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TANZANIA COMMISSION FOR AIDS



**Review of HIV Epidemiology and HIV
Prevention Programmes and Resources in
Tanzania Mainland**

FINAL DRAFT

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Acronyms

ANC	Antenatal clinics
ART	Antiretroviral therapy
ARV	Antiretroviral drugs
CBOs	Community-based Organisations
CDC	Centres for Disease Control and Prevention (USA)
CHAC	Council HIV and AIDS Coordinator
CHMT	Council Health Management Team
CSOs	Civil Society Organisation
CTC	Care and Treatment Clinic
EGPAF	Elizabeth Glazier Paediatric AIDS Foundation
EPP	Epidemic Projection Package
FBO	Faith-based organisations
GFATM	Global Fund for AIDS, Tuberculosis and Malaria
HBV	Hepatitis B virus
HCT	HIV Counselling and Testing
HCV	Hepatitis C virus
HCWs	Health Care workers
HSHSP	Health Sector HIV/AIDS Strategic Plan
HSV-2	Herpes Simplex virus type 2
IDUs	Injecting Drug Users
LGA	Local Government Authorities
MARP	Most-at-risk Population Groups
MDA	Ministries, Departments and Agencies
MDG	Millennium development Goals
MLEYD	Ministry of Labour, Employment and Youth Development
MoCDGC	Ministry of Community Development, Gender and Children
MoEVT	Ministry of Education and Vocational Training
MoHSW	Ministry of Health and Social Welfare
MSD	Medical Stores Department
MSM	Men who have sex with men
MTSP	Medium Term Strategic Plan
NACP	National AIDS Control Programme
NASA	National HIV/AIDS Spending Assessment
NBTS	National Blood Transfusion Service
NGOs	Non-governmental organisations
NHA	National Health Accounts
NMSF	National Multi-sectoral Strategic Framework
PEP	Post-exposure prophylaxis
PEPFAR	US Presidents Emergency Plan for AIDS Relief
PICT	Provider-initiated Counselling Testing
PSI	Population Services International
P-TWG	HIV Prevention Technical Working Group
RCH	Reproductive and Child Health
RHMT	Regional Health Management Team
RMAC	Regional Multisectoral AIDS Coordinators
TACAIDS	Tanzania Commission for AIDS
TDHS	Tanzania Demographic and Health Surveys
THIS	Tanzania HIV/AIDS Indicator Survey 2003-04
THMIS	Tanzania HIV/AIDS Malaria Indicator Survey 2007-08
TOMSHA	Tanzania Output Monitoring system for non-medical HIV and AIDS
TSPA	Tanzania service Provisions Assessment, 2007
TWG	Technical Working Groups
UNCT	United Nations Country Team
UNGASS	United Nations General Assembly Special Session on AIDS
USG	United States Government
VCT	Voluntary HIV Counselling and Testing
VNRBD	Voluntary Non-remunerated blood donors
ZBTC	Zonal blood transfusion centres

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Executive Summary

Purpose and Rationale:

Tanzania Mainland is currently experiencing a mature, generalised and heterogeneous HIV/AIDS epidemic, with the rate and number of new infections exceeding enrolment into antiretroviral therapy (ART). Some geographical areas, socio-economic and demographic subgroups are disproportionately affected. In fact, the country has different sub-epidemics with different factors driving the epidemic in different parts of the country. However, Tanzania is committed to accelerated HIV prevention with the goal of reducing new infections. A comprehensive HIV prevention strategy that addresses the current drivers of the epidemic and targets HIV prevention interventions at population groups with the highest risk of new infections is required. A systematic review of the trends and drivers of HIV in Tanzania, coverage and scope of HIV prevention programmes, and assessment of the alignment of HIV prevention programmes to the dynamics of the epidemic was conducted in order to inform the formulation of the HIV prevention strategy. The HIV prevention Strategy was developed in the second phase of the task.

