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Table of contents

	Page
Table of Contents	ii
Acknowledgements.	*iii*
Abbreviations and acronyms	iv
Executive summary	v
1 Surveillance of HIV infection	1
2 HIV Care and Treatment Services	8
3 Prevention of Mothers to Child Transmission of HIV	19
4 HIV Counseling and Testing Services	25
5 Surveillance of other STIs	39
6 Home Based Care Services	52
7. Monitoring and reporting of the health sector response to HIV/AIDS	58
8 Highlights of research publications in Tanzania	60

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Abbreviations/Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinics
ARVs	Antiretrovirals
CDC	Centers for Disease Control and Prevention
CI	Confidence Interval
DBS	Dried blood spot filter paper cards
ELISA	Enzyme Linked Immunosorbent Assay
EPTB	Extra pulmonary tuberculosis
EU	European Union
EWI	Early Warning Indicators
FBOs	Faith Based Organizations
EZBTC	Eastern Zone Blood Transfusion Centre
GDS	Genital Discharge Syndrome
GUD	Genital Ulcer Disease
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counselling
IDC	Infectious Diseases Clinic
LD	Labour and Delivery
MOHSW	Ministry of Health of Health and Social
MUHAS	Muhimbili University of Health and Allied Sciences
NACP	National AIDS Control Programme
NBTS	National Blood Transfusion Services
NGO	Non Governmental Organisations
NIMR	National Institute for Medical Research
PID	Pelvic Inflammatory Diseases
RPR	Rapid Plasma Reagin
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TDHS	Tanzania Demographic and Health Survey
UA	Universal Access
UN	United Nations
UNAIDS	Joint United Nations Programme on AIDS
UNDP	United Nations Development Programme
UNGASS	United Nations General Assembly Session on AIDS
VCT	Voluntary Counseling and Testing
VDRL	Venereal Disease Research Laboratory
WHO	World Health Organisation

Executive summary

This report presents a summary of the activities of the Tanzanian NACP of the MoHSW in dealing with the HIV pandemic as of December 2010. It includes analysis of the following interventions: blood transfusion services, HIV care and treatment, Counselling and Testing for HIV infection, Prevention of Mother to Child Transmission of HIV infection (PMTCT) as well as M&E reports and surveillance of HIV infection in the country.

The following have been achieved regarding the blood transfusions services in the country; i) the number of voluntary donors increased from 61,954 in 2009 to 74,836 in 2010 i) the overall prevalence of some Transfusion Transmissible Infections (TTIs) among voluntary blood donors has continued to decrease; HIV from 2.6% in 2009 to 1.6% in 2010 and HBV infection from 6.1% in 2009 to 4.9% in 2010. However, the prevalence of HCV infection has increased from 0.6% in 2009 to 1.2% in 2010 and that of syphilis from 1% in 2009 to 1.2% in 2010. Notably, the supply of safe blood from zonal centers has not met facility requirements and hence some hospitals continue to collect blood from replacement donors.

Regarding HIV care and treatment services; i) the number of health facilities providing and reporting HIV care and treatment services reached 909, which is 17% of all public health facilities in the country ii) The cumulative number of clients enrolled in HIV care and treatment increased from 403,378 in 2008 to 594,651 in 2009 to 740,040 in 2010, which is 57 % of the 1,300,000 country's estimated PLHIV iii) the cumulative number of clients on ART increased from 202,181 in 2008 to 303,664 in 2009 to 384,816 in 2010. Out of these figures, the number of children enrolled was 33,422 in 2008, 47,044 in 2009 and 58,245 in 2010.Despite the noted success in the HIV care and treatment services, a number of significant challenges still exists; i) From the national database, the percentage of health facilities that offer ART is only 14.6% (909 out of 6,216) ii) the percentage of adults and children with HIV known to be on treatment 36 months after initiation of antiretroviral therapy (**UA**) is only 63% for adults and 72% for children iii) the percentage of persons who attended all clinic appointments for HIV care and treatment services during a year ranges from 27% to 45%.

The continued scaling of PMTCT services, which started in 2003, has resulted in increased number of i) PMTCT implementing sites from 3029 in 2008 to 4301 in 2010, ii) pregnant women reached at ANC by PMTCT services from 958,103 in 2008 to 1,660,894 in 2010 iii) pregnant women tested for HIV (ANC+LD) from 919,377 to 1,414,051 in 2010 iv) pregnant women opted for exclusive breast feeding from 41,347 to 65,511 in 2010 v) Proportion of women reached at ANC Vs total estimated pregnant women in the population from 61 % in 2008 to 99.7% in 2010. The HIV early infants' diagnostic services started in 2009 and by 2010 a total number of 22,033 infants were tested for HIV infection and among them 9.8% were positive. Notably, the number of pregnant women tested HIV+ at ANC & LD and hence received Prophylaxis had remained low

In the year 2010 the total number of clients referred to HTC services from different services was 806,113, compared with 1,003,918 clients in 2009. Over the years, the major source of clients for HTC services has remained to be self referrals which accounts for about 80% of all clients, while the remaining sources (TB, STI Clinic, OPD, IPD, BTS, and HBC) accounts for about 20%, with TB clinics contributing only 1%. The reduction in clients referred to HTC services in 2010 need to be investigated. Equally, the low percentage of referrals from TB clinics needs to be addressed given the necessity of integrating TB and HIV activities.

During the year 2010, a total of 243,944 STI episodes were reported to NACP by STI clinics countrywide, which is an increase from 188,611 episodes reported in 2009. Of these episodes, genital discharge syndromes increased from 61,844 (32.8%) in 2009 to 90,499 (37.1%), genital ulcer disease episodes decreased from 88,541 (46.9%) in 2009 to 39,230 (16.1 %) in 2010, 48,892 (20.0%) pelvic inflammatory diseases increased from16,713 (8.9%) in 2009 to 32,490 (13.3%), while VDLR/RPR positive and the rest increased from 21,513 episodes in 2009 to 32,833 episodes in 2010. As can be seen from these data, the major cause for the increase of STIs cases in 2010 appears to be the genital discharge syndromes, and to a lesser extent PID and VDRL/RPR positive cases. The continued use of the non-treponemal tests needs to be considered in the next round. The increase in the number of STI cases as well as significant regional variations needs to be investigated!

As of December 2010 only three regions (Mtwara, Manyara and Morogoro) have started reporting for HBC services using the newly developed recording and reporting tools. Even in these regions only 277 (42.2%) health facilities are providing HBC services. There is a need of training HBC providers on the revised HBC recording and reporting to improve the amount and quality of data.

Finally, the performance of the health sector in dealing with the HIV pandemic is summarized in chapter 7. The indicators assess progress made over time as well as reference material for subsequent reporting.

In conclusion, despite the noted achievements in 2010, a number of challenges need to be addressed i) the low proportion of donor blood that is screened through the established NBTS ii) the recording and reporting systems need to be strengthened to ensure regular, complete and timely reports iii) strengthening of the ARV supply chain iv) improvement of the care and treatment, VCT and STI services to make them more user friendly v) further improvement of the co-ordination of various stakeholders vi) training and retraining as well as recruitment of a substantial number of new staff vi) ensure regular supportive supervision at all levels and vii) conduct operational research aiming at problem solving.

Chapter One

SURVEILLANCE OF HIV INFECTION

Surveillance Population: Blood Donors

1.1 Introduction

The demand for blood transfusion services in Tanzania is high due to endemicity of infections causing anemia, malnutrition, surgical and obstetrical emergencies which are associated with blood loss. However, for a long time blood safety remained an issue of major concern in transfusion medicine in Tanzania due to the fact that national blood transfusion services and policies, appropriate infrastructure, trained personnel and financial resources were inadequate.
Indeed, although screening of donor blood for HIV infection started in 1987, these services were predominantly hospital-based, reliant on replacement family donations, and were limited to regional and referral hospitals, in additional, there was no systematic screening of donated blood for transfusion-transmissible agents other than HIV.

Taking the above situation into consideration, in 2004, the MOHSW, in collaboration with CDC and other partners established the Tanzania National Blood Transfusion Services (TNBTS), a centralized system of coordinated blood transfusion services. The TNBTS is responsible for collection, processing, storage and distribution of safe blood and blood products to health facilities. The activities of the TNBTS were centralized in 2005 following the World Assembly Resolution (WHA) 28.72 (1972) that called for member states to establish comprehensive and well coordinated blood transfusion services. At the moments TNBTS coordinates seven Zonal blood transfusion centers in the Mainland, namely Lake zone-(LZBTC) in Mwanza, Western-(WZBTC) in Tabora, Northern –(NZBTC) in Kilimanjaro, Eastern-(EZBTC) in Dar es Salaam, Southern Highlands-(SHZBTC)in Mbeya , Southern-(SZBTC) in Mtwara and a military zone - the Tanzania People's Defense Force (TPDF).
TNBTS is responsible for implementing blood transfusion activities according to the national blood transfusion policy guideline. The guideline emphasize voluntary, non-remunerated repeat donations from low risk and well informed donors and provide a roadmap for standardized efficient and sustainable ways of recruiting and retaining safe blood donors. Since the establishment of TNBTS, donated blood is strictly screened for HIV, Hepatitis B virus (HBV), hepatitis C virus (HCV) and syphilis.

This report provides data of voluntary donors who donated blood at six TNBTS zonal centers between 2009 and 2010. TPDF zone data was not available at the time of writing this report.

1.2 Methods

1.2.1 Voluntary Non – Remunerated Repeat Blood Donors

Data for voluntary non-remunerated repeat blood donors from TNBTS for the period of January 2009 to December 2010 were available for inclusion in this report. The TNBTS include voluntary blood donors from its six centers which include all regions of Tanzania. During that period a total of 136,790 persons donated blood. All donated blood was screened for selected infections using TNBTS testing algorithms that are based on the National Specific Blood Transfusion Practice Guidelines (MoHSW, 1st Edition, 2006). HIV was screened using Vironostica HIV 1&2 Ag/Ab and reactive samples were confirmed using Enzygnost anti-HIV ½ plus (SP2). GENEDIA HBsAg ELISA 3.0 and GENEDIA HCV ELISA 3.0 were

used to screen for HBV and HCV respectively. Reactive samples were retested by repeating the same test in duplicates. Screening for syphilis was done by Omega IMMUTREP RPR and positive samples were confirmed by Determine Syphilis TP. For all discordant results the blood donors were asked to come for repeat test after three months. For the positive results, the blood donors were referred to hospitals or care and treatment facilities for further management. Blood donor demographic information including sex, age, place of donation and type of community are collected on the donation site using blood donation register forms. Test results are recorded in the laboratory register forms, prior to entry in the computer system.

1.3 Results

1.3.1 Voluntary Blood Donors

Between January 2009 and December 2010 a total of 136,790 persons, 105,527(77.1%) males and 31,263 (22.9%) females donated blood voluntarily at National and Zonal Transfusion Centres Table 1.1 below, shows the distribution of the donors by age group and sex. Notably, the number of donor increased from 61,954 in 2009 to 74,836 in 2010. Most of the donors (66.4%) were aged between 18 and 24 years.

Table 1.1: Age and sex distribution of voluntary blood donors for the period 2009-2010

	2009			2010			
Age group	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Grand total**
18 - 19	16,527	7,104	23,631	16,382	7,825	**24,207**	**47,838**
20 - 24	17,657	3,631	21,288	17,836	3,890	**21,726**	**43,014**
25 - 29	3,567	760	4,327	2,912	747	**3,659**	**7,986**
30 - 34	2,466	536	3,002	2,090	517	**2,607**	**5,609**
35 - 39	1,866	376	2,242	1,449	462	**1,911**	**4,153**
40 - 44	1,228	344	1,572	1,049	363	**1,412**	**2,984**
45+	1,824	569	2,393	1,543	658	**2,201**	**4,594**
Not stated	2,897	602	3,499	14,234	2,879	**17,113**	**20,612**
Total	**48,032**	**13,922**	**61,954**	**57,495**	**17,341**	**74,836**	**136,790**

As shown in the Table 1.2 below, the overall prevalence of HIV infection among voluntary blood donors decreased from 2.6% in 2009 to 1.6% in 2010. The HIV prevalence among males and females blood donors was 2.6% and 2.4% in 2009 and 1.6% and 1.7% in 2010 respectively, showing a slight difference in HIV prevalence among males and females blood donors.

Table 1.2 Prevalence of HIV infection among voluntary blood donors by age groups; TNBTS 2009-2010

	2009				2010			
	Males		Females		Males		Females	
Age group	N	%HIV	N	%HIV	N	%HIV	N	%HIV
18 - 19	16527	2.3	7104	1.7	16382	1.5	7825	1.5
20 - 24	17657	2.3	3631	2.5	17836	1.5	3890	1.8
25 - 29	3567	3.5	760	4.2	2912	1.8	747	3
30 - 34	2466	4	536	4	2090	2.6	517	2.4
35 - 39	1866	4.6	376	5.6	1449	3.5	462	2.4
40 - 44	1228	3.9	344	4.1	1049	3.2	363	2.8
45+	1824	2.8	569	3.9	1543	2.8	658	2.3
Not stated	2897	1.8	602	3	14234	1.4	2879	1.4
Total	**48032**	**2.6**	**13922**	**2.4**	**57495**	**1.6**	**17341**	**1.7**

Fig 1.3: Sex-specific prevalence of HIV infection among voluntary blood donor during the period 2009-2010

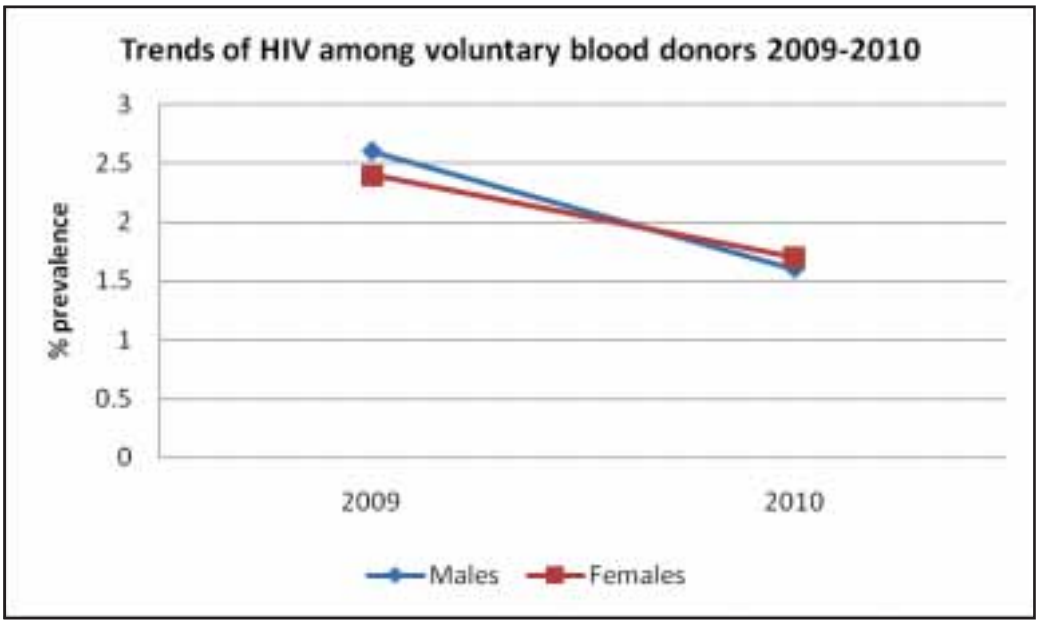
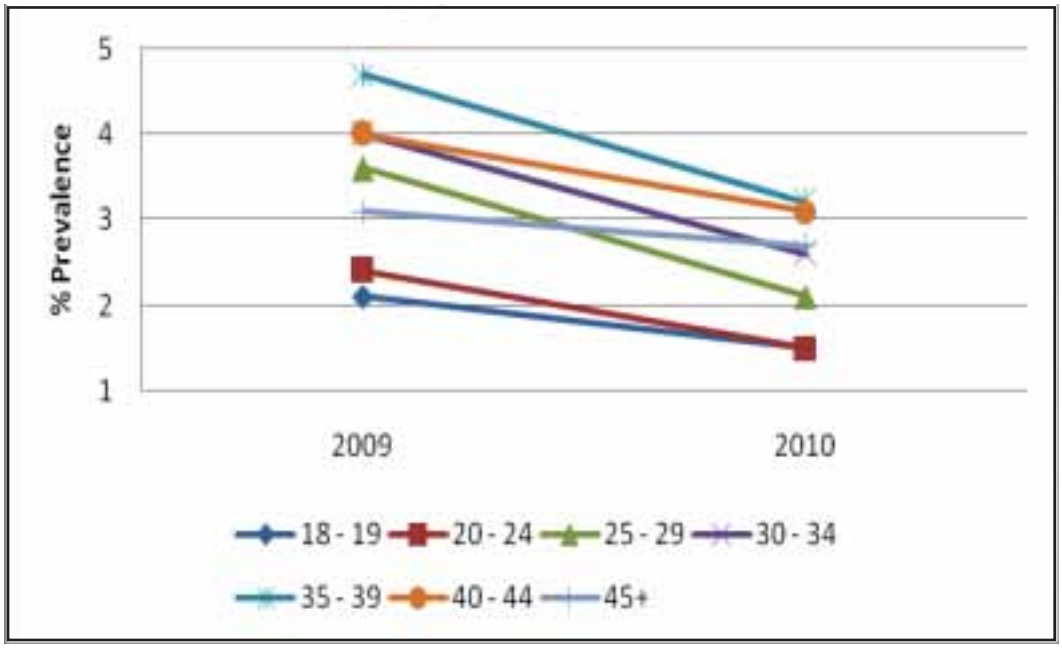


Figure 1.2 below shows that, there is low HIV prevalence among blood donors in all age groups in the year 2010 as compared to year 2009. The group with the lowest HIV prevalence was in the 18-24 year age group whereas the group with the highest HIV prevalence was 35-44.

Fig 1.2: Comparison of age specific prevalence of HIV infection among voluntary blood donors for the period 2009 and 2010



As shown in Table 1.3 below, the prevalence of HBV infection among voluntary blood donors between 2009 and 2010 was 6.1% in 2009 and 4.9% in 2010. The prevalence of HBV was high in 2009 compared with 2010. The high and low prevalence of HBV among blood donors in both years was observed between ages of 25 - 34 and above 45 respectively.

Table 1.3: Prevalence of HBV infection among voluntary blood donor by age, TNBTS 2009-2010

	2009		2010	
Age group	N	%prevalence	N	%prevalence
18 - 19	23631	5.8	24207	3.9
20 - 24	21288	6.2	21726	4.7
25 - 29	4327	7.3	3659	6
30 - 34	3002	6.5	2607	5.9
35 - 39	2242	5.8	1911	5.7
40 - 44	1572	5.2	1412	3.7
45+	2393	4	2201	3.6
Not stated	3499	6.5	17113	6.4
Total	**61954**	**6.1**	**74836**	**4.9**

The prevalence of HBV infection among male donors was higher than that of female donors throughout the two years period. Trend wise, the prevalence of HBV infection among male donors decreased from 6.8% in 2009 to 5.5% in 2010 and 3.5% in 2009 to 2.9% in 2010 for female donors.

Figure 1.3: Trends of HBV infection among Voluntary blood donor by sex, TNBTS 2009-2010

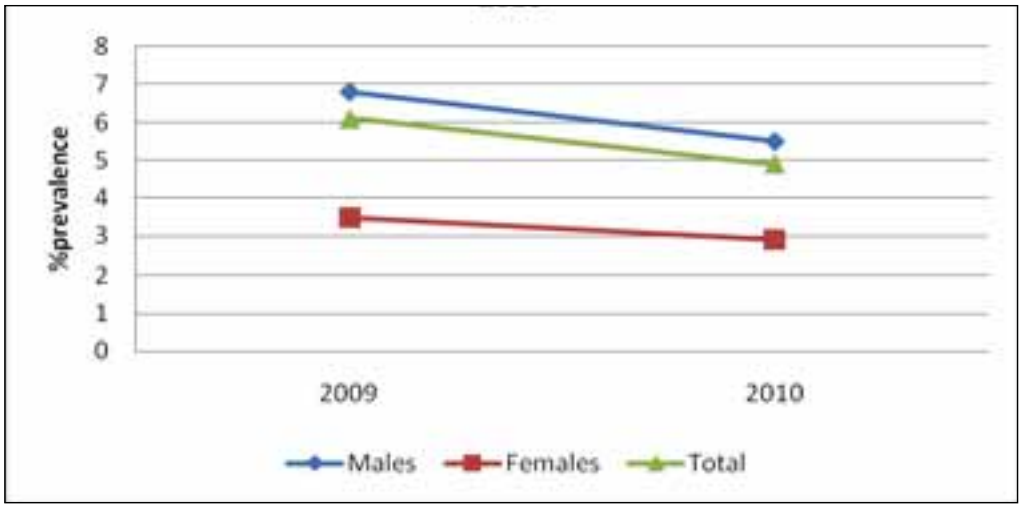


Table 1.4 shows the prevalence of HCV infection among voluntary blood donors to be 0.6% in 2009 and 1.2% in 2010.

Table 1.4: Prevalence of HCV infection among Voluntary blood donor by age, TNBTS 2009-2010

	2009		2010	
Age group	N	%prevalence	N	%prevalence
18 – 19	23631	0.5	24207	1.1
20 – 24	21288	0.4	21726	1.1
25 – 29	4327	0.8	3659	1.5
30 – 34	3002	1	2607	1.4
35 – 39	2242	1.3	1911	1.7
40 – 44	1572	1.7	1412	2.1
45+	2393	0.8	2201	1.8
Not stated	3499	0.7	17113	1.1
Total	61954	0.6	74836	1.2

As shown in the table 1.5 the prevalence of HCV infection among male and females donors was 0.6% and 0.5% in 2009 and 1.2% and 1.1% in 2010 respectively. Notably, there were no sex differences in HCV prevalence among the voluntary blood donors.

Table 1.5: Prevalence of HCV infection among voluntary blood donor by sex, TNBTS 2009-2010

	2009		2010	
Sex	N	%prevalence	N	%prevalence
Male	48032	0.6	57495	1.2
Female	13922	0.5	17341	1.1
Total	61954	0.6	74836	1.2

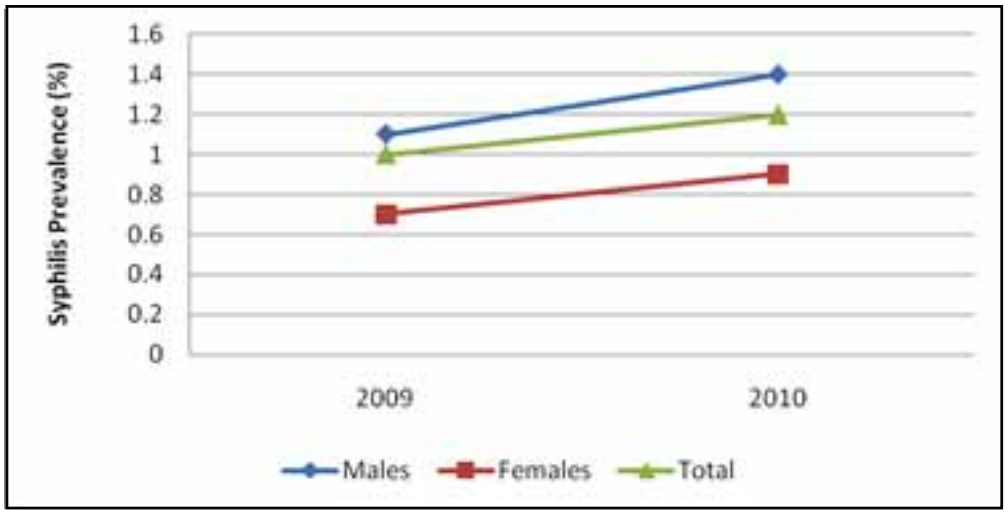
Table 1.6 shows that, the prevalence of syphilis among voluntary blood donors increased from 1% in 2009 to 1.2% in 2010. The prevalence of syphilis infection was high in age 35 and above in both 2009 and 2010.

Table 1.6: Prevalence of syphilis infection among voluntary blood donor by age, TNBTS 2009-2010

	2009		2010	
Age group	N	%prevalence	N	%prevalence
18 – 19	23631	0.7	24207	1.1
20 – 24	21288	1.1	21726	1.5
25 – 29	4327	0.9	3659	1.4
30 – 34	3002	1.5	2607	2.2
35 – 39	2242	2	1911	3.6
40 – 44	1572	2.2	1412	3.4
45+	2393	2.1	2201	2.4
Not stated	3499	0.5	17113	0.5
Total	61954	1	74836	1.2

Figure 1.4 shows prevalence of syphilis by sex. The prevalence of syphilis was significantly higher among males blood donors as compared to females in 2009 and 2010.

Figure 1.4: Prevalence of Syphilis infection among voluntary blood donor by sex, TNBTS 2009-2010



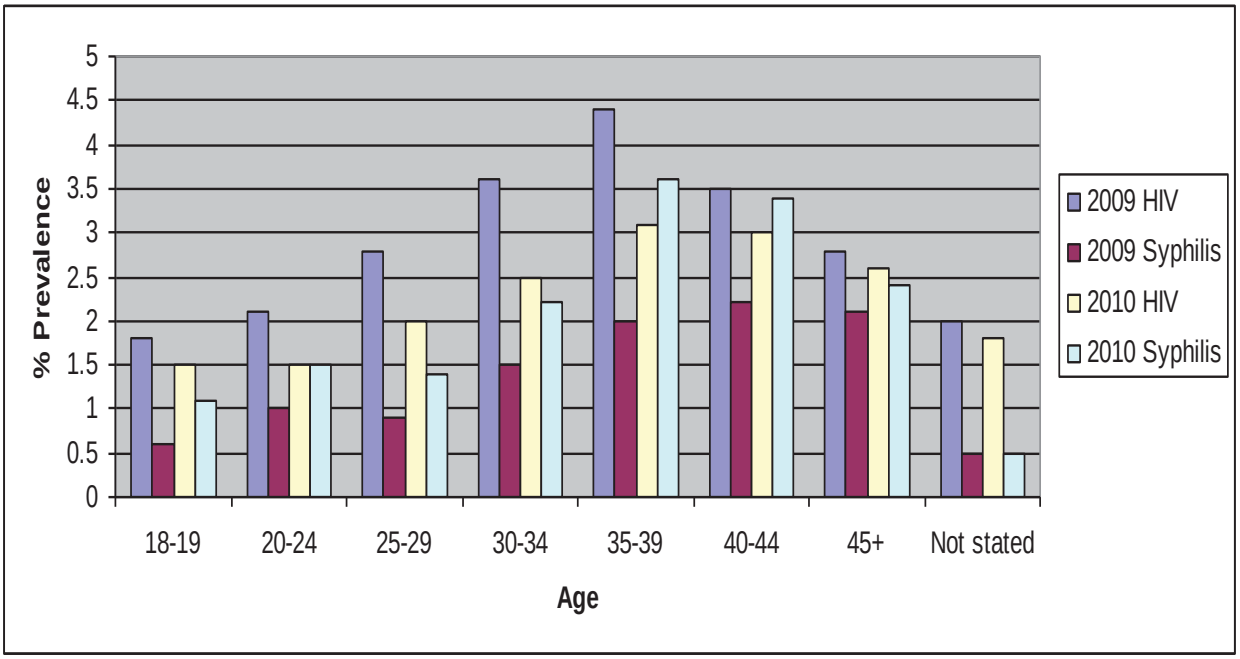
As shown in the table 1.7, the overall prevalence of HIV, HBV, HCV and syphilis among voluntary blood donors for the two years period (2009-2010) was 2.1%,5.3%,0.9% and 1.1% respectively. The only co-infections that were noted were those of HIV and HBV (0.1%) HBV and HCV (0.1%). Of particular note is the fact that 9.1% of blood donated by the voluntary donors contained at least one of the screened TT pathogens. None of the donated blood contained all four TT pathogen.

Table 1.7: Co-infections among voluntary blood donor of TNBTS, 2009-2010

Infectious agent(s)	Number	Percents
HIV	2868	2.1
HBV	7407	5.3
HCV	1259	0.9
SYPHILIS	1540	1.1
HIV&HBV	197	0.1
HBV&HCV	90	0.1
HIV & Syphilis	62	0.04
HBV,HCV,HIV & Syphilis	0	0
At least one	12654	9.1

Figure1.4 shows that, there is higher prevalence for HIV and Syphilis in both years for the age group between 25 - 44 years. The lowest prevalence for 2009 and 2010 was observed in ages 18-24 and above 40 respectively.

Fig 1.5: Trends of HIV and syphilis infection among voluntary blood donor by age group, TNBTS 2009-2010



Chapter Two

HIV Care and Treatment Services

2.1 Routine recording and reporting

2.1.1 Introduction

The National HIV Care and Treatment services are now in seventh year of implementation following its launch in October 2004. These implementations are being guided by the Health Sector HIV Strategic Plan two (HSHSP II) for 2008 through 2012.

The main focus of HSHSP II (2008-12) is scale up HIV care and treatment services, strengthening adherence to ART, integrating various HIV and AIDS program with other health programs, and linking both public and private (for-profit/ non-profit) facilities based interventions to community and home based care services. This focus is addressed through the following three strategic objectives: First is to strengthen and scale up of implementation of comprehensive care and treatment services in public and private facilities so as to provide ART services to 90% of all PLHIV in need of ART of which 18% will be children by 2012, Second is to improve the quality of care for both PLHIV as well as TB patients by strengthening the collaboration between TB and HIV program at all levels, and Third objective is to provide quality HIV and AIDS care and treatment to PLHIV and improve the quality of life by 2012.

The National AIDS Control programme (NACP) coordinates the scale up of quality HIV care and treatment services at all health facility levels. First, through development and use of key program tools such as; National Guidelines for management of HIV and AIDS, Training Curricular for different health cadres, Monitoring systems (patients, drugs/ other supplies and epidemic), Supportive supervision and clinical mentoring guide.

Also, in collaboration with Regional and Council Health Management Teams (R/CHMT) conduct assessment of the earmarked health facilities for initiation of care and treatment Services. During assessment, identified weaknesses and gaps are corrected by in-cooperating in comprehensive Council Health Plans (CCHP). In addition, NACP in collaboration with R/CHMT conducts supportive supervision and clinical mentoring to all health facilities that provide HIV care and treatment services. Lastly, in collaboration with stakeholders, coordinates forecasting and quantification of HIV related commodities including ARVs. Medical Stores Department (MSD) is responsible for procurement, storage, and distribution of HIV related commodities including antiretroviral medicines.

2.1.2 Data Collection Methods

Provision of Care and treatment services started together with its routine recording and reporting system in October 2004. The recording and reporting system focuses on patient monitoring at facility level and consists of eight tools; five recording and three reporting tools. The recording tools include two types of care and treatment cards (CTC) coded as CTC1 and CTC2. Other recording tools are Pre-ART, ART and Cohort analysis registers. Care and treatment cards (CTC1 and CTC2) capture the entire patients' particulars. This information are fed into ART and Pre-ART registers for patients on ART and who are not yet on ART respectively. Once patients are started on ART their data are transferred to the ART register. This information is used to track patients on ART for the period up to 72 months and provide longitudinal information to be fed into the cohort analysis registers and reports.

Reporting tools are of two types, monthly and quarterly cross-sectional and cohort analysis. The cross sectional report have two parts, the monthly report that provides information on “cumulative numbers in care” and “on ART” and quarterly report that provides information on “current in care” and “current on ARV”, disaggregated by age and sex.

In-charges of HIV care and treatment clinics summarize information from the registers on monthly and quarterly bases to produce facility reports. These reports are shared at the facility level for managing and improving service provision. All facilities send copies of monthly and quarterly summaries to their respective district medical offices. At the district level, facility reports are aggregated to form a district report for use at this level. The district report is sent to regional level where aggregation is done to form a regional report. Copies of all regional reports are sent to NACP where information is entered into the national database and analysed.

In the year 2010, MOHSW through NACP and partners’ support, accomplished physical count of patients who were currently on ART during the period July to September across care and treatment facilities at all levels in the country. Data that was analysed to produce this report are; cross-sectional, routine and/or cumulative for the reporting period 2008/10.

2.1.3 Results

Generally, the results hereunder provide information on health facilities providing and reporting on HIV care and treatment services, patients monitoring and treatment outcomes as assessed by set of National Care and Treatment monitoring indicators

Up to December 2010, the number of health facilities providing and reporting HIV care and treatment services were 825. The cumulative number of clients enrolled in HIV care was 740,040. This number of clients accounted for 57 % of the 1,300,000 country’s estimated PLHIV (UNAIDS 2008).

Table: 2.1: Population statistics, number of care and treatment facilities, HIV prevalence, number of clients enrolled in HIV care and those on ART by regions up to December 2010

1	2	3	4	5	6	7
REGION	**Regional Population 2009**	**HIV Prevalence (THMIS-2007/08)**	**Estimated PLHIV (Based on HIV prevalence rates)**	**Reporting C&T facilities**	**Clients enrolled in HIV Care by Dec 2010**	**Clients on ART by Dec 2010**
Arusha	1,701,464	1.4	23,820	51	28,275	16,268
Dar es salaam	3,354,070	8.9	298,512	65	123,345	72,513
Dodoma	1,992,149	3.3	65,741	34	21,072	13,120
Iringa	1,659,588	14.7	243,959	45	82,039	44,595
Kagera	2,518,475	3.4	85,628	47	28,948	13,880
Kigoma	2,331,352	0.9	20,982	29	12,791	5,433
Kilimanjaro	1,543,464	1.9	29,326	41	31,364	15,559
Lindi	872,188	3.9	34,015	53	15,221	6,640
Manyara	1,350,850	1.7	22,964	27	8,794	4,862
Mara	1,626,838	5.3	86,222	36	24,178	13,001
Mbeya	2,443,879	7.9	193,066	51	73,580	36,137
Morogoro	2,106,188	4.2	88,460	33	28,386	16,327
Mtwara	1,269,864	3	38,096	60	19,091	9,668
Mwanza	3,667,941	5	183,397	34	55,546	25,286
Pwani	1,049,728	5.3	55,636	28	23,212	9,985
Rukwa	1,462,469	4.5	65,811	20	15,784	7,803
Ruvuma	1,327,959	5.4	71,710	28	25,755	13,337
Shinyanga	3,521,477	7.6	267,632	46	44,831	21,644
Singida	1,278,963	2.6	33,253	28	9,860	5,788
Tabora	2,200,484	6.1	134,230	33	37,702	15,842
Tanga	1,860,422	3.8	70,696	36	30,266	17,128
TOTAL	**41,139,812**	**5.7**	**2,344,969**	**825**	**740,040**	**384,816**

There was regional variation in the number of clients enrolled in HIV care. The lowest number was 8,794 in Manyara region and the highest was 123, 345 in Dar-es-Salaam region. By December 2010, a total of 384,816 patients had ever started on ART, representing 51.9% of all clients enrolled in HIV care and treatment in this period.

