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Research

Barriers to accessibility and utilization of HIV testing and counseling services in Tanzania: experience from Angaza Zaidi programme

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Abstract

Introduction: While HIV testing and counseling (HTC) services remain to be amongst the effective strategies in slowing HIV transmission, its accessibility and uptake in Tanzania is low. In 2011, 50% of adults have been ever tested and received their results. We conducted this study to assess barriers to accessibility and utilization of HTC services in Tanzania. **Methods:** A mixed methods study was conducted using both quantitative and qualitative approaches. Data were collected in in 9 regions of Tanzania in 2012. Twelve (12) in-depth interviews, 8 Focus Group Discussions and 422 clients were approached for data collection. Quantitative data were entered and analysed using SPSS, proportions were compared using chi-square test. Qualitative data, content analysis approach was used. **Results:** Overall 422 exit clients were enrolled into the study, 4.9% clients reported spending >2 hours at the HTC centre before they were attended ($p<0.0001$). Of the 422 clients in our study 5.7 % received HIV testing before getting HIV counseling ($p=0.0001$). Of those clients who received counseling, 21.8% of reported counseling to be done in a group ($p=0.0001$). Majority of study participants reported that the counselling sessions were private, with sufficient information, and interactive ($p<0.0001$). Mobile services clinics, the Post Test Clubs and couple counselling and testing were effective approaches in stimulating demand for and use of HTC services. **Conclusion:** Findings show that coverage of HTC was high, however long waiting time and lack of confidentiality impeded its accessibility and utilization. We recommend increase of staff and adherence to counselling ethics to safeguard clients' privacy.

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Introduction

Scale-up of HIV testing and counseling (HTC) services in resource-limited like sub-Saharan Africa settings with high HIV prevalence has significant consequences for the course of the HIV/AIDS epidemic. It serves as a unique bridge between HIV prevention and care[1] and enables people to learn whether they are infected, understand the implications of their sero status and make more informed choices for the future [2]. It also acts as a vital point of entry to other HIV/AIDS services, including prevention and clinical management of HIV/AIDS related illnesses [3]. HTC services are widely known and its utilization is increasing in Sub-Saharan Africa, including Tanzania, however, important misconceptions about the medical services, disease transmission, and the stigma of HIV have discouraged many from wanting to know their serostatus[4, 5]. As a result, despite of its proven benefits and availability, the uptake is varied and often poor [6, 7]. Although currently, in Tanzania and across other developing countries there is provision of free antiretroviral treatment (ART) as an incentive to test, still HTC services utilization is low and it has been linked to be associated with age, education, socioeconomic status, proximity to clinics, availability of rapid testing and outreach services and lower levels of HIV/AIDS stigma, poor physical facilities, long waiting times, lack of available treatment, the need to give bribes to receive care and discriminatory attitudes of healthcare staff[8-11]. Long waiting times, particularly while waiting for an HIV test result, may deter clients from learning their HIV status. The shortest average wait time was 29 min whereas clients who waited the longest time spent 55 minutes [12]. Many countries have taken steps to increase utilization of HIV testing services.