Methods for the Review:

This review was undertaken by a multi-disciplinary task team of consultants working closely with the National HIV Prevention Technical Working Group (P-TWG). It involved desk review of published and grey literature, programme reports, evaluation reports, technical guidelines and policies, budget frameworks and other programme documents. This was augmented by limited primary data collection from programme officers, development partners, beneficiary groups, NGOs and other stakeholders. Field visits were conducted to six districts with urban/rural populations, high and low HIV prevalence, high and low poverty, and increasing and declining HIV prevalence trends. The alignment of HIV prevention programmes with the dynamics of the epidemic was assessed, aided by a synthesis matrix. The findings of the team were validated with the P-TWG, development partners, TACAIDS staff and other national stakeholders.

Findings:

Dynamics of the HIV Epidemic and its Drivers:

About 5.7% of adults aged 15-49 years (6.6% of women and 4.6% of men) in Tanzania or approximately 1.5 million people are currently HIV-infected, approximately 10% of them, children. HIV surveillance reports indicate that in 2008, there were approximately 217,704 new HIV infections in the country (77,734 in urban and 139,970 in rural areas). The predominant mode of HIV transmission in the country is heterosexual contact between HIV-infected and uninfected individuals, approximately 18% through vertical infections from mothers to newborns, and 1.8% through medical transmission. However, the epidemic is heterogeneous across geographical, socio-demographic and socio-economic subgroups. For instance, women are more disproportionately affected across reproductive age-groups, and older adults aged over 30 years are more likely to be infected than younger adults. Individuals that are either in marital union or formerly married are more likely to be infected as well as individuals living in more wealthy households. Urban residents are more disproportionately affected than their rural counterparts (9% versus 5%). HIV prevalence also varies across geographical regions of the country, from the lowest of 1.2% in Kigoma region to 14.7% in Iringa region. HIV prevalence among women attending antenatal clinics was 8.2% in 2006.

Although data on HIV incidence is more suitable for tracking the impact of HIV prevention programmes, such data in Tanzania is limited.

Available data also indicates recent declines in national HIV prevalence, from 6.7% to 5.7% overall, 8% to 7% among women and 6% to 5% among men, but the changes were not significant. Similar trends have also been observed among antenatal women and blood donors. The HIV prevalence trends appear to correlate with trends in some HIV transmission risk behaviour. For instance, there have been declines in early sex (before age 15) from 15% to 11% and 24% to 11% among female and male teenagers aged 15-19 respectively during 2003-2008. During the same period, casual sex with non-marital, non-cohabiting partners declined from 46% to 29% among men and 23% to 16% among women aged 15-49 years. In 2008, 18% of men and 3% of women had had multiple partners in the previous year, and 29% of married/cohabiting men and 16% of such women had had extramarital sex. Although condom use during casual sex increased from 38% to 43% among women and 50% to 53% among men aged 15-49 years during 2003-2008, less than half of these risky sexual acts were protected with condoms. There was no data on the HIV transmission risk behaviour of HIV-infected individuals; although 8% of married or cohabiting couples were in HIV-discordant relationships and 67% of HIV-infected individuals had HIV-negative spouses.

The HIV epidemic in the country is driven by a complex set of intertwining biological, behavioural, and underlying socio-cultural and socio-economic factors. These factors or drivers of the epidemic comprise of multiple concurrent sexual partnerships, early sexual debut, transactional and cross-generational sex, low and inconsistent use of condoms, lack of male circumcision, sexually transmitted infection (STIs) including Herpes simplex virus type 2 (HSV-2), high levels of HIV discordancy amidst low levels of knowledge of individuals' own and their partners HIV status, mobility, mother-to-child HIV transmission, low coverage of safe blood for transfusion and medical infection control precautions, gender inequities, sexual violence, harmful socio-cultural norms, socio-economic factors, drug abuse and presence of most at risk populations (MARPs) whose population size has not been determined.

Coverage and Scope of HIV Prevention Programmes:

Tanzania's current HIV prevention approach is comprised of various behavioural and biomedical interventions for the general population and vulnerable groups. Most biomedical interventions such as prevention of mother-to-child transmission (PMTCT), HIV counselling and testing (HCT), blood transfusion safety, STI case management, medical infection control and post-exposure prophylaxis (PEP) are based on national technical guidelines that are based on current evidence and are regularly updated. However condom promotion and most behavioural interventions such as mass media, life skills training, peer education approaches, and programmes addressing underlying drivers of the epidemic are not based on up-to-date national technical policies, guidelines or communication strategies. There are currently no national policies and technical guidelines for medical male circumcision, HIV prevention for MARPs and HIV prevention with HIV-infected individuals.