In Arusha region, the number of patients ever on ART (28,275) is higher than the estimated 23, 820 HIV infected persons. Similarly, in Kilimanjaro region, the number of clients enrolled in HIV care (31,316) is higher than the estimated 29, 326 persons. The observed pattern is probably related to under-estimation of HIV prevalence in these regions. In contrast, estimated number of PLHIV in Iringa is remarkably high compared to actual clients enrolled in care during this reporting period.

2.1. 3 Clients enrolled in HIV care and treatment and those on ART.

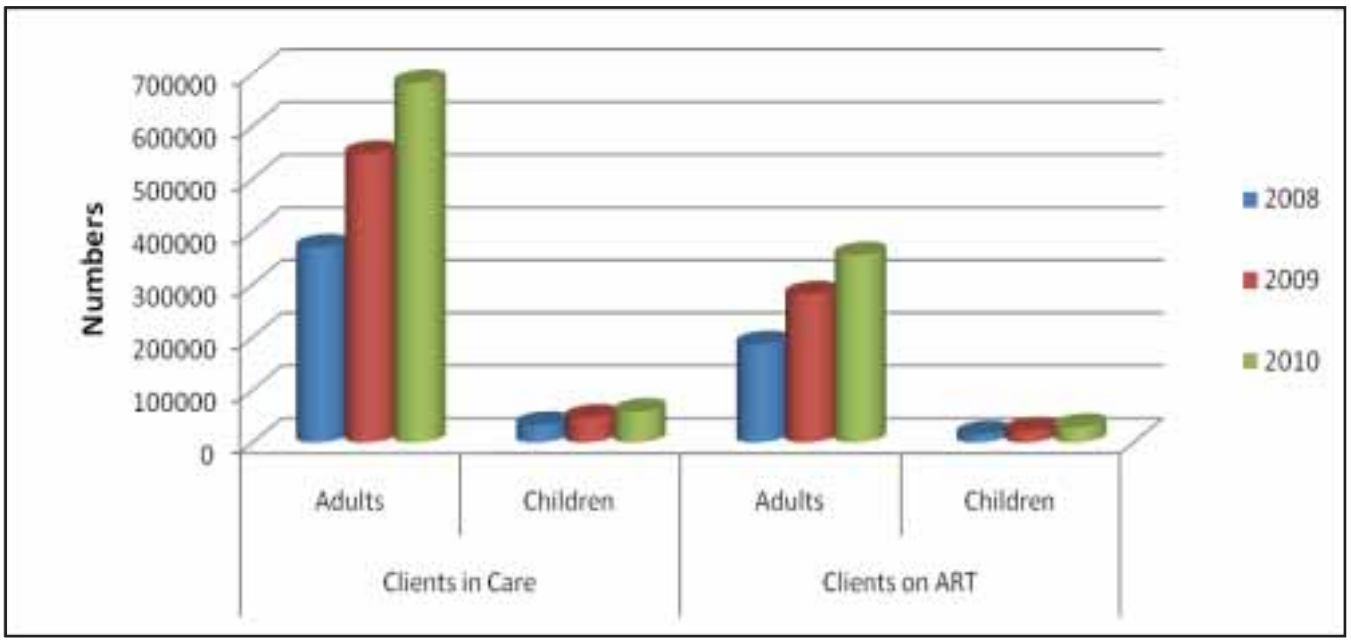
Table 2.1.2 illustrates the cumulative number of clients enrolled in HIV care and treatment and those on ART for three reporting year period. The cumulative number of clients enrolled in HIV care and treatment increased from 403,378 in 2008 to 594,651 in 2009 to 740,040 in 2010. Out of these figures, the number of children enrolled was 33,422 in 2008, 47,044 in 2009 and 58,245 in 2010. Similarly, cumulative number of clients on ART increased from 202,181 in 2008 to 303,664 in 2009 to 384,816 in 2010. From these figures, children were 15,672 in 2008, 22,789 in 2009 and 29,457 in 2010.

Table2.1.2: Cumulative number of clients enrolled in HIV care and on ART until December 2010 by regions

	Dec-08				Dec-09				Dec-10			
	Enrolled in HIV care		On ART		Enrolled in HIV care		On ART		Enrolled in HIV care		On ART	
REGION	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children
Arusha	13325	1592	7858	820	19677	2219	10871	1167	25415	2860	14730	1538
Coast	11240	975	5048	446	14842	1293	6447	565	20925	2287	9150	835
Dodoma	9396	1157	5953	559	13029	1434	8279	670	18840	2232	12025	1095
DSM	75098	6930	43338	4085	93604	7759	54842	4758	114102	9243	67060	5453
Iringa	37960	3820	19157	1940	54564	5416	27714	2496	74744	7295	40753	3842
Kagera	15272	1099	7419	512	21875	1525	9838	753	27053	1895	12821	1059
Kigoma	3642	288	1827	124	9422	884	4614	385	11740	1051	5046	387
Kilimanjaro	14999	3361	7186	1073	22715	3474	11617	1616	27454	3910	13700	1859
Lindi	6753	510	3024	206	8713	800	4049	363	14115	1106	6167	473
Manyara	3342	298	1844	178	5436	524	2811	243	8023	771	4461	401
Mara	12976	709	5978	246	18318	954	9951	418	22918	1260	12408	593
Mbeya	41842	2710	19829	1233	70642	5110	36920	2372	68932	4648	34070	2067
Morogoro	8856	728	4557	379	18214	1623	10411	833	26002	2384	15072	1255
Mtwara	10014	716	4763	338	13849	1009	6985	463	17781	1310	9014	654
Mwanza	32477	2363	13844	884	45790	3149	19669	1256	51837	3709	23644	1642
Rukwa	5667	342	2721	120	9430	598	4434	188	14647	1137	7234	569
Ruvuma	12877	987	7525	573	20473	1537	10355	777	23920	1835	12478	859
Shinyanga	17739	1246	7615	421	28516	2168	13958	907	41797	3034	20136	1508
Singida	4146	341	3050	195	5214	378	3559	230	8957	903	5367	421
Tabora	15401	1392	5683	491	28136	2420	11052	964	34909	2793	14554	1288
Tanga	16934	1858	8290	849	25148	2770	12499	1365	27684	2582	15469	1659
Total	**369956**	**33422**	**186509**	**15672**	547607	47044	280875	22789	681795	58245	355359	29457
TOTAL	**403,378**		**202,181**		**594,651**		**303,664**		**740,040**		**384,816**	

During this period (2008/10), regional variations existed, with Dar es Salaam having the highest number of clients, while Kigoma had the lowest figure. However, throughout same period, program recorded steady rise in both clients enrolled in care and on ART. As such, proportion of estimated PLHIV enrolled in care was 17% (403,378/2,344,969), 25% and 32% in 2008, 2009 and 2010 respectively.

Fig: 2.1.1 Cumulative Adults and Children in care and on ART during the three years reporting periods



2.2 Health Facility Survey: Physical Count of Patients "Currently on ART"

2.2.1 Introduction

The Patient Monitoring System NACP has three reporting components: monthly reports summarizing the number of people ever enrolled in HIV care and in treatment, quarterly reports summarizing the number of people "currently" in care and on treatment; and quarterly cohorts report summarizing the status of people on care and in treatment. However, facilities which summarize reports manually i.e. those which are not computerized summarize monthly reports only and therefore provide NACP only with cumulative number of those "ever" having entered into care or treatment. Although computerized facilities report on the number of patients currently on treatment, concerns exist around the quality of these data. Consequently, validation of current numbers of patients on treatment is a requirement of all partners who support the national HIV care and treatment programme.

2.2.2 Data collection methods

This was a survey of all health facilities which provide HIV care and treatment in the country. A list of facilities that provide HIV care and treatment in each region was created from the national CTC macro-database. A data collection tool was created for collection of name of facility, district and region where it is located, cumulative number of patients enrolled in care and in treatment by September 2010, year of birth, sex and whether the patient attended the clinic at least once during the period July to September 2010.

Data collection supervisors were identified from the national level. These together with the Regional AIDS Control Coordinators (RACCs), two members of the Regional Health Management Teams (RHMTs) and District AIDS Control Coordinators (DACCs) were called in Bagamoyo for training in data collection methods. Following the training, regional supervisors went back to their respective regions, identified data collection teams, trained them on data collection methods and together with DACCs, reviewed the list of HIV care and treatment facilities in the region to ensure inclusion of all. Regional supervisors and data collection teams were allocated to the districts for data collection. Upon arrival to the district, the DMO was debriefed about the activity and additional data collection teams identified and trained. These visited all facilities in the district where they also trained HIV care and treatment staff in data collection methods. At the facility, the first activity was collection of patient files for all HIV care and treatment clients ever enrolled in the facility. This was followed by going through each file to obtain the required information for the questionnaire. After collection of data, the file was marked to avoid double counting.

2.2.3 Results

The table 2.1.1 shows distribution of patients currently on ART during the period July – September 2010 by two age bands and regions. A total of 244,148 patients were current on ART. Of those, 92.2% were adults 15 years and above and the remaining 19,161 (7.8%) were children below 15 years. Majority (19.7%) of patients currently on ART were found in Dar es Salaam region, followed by Mbeya rergion(11.8%) and Iringa region (11.0%), and only 0.9% in Manyara and Kigoma regions. Of the children currently on ART, Kilimanjaro had the highest proportion (11.8%) followed by Arusha (10.6%); and Mara the lowest (5.2%).

Table 2.2.1 Distribution of patients currently on ART by age and regions; Tanzania, Jul-Sept 2010

Region	Adults ≥ 15yrs	%	Children 1-14yrs	%	Total	%
Dar-es-Salaam	44,549	92.7	3,523	7.3	48,072	19.7
Mbeya	26,881	93.0	2,019	7.0	28,900	11.8
Mwanza	16,267	93.6	1,109	6.4	17,376	7.1
Arusha	7,536	89.4	890	10.6	8,426	3.5
Manyara	2,011	90.7	207	9.3	2,218	0.9
Mara	7,590	94.8	420	5.2	8,010	3.3
Kilimanjaro	9,219	88.2	1,230	11.8	10,449	4.3
Singida	3,114	92.0	269	8.0	3,383	1.4
Dodoma	5,576	91.5	517	8.5	6,093	2.5
Morogoro	8,674	92.6	693	7.4	9,367	3.8
Tanga	8,307	90.4	878	9.6	9,185	3.8
Pwani	6,148	91.7	554	8.3	6,702	2.7
Lindi	2,812	91.6	257	8.4	3,069	1.3
Mtwara	4,240	92.4	348	7.6	4,588	1.9
Iringa	24,275	90.7	2,488	9.3	26,763	11.0
Ruvuma	8,462	92.5	686	7.5	9,148	3.7
Rukwa	7,944	94.6	457	5.4	8,401	3.4
Tabora	7,978	92.1	681	7.9	8,659	3.5
Shinyanga	12,849	92.3	1,066	7.7	13,915	5.7
Kigoma	2,101	91.7	191	8.3	2,292	0.9
Kagera	8,454	92.6	678	7.4	9,132	6.0
TOTAL	**224,987**	92.2	**19,161**	7.8	244,148	100.0

Table 2.2.2 provides sex and age groups of patients currently on ART. Overall, the number of females currently on ART during the target period was almost doubles that of males, giving a female: male ratio of about 1.9. Majority of patients (71.6%) were in the age group 25 – 49 years followed by those aged between 0 – 14 years (7.8%) while the age group 15 – 24 years contributed the least proportion (4.4%).

Table 2.2.2: Distribution of patients currently on ART by age and sex; Tanzania, July – September 2010.

Age	Male		Female		Total	Sex not recorded		Grand total	
	n	%	n	%	n	n	%	n	%
<1yr	79	44.4	99	55.6	178	2	1.11	180	0.1
1-4yrs	2,652	48.2	2,851	51.8	5,503	28	0.51	5,531	2.3
5-14yrs	6,405	48.3	6,866	51.7	13,271	59	0.44	13,330	5.5
15-19yrs	1,680	41.1	2,407	58.9	4,087	22	0.54	4,109	1.7
20-24yrs	1,209	18.4	5,357	81.6	6,566	31	0.47	6,597	2.7
25-29yrs	3,582	18.9	15,362	81.1	18,944	77	0.4	19,021	7.8
30-34yrs	9,801	24.6	29,979	75.4	39,780	156	0.39	39,936	16.4
35-39yrs	14,444	31.4	31,625	68.6	46,069	190	0.41	46,259	18.9
40-44yrs	14,912	36.6	25,872	63.4	40,784	169	0.41	40,953	16.8
45-49yrs	11,830	41.3	16,788	58.7	28,618	135	0.47	28,753	11.8
50yrs+	18,085	46.1	21,112	53.9	39,197	162	0.41	39,359	16.1
Total	**84,679**	34.8	**158,318**	65.2	**242,997**	**1031**	0.42	**244,028**	99.95
Age missing	36	36.4	63	63.6	99	21	17.5	120	0.05
Grand total	**84,715**	**34.8**	**158,381**	**65.2**	**243,096**	**1,052**	**0.43**	**244,148**	**100**

2.4 Reporting on National and International Indicators

From the detailed analysis of 101 CTC sites that provided export files for analysis, Tanzania is able to report on the following national and international indicators. The indicators reported here are Universal Access (UA), United Nations General Assembly Session on AIDS (UNGASS) and HIV Drug Resistance Early Warning Indicators (EWI) as well as national care and treatment indicators.

Table 2.11 Indicators for Care and Treatment in Tanzania.

	Indicator	**EXPLANATION**	**RESULTS**							
1	Percentage of health facilities that offer ART **(UA)**	From National database	778 out of 6216 = 12.5%							
			Adults				**Children**			
2	Percentage of adults and children with advanced HIV infection receiving antiretroviral therapy(**UNGASS**)	Estimated for adults only	**55.2%**				Not available			
3	Percentage of adults and children with HIV known to be on treatment 12 months after initiation antiretroviral therapy(**UNGASS**)	Estimated for 3 yearly cohorts (2005, 2006 and 2007).	2005- **78%**	2006 **74%**	2007 **76%**		2005 **83%**	2006 **79%**	2007 **81%**	
4	Percentage of adults and children with HIV known to be on treatment 24 months after initiation antiretroviral therapy (**UA**)	Estimated for two yearly cohorts (2005 and 2006)	2005- **70%**	2006 **65%**			2005 **77%**	2006 **72%**		
5	Percentage of adults and children with HIV known to be on treatment 36 months after initiation antiretroviral therapy(**UA**)	Estimated for one yearly cohorts (2005)	2005- **63%**				2005- **72%**			
6	Percentage of adults and children with HIV known to be on treatment 48 months after initiation antiretroviral therapy(**UA**)	Data not available with this analysis	N/A				N/A			
7	Percentage of adults and children with HIV known to be on treatment 60 months after initiation antiretroviral therapy (**UA**)	Data not available with this analysis	N/A				N/A			
8	Percentage of individuals starting ART who are prescribed a standard regimen (**EWI**)	Estimated for 4 cohorts in 2005,2006,2007 and 2008	20059 9%	20069 8%	20079 8%	2008 98%				
9	Percentage lost to follow-up during the 12 months after starting ART (**EWI**)	Estimated for 3 yearly cohorts (2005, 2006 & 2007).	2005 **12.8 %**	2006 **18.7 %**	2007 **17.7 %**		20051 **1.6%**	20061 **4.6%**	2007 **3.2 %**	
10	Percentage of persons starting first-line ART who are still on first-line ART 12 months later (**EWI**)	Estimated for 3 yearly cohorts (2005, 2006 & 2007).	20057 **4%**	20066 **9%**	20077 **2%**		20057 4%	20066 **8%**	2007 **64%**	
11	Percentage of persons who attended all appointments during a year (**EWI**)	Estimated for 4 cohorts in 2005,2006,2007 and 2008	2005- **35%**	20063 **2%**	20073 **3%**	2008 **27%**	2005- **36%**	2006- **39%**	2007 **41%**	2008 **38%**

The presented care and treatment indicators are derived from traditional cohort analyses which are based on life-tables through the assessment of survival and loss to follow up at 12, 24 and 36 months after start of ART. This is similar to the cohort analyses performed on monthly bases at facility level in Tanzania, and does not allow for censoring during the period analyzed.

Patients starting ART and the initial ART regimens were classified as standard if they were described on the CTC cards. These variables were applied for computing an early warning indicator, "percentage of individuals starting ART who are prescribed standard regimen".

Patients who remained on the same first line regimen for 12 month period comprise the EWI number 10 (Table 2.11). Approximately 4.5% of adults and 12% of children were coded as "*not being on first line drug regimes after 12 months*". However, these figures should be interpreted as either belonging to non-coded new regimes, second line regimens, lost to follow up (unknown status) or reported deaths.

The estimates on EWI number 11 (table 2.11), that is "percentage of patients who attended all appointments during the first year on ART", were tabulated from annual cohorts in 2005, 2006 and 2007. The data for 2008 included only patients who started ART in the first six months of the year. This was so because; data extraction for this purpose was done at least two months after six months cohort maturity.

NB: The denominator for determining all EWI was "all patients starting ART in the calendar year".

Chapter Three

Prevention of Mothers to Child Transmission of HIV

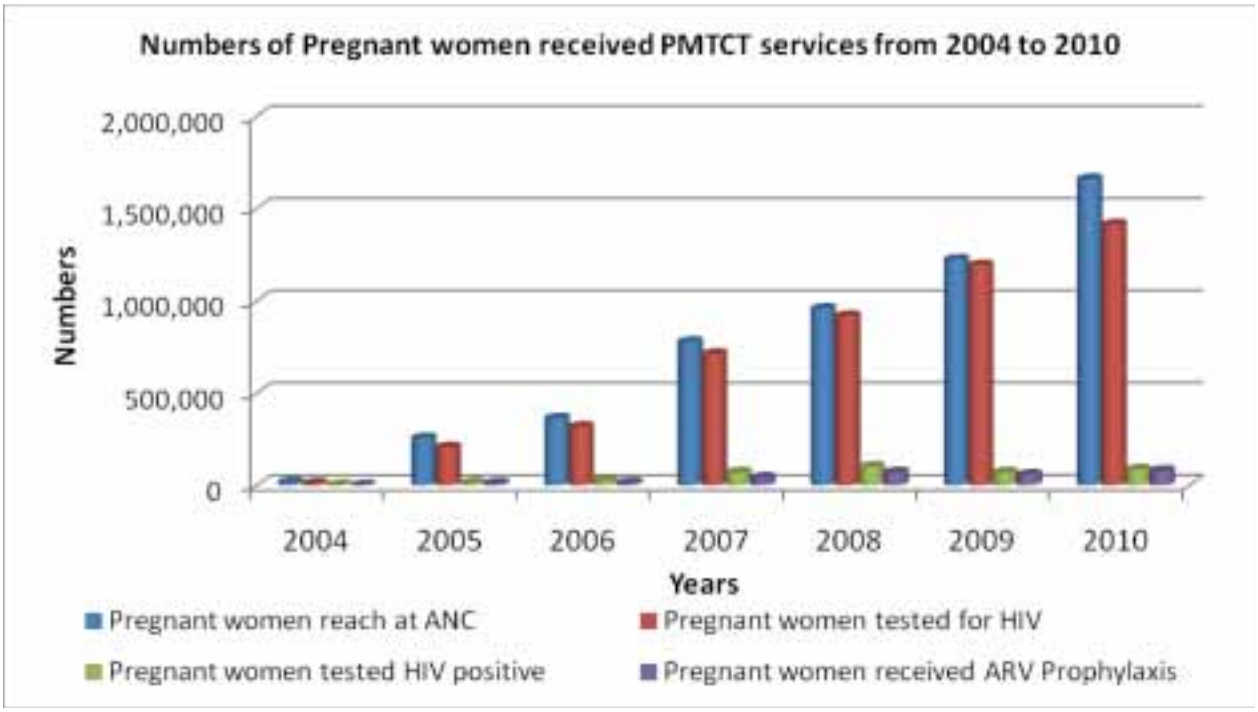
3.1 Introduction

Prevention of Mother to Child Transmission of HIV (PMTCT) is the key intervention against global HIV epidemic. About 1.6 million women become pregnant each year in Tanzania, a recorded estimate from 2002 census.

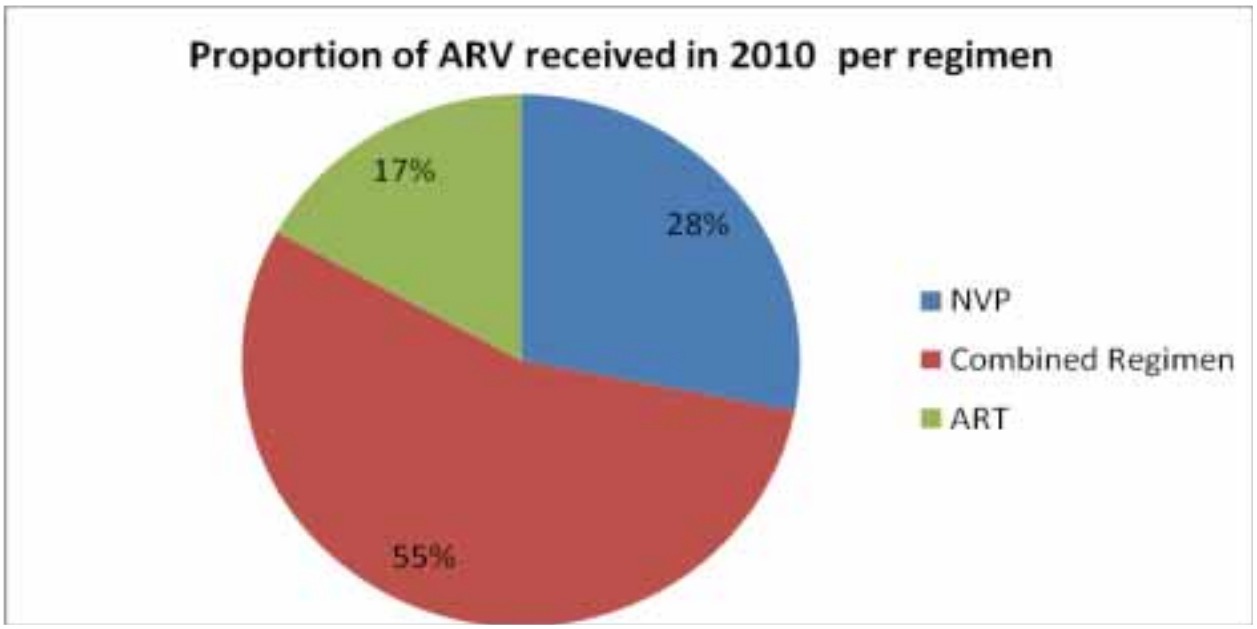
Data from sentinel surveillance sites in Tanzania (2008) indicated an overall HIV prevalence of 6.9% among pregnant women attending antenatal clinics. This estimate about 110400 of all the pregnant women in the country were living with HIV 2008. When effectively and properly implemented, PMTCT services are potentially proficient in preventing infection in babies who would otherwise be born HIV-positive or contract the infection during delivery and/or breast feeding.

PMTCT services were first introduced in Tanzania in 2000 when the MOHSW established a pilot program at five health facilities (four referral and one regional hospital). As of early 2007, only 10% of health facilities in Tanzania were providing the core components of PMTCT, and an estimated 12% of HIV-positive pregnant women were receiving ARV prophylaxis. In response to the need for greater access to these services, the Government of Tanzania included a goal in their *Health Sector HIV and AIDS Strategic Plan 2008-2012* to increase the percentage of HIV-positive pregnant women who receive ARV prophylaxis from 34% in 2007 to at least 80% by 2012 (HSHS-II 2008-2012).

PMTCT programme have been scaling up rapidly over the last four years, the number of Reproductive and Child Health Clinics that are providing PMTCT as an integral of comprehensive ANC services has increased dramatically. Data from the MOHSW shows that by December 2010, about 4,301 facilities out of 4,647 (92%) that provide antenatal care also provide PMTCT services. The increase in sites is envisioned to increase access of pregnant women to this important service. This is reflected by the corresponding increase in number of pregnant women who have access to HIV testing through the PMTCT programme (see the table below).



The programme has the target of scaling up the use of More Efficacious Combined Regimen for PMTCT to cover all the PMTCT providing clinics country wide. (Moving complete from singe doze Nevirapine). The figure below shows the percentage distribution of pregnant women received ARV prophylaxis.



Tanzania, among other African countries has prioritized PMTCT as a major area for HIV and AIDS intervention. This aspiration is reflected in the National and international accords as follows:

- United Nations General Assembly Special Session on HIV/AIDS (UNGASS):
  The target for 2010 is a 50% reduction in the proportion of infants newly infected with HIV

- Millennium Development Goals (MDGs):
  MDG 4: Reduction of child mortality rates by 2/3 by 2015.

MDG 5: Reduction of maternal mortality rates by ¾ by 2015.
MDG 6: Combating HIV and AIDS, Malaria, TB and other preventable diseases.

- Elimination of MTCT 2011–2015 strategy:
  Elimination of new HIV infection among children by 2015, and keeping their mothers alive. Elimination of new HIV infections among children is defined here as a reduction of the number of children newly infected with HIV by 90% (and a HIV transmission rate of less than 5% from pregnant women to their newborns) by 2015.

- National Strategy on acceleration of Growth and Reduction of Poverty (MKUKUTA):
  Where by cluster 2:1 addresses for an improved Quality of life and Social well being, particularly focusing on the underprivileged and most vulnerable groups,
  Promoting equitable, sustainable and cost effective access to ARV by all affected households, with emphasis on education, PMTCT and support for the mother after delivery,

- The Health Sector Strategic Plan 2 on HIV and AIDS (HSHSP-II, 2008/12):
  Targeting to reduce the transmission of HIV from mothers to their children, during pregnancy, birth and/or breast-feeding and ensure entry into care and treatment for mother and baby and increase the percentage of HIV positive pregnant women who receive ARVs prophylaxis from 34% in 2007 to 80% in 2012.

In addition, the National PMTCT and Paediatric HIV care and treatment scale up plan (2009-2013) was developed to operationalizes what have been stipulated in the Health Sector HIV Strategic Plan II (2008-2012).

The PMTCT program implementation in Tanzania follows four core elements which are; **Primary Prevention** (Information, testing and counseling on preventing HIV transmission), **Prevention of unwanted pregnancies** (access to family planning services for women living with HIV and AIDS and their partners), **Prevention of HIV Transmission to all Fetuses and Newborns** (use of antiretroviral drugs to prevent HIV transmission from mother to child) and **Comprehensive care of HIV infected mothers, their exposed children and family members** (access to care, treatment and support for infected mothers, infants and other family members).

3.2 Data Collection Methods

The guideline for implementing PMTCT Program was harmonized with both national and international PMTCT services deliverance standards, following its review in 2007. Worthy mentioning, the training package and Monitoring and Evaluation tools address the requisites. The routinely collected information from implementing facilities is done through sets of indicators. Generally, this data summarizes information on all pregnant women and infants receiving comprehensive PMTCT services at the end of each reporting period. These data are orderly aggregated and utilized each month at all health facility levels and forwarded through respective districts and regions to National level at 7th, 14th and 21st days of the following month respectively.

3.3 Results

The gradual expansion of the PMTCT services since its roll out in 2003 has resulted into remarkable coverage of 92% (4,301/4,647) of all ANC facilities by Dec 2010. Similarly, during same period, the program recorded 99.7% (1,414,051) service coverage to pregnant women in

relation to 1,665,300 estimated numbers of pregnant women in the country. The proportional trend in pregnant women tested for HIV versus all reached by PMTCT services was, 96% in 2008, 98% in 2009 and 85% in 2010.

Table 3.1: Implementation output of PMTCT programme in Tanzania, 2008 to 2010.

	Indicator	Reporting Years		
		2008	2009	2010
1	Estimated pregnant women annually (Projection from 2002 census)	1,560,000	1,611,870	1,665,300
2	Estimated HIV + Pregnant women in the population	127,920	86,000	114,906
3	HIV Prevalence in pregnant women attending ANC (Surveillance Report 2005 and 2008)	8.2	6.9	6.9
4	Pregnant women reached at ANC by PMTCT services	958,103	1,223,964	1,660,894
5	Pregnant women tested for HIV (ANC+LD)	919,377	1,194,172	1,414,051
6	Pregnant women received post test counseling at ANC	749,823	1,066,385	1,402,315
7	Pregnant women tested HIV positive at (ANC+LD)	102,213	70,423	87,343
8	Number of pregnant women with unknown HIV status at LD		117,448	143,808
9	Pregnant women received ARV Prophylaxis at ANC + LD	70,944	58,833	79,579
10	Pregnant women opted for exclusive breast Feeding	41,347	57,884	65,511
11	Pregnant women opted for replacement Feeding	1,875	3642	2537
12	Partners tested for HIV	-	181,185	298,990
13	Partners tested HIV positive	-	14552	16,587
14	Proportion of women received ARV Prophylaxis in the programme	64 %	84%	92%
15	Proportion of women received ARV Prophylaxis vs estimated HIV + pregnant women in the population	55 %	68%	70%
16	Proportion of women reached at ANC vs total estimated pregnant women in the population	61 %	76%	99.7%
17	Infants tested for HIV	-	18’135	22,033
18	Infants tested positive	-	3274	2,151
19	Total infants received ARV	-	43,119	65’948
20	Number of Infant received ARV Prophylaxis	41,347	42’945	64’895
21	Proportion of infants received ARV prophylaxis in the program		61%	76%
22	Total number of PMTCT implementing sites.	3029	3624	4301

Over the past three years there has been an upward trend in the PMTCT cascade of services. The program data shows increase in the number of clients reached by PMTCT services at ANC facilities from 958,103, in 2008, 1,223,964 in 2009 to 1,660,890 in 2010. Consequently, the number of pregnant women who received post test counseling at ANC also increased from 749, 823 in 2008, and 1,066,385 in 2009 to 1,402,315 in 2010. Moreover, the number of HIV+ pregnant women identified by PMTCT program was, 102, 213, and 70,423 and 87,343 for years 2008, 2009 and 2010 respectively.

However, the number of HIV infected pregnant women who received ARV prophylaxis for PMTCT rose from 70,944 in 2008 to 80,748 in 2010, indicating increased access to; and uptake of ARV prophylaxis. In addition, number of infants who received ARV prophylaxis increased from 41,347 in 2008 through 42,945 in 2009 to 64,895 in 2010. Also a similar pattern is observed with regard to proportions of HIV+ pregnant

women tested at ANC and LD against the estimated number of HIV+ women in the total population, where, the trend recorded a sharp increase from 55% in 2008 to 76% in 2010.

Infant Feeding counseling shows increased number of HIV infected pregnant women counseled from 62,526 and 68, 048 in 2009 and 2010 respectively. The number of HIV + pregnant women who opted for exclusive breastfeeding was 57,884 in 2009 and 65,511 in 2010. Notably fewer pregnant women had opted for replacement feeding in 2010 as compared to 4,642 in 2009 (Table 3.1).

HIV early infants' diagnostic services were established in 2009 and by the end of 2010 the data shows a total of 22,033 exposed infants were tested for HIV among which 9.8% were positive. However, the programme has recently derived mother to child transmission rate from a mathematical model using the 2010 HEID programme data, and it indicates the HIV transmission rate to be 12.4 % at six weeks the figure 2 illustrates the performance trend in PMTCT program's core indicators over the four years reporting period. Notably, number of pregnant women tested HIV+ at ANC & LD and hence received Prophylaxis had remained low

The program recorded an increase in the number of clients reached by PMTCT services at ANC facilities from 958,103, in 2008 to 1,660,890 in 2010. Consequently, the number of pregnant women who received post test counseling at ANC has also increased from 749, 823 in 2008 to 1,402,315 in 2010. The proportion of HIV+ pregnant women tested positive and received ARV rose from 55% in 2008 to 70% in 2010.

The number of HIV infected pregnant women who received ARV prophylaxis for PMTCT rose from 70,944 in 2008 to 80,748 in 2010, indicating not only an improved access to, but also uptake of ARV prophylaxis. In addition, number of infants who received ARV prophylaxis increased from 41,347 in 2008 to 64,895 in 2010. Similar pattern was evident with regard to proportions of HIV+ pregnant women tested at ANC and LD against the estimated number of HIV+ women in the total population.