Among countries for which testing utilization data are available for 2008, the highest number of tests per 1000 population was reported in Botswana (210), Lesotho (186), Sao Tome and Principe (179), Uganda (146) and Swaziland (139). In Ethiopia, testing rates more than doubled between 2007 and 2008, from 51 tests per 1000 population to 121 tests per 1000 population. However, considerable gaps remain [13]. While HIV testing more than doubled in Kenya between 2003 and 2007, an estimated 83% of Kenyans living with HIV remained undiagnosed in 2007 [14]. Similarly, fewer than one in five people in Burundi know their HIV status [6]. According to a household survey in Ethiopia, previously untested men and women were more likely to be infected than their counterparts who had previously accessed testing services [15]. Recent evidence suggests that inadequate testing rates impede national AIDS responses, contributing to late entry into medical care for people who are HIV-infected and unknowing HIV transmission, especially within serodiscordant couples [16]. A household survey in Uganda indicated that HIV-infected individuals who knew their HIV status were more than three times more likely to use a condom during their last sexual encounter compared with those who did not know their status[17]. In rural Zimbabwe, women who tested HIV-positive reported increased consistent condom use with primary partners, although individuals testing negative reported an overall increase in risky sexual behaviours, underscoring the need for intensified prevention services to accompany initiatives to promote knowledge of HIV serostatus[18]. HIV testing and counseling (HTC) services were first initiated in 1989 in Tanzania but coverage was very low and by 2001 there were still only 92 public VCT services (reportedly reaching 4 percent of the population) covering the entire country [19]. Since 2003, the number of VCT sites in the country has rapidly increased. HTC services are now available at 2134 sites across the country and according to the 2007-2009 Malaria and AIDS Indicator Survey; more than 80% of people know where to get an HIV test [20, 21]. A high profile campaign was launched by the Tanzanian government in 2007 with the aim of testing 4 million Tanzanians within six months [22]. This national testing drive was publicly endorsed by the president Kikwete and many other members of Parliament, who were the first to take the test [23]. By the end of the six months, more than 3 million Tanzanians were tested through the campaign [22]. The HIV prevalence in the general population has decreased over time from 7.0% (2003-04) to 5.7% (2007-08) and now at 5.1% in 2012, in spite of decreasing HIV prevalence in the general population over time only about 50% of sexually active individuals do know their HIV status; an increase from 30% noted in 2004 [20,24, 25]. This indicates the importance and high demand for the HCT services despite resource limited settings [26-32]. In 2008, The U.S. President's Emergency Plan for AIDS Relief through USAID Tanzania funded Amref Health Africa through Angaza Zaidi program which address the need for community based HIV testing and counseling services. Angaza Zaidi program between August to December 2012 in nine regions of Tanzania-mainland conducted a midterm evaluation on HIV Testing and Counseling services among sexually active individuals in Tanzania. Up to midterm evaluation Angaza Zaidi had reached 1.7 million people with HTC services by September 2011 of which 45% and 55% of Tanzanian men and women respectively learned about their HIV status. Consequently, we conducted this study to assess barriers to accessibility and utilization of HIV testing and counseling (HTC) services in Tanzania.

Methods

Study design: A mixed method cross-sectional design using both quantitative and qualitative research methods as described by Hanson et al [33] was employed.

Settings: The study was based on data from the midterm evaluation that was conducted between August-December 2012 involving nine regions in Tanzania mainland selected randomly as Zonal representative: Mbeya and Iringa (Southern Highland zone), Dar es Salaam (Coastal zone), Arusha and Kilimanjaro (North East zone), and Mwanza (Lake Zone). These regions had prominent identified Angaza Zaidi HTC sites which also represent 30% of Amref Health Africa sites.

Sample size and selection: There was five days orientation training by the study investigators which was done in Dar es Salaam. The training participants included all researchers, research assistants and data entry clerks. On the fifth day of training, one HTC centre in Dar es Salaam was selected for pre testing of tools. Exclusion criteria included clients under 18 years of age and clients in whom consent was not obtained.

Quantitative methods: Across sectional survey of Angaza Zaidi HTC programme clients was conducted in 2012 among a stratified random sample (N= 492) of clients exiting Angaza Zaidi HTC sites (aged 18-49, male and female). The total sample size for quantitative were determined using a single population formula, with unknown proportion and 95% confidence limits. The main quantitative survey instrument was structured questionnaire.

Qualitative methods: Prior analysis of Angaza Zaidi midterm evaluation report, a purposive qualitative sampling was done by selecting participants who were interviewed by semi structured topic guides during HTC services exits. A total of 12 in depth interviews and 8 intensive Focus Group Discussions (FGD) were conducted, members included exit clients; the data were coded according to categories.