There has been recent increase in coverage of biomedical interventions, although this is not yet universal. The proportion of individuals who have ever tested for HIV and picked their results recently increased from 15% of men and women in 2003 to 37% of women and 27% of men in 2008, and approximately 4.2 million individuals were tested during last year's HIV testing campaign. The proportion of antenatal mothers that access PMTCT services increased from virtually none, nine years ago to 61% in 2008; services for STI management were

available in 61% of public and private facilities in 2007, and the numbers of male condoms procured and distributed in the country increased from 50 million in 2003 to 150 million in 2006. The number of zonal blood transfusion centres (ZBTCs) recently increased to seven, and the number of blood units collected from voluntary non-remunerated blood donors (VNRBD) by national blood transfusion service (NBTS) increased to 67,000 in 2007, although this is still far from the national need estimated at 350,000 - 500,000 units annually.

However, the coverage of HIV prevention services remains uneven. More than 60% of adults have never tested for HIV. More than 40% of antenatal mothers do not have access to PMTCT services, and the uptake of ARV prophylaxis by HIV-exposed infants and their mothers is less than 50%. Less than half of risky sexual acts were protected by condoms and more than 60% of adults do not have comprehensive knowledge of HIV prevention. Less than half of primary schools and about one-quarter of secondary schools are not teaching life skills. There are very limited outreach services for MARPs. About one third of STI clients are not appropriately managed according to national guidelines, including being provided with preventive counselling on condom use and partner notification, and less than half are referred or provided HCT. Less than half of blood transfused in the country is channelled through the national quality assured system, while only 5% of facilities met the minimum requirement for infection control in health facilities in 2007. Underlying socio-cultural and socio-economic factors influencing HIV transmission are not adequately addressed by the current HIV prevention programmes.

The strategic information for tracking impact and coverage of HIV prevention services is also limited. For instance, HIV incidence data is limited and therefore rarely used to inform and track HIV prevention programmes. However, data on programme outcomes is available from episodic population-based and facility-based surveys. While the coverage of biomedical interventions is fairly well tracked, similar information on behavioural interventions is inadequate. Furthermore, strategic information on HIV prevention is rarely consolidated and disseminated to stakeholders to inform HIV prevention programming.

HIV Prevention Resources:

Overall, resources for HIV prevention have increased in recent years from TShs 226 billion in 2005/06 to TShs. 595.7 billion in 2007/08, most of it sourced from external multilateral and bilateral partners, of which about 74% is channelled off budget. Although disaggregate financial data is not consistent, in the 2005/06 national AIDS spending Assessment (NASA), HIV prevention accounted for approximately 31% of all resources for HIV/AIDS, though the National Health Accounts (NHA) covering the same period indicated approximately 42%. It was however not possible to characterise relative distribution of HIV prevention resources according to HIV prevention categories, driver of the epidemic or beneficiary group since over 70% of HIV prevention resources were not categorised.

Recommendations:

In the short - medium term, there should be strategic shift of HIV prevention to focus on population groups with disproportionately higher incidence of HIV infections which currently don't constitute the focus of HIV prevention. These groups include urban residents, older individuals, married and formerly married individuals, working and wealth men and women and high prevalence regions. Secondly, programmes should balance interventions, giving priority to those that have the potential for the greatest impact on HIV transmission at this stage of the epidemic. These include reduction of sexual partners, HIV-discordance, medical male circumcision and consistent condom use especially in high risk sex and among MARPS.

Thirdly, there should be more domestic investment into HIV/AIDS control and HIV prevention in particular. The development of policies and technical guidelines for medical male circumcision, MARPs and specific policy on condom promotion should be prioritised. The upcoming revision of the HIV/AIDS policy should incorporate emerging issues of male circumcision, MARPs, multiple partnerships, couple HCT and disclosure as well as HIV prevention among HIV-infected people.

