INVESTIGATING THE QUALITY OF HIV TESTING AND COUNSELLING OF A PEPFAR FUNDED ORGANIZATION IN RELATION TO A NON-PEPFAR FUNDED ORGANIZATION

S. Kyobula-Mukoza, M Phil
HIV/AIDS, Inclusivity & Change Unit
University of Cape Town
Corresponding Author: stella.kyobula-Mukoza@uct.ac.za

C. Volks, MA
HIV/AIDS, Inclusivity & Change Unit
University of Cape Town

L. Reddy, BA (Hons)
HIV/AIDS, Inclusivity & Change Unit
University of Cape Town

ABSTRACT

The purpose of this research article is to report the findings of an implementation evaluation that was conducted to assess the quality of services offered by two service providers at an HIV testing campaign, rolled out at the University of Cape Town (UCT). This evaluation was conducted to *investigate the quality of service provided by a PEPFAR funded HIV testing organisation and a non-PEPFAR HIV testing organisation.* The HIV testing campaign was open to all students at UCT. The goal of the campaign was to encourage students to know their status and be informed about safer sex practices. The HIV testing and counselling process ran for three days in August 2011.

The sample of this evaluation consisted of UCT registered students who volunteered to take part in the HIV testing and counselling campaign. The non-probability sampling method was used. This entailed selecting students on the basis of their availability to test for HIV. To gather data for the evaluation, a quantitative survey questionnaire was developed and administered. Findings from this evaluation revealed that both service providers offered a good quality service. In other words, the HIV testing services provided by the PEPFAR funded organisation compared favourably with the services provided by a non-PEPFAR funded organisation.

KEYWORDS: implementation evaluation, non-PEPFAR funded, PEPFAR funded, quality of services

INTRODUCTION AND BACKGROUND INFORMATION

The HIV testing programme at UCT has been in existence since 1995 and has been funded over the years by various benefactors (Anderson, & Louw-Potgieter, 2012:2). Major HIV testing campaigns take place twice a year in March and August. This evaluation specifically focused on the August HIV testing drive, which ran from 16–18 of August 2011 at UCT's Upper Campus in the Jameson Hall. The campaign was structured as a three day testing drive that begun at 9:00am and ended at 4:00pm on all three days. The services of the HIV testing campaign were available to all registered students of the University.

The goal of the campaign was to reduce the spread of HIV by altering the behaviours of individuals, particularly those who are infected and those who are at risk of contracting HIV (Coetzee & Patel, 2000:1). HIV testing at UCT is structured as a three-part campaign consisting of three activities, namely, pre-testing, administration of the rapid HIV test, and post-test counselling. The pre-testing session aims to introduce the client to the HIV testing process and ultimately for the counsellor to establish an agreement with the participant about the objectives of the session (Anderson & Louw-Potgieter, 2012:2). During this session, prevention counselling is offered to establish the participants' willingness to avoid risky behaviour. Problem solving and condom demonstrations techniques are used to empower participants to take action to protect themselves from contracting the virus. Thereafter, participants receive counselling to gauge their readiness to be tested.

The rapid HIV test, also known as the Abbott Determine Antibody Test, which takes 10–15 minutes, is then administered by a trained practitioner (Anderson & Louw-Potgieter, 2012:2).This process involves drawing blood from the participant's finger, which is then placed on to a test kit. The test result is interpreted by observing the lines on the test kit (one line=negative; two lines=positive and no line means the result is in determinant). For the purpose of quality assurance, a control test is performed after every 25 tests administered.

The third stage of HIV testing is post-test counselling. This activity last 10–25 minutes. Participants receive their HIV results prior to counselling. For a negative result, the counselling is focused on risk reduction in order for the participants to maintain their status whereas for the positive test, the counsellor offers compassion and support (Anderson & Louw-Potgieter, 2012:2).

In order to understand why we need to consider evaluating our testing services, we need to first consider some of the benefits for HIV testing. According to Coetzee and Patel (2000), Ginwalla et al. (2002), McCauley, (2004) and Wringe et al. (2008), a major advantage of administering HIV testing is that the pre-test and post-test counselling

provided at testing campaigns aims to improve knowledge acquisition, reduce stigma, provide support for dealing with infection and promotes strategies for risk reduction.

