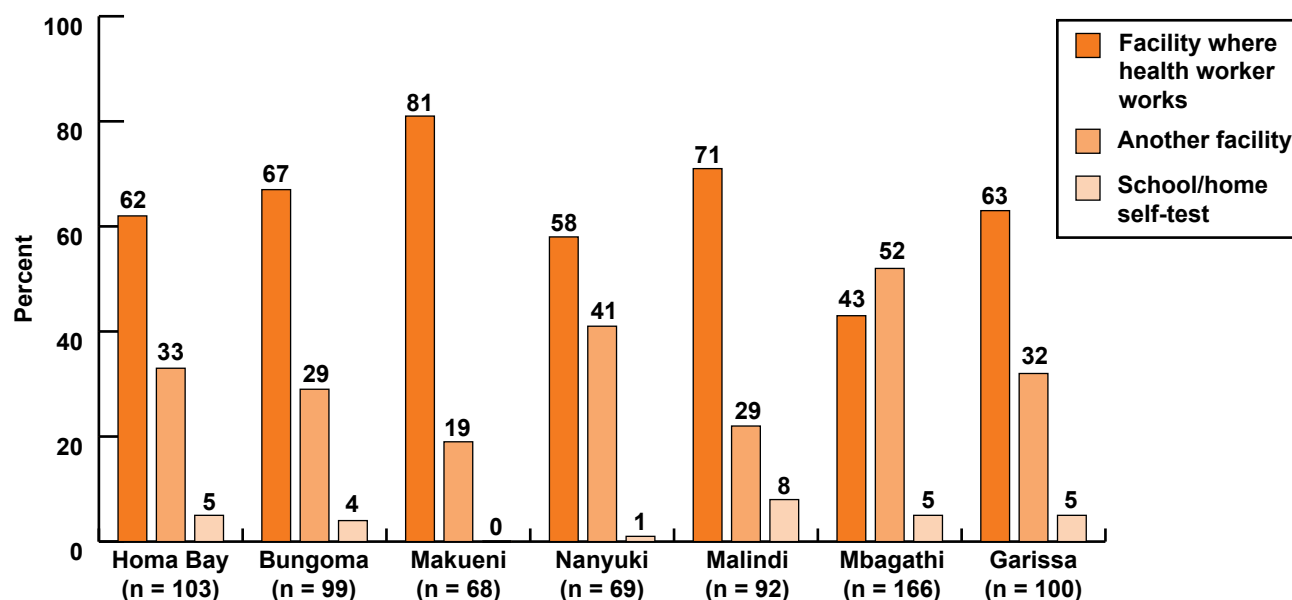
The data in Table 3 also show that among those who had been tested for HIV before, 61 percent were tested at the health facility where they worked and 35 percent were tested at another facility. While the reason for not testing at their facility was not asked it can be speculated that one of the reasons was fear of stigma. If this is true, it suggests that one-third of the health workers were not comfortable testing at their own facility and would need an alternative access to HIV testing.

When examining where respondents had previously tested (Figure 2), there was variation between sites. For example, the proportion that tested at the facility where they worked ranged from 43 percent in Mbagathi to 81 percent in Makueni. The difference between these two sites was significant ($p = 0.0000$). The reason for the variation could be the ease of access to HIV testing at other facilities at Mbagathi, which is near other facilities in Nairobi. This is unlike Makueni, which is isolated from other facilities. However, there could also be more fear of stigma at Mbagathi than at Makueni. It is also notable that in some hospitals some of the health workers (1 percent to 8 percent) self-tested in their homes even before the HST test kits were introduced, suggesting that they were probably using the blood-based HIV rapid test kits meant for patients.

Initiation and quality of previous HIV test

Table 4 shows that the vast majority (89 percent) of health workers who had received HIV testing before the self-test campaign had initiated the test while only 6 percent reported that the test had been initiated by another health worker. This suggests that the majority of testing was not routine or testing during prevention of mother-to-child transmission, but rather voluntary.

Figure 2 Where health workers last tested for HIV, by site



Almost half (45 percent) of those who tested before the HST program did not receive post-test counseling (Table 4). Indeed, three in ten were given test results without counseling while about one quarter had self-tested. Please note that although Figure 2 shows that 1 to 8 percent had tested at home, that question addressed *where* the testing was done. The data in Table 4 reveals that a much higher proportion (26 percent) had self-tested, which suggests that most who self-tested had done so, not in their homes, but likely at the health facility where they worked. This shows that although HIV testing was common among these health workers, counseling was not accessible to all of them. It also shows that self-testing was already being practiced by a good number of health workers even before the HST program.

Table 4 Person who initiated the previous HIV test (n = 701^a)

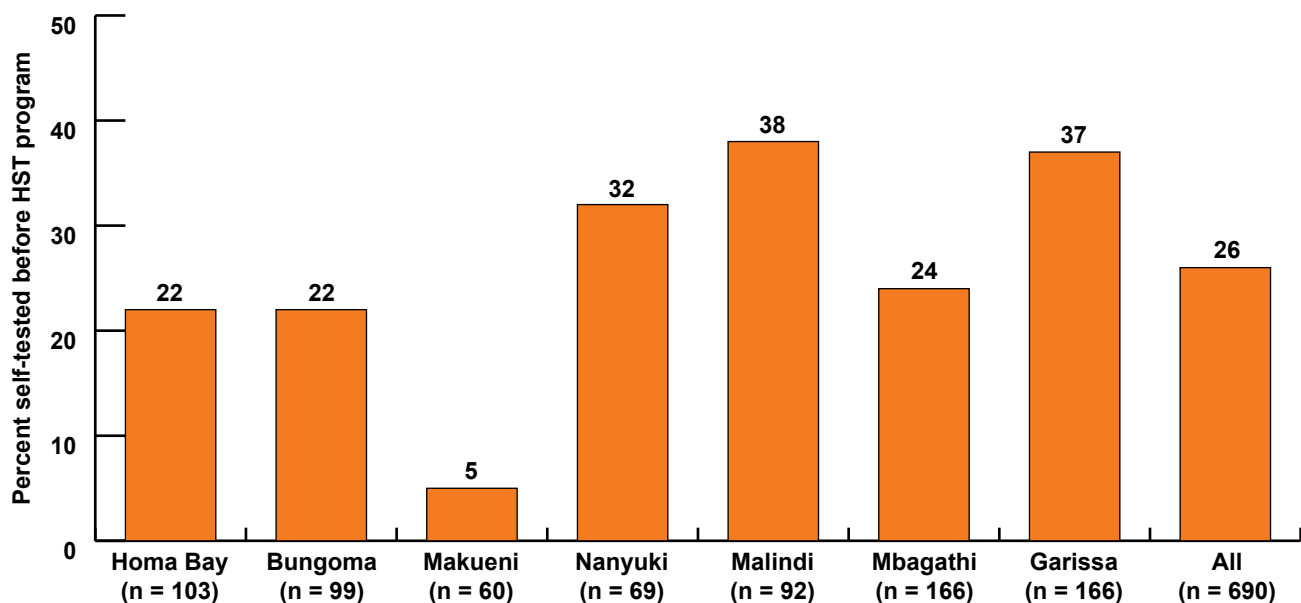
	Number	Percent
Person who initiated the last HIV test before HST program		
Myself	627	89
Another health worker	43	6
My partner	12	2
My employer	5	1
Friend	3	0.4
My pastor/priest	1	0
Others	10	1.4
How were last test results given to you?		
Counseled about test results	308	45
Given test results without counseling	200	29
Self-tested	182	26

^aThe number of respondents varies slightly due to missing data on this question.

Experience of self-testing before HST program

The proportion of respondents who reported having experience with HIV self-testing also varied by site, ranging from 5 percent in Makueni to 38 percent in Malindi; the difference between these two sites was significant ($p = 0.0000$) (Figure 3). In Kenya, most health workers have been trained in HIV testing using rapid test kits, which have been made available to most health workers to test patients as part of the provider-initiated testing and counseling approach. It can be speculated that some of the health workers who are self-testing are using these test kits. Hence, the wide difference in self-testing between sites could be due to the relative availability and accessibility of these HIV rapid test kits to the health workers at these facilities.

Figure 3 Health workers who self-tested before HST program



Uptake of self-testing in the HST program

Service uptake data from session attendance log

As mentioned in the methodology section above, the intervention team convened small groups of about thirty health workers in each health facility to attend an intervention session where they were provided information about self-testing, shown a demonstration of self-testing and offered self-test kits for themselves and spouses or partners. The team stayed at each health facility for two days and carried out three to four of these sessions. Table 6 shows data that was obtained from the attendance log of these sessions. Overall, 97 percent of the 842 eligible health workers who attended the sessions took the self-test kits. The proportion of those who attended the sessions that took the test kit was between 94 percent and 100 percent for all sites except Mbagathi, which was 79 percent. A possible explanation was that the time given for the HST session at Mbagathi during the first visit in December 2009

was short and the intervention team had to make a second visit in January 2010 to try and spend more time with the health workers. Excluding Mbagathi, the data shows that there was almost universal uptake of the self-test kit by those who attended the HST session. Of the 840 health workers who received self-test kits 629 (77 percent) received the test kits from the intervention team that conducted the HST session immediately after the session (Table 6). And 191 (23 percent) received the test kits from the on-site team after the HST session.

Table 6 Service uptake

Name of hospital	Number of eligible health workers in the facility as reported by MOH	Number (%) of health workers that attended sessions	Number (%) of health workers that took test kits ^a	Number of health workers that took test kits from intervention team	Number of health workers that took test kits from on-site coordinators
Mbagathi Hospital	330	204 (62)	199 (79)	143	56
Homa Bay Hospital	143 ^b	184	178 (97)	157	21
Bungoma Hospital	238	108 (45)	102 (94)	92	10
Makueni Hospital	191	61 (32)	61 (100)	48	13
Nanyuki Hospital	174	86 (49)	86 (100)	64	22
Malindi Hospital	165	124 (75)	119 (96)	89	30
Garissa	304	75 (25)	75 (100)	36	39
Total	1,545	842	820 (97)	629	191

^aIncludes test kits that were taken from the intervention team immediately after the sessions as well as from on-site coordinators in the one-month period following the session.

^bPlease note that the information about the eligible cadres was obtained centrally from MOH some of which was not up-to-date. In the case of Homa Bay, the number of eligible staff obtained from the list was less than the staff available to attend the seminars suggesting that more staff had been deployed to Homa Bay and the MOH register had not been updated.