Data analysis: Collected quantitative data were cleaned using Epi-Info version 6.4 [**34**] and descriptive analysis was performed using Statistical Package for Social Sciences (SPSS 21). The proportions were compared using chi-square test and p-value of less than 0.05 was considered significant. Responses for qualitative data were coded and analyzed using content analysis; the codes were placed in matrix which was later thematically summarized.

Ethical approval: The study protocol was reviewed and approved by the Amref Health Africa Tanzania Institutional Research Board (IRB). Each study participant provided written informed consent prior to participation. All participants were assured about privacy, anonymity and confidentiality of the data collected prior to consent.

Results

Characteristics of study population: over the study period 492 clients were screened for eligibility. A total of 445 (93.1%) met inclusion criteria, of whom 422 (94.8%) provided written consent and were enrolled into the study. The median age was 30 years (inter quartile range (IQR) 18-49 years) and 214 (50.7%) were female, 55.9 % were single and 32.9 % were married, A total of 2.3 % had no formal education and 28.7% of all respondents were in Dar es Salaam(Table 1).

Barriers to accessibility and utilization of HTC services in Tanzania : of the 422 clients in our study, 4.9% clients reported spending more than 2 hours at the HTC centre before they were attended, of these 5.9% were women, 17.1% of clients were from Dar es Salaam region and 9.1% of the participants were divorced (Table 2). Time passed before respondents were attended at HTC site by level of education was not statistically significant (p=0.335). Among the 422 clients in our study 5.7 % received HIV testing before getting HIV counseling, of these 7.1 % were female (p=0.0001), 9.1 % had above secondary school education(p=0.0001) and 16.8 % were single(p=0.0001) (Table 3). Proportion of respondents receiving counseling before getting testing at HTC site by region was not statistically significant(p<0.209). Of those clients who received counseling, 21.8% of reported counseling to be done in a group of whom 40% of the clients were from Iringa region (p=0.0001) and 28% were married (p=0.0001) (Table 4). Proportion of type of counseling by sex (p=0.092) and proportion of type of counseling by level of education (p=0.194) were not statistically significant with regards to the type of counseling that was undertaken. Data from the exit interviews carried out during the evaluation show that overall the quality of counselling is high. Clients felt that the counselling sessions were private (95%); the information they received during

the counselling sessions was sufficient (94%); clients were given opportunity to ask questions (91%); counsellors discussed with clients their risks of infection (83%); counsellors discussed disclosure with their clients (84%) and counsellors discussed condom use with their clients (84%)($p<0.0001$).

Barriers to Proximity to clinics, psychological burden and Couple disclosure: mobile services undertaken by the programme have not only achieved a greater impact in terms of increasing the number of people who have access to HTC services but has also broadened the geographical coverage to cover those areas that are far away from the nearby HTC centres as depicted in (**Figure 1**, **Figure 2**). " Mobile services should be encouraged as the counselors come where we are; some of us are busy with our daily cores we don't even get time to walk to HTC centres which are very far and often not easily accessible " (Male member, Magomeni HTC, Dar es Salaam). The Post Test Clubs (PTC) have also been very useful in supporting HIV+ clients to accept their status and find ways of coping with their sero-status. "By being a member of the club I have benefited a lot, I get moral and social support from my colleagues, I can now openly disclose my HIV status and I have also received trainings and seminars on nutrition, storage of ARVs and entrepreneurship skills. I am glad that I joined the group" (Female member, Upendo HTC, Mwanza). During the month of December 2010 the programme undertook a one month Television and radio campaigns that was focused on encouraging couples to access counselling and testing services. The campaign was successful and data collected from the HTC sites showed that following the campaign, 2,400 couples accessed counselling and testing services, a figure which had never been reached before the campaign. "..through this campaigns on couple testing I was able to disclose my sero-status to my husband, my husband was very supportive on something that he wasn't interested to hear about few years back, currently both of us are happy and are on ARVs treatment " (Female member, Makay House HTC, Dodoma). In our study findings stigmatization, discrimination from health workers, poor physical facilities, lack of treatment, giving bribes to health care staff and social segregation are not barriers that hinder people from accessing and Utilizing HCT services in Tanzania.