HIV early infants' diagnostic services had started in 2009. By 2010 a total number of 22,033 infants were tested for HIV and among them 9.8% were positive. The figure 2 illustrates the performance trend in PMTCT program's core indicators over the four years reporting period. Notably, number of pregnant women tested HIV+ at ANC & LD and hence received Prophylaxis had remained low

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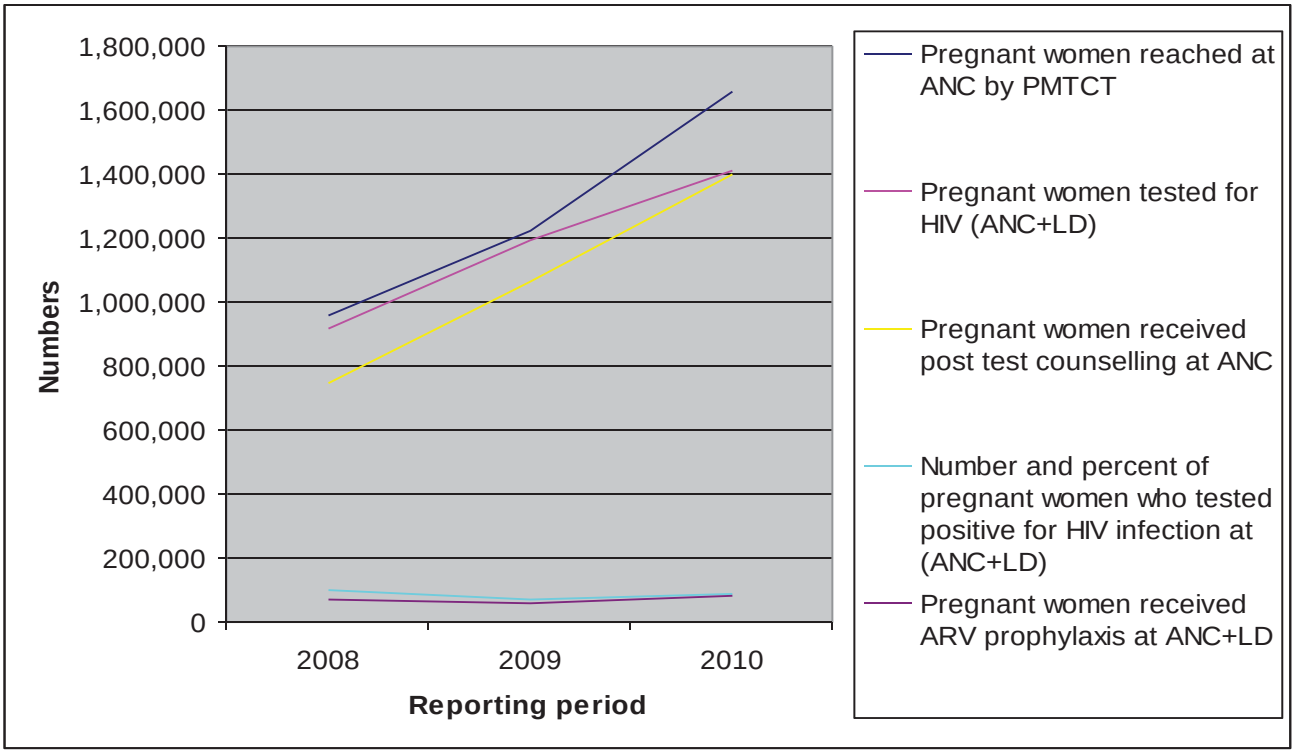
Fig: 2 Trend in performance on PMTCT program Core Indicators



The figure above illustrates progressive improvement in programme performance on various intervention components with pregnant women over a reporting period of 2008 to Dec 2010.

The MOHSW acknowledges the success of PMTCT program as contributed by collaborative efforts with its partners. Notably, the program has increased facility coverage of PMTCT services to 4,301 (90%) out of 4792 providing Reproductive and Child health services (December 2010). The programme also boosts of its experienced pool of trainers 248 countrywide.

As the country move towards elimination of MTCT by 2015, the programme will focus on

- Continued efforts to prevent new infections among young women
- Improved Quality of services through accelerated implementation of the more efficacious ARV prophylactic regimen
- Improved access to family planning services among women living with HIV
- Improved access to ANC and skilled attendants at delivery for all women
- Increased efforts to reduce lost to follow up of exposed infants and their mothers
- Strengthening continuum of care for the mother and the child including linking of HIV infected mothers and early HIV diagnosed infants to C&T services
- Strengthening supply chain management;
- Developing institutional/ human resource capacity in PMTCT and pediatric HIV care, treatment and support;
- Integrating PMTCT and pediatric HIV care, treatment and support services at all levels; and

In order to achieve the set goals the program set the following targets:

- At least 80% of all HIV-positive pregnant women and all HIV-exposed infants receive ARVs prophylactic A by 2013 to reduce the transmission of HIV
- At least 80% of all pregnant women attending ANC are tested for HIV

- At least 50% of male partners of women identified as HIV-negative through PMTCT are tested for HIV
- At least 80% of HIV-infected women enrolled in PMTCT receives family planning and prevention services
- At least 50% of HIV-exposed infants are tested for HIV at 4-8 weeks

Since the inception of the program the following achievements have been attained:

- ✓ Regionalization of PMTCT implementing partners.
- ✓ Male involvement in PMTCT programme has increased from 2% in 2004/05 to 18% by Dec 2010
- ✓ PMTCT services are well integrated in RCHS services from the Regional, District and Primary Health level.
- ✓ PMTCT guidelines, training materials(foster PMTCT/ RCHS integration) and M & E Tools in line with National and International Standards
- ✓ 294 TOT and 8525 service providers from all the sites providing PMTCT services in the country (Dec , 2010)
- ✓ Developed PMTCT and Pediatric HIV and AIDS scale up plan to Operationalize HSHSP - II 2008-2012
- ✓ Developed Draft National PMTCT Psychosocial guidelines
- ✓ Developed PMTCT Database
- ✓ Developed PMTCT planning template for Comprehensive Council Health Plan

Barriers and Challenges in the Implementation of PMTCT Services.

- ❖ Inadequate inclusion of PMTCT services into the Council Comprehensive Health Plans (CCHP)
- ❖ Weak postpartum/postnatal care and follow up services for HIV infected mothers and HIV exposed children and linkage to CTC
- ❖ Inadequate community involvement in PMTCT
- ❖ Limited provision of more efficacious regimen in PMTCT
- ❖ Limited access to HIV Early Infant Diagnosis services (longer turn around time, few trained HCW in HEID **)**

Chapter Four

HIV TESTING AND COUNSELING SERVICES

4.1 ROUTINE RECORDING AND REPORTING

4.1.1 Background information

Provision of HIV and AIDS-related testing and counseling (HTC) services in Tanzania started in 1988, through client initiated Voluntary Counseling and Testing (VCT) services. Initially services were provided mainly by Faith Based Organizations (FBOs) and Non-Governmental Organizations (NGOs) to clients in need. In 1989, the joint Tanzanian-Norwegian AIDS Project (MUTAN) established VCT services in the public sector in Arusha and Kilimanjaro regions. Later in 1995, an improved pilot project was initiated in four regions including; Dar-es-Salaam, Morogoro, Coast and Dodoma. Since then VCT services have expanded to cover all regions. Currently, VCT services is being provided by the Public Sector, NGOs and FBOs in health care facilities, standalone sites as well as mobile and outreach services. To date, there are more than 2,137 established HTC sites being served by more than 5002 trained counselors country wide. In June 2007 a National HIV Testing Campaign was launched by the Honorable President of the United Republic of Tanzania, leading to HIV testing of over four million people for the period July 2007 to June 2008.

Currently there is a global and national emphasis to accelerate universal access to HIV prevention, treatment, care and support services for People Living with HIV (PLHIV). In order to achieve this goal, access to HIV testing and counseling services have expanded through strengthening and scaling up of the existing client-initiated VCT as well as introducing other approaches for HIV testing and counseling, the Provider-Initiated Testing and Counseling (PITC) in the clinical settings to target all individuals attending health care facilities. This approach complements the efforts of the client initiated VCT services.
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4.1.2 Barriers and Challenges in the provision of HTC services

There are a number of challenges experienced by health care providers of HIV testing and counseling services in the country. The major ones are listed below:

- Irregular supply of HIV test kits
- Limited recognition of the benefits of HTC among the general population
- HTC services not considered as a priority intervention to be included for resource allocation in the Comprehensive Council Health Plans (CCHP).
- Lack of skills to provide services to special groups such as the deaf, blind, disabled and children
- Limited infrastructure and weak referral systems after post counseling services
- Lack of effective support mechanisms, e.g. A functional post-test support system
- Ineffective recording and reporting system
- Stigma

4.1.3 Methods

The national HIV Testing and Counselling recording and reporting system consists of HIV testing and counseling register; site, district and regional monthly summary forms. Counsellors fill client information in the counseling register routinely during service provision. At the end of each month, information is summarized according to the list of indicators contained in the site monthly summary form. The summary information is disseminated at the site for use to improve service provision and a copy is sent to the office of the District Medical Officer by the 7th day of the following month. At the district level, reports from all the HIV testing facilities/sites are aggregated to develop a district report which is discussed by the CHMT for services improvement. A copy is sent to the office of the Regional Medical Officer by 14th day of the following month. Regional level aggregates its district reports to make a regional report for use in the region and a copy is sent to the NACP by 21st day of the following month. At facility, district and regional level, reports are generated manually or electronically. At the national level, the NACP aggregates regional summaries to produce an annual national report that is disseminated widely for use.

4.1.4 Results:

As shown in Table 4.1, in 2009, a total of 1,349,167 clients were provided with counseling services. Among these clients, 1,069,432 (79%) were new clients. About half (53.1%) of these new clients were contributed by only 6 regions of Dar es Salaam (16.6%), Mbeya (10.7%), Iringa (8.5%), Dodoma (6.0%),Tanga (5.8%) and Singida (5.4%) while Mara and Tabora contributed less than 1% (0.1% and 0.2% respectively). In all regions, more than half of the new clients were women with a low of 51.7% and a high of 63.4% in Tabora and Manyara region, respectively. In 2010, the utilization of counseling services was largely by female clients in the rest of the regions except in Dar es Salaam where more than two thirds (75.5%) of new clients were males. Male predominance in Dar es Salaam resulted in the overall contribution of women in the utilization of HTC services in the country to be only 45%.

Majority of the new clients [1,040,678 (97.3%)] agreed to test for HIV and 1,008,647 (96.9%) were given their test results (Table 4.2). These results did not differ significantly with those of 2009 where 808,662 (98.0%) of new clients were given their test results. In 2009, the prevalence of HIV among the tested clients stood at 11.1% with a low of 1.9% and a high of 21.3% in Manyara and Mara regions, respectively. In 2010, the prevalence remained lowest in Manyara (2.3%) but was highest in Dodoma (22.9%) with an overall prevalence of 9.1% which is about 2 percent lower than that of 2009. These results show that, although the overall prevalence has decreased over the two years, the lower and upper margins are increasing indicating that HIV infections are increasing in some regions while decreasing in others. Sex differences were also marked where it was higher in females than males (11.1% and 10.1% respectively) in 2009. In 2010, the prevalence slightly decreased in males while it increased in females (6.4% and 12.4% respectively).

Table 4.1.1 Total number of client pre-test counseled and new clients pre-test counseled by region, 2009 - 2010

TOTAL NUMBER OF CLIENTS PRE-TEST COUNSELLED							NUMBER OF NEW CLIENTS PRE-TEST COUNSELLED					
	2009			2010			2009			2010		
REGION	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Arusha	22842	30540	53382	13653	19616	33269	18089	23514	41603	10380	14396	24776
Coast	20651	30930	51581	10632	15715	26347	16795	25504	42299	8819	12856	21675
Dar es Salaam	93077	131236	224313	90584	110097	200681	72947	104396	177343	67928	87559	155487
Dodoma	34587	46947	81534	27372	34083	61455	25854	35163	61017	21518	27149	48667
Iringa	51160	64854	116014	32136	35552	67688	40732	50346	91078	24430	25781	50211
Kagera	17721	24978	42699	10114	11881	21995	14259	17786	32045	7936	9166	17102
Kigoma	22870	30216	53086	10831	14000	24831	18217	24924	43141	8,778	11,711	20489
Kilimanjaro	8840	11737	20577	1634	1963	3597	7141	9569	16710	1494	1730	3224
Lindi	26342	34664	61006	14672	27406	42078	22355	29613	51968	10940	19546	30486
Manyara	12481	18735	31216	21783	26748	48531	13564	23520	37084	16,667	21,113	37780
Mara	603	768	1371	78278	78918	157196	438	558	996	62279	70980	133259
Mbeya	58053	79659	137712	49676	64987	114663	48690	66093	114783	39730	52166	91896
Morogoro	27547	37336	64883	26337	33427	59764	22819	30175	52994	20489	25682	46171
Mtwara	6147	9992	16139	7206	13143	20349	4461	7646	12107	5263	9934	15197
Mwanza	44887	39636	84523	9308	13459	22767	28820	27749	56569	7695	10602	18297
Rukwa	8957	12864	21821	18436	19595	38031	6165	8242	14407	14343	16564	30907
Ruvuma	22996	29699	52695	14007	18396	32403	16966	20341	37307	9368	11372	20740
Shinyanga	25462	43587	69049	911	1120	2031	20751	34739	55490	732	898	1630
Singida	30535	41875	72410	20632	29198	49830	30541	35936	66477	17169	24314	41483
Tanga	36774	53848	90622	4493	5957	10450	23875	37900	61775	3101	4162	7263
Tabora	1098	1436	2534	4367	5658	10025	1082	1157	2239	3551	4591	8142
TOTAL	573,630	775,537	1,349,167	467,062	580,919	1,047,981	454,561	614,871	1,069,432	362,610	462,272	824,882

Table 4.1.2 Number of HTC clients who agreed to test for HIV compared to those post test-counseled and given HIV test results region for the period 2009 - 2010

NUMBER OF NEW CLIENTS AGREED AND TESTED FOR HIV							NUMBER OF NEW CLIENTS POST-TEST COUNSELLED AND GIVEN HIV TEST RESULTS					
	2009			2010			2009			2010		
REGION	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Arusha	16076	21690	37766	10070	14010	24080	16089	21664	37753	10391	13885	24276
Coast	15302	23862	39164	8714	12649	21363	14033	21564	35597	8681	12389	21070
Dar es Salaam	73255	104253	177508	263242	85249	348491	73081	104112	177193	66500	84436	150936
Dodoma	24484	33324	57808	19280	24511	43791	21064	29031	50095	19162	24254	43416
Iringa	39536	49220	88756	24429	25781	50210	39446	49009	88455	24429	25781	50210
Kagera	14259	17789	32048	7936	8866	16802	14229	17789	32018	7936	8866	16802
Kigoma	18400	24762	43162	8905	11756	20661	17629	24712	42341	8201	11737	19938
Kilimanjaro	7138	9529	16667	1494	1730	3224	6918	9532	16450	1494	1684	3178
Lindi	22355	29643	51998	10940	19546	30486	22355	29553	51908	10847	19516	30363
Manyara	13562	23532	37094	16665	21116	37781	13559	20351	33910	16416	20726	37142
Mara	438	558	996	61882	70550	132432	438	558	996	62025	70550	132575
Mbeya	48690	65093	113783	37696	52435	90131	48690	65090	113780	37666	52435	90101
Morogoro	22747	30195	52942	20766	25682	46448	19470	26239	45709	20766	25702	46468
Mtwara	4458	7646	12104	5209	9881	15090	4461	7646	12107	5206	9881	15087
Mwanza	21865	23808	45673	7179	10602	17781	17674	20075	37749	7179	10602	17781
Rukwa	6163	8242	14405	15889	16564	32453	6163	8240	14403	15909	15064	30973
Ruvuma	16996	20341	37337	9368	11372	20740	16996	20341	37337	9368	11372	20740
Shinyanga	20749	34732	55481	732	898	1630	20532	34692	55224	732	898	1630
Singida	26097	35975	62072	17231	24010	41241	26061	35377	61438	17111	24009	41120
Tanga	23775	37900	61675	3101	4162	7263	23745	38200	61945	3101	4162	7263
Tabora	1082	1157	2239	3551	4042	7593	1082	1157	2239	3551	4042	7593
TOTAL	**437,427**	**603,251**	**1,040,678**	**554,279**	**455,412**	**1,009,691**	**423,715**	**584,932**	**1,008,647**	**356,671**	**451,991**	**808,662**

Table 4.1.3: Distribution of clients who agreed to be tested for HIV with proportions found HIV infected by region during 2009 – 2010

	2009						2010					
REGION	Male	% Positive	Female	% Positive	Total	% Positive	Male	% Positive	Female	% Positive	Total	% Positive
Arusha	16,076	6.8	21,690	9.0	37,766	8.1	10070	2.6	14010	3.2	24080	3.0
Coast	15,302	12.7	23,862	13.8	39,164	13.3	8714	11.0	12649	13.1	21363	12.2
Dar es Salaam	73,255	12.5	104,253	16.8	177,508	15.0	263242	3.2	85249	17.4	348491	6.7
Dodoma	24,484	11.5	33,324	12.4	57,808	12.1	19280	20.8	24511	24.5	43791	22.9
Iringa	39,536	16.2	49,220	17.2	88,756	16.8	24429	11.8	25781	15.1	50210	13.5
Kagera	14,259	6.8	17,789	8.6	32,048	7.8	7936	8.4	8866	10.7	16802	9.6
Kigoma	18,400	3.4	24,762	4.9	43,162	4.3	8905	3.9	11756	4.4	20661	4.2
Kilimanjaro	7,138	2.6	9,529	3.5	16,667	3.1	1494	4.4	1730	7.7	3224	6.1
Lindi	22,355	4.5	29,643	6.1	51,998	5.4	10940	7.0	19546	7.6	30486	7.4
Manyara	13,562	1.8	23,532	2.0	37,094	1.9	16665	2.1	21116	2.5	37781	2.3
Mara	438	26.5	558	28.0	996	27.3	61882	3.8	70550	5.6	132432	4.8
Mbeya	48,690	15.3	65,093	17.1	113,783	16.3	37696	18.2	52435	19.2	90131	18.8
Morogoro	22,747	14.3	30,195	13.0	52,942	13.6	20766	12.4	25682	17.1	46448	15.0
Mtwara	4,458	11.2	7,646	11.2	12,104	11.2	5209	12.1	9881	11.8	15090	11.9
Mwanza	21,865	7.4	23,808	9.1	45,673	8.2	7179	11.1	10602	11.1	17781	11.1
Rukwa	6,163	9.3	8,242	12.5	14,405	11.1	15889	7.9	16564	10.4	32453	9.2
Ruvuma	16,996	7.0	20,341	10.3	37,337	8.8	9368	9.7	11372	12.3	20740	11.1
Shinyanga	20,749	9.6	34,732	9.3	55,481	9.4	732	13.4	898	15.4	1630	14.5
Singida	26,097	3.2	35,975	3.9	62,072	3.6	17231	3.2	24010	4.2	41241	3.8
Tanga	23,775	9.3	37,900	10.3	61,675	9.9	3101	8.4	4162	13.5	7263	11.3
Tabora	1,082	10.4	1,157	15.9	2,239	13.2	3551	6.7	4042	9.4	7593	8.1
TOTAL	**437,427**	**10.1**	**603,251**	**11.7**	**1,040,678**	**11.1**	**554279**	**6.4**	**455412**	**12.4**	**1009691**	**9.1**

4.1.5 Sources of clients to HTC services

In 2009 a total of 1,003,918 clients were referred to HTC services from different services. The main source of referral of clients to HTC services was self referrals which accounted for 86% of all clients. The remaining sources (TB, STI Clinic, OPD, IPD, BTS, and HBC) accounted for 16% with STI clinic accounting for only 0.9% (Table 4.4).

In the year 2010 a total of 806,113 clients were referred to HTC services from different services. The major source of clients for HTC services remained to be self referrals which accounted for 80.1% of all clients. The remaining sources (TB, STI Clinic, OPD, IPD, BTS, and HBC) accounted for the remaining 18.9% with TB contributing only 1% (Table 4.4).

Table 4.1.4: Source of referrals of clients attending HTC services; Tanzania 2009 - 2010

	2009								2010							
REGION	TB Clinic	STI Clinic	OPD	IPD	BTS	HBC	Self	Total	TB Clinic	STI Clinic	OPD	IPD	BTS	HBC	Self	Total
Arusha	349	170	1445	791	493	1774	12143	17,165	1822	192	11676	2273	406	1953	7913	26235
Coast	669	773	3864	1306	1592	491	29821	38,516	197	739	1838	888	538	80	16686	20966
Dar es Salaam	9560	1757	6424	2193	3018	6139	157468	186,559	1898	718	8741	2384	2213	32720	135230	183904
Dodoma	624	873	4291	2404	2109	1681	44829	56,811	459	1081	1481	1397	574	2326	37259	44577
Iringa	2239	926	5132	1854	70	2530	82868	95,619	67	177	2327	576	46	1338	50539	55070
Kagera	381	420	4337	4238	881	64	18852	29,173	165	321	2495	2092	603	187	14751	20614
Kigoma	1599	4	380	9	1	6	14003	16,002	5	0	24	4	0	0	2953	2986
Kilimanjaro	17	32	39	40	0	3	17143	17,274	119	0	0	0	0	0	418	537
Lindi	259	225	1278	747	23	66	59688	62,286	719	726	2721	1135	123	139	29494	35057
Manyara	196	208	2553	949	268	96	23458	27,728	481	654	2501	1006	120	188	37706	42656
Mara	22	0	0	10	0	0	1351	1,383	84	107	751	1213	226	272	92969	95622
Mbeya	779	671	5094	2325	43	1905	101795	112,612	443	649	5997	2020	39	909	90740	100797
Morogoro	759	1677	4184	1457	659	5054	41043	54,833	285	1942	4167	1468	820	7405	27509	43596
Mtwara	318	202	708	597	0	390	10481	12,696	213	365	1722	373	107	265	14739	17784
Mwanza	107	37	3824	604	475	34	62570	67,651	60	213	2624	553	481	47	13199	17177
Rukwa	25	5	53	87	11	0	11959	12,140	133	163	2612	1813	58	281	23993	29053
Ruvuma	90	20	121	83	11	3	26326	26,654	172	5	77	0	0	0	4250	4504
Shinyanga	202	318	2770	1071	85	62	34736	39,244	12	15	80	36	35	1	1191	1370
Singida	246	286	1896	675	109	3888	32668	39,768	299	2722	4293	5751	3244	2075	26304	44688
Tanga	1144	639	5091	2529	60	485	77009	86,957	94	32	301	25	10	4	9061	9527
Tabora	1	2	20	0	0	0	2824	2,847	79	0	0	0	593	5	8716	9393
TOTAL	**19,586**	**9,245**	**53,504**	**23,969**	**9,908**	**24,671**	**863,035**	**1,003,918**	**7,806**	**10,821**	**56,428**	**25,007**	**10,236**	**50,195**	**645,620**	**806,113**

Figure 4.1.1 Sources of HIV testing and counselling clients in 2009

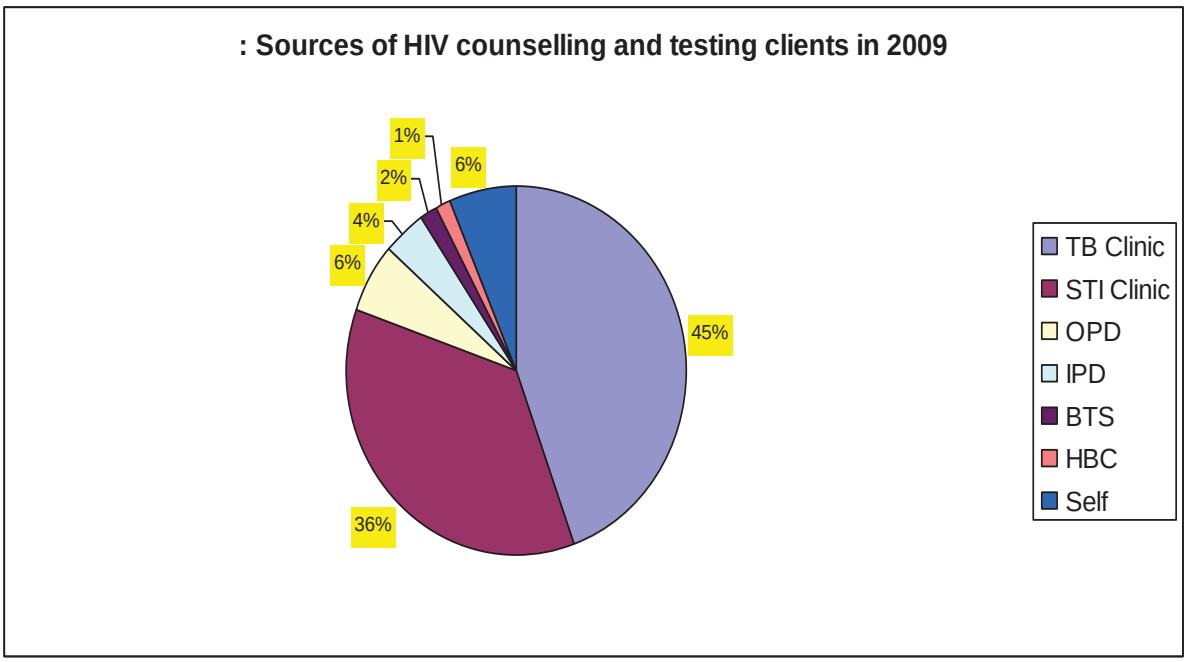
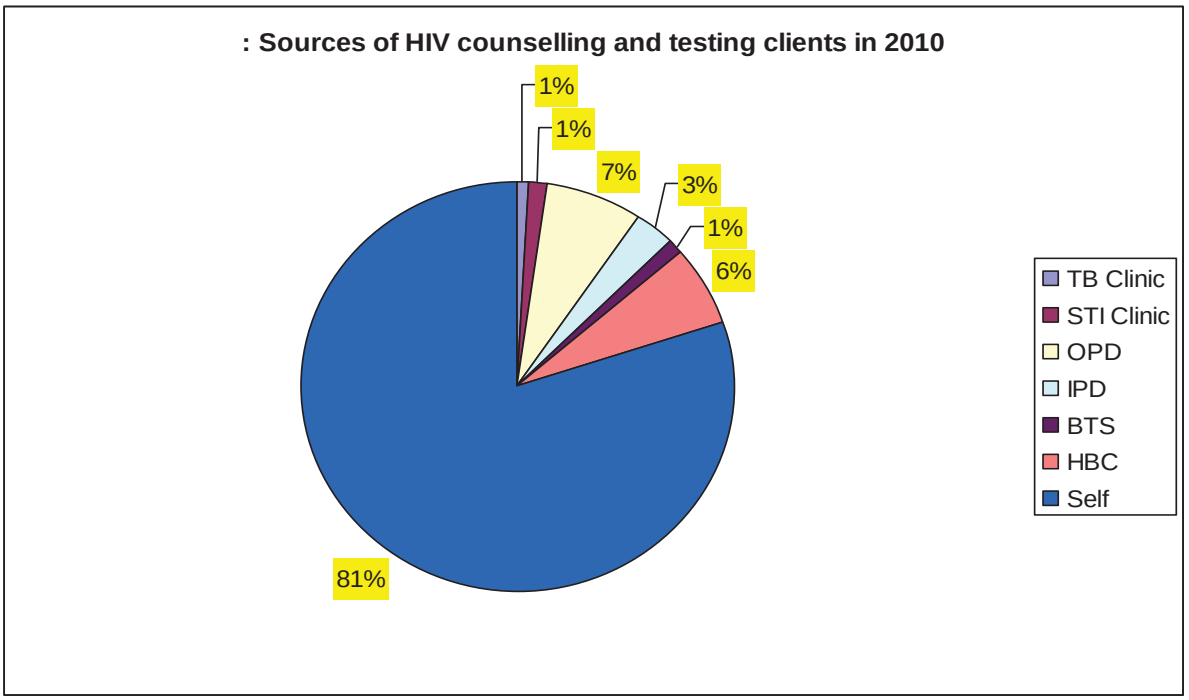


Figure 4.1.2: Sources of HIV Testing and Counselling clients in 2010



4.1.6 REFERALS OF HTC CLIENTS TO OTHER SERVICES

During the year 2009, a total of 136,687 were referred from HTC services to various clinics. Majority (77%) of these clients were referred to HIV care and treatment services while TB clinics constituted the least (3.4%) referral point. The remaining clients were referred to PMTCT (9.2%) and other services (10.4%) e.g. legal support and post-test clubs (Table 4.5).

The same table shows that in the year 2010, a total of 112,732 HTC clients were referred to various clinics. As for 2009, majority (75.4%) of these clients were referred to HIV care and treatment services. There was a slight decrease of referrals to PMTCT (7.8%) and TB (3.2%) but referrals to other services increased to 13.6%.

	CARE AND TREATMENT CENTRE		PMTCT CENTRE		TB CLINIC		OTHER SERVICES	
REGION	**2009**	**2010**	**2009**	**2010**	**2009**	**2010**	**2009**	**2010**
Arusha	2249	610	52	31	13	13	81	134
Coast	4791	2,411	850	461	336	160	163	248
Dar es Salaam	22,055	21,918	2,010	1,440	1637	1,229	1211	1,269
Dodoma	4691	7207	761	267	241	468	827	498
Iringa	14790	7550	1000	218	663	375	2795	7672
Kagera	2512	1690	541	695	81	107	543	185
Kigoma	1591	755	60	3	12	4	2	0
Kilimanjaro	505	75	0	0	0	0	0	0
Lindi	3041	2438	98	945	48	98	16	107
Manyara	674	755	117	39	89	60	80	91
Mara	363	3358	0	243	22	10	0	6
Mbeya	18845	17573	1928	886	251	533	130	227
Morogoro	2748	5048	1573	725	325	315	416	336
Mtwara	277	1513	0	83	0	137	0	149
Mwanza	5164	2100	192	72	7	4	0	2
Rukwa	1888	3159	25	139	68	90	2	55
Ruvuma	3860	2101	110	3	212	11	3	2
Shinyanga	4687	210	525	11	13	0	250	0
Singida	1,661	3070	1,765	349	190	8	7,678	4392
Tanga	8574	974	340	8	381	1	26	5
Tabora	287	476	675	2122	0	0	0	0
TOTAL	**105,253**	**84,991**	**12,622**	**8,740**	**4,589**	**3,623**	**14,223**	**15,378**

4.2 PRESIDENT'S NATIONAL HIV TESTING AND COUNSELING 2007 – 2008

4.2.1 Introduction

The Ministry of Health and Social Welfare through the National AIDS Control Programme (NACP) coordinated the country-wide President's Campaign on HIV testing and counseling (HTC) which took place from July 2007 to June 2008. Prior to the campaign, the monitoring and evaluation system for HTC, which was undergoing revision were finalized and rolled out for use in collection and reporting during the campaign. The system requires monthly reporting of aggregated HTC data through the districts and regions to reach the national level by 21st of the following month. However, the Ministry of Health and Social Welfare was not able to wait for all this period before reporting the implementation progress to the President. Consequently, throughout the campaign period, NACP

requested data from the Regional AIDS Control Coordinators using telephones almost every two weeks. This resulted in only limited information which lack required details for programming by various stakeholders and partners being transmitted to NACP. After the campaign, it was expected that data will flow through the recommended channel to reach the NACP but this did not happen. An attempt to find out where the data was stuck during supportive supervision of HTC campaign, it was recognized that, service provision facilities submitted reports to the district level every month. On receipt of the reports, most districts did not aggregate the data to generate reports, resulting in an interrupted data flow at that level.

After the campaign, programmers in HTC and other programmes including HIV care and treatment, organizations serving children and old people; managers and policy and decision makers in various levels, including the highest policy level are demanding detailed information on the characteristics of users of campaign services. The required information may only be provided in the form of HTC programme indicators which were captured in the monthly reporting form

4.2.2 Objectives

General objective

To produce detailed report of the President's six months national HTC campaign

Specific objectives

1. To identify or develop a testing and counseling database and install at districts, regional and national-levels
2. To train regional focal points from all 21 regions in data entry and analysis functions of the database
3. To establish data entry, production of reports and data file export activities in all districts
4. To generate a national HTC report for the period July 2007 to April 2008, stratified by geographic location and periods of campaign implementation focusing on the following indicators, disaggregated by sex and age groups <15years, 15 – 24 yrs, 25 – 34yrs, 35 – 49yrs and 50+yrs:
    - Total number (new and re-attendances) of clients counselled and tested
    - Number of new clients counselled and tested
    - Number of new clients agreed to test for HIV
    - Number of new clients post-test counselled and received results
    - Number of new clients who are HIV positive
    - Number of return/follow up visit clients pre-test counselled
    - Number of return/follow up visit clients agreed and tested for HIV
    - Number of return/follow up visit clients post-test counseled and received results
    - Number of return/follow up visit clients HIV positive
    - Number of clients saying they will disclose test results to sexual partner(s)

4.2.3 Methods

The MOH&SW requested regions to identify two regional staff who worked with the national-level staff in executing collection of HTC campaign data in the region. The two regional staff from each of the 21 regions were given a refresher training covering HTC recording and reporting including tools, data compilation/summarization from registers to summary/report forms, manual data aggregation at district and regional levels, installation of HTC database, functions and use of the database including

entry of facility-based summaries to generate district-level report, and data export to generate copies of entered data for transfer to higher level.

Letters of invitation to the training which consisted of detailed information of the activity as well as list of facilities that provided HTC services during the campaign were sent to the Regions and Districts Medical Officers.

The national testing and counseling database was identified for use in this activity. The database was copied in 21 CDs and distributed to every region during the training for installation into the districts computers earmarked for testing and counseling data handling. On the last day of training, each team of regional trainees with assistance from the facilitators developed a regional implementation work plan comprising mainly of schedule of work in each districts in the region.

When the training was completed, the trainees returned to their respective regions and started implementation of the agreed work plan. The first activity was sorting the campaign data by months and facilities, identification and verification of data issues including gaps and inconsistencies with the originating facilities. Reports that were implausible were returned to the respective facility for review and correction using the facility VCT registers. Following approval of facility reports, data entry started. At the completion of data entry at the district, the regional facilitator generated export files for adding to the regional VCT database.

Following inclusion of data from all regional districts to the region database, the regional facilitators produced regional-level export file and sent to NACP where the national database was developed. National-level staffs were deployed to all regions to support implementation of activities.
At the NACP, receipt of export files from all regions was followed by a data analysis workshop where the indicators were produced, reviewed and agreed by the data analysis team for making up a national report for dissemination.
Prior to the actual implementation of the activity, a pilot was conducted in Coast, Morogoro and Tanga with the objectives of learning the strength and weaknesses of the protocol as well as data availability issues. The lessons learnt from this pilot were used to fine-tune the methods.