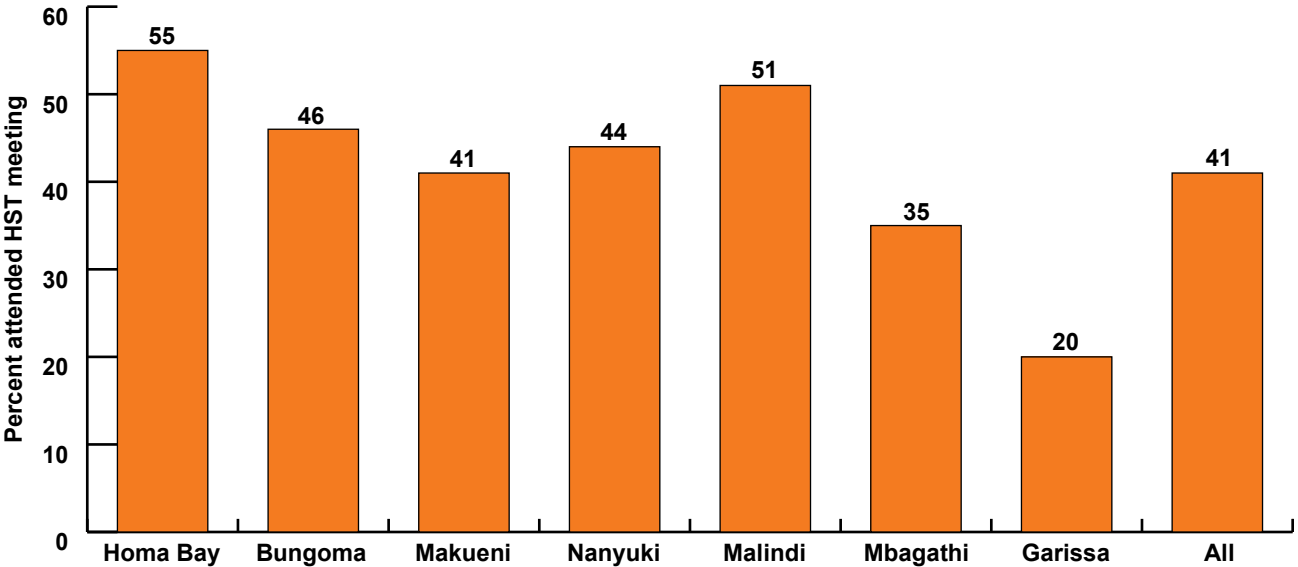
Program acceptance data from post-intervention survey

The data below was obtained from the post-intervention survey with the 765 eligible health workers at the hospitals. It should be noted that these 765 health workers who completed the survey were eligible to participate in the survey regardless of their participation in the HST information sessions. The survey was conducted one month after the above HST sessions.

Attending sessions on HST

In total, four out of ten of the respondents in the post-intervention survey had attended sessions of the “Knowing Myself First” self-test campaign (Figure 4). However, there were variations by site. The proportion that attended the sessions was about half in Homa Bay, Malindi and Bungoma while it was one-third or less in Mbagathi and Garissa. One of the likely reasons for this variation was the cooperation and communication requirements of the authorities in fixing the meeting dates and in mobilizing the health workers to attend. In some facilities there was much red tape to overcome when organizing sessions, while in others there was ample flexibility and much support for the intervention team from the hospital management.

Figure 4 Health workers who attended self-test sessions, by site



Satisfaction with the information received in the sessions

Of those who attended the HST sessions, the vast majority (98 percent) of the health workers found the information to be very useful (Table 7). The proportion satisfied with the information did not differ much across sites (data not shown). Almost all would recommend it to another health worker.

Table 7 Health worker satisfaction with the information received

	Number	Percent
How would you assess the information you received about HIV self-testing?		
Very useful	308	98
Not very useful	5	2
Don't know/no opinion	0	0
Total	313	100
Would you recommend it to another health worker to attend the session?		
Yes	312	99.7
No	0	0
Don't know/can't	1	0.3
Total	313	100

Taking the self-test kit

The health workers who attended the self-test session were trained on its use and given information about the kit as well as provided a demonstration of how the kit works. They were then offered self-test kits to take and use at home. Nine out of ten (89 percent) of

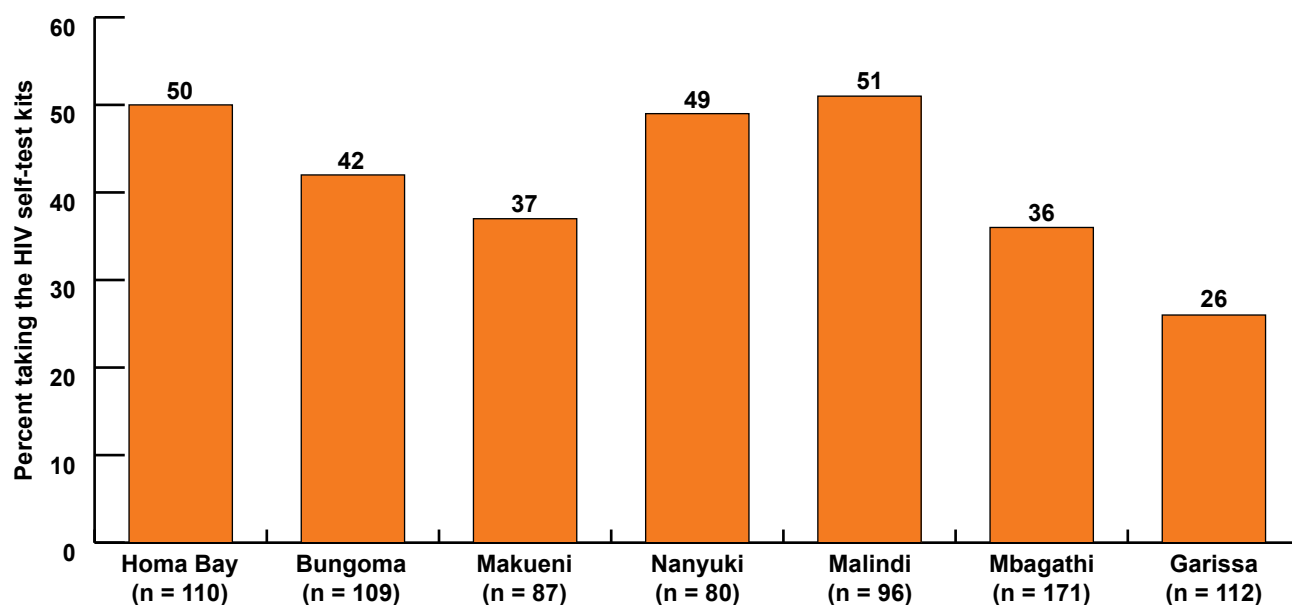
health workers who attended the sessions took the HIV self-test kit (Table 8). Those who did not take the test kits were asked why not. Five people said they did not get enough information about the test; three said it was because they planned to take the test in the future and two said they saw no reason to need to take the kit. Female health workers (91 percent) were significantly more likely to take the self-test kit than male health workers (83 percent), $p = 0.04$.

Table 8 Health workers taking the self-test kit

Did you take the self-test kit?	Females		Males		Totals	
	Number	Percent	Number	Percent	Number	Percent
Yes	205	91	73	83	278	89
No	20	9	15	17	35	11
Total	225	100	88	100	313	100
p-value	0.0398					

The proportion of health workers who took the self-test kits differed across sites (Figure 5). While Garissa, Mbagathi and Makueni had an HST acceptance rate below 40 percent, the other sites were above 40 percent. The difference between the lowest, Garissa (26 percent) and the highest, Malindi (51 percent) was significant ($p = 0.0002$). Garissa is in a low HIV prevalence area and it is likely that the concern about being occupationally exposed to HIV is low. For Mbagathi the low uptake appears to be in line with the earlier observation that the health workers appear to have not been given enough time to attend the HST sessions. For Makueni there is no clear explanation why uptake was lower than in the other sites.

Figure 5 Health workers taking the HIV self-test kits, by site (n = 765)



Number of HST kits taken

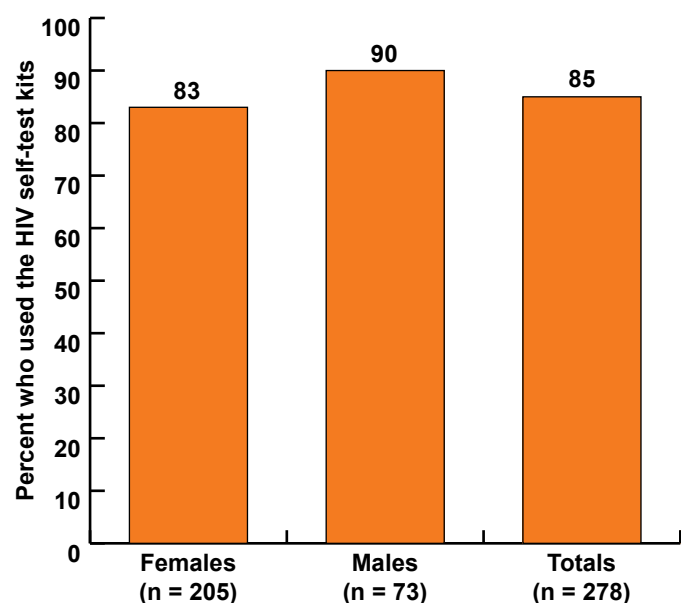
During the HST sessions, health workers were recommended to take two HST kits each; however, the health workers were free to later pick up more test kits from the on-site coordinator depending on their need. The most frequent number of test kits taken was two, taken by 41 percent, followed by four or more test kits taken by 38 percent and three kits taken by 15 percent (Table 9). Few participants (6 percent) took only one HST kit.

Table 9 Number of HST kits taken by health workers, by gender

How many self-test kits did you take?	Females		Males		p-value	Totals	
	Number	Percent	Number	Percent		Number	Percent
One test kit	10	5	7	10		17	6
Two test kits	83	41	31	42		114	41
Three test kits	33	16	7	10	0.1618	40	15
Four or more	76	38	28	38		104	38
Total	202	100	73	100		275	100

FGD responses suggested that health workers would prefer to take three test kits—one for initial testing of themselves, another for their spouse or partner and a third one in case they needed to repeat the test. There was no gender difference in the proportion of health workers that took two test kits (Table 9). However, there was a slight gender difference among those who took three test kits in that 16 percent of females took three test kits compared to 10 percent of males; the difference was not statistically significant $p = 0.1618$.

Figure 6 Health workers who used the HST kits after taking them



Using the self-test kit

Of the 278 respondents who had taken the HIV self-test kit, 85 percent tested themselves using that kit (Figure 6). Those who did not test themselves were asked why not. Fourteen out of the 41 (34 percent) said they had just tested recently and thought they could be in the window period, suggesting that they were keeping the test kit to be used when their perceived window period ended. Ten (24 percent) said that they were busy or forgot to take the test. Three (7 percent) said they still needed the right opportunity for couples' testing. Other reasons included needing face-to-face counseling, giving the kit away to someone else, being unsure whether or not they wanted to know their HIV status and thinking they were not at risk. Males were slightly more likely to have used the HST kits than females (90 percent versus 83 percent; $p = 0.15$), however, the difference was not statistically significant (Figure 6). The sample size was not large enough to examine variations by site.

How soon they tested themselves

Of the 237 respondents who took the test kits and tested themselves, over one-half (54 percent) tested themselves within hours of the training/counseling session during which they had received the self-test kits (Table 10). An additional 18 percent tested within a day and another 20 percent within a week. Thus within a week, a cumulative 92 percent of those who took the self-test kit had used it to test themselves. The data further shows that males were more likely to test within hours (61 percent) compared to females (51 percent) but the difference was not significant, $p = 0.21$.