Research on HIV testing shows that the services offered enable individuals who tested positive for HIV to access appropriate medical treatment, as well as continuous social support services (Ginwalla et al., 2002; Inrungu, et al. and Patterson, 2008; Subramanian et al., 2008; Wringe et al., 2008). In the UCT context, HIV testing is necessary because the strategy empowers the university community to be tested for HIV, thus knowing their status and getting information about the services available for HIV positive individuals. It is therefore necessary that pre- and post-HIV counselling is offered on a continuous basis so that repeat testers know how to protect themselves from contracting HIV.

Service providers therefore need to ensure that they provide quality HIV testing services at the university and that the processes in place are administered as planned. An implementation evaluation was necessary to investigate the services of the organisations that conducted the HIV testing at UCT

PURPOSE OF THE EVALUATION

The purpose of conducting this evaluation was to investigate the quality of HIV testing and Counselling service provided by a President's Emergency Plan for Aids Relief (PEPFAR) HIV testing organisation in relation to a University funded (non-PEPFAR) organisation. The results obtained would be used to inform future campaign decisions as to whether UCT continues to pay for HIV testing and counselling services, or accesses the services of a PEPFER funded HIV testing and counselling organisation, or consider an alternative methodology. To assess the quality of HIV testing and counselling, an evaluation was conducted during the campaign.

This evaluation focused on the implementation element of the HIV testing campaign. The implementation aspect investigated how well the programme operated and for whom the services were provided (Rossi, Lipsey, & Freeman, 2004; WHO, 2000). To obtain information relating to service utilisation and service delivery, sub-evaluation questions were posed to examine who used the services and how well the HIV testing services were delivered. An implementation evaluation confirms what the programme is and whether it is delivered as intended to the targeted recipients or not. In other words, an implementation evaluation investigates whether the programme is operating as it is supposed to function (Chen, 2005). Programme implementation is often assessed by means of service utilisation, service delivery and organisational support (Rossi et al., 2004).

To guide the process of the evaluation, two questions were posed:

1. Who used the services?
2. Did the service providers offer a good quality service? How does the HIV testing administered by a non-PEPFAR Funded organisation compare with the HIV testing conducted by a PEPFAR funded organisation?

Definitions of key words

A PEPFAR funded organisation is one that is supported and funded by PEPFAR to fight against HIV/AIDS.

A non-PEPFAR funded organisation is one that does not utilise PEPFAR funding to address HIV/AIDS.

An implementation evaluation is one that investigates how well the programme operates and for whom the services are provided (Rossi et al., 2004; WHO, 2000).

Quality of services refers to the nature of services provided by the service providers. High quality services are positively rated by participants whereas poor quality services are not highly rated.

EVALUATION METHODOLOGY

Primary data was obtained from the responses of a paper-based survey that was administered to participants. The responses obtained from the survey were useful in answering the implementation evaluation questions. The survey responses also provided information on the HIV testing campaign sample. After testing for HIV, students volunteered to complete a survey aimed at evaluating the quality of the HIV testing service. The survey assessed the perceptions of students who accessed the HIV testing services. These students were identified to be the key informants whose experience with the HIV testing process provided them with information about service delivery (Rossi et al., 2004).

A scale was developed to inform evaluation questions on service delivery. The measures in the survey used a five point Likert scale, where 1 = Strongly Disagree; 2 = Disagree; 3 = Unsure; 4 = Agree; and 5 = Strongly Agree. Section A of the survey consisted of 27 questions relating to a client's perceptions of the quality, process and timing of the HIV testing activities. Section B consisted of seven questions relating to a participant's demographics and included questions about gender, "race", nationality, faculty and year of study. The survey also asked a general question about whether participants felt it was important to know their status. This question used a two-point response scale, with a yes and no option.