4.2.4 Results

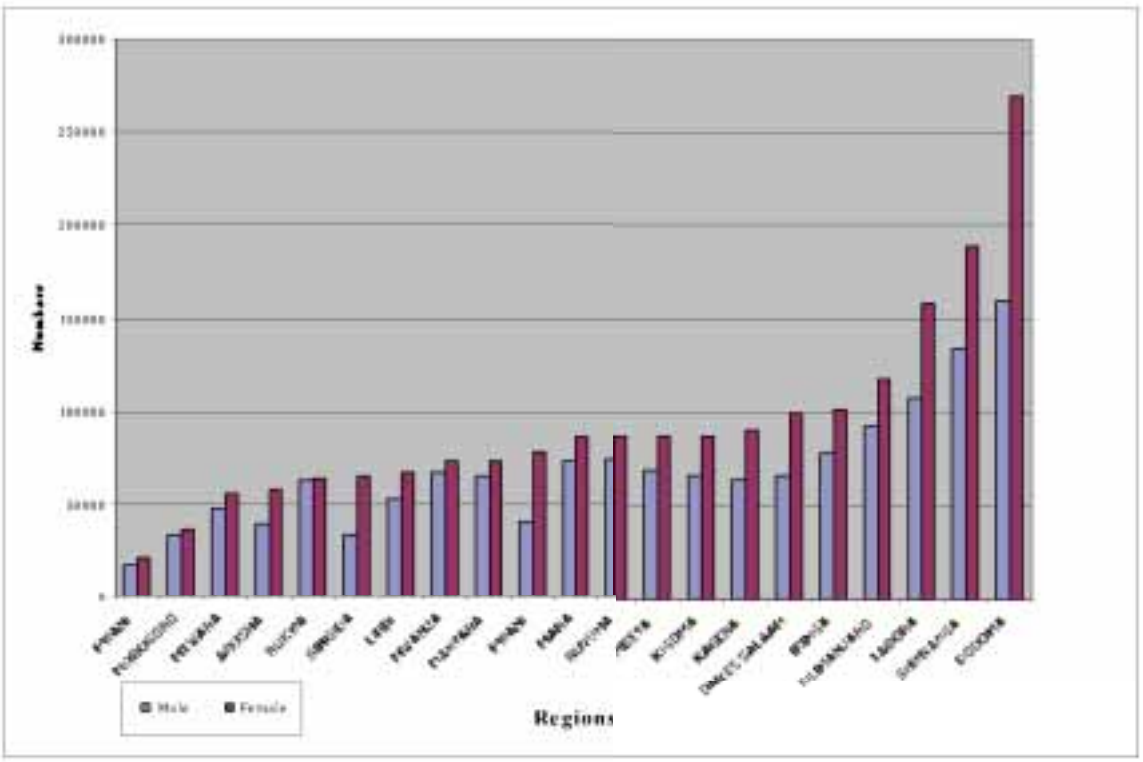
HIV testing and counseling campaign was launched in Dar es Salaam by His Excellence Jakaya Mrisho Kikwte, the President of the United Republic of Tanzania on 14th July 2007. This was followed by regional launching in batches, as shown in the table 1:

Table 1: Presidents' HTC campaign regions launching dates; Tanzania 2007 - 2008

Regions	**Date of launching**
Manyara, Arusha, Kilimanjaro, Tanga, Coast, Lindi and Mtwara	8th September 2007
Kagera, Mwanza, Mara, Shinyanga, Singida, Dodoma, Tabora and Kigoma	22nd September 2007
Iringa, Mbeya, Rukwa, Ruvuma and Morogoro	06th October 2007

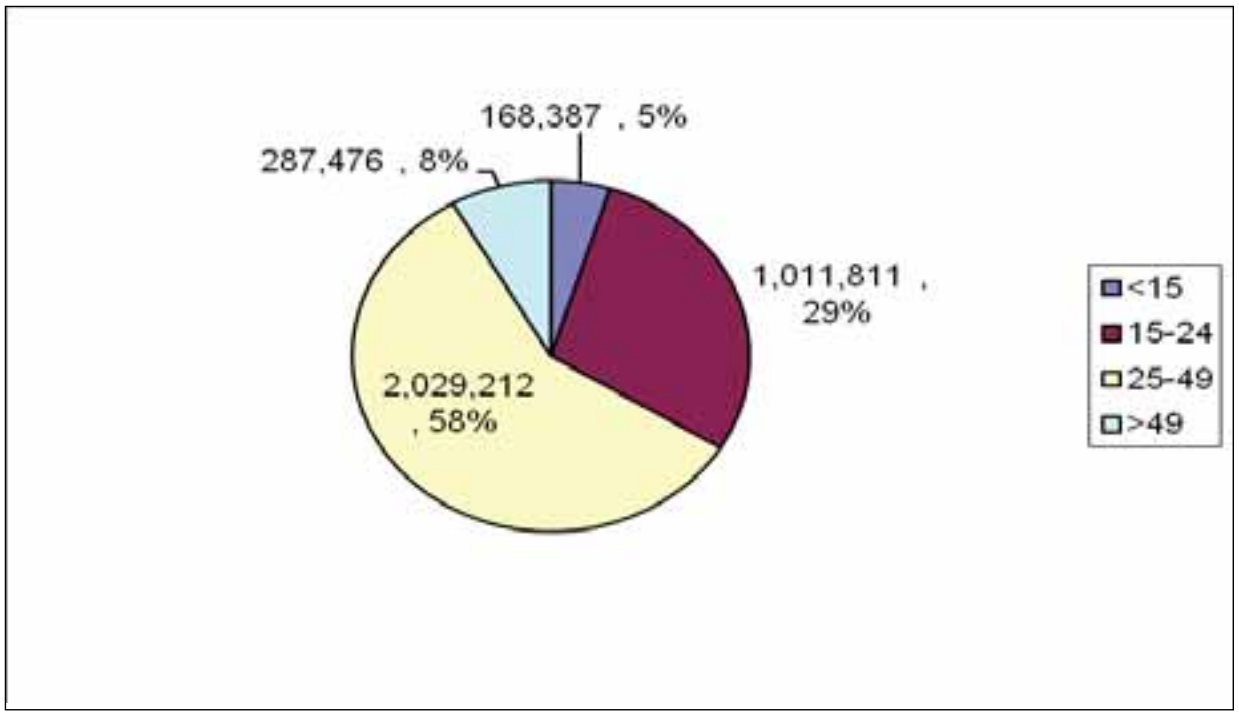
The Campaign period lasted for about 12 months from 14th July 2007 to 30th June 2008. During this period, a total of 3,523,821 new clients were pre-test counseled. Of these 3,496,886 (99%) were post-test counseled and given HIV test results. Clients who were post – test counseled and received results ranged from 38,755 in Coast region to 429,792 in Dodoma region, figure 1. Overall, majority (58%) of clients who were post-test counseled and received results were women, giving a female to male ratio of 1.4, which is consistent with female to male ratio of the overall national HIV prevalence of 6.6% in women to 4.4% in men (1.4). Age group 25 – 49 years contributed 58% (2,029,212) of all clients who were post test counseled and given test results while age groups below 15 years, 15 – 24 and >49 years contributed about 5.1% (168,387) 29.0% and 8% respectively.

Figure 4.2.1: Distribution of campaign clients who were post-test counseled and given HIV test results by regions



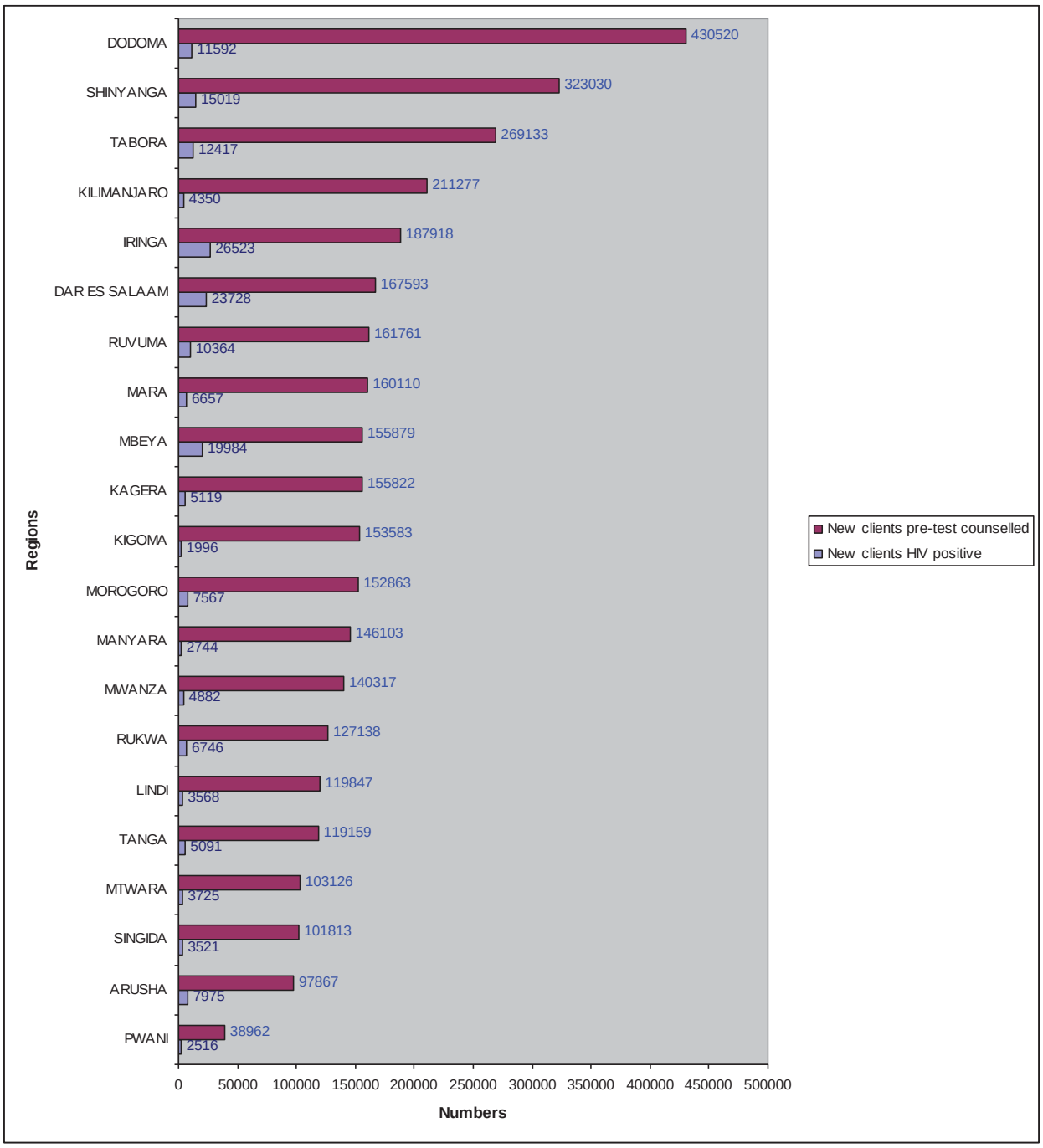
A total of 1,180,198 clients who were post-test counseled and received HIV results were below 25 years. Of these, 168,387 (14.3%) were below 15 years and the remaining 1,011,811 (85.7%) were 15 – 24 years. Age distribution of all clients post test counseled and given HIV test results is provided in figure 2.

Figure 4.2.2: Age distribution of clients who were post test counseled and given HIV test results, Tanzania 2007 - 2008



The campaign identified a total of 186,084 (5%) persons who were infected with HIV. Of these, 115,882 (62%) were females, 42,573 (22.9%) were below 25 years old and 6,596 (0.2%) below 15 years old. Distribution of HIV prevalence by regions is provided in figure 3. By December 2008, the National HIV Care and Treatment had enrolled a cumulative total of 403,378 clients in HIV care and 202,181 in ART. Assuming that all HIV infected persons who were identified by the campaign were enrolled in care, it contributed 46.1% and 37,217 (18%) of enrolment in care and in ART respectively. Regional distribution of new clients pre-test counseled during the campaign and those found HIV positive is provided in figure 3. Data on the utilization of campaign services by regions, districts, age and sex are provided in the annex.

Figure 4.2.3: Regional distribution of new clients pre-test counseled and tested during the campaign and found HIV positive



Chapter Five

SURVEILLANCE OF OTHER STIs

5.1 Introduction

Infections with Sexually Transmitted pathogens other than HIV impose enormous burden of morbidity and mortality. This can be both directly through their impact on quality of life, reproductive and child health and indirectly through their role in facilitating the sexual transmission of HIV and their impact on national and individual economy. The occurrence of HIV and AIDS has made it more crucial to strengthen the Sexually Transmitted Infections (STIs) prevention and control due to the strong evidence of association between classical STIs and HIV infections.

5.2 Progress

Improved STI case management is currently available in all public hospitals, health centers and 70% of dispensaries. There has been an increase of facilities handling STIs services from 53 facilities in 12 regions in 1995 to over 3,617 facilities in 2010 (70% of all public facilities). The coverage of STI services in the facilities owned by the private sector still remain low, however, more efforts is directed on improving it. Nevertheless, according to Tanzania Demographic Health Survey (DHS) 2004-2005, about 11% of the sexual population contract STIs annually whereas only 60% of them utilize the existing STIs services. National Multisectoral Strategic Framework (NMSF) 2008-2012 indicated more than 400,000 patients with STIs were reported to have been diagnosed and treated in the health facilities in 2006

There has been a decline of levels of prevalence of syphilis in ANC attendees from 6.9% in 2005 to 4.2% in 2008 (Surveillance of HIV and syphilis infections 2005 and 2008).

Condom programming has been promoted as another key strategy for prevention of sexual transmission of HIV and other STIs. 46% of women and 49% of men aged 15 -24 years used a condom at last higher-risk sexual intercourse (*Tanzania HIV and Malaria Indicator Survey – THMIS 2007-2008*). The results show a slight increase in condom use compared to the previous study where 42% of women and 47% of men aged 15-24 years used condoms at last higher-risk sexual intercourse (*Tanzania Health Indicator Survey – THIS 2003-2004*).

A total of 9406 Health Care Providers have been trained in STI/Reproductive Tract Infections. However, over 764 Health Care Workers from Antenatal Clinics trained in management of syphilis in pregnancy. (NACP,HSHSPII 2008-12)

Furthermore, there has been a new development in the management of STIs under the International Community. World Health Organization (WHO) released a Global Strategy for the prevention and control of STIs 2006 – 2015. Following recommendations from WHO the Ministry of Health and Social Welfare in 2007 developed a comprehensive National Guidelines for the Management of Sexually Transmitted and other Reproductive Tract Infections (STIs/RTIs)". These guidelines are in use all over the country. Subsequently, STI Monitoring Tools were revised and disseminated to the regions.

5.3 Challenges

Despite these notable achievements, there have been some challenges that hinder the progress of the STI programme, these are as follows:

Partner notification has been a problem in Tanzania, observation shows only single partner turn up for treatment . Partners have been characterized by self medication, denial of the infection, unfaithfulness which lead to re-infection and increase the spread of STIs in the community. A person who is successfully treated for an STI will experience relief of symptoms, but may return later with re-infection if sexual partner(s) are not treated. Such partner(s) may or may not have symptoms and if untreated may continue to spread infection to others in the community.

Poor data management has been observed in various health facilities throughout the country. This has been contributed by several factors including shortage of staff by number and skills, heavy work load (many forms to fill), irregular supportive supervision, poor motivation and low commitment for responsible health staff.

Limited resources for training District managers and health care workers in newly developed STI/RTI guidelines.

Shortage of Health Care Workers at the facility level compared with an increase of HIV interventions has resulted into displacement of previously trained Health Care Workers s from the STI clinics to other HIV services such as PMTCT, Care and Treatment and VCT

Quality of STI Case Management

It has been observed that there are Problems related to history taking and physical examination such as patients are reluctant to provide straight forward information regarding the symptoms of STI. This is due to fear among patients that they might expose their sexual life. Nevertheless, poor documentation of patients' information, shifting from one place to another, shortage of Health Care Workers , poor infrastructures such as roads.In addition there is an inadequate supportive supervision in all levels of health system that's from National to facility

STI drugs and other supplies are untimely ordered and distributed due to poor logistic management. The existing drugs ordering and supply system, is under performing lead into frequently drugs and supplies stock-outs. The system is formed by complex structures, procedures and operates under different autonomous.

Services and information to vulnerable groups such as Commercial Sex Workers, Uniformed forces, Miners, Youths, Prisoners and Injecting Drug users is very limited.

5.4 Methods

Sites for STI surveillance include hospitals, health centres and dispensaries that provide comprehensive STI care and treatment in Tanzania. Methods of surveillance have involved the development of a special data collection tools that is distributed to surveillance sites to collect the needed data. The forms are used to collect aggregated data, which includes, number of new episodes of STI syndromes, number of treated cases by type and location of facility, type of STI by gender and by age group (<20, 20-29 and 30+yrears).

The collection form also records data about re-treatment and number of contacts traced. This aggregated data is recorded by age-groups,sex and type of Indicators enhance further analysis at a national level. The aggregated data is reported at monthly intervals by submitting the dully-filled forms to NACP through the respective District and Regional Medical Officers for data processing and compilation of a report at the end of each year. The received data is entered into Microsoft Access database before they are finally exported to the SAS software for analysis to produce the required tables and figures.

5.5 Results

5.5.1 Surveillance of other STIs for the year 2009

During the year 2009, a total of 188611 episodes were reported by STI clinics of health facilities throughout the country. Of these episodes, 61844 (32.8%) were genital discharge syndromes, 88541 (46.9%) were genital ulcer diseases, 16713 (8.9%) were pelvic inflammatory diseases, 10079 (5.3%) were VDRL/RPR positive and the rest 11434 (6.1%) were reported as other syndromes (Table 5.1).

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Table 5.1 Distribution of reported new STI episodes by agegroups, sex and syndromes, Tanzania, 2009

	MALE						FEMALE						ALL					
STI/Age Group	**<15**	**15-24**	**25-34**	**35-49**	**>=50**	**TOTAL**	**<15**	**15-24**	**25-34**	**35-49**	**>=50**	**TOTAL**	**<15**	**15-24**	**25-34**	**35-49**	**>=50**	**TOTAL**
Number of new clients with Genital Discharge syndrome	233	5459	8247	7232	2777	23948	2782	7949	16035	8197	2933	37896	3015	13408	24282	15429	5710	61844
Number of new clients with Genital Ulcer Disease	185	4264	7480	26797	2618	41344	276	6101	5343	11153	24324	47197	461	10365	12823	37950	26942	88541
Number of new clients with Pelvic Inflamatory diseases							264	4223	6711	4605	910	16713	264	4223	6711	4605	910	16713
Number of new clients with VDRL/RPR +VE	78	631	1362	1204	401	3676	144	1829	2661	1418	351	6403	222	2460	4023	2622	752	10079
Number of new clients with other STIs	326	1171	1700	1486	584	5267	349	1735	2273	1398	412	6167	675	2906	3973	2884	996	11434
Total Episodes	822	11525	18789	36719	7290	74235	3815	21837	33023	26771	28930	114376	4637	33362	51812	63490	35310	188611

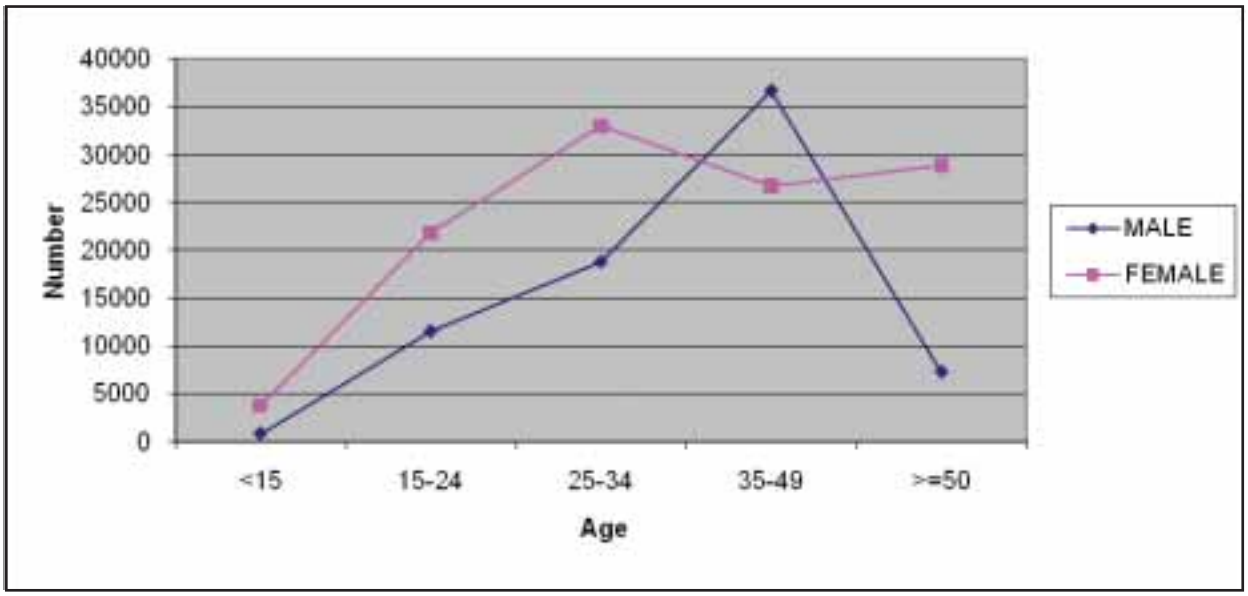
The regional distribution of these new episodes by age groups, sex and syndromes is shown in Table 5.2. Overall, regions reporting the highest number of episodes included Kilimanjaro (94134), Kagera (19807), Mbeya (17859), Singida (15695), Iringa (9817) and Ruvuma (8370), in decreasing order. The smallest number of episodes was reported from Coast region (169), Tanga (1,713) and Tabora (2394), a apart from those regions which didn't report.

Table 5.2: Distribution of reported new STI episodes by age groups, sex, syndromes and regions, Tanzania, 2009.

	SEX	GDS						GUD						PID						VDRL/RPR+VE						OTHERS					
REGION	AGE GROUP	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL
ARUSHA	Male	5	148	261	189	71	674	1	18	38	22	5	84							4	5	13	20	2	44	16	23	36	36	14	125
	Female	19	288	384	186	33	910	8	26	38	28	5	105	2	141	237	125	29	534	6	44	55	34	9	148	21	113	111	72	10	327
COAST	Male	0	9	11	9	2	31	4	4	5	4	2	19							4	0	2	0	1	7	0	0	1	0	2	3
	Female	0	24	20	10	0	54	0	2	2	1	0	5	3	3	17	10	2	35	0	5	4	1	0	10	0	1	3	1	0	5
DODOMA	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAR-ES-SA-LAAM	Male	16	93	120	63	15	307	2	60	63	34	8	167							0	31	45	24	3	103	3	67	45	50	12	177
	Female	16	257	234	123	31	661	2	64	72	36	6	180	9	273	303	168	50	803	1	39	50	35	1	126	3	90	97	48	11	249
IRINGA	Male	42	332	597	511	75	1557	16	160	369	374	57	976							7	103	275	252	57	694	26	127	248	216	96	713
	Female	33	499	605	458	52	1647	16	269	414	312	26	1037	28	344	662	521	68	1623	9	211	380	283	21	904	35	152	245	192	42	666
KAGERA	Male	42	785	1438	1064	320	3649	26	282	543	458	93	1402							14	96	320	352	61	843	84	262	422	324	101	1193
	Female	77	1309	1563	924	202	4075	44	558	564	330	87	1583	50	1168	1707	1108	168	4201	11	424	696	267	47	1445	84	419	560	289	64	1416
KIGOMA	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KILIMANJARO	Male	0	2240	2546	3182	1752	9720	0	2290	4210	15414	2047	23961							1	1	26	19	0	47	29	17	19	11	12	88
	Female	2415	2253	9211	4406	2256	20541	2	3619	2187	9254	23924	38986	6	110	188	159	39	502	0	11	93	14	2	120	10	58	65	27	9	169
LINDI	Male	27	333	517	329	72	1278	35	534	565	316	123	1573							7	80	104	86	18	295	14	128	155	171	41	509
	Female	34	404	443	199	43	1123	30	314	388	220	59	1011	37	395	549	386	70	1437	24	137	200	110	18	489	14	134	155	80	51	434
MANYARA	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MARA	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MBEYA	Male	33	710	1277	820	200	3040	30	424	909	617	164	2144							6	150	250	197	83	686	52	177	291	233	91	844
	Female	79	1283	1583	648	120	3713	47	707	863	476	88	2181	35	726	1215	755	134	2865	16	445	549	278	59	1347	58	280	386	238	77	1039
MOROGORO	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MTWARA	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MWANZA	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUKWA	Male	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RUVUMA	Male	19	329	483	311	85	1227	34	308	348	269	51	1010							17	96	149	112	123	497	44	101	118	123	60	446
	Female	25	561	602	299	76	1563	55	237	302	175	41	810	26	367	506	410	146	1455	35	250	313	160	130	888	40	135	166	99	34	474
SINGIDA	Male	14	191	449	360	111	1125	6	55	138	9151	49	9399							0	32	59	55	18	164	42	175	266	218	110	811
	Female	32	399	574	441	69	1515	12	88	176	189	63	528	16	188	332	293	81	910	0	63	110	105	26	304	63	217	314	245	100	939
SHINYANGA	Male	2	149	393	214	45	803	4	51	150	96	9	310							7	20	61	30	3	121	8	26	34	38	6	112
	Female	16	383	496	279	20	1194	14	107	161	74	6	362	32	362	592	391	46	1423	4	106	110	46	4	270	12	52	73	50	0	187
TABORA	Male	31	68	63	130	15	307	26	57	98	21	3	205							11	9	37	33	28	118	6	39	44	33	27	149
	Female	34	141	129	141	25	470	42	85	120	39	12	298	20	45	205	149	15	434	37	62	55	66	31	251	7	55	60	31	9	162
TANGA	Male	2	72	92	50	14	230	1	21	44	21	7	94							0	8	21	24	4	57	2	29	21	33	12	97
	Female	2	148	191	83	6	430	4	25	56	19	7	111	0	101	198	130	62	491	1	32	46	19	5	103	2	29	38	26	5	100
TOTAL		**3015**	**13408**	**24282**	**15429**	**5710**	**61844**	**461**	**10365**	**12823**	**37950**	**26942**	**88541**	**264**	**4223**	**6711**	**4605**	**910**	**16713**	**222**	**2460**	**4023**	**2622**	**754**	**10081**	**675**	**2906**	**3973**	**2884**	**996**	**11434**

Figure 5.1 show the distribution of all reported episodes of STIs by age groups and sex, whereby, consistently with the trend in previous years, the highest number of STI syndromes was reported in the age group of 25-34 years among females and 35-49 years among males.

Figure 5.1: Total reported new STI episodes by age groups and sex, Tanzania Jan-Dec 2009

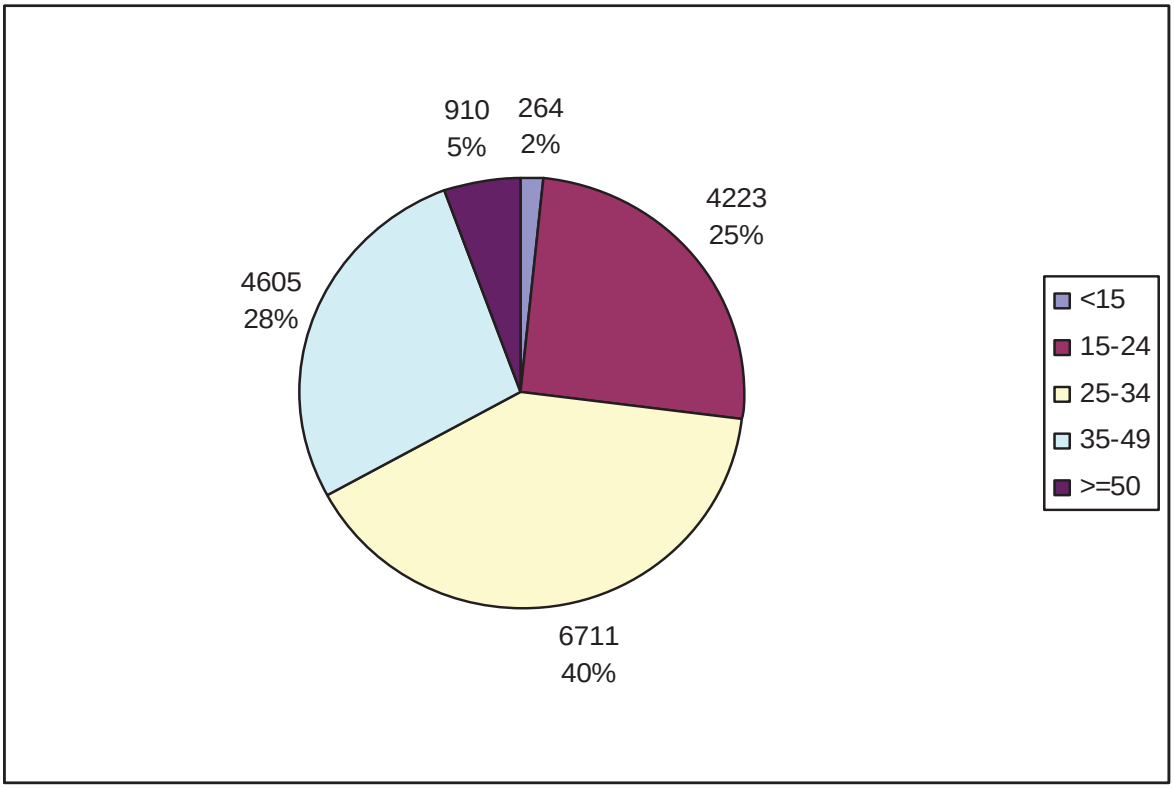


Further analysis (table 5.3) below summarizes the information from each region indicating number of reported STI cases who were re-treated, contacted, counseled and advised on condom use, linked to HIV counseling and testing, and clients referred from other services.

Table 5.3: Distribution of re-treatments,contacts,counselled and adviced on condom use,linked to HIV counselling and testing,and clients referred from other services,Tanzania,January- December 2009

		Number of Epsodes re-treated-2nd line	Number of Epsodes re-treated-3nd line regimen	Number of Epsodes reffered for 3rd line regimen	Number of contact treated	Number of clients counselled and advised on condom use	Number of clients linked to hiv counselling and testing	Number of clients reffered from other services
REGION	**SEX**							
ARUSHA	Male	46	9	2	179	599	512	107
	Female	83	13	4	360	1073	1043	248
COAST	Male	4	0	4	19	42	35	6
	Female	1	0	4	30	120	88	36
DODOMA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
DAR-ES-SALAAM	Male	102	50	53	345	666	328	137
	Female	154	56	55	262	1424	650	248
IRINGA	Male	96	3	39	705	2734	2082	761
	Female	113	3	3	899	3756	2933	1135
KAGERA	Male	614	79	69	4956	23581	14218	5652
	Female	950	84	62	6072	27855	24467	8633
KIGOMA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
KILIMANJARO	Male	36	6	7	233	963	591	95
	Female	100	14	5	334	2023	1712	291
LINDI	Male	828	55	2	1427	3658	3055	2688
	Female	828	42	6	1681	3944	3561	3128
MANYARA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
MARA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
MBEYA	Male	1188	83	26	1644	4965	2509	1836
	Female	1804	150	40	2004	7315	4187	3242
MOROGORO	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
MTWARA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
MWANZA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
RUKWA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
RUVUMA	Male	248	212	130	1037	2198	1506	822
	Female	262	169	152	1028	3377	2583	1065
SINGIDA	Male	345	9	14	569	2012	1178	266
	Female	465	8	5	836	3012	1885	410
SHINYANGA	Male	28	3	4	739	1100	940	463
	Female	86	14	7	1169	2545	2253	1097
TABORA	Male	148	1	1	175	202	209	160
	Female	176	3	4	670	246	183	226
TANGA	Male	46	0	4	92	359	55	35
	Female	74	3	8	96	715	160	49
TOTAL		**8825**	**1069**	**710**	**27561**	**100484**	**72923**	**32836**

Figure 5.4: Distribution of New Cases of Pelvic Inflammatory Diseases by Age Groups among Females, Tanzania 2009



5.5. 2. Surveillance of other STIs for the year 2010

During the year 2010, a total of 243944 episodes were reported by STI clinics of health facilities throughout the country. Of these episodes90499 (37.1%) were genital discharge syndromes, 39230 (16.1 %) were genital ulcer diseases, 48892 (20.0%) were pelvic inflammatory diseases, 32490 (13.3%) were VDLR/RPR positive and the rest 32833 (13.5%) were reported as other syndromes (Table 5.4).

Table 5.4: Distribution of reported new STI episodes by age groups, sex and syndromes, Tanzania, 2010.

STI/Age Group	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL
Number of new clients with Genital Discharge syndrome	1083	8717	13489	11087	4665	39041	1758	16108	18838	10940	3814	51458	2841	24825	32327	22027	8479	90499
Number of new clients with Genital Ulcer Disease	720	4191	6652	4892	2183	18638	1026	5559	6912	5128	1967	20592	1746	9750	13564	10020	4150	39230
Number of new clients with Pelvic Inflamatory diseases							1512	11202	17280	13956	4942	48892	1512	11202	17280	13956	4942	48892
Number of new clients with VDRL/RPR +VE	783	2243	3727	3188	3354	13295	920	4529	6075	4159	3512	19195	1703	6772	9802	7347	6866	32490
Number of new clients with other STIs	1433	3324	4134	3852	1761	14504	1471	5786	5361	4103	1608	18329	2904	9110	9495	7955	3369	32833
Total Episodes	4019	18475	28002	23019	11963	85478	6687	43184	54466	38286	15843	158466	10706	61659	82468	61305	27806	243944

The regional distribution of these new episodes by age groups, sex and syndromes is shown in Table 5.5. Overall, regions reporting the highest number of episodes included Kilimanjaro (33359), Dodoma (33265), Shinyanga (20293), Arusha (17652), in decreasing order. The smallest number of episodes was reported from Tanga (1834) and Kagera (2911).