Table 10 How soon health workers tested themselves

After the group session how long did it take to make the decision to test yourself?	Females		Males		p-value	Totals	
	Number	Percent	Number	Percent		Number	Percent
Hours	88	51	40	61	0.2064	128	54
Within a day	32	19	11	17		43	18
Within a week	36	21	11	17		47	20
More than one week	15	9	4	7		19	8
Total	171	100	66	100		237	100

Perceived ease of use of self-test kit and clarity of instructions

The vast majority (94 percent) found it very easy to use the HIV self-test kit and only a few (6 percent) thought it was not very easy. None reported that it was difficult or very difficult to use (data not shown). There was no difference in perceived ease of use of the HST kits by gender.

Additionally, the vast majority (96 percent) of users found the HST instructions from the leaflet insert very easy to follow. Only a small proportion (4 percent) indicated that the instructions were not easy to follow. None indicated the instructions were difficult to follow (data not shown).

These findings were confirmed from the FGDs. Most FGD participants indicated that it was easy to carry out self-test procedures because they were shown demonstrations and provided with guidelines on how to self-test before they were issued with the kits.

It was a good one (the session); we were given some guideline where if you didn't understand anything about the procedure you are given the guideline (to take) where you could follow the procedure.

Mbagathi health worker

They demonstrated first how to use it, those kits and then we repeated, and then the guideline that she is talking about, we were given.

Mbagathi health worker

Discussing test results with someone

The majority (81 percent) of those who self-tested discussed the test results with someone (Table 11). There was no significant difference in discussing HST results with someone else between men and women.

Table 11 Discussing HST results

	Females		Males		p-value	Totals	
	Number	Percent	Number	Percent		Number	Percent
Discussed HST results	(n = 171)		(n = 66)		0.3505	(n = 237)	
Yes	136	80	56	85		192	81
No	35	20	10	15		45	19
Discussed HST result with	(n = 136^a)		(n = 56^a)		0.7301	(n = 192^a)	
Sex partner	74	54	32	57		106	55
Colleague(s)	40	29	21	38		61	32
Friend(s)	31	23	12	21		43	22
Health worker	14	10	6	11		20	10
Children	11	8	1	2		12	6
Called hotline	1	1	0	0		1	1

^aRespondents could select more than one response, therefore the sum does not equal the total number of respondents who answered this question.

Among the health workers who discussed their HST results with someone else, over half (55 percent) had discussed the result with their sex partners, about one-third (32 percent) had discussed with colleagues and over one in five with a friend (22 percent). Only one individual among these respondents reported calling the hotline to discuss HIV test results. These results suggest that sex partners, colleagues and friends may be important for providing psychosocial support to health workers after they test for HIV. There were no significant differences in the type of person with whom health workers discussed their HST results.

FGD views relating to acceptance and operational issues of health worker self-testing

Acceptance of the concept of self-testing: When FGD participants were asked if health workers should be allowed to test themselves, they shared varying views. On one hand, it was felt that since the health workers know how to provide psychosocial support to HIV-positive patients, they could easily support themselves if they tested positive. On the other hand, it was feared that if health workers learned secretly that they were HIV-positive and are malicious, they could decide to spread the virus to others.

Ok to me I think it is a nice idea especially for the health providers because most of them of course have undergone the HIV testing to provide the service to others and the issues of confidentiality many of them may feel that it is better they test themselves.

Makueni health worker

Me, I would say no because it depends with individuals because my attitude towards HIV may be different. If I test myself and turn positive I may decide to spread it and nobody will know.

Mbagathi health worker

Self-testing is considered more confidential than VCT: The majority of FGD responses indicated that health workers felt self-testing offers absolute confidentiality compared to VCT where one would be seen going into the VCT center and potentially be judged as promiscuous for seeking HIV testing. It was also felt that since self-testing offers more confidentiality, health workers would not find the need to travel to distant places for VCT if they feel that VCT at their own station would not be confidential enough. Some also felt that the decision to take a self-test, once the kits are available, is easier to make than the decision to go to a VCT site.

Because nobody is seeing you when you are testing yourself at home, but when you are walking in the VCT, everybody sees you and they think you are immoral or something.

Garissa health worker

I think it is good, because we feel freer rather than being tested by a fellow health worker.

Makueni health worker

Acceptance of oral testing: The majority view was that oral swabbing was better than a finger prick. Some felt that the oral test was easier to conduct than the prick. However, there was a minority view that putting things in ones mouth was more uncomfortable than a blood draw or finger prick. There was also the opinion that since the virus is in the blood then the best place to test for it is in the blood.

There are some people who do not like seeing the site of blood. I prefer oral.

Nanyuki health worker

I prefer the blood because it is easier and faster...yeah. I wouldn't like anything to be put in my mouth. And because I feel the viruses are in the blood...so it is a bit appropriate.

Garissa health worker

Self-testing can facilitate PEP: During FGDs, it was expressed that if self-testing enables health workers to know that they are HIV-negative, then if they are occupationally exposed to HIV they will not hesitate to take the baseline HIV test which is a pre-requisite for PEP. PEP should only be given to those who are HIV-negative at the time of exposure. Apparently, currently the uptake of PEP is low because health workers are reluctant to take the baseline HIV test.

I think it would, because when we are initiating PEP when it comes now to the testing somebody would tell you no, I don't want it. Kama ni hivyo (If that is the

case)...but now with HST somebody can walk with it, go test themselves then they come back...If they wish to share their status...fine.

Homa Bay health worker

Accessibility of on-site coordinators: Some health workers stated that the on-site coordinators were accessible when needed and provided the assistance requested. However, there was some concern that the number of available kits did not meet the demand. Some who had not attended the self-test sessions reported that the on-site coordinators explained the self-test to them.

One of the coordinators explained to us though we had not gone for training. They were helpful.

Nanyuki health worker

This comment is in line with the service uptake data in Table 6 which shows that of the 840 health workers who received self-test kits, 629 (77 percent) received the test kits from the intervention team that conducted the HST session immediately after the session. And 191 (23 percent) received the test kits from the on-site team after the HST session.

Use of telephone hotline: According to on-site coordinators, only a few health workers called the telephone hotline to seek counseling. Most callers wanted to clarify test procedures and some callers asked about the effectiveness of the test and to clarify the myth about HIV being present in the saliva.

I think most of them, most of those who took the kit have tested themselves and...a few have asked for some guidance and counseling...just a few.

Homa Bay on-site coordinator

Partner and couples' testing

Whether partner had ever been tested for HIV before the HST program

Of the 178 survey respondents who were married or living with a partner, three-quarters (76 percent) reported that their partner had ever been tested for HIV before the “Know Yourself First” campaign. The data also shows that a significantly higher proportion of male health workers (91 percent) than female health workers (70 percent) reported that their partners had ever tested for HIV before the HST program, $p < 0.005$ (Table 12).

Table 12 Partner ever tested for HIV

Before the “Know it Yourself First” campaign had your partner been tested for HIV?	Females		Males		p- values	Totals	
	Number	Percent	Number	Percent		Number	Percent
Yes	93	70	42	91	0.0045	135	76
No	29	22	3	7		32	18
Don't know	10	8	1	2		11	6
Total	132	100	46	100		178	100

Of the respondents whose partners had been tested for HIV before the “Know Yourself First” campaign, 29 percent said that the partner had been tested once before, another 29 percent said twice before and 14 percent said three times before. This shows that partners of health workers do test for HIV somewhat regularly. However, they may not test as frequently as health workers themselves (37 percent of whom tested 3 to 4 times previously, and 26 percent of whom tested 5 to 10 times previously) (Table 13).

Table 13 How many times partner was tested before HST

Before the “Know Yourself First” campaign how many times had your partner been tested for HIV?	Number	Percent
Once	39	29
Twice	39	29
Three times	19	14
Four times	12	9
5–10 times	7	5
More than ten times	3	2
I don't know	16	12
Total	135	100

Testing as couples

Couple’s testing is an important and recommended strategy. When couples test for HIV together, it reflects good partner communication and is likely to result into effective HIV prevention strategies. Over half (56 percent) of the respondents whose partners had been tested for HIV before the “Know Yourself First” campaign indicated they had completed couples’ HIV testing with their partner (Table 14). Hence it is encouraging to see that more than half of the health workers had ever been tested together with their sexual partners.

Table 14 Testing as couples

Had you and your partner been tested together for HIV before the “Know Yourself First” campaign?	Number	Percent
Yes	76	56
No	59	44
Total	135	100

Whether partner took self-test kit

The health workers who attended the HST sessions were encouraged to take two self-test kits, with one test kit for them to give to their partner after training their partner on how to use the kit. Approximately two-thirds (64 percent) of the respondents who took the test kits reported that their partners had taken the HST kit from them (Table 15). Since in the general population partner involvement in HIV testing is often a difficult task, it is

impressive that such a high proportion of health workers succeeded in getting their partners to accept the self-test kit. There was no difference in the proportion of male and female health workers who reported that their sexual partner took a self-test kit ($p > 0.05$).

Table 15 Whether partner took self-test kit

Did your partner take the self-test kit?	Females		Males		p- value	Totals	
	Number	Percent	Number	Percent		Number	Percent
Yes	85	64	29	63	0.8698	114	64
No	47	36	16	35		63	35
Don't know	0	0	1	2		1	1
Total	132	100	46	100		178	100

Whether partner tested using the self-test kit

Of the 114 health workers in the sample whose sexual partners had taken the HIV self-test kit from them, 85 percent reported that the partner had self-tested using the kit (Table 16). The data also suggests that more of the male health workers compared to female health workers reported that their partner had self-tested. However the total number of males who answered this question is too small to allow any conclusions to be drawn.

Table 16 Whether partner self-tested with kit, by gender

Did your partner test him/herself?	Females		Males		Totals	
	Number	Percent	Number	Percent	Number	Percent
Yes	70	82	27	93	97	85
No	12	14	2	7	14	12
Don't know	3	4	0	0	3	3
Total	85	100	29	100	114	100

How soon partner used the self-test kit

Respondents whose partners self-tested reported that just over half (51 percent) tested within hours, about a quarter (23 percent) tested within a day and another quarter (23 percent) within a week of receiving the HST kit (Table 17). Thus, within a week, a cumulative total of 96 percent of the partners who had taken the test kit had used the kit to self-test. This is consistent with the pattern among the health workers, almost all of whom tested within a week of taking the self-test kit.

Table 17 How soon partner self-tested

How soon after getting the test kit did your partner test him/herself?	Number	Percent
Hours	49	51
Within a day	22	23
Within a week	22	23
Within two weeks	4	4
Within a month	0	0
Total	97	100

FGD results about partner testing

Some FGD respondents stated that they tested together with their partners while others tested at different times. However, FGD respondents indicated that regardless of whether they tested together or not, they did disclose their HIV status to each other. Some respondents were of the opinion that partners should be invited for training on self-testing to reduce the fear of testing.

Personally I took two, one for myself and another one for my friend. We tested at the same time. And we were like everybody was sweating, I was not so much worried I had tested like a year ago, but him he was a bit worried and sweating. We had said we put the kits on the table and we waited as the tests went on.