At programme level, accelerating the roll out of proven interventions to meet national targets for universal access should be expedited. The modest targets for some interventions such as blood transfusion safety, condom use and other essential prevention services should be reviewed. There should be a strategic shift in behavioural interventions to more interactive approaches and interpersonal communication, with messages on the drivers of the epidemic. There should also be improved linkages and reinforcement of messages across all communication channels including mass media for maximum behaviour change impact. Condom promotion should be strengthened to ensure uninterrupted supply of good quality condoms and improved distribution especially at community level, and appropriate targeting of high risk groups. The roll out of HCT based on various approaches should emphasise risk reduction among HIV-infected and uninfected individuals, couple testing with disclosure of test results to partners and increased coordination of stakeholders. Safe male circumcision should be rapidly rolled out integrated into other components of the HIV prevention package, initially in regions with high HIV prevalence and low prevalence of male circumcision. HIV prevention among HIV-infected people should be given added impetus through integration into all HIV/AIDS treatment, care and support programmes. Socioeconomic, gender and cultural and other underlying factors influencing HIV transmission and vulnerability should be taken into account in all HIV prevention endeavours.

Strategic information for HIV prevention should be strengthened through improved M&E and surveillance to provide more comprehensive coverage data, better reporting, and information on the quality of services. Regular aggregation of M&E data and dissemination to stakeholders should be done to promote data utilisation. Monitoring of impact of HIV prevention based on HIV incidence should be explored. Tracking dynamics of MARPs through biological and behavioural surveillance, size estimation, and tracking the sexual behaviour of HIV-infected individuals should be instituted.

Limitations:

This assessment was based on secondary review of existing data and was constrained by lack of consolidated data on programme coverage, disaggregated data on financial resources and data HIV incidence patterns. As such, it was not possible to characterise the patterns of new infections and assess linkage to existing HIV prevention programmes and expenditure more elaborately. Time and resource constraints also did not allow deeper analysis of the epidemic and corresponding response. For instance, secondary analysis of available data such as the THIS and THMIS, mathematical modelling of the epidemic, etc. were not done.

1. Introduction

1.1 Background

Tanzania like other countries in sub-Saharan African Region has been devastated by the HIV epidemic for almost one quarter of a century. This epidemic poses major threats to national development and has been declared a national disaster. It is estimated that about 5.7% of adults aged 15-49 years in the country¹ (6.6% of women and 4.6% of men) and about 1.5 million people are currently HIV-infected. The annual number of new infections outstrips by far, the number of individuals enrolled into antiretroviral therapy (ART). The high incidence of new HIV infections in the country indicates that HIV prevention efforts are not having the desired impact, and threatens gains made by roll out of ART and AIDS treatment and care in the country. In view of the country's commitment to universal access to HIV prevention, care and treatment and the Millennium Development Goals (MDGs), re-invigoration of HIV prevention is an absolute necessity

Currently, Tanzania is experiencing a generalised HIV/AIDS epidemic. Different parts of the country are disproportionately affected. The prevalence of HIV infection ranges from 1.2% in Kigoma region to 14.7% in Iringa region. This implies that several different drivers are responsible for the epidemic in different parts of the country. Factors that have been associated with the epidemic include low and inconsistent use of condoms; multiple sex partners; mobility; transactional sex; cross-generational sex; poor quality of transfused blood; lack of male circumcision; gender inequities accompanied with poverty and most at risk populations. Prevention strategies therefore have to focus on these major drivers depending on which greatly matters in the respective group and or geographical area.

Already, Tanzania is committed to accelerated HIV prevention with a target of reducing new infections. A comprehensive HIV prevention strategy that comprehensively addresses the current drivers of the epidemic and targets HIV prevention interventions at population groups with the highest risk of new infections is therefore required. The development of this National HIV Prevention Strategy and Action Plan was conceived to address this objective. This report is a product of a systematic review of the trends and drivers of the HIV epidemic in Tanzania their alignment to existing HIV prevention programmes and resources, and consistency with global best practices.