Table 5.5: Distribution of reported new STI episodes by age groups, sex, syndromes and regions, Tanzania, 2010

	SEX	GDS						GUD						PID						VDRL/RPR+VE						OTHERS					
REGION	AGE GROUP	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL	<15	15-24	25-34	35-49	>=50	TOTAL
ARUSHA	Male	39	928	1252	1774	1032	5025	8	122	110	65	32	337							2	26	43	16	6	93	27	53	129	50	40	299
	Female	120	1761	2991	1519	333	6724	35	109	159	153	24	480	108	399	1716	959	172	3354	12	26	50	40	2	130	23	966	110	82	29	1210
COAST	Male	31	405	644	451	115	1646	21	254	330	217	60	882							4	0	2	0	1	7	0	0	1	0	2	3
	Female	66	1098	1009	456	126	2755	17	195	245	170	28	655	57	530	812	559	195	2153	3	49	111	94	23	280	25	169	202	157	85	638
DODOMA	Male	256	970	1372	1259	530	4387	137	519	996	751	458	2861							206	449	655	689	352	2351	216	523	588	597	357	2281
	Female	338	1354	1727	1650	666	5735	220	807	1091	972	498	3588	239	1218	1917	1708	472	5554	264	818	1054	912	481	3529	302	672	820	789	396	2979
DAR-ES-SALAAM	Male	214	1280	1823	1195	939	5451	40	238	373	257	70	978							190	614	797	660	362	2623	3	67	45	50	12	177
	Female	256	2555	2446	565	887	6709	40	262	281	256	33	872	162	1082	1222	677	207	3350	17	88	196	91	31	423	176	299	247	338	75	1135
IRINGA	Male	23	395	736	506	222	1882	34	251	462	337	160	1244							59	224	336	225	126	970	99	239	324	235	170	1067
	Female	48	679	812	435	158	2132	52	386	533	334	153	1458	131	895	1228	745	272	3271	67	305	529	283	138	1322	111	421	457	273	167	1429
KAGERA	Male	6	124	197	163	54	544	4	57	94	57	16	228							12	29	42	20	15	118	15	30	57	29	20	151
	Female	13	249	257	134	26	679	7	84	104	44	11	250	2	163	233	163	26	587	3	65	73	23	7	171	6	56	82	25	14	183
KILIMANJARO	Male	256	970	1372	1259	530	4387	137	519	996	751	458	2861							206	449	655	689	352	2351	216	523	588	597	357	2281
	Female	338	1445	1727	1650	666	5826	220	807	1091	972	498	3588	239	1218	1917	1708	472	5554	264	818	1054	915	481	3532	302	672	820	789	396	2979
LINDI	Male	64	211	375	200	80	930	97	266	333	241	175	1112							86	150	190	173	1450	2049	213	254	134	279	58	938
	Female	124	242	263	144	167	940	131	256	285	227	169	1068	100	290	384	1622	1445	3841	87	195	244	204	1445	2175	58	287	130	90	956	1521
MANYARA	Male	11	191	297	258	73	830	1	27	55	40	10	133							0	14	18	19	3	54	17	66	84	49	27	243
	Female	25	341	429	253	59	1107	2	40	52	48	15	157	30	168	222	124	30	574	3	43	37	20	5	108	17	98	114	84	25	338
MBEYA	Male	14	499	860	539	126	2038	11	279	516	398	124	1328							6	68	141	156	32	403	30	113	214	179	35	571
	Female	34	965	978	513	119	2609	19	450	561	304	65	1399	26	642	941	584	115	2308	5	242	337	187	31	802	28	230	211	149	41	659
MOROGORO	Male	18	456	587	443	108	1612	17	288	377	226	66	974							8	79	219	158	42	506	24	163	241	192	61	681
	Female	49	859	979	543	143	2573	25	337	436	273	65	1136	65	953	1476	892	205	3591	17	315	370	246	46	994	32	231	391	282	63	999
MTWARA	Male	34	284	469	319	93	1199	96	209	226	151	47	729							4	134	234	88	57	517	100	180	150	131	25	586
	Female	57	310	322	228	40	957	62	176	173	119	38	568	129	416	498	396	60	1499	4	184	239	145	74	646	98	217	152	106	30	603
MWANZA	Male	31	45	77	48	25	226	26	60	79	75	52	292							26	50	61	62	453	652	19	19	27	125	20	210
	Female	49	89	107	51	61	357	43	97	87	74	48	349	34	122	116	528	449	1249	25	193	177	94	454	943	23	145	31	36	23	258
RUKWA	Male	4	183	294	194	70	745	10	101	200	154	57	522							7	40	68	80	42	237	21	71	122	116	52	382
	Female	15	512	415	299	82	1323	25	174	227	185	65	676	22	334	416	371	98	1241	13	112	150	104	39	418	32	149	167	133	44	525
RUVUMA	Male	13	430	717	563	140	1863	21	357	455	321	91	1245							11	100	135	102	12	360	33	130	195	150	51	559
	Female	39	801	921	526	56	2343	20	298	376	227	26	947	22	568	801	540	66	1997	20	200	277	133	7	637	33	219	276	162	26	716
SINGIDA	Male	8	229	446	411	146	1240	2	69	146	120	50	387							83	18	89	61	108	359	6	41	64	76	27	214
	Female	9	502	648	421	104	1684	5	113	190	95	37	440	16	241	366	309	114	1046	2	82	153	69	23	329	13	89	137	92	20	351
SHINYANGA	Male	17	699	1243	830	217	3006	12	290	517	430	188	1437							23	162	303	321	110	919	91	247	351	319	129	1137
	Female	69	1497	1695	884	0	4145	33	595	620	397	114	1759	57	1211	1967	1309	292	4836	59	469	621	396	81	1626	101	367	455	396	109	1428
TABORA	Male	39	290	545	536	95	1505	27	190	282	231	54	784							19	69	172	117	129	506	78	128	332	122	88	748
	Female	93	599	863	537	99	2191	54	298	326	226	67	971	45	516	785	563	213	2122	44	200	296	162	137	839	24	127	170	126	43	490
TANGA	Male	1	49	83	74	21	228	0	22	34	38	5	99							1	8	6	5	2	22	6	39	49	71	53	218
	Female	5	176	187	82	11	461	1	28	27	23	5	84	2	143	161	124	19	449	5	7	24	9	2	47	3	76	79	54	14	226

Figure 5.2 show the distribution of all reported episodes of STIs by age groups and sex, whereby, consistently with the trend in previous years, the highest number of STI syndromes was reported in the age group of 25-34 years for both males and females.

Figure 5.2: Total reported new STI episodes by age groups and sex, Tanzania Jan-Dec 2010

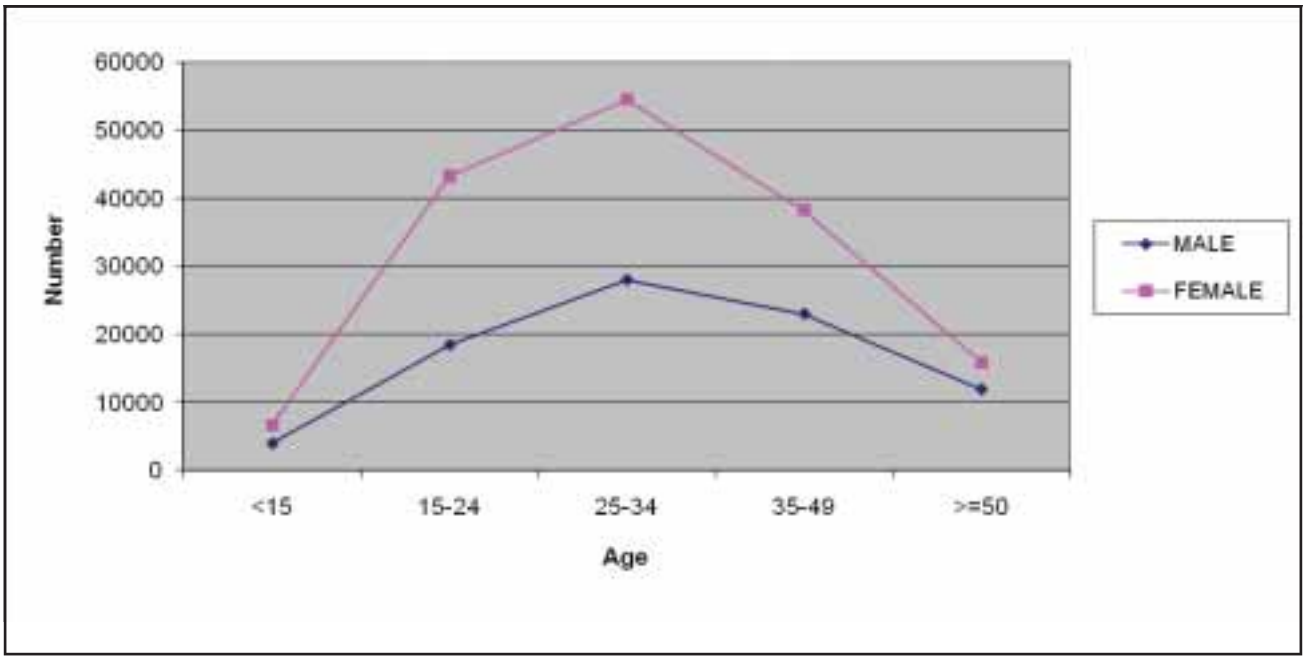
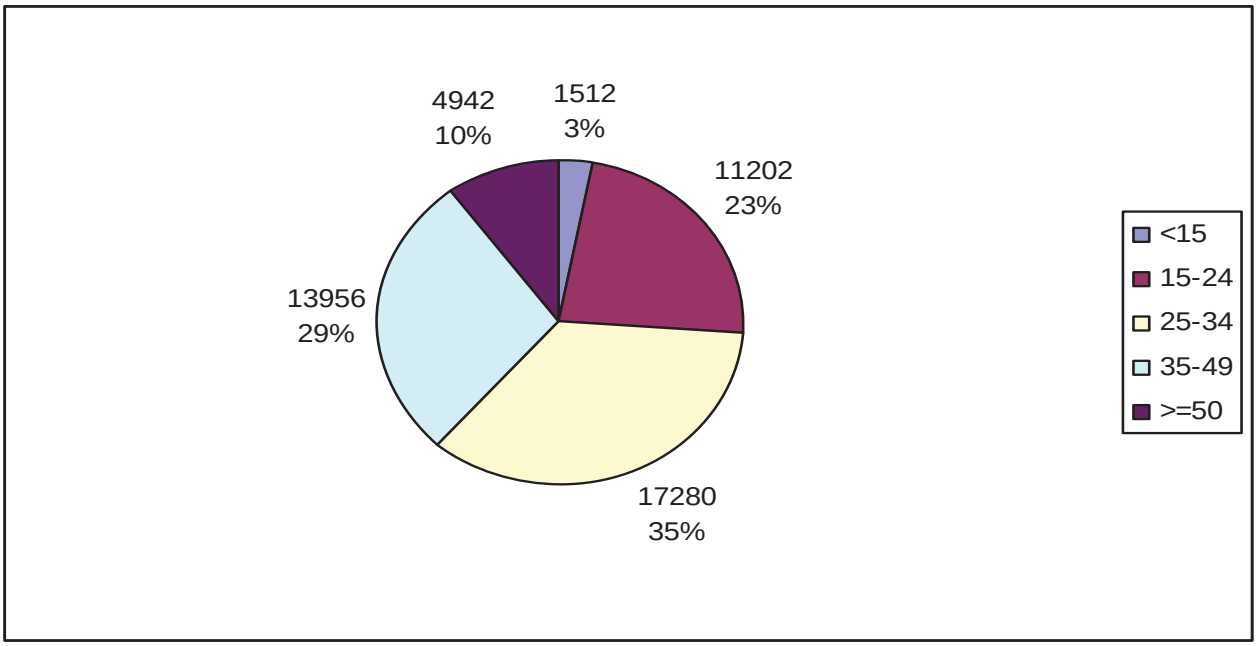


Table 5.6 below summarizes the information from each region indicating number of reported STI cases who were re-treated,contacted,counselled and adviced on condom use, linked to HIV counselling and testing,and clients reffered from other services.

		Number of Epsodes re-treated-2nd line	Number of Epsodes re-treated-3nd line regimen	Number of Epsodes reffered for 3rd line regimen	Number of contact treated	Number of clients counselled and advised on condom use	Number of clients linked to hiv counselling and testing	Number of clients reffered from other services
REGION	**SEX**							
ARUSHA	Male	391	13	1	1290	2770	1790	492
	Female	332	40	0	3376	8288	4084	810
COAST	Male	351	40	38	763	3204	2112	1206
	Female	641	80	48	1001	5222	3577	1879
DODOMA	Male	617	62	72	5746	11113	9575	2406
	Female	1461	239	127	9853	19816	16934	5161
DAR-ES-SALAAM	Male	279	73	46	959	3005	1816	818
	Female	382	87	51	1245	5508	3769	1812
IRINGA	Male	159	24	20	1679	4101	2663	1702
	Female	233	33	22	2684	6543	4521	2991
KAGERA	Male	97	11	2	507	1163	669	442
	Female	133	17	4	709	1537	990	906
KIGOMA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
KILIMANJARO	Male	381	343	67	5746	11113	591	95
	Female	1055	799	133	9853	19816	9575	2406
LINDI	Male	391	534	247	451	1389	1289	1534
	Female	465	588	200	722	1865	1259	2333
MANYARA	Male	51	9	0	245	851	643	477
	Female	75	2	1	261	1399	1000	831
MARA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
MBEYA	Male	205	34	3	1078	4318	2611	1462
	Female	323	18	5	1620	6516	4414	2387
MOROGORO	Male	327	11	25	1148	3699	2599	729
	Female	609	19	25	1973	5965	4586	1349

MTWARA	Male	86	2	13	672	2949	438	0
	Female	80	4	15	787	4074	1947	438
MWANZA	Male	95	174	106	406	444	279	434
	Female	148	193	92	733	831	757	628
RUKWA	Male	82	35	12	398	1701	705	395
	Female	116	41	20	615	2219	1352	883
RUVUMA	Male	346	34	36	1149	3255	2065	1463
	Female	447	40	29	1253	4685	3112	1985
SINGIDA	Male	412	21	15	989	1894	1331	818
	Female	639	15	30	1637	3314	2247	1269
SHINYANGA	Male	187	13	32	1979	5652	4787	4075
	Female	343	14	48	2429	9974	8815	7756
TABORA	Male	233	65	40	957	2456	963	907
	Female	431	109	26	1222	4687	2013	1379
TANGA	Male	33	1	18	105	366	130	53
	Female	54	6	18	179	730	187	146
TOTAL		**12690**	**3843**	**1687**	**68419**	**178432**	**112195**	**56857**

Figure 5.5: Distribution of New Cases of Pelvic Inflammatory Diseases by Age Groups among Females, Tanzania 2010



Chapter Six

Home Based Care Services

1.1 Background

Community Home-Based Care (HBC) is defined as any form of care given to chronically ill people in their homes. It includes activities that provide physical, psychological, social, and spiritual support (WHO/GPA, 1993). Families are the central focus and form the basis of community HBC. Community HBC targets chronically ill patients: those who continue to be ill for more than one month and who need continuous medical attention and management. Chronically ill patients may include adults and children with cancers, HIV and AIDS, sickle-cell disease, cardiovascular diseases, diabetes, and cerebral palsy.

The Ministry of Health and Social Welfare (MOHSW) started implementing HBC services back in 1996, this started as a pilot into two regions namely; Coast and Rukwa under DANIDA support, these services have been scaled up gradually to cover all districts in the country. The main implementers of HBC are non-governmental organizations (NGOs), community-based organizations (CBOs), and faith-based organizations (FBOs) under mandate from the MOHSW that develops policies, guidelines and training materials.

In 1999, the first National Home Based Care Guideline (HBC) was developed, aiming to provide guidance to managers, health care providers and Home Based Care providers in the community.

In 2003 the Ministry of Health and Social Welfare developed a Health Sector Strategy for HIV/AIDS (2003-2006) which identified Home Based Care as the most cost effective alternatives to mitigate the physical, mental, spiritual, and socio-economic difficulties experienced by PLHIV and their families.

The second Health Sector HIV and AIDS Strategic Plan-II (2008-2012) is now in use and the strategy emphasizes the establishment of effective linkages between care and treatment and support of PLHIVs after introduction of Nation Care and Treatment services.

Barriers and Challenges in the provision of HBC services

The implementation of HBC services in the country is facing a number of challenges, some of these challenges includes;

- Partial integration of HBC services into CCHP where by most of HBC services are provided by NGOs and FBOs.
- Lack of data for HBC services, most of districts have not trained HBC providers on the revised HBC recording and reporting system, hence only three regions have started reporting using the new RRS, these are Mtwara, Manyara and Morogoro.
- Shortage of qualified health care worker at facility level leading to poor/lack of supervision to CHBCPs.

- Shortage of Community Home Based Care Providers
- Stigma remains to be a big problem making many patients to refuse to be provided with HBC services.
- Shortage of Home Based Care Kits to enable providers to run the services smoothly

Methodology

The national HBC recording and reporting system aims to provide information needed for monitoring implementation and making informed decisions on various aspects of service provision for managers, programmers, and HBC stakeholders, including the general public. The system consists of Notebook for Community HBC provider, Monthly summary forms for community HBC provider and monthly summary form for facility/district and regional levels.

The notebook is used by the HBC provider to record the condition of clients and the services provided. Each provider routinely fills in client information while providing services. At the beginning of each month, each HBC provider will refer to these records to summarize information for the month just ended into monthly summary forms for community HBC provider, to create community-level HBC monthly summaries.

Once the community-level monthly record is generated, the service provider shares it with members of ward health committees and other community leaders, informing them on progress in implementing HBC services and identifying strengths and weaknesses for improvement. By third (3rd) day of the following month, the service provider will also send a copy of the monthly summary or report to the health-facility HBC contact person.

The health-facility HBC contact person will aggregate reports from all service providers in the catchment area, using the monthly summary form for facility level to generate a monthly summarization on indicators in wards or divisions. This report will be shared and discussed by the management team of the health facility and committees responsible for HBC services to identify strengths and weaknesses and improve implementation. The HBC contact person will send a copy of this report to the district HBC coordinator by 10^{th} day of the following month.

The district HBC coordinator will aggregate reports from all facilities in the district to generate a district report using the monthly summary form for district level. This district report will be sent to the CHMT for discussion and a copy sent to the regional HBC coordinator by the 20^{th} day of the following month.

The regional HBC coordinator will aggregate reports from all districts in the region to generate a regional report, which will be disseminated to the RHMT for discussion and a copy sent to the NACP by the 25^{th} day of the following month.

NACP aggregates regional summaries electronically to make national report, NACP produces the national report by 30^{th} of the following month, and it provides feedback regularly to sub- national levels and disseminates the national report to sub- national levels on a quarterly basis.

RESULTS

1.0 Coverage of HBC services

Table 6.1 show that all districts in Manyara, Morogoro and Mara, have established HBC services, with the overall coverage of only 277 (42.2%) health facilities providing HBC services, however coverage of HBC services vary from one region to another, in Manyara region the coverage is 86 (55.8%) facilities, Mtwara 68 (39.3%) facilities and Morogoro (37.3%) facilities.

Table 6.1 shows coverage of HBC services in the reported regions,

Region	Total number of health facilities in each region	Total number of health facilities providing HBC services	Percentage	Total ward per region	Total number of ward providing HBC services	Total districts providing HBC services	Total districts per region
Manyara	154	86	55.8%	94	58	5	5
Morogoro	330	123	37.3%	148	108	6	6
Mtwara	173	68	39.3%	81	60	6	6
Total	657	277	42.2%	323	226	17	17

1.1 Clients enrolled in HBC services.

Table 6.2 shows the cumulative number of clients enrolled in Home Based Care services as of December, 2010 in Mtwara, Morogoro and Manyara. Among the enrolled female were 5330 which is 64% of the total enrollment.

Table 6.2 Cumulative number of clients enrolled in HBC services, in three regions as of December, 2010

REGION	MALE	%	FEMALE	%	TOTAL
Manyara	1357	**40.8**	1968	**59.2**	3325
Morogoro	1222	**32.2**	2569	**67.8**	3791
Mtwara	424	**34.8**	793	**65.2**	1217
TOTAL	**3003**	**36.0**	**5330**	**64.0**	**8333**

Figure 6.1 Cumulative number of clients enrolled in HBC services, in three regions as of December, 2010

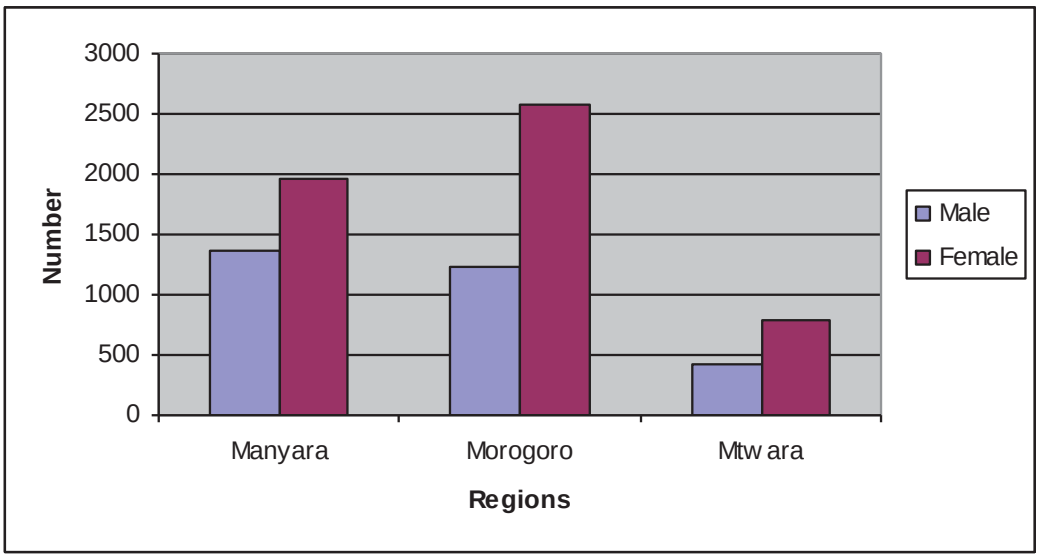


Table 6.3 Shows that between May and December, 2010 a total of 2800 new clients were enrolled in HBC services with majority between the ages of 25 to 49 years 1556 (55.6%).

Table 6.3 **N**ew Patients enrolled in HBC services in by age and sex from (May to December, 2010)

	<15 Years		15 – 24 Years		25 – 49 Years		≥ 50 Year		
REGION	Male	Female	Male	Female	Male	Female	Male	Female	**Total**
Manyara	79	91	136	154	226	328	158	144	**1316**
Morogoro	29	33	16	30	107	290	45	60	**610**
Mtwara	49	36	26	32	184	421	76	50	**874**
Total	**157**	**160**	**178**	**216**	**517**	**1039**	**279**	**254**	**2800**

1.2 Reason for enrolment in HBC services

Table 6.4 below shows the distribution of the reasons for enrolment to HBC services in reporting regions. More that a half of HBC patients 1773 (60.4 %) were enrolled due to HIV infection, where as enrolment due

to TB was 322 (11%), Cardiovascular diseases 179 (6.1%) and others 387 (13.2%). Enrolment due to sickle cell disease, diabetes, cerebral palsy and cancer together contributed only 273 (9.3%) of the total enrollments.

Table 6.4 Reason for enrollment in HBC services for reporting regions, (May to December, 2010)

Reasons	Number of patients	Percent
HIV infection	1773	60.4
Sickle cell disease	32	1.1
Cardiovascular diseases	179	6.1
Diabetes	104	3.5
Cerebral palsy	82	2.8
Cancer	55	1.9
Tuberculosis	322	11
Others	387	13.2
Total	**2934**	**100**

1.3 HBC services

Table 6.5 shows the frequency distribution of different HBC services that were provided by HBC providers in Mtwara, Manyara and Morogoro regions. The medical care services, which includes management of pain, screening for TB and referral of clients to other services were 6210 (30%), followed by preventive services 4749 (22.9%), Psychosocial Support 3903 (18.8%), Nutritional support 3218 (15.5%) and nursing care 2701(13%).

Table 6.5 Frequency distribution of services that were provided in Mtwara, Manyara and Morogoro (May to December, 2010)

Reasons	Frequency of service	Percent
Medical Care	6210	30
Nursing care	2701	13
Psychosocial Support	3903	18.8
Nutritional support	3218	15.5
Preventive services	4749	22.9
Total	**20781**	**100**

1.4 Referral and linkage of HBC services with other services.

Table 6.6 Shows that in the year 2010 a total of 3925 referrals were provided, among these 2460 (62.7%) referrals completed (feedback and piece of referral form given back to the HBC providers initiated that referral).

Table 6.6 HBC referrals provided and those completed (May and December, 2010)

Region	Total referrals offered	Total completed referrals	Percentage of completed referrals per region
Manyara	1031	385	37.3
Morogoro	2578	1956	75.9
Mtwara	316	119	37.7
TOTAL	**3925**	**2460**	**62.7**

Table 6.7 shows that among the referrals 1389(35.4%) were referred to Care and Treatment Services, 1069(27.2%) to health facility for management of opportunistic infections, 848(21.6%) to HIV counseling and testing, 190(4.8%), to TB clinic where as referrals to PMTCT Services were 120(3.06%) and other services 309(7.87%)

Table 6.7 **T**otal number of HBC referrals by type of services (May and December, 2010)

Region	**HIV counseling and testing**	**Care and treatment clinic**	**Health facility for management of opportunistic infections**	**TB clinic**	**PMTCT Services**	**Other services**	**Total**
Manyara	285	210	296	85	44	111	1031
Morogoro	457	1119	689	83	60	170	2578
Mtwara	106	60	84	22	16	28	316
Total	848(21.6%)	1389(35.4%)	1069(27.2%)	190(4.8%)	120(3.06%)	309(7.87%)	3925(100%)

Chapter Seven

Monitoring and reporting of the health sector response to HIV/AIDS

7.1 Introduction

In the year 2008, Tanzania reported on a standard set of indicators that aimed at monitoring and reporting on progress in the health sector response to HIV and AIDS towards Universal Access, and the UNGASS Declaration of Commitments on HIV/AIDS. This section provides the values and reporting period for each indicator. It is intended to serve as a baseline for assessing progress made over time as well as reference material for subsequent reporting.

7.2 Methods

Sources of information for the indicators consisted of national programme implementation reports and population-based surveys. Denominators for some indicators were estimated through modeling or application of sample estimates to specific population groups**.** Data were collected through review of national publications, consultation with managers and programmers of various interventions. After compilation, indicator values were presented for validation in a stakeholders meeting and the feedback was used to improve the report.

7.3 Results

Table 7.1 provides a list of indicators with values and reporting period for each.

Table 7.1 List National and international HIV/AIDS Monitoring indicators

Sno	Indicator	Indicator Value	Reporting Period
	General country information		
	Number of Regions in the country	26	as of Dec 2010
	Number of administrative units in the country	150	as of Dec 2010
	Number of health facilities	6321	as of Dec 2010
	Number of health facilities that offer ART	825	as of Dec 2010
A	Testing and counseling		
1	Percentage of health facility that provide HIV testing and counseling services	34	as of Dec 2010
2	Number of women and men aged 15 and older who received HIV testing and counselling and known their results	773046	Jan- Dec 2010
B	**Prevention in health care settings**		
1	Number of health facilities with post-exposure prophylaxis(PEP)services available on site	825	as of Dec 2010
C	**Sexually transmitted infections**		
1	Percentage of women accessing antenatal care (ANC)services who are tested for syphilis at first ANC visit	97	as of Dec 2010
2	Percentage of antenatal care attendees who were positive for syphilis	4	2007-2008
G	**Antiretroviral therapy**		
1	Percentage of health care facilities that offer ART	13	as of Dec 2010

2	Number of eligible adults and children currently receiving antiretroviral therapy	244148	as of Sept 2010
H	**Health systems**		
1	Percentage of facilities providing ART using CD4 monitoring in line with national guidelines/policies,on site or through referral	100	as of Dec 2010
I	**Women and children**		
1	Number of pregnant women attending ANC at least once during the reporting period	1660890	as of Dec 2010
2	Number of health facilities providing ANC services	4647	as of Dec 2010
3	Number of health facilities providing ANC services that also provide HIV testing counselling for pregnant women	4301	as of Dec 2010
4	Number of health facilities providing ANC services that also provide CD4,testing on site,or have a system for collecting and transporting blood samples for CD4 testing for HIV-infected pregnant women	173	as of Dec 2010
5	Percentage of health facilities that provide virological testing services for diagnosis of HIV in infants on site or from dried blood spots	30	as of Dec 2010
6	Percentage of pregnant women who were tested for HIV and received their results-during pregnancy,during labour and delivery and during the post-partum period,including those with previously known HIV status	84	as of Dec 2010
7	Percentage of pregnant women attending antenatal care whose male partner was tested for HIV	18	as of Dec 2010
8	Percentage of HIV-Infected pregnant women assessed for ART eligibility through either clinical staging or CD4 testing	15	as of Dec 2010
9	Percentage of HIV-Infected pregnant women who received antiretroviral drugs to reduce the risk of mother to child transmission	70	as of Dec 2010
10	Percentage of infants born to HIV-infected women receiving antiretroviral prophylaxis for prevention of mother to child transmission	57	as of Dec 2010
11	Percentange of infants born to HIV-infected women started on contrimoxazole (CTX) prophylaxis within two months of birth	13	as of Dec 2010
12	Percentage of infants born to HIV-infected women receiving a virological test for HIV within two months of birth	19	as of Dec 2010

Chapter Eight

Highlights of research publications in Tanzania

Title:
Keep talking about it: HIV/AIDS – Related Communication and Prior HIV testing in Tanzania, Zimbabwe, South Africa, and Thailand

Authors:
Hendriksen ES, Hlubinka D, Charlyalertsak S, Chingono A, Gray G, Mbwambo J, Richter L, Kulich M, Coates TJ

Source:
AIDS Behav 2009; 13: 1213-1221

Objective:
To examine the association between communication about HIV/AIDS, and prior HIV testing in communities *in* Tanzania, Zimbabwe, South Africa, and Thailand**.**

Methodology:
A total of 14,818 participants in 48 communities across five sites throughout the four countries completed a behavioral survey assessing communication, prior voluntary counseling and testing (VCT) uptake, social norms, stigma, and sexual risk. Site-specific logistic regression models demonstrated that frequent conversations about HIV were significantly associated with HIV testing at every site.

Results:
Site–specific logistic regression models demonstrated that frequent conversations about HIV were significantly associated with prior HIV testing at every site. Odds ratios for each site ranged from 1,885 to 3,085, indicating roughly doubled or tripled chance of past VCT uptake.

Conclusion:
There was an indication that, verbal communication may be an important mechanism for increasing health behaviors and inclusion in future interventions should be considered. Furthermore communication must continue to be considered as an important variable in increasing HIV testing.

Title:
The development and validation of the HIV/AIDS Stigma Instrument – Nurse (HASI-N)

Authors:
Uys LR, Holzemer WL, Chirwa ML, Dlamini PS, Greeff M, Kohi TW, Makoae LN, Stewart AL, Mullan J, Phetlhu RD, Wantland DJ, Durrheim KL, Cuca YP, Naidoo JR

Source:
AIDS Care, February 2009; 21(2): 150-159
Objective:
To describe a series of study phases conducted to develop and validate an instrument to measure HIV/AIDS –related stigma as perpetrated and experienced by nurses.

Methodology:
Data were collected in Lesotho, Malawi, South Africa, Swaziland and Tanzania, from 2004-2006. The first phase was descriptive, qualitative study with focus group comprising 251 participants to gather emic and etic descriptions of HIV/AIDS related stigma in the five African countries.

Results:
Based on the qualitative data, a 46 –item instrument was developed and tested during a second phase in the same five countries. A total of 244 participants were involved. The result of this phase was a 33-item, three-factor instrument with an average Cronbach alpha of 0.85. A third phase tested the instrument in 1474 nurses. The result was a final 19-item instrument, the HIV/AIDS stigma Instrument – Nurse (HASI-N), comprised of two factors (Nurses stigmatizing patients and nurses being stigmatized) with a Cronbach alpha of 0.90. Concurrent validity was tested by comparing the level of stigma with job satisfaction and quality of life. Nurses working in the field of HIV/AIDS were found stigmatizing families and friends of people living with HIV infection. This reflects the intimate care relationship that this category of health workers has with their patients.

Conclusion:
The HASI-N is the first inductively derived instrument measuring stigma experienced and enacted by nurses. It has the potential to be used not only to measure stigma, but also to develop stigma-reduction interventions.

Title:
Services and attitudes to people living with HIV/AIDS among College students in Dar es Salaam, Tanzania.

Authors:
Maswanya ES, Brown G, Merriman G

Source:
East African Journal of Public Health, 2009; December 6 (3): 244-247

Objective:
To evaluate acceptability of voluntary testing, counseling and treatment services and attitudes towards people living with HIV/AIDS from young people's point of view.

Methodology:
Qualitative study (face-to-face interviews in which tapes were used) were carried out in 20 interviewed college students aged 19-24years of both sexes based in Dar es Salaam.

Results:
Voluntary counseling and testing services were limited in the study area at the time of study. Participants complained of unfriendly services and uncooperative staff, poor counseling services and shortage of facilities and staff. There was fear of HIV/AIDS related stigma toward people living with HIV and AIDS, thus fostering stigma and isolation against them. Further, results demonstrate that HIV/AIDS related stigma is still a very serious problem in Tanzania. Lack of HIV/AIDS related knowledge and the life threatening character of the disease were seen as most important determinants of AIDS- related stigma. The main benefit to go for VCT was " knowing your status before marriage"; whereas main barriers for testing were fear of being stigmatized and "fear of knowing your HIV positive status".

Conclusion:
The study suggest that there is need of VCT specific interventions programmes for young people in colleges in Tanzania to emphasize the importance of VCT services and HIV/AIDS education program to eradicate student's understanding of people living with HIV/AIDS, thus reducing stigma towards people living with HIV/AIDS.

Title:
Explaining Adherence Success in Sub-Saharan Africa: An ethnographic Study.

Authors:
Ware CN, Idoko J, Kaaya S, Biraro AI, Wyatt AM, Agbaji O, Chalamila G, Bangsberg DR.

Source:
PLOS Medicine, January 2009; 6 (10): 0039-0047
www.plosmedicine.org

Objective:
To offer an explanation and theoretical model of ART adherence success based on the results of an ethnographic study in three sub-Saharan African countries.

Methodology:
Ethnographic research methods were employed, 414 person interviews were carried out with 252 persons taking ART, their treatment partners and health care professionals at HIV treatment sites in Jos, Nigeria; Dar es Salaam, Tanzania; and Mbarara, Uganda. 136 field observations of clinic activities were also conducted. Data were examined using category construction and interpretation approach.