Linkage of clients to care and treatment: in 2009, 78% of all who tested positive were linked to Care and Treatment Centres (CTC). In 2010, 90% of all who tested positive were linked to CTC, and as from April 2011, 100% of all who tested positive were linked to CTC.

Discussion

In our results, despite positive experiences with HIV testing and counseling (HTC), 4.9% clients reported spending more than 2 hours at the HTC centre before they were attended. Similar findings have been reported in other studies; In a study that was conducted in India long waiting times presented a structural barrier to HTC uptake, access and utilization [8]. In a study conducted in Zambia found that long waiting times, particularly while waiting for an HIV test result, may deter clients from learning their HIV status. The shortest average wait time was 29 minutes whereas clients who waited the longest time spent 55 minutes [12]. Similar findings were reported in a study on Use of HIV/AIDS counseling and testing services among young people in Tanzania which showed poor quality of the services including long waiting times was among some of the reasons identified for not attending HTC services [27]. Also similar findings in another study in South Africa which found that yet overall use of HTC services was low, utilization of services was positively associated with proximity to clinics and availability of rapid testing which reduced the time spent in HTC centers [10]. In our study findings, confidentiality concerns were another barrier that hinders people from accessing and Utilizing HTC services. Similar findings are reported in a systemic review in Sub Saharan Africa which showed that major barriers to uptake of HIV testing comprise perceived health workers´ inability to maintain confidentiality [11]. On the other hand couple counseling which is also done in group is encouraged in a study done in Zimbabwe many men did not seek their HIV tests because they found it difficult to talk to their partners, also they felt HTC services should be offered to couples to help solve communication problems [28]. The differences could be accounted by different clients' needs that made them attend HTC services.

Our study findings show that Clients felt that the HTC information they received during the counselling sessions was sufficient. This is different to findings that were reported in a study in Tanzania which showed lack of HTC information was some of the reasons identified for not attending HTC services identified by youth [26]. Also different results from studies on use of HIV/AIDS testing and counseling services among young people in Tanzania, which showed HTC services were poor despite high demand due inadequate HIV training among health workers [27, 30]. The difference could be explained by the strengthened HIV programs and increased resources for HIV interventions made by Angaza Zaidi program and

the Government in fighting HIV/AIDS in the country. The Post Test Clubs (PTC) has also been very useful in supporting HIV+ clients to accept their status and find ways of coping with their sero-status. Similar findings were reported in Botswana whereby individuals with stigmatizing attitudes toward people living with HIV and AIDS were less likely to have been tested for HIV/AIDS or to have heard of routine testing [32] also in a study conducted in India Participants had good knowledge about HIV and HIV voluntary counselling and testing (VCT) services, but awareness of other HIV services was low. The fear of the psychological impact of a positive HIV test result and the perceived repercussions of being seen accessing HIV services were key personal and interpersonal barriers to HIV service utilization [8]. In another study that was conducted in Thika, Kenya showed that various factors were identified as barriers to HIV-VCT uptake most of them were post-test implicated [29]. Mobile services undertaken by the programme have not only achieved a greater impact in terms of increasing the number of people who have access to HTC services but has also broadened the geographical coverage. This is similar to a systemic review in Sub Saharan Africa which showed that the roll-out of various HIV testing initiatives such as ´opt-out´ provider-initiated HIV testing and mobile HIV testing has improved uptake of HIV testing by being conveniently available and attenuating fear of HIV-related stigma and financial costs[11]. Similar findings were reported in South Africa [10]. As from April 2011, 100% of all who tested positive were linked to Care and Treatment Centres (CTC) this was similar to another study that showed that HTC had significant impact on linkage to care [31]. Also similar to other study which showed lack of available treatment was a barrier for HTC accessibility and utilization and in another study the increasingly wider availability of life-saving treatment in SSA is an incentive to test, the perceived psychological burden of living with HIV inhibits uptake of HIV testing [8, 11].