To ensure reliability of results, the 35-item questionnaire was based on Tool 2, Tool3 and Tool 4 of the UNAIDS Best Practice Collection (2000), and a questionnaire developed by the university's HIV/AIDS, Inclusivity and Change Unit (HAICU) (2008) for evaluating their HIV and AIDS programme.

ETHICAL CONSIDERATIONS

The respondents were informed that taking part in the survey was voluntary and that there were no known risks associated with completing the survey. They were provided with a consent form informing them that taking part in the survey was voluntary. The participants were assured that their participation and responses would be treated with confidentiality. To protect their anonymity and ensure confidentiality of data, the respondents were not asked to write their names on the survey, therefore the data gathered is not traceable to individual persons.

ANALYSIS

All participants completed the survey in August 2011. The participants completed the survey in 10 minutes and the evaluator collected the responses immediately thereafter. In order to understand the information gathered, quantitative data was analysed using the Statistical Package for Social Sciences research (SPSS) version 19. To provide answers to the evaluation questions, descriptive statistics were used (Blanche, Durrheim & Painter, 2006). The descriptive statistics below illustrate the results of this research and are presented according to evaluation questions.

SAMPLE

The sample of this evaluation consisted of students registered at UCT who took part in the HIV testing and counselling campaign. The non-probability sampling method was used .This entailed selecting students on the basis of their availability to test for HIV. Thus, a convenience sample was used in the evaluation. Those who tested were invited to complete the survey after receiving the HIV testing and counselling services. Students thereafter volunteered to take part in the survey. The demographics of the sample are illustrated in the results table below:

Demographic characteristics of the sample

In Table 1, the gender, "race" and year of study demographics for students are illustrated.

Table 1: Sample: Gender, Ethnic group and Year of study

Variable	No of participants	Percentage
Gender		
Males	52	37%
Females	90	63%
Total	142	100%
Race		
Black	95	67%
Coloured	11	8%
Indian	7	5%
White	24	17%
Prefer not to answer	5	3%
Total	142	100%
Year of study		
First	28	20%
Second	40	28%
Third	43	30%
Fourth	18	13%
Fifth	4	3%
Post-graduate	9	6%
Total	142	100%

As illustrated in Table 1, 37% of the respondents were male and 63% were female. This finding indicates that more female students used the services than male students (37%). The majority of the students (67%) indicated that they belonged to the Black ethnic group, followed by white (17%), coloured (8%) and Indian (5%). In terms of year of study, 20% of the respondents were in their first year of study, 28% in the second year and 30% were in third year.

Service providers and utilisation

How many students utilised the HIV testing services?

In total, 1 021 students tested for HIV at the August drive. However, only 142 students completed the survey. The HIV testing was administered by two service providers, namely, a non-PEPFAR funded organisation funded by UCT and a PEPFAR funded organisation funded by the Presidents Emergency Fund for HIV/AIDS relief (PEPFAR). When asked which service provider performed their HIV test, 52% of the participants indicated that they were tested by the non-PEPFAR organisation and 48% indicated that they were tested by the PEPFAR organisation.

To obtain further information about who used the services, participants were asked to indicate when they last received an HIV test. The results showed that most of the respondents (42%) who accesses the testing services had been tested for HIV in the past six months. 23% indicated that they had never received an HIV test before, 12% indicated they had been tested more than six months ago, and 16% were tested more than a year ago whereas 7% did not specify when they tested. This implies that majority of the students who completed the survey were repeat testers. There is concern that a considerable number of individuals who may be at risk of contracting HIV are not being tested (Pelzer, Nzewi & Mohan, 2004).

Quality of services offered

Respondents were also asked to indicate how they became aware of the HIV testing drive. Most of the respondents (68%) indicated that they had heard about the HIV testing campaign from advertising on the campus, whereas 28% had heard about the campaign from their friends. None of the respondents indicated that they were referred to test by a medical practitioner.