1.2 Purpose and Objectives of the Review

The overall objective of the assignment was to develop a sound and evidence-based HIV Prevention Strategy for Tanzania mainland as well as a two-year Plan of Action closely linked to the operational plans for the Tanzania national multi-sectoral HIV/AIDS Strategic Framework (NMSF). The specific objectives of this task were:

1. To analyze and document the trends and current drivers of the epidemic in Tanzania.
2. To review existing HIV prevention programmes outlining: a) The major types of HIV prevention programmes available, ii) The availability of HIV prevention policies/guidelines, iii) Target groups and coverage of the major HIV prevention programmes, iv) Implementers of the major HIV prevention programmes, v) Key obstacles/challenges vi) Gaps in HIV prevention programmes, vii) Best practices
3. To analyze and document the trends in financial resources allocated to HIV prevention
4. To link the trends and drivers of the epidemic to the current HIV prevention programmes answering the following key questions: a) Are HIV prevention policies and programmes

¹ 2007-08 Tanzania HIV/AIDS and Malaria Indicator Survey

based on the available evidence and global best practices?, b) Do HIV prevention policies and programmes respond to drivers of the epidemic?, c) Is funding for HIV prevention allocated to where it is needed most?

5. To build on existing strategies and new evidence to develop a brief national HIV prevention strategy and a detailed two year action plan (2009-2010).

1.3 Methods

This task was undertaken by a multi-disciplinary task team of consultants, reporting to the National HIV Prevention Technical Working Group (P-TWG). The review was based on desk review of published and grey literature, routine programme reports, evaluation reports, technical guidelines and policies, budget frameworks, etc, augmented by limited primary data collection through key informant interviews with programme officers, development partners, NGOs and other stakeholders. Field visits were conducted to six districts with urban/rural, high/low HIV prevalence, high/low poverty, and increasing/declining HIV prevalence.

The analysis of the magnitude and trends of HIV, risk factors and drivers was based on review of surveillance reports, national and sub-national population-based surveys and published studies. The drivers of the HIV epidemic involved a combination of literature review and limited interviews. The assessment of HIV prevention programmes was accomplished through review of strategic plans, policies, and technical guidelines and M&E reports of public sector, NGO, private sector programmes and development partners. Established HIV prevention interventions reviewed included behavioural Interventions (mass media, interpersonal communication, programmes for young people, workplace programmes), PMTCT, HCT, STI management, condom promotion, blood transfusion safety, injection safety and Medical infection control, programmes for MARPs, medical male circumcision, prevention with HIV-positives and xi)other HIV prevention programmes for structural and other underlying factors. In addition, cross cutting issues such as institutional arrangements and strategic information for HIV prevention were assessed.

The review of HIV prevention resources was accomplished through review of secondary data on HIV /AIDS budgetary allocation and expenditure and analysis of its proportional allocation among HIV prevention categories. Where overlaps in expenditure occurred among categories, assumptions were made about the proportional expenditure. The analysis of the alignment of HIV transmission dynamics and existing HIV Prevention programmes, policies, expenditure and global best practices We took stock of the existing HIV prevention programmes and policies and the corresponding HIV prevention expenditure, and determined how they were aligned to HIV transmission dynamics and global best practices. A matrix to aid this synthesis was designed and used for this task (annex 1).

Challenges Encountered

The assessment being based on secondary review of existing data was constrained by lack of consolidated data on programme coverage, disaggregated data on financial resources and data HIV incidence patterns. As such, it was not possible to fully characterise the patterns of new infections and assess linkage to existing programmes and HIV prevention expenditure. Lastly, time and resource constraints did not allow deeper analysis of the epidemic and corresponding response such as secondary analysis of available data such as the THIS and THMIS, mathematical modelling of the epidemic, etc.

2. Magnitude and Trends of HIV Infection in Tanzania

2.1 Current Status of the HIV Epidemic in Tanzania

Tanzania Mainland is experiencing a severe generalised HIV/AIDS epidemic. It is estimated that currently, about 5.7% of adults aged 15-49 years in the country² (6.6% of women and 4.6% of men) and about 1.5 million of Tanzania's 38 million people are currently infected with HIV, approximately 10% of them children. According to UNAIDS estimates, there were about 80,000 AIDS deaths among adults aged 15-49 years in Tanzania in 2008 (UNAIDS, 2008). The MoHSW NACP also estimated that in 2008, there were 217,704 new HIV infections in the country (77,734 in urban and 139,970 in rural areas)³. Zanzibar on the hand has only a concentrated epidemic, with overall HIV prevalence among adults of approximately 0.6%.