Results:
Findings indicate that individuals taking ART routinely overcome economic obstacles to ART adherence through a number of deliberate strategies aimed at prioritizing adherence: borrowing and "begging" transport funds, " making impossible choices" to allocate resources in favor of treatment and "doing without". Prioritization of adherence is accomplished through resources and help made available by treatment partners, other family members and friends, and health care providers. Helpers expect adherence and make their expectations known creating responsibility on the part of the patient to adhere. Patients adhere to promote good will on part of helpers; thereby ensuring help will be available when future need arises.

Conclusion:
Adherence success in sub-Saharan Africa can be explained as a measure of fulfilling social responsibilities and thus preserving social capital in essential relationships.

Title:
The pattern of mucocutaneous disorders in HIV-infected children attending care and treatment centres in Dar es Salaam, Tanzania.

Authors:
Panya MF, Mgonda YM, Massawe AW.

Source:
BMC Public Health 2009; 9: 234

http://www.biomedcentral.com/1471-2458/9/234

Objective:
To determine the prevalence and pattern of mucocutaneous disorders among HIV infected children attending public pediatric "Care and Treatment Centers" in Dar es Salaam.

Methodology:
This was a cross-sectional descriptive study conducted at public pediatric HIV Care and Treatment Centres in Dar es Salaam. Participants were interviewed using a questionnaire to obtain demographic and clinical information and whether or not they were on ART. Dermatological examination was carried out in daylight. Investigations were taken as appropriate and data was analyzed using Statistical Package for Social Sciences (SPSS). Chi-squared and Fisher's tests were utilized.

Results:
Three hundred and forty seven HIV infected children (52% males) attending CTCs, were recruited into the study. Mucocutaneous disorders were encountered in 85% of them. There was no gender difference in the prevalence of mucocutaneous disorders but males had a higher prevalence of non-infective/inflammatory dermatoses (58%) than females (42%). Overall mucocutaneous disorders (infective + non – infective) were more prevalent in advanced stages of HIV disease (children with advanced HIV disease had a significantly increased frequency of fungal and viral infections (43% and 25% respectively) than those with less advanced disease; 24% and 13% respectively. Seventy four percent of HIV infected children with mucocutaneous disorders were already on ART.

Conclusion:
Mucocutaneous disorders among HIV infected children attending Care and Treatment Centres are common and highly variable. Comprehensive management should also emphasize on management of mucocutaneous disorders.

Title:
Prevalence of depression and anxiety disorders in HIV-positive outpatients in rural Tanzania

Authors:
Marwick KFM, Kaaya SF.

Source:
AIDS Care, April 2010; 22 (4): 415-419

Objective:
To assess mental disorders in HIV- positive Tanzanians

Methodology:
This was a cross-sectional study of 220 HIV-positive outpatients at a dedicated Tanzanian HIV/AIDS care centre assessed socio-demographics, clinical variables and prevalence of ICD-10 common mental health diagnosis via a standardized psychiatric questionnaire (the Clinical Interview Schedule – Revised).

Results:

Depression or mixed anxiety and depression were identified in 15.5% of subjects, with 4.5% suffering from other anxiety disorders.

Conclusion:
This suggests routine HIV care in sub-Saharan Africa should include assessment and treatment of mental health issues.

Title:
Endangered edible orchids and vulnerable gatherers in the context of HIV/AIDS in the Southern Highlands of Tanzania

Authors:
Challe JFX, Price LL

Source:
Ethnobiology and ethnomedicine, 2009; 5:41
http://www.wethnobiomed.com/content/5/1/41

Objective: To examine the differences between HIV/AIDS wild edible orchid gatherers and non-HIV/AIDS gatherers with regards to the frequency of gathering, salience in naming the various orchids, gathering knowledge acquisition and perceptions regarding the current state of abundance of the edible species.

Methodology:
Two main categories (HIV/AIDS infected and non-affected) were studied. A simple census interview questionnaire was administered to 400 primary school children. Few observations conducted and semi-structured in-depth questionnaire administered to 224 orchid tuber gatherers. The independent t-test was used to compare the differences in gathering frequencies between affected and non-affected gatherers. The difference was obtained using ANOVA test and its post hoc test. A chi square test was employed to determine if there was a significant difference.

Results:
Forty two vernacular names of gathered orchid species were mentioned corresponding to 7 botanical species belonging to *genera Disa, Satyrium, Habenaria Eulophia and Roeperocharis*. Ninety seven percent of HIV/AIDS affected household state that orchid gathering is their primary economic activity compared to non – HIV/AIDS affected households 9.7%. The HIV/AIDS affected gathered significantly more often than the non-affected. AIDS orphans, however, gathered most frequently. The results revealed a significant difference between affected and non affected individuals in terms of their source of gathering knowledge.

Conclusion:
HIV/AIDS is related to increased reliance of the natural environment. This appears even more so for the most vulnerable, the AIDS orphaned children, followed by HIV/AIDS widows.

Title:
Pulmonary tuberculosis among women with cough attending clinics for family planning and maternal and child health in Dar es Salaam, Tanzania.

Authors:
Ngadaya ES, Mfinanga GS, Wandwalo ER, Morkve O.

Source:
BMC public Health, 2009; 9: 278
www.biomedcentral.com/1471-2458/9/278

Objective:
To determine the proportion of smear positive TB among women with cough regardless of the duration attending family planning (FP) and Maternal and Child Health (MCH) Clinics in Dar es Salaam.

Methodology:
A cross sectional study in all three Municipal Hospitals of Dar es Salaam was conducted between October 2007 and June 2008. All women with cough attending FP and MCH clinics were screened for TB by smear microscopy. Pearson chi-square was used to compare group difference for categorical variables. Risk factors for smear positive were estimated by logistic regression with 95% confidence intervals (CI) *given* for odds ratios indicating statistically significant relationship if the CI did not include one.

Results:
A total of 749 TB suspects were enrolled. 529 (70.6%) were from MCH clinics. Mean (SD) age was 27.6 (5.2) years. A total of 616 (82.2%) patients were coughing for less than two weeks as compared to 133 (17.8%) who coughed for two or more weeks. Among 616 TB suspects, 14 (2.3%) were smear positive TB patients. Risk factors associated with smear positive results were having attended more than one visit to any facility prior to diagnosis and having HIV/AIDS. Long duration of cough was not a risk factor being smear positive.

Conclusion:
The proportion of smear positive TB patients among women with cough attending MCH and FP was 3.8%. Visits to any health facility prior to diagnosis and HIV infection were risk for having a smear positive TB.

Title:
The intergenerational impact of the African orphan's crisis: a cohort study from an HIV/AIDS affected area

Source: International Journal of Epidemiology, 2009; (38): 561-568

Author: Beegle K, De Weerdt J, Dercon S.

Objective:
To investigate the impact of orphan hood on health and schooling using long- term longitudinal data following children into adulthood.

Methodology:
A cohort of 718 children interviewed in the early 1990s and again in 2004. Detailed survey questionnaires and anthropometric measurements were administered at baseline and during a follow up survey. Final

attained height and education (at adulthood) between children who lost a parent before the age of 15 years and those who did not were compared.

Results:
On average, children who lose their mother before the age of 15 suffer a deficit of around 2 cm in final attained height. This effect is permanent and hypothesis that it is causal cannot be rejected by our study. Although father's death is a predictor of lower height and schooling as well, we reject the hypothesis of a causal link.

Conclusions:
The African orphan crisis, exacerbated by the HIV/AIDS epidemic will have important negative intergenerational effects.

Title:
Increasing health worker capacity through distance learning: a comprehensive review of programmes in Tanzania

Authors:
Nartker AJ, Stevens L, Shumays A, Kalowela M, Kisimbo D, Potter K.

Source:
Human Resources for Health, 2010, 8:30
http://www.human-resources-health.com/content/8/1/30

Objective:
To determine the feasibility and success of distance learning programmes in Tanzania and their ability to help Tanzania meet its human resources for health (HRH) needs.

Methodology:
Data were collected from 25 distance learning programmes and involved an exploratory assessment carried out from May to August 2008 using various methods including, internet research, desk review, written questionnaires, telephone and e-mail surveys, focus group, and structured interviews and on site observations. Most members of the assessment team attended conferences in Tanzania related to distance learning.

Results:
The assessment found that a good foundation for distance learning exist in Tanzania ranging from low-tech print based to high-end international video conferencing operated by Tanzania Global Development Learning Centre. Other programmes include HIV/AIDS – related e-learning modules, WHO's IMAI Computerized Adaptation and Training Tool, Internet-based videoconferencing and web casting operated by Aga Khan University, Harvard University and International Training and Education Centre for Health (I-TECH). Challenges include lack of guidelines for administrators, instructors and preceptors of distance learning regarding roles and responsibilities; absence of competences for clinical components of curricula and technological constrains such as lack of access to computers and the internet. Insufficient funding resulted in personnel shortages, lack of appropriate training for personnel, lack of appropriate training for personnel and lack of materials for students.

Nonetheless, current and prospective student expressed overwhelming enthusiasm for scale- up of distance learning because of the unique financial and social benefits offered by these programmes. Participants were retained as employees in their health care facilities, and remained in their communities and supported their families while advancing their careers. Space in health training institutions was freed up for new students entering in-residence pre-service training.

Conclusions:
A blended print-based distance learning model is most feasible at the national level due to current resource and infrastructure constraints. With an increase in staffing, improvement of infrastructure, coordination and curricula, and decentralization to zonal or district level, distance learning can be an effective method to increase both the skills and the numbers of qualified health care needs of the Tanzanian population. Distance learning programmes hold great potential to increased motivation, knowledge and skills of health care workforce in Tanzania and meeting health care needs.

Title:
A process evaluation of the scale up of a youth friendly health services initiative in Northern Tanzania.

Authors:
Renju J, Andrew B, Nyalali K, Kishamawe C, Kato C, Changalucha J, Obasi A.

Source:
Journal of International AIDS Society, 2010, 13:32
http://www.Jiasociety.org\content/13/1/32

Objectives:

1) To improve reproductive health service provision for young people interventions
2) To identify key facilitating and inhibitory factors from both users and provider perspectives.
3) To conduct a process evaluation of the 10 – fold scale up of an evaluated youth –friendly interventions in Mwanza region.

Methodology:
The intervention was scaled in two training rounds lasting six and 10 months. This process was evaluated through the triangulation of multiple methods:

1) A simulated patient study
2) Focus group discussions and semi-structured interviews with health workers and trainers
3) Training observations' and
4) Pre-and post-training questionnaires

These methods were used to compare pre-and post-intervention groups and assess differences between the two training rounds.

Results:
Between 2004 and 2007, Local Government officials trained 429 health workers. The training was well implemented and over time, trainer's confidence and ability to lead sessions improved. The district – led training significantly improved knowledge relating to HIV/AIDS and puberty, attitudes towards condoms, confidentiality and young peoples' right to treatment. Intervention health units scored high in the family planning and condom request simulated patient scenarios, but lower in the sexually transmitted infection scenario that control health units. The scale up faced challenges in the selection and retention of trained health workers and was limited by various contextual factors and structural constrains.

Conclusions:
Youth – friendly services interventions can remain well delivered and even through existing system. The scaling –up process did affect some aspects of intervention quality, and our research supports others in emphasizing the need to train more staff (both clinical and non- clinical) per facility in order to ensure youth friendly services delivery. Further research is needed to identify effective strategies to address structural constraints and broader social norms that hampered the scale up.

Title:
Clustering of under-five mortality in Rufiji Health and Demographic surveillance system in rural Tanzania.

Authors:
Shabani J, Lutambi AM, Mwakalinga V, Masanja H.

Source:
Global Health Action, 2010: 42-49

Objective:
To explore the clustering of mortality in the health demographic surveillance area of Rufiji District
Methodology:
Possible significant clusters were identified using SatT-Scan software and analyzed 2,745 cases of under-five with 134,099 person–years for the period between 1999 and 2008. Mortality rates for every year were calculated and a spatial scan statistic was used to test for clusters of total under-five mortalities in both space and time.

Results:
A number of significant clusters were identified in several locations over the period of 10 years. The studied area was characterized by elevation of risk of under-five deaths. This characteristic was found to be significant within both clusters. The mortality rates were very high for the years 1999-2002 where death rates were 33.5, 26.4, 24.1 and 24.9 respectively.

Conclusion:
The Government of Tanzania through Ministry of Health and Social Welfare, in undertaking a number of interventions to reduce child mortality in the country. However, the observed decrease of mortality in RDSS needs to be confirmed with similar analysis to be replicated to other DSS in the country. This should also provide new insights for further studies and interventions towards reducing the under-five mortalities.

TITLE:
Attitudes and beliefs about HIV/AIDS behavior and education among Tanzanian youth

Authors:
Maswanya E, Brown G, Merriman G.

Source:
Sexual Health, 2009; (6): 293-299
www.publish.csiro.au/journals/sh

Objective:
To explore beliefs, attitudes and behavioral perspectives on HIV/AIDS education among students in Tanzania.

To provide new information to enhance understanding of risk perception of HIV/AIDS infection from students' perspectives that is crucial in designing effective preventive measures of HIV infection among college students in Tanzania.

Methodology:
A total of 20 college students of both sexes (males and females) were interviewed in a qualitative study. Health Belief Model and Social cognitive Theory were used to guide the interview and constant comparative analysis on their attitudes, beliefs; behavior and education towards HIV/AIDS infection risks were utilized.

Results:
During the interview, the following topics emerged: misinformation and desire for HIV/AIDS education program in school curricula; perceptions of one's own peer's susceptibility to HIV infection; social norms regarding sexual behavior and perceptions regarding access to education and health services. Lack of accurate information and lack of education at home and at school further contributed to risk behavior.
Conclusion:
The study highlighted important perspectives of students towards HIV infection, risk behaviors which are important for HIV prevention programs for students. Based on the findings, recommendations for improvement in prevention programs among college students within Tanzanian schools context are discussed.

Title:
Parent-child communication about sexual and reproductive health in rural Tanzania: Implications for young people's sexual health interventions.

Authors:
Wamoyi J, Fenwick A, Urassa M, Zaba B, Stones W

Source:
Reproductive Health, 2010; 7:6
http://www.reproductive-health-journal.com/content /7/1/6

Objective:
To explore parent-child communication about SRH in families, content, timing and reasons for their communication with their children aged 14-24 years in rural Tanzania.

Methodology:
The study employed an ethnographic research design. Data collection involved eight weeks of participant observation, 17 focus group discussions and 46 in-depth interviews conducted with young people aged 14-24 years and parents of young people in this age group. Thematic analysis was conducted with the aid of NVIVO 7 software.

Results:
Parent – child communication about SRH happened in most families. The communication was mainly on same sex basis (mother – daughter and rarely father – son or father – daughter) and took the form of

warnings, threats and physical discipline. Communication was triggered by seeing or hearing something a parent perceived negative and would not like their child to experience (such as a death attributable to HIV and unmarried young person's pregnancy). Although most young people were relaxed with their mothers than fathers, there is lack of trust as to what they can tell their parents for fear of punishment. Parents were limited as to what they could communicate about SRH because of lack of appropriate knowledge and cultural norms that restricted interactions between opposite sex.

Conclusions:
Due to the consequences of HIV pandemic, parents are making attempts to communicate with their children about SRH. They are however, limited by cultural barriers, and lack of appropriate knowledge. With some skills training on communication and sexual reproductive health (SRH), parents may be a natural avenue for channeling and reinforcing HIV/AIDS prevention messages to their children.

Title:
Religion and HIV in Tanzania: Influence of religious beliefs on HIV stigma, disclosure, and treatment attitudes
Authors:
Zou J, Yamanaka Y, John M, Watt M, Ostermann J, Thielman N.

Source:
BMC Public Health, 2009; 9:75
http://www.biomedcentral.com/1471-2458/9/75

Objective:
To examine how religious beliefs and church environments influence HIV related stigma and beliefs about the causes and possible treatments of HIV. The study probed association between religious beliefs and HIV stigma, disclosure and attitudes towards antiretroviral treatment.

Methodology:
A self-administered written survey in Swahili was distributed to 438 samples of parishioners attending Catholic, Lutheran, and Pentecostal churches in both urban and rural areas. The survey included questions about religious beliefs, opinion about HIV, and knowledge and attitudes about ARVs. Multivariate logistic regression analysis was performed to assess how religion was associated with perceptions about HIV, HIV treatment, and people living with HIV and AIDS.

Results:
About half of the respondents (53.2%) believed that HIV is a punishment from God; this belief was more prevalent amongst rural respondents (60.8%). About 34.9% believed that those who are HIV infected have not followed the Word of God. This belief was significantly higher amongst rural participants (46.3%) and differed across denominations. This belief was lowest amongst Catholic respondents (23.1%). Results indicate that shame-related HIV stigma is strongly associated with religious beliefs such as the belief that HIV is a punishment from God or that people living with HIV have not followed the Word of God.

Most participants (84.2%) said that they would disclose their HIV status to their pastor or congregation if they became infected. Although the majority of respondents (80.8%) believed that prayer could cure HIV. This belief differed across denominations; it was lowest amongst Catholic respondents (64.6%) and highest amongst Pentecostal respondents (94.4%). Almost all (93.7%) said that they would begin ARV treatment if

they became HIV infected. Overall, 81.4% of respondents had some ARV knowledge. More urban respondents than rural respondents had ARV knowledge (84.8% compared to 76.6%).

Conclusion:
Religious beliefs strongly influence the way many Tanzanians think about HIV and AIDS. A significant percent of those surveyed believed that people who are infected have not followed the word of God, that HIV is a punishment from God, and that through prayers it can be cured. Shame related HIV stigma was strongly correlated with religious beliefs about punishment from God and following the Word of God. The findings suggest that religious beliefs should be incorporated and addressed by interventions to reduce stigma related to shame, while policies designed to improve ARV treatment and adherence should focus primarily on addressing social demographic factors.

Title:
Tuberculosis in HIV Voluntary Counselling and Testing centers in Dar es Salaam, Tanzania

Authors:
Munseri PJ, Bakari M, Pallangyo K, Sandstrom E

Source:
Scan J of Infectious Diseases, 2010; 42 (40): 767-74

Objective:
To determine the extent of TB and TB/HIV co-infection among VCT centre attendees.

Methodology:
A total of 1318 subjects were enrolled from 2 VCT centers in Dar es Salaam. The diagnosis of TB was based on evidence of Mycobacterium tuberculosis in sputum tissue aspirates following microscopy or culture.

Results:
In the absence of Mycobacterium tuberculosis, the presence of 2 of the following was considered: clinical features of TB, suggestive chest radiographs and response to anti-tuberculosis trial therapy HIV was diagnosed in 347 (26%) subjects TB was present in 101 (7.7%) subjects of whom 63 (62%) was diagnosed at VCT centers and 38 (38%) were known TB cases who came for HIV testing. Pulmonary TB (BTB) was detected in 52 (82%) subjects. The diagnosis of PTB was based on sputum culture in 35 (67%), sputum microscopy in 20 (38%) and clinical and radiological findings in 17 (33%) subjects. TB/HIV co-infection was detected in 70(5.3%) subjects. TB/HIV co-infection was detected in 70 (5.3%) subjects. PTB was common in stand-alone VCT centers.

Conclusion:
VCT Centers could serve as an entry point for TB screening.

Title:
Social Capital and the decline in HIV transmission – a case study in three villages in the Kagera region in Tanzania

Authors:
Frumence G, Killewo J, Kwesigabo G, Nystrom L, Eriksson M, Emmelin M

Source: Human Sciences Research Council, Oct.2010; (12): 9-20

Objective:
To facilitate networking and to provide avenues for exchange of information among formal organizations and social groups

Methodology:
Data from an exploratory case study characterizing the social capital was presented in three case villages situated in areas of varying HIV prevalence in the Kagera region of Tanzania. Focus group discussions and key informants interviews revealed a range of experiences by community members, leaders of organizations and social groups.

Results:
Information of social groups during the early 1990s was partly a result of poverty and the many deaths caused by AIDS. They built on tradition to support those in need and provided social and economic support those in need and provided social and economic support to members by providing loans.

Conclusion:
Social capital contributed in changing HIV risk behavior that supported decline of HIV infection in the high prevalence zone and maintained a low prevalence in other zones.

Title:
Dried blood spots perform well in viral load monitoring of patients who receive Antiretroviral treatment in rural Tanzania.

Authors:
Johannesssen A, Garrido C, Zahonero N, Sandvik L, Naman E, Kivuyo SL, Kasubi MJ, Gundersen G, Bruun JN, Mendoza CD

Source:
Clinical Infectious Diseases, 2009; 49: 976-81

Objective:
To investigate the performance of DBS in HIV viral load monitoring of patients who received ART in rural Tanzania

Methodology:
From November 2007 to June 2008, parallel plasma and DBS specimens were obtained from patients who received ART at Hydom Lutheran Hospital in rural Tanzania. DBS specimens were stored at tropical room temperature for 3 weeks before testing with the NucliSENS Easy Q HIV-1 vl. 2 assay. Results obtained with DBS were compared with results obtained with use of a gold –standard plasma assay.

Results:
Ninety–eight plasma–DBS pairs were compared, and plasma viral loads ranged from !40 to 11,000.000copies/ml. The correlation between plasma and DBS viral load was strong (R_2P075). The mean difference (standard deviation) was $\log_{10}$ copies/ml, and only 8 samples showed 11 $\log_{10}$ 0.04_0.57 copies/ml

difference. HIV type 1 RNA was detected inn 7%, 60% and 100% of DBS specimens with corresponding plasma viral loads of 40-999, 1000- 2999, and _3000 copies/ml, respectively.

Conclusion:
DBS, in combination with the NucliSENS easyQ HIV-1 vl/ 2 assay, performed well in monitoring HIV viral loads in patients who received ART in rural Tanzania, although the sensitivity was reduced when viral burden was low. The use of DBS can simplify virological monitoring in resource- limited settlings.

Title:
Virological efficacy and emergence of drug resistance in adults on antiretroviral treatment in rural Tanzania.

Authors:
Johannessen A, Naman E, Kivuyo LS, Kasubi MJ, Pertersens-H, Matee MI, Gundersen SG, Bruun JN

Source:
BMC Infectious Diseases, 2009; 9: 108

Objective: To examine virological efficacy and emergence of drug resistance in adults receiving first-line ART for up to 4 years in rural Tanzania.

Methodology:
ART to HIV – infected patients was provided at Haydom Lutheran Hospital since October 2003. A combination of stavudine or Zidovudine with lamivudine and either nevirapine or efavirenz was the standard first – line regimen. Nested in a longitudinal cohort study of patients consecutively starting ART. A cross-sectional virological efficacy survey between November 2007 and June 2008 was done. HIV viral load was measured in all adults who had completed at least 6 months first-line ART, and genotypic resistance was determined in patients with viral load >100 copies/ml.

Results:
Virological response was measured in 212 patients of whom 158 (74.5%) were women, and median age was 55 years median follow-up time was 22.3 months. Virological suppression defined as <400 copies/ML, was observed in 187 patients 88.2%. Overall prevalence of clinically significant resistance mutation was 3.9, 8.4, 16.7 and 12.5% in patients receiving ART for 1,2,3 and 4 years respectively. Among those successfully genotyped, the most frequent mutations were 9M/841/V) 64%, conferring resistance to lamivudine, and K 103 N (27%) and G190 A (27%), conferring resistance to non-nucleoside reverse transcriptase inhibitors whereas 23% had thymidine analogue mutations associated with cross-resistance to all nucleoside reserve transcrptase inhibitors, Dual- class resistance to both NRIIs and NNRTIs, was found in 64%.

Conclusions:
Virological suppression rates were good up to 4 years after initiating ART in a rural Tanzania hospital. However, drug resistance increased with time, and dual-class resistance was common, raising concerns about exhaustion of future antiretroviral drug options. This study might provide a useful forecast of drug resistance and demand for second – line antiretroviral drugs in rural Africa in the coming years.

Title:
Factors associated with mortality in HIV –infected and uninfected patients with pulmonary tuberculosis.

Authors:
Mugusi FM, Mehta S, Villamor E, Urassa W, Saathoff E, Bosch R J, Fawzi WW

Source: BMC Public Health, 2009; 9: 409
Objective:
To investigate factors associated with mortality including patient's HIV Sero-status, CD4 cell count, laboratory, nutritional and demographic characteristics in AFB- smear positive pulmonary TB patients.

Methodology:
A total of 887 sputum smear positive PTB patients between 18 and 65 years were studied. They received standard 8 months anti- TB treatment. Demographic, anthropometric and laboratory data including HIV, CD4 and other tests were collected at baseline and at regular intervals. Patients were followed for a median period of 2.5 years.

Results:
Of the 887 participants, 155 (17.5%) died, of whom 90.3% (140/155) were HIV- infected, a fatality of 29.7% (140/471) compared to 3.6% (15/416) 4 among HIV- uninfected. HIV infection, age, low karnofsky score, CD4 cell counts and hemoglobin, high viral load, and oral thrush were significantly associated with high mortality in all patients.

Conclusions:
Mortality among HIV-infected TB patients is high despite the use of effective anti-TB therapy, an indication that patients die from causes other than TB. HIV infection is the strongest independent predictor of mortality in this cohort.

Title:
Prevention of tuberculosis in Bacille Calmette-Guerin-primed, HIV- infected adults boosted with an inactivated whole-cell mycobacterial vaccine.

Authors:
Von Reyn CF, Mtei L, Arbeit RD, Waddell R, Cole B, Mackenzie T, Matee M, Bakari M, Tvaroha S, Adams LV, Horsburgh CR, Pallangyo K, and DarDar Study Group

Source:
AID, 2010; 24(5): 675-85

Objective:
To determine whether multiple-dose series of an inactivated whole cell mycobacterial vaccine, mycobacterium vaccae, can prevent HIV- associated tuberculosis.

Methodology:
The DarDar trial was a randomized, placebo-controlled, double-blind trial which was carried in an outpatient facility in Dar es Salaam, Tanzania. HIV- infected patients with CD4 cell counts of at least 200 cells/micro/ and a Bacille Calmette Guerin Scra were chosen for study. The intervention was carried out by random 1:1 assignment to five intradermal does of M. vaccae or placebo. Tuberculin tests were performed and patients with reactions of at least 5mm were administered isoniazid for 6 months.

Results:
The main outcome measures were disseminated (primary end point), definite probable tuberculosis (secondary end points). Two thousand thirteen individuals were randomized (1006 to M- vaccae, 1007 to placebo) and followed every 3 months for a median of 3.3 years. The trial was terminated early because of slow accrual of cases of disseminated tuberculosis and significant protection against definite, tuberculosis. Immunization was well tolerated, with no adverse effect on CD4 cell count or HIV viral load, and no increase in the rate of serious adverse events. Administration of a multiple- dose serious of M. vaccae to HIV-infected adults with childhood Bacille Calmette-Guerin immunization is safe and is associated with significant protection against definite tuberculosis.

Conclusion:
The results provide evidence that immunization with a whole cell mycobacterial vaccine is a viable strategy for the prevention of HIV- associated tuberculosis.

Title:
Prevention of mother-to-child transmission of HIV-1 through breast feeding by treating mothers with triple antiretroviral therapy in Dar es Salaam, Tanzania: the Mitra Plus study.

Authors:
Kilewo C, Karlson K, Ngarina M, Massawe A, Lyamuya E, Swai A, Lipyoga R, Mhalu F, Biberfield G, Mitra Plus Study Team.

Source: JAIDS Journal of Acquired Immune Deficiency Syndrome, 2009, 52(3):406-16

Objective:
The aim of the study was to reduce breast-milk transmission of HIV-1 by treating HIV infected women with highly active antiretroviral therapy (HAAT) during breast feeding.

Methodology:
Mitra Plus was an open-label, nonrandomized, prospective cohort study. HIV-1 infected pregnant women in Dar es Salaam were treated with zidovudine (ZDV) + lamivudine (3TC) + nevirapine (NVP), NVP was later replaced by nelfinavir for mothers with CD4 cell count above 200 cells per microliter or with adverse reaction to NVP. HAART was initiated at 34 weeks of gestation. For women with symptomatic HIV infection or CD4 cell count less below 200 per microliter, HAART was started earlier if possible. Treatment of mothers was stopped at 6 months except for those mothers who needed HAART for their own health. The infants received ZDV+3TC for one week after birth. Mothers were advised to exclusively breastfeed and wean abruptly between 5 and 6 months. Transmission of HIV-1 was analyzed using the Kaplan-Meier Survival technique. Cox regression was used for comparison with the breastfeeding population of the Petra trial arm A.

Results:
There were 441 infants included in the analysis of HIV-1 transmission. The cumulative transmission of HIV-1 was 4.1% at 6 weeks, 5.0% at 6 months and 6% at 18 months after delivery. The cumulative risk of HIV transmission between 6 weeks and 6 months was 1.0% and between 6 months and 18 months 1.1%. The cumulative HIV infection or death rate was 8.6% at 6 months and 13.6% at 18 months after delivery. Viral load at enrollment was and duration of HAART before delivery were significantly associated with transmission but CD4 cell count at enrollment was not. The median time of breast feeding was 24 weeks. The transmission in Mitra Plus study was about a half of the transmission in the Petra trial arm A at 6 months

after delivery. The combined outcome HIV infection or death was significantly lower in Mitra plus study than in the breast feeding population in the Petra trial arm A at 18 months. NVP related mucocutanous rash was demonstrated in 6.5% of 429 NVP exposed women. The incidence of NVP related grade 3 -4 hypototoxicity was low (0.5%).

Conclusion:
HAART given to HIV infected mothers in late pregnancy and during breast feeding resulted in low postnatal HIV transmission similar to that previously demonstrated in the Mitra study in Dar es Salaam using infant prophylaxis with 3TC during breast feeding. The extended maternal prophylaxis with HAART for prevention of mother-to-child transmission of HIV-1 for breast feeding mothers who do not need HAART for their own health should be further evaluated and compared with use of infant postnatal antiretroviral prophylaxis regarding safety and cost effectiveness.

Title:
Malaria Parasitemia and CD4 T cell count, viral load, and adverse HIV outcomes among HIV infected pregnant women in Tanzania.

Authors:
Franke MF, Spiegelman D, Ezeamama A, Aboud S, Msamanga GI, Mehta S, Fawzi WW.

Source: American Journal of Tropical Medicine and Hygiene, 2010; 82(4):556 - 62

Objective:
To examine the cross sectional relationship between malaria parasitemia and CD4 T cell count and viral load among human immunodeficiency virus (HIV) - infected pregnant women.

Methodology:
The study involved examining the cross sectional relationships between malaria parasitemia and CD4 T cell count and viral load among HIV –infected pregnant women. Women were then followed to investigate whether or not baseline parasitemia predicted CD4 T cell count or viral load >90 days post baseline or predicted time to HIV disease stage 3 or 4 or Acquired Immunodeficiency Syndrome (AIDS) related disease death (ARD)

Results:
Parasitemia level was nonlinearly associated with viral load at baseline and among measurements taken >90 days post-baseline; women with low baseline parasitemia, versus none, had a higher viral load at both time points. Any baseline parasitemia predicted an increased rate of ARD among women with baseline CD4 T cell count > or = 500 cells/microL).

Conclusion:
Further study is warranted to determine whether or not parasitemia is especially detrimental to individuals with lower levels of immunosuppression or chronic low parasitemia.

Title:
Enhancing adherence to antiretroviral therapy at the HIV clinic in resource constrained countries: the Tanzanian experience.

Authors:
Mugusi F, Mugusi S, Bakari M, Hejdemann B, Josiah R, Janabi M, Aboud S, Aris E, Swai H, Mhalu F, Biberfeld G, Pallangyo K, Sandstrom E.

Source:
Tro Med Int Health, October 2009; 14(10): 1226-32

Objective:
To evaluate various strategies aimed at improving adherence to antiretroviral therapy (ARV)

Methodology:
Patients initiated on ART at Muhimbili National Hospital HIV clinic were randomly assigned to either regular adherence counselling, regular counselling plus a calendar, or regular counselling and treatment assistant. Of the 621 patients randomized, 312 received regular counselling only, 242 regular counselling and calendar, while 67 had treatment assistants in addition to regular counselling. Patients were seen monthly; during these meetings self-reported adherence to treatment was recorded. Disease progression was monitored clinically and immunologically.

Results:
During the follow up 20 patients died (3.2%), and 102 (16.4%) were lost to follow up; this was similar in all groups. In 94.8% of all visits, patients reported to have adhered to treatment. In only 39 (0.7%) visits did patients report less or equal to 95% adherence. There were no differences in adherence or differences in CD4 count and weight changes over time in the interventions.

Conclusion:
Good adherence to ART is possible in resource constrained countries. Persistent adherence counselling in clinic settings by itself may be effective in improving adherence to ART.

Title:
Sex differences in the effects of maternal vitamin supplements on mortality and morbidity among children born to HIV-infected women in Tanzania

Authors:
Kawai K, Msamanga G, Manji K, Villamor E, Bosch RJ, Hertzmark E, Fawzi WW.

Source:
Br j nutr 2010; 103(12): 1784-91

Objective:
To examine whether there are sex differences in effect of vitamin supplements on birth outcomes, mortality and morbidity by 2 years of age among children born to HIV-infected women in Tanzania.

Methodology:
A randomised placebo controlled trial was conducted among 959 mother-infant pairs. HIV infected women were randomly assigned to receive a daily oral dose of one of four regimens; multivitamins (vitamin B-complex, C and E), vitamin A plus beta-carotene, multivitamins including vitamin A plus beta-carotene or placebo. Supplements were administered during pregnancy and continued after delivery.

Results:
The beneficial effect of multivitamins on decreasing the risk of low birth weight was stronger among girls than among boys. Maternal multivitamin supplements resulted in 32% reduction in mortality among girls, whereas no effect was found among boys. Multivitamins had beneficial effects on the overall risks of diarrhea that did not differ by sex. Vitamin A plus beta-carotene alone increased the risk of HIV transmission, but had no effects on mortality, and there is no sex difference in these effects.

Conclusion:
Sex differential effects of multivitamins on mortality may be due to sex-related differences in the immunological or genetic factors. More research is warranted to examine the effect of vitamins by sex and better understand biological mechanisms mediating such effects.

Appendix 1

Distribution of patients currently on ARV by age groups and sex by Districts.