Furthermore, respondents were asked to indicate whether they thought it was important to know their status. The results showed that all the 142 respondents felt that it was important. Therefore, based on the results from the evaluation, the HIV testing and counselling service was mainly used by those students who felt that it was important to know their status. This result is supported by Subramanian et al. (2008) who found that the most common reason for a client's willingness to be tested for HIV was the fact that they felt it was good to know their status. Seventy-five percent of participants who responded to a survey conducted by Irungu et al. (2008) indicated that it was important to know their HIV status in order for them to protect themselves and their partners from contracting HIV. Further, in an evaluation of a University Voluntary Counselling and Testing programme, Anderson and Louw-Potgieter (2012) found that 98.2% of the participants felt that it was important to know their status.

Did the service providers provide a good quality service? How does the HIV testing administered by a non-PEPFAR funded organisation compare with the HIV testing conducted by a PEPFAR funded organisation?

To answer the above evaluation question, the quality of HIV testing provided by a non-PEPFAR funded organisation was assessed in comparison to that offered by the PEPFAR funded organisation. Students who took part in this evaluation were requested to respond to how they experienced the three activities of the testing campaign in terms of pre-counselling, the HIV test and post-test counselling. To illustrate this, a comparison table was created to show the proportions of respondents for both service providers

Table 2: A comparison between the two HIV testing services

Evaluation Results		
Non-PEPFAR Org %	PEPFAR Org %	responses about the HIV testing process
91%	87%	indicated that the counsellor introduced themselves and provided an overview of the counselling process
Pre-test counselling		
95%	87%	specified that the counsellor discussed possible transmission and treatment options
88%	91%	felt that the counsellor provided a clear explanation of the meaning of a positive and negative test result
93%	93%	believed that the counsellor explored knowledge about HIV infection and safe sex
83%	79%	indicated that the counsellor explained the benefits of HIV testing
95%	93%	specified that the counsellor obtained the client's informed consent to do the HIV test
93%	94%	acknowledged that the counsellor had thorough knowledge about HIV
95%	90%	felt that the counsellor provided the opportunity to ask questions relating to HIV
Post-test Counselling		
97%	91%	indicated that the counsellor clearly communicated the client's HIV test results
96%	94%	agreed that the counsellor provided ample time for the client to understand the results of their HIV result
97%	90%	agreed that the counsellor checked that the client understood the result of their HIV test.
99%	85%	indicated that the counsellor provided the opportunity to ask questions relating to the client's HIV status
96%	93%	rated the overall experience of the HIV testing service as good Negative HIV test results

89%	91%	pointed out that the counsellor reinforced strategies for reducing the client's risk of contracting HIV
93%	74%	Indicated that the Counsellor explained the meaning of the "window period" and encouraged them to test

Table 3 indicates that participants who were tested by both service providers rated the HIV testing services positively. This shows that both service providers offered a good quality service. With regards to the window period, more respondents (93%) tested by the Non-PEPFAR organisation specified that the counsellors discussed the meaning of the "window period" and encouraged them to re-test. In comparison with the PEPFAR organisation, 74% of the respondents agreed that the meaning of the "window period" was discussed and that the counsellors encouraged them to re-test. This finding reiterates the importance of the briefing service provided on emphasising the relevance of the window period discussion.

Organisational support

Was the HIV testing well organised? How long did the participants take to receive their results?

Participants were also asked to indicate how long the entire HIV testing process took. 85% of the respondents tested by the non-PEPFAR organisation indicated that the entire HIV testing process lasted within a 20 minute time frame, whereas 63% of the respondents tested by the PEPFAR funded organisation indicated that the entire HIV testing process lasted more than 20 minutes.

It is evident from the results in the table about the length of the testing process that the HIV testing conducted by the PEPFAR funded organisation took longer than the testing administered by the non-PEPFAR funded organisation. There is a need to strengthen the duration and intensity of counselling and other prevention services and the quality of delivering both counselling and testing services. It is vital that those students who test negative stay negative in order for the HIV testing campaign to achieve its objective of reducing the number of HIV infections among students at UCT. This is necessary in a low prevalence setting such as UCT. Students need time to go through a process that focuses on prevention messages; therefore a longer counselling period is appropriate. In addition, the testing for the PEPFAR funded organisation was longer because there were fewer staff performing the three respective HIV testing activities, hence the students tested by this organisation had to wait longer than those tested by the Non-PEPFAR funded organisation.