The predominant mode of HIV transmission in Tanzania is heterosexual contact between HIV-infected and uninfected individuals, approximately 18% are due to vertical infections from mothers to newborns, and 1.8% through medical transmission or traditional practices. The other modes of transmission, MSM and IDU probably account for less than 1%.

2.2 Heterogeneity of HIV Prevalence in Tanzania

Available data shows marked heterogeneity in HIV prevalence among geographic, socio-demographic and socio-economic subgroups in the country. According to these data, the Tanzania HIV epidemic comprises of several separate epidemics.

Variation in HIV prevalence by sex:

The two national population-based serological surveys (2003-04 THIS, and 2007-08 THMIS) showed that HIV prevalence was consistently higher among women than men i.e. 6.8% versus 4.7% in 2007-08 and 7.7% versus 6.3% in 2003-04. This was consistent with results from blood donors that showed that in 1999 HIV prevalence among men was 8.7% compared to 12.6% of women⁴. This predominantly feminine face of the epidemic has gender implications for HIV prevention and control strategies.

Variation in HIV prevalence by age:

Available data shows that HIV prevalence among women rise sharply with age from 1% among women aged 15 – 19 years, to peak at 10% among women aged between 30 – 34 years, before falling to a level of 7% among those aged between 45 - 49 years. Among men aged 15 – 49 years, HIV prevalence raises more gradually with age to a peak at age 35 - 39 (10%) before declining to 6% among men between the age of 45 - 49. This implies that the bulk of HIV infections and potential source of new infections is among adults aged over 25 years. This age groups therefore ought to constitute focus of future HIV prevention efforts.

Variation of HIV Prevalence across geographical areas:

The 2007-08 THMIS revealed large variations in HIV prevalence across geographical regions of the country. The highest HIV prevalence was found in Iringa (15%) followed by Dar es Salaam (9%) and Mbeya (9%). The regions with low HIV prevalence were Manyara, Arusha

² 2007-08 Tanzania HIV/AIDS and Malaria Indicator Survey

³ MoHSW NACP: HIV/AIDS Surveillance Report, 2004

⁴ www.tanzania.go.tz/hiv_aids.html

and Kigoma in which HIV prevalence was around 2%. In all regions except Arusha HIV prevalence was higher among women than men. This has been corroborated by findings from the 2003-04 THIS and other sources. In 1996, HIV prevalence in blood donors indicated that Kagera, Iringa, and Mbeya had a HIV prevalence of 15- 20%, while Ruvuma, Kilimanjaro and Mtwara had a low HIV prevalence of 5 -10%. This geographical heterogeneity has been attributed to some regions being primarily rural while others are predominantly urban and varying prevalence of male circumcision. However, the reasons for this regional heterogeneity have not been fully explored, but have serious implications on targeting of HIV prevention efforts in the next phase.