Study limitations: despite the fact that we maintained the internal validity of our study, however findings from this study should be cautiously generalized as only 9 regions out of 26 regions of Tanzania participated. Secondly, clients choosing to access HTC are self-selecting and may have health behaviours different from the rest of the population.

Conclusion

Despite the noted scaling up of HIV testing and counseling (HTC), significant number of both women and men in mainland Tanzania are yet to test for HIV possibly due to a number of barriers on accessibility and utilization of HTC services that include long time waits at service centres and confidentiality concerns. Couple counseling, mobile HTC services and post-test clubs are new, exceptionally innovative and effective approaches to stimulate demand for and use of HIV testing and counselling. Angaza Zaidi Program should strive to train more counselors in order to reduce clients waiting time at the HTC centers and at the same time adhere to counselling ethics to safeguard clients' privacy.

What is known about this topic

- HTC is one of confirmed strategies to reduce HIV transmission;
- Its uptake remains low in Tanzania like many other countries in Sub Saharan Africa;
- Misconceptions about the HTC services provision have discouraged many to seek services.

What this study adds

- Significant number of participants reported to spend >2 hours at the HTC centre before being attended;
- Mobile services clinics, the Post Test Clubs and couple counselling and testing were effective approaches in stimulating demand for and use of HTC services;
- Linkage to care and treatment among individuals tested HIV positive was as higher as 90%.

Competing interests

Authors declare no conflict of interest

Authors' contributions

Alfred Meremo; Participated design of the work, data analysis and prepared the first draft of the manuscript. Beati Mboya; Participated in the design of the work, interpreted the data and prepared the

first draft of the manuscript. David Ngilangwa; Participated in design of the work, data and manuscript writing. Robert Dulle; Participated in design of the work, data analysis and manuscript writing. Edith Tarimo; Participated in data analysis and manuscript writing. David Urassa; Data analysis and manuscript writing. Nyasiro Gibore; Data analysis and manuscript writing. Bonaventura Mpondo; Data analysis and manuscript writing. Emillian Michael; participated in design of the work and manuscript writing. Gabriel Mchonde ; Participated in design of the work, data and manuscript writing. Alex Ernest; Participated in the design, data analysis and manuscript writing. Rita Noronha; Participated in the design, data analysis and manuscript writing. Festus Ilako; Participated in the design, data analysis and manuscript writing. All authors have read and approved the final manuscript.

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Tables and figures

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Figure 1: Clients counseled and tested (First time): findings of HTC Barriers in Tanzania 2014

Figure 2: Clients counseled and tested (Second time): findings of HTC Barriers in Tanzania 2014

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Table 1: Demographic characteristics of 422 clients attending HIV testing and counseling (HTC) in Tanzania, August-December 2012	
Characteristics	**Proportion (%) or Median (IQR)**
Sex	
Male	208(49.3)
female	214 (50.7)
Age in ears	30 (18 – 49)
Marital status	
Single	236 (55.9)
Married	139 (32.9)
Divorced	22 (5.2)
Widow/Widower	19 (4.5)
Others	6 (1.4)
Level of education	
None	10 (2.3)
Primary	212 (50.3)
Secondary	132 (31.3)
Above primary	68 (16.1)
Distribution by regions	
Arusha	50 (11.8)
Dar es Salam	121(28.7)
Dodoma	15(3.6)
Iringa	96(22.7)
Kilimandjaro	41 (9.7)
Mbeya	15(3.6)
Morogoro	50(11.8)
Mwanza	34(8.1)