If the HIV test was positive, the survey asked specific questions relating to the level of support offered to participants. Due to no students indicating that they tested positive, no responses were received from these question for HIV positive students.

DISCUSSION OF RESEARCH RESULTS

The main purpose of this evaluation was to *investigate the quality of service provided by a PEPFAR funded HIV testing organisation in relation to a non-PEPFAR organisation.* In summary, the results revealed that the HIV testing administered by a PEPFAR organisation compared favourably with the HIV services provided by a non-PEPFAR organisation. Therefore the HIV testing campaign could be judged as having been implemented as planned.

However, the HIV testing and counselling administered by the PEPFAR organisation took longer than 20 minutes. The 20 minutes time frame was presented as optimal time for HIV testing and counselling by the University of Cape Town's Student Wellness Service. The evaluator recommends that programme staff responsible for HIV testing and counselling consider utilising the services of a PEPFAR funded organisation that implements a testing model which lasts within a 20 minutes HIV testing time frame. One such organisation is The Desmond Tutu HIV foundation.

During the HIV Testing Campaign held on 1–2 March 2011 at the Health Sciences Faculty, the evaluator was present to observe the HIV testing process. The evaluator observed that the Desmond Tutu practitioners (who are funded by PEPFAR) were offering students additional services, besides the HIV test. The extra services on offer included: calculation of body mass index, administering a glucose and blood pressure test, and offering a pregnancy test. The student wellness centre could consider utilising the services of organisations that offer students a package of medical services in an attempt to overcome the stigma associated with HIV (Anderson & Louw Potgieter, 2012:8). Incorporating HIV testing into a package of health services may reduce the fear of HIV-related stigma as students will begin to perceive HIV testing as a standard component of a wellness programme (Anderson & Louw Potgieter, 2012:8).

Another observation was that the HIV testing process administered by The Desmond Tutu HIV Foundation happened within a 20 minute time frame. In addition, an evaluation report compiled in April 2011 by the University's HIV/AIDS Institutional Co-ordination Unit (HAICU) reported that the Desmond Tutu HIV Foundation provided a good quality service. Based on these observations, the Desmond Tutu foundation would be a suitable organisation to consider utilising for future HIV testing and counselling campaigns.

When examining utilisation of the HIV testing services, the services predominantly are being used by female students. This finding supports the results of previous studies on

HIV testing, which show that men are less likely to make use of HIV testing services compared with women (Bond et al., 2005; Bwambale et al., 2008; Fako, 2006; 2002; Subramanian et al.,2008). When it comes to improving HIV testing uptake for men, few studies suggest methods for overcoming this gender issue. In order to increase the number of male participants at a university HIV testing campaign, Anderson and Louw-Potgieter (2012) suggest that mass communication campaigns targeting men should be utilised. Exposure to mass communication campaigns have been associated with increased HIV knowledge and reduction in high risk sexual behaviour (Bertrand, O'Reilly, Denison, Anyang, & Sweat, 2006). Further, it is noted that mass communication campaigns are effective in making individuals aware of HIV prevention programmes or to increase their knowledge of HIV (Charles et al., 2009; UDAID, 2009). Mass communication campaigns are also believed to be most effective in terms of sustaining behaviour change when their messages are reinforced on a continuous basis (USAID, 2009).

This evaluation investigated whether the service providers of the HIV testing drive delivered a good quality service. The focus of this implementation evaluation was to determine the quality of services that were delivered. The results revealed that the HIV testing was mostly good and that the testing administered by Lifechoices compared favourably with the testing services offered by Quinhealth.

This evaluation can potentially help the staff responsible for this intervention by providing them with valuable information about what worked and did not work. From the information provided, staff members are in a position to decide whether or not they should use the services of pre-paid (PEPFAR funded) HIV testing organisations or continue using the services that incur a cost to the university.