Regions	Districts	Male			Female			Missing Sex			
		<15yrs	15yrs and above	Total	<15yrs	15yrs and above	Total	<15yrs	15yrs and above	Total	Grand total
Dar-es-Salaam	Ilala	795	5749	6544	800	12441	13241	9	62	71	19,856
	Temeke	527	3616	4143	613	9086	9699	0	15	15	13,857
	Kinondoni	372	4320	4692	404	9238	9642	3	22	25	14,359
	Total	**1694**	**13685**	**15379**	**1817**	**30765**	**32582**	**12**	**99**	**111**	**48,072**
Mbeya	Chunya	60	871	931	74	1331	1405	2	4	6	2,342
	ileje	13	131	144	15	268	283	0	0	0	427
	Kyela	183	2013	2196	222	3349	3571	1	31	32	5,799
	Mbarali	98	1028	1126	97	1876	1973	1	2	3	3,102
	Mbeya Rural	42	652	694	58	1066	1124	0	2	2	1,820
	Mbeya Urban	311	2548	2859	374	4510	4884	11	53	64	7,807
	Mbozi	127	1524	1651	111	2057	2168	1	4	5	3,824
	Rungwe	114	1459	1573	104	2101	2205	0	1	1	3,779
	Total	**948**	**10226**	**11174**	**1055**	**16558**	**17613**	**16**	**97**	**113**	**28,900**
Mwanza	Geita	77	915	992	80	1620	1700	0	13	13	2,705
	Ilemela	29	381	410	30	606	636	1	10	11	1,057
	Kwimba	29	437	466	24	602	626	2	21	23	1,115
	Magu	84	755	839	74	1281	1355	1	15	16	2,210
	Misungwi	12	246	258	6	362	368	4	9	13	639
	Nyamagana	266	2183	2449	286	4577	4863	6	34	40	7,352
	Sengerema	25	460	485	31	769	800	0	0	0	1,285
	Ukerewe	15	336	351	27	627	654	0	8	8	1,013
	Total	**537**	**5713**	**6250**	**558**	**10444**	**11002**	**14**	**110**	**124**	**17,376**
	Arumeru	194	824	1018	202	2052	2254	1	7	8	**3,280**
Arusha	Arusha Urban	188	1173	1361	170	2386	2556	1	12	13	**3,930**
	Karatu	23	92	115	38	258	296	0	2	2	**413**
	Monduli	32	164	196	20	388	408	0	1	1	**605**
	Ngorongoro	14	57	71	4	96	100	0	1	1	**172**

	Longido	0	7	7	3	16	19	0	0	0	**26**
	Total	**451**	**2317**	**2768**	**437**	**5196**	**5633**	**2**	**23**	**25**	**8,426**
Manyara	Babati	47	241	288	40	600	640	0	0	0	**928**
	Hanang	9	39	48	9	138	147	0	0	0	**195**
	Kiteto	21	94	115	15	242	257	0	1	1	**373**
	Mbulu	19	183	202	31	378	409	0	0	0	**611**
	Simanjiro	8	37	45	8	57	65	0	1	1	**111**
	Total	**104**	**594**	**698**	**103**	**1415**	**1518**	**0**	**2**	**2**	**2,218**
Mara	Bunda	45	532	577	57	1127	1184	0	2	2	**1,763**
	Musoma Urban	80	972	1052	88	2083	2171	1	16	17	**3,240**
	Rorya	2	113	115	3	199	202	0	3	3	**320**
	Serengeti	24	147	171	38	464	502	0	4	4	**677**
	Tarime	31	631	662	51	1293	1344	0	4	4	**2,010**
	Total	**182**	**2395**	**2577**	**237**	**5166**	**5403**	**1**	**29**	**30**	**8,010**
Kilimanjaro	Hai	74	491	565	81	1062	1143	0	3	3	**1,711**
	Moshi Rural	70	430	500	95	809	904	1	10	11	**1,415**
	Moshi Urban	279	1182	1461	270	2626	2896	16	43	59	**4,416**
	Mwanga	36	137	173	31	363	394	2	4	6	**573**
	Rombo	65	333	398	75	630	705	0	8	8	**1,111**
	Same	61	297	358	74	789	863	0	2	2	**1,223**
	Total	**585**	**2870**	**3455**	**626**	**6279**	**6905**	**19**	**70**	**89**	**10,449**
Singida	Iramba	31	293	324	34	570	604	1	20	21	**949**
	Manyoni	50	269	319	33	685	718	0	5	5	**1,042**
	Singida Rural	12	75	87	19	168	187	0	3	3	**277**
	Singida Urban	43	292	335	46	729	775	0	5	5	**1,115**
	Total	**136**	**929**	**1065**	**132**	**2152**	**2284**	**1**	**33**	**34**	**3,383**
Dodoma	Dodoma Rural	21	294	315	31	581	612	0	0	0	**927**
	Dodoma Urban	58	662	720	63	1581	1644	0	1	1	**2,365**
	Kondoa	18	145	163	34	346	380	1	58	59	**602**
	Kongwa	19	163	182	22	344	366	0	1	1	**549**
	Mpwapwa	124	272	396	107	778	885	0	0	0	**1,281**
	Chamwino	5	51	56	3	134	137	0	0	0	**193**
	Bahi	5	56	61	6	108	114	0	1	1	**176**
	Total	**250**	**1643**	**1893**	**266**	**3872**	**4138**	**1**	**61**	**62**	**6,093**

Morogoro	Kilombero	101	851	952	106	1559	1665	3	32	35	**2,652**
	Kilosa	57	450	507	55	1059	1114	0	4	4	**1,625**
	Morogoro Rural	18	223	241	17	456	473	0	0	0	**714**
	Morogor Urban	97	662	759	118	1811	1929	1	1	2	**2,690**
	Mvomero	26	250	276	46	556	602	0	1	1	**879**
	Ulanga	24	263	287	24	495	519	0	1	1	**807**
	Total	**323**	**2699**	**3022**	**366**	**5936**	**6302**	**4**	**39**	**43**	**9,367**
Tanga	Handeni	32	178	210	42	483	525	0	0	0	**735**
	Kilindi	0	5	5	3	29	32	0	1	1	**38**
	Korogwe	19	90	109	25	264	289	0	0	0	**398**
	Lushoto	16	87	103	14	204	218	0	8	8	**329**
	Mkinga	11	101	112	10	203	213	0	2	2	**327**
	Muheza	113	571	684	116	1525	1641	2	28	30	**2,355**
	Pangani	20	126	146	25	326	351	0	2	2	**499**
	Tanga	202	1113	1315	228	2954	3182	0	7	7	**4,504**
	Total	**413**	**2271**	**2684**	**463**	**5988**	**6451**	**2**	**48**	**50**	**9,185**
Pwani	Bagamoyo	71	420	491	85	984	1069	0	16	16	**1,576**
	Kibaha	69	480	549	94	1123	1217	0	3	3	**1,769**
	Kisarawe	30	336	366	57	701	758	0	1	1	**1,125**
	Mafia	17	69	86	6	132	138	0	0	0	**224**
	Mkuranga	15	259	274	52	769	821	0	1	1	**1,096**
	Rufiji	33	259	292	25	593	618	0	2	2	**912**
	Total	**235**	**1823**	**2058**	**319**	**4302**	**4621**	**0**	**23**	**23**	**6,702**
Lindi	Kilwa	19	156	175	18	275	293	0	0	0	**468**
	Lindi Urban	30	276	306	34	570	604	0	2	2	**912**
	Nachingwea	24	180	204	36	449	485	1	4	5	**694**
	Liwale	5	59	64	8	111	119	0	0	0	**183**
	Ruangwa	21	112	133	19	219	238	0	1	1	**372**
	Lindi Rural	19	99	118	23	299	322	0	0	0	**440**
	Total	**118**	**882**	**1000**	**138**	**1923**	**2061**	**1**	**7**	**8**	**3,069**
Mtwara	Masasi	90	600	690	87	1398	1485	0	3	3	**2,178**
	Mtwara Rural	2	45	47	6	71	77	0	0	0	**124**
	Mtwara Urban	40	355	395	68	818	886	3	27	30	**1,311**
	Nanyumbu	3	33	36	2	99	101	0	4	4	**141**

	Newala	19	132	151	8	294	302	0	5	5	**458**
	Tandahimba	15	134	149	4	217	221	1	5	6	**376**
	Total	**169**	**1299**	**1468**	**175**	**2897**	**3072**	**4**	**44**	**48**	**4,588**
Iringa	Mufindi	408	2440	2848	348	3858	4206	2	10	12	**7,066**
	Iringa Rural	88	646	734	84	1069	1153	0	2	2	**1,889**
	Iringa Urban	212	1332	1544	237	2521	2758	1	15	16	**4,318**
	Kilolo	51	548	599	53	1026	1079	1	1	2	**1,680**
	Ludewa	82	577	659	55	940	995	0	2	2	**1,656**
	Makete	94	1157	1251	115	1728	1843	0	1	1	**3,095**
	Njombe	316	2364	2680	340	4036	4376	1	2	3	**7,059**
	Total	**1251**	**9064**	**10315**	**1232**	**15178**	**16410**	**5**	**33**	**38**	**26,763**
Ruvuma	Mbinga	84	753	837	85	1241	1326	0	0	0	**2,163**
	Namtumbo	8	114	122	12	286	298	0	1	1	**421**
	Songea Rural	82	832	914	101	1509	1610	1	1	2	**2,526**
	Songea Urban	121	935	1056	129	2021	2150	0	5	5	**3,211**
	Tunduru	28	274	302	32	486	518	3	4	7	**827**
	Total	**323**	**2908**	**3231**	**359**	**5543**	**5902**	**4**	**11**	**15**	**9,148**
Rukwa	Mpanda	49	929	978	76	1725	1801	1	5	6	**2,785**
	Nkasi	24	298	322	35	565	600	6	14	20	**942**
	Sumbwanga Rural	31	491	522	39	824	863	0	1	1	**1,386**
	Sumbwanga Urban	84	1094	1178	112	1973	2085	0	25	25	**3,288**
	Total	**188**	**2812**	**3000**	**262**	**5087**	**5349**	**7**	**45**	**52**	**8,401**
Tabora	Igunga	83	826	909	88	1283	1371	3	31	34	**2,314**
	Nzega	77	737	814	98	1217	1315	3	15	18	**2,147**
	Sikonge	25	233	258	33	449	482	0	0	0	**740**
	Tabora Urban	75	642	717	84	1168	1252	0	3	3	**1,972**
	Urambo	44	450	494	41	663	704	0	32	32	**1,230**
	Uyui	11	92	103	16	137	153	0	0	0	**256**
	Total	**315**	**2980**	**3295**	**360**	**4917**	**5277**	**6**	**81**	**87**	**8,659**
Shinyanga	Bariadi	104	728	832	100	1165	1265	2	11	13	**2,110**
	Bukombe	84	742	826	84	1286	1370	1	7	8	**2,204**
	Kahama	111	1233	1344	118	2162	2280	1	14	15	**3,639**
	Kishapu	30	256	286	30	418	448	0	0	0	**734**

	Maswa	37	436	473	43	665	708	0	6	6	**1,187**
	Meatu	30	208	238	36	340	376	0	0	0	**614**
	Shinyanga Rural	47	335	382	39	494	533	0	1	1	**916**
	Shinyanga Urban	81	734	815	88	1601	1689	0	7	7	**2,511**
	Total	**524**	**4672**	**5196**	**538**	**8131**	**8669**	**4**	**46**	**50**	**13,915**
Kigoma	Kasulu	32	222	254	25	366	391	0	0	0	**645**
	Kibondo	23	151	174	14	322	336	2	5	7	**517**
	Kigoma Rural	10	69	79	4	138	142	0	0	0	**221**
	Kigoma Urban	30	224	254	51	600	651	0	4	4	**909**
	Total	**95**	**666**	**761**	**94**	**1426**	**1520**	**2**	**9**	**11**	**2,292**
Kagera	Biharamulo	26	191	217	15	299	314	0	0	0	**531**
	Bukoba Urban	102	987	1089	118	1728	1846	3	23	26	**2,961**
	Chato	12	276	288	15	416	431	1	2	3	**722**
	Karagwe	56	457	513	62	857	919	1	3	4	**1,436**
	Misenye	37	298	335	31	482	513	0	0	0	**848**
	Muleba	75	711	786	74	1206	1280	0	0	0	**2,066**
	Ngara	23	175	198	27	339	366	0	4	4	**568**
	Total	**331**	**3095**	**3426**	**342**	**5327**	**5669**	**5**	**32**	**37**	**9,132**
	Grand total	**9,172**	**75,543**		**9,879**	**148,502**		**110**	**942**		**244,148**

Appendix II

Age and sex distribution of HIV testing and counseling campaign by districts and regions

1.IRINGA	INDICATOR	Total	Total Male	Total Female	M<15 yrs	F<15 yrs	M15-24yrs	F15-24yrs	M 25-34yrs	F25-34yrs	M35-49yrs	F35-49yrs	M>49 yrs	F>49 yrs
	Number of new clients pre-test counselled	19,202	7,101	12,101	718	1,273	2,757	5,044	1,909	3,451	1,411	1,876	306	457
	Number of new clients post-test counselled and given HIV test results	19,167	7,074	12,093	716	1,273	2,757	5,044	1,908	3,451	1,399	1,876	294	449
Iringa Urban	Number of new clients HIV positive	3,430	1,160	2,270	131	171	128	516	438	829	365	507	98	247
	Number of new clients pre-test counselled	16,375	7,472	8,903	1534	580	1669	2448	1386	2371	1519	2374	1364	1130
	Number of new clients post-test counselled and given HIV test results	16,375	7,472	8,903	1534	580	1669	2448	1386	2371	1519	2374	1364	1130
Makete	Number of new clients HIV positive	2,993	1,212	1,781	80	96	161	379	382	644	420	518	169	144
	Number of new clients pre-test counselled	53,720	21,585	32,135	524	920	6727	10539	5580	9914	5557	7856	3197	2906
	Number of new clients post-test counselled and given HIV test results	50,205	21,585	28,620	524	920	6727	10539	5580	9914	5557	4341	3197	2906
Njombe	Number of new clients HIV positive	7,312	2,508	4,804	117	102	293	1010	834	2086	1011	1319	253	287
	Number of new clients pre-test counselled	17,819	6,518	11,301	5	10	1532	3008	2179	4000	2091	3932	711	351
	Number of new clients post-test counselled and given HIV test results	17,819	6,518	11,301	5	10	1532	3008	2179	4000	2091	3932	711	351
Ludewa	Number of new clients HIV positive	2,460	784	1,676	0	2	132	412	294	639	279	593	79	30
	Number of new clients pre-test counselled	26,697	10,892	15,805	236	341	3442	4242	2791	5520	2609	4040	1814	1662
	Number of new clients post-test counselled and given HIV test results	26,697	10,892	15,805	236	341	3442	4242	2791	5520	2609	4040	1814	1662
Iringa Rural	Number of new clients HIV positive	2,752	1,023	1,729	26	25	135	314	388	693	338	564	136	133
	Number of new clients pre-test counselled	27,634	12,736	14,898	233	282	2917	5331	4993	4811	2328	3104	2265	1370
	Number of new clients post-test counselled and given HIV test results	24,563	12,736	11,827	233	282	2917	2260	4993	4811	2328	3104	2265	1370
Kilolo	Number of new clients HIV positive	3,176	1,304	1,872	23	30	72	405	514	806	412	462	283	169
	Number of new clients pre-test counselled	26,471	12,820	13,651	657	756	4789	5285	3010	3823	3282	2746	1082	1041
	Number of new clients post-test counselled and given HIV test results	25,538	12,500	13,038	594	472	4706	5162	2940	3748	3215	2646	1045	1010
Mufindi	Number of new clients HIV positive	4,400	1,774	2,626	120	135	176	571	750	1091	534	646	194	183

TOTAL IRINGA	Number of new clients pre-test counselled	187,918	79,124	108,794	3,907	4,162	23,833	35,897	21,848	33,890	18,797	25,928	10,739	8,917
	Number of new clients post-test counselled and given HIV test results	180,364	78,777	101,587	3,842	3,878	23,750	32,703	21,777	33,815	18,718	22,313	10,690	8,878
	Number of new clients HIV positive	26,523	9,765	16,758	497	561	1,097	3,607	3,600	6,788	3,359	4,609	1,212	1,193
2.RUKWA														
	Number of new clients pre-test counselled	31,719	17,191	14,528	296	499	3581	3846	5782	4900	5707	3459	1825	1824
	Number of new clients post-test counselled and given HIV test results	31,719	17,191	14,528	296	499	3581	3846	5782	4900	5707	3459	1825	1824
Mpanda	Number of new clients HIV positive	1,586	642	944	31	56	147	267	184	265	167	230	113	126
	Number of new clients pre-test counselled	26,299	12,139	14,160	48	30	3548	4286	3150	3481	3179	4102	2214	2261
	Number of new clients post-test counselled and given HIV test results	26,299	12,139	14,160	48	30	3548	4286	3150	3481	3179	4102	2214	2261
Nkasi	Number of new clients HIV positive	713	328	385	9	2	52	105	101	109	131	128	35	41
	Number of new clients pre-test counselled	41,171	20,188	20,983	186	283	6104	6103	6039	6479	5099	5690	2760	2428
	Number of new clients post-test counselled and given HIV test results	41,081	20,188	20,893	186	283	6104	6103	6039	6389	5099	5690	2760	2428
Sumbawanga Rural	Number of new clients HIV positive	2,336	1,147	1,189	14	25	290	335	340	288	331	342	172	199
	Number of new clients pre-test counselled	27,949	13,662	14,287	117	148	3865	4212	3949	3788	3580	3722	2151	2417
	Number of new clients post-test counselled and given HIV test results	27,949	13,662	14,287	117	148	3865	4212	3949	3788	3580	3722	2151	2417
Sumbawanga Urban	Number of new clients HIV positive	2,111	955	1,156	8	17	197	278	309	359	253	305	188	197
	Number of new clients pre-test counselled	127,138	63,180	63,958	647	960	17098	18447	18920	18648	17565	16973	8950	8930
	Number of new clients post-test counselled and given HIV test results	127,048	63,180	63,868	647	960	17098	18447	18920	18558	17565	16973	8950	8930
TOTAL RUKWA	Number of new clients HIV positive	6,746	3,072	3,674	62	100	686	985	934	1021	882	1005	508	563
3.RUVUMA														
	Number of new clients pre-test counselled	40,967	20,806	20,161	3574	2563	3865	6539	7007	5247	4474	3932	1886	1880
	Number of new clients post-test counselled and given HIV test results	40,867	20,806	20,061	3574	2463	3865	6539	7007	5247	4474	3932	1886	1880
Tunduru	Number of new clients HIV positive	1,888	906	982	149	103	152	252	171	198	236	354	198	75
	Number of new clients pre-test counselled	26,227	11,584	14,643	761	1142	4444	5532	3128	4178	2371	2704	880	1087
	Number of new clients post-test counselled and given HIV test results	26,224	11,584	14,640	761	1142	4444	5532	3128	4178	2371	2701	880	1087
Songea Urban	Number of new clients HIV positive	2,748	924	1,824	85	60	71	334	306	760	358	562	104	108

	Number of new clients pre-test counselled	25,334	10,605	14,729	384	432	2283	3971	2875	4217	2984	4157	2079	1952
	Number of new clients post-test counselled and given HIV test results	25,334	10,605	14,729	384	432	2283	3971	2875	4217	2984	4157	2079	1952
Songea Rural	Number of new clients HIV positive	2,335	967	1,368	48	55	103	202	315	548	322	429	179	134
	Number of new clients pre-test counselled	49,098	23,959	25,139	243	310	5984	6525	8103	5553	7197	8446	2432	4305
	Number of new clients post-test counselled and given HIV test results	49,098	23,959	25,139	243	310	5984	6525	8103	5553	7197	8446	2432	4305
Mbinga	Number of new clients HIV positive	2,659	1,102	1,557	22	44	133	370	401	514	452	534	94	95
	Number of new clients pre-test counselled	20,135	7,720	12,415	36	51	880	1321	2481	4622	3326	5696	997	725
	Number of new clients post-test counselled and given HIV test results	20,135	7,720	12,415	36	51	880	1321	2481	4622	3326	5696	997	725
Namtumbo	Number of new clients HIV positive	734	289	445	8	8	42	72	110	194	76	130	53	41
TOTAL RUVUMA	Number of new clients pre-test counselled	161,761	74,674	87,087	4998	4498	17456	23888	23594	23817	20352	24935	8274	9949
	Number of new clients post-test counselled and given HIV test results	161,658	74,674	86,984	4998	4398	17456	23888	23594	23817	20352	24932	8274	9949
	Number of new clients HIV positive	10,364	4,188	6,176	312	270	501	1230	1303	2214	1444	2009	628	453
4.MBEYA														
	Number of new clients pre-test counselled	21,039	8,652	12,387	50	67	746	2896	2089	4095	4465	4399	1302	930
	Number of new clients post-test counselled and given HIV test results	21,039	8,652	12,387	50	67	746	2896	2089	4095	4465	4399	1302	930
Chunya	Number of new clients HIV positive	2,472	1,068	1,404	19	36	81	305	340	545	479	457	149	61
	Number of new clients pre-test counselled	21,939	10,393	11,546	86	93	2608	2885	3129	4363	3195	2701	1375	1504
	Number of new clients post-test counselled and given HIV test results	21,938	10,393	11,545	86	92	2608	2885	3129	4363	3195	2701	1375	1504
Mbeya Rural	Number of new clients HIV positive	2,522	1,133	1,389	13	12	230	347	364	487	363	374	163	169
	Number of new clients pre-test counselled	36,695	15,645	21,050	242	238	6148	8571	5785	7828	2800	3553	670	860
	Number of new clients post-test counselled and given HIV test results	36,695	15,645	21,050	242	238	6148	8571	5785	7828	2800	3553	670	860
Mbeya Urban	Number of new clients HIV positive	4,393	1,560	2,833	78	71	207	708	604	1239	573	671	98	144
	Number of new clients pre-test counselled	19,005	9,481	9,524	78	86	2635	2372	2937	2740	2953	1900	878	2426
	Number of new clients post-test counselled and given HIV test results	19,005	9,481	9,524	78	86	2635	2372	2937	2740	2953	1900	878	2426
Mbozi	Number of new clients HIV positive	2,344	930	1,414	40	31	119	253	263	537	345	412	163	181
Ileje	Number of new clients pre-test counselled	8,451	3,866	4,585	27	29	1229	1313	1365	1648	1048	1452	197	143

	Number of new clients post-test counselled and given HIV test results	8,352	3,866	4,486	27	29	1229	1214	1365	1648	1048	1452	197	143
	Number of new clients HIV positive	288	128	160	1	0	25	46	55	74	36	28	11	12
	Number of new clients pre-test counselled	21,628	7,908	13,720	184	205	2111	4682	2579	4648	2197	2967	837	1218
	Number of new clients post-test counselled and given HIV test results	21,628	7,908	13,720	184	205	2111	4682	2579	4648	2197	2967	837	1218
Rungwe	Number of new clients HIV positive	3,273	1,241	2,032	36	48	140	456	445	846	494	499	126	183
	Number of new clients pre-test counselled	17,963	8,965	8,998	54	62	1430	2428	3497	3558	3142	2034	842	916
	Number of new clients post-test counselled and given HIV test results	17,963	8,965	8,998	54	62	1430	2428	3497	3558	3142	2034	842	916
Mbarali	Number of new clients HIV positive	2,710	1,014	1,696	18	17	61	388	533	717	311	484	91	90
	Number of new clients pre-test counselled	9,159	3,766	5,393	189	196	619	873	1320	2505	1206	1444	432	375
	Number of new clients post-test counselled and given HIV test results	9,156	3,763	5,393	186	196	619	873	1320	2505	1206	1444	432	375
Kyela	Number of new clients HIV positive	1,982	815	1,167	32	35	145	215	270	450	256	328	112	139
	Number of new clients pre-test counselled	155,879	68,676	87,203	910	976	17526	26020	22701	31385	21006	20450	6533	8372
TOTAL MBEYA	Number of new clients post-test counselled and given HIV test results	155,776	68,673	87,103	907	975	17526	25921	22701	31385	21006	20450	6533	8372
	Number of new clients HIV positive	19,984	7,889	12,095	237	250	1008	2718	2874	4895	2857	3253	913	979
5.SINGIDA														
	Number of new clients pre-test counselled	25,444	9,019	16,425	298	320	2692	5582	2445	5664	2201	3616	1383	1243
	Number of new clients post-test counselled and given HIV test results	24,117	8,570	15,547	292	306	2605	5380	2257	5283	2049	3363	1367	1215
Iramba	Number of new clients HIV positive	925	252	673	23	24	20	110	56	313	104	204	49	22
	Number of new clients pre-test counselled	34,784	11,863	22,921	123	314	2475	6271	3208	7189	4901	7615	1156	1532
	Number of new clients post-test counselled and given HIV test results	33,037	11,425	21,612	112	285	2435	6031	3039	6419	4691	7349	1148	1528
Manyoni	Number of new clients HIV positive	1,550	597	953	10	21	57	180	275	324	153	326	102	102
	Number of new clients pre-test counselled	30,176	8,970	21,206	202	289	3277	8005	2594	7671	2186	4280	711	961
	Number of new clients post-test counselled and given HIV test results	30,113	8,910	21,203	202	289	3277	8005	2594	7668	2186	4280	651	961
Singida Rural	Number of new clients HIV positive	403	124	279	7	17	5	61	42	116	43	72	27	13
Singida Urban	Number of new clients pre-test counselled	11,409	4,642	6,767	160	160	1945	2726	1429	2569	973	1089	135	223

	Number of new clients post-test counselled and given HIV test results	11,409	4,642	6,767	160	160	1945	2726	1429	2569	973	1089	135	223
	Number of new clients HIV positive	643	191	452	2	2	25	93	57	187	86	145	21	25
TOTAL SINGIDA	Number of new clients pre-test counselled	101,813	34,494	67,319	783	1083	10389	22584	9676	23093	10261	16600	3385	3959
	Number of new clients post-test counselled and given HIV test results	98,676	33,547	65,129	766	1040	10262	22142	9319	21939	9899	16081	3301	3927
	Number of new clients HIV positive	3,521	1,164	2,357	42	64	107	444	430	940	386	747	199	162
6.KILIMANJARO														
	Number of new clients pre-test counselled	24,070	12,052	12,018	771	586	2527	2717	3177	4056	2721	2743	2856	1916
	Number of new clients post-test counselled and given HIV test results	24,065	12,052	12,013	771	586	2527	2717	3177	4051	2721	2743	2856	1916
Hai	Number of new clients HIV positive	113	53	60	0	1	7	10	18	26	19	16	9	7
Moshi Rural	Number of new clients pre-test counselled	62,190	27,458	34,732	1711	2591	5857	9790	6981	8702	5970	9410	6939	4239
	Number of new clients post-test counselled and given HIV test results	62,190	27,458	34,732	1711	2591	5857	9790	6981	8702	5970	9410	6939	4239
	Number of new clients HIV positive	1,204	484	720	32	45	72	126	112	216	116	248	152	85
	Number of new clients pre-test counselled	24,601	11,472	13,129	17	63	205	267	5543	6548	5337	5749	370	502
	Number of new clients post-test counselled and given HIV test results	24,601	11,472	13,129	17	63	205	267	5543	6548	5337	5749	370	502
Moshi Urban	Number of new clients HIV positive	709	238	471	0	0	2	2	110	223	93	236	33	10
	Number of new clients pre-test counselled	15,969	7,184	8,785	149	181	2082	2656	2006	2422	1810	2533	1137	993
	Number of new clients post-test counselled and given HIV test results	15,967	7,184	8,783	149	179	2082	2656	2006	2422	1810	2533	1137	993
Mwanga	Number of new clients HIV positive	580	246	334	3	10	55	106	75	104	85	82	28	32
	Number of new clients pre-test counselled	43,524	16,437	27,087	1372	2253	3337	7101	3735	6265	5186	8152	2807	3316
	Number of new clients post-test counselled and given HIV test results	43,524	16,437	27,087	1372	2253	3337	7101	3735	6265	5186	8152	2807	3316
Rombo	Number of new clients HIV positive	788	268	520	25	102	44	129	106	199	39	74	54	16
	Number of new clients pre-test counselled	40,923	18,122	22,801	3138	3739	3959	6313	4082	5722	4315	4953	2628	2074
	Number of new clients post-test counselled and given HIV test results	40,512	17,969	22,543	3123	3683	3933	6258	4054	5666	4295	4887	2564	2049
Same	Number of new clients HIV positive	956	278	678	30	54	23	87	54	279	115	207	56	51

TOTAL KILIMANJARO	Number of new clients pre-test counselled	211,277	92,725	118,552	7158	9413	17967	28844	25524	33715	25339	33540	16737	13040
	Number of new clients post-test counselled and given HIV test results	210,859	92,572	118,287	7143	9355	17941	28789	25496	33654	25319	33474	16673	13015
	Number of new clients HIV positive	4,350	1,567	2,783	90	212	203	460	475	1047	467	863	332	201
7.ARUSHA														
	Number of new clients pre-test counselled	31,181	12,340	18,841	2212	2715	2690	5645	3311	4876	3134	3569	993	2036
	Number of new clients post-test counselled and given HIV test results	31,178	12,340	18,838	2212	2715	2690	5645	3311	4873	3134	3569	993	2036
Arumeru	Number of new clients HIV positive	2,829	1,064	1,765	117	209	302	371	246	540	337	441	62	204
	Number of new clients pre-test counselled	39,014	15,619	23,395	2169	2629	3756	7138	4708	6738	3781	4593	1205	2297
	Number of new clients post-test counselled and given HIV test results	38,885	15,589	23,296	2139	2629	3756	7138	4708	6738	3781	4494	1205	2297
Arusha Urban	Number of new clients HIV positive	2,630	986	1,644	95	183	281	378	266	567	310	426	34	90
	Number of new clients pre-test counselled	8,565	3,432	5,133	65	86	819	1601	1389	1990	926	1117	233	339
	Number of new clients post-test counselled and given HIV test results	8,556	3,432	5,124	65	86	819	1601	1389	1981	926	1117	233	339
Karatu	Number of new clients HIV positive	1,622	605	1,017	21	18	141	326	250	389	147	227	46	57
	Number of new clients pre-test counselled	6,433	3,172	3,261	81	104	636	550	1318	1373	728	751	409	483
	Number of new clients post-test counselled and given HIV test results	6,361	3,143	3,218	80	103	630	536	1309	1362	720	742	404	475
Monduli	Number of new clients HIV positive	336	116	220	4	8	8	40	49	104	39	52	16	16
	Number of new clients pre-test counselled	12,674	5,103	7,571	693	872	1219	2440	1444	2278	1278	1399	469	582
	Number of new clients post-test counselled and given HIV test results	12,601	5,033	7,568	693	869	1219	2440	1374	2278	1278	1399	469	582
Ngorongoro	Number of new clients HIV positive	558	206	352	29	47	27	38	74	133	70	88	6	46
		0	0	0										
TOTAL ARUSHA	Number of new clients pre-test counselled	97,867	39,666	58,201	5220	6406	9120	17374	12170	17255	9847	11429	3309	5737
	Number of new clients post-test counselled and given HIV test results	97,581	39,537	58,044	5189	6402	9114	17360	12091	17232	9839	11321	3304	5729
	Number of new clients HIV positive	7,975	2,977	4,998	266	465	759	1153	885	1733	903	1234	164	413
8.MANYARA														
Babati	Number of new clients pre-test counselled	51,230	26,081	25,149	636	550	6158	8221	10474	7750	6629	7761	2184	867
	Number of new clients post-test counselled and given	51,230	26,081	25,149	636	550	6158	8221	10474	7750	6629	7761	2184	867

	HIV test results													
	Number of new clients HIV positive	1,368	461	907	3	5	69	268	187	312	131	310	71	12
Hanang	Number of new clients pre-test counselled	31,819	19,699	12,120	139	170	6101	5842	10289	2610	2321	2466	849	1032
	Number of new clients post-test counselled and given HIV test results	23,940	11,820	12,120	139	170	6101	5842	2410	2610	2321	2466	849	1032
	Number of new clients HIV positive	254	105	149	0	4	23	38	40	54	36	50	6	3
Kiteto	Number of new clients pre-test counselled	19,290	7,206	12,084	182	164	790	3071	3856	4452	2049	4105	329	292
	Number of new clients post-test counselled and given HIV test results	19,290	7,206	12,084	182	164	790	3071	3856	4452	2049	4105	329	292
	Number of new clients HIV positive	597	173	424	1	5	19	57	74	194	58	145	21	23
Mbulu	Number of new clients pre-test counselled	32,487	14,360	18,127	522	559	4319	6490	4138	5823	3449	3831	1932	1424
	Number of new clients post-test counselled and given HIV test results	32,487	14,360	18,127	522	559	4319	6490	4138	5823	3449	3831	1932	1424
	Number of new clients HIV positive	238	97	141	2	1	37	48	31	56	16	28	11	8
Simanjiro	Number of new clients pre-test counselled	11,277	5,268	6,009	1	2	1308	1395	1846	1998	1483	2124	630	490
	Number of new clients post-test counselled and given HIV test results	11,277	5,268	6,009	1	2	1308	1395	1846	1998	1483	2124	630	490
	Number of new clients HIV positive	287	146	141	0	0	10	11	60	61	70	60	6	9
TOTAL MANYARA	Number of new clients pre-test counselled	146,103	72,614	73,489	1480	1445	18676	25019	30603	22633	15931	20287	5924	4105
	Number of new clients post-test counselled and given HIV test results	138,224	64,735	73,489	1480	1445	18676	25019	22724	22633	15931	20287	5924	4105
	Number of new clients HIV positive	2,744	982	1,762	6	15	158	422	392	677	311	593	115	55
9.KIGOMA														
Kasulu	Number of new clients pre-test counselled	54,582	20,637	33,945	121	106	5546	9696	7811	12844	4947	8567	2212	2732
	Number of new clients post-test counselled and given HIV test results	54,582	20,637	33,945	121	106	5546	9696	7811	12844	4947	8567	2212	2732
	Number of new clients HIV positive	383	142	241	2	2	31	56	51	72	42	86	16	25
Kibondo	Number of new clients pre-test counselled	3,445	1,397	2,048	24	30	483	825	407	637	376	393	107	163
	Number of new clients post-test counselled and given HIV test results	3,445	1,397	2,048	24	30	483	825	407	637	376	393	107	163
	Number of new clients HIV positive	152	55	97	7	4	4	21	24	35	16	27	4	10
Kigoma Rural	Number of new clients pre-test counselled	87,566	39,435	48,131	44	52	9369	16953	11838	13961	15603	13962	2581	3203
	Number of new clients post-test counselled and given	87,566	39,435	48,131	44	52	9369	16953	11838	13961	15603	13962	2581	3203