Table 2: Proportion of time passed before respondents were attended at HTC site by region, sex and Marital status (n=422)					
	<30 minutes (%)	**30 min -1hour (%)**	**1-2hours (%)**	**>2 hours (%)**	**p**
Region					
Arusha	100.0	0.0	0.0	0.0	
Dar es Salaam	66.9	8.2	7.4	17.3	
Dodoma	100.0	0.0	0.0	0.0	
Iringa	90.6	8.4	1.0	0.0	**0.0001**
Kilimanjaro	90.2	9.7	0.0	0.0	
Mbeya	100.0	0.0	0.0	0.0	
Morogoro	86.0	8.0	2.0	0.0	
Mwanza	67.6	17.6	14.7	0.0	
Sex					
Male	80.2	10.6	6.4	3.8	**0.002**
Female	84.7	5.7	4.7	5.9	
Marital status					
Single	83.4	7.3	3.4	5.9	
Married	88.2	6.6	3.7	1.5	
Divorced	68.2	18.2	4.5	9.1	**0.0001**
Widow/widower	84.1	5.2	5.5	5.2	
Others	66.7	16.7	16.6	0.0	
Total	**83.6**	**7.7**	**3.8**	**4.9**	

Table 3: Proportion of respondents receiving counseling before getting testing at HTC site by sex, education level and Marital Status (**n=422)**				
	Yes (%)	**No (%)**	**Total (%)**	**p**
Sex				**0.0001**
Male	97.1	2.4	49.3	
Female	91.9	7.1	50.7	
Education level				**0.0001**
None	83	0	2.3	
Primary	97	3	50.3	
Secondary	93	5	31.3	
Above secondary	91	9	16.1	
Marital Status				**0.0001*** **
Single	92.8	16.8	55.9	
Married	96.3	7.2	32.9	
Divorced	100	0	5.2	
Widow/widower	100	0	4.5	
Others	83.3	1.8	1.4	
Total	94.3	5.7	100	

Table 4: Proportion type of counseling by region and marital status (n=422)					
	Group(%)	**Individual(%)**	**Both(%)**	**Total(%)**	**p**
Region					
Arusha	24	76	0	11.8	
Dar es Salaam	9.9	77.6	6.5	28.7	
Dodoma	13.4	86.6	0	3.6	
Iringa	40.6	58.4	1	22.7	**0.0001**
Kilimanjaro	2.9	75.6	2.5	9.7	
Mbeya	13.3	86.7	0	3.6	
Morogoro	6	88	0	11.8	
Mwanza	38.2	55.9	5.9	8.1	
Marital Status					
Single	17.3	80.2	2.5	55.9	
Married	28	68.4	3.6	32.9	
Divorced	9.1	86.4	4.5	5.2	**0.0001**
Widow/widower	16.4	83.6	0	4.5	
Others	100	0	0	1.4	
Total	21.8	75.4	2.8	100	