CONCLUSIONS

This evaluation has shown that the services of a PEPFAR funded organisation are as good as those of a non-PEPFAR funded organisation. Utilising the HIV testing services of a PEPFAR funded organisation would mean that the university does not incur the cost of hiring HIV testing service providers. This would save universities a lot of money. The evaluators acknowledge that this evaluation only compares the services of one PEPFAR organisation and it is therefore not proper to assume that all PEPFAR organisations provide a good quality service. The evaluators suggest that universities investigate a number of PEPFAR organisations and choose the ones that are more suited to offering a good quality service. This would save them from allocating a large budget to their HIV testing campaigns. The HIV testing budget would be directed to other wellness or HIV prevention programmes.

There was concern from some students that incentives such as wrist bracelets were not being offered at the HIV testing campaign. The students verbally admitted to the

evaluator and the AIDS Community Peer Educators (ACEs) that they "wanted to test for HIV because they thought that they would be getting a bracelet since they received one at testing campaigns held previously". This implies that the bracelet was a big motivator for students to get tested. On learning that bracelets were not being offered, some students left because they had no interest in the HIV test itself. It was therefore challenging for the ACEs to encourage some students to test without them getting a bracelet in exchange.

As indicated by the results, the HIV testing campaign was perceived by the respondents to have provided a good quality service. However, it is important to make recommendations in order to improve some aspects of the campaign.

RECOMMENDATIONS

It is necessary to discuss the importance of more sophisticated pre-counselling and post-counselling methods as so many students are repeat testers. The HIV testing and counselling drive needs to attract individuals who do not utilise HIV testing and counselling services often, such as male students, students in denial and those who are afraid to test for HIV. Thus the concern for programme staff responsible for HIV testing and counselling should be how to get these students to test for HIV. With this in mind, the wellness model practised by organisations such as The Desmond Tutu HIV Foundation would be an interesting model to explore. This needs to be researched further.

LIMITATIONS OF THE STUDY

The sample for this evaluation was small compared with the university population, which is 24 000 students in total, hence the responses are not generalisable to the entire university population. In addition, those students who did not volunteer to test for HIV were not included in the evaluation. The evaluators used participants who were available at the campaign. Since this was a convenience sample, the extent to which results are generalisable is not known. In addition, since the HIV testing is voluntary, the evaluators had no control over how many students volunteered to participate in the HIV testing campaign and still respond to the survey.

ACKNOWLEDGEMENTS

The authors thank all the participants who voluntarily took part in this evaluation by completing the survey.

The authors also thank Ms. Zaaida Vallie for proofreading the article.

REFERENCES

Anderson,T.N. & Louw-Potgieter,J. 2012. An implementation evaluation of a voluntary counselling and Testing programme for the human immunodeficiency virus(HIV) and acquired immunodeficiency syndrome(AIDS). *SA Journal of Industrial Psychology/SA* 38(1):Page 1-10.

Bertrand, J.T., O-Reilly, K.O., Denison, J., Anhang, R. & Sweat, M. 2006. Systematic review of the effectiveness of mass media communication programmes to change HIV related behaviours in developing countries. Health Education Research, 21(40):567–597. http://dx.doi.org/10.1093/her/cyl036,PMid:16847044 (accessed 20 April 2013).

Bond, L., Lauby, J. & Batson, H. (2005). HIV testing and the tole of individual and structural level barriers and facilitators. AIDS Care, 17(2):125–140.http://dx.doi.org/10.1080/09541020512331325653,PMid:15763709 (accessed 20 April 2013).

Bwambale, F.M., Ssali, S.N., Byaruhanga, S., Kalyango, J.N. & Karamagi, C.A. 2008. Voluntary HIV counselling and testing among Men in rural western Uganda: Implications for HIV prevention. *Bio-Medical Central Public Health*, 8:263–276.

Blanche, M.T, Durrheim, K. & Painter, D. 2006. *Research in practice: applied methods for social sciences*. 2nd edition. Cape Town, South Africa: University of Cape Town Press.

Charles, M.P., Kweka, E.J., Mahande, A.M., Barongo,L., Shekalaghe, S., Nkaya, H. et al. 2009. Evaluation of uptake and attitude to Voluntary Counselling and Testing among health care professional students un Kilimanjaro region, Tanzania. *Bio-Medical Central Public Health*, 9(128):1–9.