Nanyuki health worker

Partner discussing own test results with someone

Respondents whose partners had self-tested reported that 85 percent of the partners had discussed their test results with someone (Table 18). Almost all (99 percent) of respondents whose partners had discussed his/her HIV test result with someone said that the partner had discussed the HIV test results with them (data not shown). Other people with whom the partner reported to have discussed his/her HIV test result, although in small numbers, included children, colleagues, friends, family members, house girls and neighbors.

Table 18 Partner discussing test results with someone

After testing him/herself did your partner discuss their HIV test results with someone?	Number	Percent
Yes	82	85
No	4	4
Don't know	11	11
Total	97	100

Ethical issues of self-testing

Data for this section was derived from all the respondents including those who did not attend the HST sessions because the views about the ethics of self-testing of health workers

who did not attend the sessions are equally important as those of the health workers who attended the sessions.

Potential for abuse of self-test kits

All 765 clinical health workers who responded to the questionnaire were asked if the HIV self-test was subject to abuse by health workers. It is notable that half the respondents felt that the HIV self-test was indeed subject to abuse by health workers. This proportion was the same among those who attended the HST session and those who did not attend (Table 19).

Table 19 Potential for abuse of self-test

	Attended self-test session		Did not attend		All	
	Number	Percent	Number	Percent	Number	Percent
Do you think HIV self-testing is open to abuse by health workers?						
Yes	157	50	224	50	381	50
No	142	45	187	41	329	43
Don't know	14	4	40	9	54	7
Total	313	100	451	100	764	100
How can the HIV self-test be abused by health workers?						
Testing a partner without their informed consent	69	44	100	45	169	44
Testing children/infants	20	13	26	12	46	12
Infecting partner/others by injecting them with their infected blood if found positive	14	9	16	7	30	8
Sell of test kit	38	24	42	19	80	21
Non usage of test kit (no feedback)	11	7	8	4	19	5
Denominator (*more than one answer possible)	157	NA	224	NA	381	NA
How can the abuse of the HIV self-test by health workers be controlled?						
Do you think it is possible to control the abuse of the self-test kit by health workers?						
Yes	125	81	177	83	301	82
No	25	16	32	15	57	16
Don't know	4	3	5	2	9	2
Total	153	100	214	100	367	100
Can it be controlled by availing only one self-test kit per person?						
Yes	39	31	61	34	100	33
No	85	69	116	66	201	87
Total	124	100	177	100	301	100
Accountability of kits, limit number per client						
Yes	18	15	22	12	40	13
No	106	85	155	88	261	87
Total	124	100	177	100	301	100

More specifically, about four in ten respondents (44 percent) were concerned about the potential for abuse of the self-test kit by health workers testing their partners without informed consent. This proportion was the same among health workers who attended the HST session and those who did not attend. About one in ten (12 percent) worried about health workers abusing the self-test kit by testing their children/infants. Again there was no difference between the health workers who had attended the HST session and those who did not.

When asked about the control of potential abuse, the majority of respondents (82 percent) felt that potential abuse of HST kits can be controlled; however, only a few could suggest any control measures. About one-third (33 percent) proposed that providing only one test kit per person could limit the potential for abuse and 13 percent felt that asking health workers to account for the self-test kits they take would help to limit abuse. These views did not differ between health workers who attended the HST sessions and those who did not attend.

In order to control abuse, FGD respondents strongly felt that there ought to be a system for following up or receiving feedback from those who have taken kits.

Recommending self-testing to others

Data for this section was derived from all the respondents, including those who did not attend the HST sessions.

The majority of respondents would recommend self-testing for fellow health workers (Table 20). However, a significantly higher proportion (93 percent) of health workers who attended the HST session compared to those who did not attend the sessions (86 percent) would recommend self-testing for fellow health workers ($p = 0.0018$). Additionally, almost all the respondents (97 percent) would recommend self-testing on a routine basis. Further, almost all the respondents recommended routine self-testing of health workers.

Table 20 Recommending self-testing to fellow health workers

	Attended self-test meeting		Did not attend		p-value	All	
	Number	Percent	Number	Percent		Number	Percent
Would you recommend home self-testing for fellow health workers?							
Yes, certainly	291	93	389	86	0.0018	680	89
Yes, but not certain	13	4	28	6		41	5
No	8	3	35	8		43	6
Total	312	100	452	100		764	100
Do you think it is advisable for the health workers to routinely test themselves?							
Yes	304	304	436	97		740	97
No	8	8	15	3		23	3
Total	312	312	451	100		763	100

FGD results confirmed these survey findings. FGD participants reported that they would take the self-test kits if they were offered in the future to re-confirm their status after the window period of three months. They also said they would continue to monitor their HIV status since they are continually exposed occupationally.

I have to confirm after three months so I'll be willing to accept.

Malindi health worker

Yes, I would. There's a general acceptance of this kit in the facility and I think people would take the kits again.

Makueni health worker

Challenges of self-testing

Myth promoted: Some FGD respondents expressed concern that testing for HIV in saliva might give support to the myth that saliva can transmit HIV.

Another couple challenged me that if you are telling us that you can't get HIV through saliva and or through kissing, how come that you are testing yourselves using the saliva?

Malindi health worker

Because you are told kissing is Ok. Kissing is Ok. So if the saliva has the virus that means then kissing....

Mbagathi health worker)

Avoiding being associated with HST kit: Some health workers still feared carrying the HST kit with them, and asked the on-site coordinator to take some kits in a bag for them.

Okay some of them were worried, some of them would just tell me to carry some (kits) for them in my hand bag then I give it to them.

IDI with Garissa on-site coordinator

Challenges convincing partner: Some experienced some difficulties convincing their partner to test, especially male partners. For one respondent who had tested before with the partner, the partner wondered why there was a need for re-testing arguing that this indicated doubt or mistrust by the health worker.

It took me a month because I wanted us to be tested both. So, if it was me alone, I would have tested the same day.

Mbagathi health worker

Supposing you take the kit to your spouse and your spouse refuses, you know sometimes he can refuse not to be tested.... Now I would ask what the best approach is for this spouse who has just decided to refuse.

Homa Bay health worker

Challenges like me personally, we had already known our status me and my spouse, now taking this one the question was why are you casting doubts again... yeah...so there will always be challenges at times...yeah.

Bungoma health worker

Post-test counseling of HIV-positive persons needed: The majority of FGD participants stressed that there was a gap in post-test counseling in the case of health workers who self-test and find that they are HIV-positive. It was argued that those who test HIV-positive need prolonged support and that some may go into denial. Participants said the program is weak in terms of what to do when one is HIV-positive. It was also felt that, in general, the program was weak on follow-up and what happens after testing.

“The health kit should be availed to the staff and there should be a prolonged support for the staff who turn positive. Otherwise, for now we are just like any other person, we want counseling, and if it just happens during the working hours....

Makueni health worker

Hmm...Basically what is there I would say is enough but then what was not included there is what next? After I have tested myself what next? That was not included there....

IDI with Homa Bay on-site coordinator

Ideas for operational structure for future HST programs

Proposed service approaches

Respondents to FGDs and IDIs were asked to recommend service delivery approaches for health worker self-testing should this become a routine program. The following are the main themes emerging from their recommendations.

Delivery of self-test kits through hospital department: Some respondents were of the opinion that in order to ensure that all health workers, including those on night duty, are equally offered the opportunity to be part of the HST program, the program should be conducted by department and the departmental head should then ensure that all their staff members receive the opportunity for the HST training and the kits.

Maybe they could do it departmentally because those of some departments, particularly those who were on night duty, they didn't even get the chance and those who were off duty they didn't get the chance. So if it could be done departmentally, then maybe all of them could get a chance.

Malindi health worker

Offer self-testing routinely to all health workers and give them the option to opt out: FGD participants were asked if HST should be offered routinely to health workers, and they can opt out if they wish. Some FGD participants agreed while others felt the HST kits should be available and it should be left to the health workers to take the initiative to ask or take the HST and self-test.

Because health workers are exposed to HIV every day, I think it should be a routine.

Mbagathi health worker

I think it should be on request so you don't just say after 3 months health workers you go and pick kits, it should be on request.

Mbagathi health worker

Health workers to function as community-based distributors of HST kits: Some FGD respondents proposed that the health worker who gets trained become the distributor to their social network because s/he can train their peers as well as supply them with HST kits. Indeed, some health workers did provide HST instruction and kits to some community members.

I think it will not be easy for our spouses to come to the health place to get these kits. Maybe the person who gets tested that is the health care worker can see to it that he provides for this. They can be able to give out to the people they have trained so that they be able to give it to their partners.

Garissa health worker

Yeah I took 5 of them, so when we had a meeting I introduced the topic and I showed them how to do it, and they took the kit.

Makueni health worker

Paying for the HST kit: Regarding paying for the HST kit, some FGD participants felt there is no need to buy the HST kit when VCT is free. Some also noted that since they are occupationally exposed, it should be the government's responsibility to buy the kits for them. Others felt it was worth buying for themselves for a price of 10 to 100 shillings per kit (US\$0.80-1.25). Indeed one participant proposed that the HST kit should be sold just like the pregnancy test which sells at 50 shillings (US\$0.63). It was also suggested that the kits sold should have an insert with a number to call in case of need for more information or counseling.

I think it should be free because if it comes to pay, I would opt to go for the free one which is offered at the VCT center.

Garissa health worker

Because I don't think it will be possible to get free kits all the time, so if you can it will force you to buy, because you need it and it is not available.

Malindi health worker

I think for the community since everyone is supposed to know his/her status they can be put in the kiosk at a low price for people to test themselves and then they be given a number so that in case of a problem they call and are free.

Bungoma health worker

Service delivery issues

Number of kits per health worker: Some suggested that the number of HST kits to be given should be three: one for the primary person, one for the partner and the third in case there was an error and there is need to re-test. But some felt that there should be no limit, and that it should depend on the number of members of one's family.

Three kits. I think three is a good number because one might be invalid, so one for your partner, one for yourself and the other one just in case.

Garissa health worker

Everyone should be given two kits such that, should there be a contamination of one, then they can use the next one.

Makueni health worker

Need for service delivery statistics and feedback: Respondents felt there ought to be a system for following up or receiving feedback from those who have taken the kits as well as accounting for the kits.

It is a good approach but at least maybe the ones who are given the kits, they are supposed to be followed to know how they have been using them...their results.

Garissa health worker

How will you know the reaction of the health workers after they have tested themselves? How will you know that we have used the kit? We might convince you we used, but you never know what happened behind there.

Nanyuki health worker

Placement of kits: It was felt that accessibility to HST kits should be as easy as condoms e.g. through dispensers in bars and toilets and training during Continuing Medical Education. However, some FGD participants were of the view that if the kits were left to be picked up there is potential for misuse, and members of the public not trained on their use would take the kits. Some suggested that they should be placed in pharmacies while others suggested the comprehensive care center (CCC), i.e., the HIV care centers in hospitals.