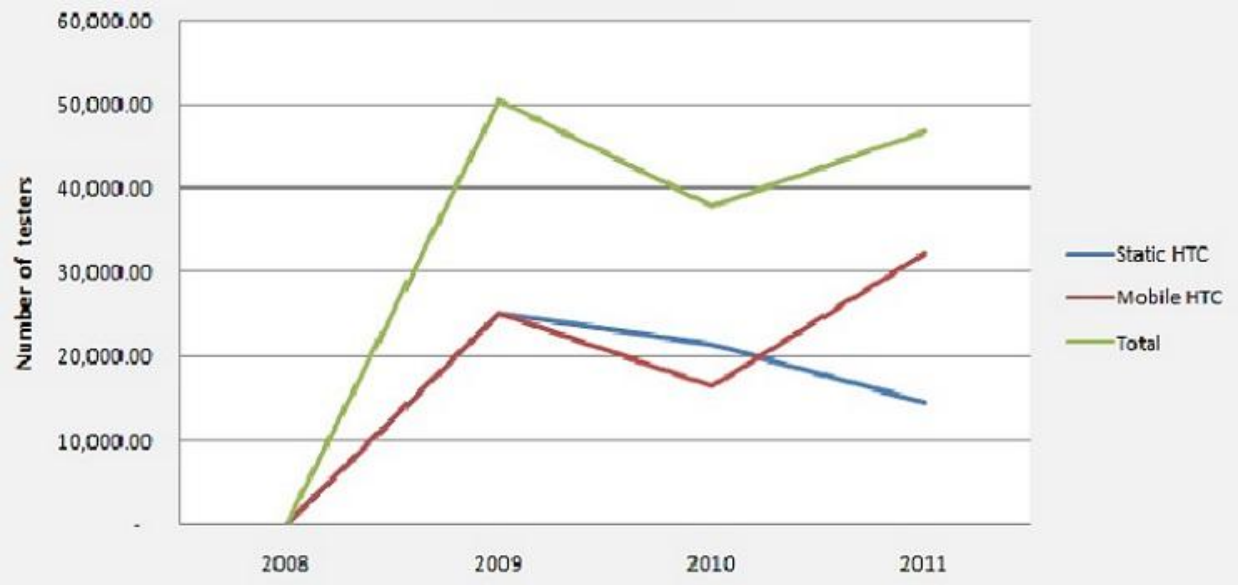


Figure 1: Clients counseled and tested (First time): findings of HTC Barriers in Tanzania 2014

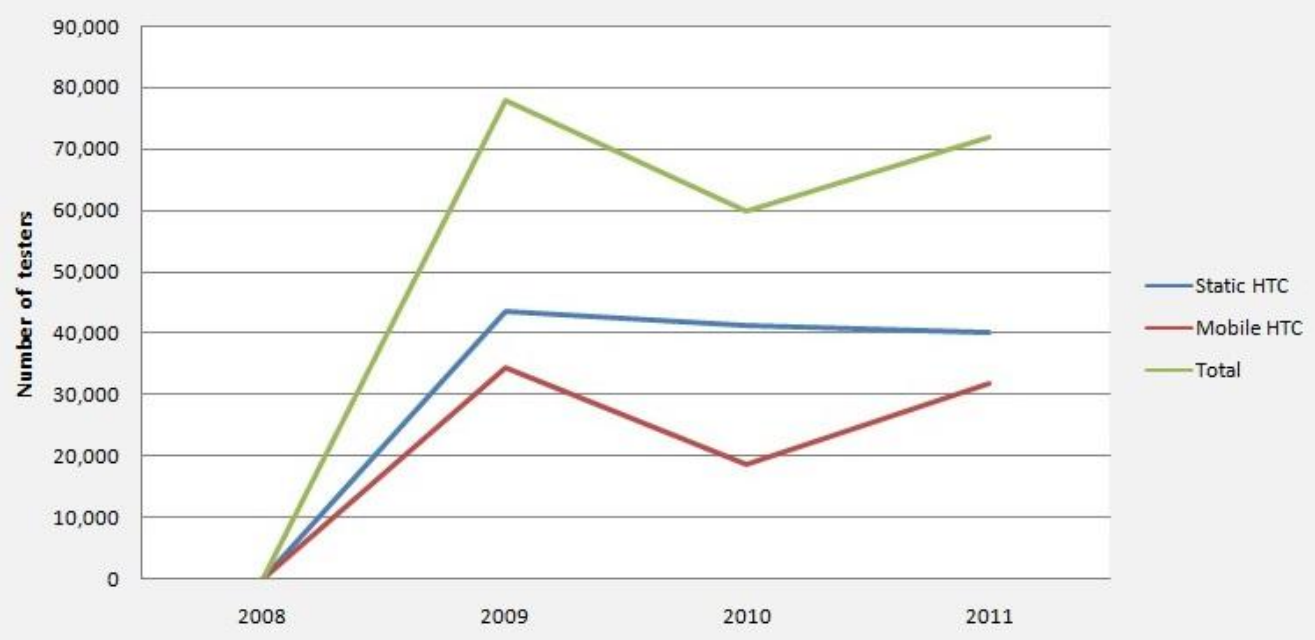


Figure 2: Clients counseled and tested (Second time): findings of HTC Barriers in Tanzania 2014