Chen, H. 2005. *Practical programme evaluation: assessing and improving planning, implementation and effectiveness*. Thousand Oaks: Sage Publications.

Coetzee. & Patel, B. 2000. *Protocol document: voluntary counselling and testing*. Western Cape: Department of Health.

Fako, T.T. 2006. Social and psychological factors associated with willingness to test for HIV infection among young people in Botswana. Aids Care, 18:201–207. http://dx.doi.org/10.1080090540120500456623,PMid:16546779 (accessed 12 April 2013).

Ginwalla, S.K., Grant, A.D., Day, J.H., Dlova, T.W., Macintyre, S., Baggalery, R. et al. 2002. Use of UNAIDS tools to evaluate HIV voluntary counselling and testing services for mineworkers in South Africa. *Aids Care*, 14:707–726. http://dx.doi.org/10.1080/0954012021000005533,PMid:12419119 (accessed 12 April 2013).

HAICU. 2008. Response to HIV and AIDS at UCT: Report to Council. http://www.uct.ac.za/downloads/uct.a..za/about/introducing/aids/aids_councilreport07.pf (accessed 31 January 2014).

Irungu, T.K., Varkey, P., Cha, S. & Patterson, J.M. 2008.HIV voluntary counselling and testing in Nakuru, Kenya: findings from a community survey. *HIV Medicine*, 9:111–117. http://dx.doi.org/10.1111/j.1468-1293.2007.00538.x,PMid:18257773 (accessed 31 January 2014).

Leaity, S., Sherr, L., Wells, H. & Evans, A. 2000. Repeat HIV testing: high-risk behaviour or risk-reduction strategy? *Journal of AIDS and Behaviour*, 14:547–552.

McCauley, A.P. 2004. Equitable access to HIV counselling and testing for youth in developing countries. A review of current practice. http://www.popcouncil.org/horizons.html (accessed 12 April 2013).

Peltzer, K., Nwezi, E. & Mohan, K. 2004. Attitudes towards HIV-antibody testing and people with AIDS among university students in India, South Africa and United States. India. Indian Journal of Medical Sciences, 58(3):95- 108.

Rossi, P.H., Lipsey, M.W. & Freeman, H.E. 2004. *Evaluation: a systematic approach*. Thousand Oaks, CA: Sage.

Scheirer, M.A. 1994.Designing and using process evaluation. In J.S. Wholey, H.P Hatry & K.E.Newcomer (eds.), *Handbook for practical program evaluation*, 40-68. San Francisco: Jossey-Bass.

Subramanian, Y., Gupte,M.M., Mathai, A.K., Boopathi,K. & Dorairaj, V.S. 2008. Perception of HIV among attendees at an STD clinic in India. *Aids Care*, 20(1):26–34. http://dx.doi.org/10.1080/09540120701427480,PMid:18278612 (accessed 20 April 2013).

UNAIDS. 2000. Best practice collection: tools for evaluating HIV voluntary counselling and testing. http://data.Unaids.org/publications/IRC-pub02/JC685-Tool%20for%20Eval_en.pdf (accessed 31 January 2014).

USAID. 2009 .HIV prevention knowledge base: behavioural interventions mass media and HIV prevention. http://www.aidstarone.com/focus_area/prevention/prevention_resources/behavioural_intervebtions/mass_media_and_hiv_prevention (accessed 12 April 2013).

Wringe, A., Isingo, R., Urassa, M., Maiselli, G., Manyalla, R., Changalachu, J. et al. 2008. Uptake of HIV voluntary counselling and testing services in rural Tanzania: implications for effective HIV prevention and equitable access to treatment. Tropical Medicine and International Health, 13(3):319–327. http://dx.doi.org/10.1111/j.1365-3126.2008.02005.x (accessed on 31 January 2014).

World Health Organisation. 2000. *Workbook 4. Process evaluations*. http://www.emcdda.europa.eu/...cfm/att_5866_EN_4_process_evaluations.pdf (accessed 31 January 2014).