I think the kits should be well distributed in the hospital, the way condoms are, you can go and pick it at your own time.

Nanyuki health worker

If we are talking about the health provider here we have something they call Continuous Medical Education, in some hospitals training is very frequent so it comes as a topic and on some particular day we all come together as health providers from different departments and at that particular time demonstrations done and they can be placed at strategic points where now every health provider who wishes to use can pick.

Bungoma health worker

Roll out to community: It was felt that the program should roll out to community groups, especially youth who are at high-risk of HIV. Indeed, some felt that the self-test program would receive more acceptance than VCT. One opinion was that HST could enhance male involvement in prevention of mother-to-child transmission if provided during maternal and child health (MCH) care.

I think it is better maybe to be involved in the youth groups, maybe a person can go and represent the family or the clan so that he can take the kits and test the others. I think it is within the community whereby all the family members can get access to the testing.

Garissa health worker

May be like MCH where the maternal, child and paternal healthcare are taken care of, so if they come there because nowadays they are encouraged to come with their partners, so if they come there,...as they get this services they could also be counseled and then they go with this kits home.

Homa Bay health worker

Strengthening pre-test counseling

FGD participants felt that health workers need to learn pre-test counseling skills during the HST session if they are going to introduce the concept to their partners. It was feared that without good pre-test counseling, some people could self-test and go into denial. They also felt that most of the information about the test and procedures could be given out to all health workers during Continuing Medical Education and then those interested in the kits could be trained in detail about the HST procedure. It was also proposed that the inserts in the test kits should contain counseling content.

Then one thing I would add may be is that in the HST material they should add something, bit of counseling, you know...you are counseled somehow...so that you know what to expect...yes.

Homa Bay health worker

Strengthening post-test counseling

As mentioned earlier, respondents felt that the weakest part of the program was in post-test counseling and follow-up. For this reason they made a good number of recommendations to strengthen this area. The recommendations included:

- Training on HST procedures should include a session on counseling skills, especially how to cope with HIV-positive results. It should include a session on “self-awareness”.
 - This would enable health workers who test positive to cope with the diagnosis until they seek and receive counseling from a trained counselor.
 - It would also enable health workers to give immediate support to the partner and other family members whom they might supply the HST kit.

- Form support groups of HIV-positive health workers to provide on-going emotional support. It was reported that support groups of HIV-positive health workers already existed in Homa Bay Hospital which is in Nyanza Province, an area with a high HIV prevalence rate.
- Enable the health worker to link up with the CCC for care and treatment.
- Enable the health worker to link up with social support services in the community such as faith-based organizations.
- Instruct health worker to visit the nearest health center to receive post-test counseling from a trained counselor if they test positive on the HST.
- Give hotline counseling through counselors who are not part of the hospital.
- Emphasize follow-up support during the training and pre-test information sessions.
- Make available a higher level of counselor such as a clinical psychologist for health workers who use HST.
- Offer post-test counseling also for those who test HIV-negative to help them stay negative.
- Include counseling information in the inserts in the test kits.

HST and national HIV counseling and testing policy

The idea of incorporating HST in the national HIV counseling and testing policy was supported by respondents. It was deemed necessary to give a legal framework, which would also help in the national roll out and could help a health worker explain to the partner about this new device.

If you are planning to have it all over the country, there should be a policy on how it should be used and anything else incase anything goes wrong, you have something to defend yourself with.

Mbagathi health worker

For most of us who are not VCT counselors, there is a national guide line for HIV counseling and testing services, and in that guideline there is no provision for self-testing. We have been doing self-testing but not openly. That component of self-testing should now be included.

Nanyuki health worker

CONCLUSIONS

The study set out to answer a number of research questions. The results presented above aimed to answer these research questions as shown below.

What is the feasibility of HIV HST among health workers using Calypte® Aware™?

- The HST intervention was feasible to implement at the district and provincial hospitals participating in the study, and health workers found the HST kits easy to use.

What is the acceptability of HIV HST among health workers?

- The majority of health workers interviewed, and their partners, had an HIV test before.
- Most health workers are supportive of regular HIV testing of health workers.
- Health workers liked the concept of self-testing and preferred it to VCT.
- Health workers liked the oral test kit and preferred it to blood testing.
- One perceived advantage of self-testing was that it could help facilitate PEP for health workers.
- The majority of health workers who were reached by the program utilized it to self-test and they self-tested within one day of receiving the HST kits.

How can couple testing and counseling be made available in the context of HST?

- The majority of health workers who self-tested in the HST program reported sharing their HIV status with their sexual partner/ spouse.
- The majority of health workers who took test kits to their sexual partners/spouses reported that the partners utilized the kits to self-test.
- The majority of sexual partners/spouses who self-tested in the HST program shared their HIV status with the index person, the health worker.

What operational and ethical factors should be taken into consideration before HST would be scaled up?

- The main challenge of the self-test program is how to provide post-test counseling and link to support services for health workers who test HIV-positive.
- Another operational challenge is the documentation of HIV test results since users of the self test are not asked to report their test results. This will make it difficult to report self testing in the country's database since the database requires reporting of test results.
- Health workers did not use the telephone hotline post-test counseling that was offered by the program.
- While health workers expressed concern about potential abuse of the self-test kit, by for example testing minors or housekeepers without their consent, no such incident was reported.

DISCUSSION

These findings suggest that HIV self-testing is feasible and acceptable among hospital health workers and their sex partners in Kenya. The study provides evidence that there is demand and interest among these target populations for HIV self-testing.

As evidenced by the high rate of HIV testing among health workers prior to the “Knowing Myself First” campaign, this is a population among which regular HIV testing is the norm. Health workers perceive themselves at risk for both occupational and sexual transmission and know the importance of getting tested for HIV. However, despite the high level of previous regular HIV testing, there was expressed need for an HIV testing option that would allow them confidentiality and privacy. For previous tests, many health workers (approximately one-third) reported testing in facilities other than the facility where they work. We also observed that health workers in facilities where there was easy access to HIV testing nearby (i.e., those closer to Nairobi), there was a higher rate of health workers who tested at facilities outside the one in which they worked. This is likely due to confidentiality reasons and fear of stigma associated with HIV. Given the level of stigma that exists around HIV and fear of others finding out about ones HIV status, health workers want an option that would allow them to test privately, anonymously and regularly.

Indeed, when HST kits were offered to health workers in the seven participating hospitals, acceptance and use of the HST kits were high. Approximately nine out of ten health workers who attended the information session on HST took the test with them after the session and of those who took the test kits, the majority of them reported testing themselves within one day of receiving the HST kit. This clearly indicates that health workers see the urgency to test for HIV.

In this study, we found that the greater hurdle to uptake of self-testing was in getting the health workers to attend the HST informational sessions rather than acceptance of the HST kits among attendees of the informational sessions. The low attendance rate at the informational sessions (ranging from 20–55 percent) was likely due to job demands and staff not available due to work shifts. In some facilities, there was much red tape to overcome when the sessions were organized while in some facilities there was ample flexibility and much support for the intervention team from the hospital management. The findings underscore the critical need to have buy-in of the upper management of the hospitals for the success of this program.

It is clear, however, that once health workers attend the HST informational sessions, they do take the HST kits and test themselves. Based on feedback from the self-test kit users, almost all who took the kits indicated that they found the HST information useful, found the actual test kits very easy to use, and they would recommend the kits to other health worker. Health workers indicated that one of the best features about the HST kit was that it allowed them to test in private without having to walk into a place where others can see them coming in for an HIV test.

The study also found that HST kits were desirable by sex partners of health workers. The majority of health workers with partners indicated that their partners used the HST kits on

themselves, almost all of whom tested within one week of receiving the test kit. Some health workers did indicate that they faced some challenges trying to convince their sex partners to take the HST kits to test themselves. These health workers wanted additional support to help convince their partners to test with the HST kits. Qualitative results revealed that while many of the health workers and their partners did test together, even those couples who did not test together did reveal their test results to their partners. These are encouraging results given the recommendation for couples to be counseled and tested together. It is likely that these health workers are already educated on the importance of couple HIV testing.

Important lessons emerged related to the implementation process in hospitals. On-site coordinators are critical to the successful implementation of the HST program as they help to facilitate the scheduling of sessions, obtaining buy-in and support from hospital management, and mobilization and sensitization of health workers at their hospitals. Additionally, hospital management must work out scheduling issues so health workers are given the opportunity to attend the HST sessions. Further, additional training for post-test counseling or support systems is needed to provide support for those found to be HIV-positive from the HST test, as well as for those found to be negative to continue to stay negative. It was also suggested by health workers that there be opportunities for sex partners of health workers to attend the HST information sessions to encourage partners to test themselves.

Some limitations of the study should be highlighted. First, HIV test results were not obtained from health workers so we cannot make any conclusions about the prevalence of HIV among health workers or their sex partners who tested themselves with the HST kits. However, given their positions as health workers who have direct contact with patients and given the HIV prevalence in Kenya (6 percent), we can assume that they are at high risk for HIV (KNBS and ICF Macro, 2010). Secondly, we did not assess reasons why health workers did not attend the HST information sessions. Further investigation into this can increase coverage of the HST program in health workers. Finally, there were no comparison groups to allow us to compare testing rates within a standard of care setting (i.e., when health workers are simply given information about HIV testing and referred to existing HIV testing facilities).

The study findings, however, do indicate that HIV self-testing is needed for health workers and their partners in Kenya and that self-testing campaign such as “Knowing Myself First” is feasible and acceptable. Implementation and scale-up of this program should be conducted based on lessons learned from this study. The next section outlines recommendations for scaling up the HIV self-testing program for health workers.

RECOMMENDATIONS BY RESEARCH TEAM

The data shows that the feasibility and acceptability of the HIV self-test program are high. However, the data has shown that there are barriers in the following areas:

- How couples' testing and counseling can be provided.
- Operational and ethical factors that should be considered before HST is scaled up.

How to provide couples' testing and counseling

Issues

In this community of health workers, the majority shared knowledge of their HIV status with their spouses/sex partners and for the majority, the spouses/sex partners have tested for HIV and shared the knowledge of their HIV status with their partners. In the current study, while a good number reported the ease with which their partners took the self-test kit, tested themselves and shared results, there were some that reported difficulty encouraging partners to take the HST kits. Some health workers recommended that the program should directly train partners and provide them with the test kits. A few also felt they did not have the counseling skills to support their partners.

Recommendation

For future implementation, while each health worker should be provided with a second self-test kit to provide to the partner, the self-test program should have a provision for health workers to refer their partners to the on site-coordinator to train them and provide them with the self-test kit.

Operational factors to be taken into consideration before HST is scaled up

Issues

1. The main operational issue is the gap in terms of coordination of services. During the feasibility study, this role was played by the intervention team hired by Population Council. The intervention team organized the selection of the on-site coordinators, trained and supervised them. The on-site coordinators mobilized health workers and convened the scheduled self-test training sessions. The intervention team visited each health facility and conducted the self-test training sessions which included a demonstration of the self-test kit and provision of self-test kits to those health workers who desired to take them. A supply of self-test kits was left behind for the on-site coordinators who provided them to health workers who missed the sessions. The on-site coordinators provided individual training to these health workers before giving them the self-test kits. After the feasibility study, in order to sustain this program, future provision of the self-test kits should have a distinct institution, such as NASCOP, to carry out these operational coordination functions.