	HIV test results													
	Number of new clients HIV positive	1,270	521	749	3	1	84	183	167	226	215	313	52	26
Kigoma Urban	Number of new clients pre-test counselled	7,990	4,200	3,790	125	109	1617	1617	916	1195	1330	542	212	327
	Number of new clients post-test counselled and given HIV test results	7,990	4,200	3,790	125	109	1617	1617	916	1195	1330	542	212	327
	Number of new clients HIV positive	191	61	130	13	15	8	45	12	39	23	20	5	11
TOTAL KIGOMA	Number of new clients pre-test counselled	153,583	65,669	87,914	314	297	17015	29091	20972	28637	22256	23464	5112	6425
	Number of new clients post-test counselled and given HIV test results	153,583	65,669	87,914	314	297	17015	29091	20972	28637	22256	23464	5112	6425
	Number of new clients HIV positive	1,996	779	1,217	25	22	127	305	254	372	296	446	77	72
10.DAR ES SALAAM														
Ilala	Number of new clients pre-test counselled	58,666	25,742	32,924	759	865	6347	11124	9595	12054	7142	6157	1899	2724
	Number of new clients post-test counselled and given HIV test results	58,067	25,538	32,529	747	856	6311	11026	9520	11912	7096	6030	1864	2705
	Number of new clients HIV positive	8,762	3,009	5,753	204	218	240	913	958	2480	1220	1699	387	443
Kinondoni	Number of new clients pre-test counselled	53,671	17,971	35,700	476	708	5506	15796	7000	12887	3807	5017	1182	1292
	Number of new clients post-test counselled and given HIV test results	52,878	17,661	35,217	469	702	5440	15648	6886	12691	3724	4915	1142	1261
	Number of new clients HIV positive	7,239	1,978	5,261	97	101	166	1111	700	2562	791	1260	224	227
Temeke	Number of new clients pre-test counselled	55,256	22,819	32,437	915	1040	6575	10718	7332	10601	5813	7756	2184	2322
	Number of new clients post-test counselled and given HIV test results	55,160	22,790	32,370	915	1040	6566	10699	7317	10585	5810	7725	2182	2321
	Number of new clients HIV positive	7,727	2,605	5,122	182	217	253	807	862	2125	1006	1651	302	322
TOTAL DAR ES SALAAM	Number of new clients pre-test counselled	167,593	66,532	101,061	2150	2613	18428	37638	23927	35542	16762	18930	5265	6338
	Number of new clients post-test counselled and given HIV test results	166,105	65,989	100,116	2131	2598	18317	37373	23723	35188	16630	18670	5188	6287
	Number of new clients HIV positive	23,728	7,592	16,136	483	536	659	2831	2520	7167	3017	4610	913	992
11.DODOMA														
Dodoma Rural	Number of new clients pre-test counselled	27,997	13,706	14,291	3	6	3890	4522	5149	5871	3494	3011	1170	881
	Number of new clients post-test counselled and given HIV test results	27,443	13,594	13,849	3	6	3873	4339	5093	5695	3464	2929	1161	880
	Number of new clients HIV positive	885	393	492	3	5	7	53	70	117	234	251	79	66

Dodoma Urban	Number of new clients pre-test counselled	98,075	40,684	57,391	249	325	6563	11775	12337	16749	21327	28301	208	241
	Number of new clients post-test counselled and given HIV test results	98,074	40,683	57,391	249	325	6563	11775	12336	16749	21327	28301	208	241
	Number of new clients HIV positive	4,978	1,856	3,122	12	23	247	179	745	1140	822	1732	30	48
Kondoa														
	Number of new clients pre-test counselled	114,679	51,817	62,862	2371	2323	10649	22372	16029	20489	18261	12766	4507	4912
	Number of new clients post-test counselled and given HIV test results	114,506	51,644	62,862	2371	2323	10476	22372	16029	20489	18261	12766	4507	4912
	Number of new clients HIV positive	2,420	1,268	1,152	10	73	228	337	470	437	436	246	124	59
Kongwa														
	Number of new clients pre-test counselled	117,253	21,190	96,063	0	0	7174	13101	7740	71413	4158	9628	2118	1921
	Number of new clients post-test counselled and given HIV test results	117,253	21,190	96,063	0	0	7174	13101	7740	71413	4158	9628	2118	1921
	Number of new clients HIV positive	2,177	817	1,360	0	0	305	595	370	456	81	267	61	42
Mpwapwa	Number of new clients pre-test counselled	72,516	32,911	39,605	15386	17603	7328	8998	4254	6558	3924	4599	2019	1847
	Number of new clients post-test counselled and given HIV test results	72,516	32,911	39,605	15386	17603	7328	8998	4254	6558	3924	4599	2019	1847
	Number of new clients HIV positive	1,132	477	655	56	57	74	143	158	251	138	169	51	35
TOTAL DODOMA	Number of new clients pre-test counselled	430,520	160,308	270,212	18009	20257	35604	60768	45509	121080	51164	58305	10022	9802
	Number of new clients post-test counselled and given HIV test results	429,792	160,022	269,770	18009	20257	35414	60585	45452	120904	51134	58223	10013	9801
	Number of new clients HIV positive	11,592	4,811	6,781	81	158	861	1307	1813	2401	1711	2665	345	250
12.SHINYANGA														
Bariadi	Number of new clients pre-test counselled	102,438	38,582	63,856	4154	5036	14356	24105	10237	21042	7127	11048	2708	2625
	Number of new clients post-test counselled and given HIV test results	102,315	38,524	63,791	4145	5024	14336	24089	10226	21023	7113	11037	2704	2618
	Number of new clients HIV positive	3,371	1,150	2,221	38	47	111	587	463	874	465	607	73	106
Maswa														
	Number of new clients pre-test counselled	14,867	6,048	8,819	317	472	1684	2531	1644	2885	1797	2482	606	449
	Number of new clients post-test counselled and given HIV test results	14,790	5,971	8,819	317	472	1652	2531	1599	2885	1797	2482	606	449
	Number of new clients HIV positive	511	212	299	7	8	57	90	67	100	62	83	19	18

Shinyanga Rural														
	Number of new clients pre-test counselled	30,770	12,651	18,119	245	233	2229	5744	3390	6364	4642	3899	2145	1879
	Number of new clients post-test counselled and given HIV test results	30,682	12,591	18,091	245	233	2221	5744	3358	6348	4636	3897	2131	1869
	Number of new clients HIV positive	2,095	823	1,272	1	0	141	372	248	512	308	299	125	89
Kahama														
	Number of new clients pre-test counselled	38,314	16,152	22,162	372	420	4415	6380	4984	5606	3798	8126	2583	1630
	Number of new clients post-test counselled and given HIV test results	38,314	16,152	22,162	372	420	4415	6380	4984	5606	3798	8126	2583	1630
	Number of new clients HIV positive	521	175	346	2	9	17	104	46	109	72	87	38	37
Shinyanga Urban														
	Number of new clients pre-test counselled	37,243	21,461	15,782	190	238	5416	4203	9814	6903	5539	3902	502	536
	Number of new clients post-test counselled and given HIV test results	37,011	21,353	15,658	190	238	5416	4203	9814	6900	5431	3781	502	536
	Number of new clients HIV positive	3,875	1,507	2,368	19	23	320	268	705	1606	407	385	56	86
Meatu														
	Number of new clients pre-test counselled	11,466	6,311	5,155	986	603	1694	1106	2341	1827	1000	959	290	660
	Number of new clients post-test counselled and given HIV test results	11,466	6,311	5,155	986	603	1694	1106	2341	1827	1000	959	290	660
	Number of new clients HIV positive	263	130	133	8	9	35	30	53	44	30	28	4	22
Bukombe														
	Number of new clients pre-test counselled	55,140	19,492	35,648	216	318	6929	12881	6545	10363	5017	9286	785	2800
	Number of new clients post-test counselled and given HIV test results	55,140	19,492	35,648	216	318	6929	12881	6545	10363	5017	9286	785	2800
	Number of new clients HIV positive	3,154	1,521	1,633	24	61	497	535	525	480	397	478	78	79
Kishapu														
	Number of new clients pre-test counselled	32,792	13,404	19,388	264	288	5330	7421	4792	8549	2251	2423	767	707
	Number of new clients post-test counselled and given HIV test results	32,772	13,384	19,388	264	288	5330	7421	4792	8549	2231	2423	767	707
	Number of new clients HIV positive	1,229	532	697	12	5	188	277	205	245	93	122	34	48
TOTAL SHINYANGA	Number of new clients pre-test counselled	323,030	134,101	188,929	6744	7608	42053	64371	43747	63539	31171	42125	10386	112816
	Number of new clients post-test counselled and given HIV test results	322,490	133,778	188,712	6735	7596	41993	64355	43659	63501	31023	41991	10368	112619
	Number of new clients HIV positive	15,019	6,050	8,969	111	162	1366	2263	2312	3970	1834	2089	427	485

13.TABORA														
Nzega	Number of new clients pre-test counselled	63,905	23,963	39,942	66	544	5035	8887	8052	15025	10043	13274	767	2212
	Number of new clients post-test counselled and given HIV test results	61,833	22,965	38,868	61	520	4280	8843	8006	14472	9869	12945	749	2088
	Number of new clients HIV positive	4,813	1,612	3,201	4	8	160	662	568	1224	828	1163	52	144
Igunga														
	Number of new clients pre-test counselled	44,123	14,972	29,151	918	646	5105	9391	6005	11039	2287	7509	657	566
	Number of new clients post-test counselled and given HIV test results	44,123	14,972	29,151	918	646	5105	9391	6005	11039	2287	7509	657	566
	Number of new clients HIV positive	2,091	740	1,351	31	44	188	386	322	526	146	363	53	32
Sikonge														
	Number of new clients pre-test counselled	21,418	8,800	12,618	301	1067	2287	3570	2861	4508	2058	2502	1293	971
	Number of new clients post-test counselled and given HIV test results	21,418	8,800	12,618	301	1067	2287	3570	2861	4508	2058	2502	1293	971
	Number of new clients HIV positive	1,218	428	790	26	82	122	239	153	290	90	133	37	46
Urambo														
	Number of new clients pre-test counselled	45,926	26,475	19,451	58	43	9830	5958	9399	9965	7087	3258	101	227
	Number of new clients post-test counselled and given HIV test results	45,926	26,475	19,451	58	43	9830	5958	9399	9965	7087	3258	101	227
	Number of new clients HIV positive	1,263	701	562	0	0	149	140	317	233	227	185	8	4
Uyui														
	Number of new clients pre-test counselled	64,302	20,489	43,813	52	288	4183	23637	10613	14173	4186	4664	1455	1051
	Number of new clients post-test counselled and given HIV test results	64,299	20,486	43,813	52	288	4183	23637	10613	14173	4186	4664	1452	1051
	Number of new clients HIV positive	1,144	510	634	0	5	96	205	205	196	139	158	70	70
Tabora Urban														
	Number of new clients pre-test counselled	29,459	14,471	14,988	676	876	7004	3490	3428	3494	2228	4859	1135	2269
	Number of new clients post-test counselled and given HIV test results	29,359	14,471	14,888	676	876	7004	3490	3428	3494	2228	4859	1135	2169
	Number of new clients HIV positive	1,888	623	1,265	0	0	132	233	319	408	83	532	89	92
TOTAL TABORA	Number of new clients pre-test counselled	269,133	109,170	159,963	2071	3464	33444	54933	40358	58204	27889	36066	5408	7296

	Number of new clients post-test counselled and given HIV test results	266,958	108,169	158,789	2066	3440	32689	54889	40312	57651	27715	35737	5387	7072
	Number of new clients HIV positive	12,417	4,614	7,803	61	139	847	1865	1884	2877	1513	2534	309	388
14.KAGERA														
Karagwe	Number of new clients pre-test counselled	38,136	14,679	23,457	187	240	3757	7186	4037	7763	3825	6036	2873	2232
	Number of new clients post-test counselled and given HIV test results	37,000	14,679	22,321	187	240	3757	7186	4037	7763	3825	4900	2873	2232
	Number of new clients HIV positive	1,050	332	718	5	8	23	172	119	253	141	215	44	70
Bukoba Rural														
	Number of new clients pre-test counselled	5,362	1,924	3,438	144	177	713	1214	495	1195	445	628	127	224
	Number of new clients post-test counselled and given HIV test results	5,362	1,924	3,438	144	177	713	1214	495	1195	445	628	127	224
	Number of new clients HIV positive	254	71	183	1	1	10	37	23	81	29	50	8	14
Muleba														
	Number of new clients pre-test counselled	26,533	13,627	12,906	631	467	6126	5685	3949	4791	2343	943	578	1020
	Number of new clients post-test counselled and given HIV test results	26,528	13,622	12,906	631	467	6121	5685	3949	4791	2343	943	578	1020
	Number of new clients HIV positive	642	318	324	27	36	86	80	87	103	94	62	24	43
Biharamulo	Number of new clients pre-test counselled	38,524	15,757	22,767	139	149	4561	7279	4582	7103	3948	5406	2527	2830
	Number of new clients post-test counselled and given HIV test results	38,524	15,757	22,767	139	149	4561	7279	4582	7103	3948	5406	2527	2830
	Number of new clients HIV positive	926	391	535	14	17	44	111	128	232	158	136	47	39
Ngara	Number of new clients pre-test counselled	18,481	5,339	13,142	50	64	1077	1871	1711	8045	1726	2469	775	693
	Number of new clients post-test counselled and given HIV test results	18,481	5,339	13,142	50	64	1077	1871	1711	8045	1726	2469	775	693
	Number of new clients HIV positive	379	119	260	1	6	18	100	39	81	40	51	21	22
Bukoba Urban	Number of new clients pre-test counselled	8,734	3,456	5,278	100	153	1161	2219	1208	1654	768	901	219	351
	Number of new clients post-test counselled and given HIV test results	8,732	3,454	5,278	100	153	1159	2219	1208	1654	768	901	219	351
	Number of new clients HIV positive	975	353	622	16	16	37	145	139	241	135	184	26	36
Chato	Number of new clients pre-test counselled	17,990	8,193	9,797	23	29	2942	3412	2654	3372	2203	2149	371	835
	Number of new clients post-test counselled and given HIV test results	17,990	8,193	9,797	23	29	2942	3412	2654	3372	2203	2149	371	835

	Number of new clients HIV positive	720	315	405	0	4	40	137	141	165	122	78	12	21
Misenye	Number of new clients pre-test counselled	2,062	1,069	993	418	28	273	449	193	301	142	156	43	59
	Number of new clients post-test counselled and given HIV test results	1,663	676	987	25	22	273	449	193	301	142	156	43	59
	Number of new clients HIV positive	173	55	118	0	1	5	26	13	46	32	37	5	8
TOTAL KAGERA	Number of new clients pre-test counselled	155,822	64,044	91,778	1692	1307	20610	29315	18829	34224	15400	18688	7513	8244
	Number of new clients post-test counselled and given HIV test results	154,280	63,644	90,636	1299	1301	20603	29315	18829	34224	15400	17552	7513	8244
	Number of new clients HIV positive	5,119	1,954	3,165	64	89	263	808	689	1202	751	813	187	253
15.LINDI														
Kilwa	Number of new clients pre-test counselled	17,344	8,283	9,061	1583	845	2749	3694	1676	2083	1738	1600	537	839
	Number of new clients post-test counselled and given HIV test results	17,344	8,283	9,061	1583	845	2749	3694	1676	2083	1738	1600	537	839
	Number of new clients HIV positive	481	184	297	12	6	24	51	53	126	78	95	17	19
Lindi Rural	Number of new clients pre-test counselled	33,925	13,970	19,955	2796	4302	7566	10211	1637	2970	1442	1842	529	630
	Number of new clients post-test counselled and given HIV test results	33,925	13,970	19,955	2796	4302	7566	10211	1637	2970	1442	1842	529	630
	Number of new clients HIV positive	514	148	366	7	8	9	79	43	140	77	113	12	26
Lindi Urban	Number of new clients pre-test counselled	11,370	5,095	6,275	1794	2408	1064	1310	1092	1262	891	871	254	424
	Number of new clients post-test counselled and given HIV test results	11,368	5,094	6,274	1794	2408	1064	1310	1091	1262	891	870	254	424
	Number of new clients HIV positive	1,040	372	668	44	36	19	88	100	283	149	216	60	45
Liwale	Number of new clients pre-test counselled	13,670	5,380	8,290	1005	1178	2069	2737	1218	2526	925	1437	163	412
	Number of new clients post-test counselled and given HIV test results	13,670	5,380	8,290	1005	1178	2069	2737	1218	2526	925	1437	163	412
	Number of new clients HIV positive	344	101	243	1	4	24	72	37	90	35	61	4	16
Nachingwea	Number of new clients pre-test counselled	28,154	12,395	15,759	3732	5159	4297	4832	2153	2854	1507	1923	706	991
	Number of new clients post-test counselled and given HIV test results	28,154	12,395	15,759	3732	5159	4297	4832	2153	2854	1507	1923	706	991
	Number of new clients HIV positive	718	196	522	7	15	23	105	63	214	86	158	17	30
Ruangwa	Number of new clients pre-test counselled	15,384	7,697	7,687	372	391	2135	1970	2790	2555	2199	2639	201	132

	Number of new clients post-test counselled and given HIV test results	15,384	7,697	7,687	372	391	2135	1970	2790	2555	2199	2639	201	132
	Number of new clients HIV positive	471	191	280	5	11	47	66	83	124	50	74	6	5
TOTAL LINDI	Number of new clients pre-test counselled	119,847	52,820	67,027	11282	14283	19880	24754	10566	14250	8702	10312	2390	3428
	Number of new clients post-test counselled and given HIV test results	119,845	52,819	67,026	11282	14283	19880	24754	10565	14250	8702	10311	2390	3428
	Number of new clients HIV positive	3,568	1,192	2,376	76	80	146	461	379	977	475	717	116	141
16.MTWARA														
Mtwara Urban	Number of new clients pre-test counselled	13,143	6,330	6,813	153	113	577	719	2404	2773	3097	3091	99	117
	Number of new clients post-test counselled and given HIV test results	13,139	6,327	6,812	153	113	577	719	2403	2773	3095	3090	99	117
	Number of new clients HIV positive	1,062	498	564	9	6	43	53	180	218	259	276	7	11
Mtwara Rural														
	Number of new clients pre-test counselled	8,150	3,496	4,654	97	182	1186	1415	945	1424	996	1102	272	531
	Number of new clients post-test counselled and given HIV test results	8,094	3,459	4,635	95	182	1153	1396	943	1424	996	1102	272	531
	Number of new clients HIV positive	160	56	104	1	5	6	13	22	45	22	33	5	8
Masasi	Number of new clients pre-test counselled	18,548	8,230	10,318	913	1201	2190	2998	2201	2859	2130	2054	796	1206
	Number of new clients post-test counselled and given HIV test results	18,548	8,230	10,318	913	1201	2190	2998	2201	2859	2130	2054	796	1206
	Number of new clients HIV positive	1,067	351	716	32	27	16	111	104	286	147	238	52	54
Nanyumbu	Number of new clients pre-test counselled	8,599	4,341	4,258	656	786	1640	1191	1177	1435	611	577	257	269
	Number of new clients post-test counselled and given HIV test results	8,599	4,341	4,258	656	786	1640	1191	1177	1435	611	577	257	269
	Number of new clients HIV positive	227	90	137	18	24	10	30	28	43	22	33	12	7
Newala	Number of new clients pre-test counselled	28,299	12,092	16,207	1647	2391	2724	4257	2929	4125	2306	3492	2486	1942
	Number of new clients post-test counselled and given HIV test results	28,146	12,091	16,055	1646	2390	2724	4240	2929	3994	2306	3489	2486	1942
	Number of new clients HIV positive	589	208	381	19	15	22	87	44	135	79	113	44	31
Tandahimba	Number of new clients pre-test counselled	26,387	12,875	13,512	29	31	1724	1965	5466	5030	4393	5145	1263	1341
	Number of new clients post-test counselled and given HIV test results	26,380	12,868	13,512	29	31	1724	1965	5459	5030	4393	5145	1263	1341

	Number of new clients HIV positive	620	300	320	0	4	75	67	116	132	64	81	45	36
TOTAL MTWARA	Number of new clients pre-test counselled	103,126	47,364	55,762	3495	4704	10041	12545	15122	17646	13533	15461	5173	5406
	Number of new clients post-test counselled and given HIV test results	102,906	47,316	55,590	3492	4703	10008	12509	15112	17515	13531	15457	5173	5406
	Number of new clients HIV positive	3,725	1,503	2,222	79	81	172	361	494	859	593	774	165	147
17.MWANZA														
Kwimba	Number of new clients pre-test counselled	27,690	13,091	14,599	51	75	5206	6471	4751	4850	2033	2234	1050	969
	Number of new clients post-test counselled and given HIV test results	27,690	13,091	14,599	51	75	5206	6471	4751	4850	2033	2234	1050	969
	Number of new clients HIV positive	1,131	520	611	1	3	221	288	164	200	84	87	50	33
Magu	Number of new clients pre-test counselled	2,634	935	1,699	98	75	178	526	310	605	271	360	78	133
	Number of new clients post-test counselled and given HIV test results	2,634	935	1,699	98	75	178	526	310	605	271	360	78	133
	Number of new clients HIV positive	702	233	469	20	16	8	83	81	201	106	139	18	30
Misungwi	Number of new clients pre-test counselled	19,048	8,954	10,094	220	179	3056	3704	3235	3272	2068	2445	375	494
	Number of new clients post-test counselled and given HIV test results	18,937	8,954	9,983	220	163	3056	3704	3235	3177	2068	2445	375	494
	Number of new clients HIV positive	1,466	629	837	6	29	137	201	267	328	185	187	34	92
Nyamagana	Number of new clients pre-test counselled	5,685	2,786	2,899	184	147	855	938	914	904	612	620	221	290
	Number of new clients post-test counselled and given HIV test results	5,655	2,780	2,875	184	147	855	929	914	895	606	614	221	290
	Number of new clients HIV positive	877	342	535	42	33	39	98	89	211	129	149	43	44
Sengerema	Number of new clients pre-test counselled	60,437	29,023	31,414	1017	2308	6911	7731	18302	20120	2737	1059	56	196
	Number of new clients post-test counselled and given HIV test results	60,437	29,023	31,414	1017	2308	6911	7731	18302	20120	2737	1059	56	196
	Number of new clients HIV positive	243	88	155	27	18	16	51	39	79	5	5	1	2
Ukerewe	Number of new clients pre-test counselled	24,823	12,146	12,677	50	48	1809	1298	2859	3609	3689	4683	3739	3039
	Number of new clients post-test counselled and given HIV test results	24,823	12,146	12,677	50	48	1809	1298	2859	3609	3689	4683	3739	3039
	Number of new clients HIV positive	463	238	225	0	0	1	4	53	51	79	81	105	89
TOTAL	Number of new clients pre-test counselled	140,31	66,935	73,382	1620	2832	18015	20668	30371	33360	11410	11401	5519	5121

MWANZA		7												
	Number of new clients post-test counselled and given HIV test results	140,176	66,929	73,247	1620	2816	18015	20659	30371	33256	11404	11395	5519	5121
	Number of new clients HIV positive	4,882	2,050	2,832	96	99	422	725	693	1070	588	648	251	290
18.MOROGORO														
Kilosa	Number of new clients pre-test counselled	69,799	33,585	36,214	96	104	7852	9285	10455	12518	12714	12221	2468	2086
	Number of new clients post-test counselled and given HIV test results	69,815	33,590	36,225	96	115	7852	9285	10460	12518	12714	12221	2468	2086
	Number of new clients HIV positive	3,881	1,510	2,371	13	25	254	332	467	925	597	902	179	187
Ulanga	Number of new clients pre-test counselled	8,910	2,707	6,203	51	98	833	1729	862	1001	574	1645	387	1730
	Number of new clients post-test counselled and given HIV test results	8,866	2,735	6,131	41	59	934	1720	828	986	547	1634	385	1732
	Number of new clients HIV positive	309	102	207	4	12	10	54	37	77	33	49	18	15
Kilombero	Number of new clients pre-test counselled	1,413	560	853	1	1	109	261	214	350	176	189	60	52
	Number of new clients post-test counselled and given HIV test results	1,413	560	853	1	1	109	261	214	350	176	189	60	52
	Number of new clients HIV positive	57	21	36	1	0	2	6	8	22	6	7	4	1
Morogoro Urban	Number of new clients pre-test counselled	32,571	13,115	19,456	411	528	3098	5347	5977	8741	2547	3247	1082	1593
	Number of new clients post-test counselled and given HIV test results	32,571	13,115	19,456	411	528	3098	5347	5977	8741	2547	3247	1082	1593
	Number of new clients HIV positive	2,306	715	1,591	23	58	152	565	272	665	190	239	78	64
Mvomero	Number of new clients pre-test counselled	13,136	5,277	7,859	73	149	1298	2674	1639	2689	1552	1899	715	448
	Number of new clients post-test counselled and given HIV test results	12,990	5,148	7,842	72	147	1264	2674	1638	2676	1552	1899	622	446
	Number of new clients HIV positive	672	230	442	11	2	15	86	70	171	104	153	30	30
Morogoro Rural	Number of new clients pre-test counselled	27,034	9,467	17,567	436	587	1940	4561	2516	5777	3263	5275	1312	1367
	Number of new clients post-test counselled and given HIV test results	27,034	9,467	17,567	436	587	1940	4561	2516	5777	3263	5275	1312	1367
	Number of new clients HIV positive	342	137	205	3	7	18	47	41	62	49	75	26	14
TOTAL MOROGORO	Number of new clients pre-test counselled	152,863	64,711	88,152	1068	1467	15130	23857	21663	31076	20826	24476	6024	7276
	Number of new clients post-test counselled and given HIV test results	152,689	64,615	88,074	1057	1437	15197	23848	21633	31048	20799	24465	5929	7276

	Number of new clients HIV positive	7,567	2,715	4,852	55	104	451	1090	895	1922	979	1425	335	311
19.PWANI														
Kibaha DC	Number of new clients pre-test counselled	4,249	1,857	2,392	9	77	627	823	618	799	423	525	180	168
	Number of new clients post-test counselled and given HIV test results	4,226	1,854	2,372	9	77	627	806	615	799	423	525	180	165
	Number of new clients HIV positive	219	90	129	0	1	12	34	40	52	31	35	7	7
Kibaha TC	Number of new clients pre-test counselled	4,604	2,179	2,425	54	88	679	871	737	808	493	492	216	166
	Number of new clients post-test counselled and given HIV test results	4,532	2,156	2,376	52	87	675	859	725	791	493	473	211	166
	Number of new clients HIV positive	764	276	488	18	18	27	91	78	185	112	154	41	40
Kisarawe	Number of new clients pre-test counselled	3,567	1,466	2,101	61	84	297	746	537	773	399	358	172	140
	Number of new clients post-test counselled and given HIV test results	3,502	1,439	2,063	61	83	294	733	529	762	394	348	161	137
	Number of new clients HIV positive	321	110	211	6	8	8	31	45	79	39	77	12	16
Mkuranga	Number of new clients pre-test counselled	26,542	11,578	14,964	320	449	1527	2052	4100	7009	4723	4892	908	562
	Number of new clients post-test counselled and given HIV test results	26,495	11,553	14,942	320	447	1521	2050	4095	7009	4712	4877	905	559
	Number of new clients HIV positive	1,212	478	734	3	12	70	178	224	292	154	229	27	23
TOTAL PWANI	Number of new clients pre-test counselled	38,962	17,080	21,882	444	698	3130	4492	5992	9389	6038	6267	1476	1036
	Number of new clients post-test counselled and given HIV test results	38,755	17,002	21,753	442	694	3117	4448	5964	9361	6022	6223	1457	1027
	Number of new clients HIV positive	2,516	954	1,562	27	39	117	334	387	608	336	495	87	86
20.TANGA														
Handeni	Number of new clients pre-test counselled	72	43	29	0	0	34	24	2	4	6	1	1	0
	Number of new clients post-test counselled and given HIV test results	72	43	29	0	0	34	24	2	4	6	1	1	0
	Number of new clients HIV positive	6	2	4	0	0	0	0	0	3	1	0	1	1
Kilindi	Number of new clients pre-test counselled	56	14	42	1	2	3	21	2	14	6	4	2	1
	Number of new clients post-test counselled and given HIV test results	56	14	42	1	2	3	21	2	14	6	4	2	1
	Number of new clients HIV positive	5	3	2	1	0	0	1	1	1	1	0	0	0

Korogwe	Number of new clients pre-test counselled	16,715	7,789	8,926	260	309	1795	2539	2081	2391	2143	1934	1510	1753
	Number of new clients post-test counselled and given HIV test results	16,715	7,789	8,926	260	309	1795	2539	2081	2391	2143	1934	1510	1753
	Number of new clients HIV positive	297	72	225	0	28	15	41	24	72	26	38	7	46
Lushoto	Number of new clients pre-test counselled	55,286	11,724	43,562	116	224	3324	20455	3454	7186	3330	14485	1500	1212
	Number of new clients post-test counselled and given HIV test results	55,287	11,724	43,563	116	225	3324	20455	3454	7186	3330	14485	1500	1212
	Number of new clients HIV positive	1,048	388	660	16	17	72	154	113	269	146	188	41	32
Muheza	Number of new clients pre-test counselled	9,862	4,298	5,564	379	266	931	2000	1342	1231	1320	1715	326	352
	Number of new clients post-test counselled and given HIV test results	9,713	4,227	5,486	379	266	921	1981	1317	1198	1307	1708	303	333
	Number of new clients HIV positive	423	98	325	1	0	14	77	39	139	27	82	17	27
Pangani	Number of new clients pre-test counselled	5,425	2,099	3,326	88	99	611	1356	502	1030	534	619	364	222
	Number of new clients post-test counselled and given HIV test results	5,425	2,099	3,326	88	99	611	1356	502	1030	534	619	364	222
	Number of new clients HIV positive	270	74	196	5	4	2	52	17	91	42	42	8	7
Tanga DC	Number of new clients pre-test counselled	31,743	14,388	17,355	350	509	4963	7720	4613	5710	2976	2776	1486	640
	Number of new clients post-test counselled and given HIV test results	31,743	14,388	17,355	350	509	4963	7720	4613	5710	2976	2776	1486	640
	Number of new clients HIV positive	3,042	925	2,117	80	84	99	444	272	926	347	551	127	112
TOTAL TANGA	Number of new clients pre-test counselled	119,159	40,355	78,804	1194	1409	11661	34115	11996	17566	10315	21534	5189	4180
	Number of new clients post-test counselled and given HIV test results	119,011	40,284	78,727	1194	1410	11651	34096	11971	17533	10302	21527	5166	4161
	Number of new clients HIV positive	5,091	1,562	3,529	103	133	202	769	466	1501	590	901	201	225
21.MARA														
Musoma Rural	Number of new clients pre-test counselled	21,342	11,153	10,189	426	665	2541	2403	3800	2555	1685	2773	2701	1793
	Number of new clients post-test counselled and given HIV test results	21,342	11,153	10,189	426	665	2541	2403	3800	2555	1685	2773	2701	1793
	Number of new clients HIV positive	1,016	388	628	10	11	86	216	121	159	129	189	42	53
Musoma Municipal	Number of new clients pre-test counselled	34,150	14,650	19,500	350	920	3900	5600	4900	6690	3020	3930	2480	2360
	Number of new clients post-test counselled and given HIV test results	34,150	14,650	19,500	350	920	3900	5600	4900	6690	3020	3930	2480	2360

	Number of new clients HIV positive	1,430	730	700	50	80	100	250	300	310	260	46	20	14
Serengeti														
	Number of new clients pre-test counselled	18,616	8,001	10,615	290	308	2560	2866	2640	4450	1702	2160	809	831
	Number of new clients post-test counselled and given HIV test results	18,616	8,001	10,615	290	308	2560	2866	2640	4450	1702	2160	809	831
	Number of new clients HIV positive	616	294	322	32	26	50	56	141	152	40	55	31	33
Tarime														
	Number of new clients pre-test counselled	55,354	23,651	31,703	0	0	8116	8165	8953	13750	5753	8160	829	1628
	Number of new clients post-test counselled and given HIV test results	55,354	23,651	31,703	0	0	8116	8165	8953	13750	5753	8160	829	1628
	Number of new clients HIV positive	2,091	831	1,260	0	0	131	308	256	425	275	423	169	104
Bunda	Number of new clients pre-test counselled	30,648	15,876	14,772	613	917	5149	4598	5824	5272	2758	2758	1532	1227
	Number of new clients post-test counselled and given HIV test results	30,648	15,876	14,772	613	917	5149	4598	5824	5272	2758	2758	1532	1227
	Number of new clients HIV positive	1,504	579	925	7	28	192	298	205	319	143	242	32	38
TOTAL MARA	Number of new clients pre-test counselled	160,110	73,331	86,779	1679	2810	22266	23632	26117	32717	14918	19781	8351	7839
	Number of new clients post-test counselled and given HIV test results	160,110	73,331	86,779	1679	2810	22266	23632	26117	32717	14918	19781	8351	7839
	Number of new clients HIV positive	6,657	2,822	3,835	99	145	559	1128	1023	1365	847	955	294	242
TOTAL OF ALL REGION	**Number of new clients pre-test counselled**	**3,523,821**	**1,487,573**	**2,036,248**	**76,865**	**92,692**	**399,342**	**618,252**	**480,205**	**701,666**	**389,482**	**476,952**	**141,679**	**146,686**
	Number of new clients post-test counselled and given HIV test results	**3,496,886**	**1,475,262**	**2,021,624**	**76,292**	**92,095**	**397,988**	**613,823**	**471,302**	**698,818**	**388,465**	**470,627**	**141,215**	**146,261**
	Number of new clients HIV positive	**186,084**	**70,202**	**115,882**	**2,872**	**3,724**	**10,711**	**25,266**	**24,702**	**45,606**	**24,139**	**33,385**	**7,778**	**7,901**