2. The second issue is related to keeping record of the self-test kits supplied, to whom they are supplied and whether the person tested themselves. In other words, some kind of a Health Management Information System (HMIS) would be needed to manage the provision and utilization of the HST kits.
3. Central level coordination of budgeting, planning and soliciting funding for the self-test kits as well as organization of the supplies and distribution logistics will also be needed for the future scale-up of this program.

Recommendations

1. The health workers recommended that the test kits should be managed by departmental heads. They also recommended that the training sessions be conducted as part of Continuing Medical Education so all health workers get the knowledge about the self-test kit as well as the skills for conducting the self-test. After acquisition of the knowledge and skills the health workers would then, on their own will and in their own time, go to their departmental heads to obtain the self-test kits.
2. In terms of the HMIS, there is no clear recommendation because measures requiring a structured feedback might result in some health workers not taking the test kits. Our recommendation is that record is kept of what number of test kits are issued and on which date they were issued.
3. In terms of central coordination of the HST program, we recommend that NASCOP coordinate the self-test kits for health workers, in the same way it coordinates the HIV rapid-test kits. The existing supply system should be used and the self-test kits should be received and stored in the health facility medical stores. The heads of departments should requisition the self-test kits, from the hospital stores, just as they requisition other supplies for their departments. They should keep record of users and numbers supplied as indicated above. These returns should then be used to requisition for more supplies from NASCOP. However, the initial supply should be estimated at three self-test kits per clinical health worker every three months. The three test kits were recommended by the health workers so that they can use one kit for self-testing, the second kit for partners and a third test kit in case they make an error and want to repeat the test kits. The clinical health workers (doctors, nurses, lab techs, other para-medical staff, social workers and HIV counselors) are the ones among whom this study was conducted and are the ones these recommendations relate to. They recommended that because of frequent exposure to HIV, they prefer to self-test every three months. In fact, the data showed that the majority of them were frequently testing for HIV.

Ethical factors to be taken into consideration before HST is scaled up

Issues

1. The main ethical factor is that the follow-up services after self-testing, as designed in this feasibility study, were not well utilized, or if they were, there is no record that this happened. The main follow-up services were either the toll-free telephone hot-line or

going to a VCT counselor on the list that was provided. The hotlines were operated by on-site study coordinators and one line was operated by the intervention team based in Nairobi. There were few phone calls to the hotlines and they were mainly for clarification of test procedures. Only one health worker who tested HIV-positive called the hotline of the intervention team and they received counseling on the phone which was followed by a facilitation of links to treatment, which was done successfully. Most health workers said they did not see the need to call the hotline because they already knew their HIV status and the self-test kit only confirmed this status and hence did not require counseling. This is expected because the majority was frequently undergoing HIV testing and because the majority was HIV-negative, considering the national HIV prevalence of about 7 percent. However, a major ethical issue is the need for post-test counseling and follow-up care and support services for health workers who test HIV-positive.

Recommendations

1. The information insert in the self-test kit package should contain counseling information in terms of how to cope with HIV-positive and HIV-negative results.
2. The training session on the self-test kit should include a counseling session on how to cope with HIV-positive and HIV-negative results. The session should also include a “self-awareness” component, which is usually done at the beginning of a counseling training course, to enable the trainees to examine themselves and their own weaknesses and strengths in preparation for learning their HIV status.
3. NASCOP should recruit or designate a number of staff for the health worker self-test program as follows:
 - *Program Coordinator*: overall in-charge of the program country-wide.
 - *Regional Counselors*: these should be senior counselors, preferably clinical psychologists, who will be in-charge of conducting self-test training sessions and providing telephone-based counseling to health workers as requested. Each regional counselor could be responsible for a number of health units in his or her region.
4. *Limited Release Program*: NASCOP should establish a partnership to design the next phase of the self-test campaign as a “Limited Release Program on an Experimental Basis” limited to communities with relatively low HIV stigma especially those with high HIV prevalence. The aim of the study should be to test the feasibility of self testing in the general community. One possibility could be to offer self testing to clients seeking VCT services. This phase should last only six months, after which decisions should be made to roll out the program nationally.
5. *Other target audiences*: Considering that HIV test kits are already available in Kenya pharmacies NASCOP should make effort to strengthen post test counseling and links to support services for individuals who test HIV positive when they use HIV self test kits obtained from pharmacies. This should be done using pre-and post-test counseling inserts as well as training pharmacists to provide an over the counter brief training on use of the test kit and about the need to seek counseling and confirmatory testing once one tests HIV positive. In addition, the pharmacists should provide information about the available facilities in that community where clients could go to receive counseling and confirmatory testing.

The study also showed that health workers are eager to roll out the self-test program to their family members and community members and to the other staff working in the hospital. From the data, it appears the most viable approach would be for the clinical health workers who have undergone self-testing to become community-based distributors of self-test kits to these target audiences. The health workers would be collecting these kits from their heads of departments, conducting training sessions of their target audience and issuing them with test kits and recording the names and phone numbers of users for accountability as well as a feedback survey. An operations research proposal could be developed to test the feasibility, acceptability as well as operational and ethical issues relating to this approach and these target audiences.

In the study it was also identified that one perceived advantage of HIV self testing among health workers was that it could help facilitate the uptake of post-exposure prophylaxis (PEP) among health workers after occupational exposure to HIV. NASCOP should consider undertaking measures to provide HIV self test kits together with the PEP supplies to health facilities. The HIV self test kits packages should contain pre and post test counseling information indicating the need to seek confirmatory testing at a service delivery site should one get HIV positive results.

The results of this study were presented at two meetings of the HIV Testing and Counseling Technical Working Group of NASCOP of the Kenya Ministry of Health. This technical working group is the body that provides technical guidance to the Ministry on matters of HIV testing and counseling. There was consensus in the group that the results of this study have shown the feasibility of delivering the HIV HST service among the specific target group of health workers. The study however, showed the need to emphasize clear follow-up guidance after HST. For this reason, the technical working group recommended the need to emphasize in all communications about HST the message that if one tests HIV-positive they should visit a health facility or VCT center for confirmation and counseling and care.

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APPENDIX I: POST-INTERVENTION FGD AND IDI GUIDE

Knowing Myself First

SELF-TESTING FOR HIV AMONG THE HEALTH CARE WORKERS: POST-INTERVENTION FGD and IDI GUIDE

Nov 2009

Objectives of the HST study

- *To find out the feasibility and acceptability of self-testing for HIV among health workers and their partners.*
- *To find out how self-testing for HIV among health workers could be availed.*
- *To find out how pre-test and post-test counseling can be provided.*

Section 1: Warm-up

Let us introduce ourselves. My name is.....I am part of the team implementing the HST study in the nine (9) identified health facilities/study sites throughout the country. Please tell us your name, if that is okay with you, and how long you have been working at this institution, your role and what department/unit you work in.

Section 2: Knowledge and use of home self-testing

2.1. Did you attend the pre-implementation FGD? Did you participate fully in the discussions to help shape the HST study planning and implementation?

2.2 Did you attend the HST group training sessions? Did you sit through all the presentations including the HIV test (test-kit use) demonstration? Did you take the HST kit(s) provided after the group training session?

2.3 Did you find the HST related group training (knowledge and testing skills development) and counseling sessions useful? If you feel the sessions carried out were not sufficient to support those wishing to undertake HST, what do you think needs to be done to make them effective? If you were the one designing and implementing the HST study today, how would you approached this? Can you share your views fully with us?

2.3. Do you still feel HST for health providers is a good idea? Dou you feel health providers should be allowed to test themselves to know their status?(Please give us reasons for your answer)

- Should their partners too be allowed to test themselves to their own status?
- Do you think this should be eventually extended to the general public?

2.4 What benefits and challenges do you think health workers who self-testing for HIV would get?

- Do you think more health workers will accept HST to know their status?
- Do you think health workers who test would wish disclose their results after HST? If so, to whom? What do you think would be the motivating factors for health providers to disclose status?

2.5 What benefits and challenges do you think health workers who don't test to know their own HIV status would get?

- Do you think these health workers could be encouraged to accept HST to know status? How can this be done?
- If these health providers eventually took up HST, do you think they would wish to disclose their results to anyone?

2.6 If HST was offered to health workers at your facility again (or regularly), would you take up? *(Please give reasons for your answer)*

- During our last visit, if the test kits were distributed through any other means, but picking them in full view of the other health providers (group training session participants), would have taken? Did you pick the other HST related IEC materials

2.7 What elements do you now feel a HST program has to have in order for health workers to embrace and use it regularly? *(Describe what was provided to health workers during the dry run for those who attended Grout training sessions and after they took the kit). Highlight to them: a) the pre-test group training (knowledge and skills) and counseling sessions; the phone hotline, the availing of testing kits, the site-based counselors, etc.).*

- From your own experience now, which HST approach would be your preference: blood or oral-fluid based? And why?
- ***We provided you with the oral-fluid based 'Aware' test kit.***
 - What are your views now about the test kit's accuracy and oral fluid based testing methodology in general?
 - Do you now think this kit will be easily accepted by health providers, and why?
- You attended sessions during the HST implementation at your health facility, what do you would be the best time to avail HST training sessions if this was to be done again? How would the various working shifts at your facility be catered for?
- What do you now think would be the best way to avail these test kits to health providers and their partners? Should they be provided through the pharmacy, Onsite HST Coordinators or Departmental Heads? If there is eventual adoption of this approach to HIV testing beyond the health providers, should the kits be sold in the shops?
- Some of your friends at the workplace picked the kits and used, what has been their general feedback on this new way of HIV testing? How about those who took the kit and did not use, what has been their general feedback? Were your workmates comfortable carrying the kits around?

2.8 Was the Group counseling support provided adequate? What additional counseling support do you think is necessary to support those who wish to take up HST?

- Did you seek counseling support, and if so, was it available?
- Were the Onsite HST Counselors chosen by staff and trained to support the study accessible and did they play their role effectively?

2.9 How many HST kits do you think should be availed to each individual, and why? Would individuals wishing to confirm their test results visit a lab or VCT site at the health facility? If no, why?

2.10 Should partners of health workers be encouraged to take up HST? If yes, how should HST be availed to them?

- Should partners of health workers be asked to come to the hospital to attend group training sessions and pick up their own HST kits? What would be the best time for them to come if this is an option?
- Is there need to provide pre-test counseling to partners of health care workers? If yes, how can this be done effectively?
- If a health provider takes a test kit for their partner after the HST group training sessions, should the health provider be the one to give the necessary training on HIV testing to partner? Should the partner test on their own or be assisted by the health provider, and why?
- Should partners/couples be encouraged to carry out the HIV test together or separately? And should they disclose their results to each other, if they test separately? Should they also disclose to their children?
- What support do you think discordant couples would need to handle the situation well after HST? How can this be effectively provided?

2.11 Do you think there exists adequate support for whoever gets a positive result after HST, to deal with it effectively? If no, what can be done to improve this?

2.12 Do you have any ideas on how one would deal with a partner who refuses to take the test?

2.13 Should HST be available to other family members of the health care workers as well?

2.14 Had you taken the kit and tested, do you think you would have found it necessary to confirm the results of the HST irrespective of the outcome?

- If yes, how would you have confirmed? Would you have used another HST test kit or visited the VCT/ lab? Where would you have had this done?

2.15. Do you think it is important for health care workers to know their status regularly? If yes, how often should they test in a year? Can they do this on their own?

Section 3: Counseling in HST

3.1. Do you think pre-test counseling is necessary for the health care workers who want to self-test? How about their partners?

- If yes, which of the following would effectively address your/their pre-test counseling needs:
 - Group information sessions
 - Individual sessions
 - Print materials
 - Video/other electronic messages
 - Over-the-phone counseling
- How can post-test counseling be availed to those who need it, as part of HST for health care workers (and their partners)?

3.2. Is a telephone hotline necessary to support health care workers wishing to undertake HST? Did you call the provided hotline numbers yourself to get any services/information? Should the hotline be a toll-free line?

Section 4: Packaging the HST

4.1. Going forward, what do you think the HST toolkit should have?

- A referrals directory/list?
- Hot line numbers of HIV services providers/counselors?
- Instructions on how to test and read the results?
- Instruction on how to use/dispose of the test kit?
- Individual/couple counseling instruction?
- Frequently asked questions?
- Free condoms?

Section 5: Cost of HIV HST services

5.1. Would you be willing to buy HST kits if they were offered for sale after the study? If yes, how much would you be willing to pay for it?

5.2. Do you think HST for health providers is a good idea? Should the national HIV testing and counseling policy be reviewed to accommodate HST?

5.3 Is there anything else you would like to say to us with regard HIST including you own experience with this new approaching to HIV testing?

5.5 Do you have any question(s) which you would like to ask the HST implementation team before we conclude the FGD?

THANK YOU VERY MUCH FOR YOUR PARTICIPATION.
THE INFORMATION YOU HAVE PROVIDED IS GREAT AND WILL INFORM
THE PROPOSED HST STUDY

APPENDIX II: POST HST QUESTIONNAIRE

KNOWING MYSELF FIRST KENYA HEALTH WORKERS CAMPAIGN AGAINST HIV/AIDS, 2009

Date of data collection: ____ / ____ / 2009 Respondent Code _____
Day Month

Province: (Circle as applicable)

Nairobi 1	Central 4	Nyanza 7
Western 2	Coast 5	North Eastern 8
Eastern 3	Rift Valley 6	

District: (Circle as applicable)

Nairobi 1	Makueni 6	Laikipia 11
Nyeri 2	Machakos 7	Bomet 12
Maragua 3	Garissa 8	Nakuru 13
Malindi 4	Homa Bay 9	Teso 14
Tana River 5	Migori 10	Busia 15

Name of health facility: _____ Result code _____

Affiliation/funding of health facility: 1...Public 2...Private 3...Mission 4...NGO
5...Others (specify) _____

Interviewer's name: _____ Interviewer code

Supervisor's name: _____ Supervisor code

<p>Date of coding ____ / ____ / ____ Day Month Year</p> <p>Name: _____ Signature: _____</p> <p>Supervisor checking coding</p> <p>Name: _____ Signature: _____</p>	<p>Date of 1st data entry ____ / ____ / ____ Day Month Year</p> <p>Name: _____ Signature: _____</p> <p>Date of 2nd data entry</p> <p>Name: _____ Signature: _____</p>
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“KNOWING MYSELF FIRST”

KENYA HEALTH WORKERS SELF-TESTING CAMPAIGN, 2009

SECTION I: BACKGROUND INFORMATION

RECORD THE TIME (USE THE 24:00 CLOCK.) HOUR _____ MINUTES _____

1. SEX OF THE RESPONDENT. (DO NOT ASK!) 1...FEMALE 2...MALE

2. First, I would like to ask some questions about you. How old were you at your last birthday?
_____ YEARS

3a. How long have you been working in this facility? _____ YEARS
(IF LESS THAN 1 YEAR, WRITE 00)

3b. What is your occupation, that is, what kind of work do you **mainly do?**

(CIRCLE ONLY ONE ANSWER)

- 1...MEDICAL DOCTOR
- 2...CLINICAL OFFICER
- 3...REGISTERED NURSE
- 4...ENROLLED NURSE
- 5...SOCIAL WORKER
- 6...LAB TECHNICIAN/TECHNOLOGIST
- 7...VCT COUNSELOR
- 8...OTHER (SPECIFY) _____

(JOB DESCRIPTION DOES NOT FALL UNDER ABOVE CADRE, SKIP TO Q28b)

4a. What is your religion? (CIRCLE ONLY ONE ANSWER)

- 1...CATHOLIC
- 2...PROTESTANT
- 3...MUSLIM
- 4...NO RELIGION/NONE
- 5...OTHER (SPECIFY) _____

5a. What is your marital status? **(CIRCLE ONLY ONE ANSWER)**

- 1...SINGLE (NEVER MARRIED) SKIP TO Q6
- 2...CURRENTLY MARRIED
- 3...NOT MARRIED BUT LIVING WITH PARTNER SKIP TO Q6
- 4...DIVORCED/WIDOWED/SEPARATED SKIP TO Q6
- 5...OTHER (SPECIFY): _____ SKIP TO Q6

5b. FOR THOSE WHO ARE MARRIED ONLY:

For **MALES**: Do you have more than one wife? 1...YES. HOW MANY? _____
2... NO

For **FEMALES**: Does your husband have more than one wife? 1...YES. HOW MANY? _____
2... NO

SECTION II: EXPERIENCE WITH THE INTERVENTION

6a. Before the **Knowing Myself First Campaign**, had you ever been tested for HIV?

- 1...YES
- 2...NO (**SKIP TO Q7a**)

6b. When was the last time you were tested? 1...LESS THAN 12 MONTHS AGO
2...12-23 MONTHS AGO
3... 2 OR MORE YEARS AGO

6c. Where were you tested? 1...AT THE FACILITY WHERE I WORK
2...AT ANOTHER FACILITY
3...OTHER (**SPECIFY**)_____

6d. How many times have you been tested for HIV? _____TIMES
(PROBE TO GET A NUMERIC ANSWER)

6e. The last time you did so, who initiated the request for the HIV test?
1...MYSELF
2...FRIEND
3...MY PARTNER
4...ANOTHER HEALTH WORKER
5...MY EMPLOYEE
6...MY PASTOR/PRIEST
7...DON'T KNOW/CAN'T REMEMBER
8...OTHERS (SPECIFY)_____

9. MY EMPLOYER

6f. Were you counseled before you were tested? 1...YES
2...NO
3...DON'T KNOW /CAN'T REMEMBER

6g. How were the test results given to you? 1...I WAS COUNSELED ABOUT THE TEST RESULTS
2...I WAS GIVEN THE TEST RESULTS WITHOUT COUNSELING OR ADDITIONAL INFORMATION
3...DON'T KNOW /CAN'T REMEMBER
4...OTHERS (SPECIFY)_____

7a. Did you attend any of the meetings on **Knowing Myself First Campaign**?
(PROBE TO SEE IF HE/SHE RECEIVED ANY HST INFORMATION FROM THE ON-SITE COORDINATORS) 1...YES
2...NO (**SKIP TO 8a**)

7b. How would you assess the information you received about HIV self-testing kit? 1...VERY USEFUL
2...NOT VERY USEFUL
3...DON'T KNOW/ NO OPINION

7c. Would you recommend other health workers to attend the **Knowing Myself First Campaign** meeting? 1...YES
2...NO
3...DON'T KNOW

8a. Did you take the self-testing kit home for you to use? 1...YES
2...NO (**SKIP TO Q10a**)

8b. How many kits did you take home? _____ KITS

8c. Were the self-testing kits given to you adequate? 1...VERY ADEQUATE (**SKIP TO Q9a**)
2...SOMEWHAT ADEQUATE
3...ADEQUATE
4 ...NOT ADEQUATE

8d. How many more would you have preferred? _____ KITS

9a. Did you test yourself for HIV with the self-testing kit? 1...YES
2...NO (**SKIP TO Q10b**)

9a(i) After the group training sessions, how long did you take to make the decision to test yourself? 1...HOURS
2...A DAY
3...A WEEK
4...TWO WEEKS
5...A MONTH

- 9b. How easy was the HIV self-testing kit to use?
- 1...VERY EASY
 - 2...NOT VERY EASY
 - 3...DIFFICULT
 - 4...VERY DIFFICULT
- 9c. How easy to follow were the instructions?
- 1...VERY EASY
 - 2...NOT VERY EASY
 - 3...DIFFICULT
 - 4...VERY DIFFICULT
- 9d. After you tested yourself for HIV, did you discuss your experience with somebody?
- 1...YES
 - 2...NO (**SKIP TO Q10a**)
- 9e. With whom did you discuss your experience?
(Circle all that apply)
- 1...MY PARTNER
 - 2...MY CHILDREN
 - 3...A HEALTH WORKER
 - 4...MY PASTOR / PRIEST
 - 5...COLLEAGUES
 - 6...A FRIEND
 - 7...CALLED THE HOTLINE
 - 8...OTHER (**SPECIFY**) _____
- 10a. In future, would you use the self-test kit /again?
- 1...YES
 - 2...NO
- 10b. In future, would you prefer to test yourself for HIV or to be tested by a health worker/VCT counselor?
- 1...TEST MYSELF
 - 2...TESTED BY A HEALTH WORKER
 - 3...BOTH METHODS ARE OKAY
 - 4...CAN'T DECIDE

PARTNER QUESTIONNAIRE

For only those who have partners. (If respondent has no partner, skip to Q15) CHECK 5a:

CODE 2 or 3 circled CODE 1, 4 or 5 circled → Q15

↓

- 11a. Before the **Knowing Myself First Campaign**, had your partner ever been tested for HIV/AIDS?
- 1...YES
 - 2...NO (SKIP TO Q12A)
 - 3...DON'T KNOW (SKIP TO Q12A).

- 11b. How many times has your partner tested for HIV before the **Knowing Myself First Campaign**? _____ TIMES
88. I DON'T KNOW
- 11c. Had you and your partner ever tested for HIV together before the **Knowing Myself First Campaign**?
1... YES
2... NO
- 12a. Did your partner take the self-testing kit to use?
1... YES
2... NO (SKIP TO Q14A)
3... DON'T KNOW (SKIP TO Q14A).
- 12b. Did s/he test herself / himself for HIV?
1... YES
2... NO (SKIP TO Q14A)
3... DON'T KNOW (SKIP TO Q14A)
- 12b(i) After how long did s/he decide to test her/himself?
1... HOURS
2... A DAY
3... A WEEK
4... TWO WEEKS
5... A MONTH
- 13a. How did your partner find the self-testing kit instructions? Would you say s/he found them
1... VERY EASY TO USE
2... SOMEWHAT EASY TO USE
3... NOT SO EASY TO USE
4... VERY DIFFICULT TO USE
5... DON'T KNOW
- 13b. After your partner tested for HIV, did s/he discuss the experience with somebody?
1... YES
2... NO (**SKIP TO 14a**)
3... DON'T KNOW (**SKIP TO 14a**)
- 13c. With whom did s/he discuss the experience? (CIRCLE ALL THAT APPLY)
1... MYSELF
2... THE CHILDREN
3... A HEALTH WORKER
4... THE PASTOR / PRIEST
5... COLLEAGUES AT WORK
6... A FRIEND
7... CALLED THE HOTLINE
8... OTHER (SPECIFY) _____

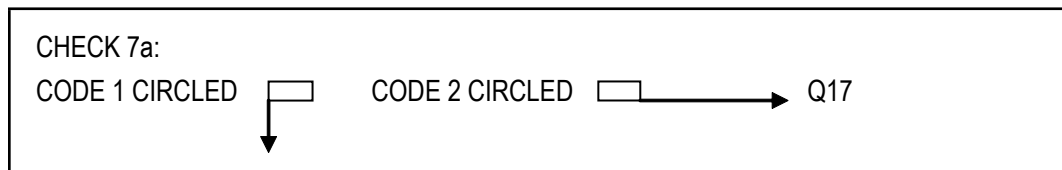
14a. In future, would your partner prefer to self-test for HIV or be tested by a health worker?

- 1...SELF-TEST
- 2...BE TESTED BY A HEALTH WORKER
- 3...DON'T KNOW

15. Would you recommend a confirmatory test in HIV self-testing? (A repeat test after 3-6 months after the window period?)

- 1...YES, CERTAINLY
- 2...SOMEWHAT, YES
- 3...NO, WOULD NOT RECOMMEND
- 4...DON'T KNOW/ NOT DECIDED

SECTION III: USE OF COUNSELING FACILITY AND TESTING



16a. Did you call the **Knowing Myself First** hotline?

- 1...YES
- 2...NO (**SKIP TO Q17**)

16b. How many times did you call the hotline?

- _____TIMES
- 88...CAN'T RECALL

16c. Did you receive any assistance from the counselor you talked to?

- 1... YES, BUT VERY LITTLE
- 2... YES, A LOT OF IT
- 3...NO (**SKIP TO Q17**)
- 4...I DIDN'T CALL

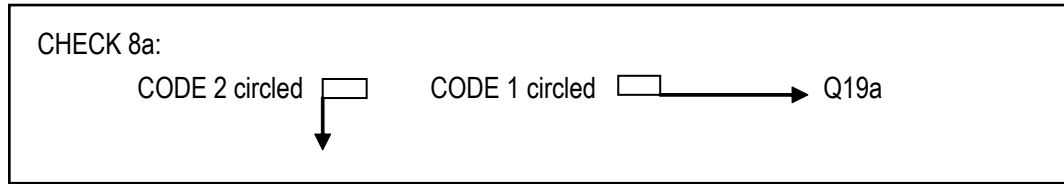
16d. What type of assistance did you receive? (CIRCLE ALL THAT APPLY)

- 1...PRE-TEST COUNSELING
- 2...POST-TEST COUNSELING
- 3...CLARIFICATIONS ON HOW TO USE THE HIV SELF-TESTING KIT
- 4...REFERRAL FOR MORE INFORMATION
- 5...DISCLOSURE COUNSELING
- 6...OTHERS (**SPECIFY**)_____

16e. Do you think counseling over the phone was adequate?

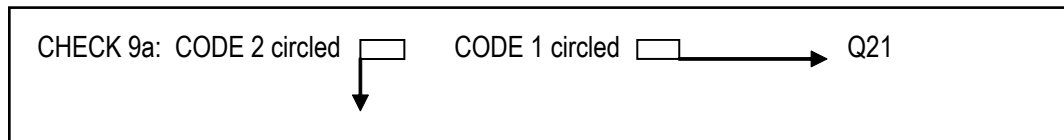
- 1...VERY ADEQUATE
- 2...SOMEWHAT ADEQUATE
- 3...NOT ADEQUATE

FOR THOSE WHO NEVER TOOK THE KIT



- 18a. Why didn't you take the HIV testing kit?
- 1...PLANS TO TAKE IT IN FUTURE
 - 2...WAS NOT READY FOR THE OUTCOME
 - 3...HAD JUST TAKEN HIV TEST WITHIN THE MONTH
 4. HAVE NO INFORMATION ABOUT HST (**SKIP TO Q21**)

FOR THOSE WHO TOOK THE KIT BUT NEVER TESTED



- 19a. Why didn't you use the kit to test yourself for HIV?
- 1...DON'T KNOW
 - 2...NOT SURE WANTED TO KNOW MY HIV STATUS
 - 3...FEARED TO BE HIV POSITIVE
 - 4...NEEDED FACE-TO-FACE PRE-TEST COUNSELING
 - 5...NEEDED MORE INFORMATION
 - 6...AFRAID OF SPOUSE/PARTNER'S REACTION
 - 7...I AM NOT AT RISK
 - 8...OTHERS (SPECIFY) _____

- 19b. Just to confirm, would you consider using the HIV self-testing kit in future?
- 1...YES, DEFINITELY
 - 2...YES BUT NOT CERTAIN
 - 3...NO
 - 4...DON'T KNOW

- 20a. Would any other members of your family have wanted to test for HIV?
- 1...YES
 - 2...NO (**SKIP TO Q20c**)
 - 3...DON'T KNOW (**SKIP TO Q20c**)

20b. Which member(s) of the family would have wanted to test for HIV?
(CIRCLE ALL THAT APPLY)

- 1...FATHER
- 2...MOTHER
- 3...BROTHER
- 4...SISTER
- 5...DAUGHTER
- 6...SON
- 7...GRANDDAUGHTER
- 8...GRANDSON
- 9...DON'T KNOW
- 10...OTHER RELATIVES
(SPECIFY) _____
- 11...HAS NO OTHER FAMILY MEMBER

20c. Is it a good idea to avail the HIV self-testing kits to the health workers?

- 1...YES
- 2...NO
- 3... DON'T KNOW

20d. How can the HIV self-testing kits be availed to the health workers in future?

- 1...PLACED AT THE SUPERMARKETS
- 2...PLACED IN THE HEALTH FACILITY'S LOUNGE/LAB
- 3...ALL HEALTH WORKERS BE PROVIDED WITH THE HIV SELF-TESTING KIT
- 4...PLACED AT THE CHEMISTS
- 5...DON'T KNOW

SECTION IV: ABUSE IN THE USE OF HIV SELF-TESTING KITS

21a. Do you think HIV self-testing is open to abuse by the health workers?

- 1...YES
- 2...NO
- 3...DON'T KNOW

21b. How would HIV self-testing be abused?

- 1...TESTING A PARTNER WITHOUT THEIR INFORMED CONSENT
- 2...TESTING OF CHILDREN AND INFANTS
- 3...INFECTING PARTNERS/OTHERS BY INJECTING THEM WITH THEIR INFECTED BLOOD IF PARTNER IS NEGATIVE
- 4...DON'T KNOW
- 5.OTHER (SPECIFY) _____

21c. Do you think it will be possible to control the abuse?

- 1...YES
- 2...NO
- 3...DON'T KNOW

21d. How can the abuse be controlled?

- 1...DON'T ALLOW HOME SELF-TESTING
- 2...TEST ONLY AT WORK
- 3...IN FUTURE, AVAIL ONLY ONE SELF-TEST KIT PER PERSON
- 4...SELF-TESTING KIT BE USED BY THE PERSON AVAILED TO
- 5...DON'T KNOW
- 6...OTHER (SPECIFY)_____

22a. Do you think HIV self-testing will reduce, increase or have no effect on HIV prevention?

- 1...INCREASE
- 2...REDUCE
- 3...NO EFFECT

22b. How can the HIV self-testing kits be availed to the health workers' family members?

- 1...PLACED AT THE SUPERMARKETS
- 2...PLACED IN THE HEALTH FACILITY'S LOUNGE/LAB
- 3...PLACED AT THE CHEMISTS
- 4...DON'T KNOW
5. OTHER(SPECIFY)_____

23a. Would you recommend home self-testing for fellow health workers?

- 1...YES, CERTAINLY
- 2...YES, BUT NOT CERTAIN
- 3...NO

23b. Do you think it is advisable for the health workers to routinely test themselves for HIV?

- 1...YES
- 2...NO

26. Thinking about your personal, home and work environment how would you rate your risk for HIV?
- 1...VERY HIGH
 - 2...HIGH
 - 3...MODERATE
 - 4...LOW
 - 5...ZERO
 - 6...DON'T KNOW

SECTION VI: SEXUAL ACTIVITY

CHECK FOR PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY

Now I would like to ask you some questions about your sexual activity in the last 12 months. Please answer the questions to the best of your knowledge, as this information is very important for the survey. Again, let me assure you that this information is completely confidential and anonymous and cannot be linked to you in any way.

- 27a. Have you had sexual intercourse in the last 12 months?
- 1...YES
 - 2...NO (**SKIP TO 27C**)

- 27b. In total, how many different people have you had sexual intercourse with in the last 12 months (including your main partner)?
- _____ PARTNERS

(IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE)

- 27c. Think about your last sexual partner. What was your relationship to this person?
- 1...IT WAS MY SPOUSE
 - 2...IT WAS MY BOYFRIEND/GIRLFRIEND/LOVER
 - 3...IT WAS MY CASUAL PARTNER
 - 4...IT WAS SOMEONE I JUST MET
 - 5...IT WAS SOMEONE WHO I PAID (E.G. PROSTITUTE, COMMERCIAL SEX WORKER) OR WHO PAID ME
 - 6...OTHER (SPECIFY) _____

- 27d. Think about your last sexual partner. The last time you had sexual intercourse with this person, did you or your partner use a condom?
- 1...YES
 - 2...NO (**SKIP TO Q27F**)

27e. During this last time you had sexual intercourse, who suggested using a condom?

- 1...MYSELF
- 2...MY PARTNER
- 3...BOTH OF US

27f. (FOR THOSE WHO DID NOT USE CONDOM AT LAST SEX): Why did you and your partner not use a condom? (CIRCLE ALL THAT APPLY)

- 1...I DO NOT KNOW WHY
- 2...I TRUSTED MY PARTNER
- 3...I DON'T LIKE THEM
- 4...PARTNER OBJECTED
- 5...I DIDN'T THINK IT WAS NECESSARY
- 6... THINGS HAPPENED TOO FAST
- 7...OTHERS (SPECIFY)_____

28a. We have come to the end of the interview. Are there any comments you would like to make on HIV self-testing or on issues you would have wanted addressed but were not included in this questionnaire? If so, please do make the comments in this space.

28b

RECORD THE TIME	HOUR _____	MINUTES _____
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THANK YOU FOR YOUR PARTICIPATION



Ministry of
Medical Services



www.popcouncil.org

Population Council
General Accident House
Ralph Bunche Road
Nairobi, Kenya

Telephone: +254 20 271 3480
Facsimile: +254 20 271 3479