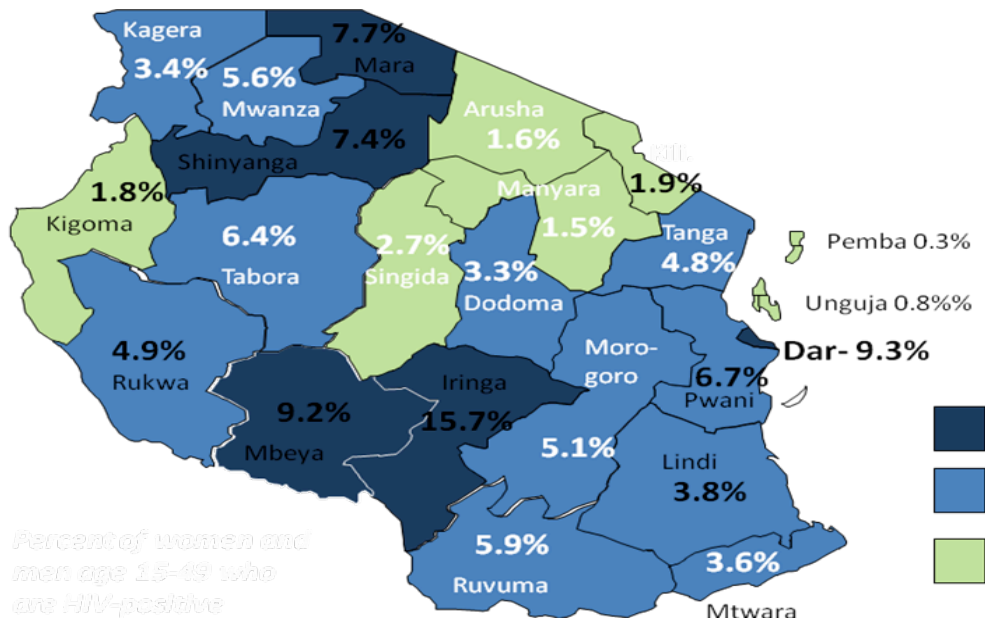


Fig 1: HIV Prevalence in Various Regions of Tanzania (Source 2007-08 THMIS)

HIV prevalence in urban areas is almost twice as high as in rural areas. For instance, in 2007-08 THMIS, urban residents had higher HIV prevalence than rural residents (9% and 5% respectively). The HIV prevalence among urban women (11%) was twice that of rural women (5%), while the difference among men was less prominent (6% versus 4%). The NACP HIV surveillance report of 2006 reported the same trend; HIV prevalence among women living in urban areas was higher than their rural counterparts (MOH/NACP, 2007). However, Wambura et al (2007) in an open cohort study over a ten year period in Mwanza noted that HIV is continuing in rural areas, suggesting intensive prevention programmes are required in both urban and rural areas.

Variation in HIV Prevalence by marital status

The 2007-08 THMIS showed HIV prevalence was highest among individuals that were widowed (27%), divorced/separated (13%) and those who were either married or living together (6%). Women and men who have never been in union had considerably lower HIV prevalence (2%). This was consistent with the 2003-04 THIS that indicated HIV prevalence of 7.3% men and women who were currently married against 18% among previously married individuals. These findings would appear to indicate that formerly married and currently married individuals constitute a high potential for new infections and tailored HIV prevention efforts are needed for this group.

Variation of HIV prevalence by education level

There appears to be currently no consistent pattern of HIV prevalence by educational attainment, although this appears to have changed overtime. In the 2003-04 THIS, individuals with higher education were more likely to be HIV-infected (5.3% none, 5.3% primary incomplete, 7.9% primary complete 8.2% secondary). However the 2007-08 THMIS showed that HIV prevalence was lower amongst educated than uneducated individuals (5.9% none, 4.5% primary incomplete, 5.8% primary complete and 4.3% secondary), and patterns also varied by sex. Although the correlation of HIV prevalence and educational attainment is complex and requires further exploration, it nevertheless shows that HIV prevention efforts ought to target all population groups including uneducated and highly educated individuals.

Variation of HIV Prevalence by Household Wealth:

Data from the region that shows that individuals resident in more wealthy households are more likely to be HIV-infected. In the two household surveys in Tanzania, HIV prevalence was highest among individuals in the highest wealth quintile. The 2007/08 survey also indicated that HIV prevalence was higher among those who are employed (6%) than those who are not employed (3%). These observations are supported by Boom (2002) who found that employed, mobile, and individuals with higher levels of economic activity are more likely to be HIV positive. These findings suggest that wealth individuals constitute a potential source of new infections and ought to be a focus of any re-invigorated HIV prevention effort in the country. Since wealth individuals are more likely to be in urban areas, educated and perhaps employed, a comprehensive HIV prevention strategy should consider this dynamic.

2.3 Trends in HIV Prevalence in Tanzania:

Trends in prevalence of HIV infection show a decline among adults in recent years. The prevalence of HIV in Tanzania soared from 1983 until 1997 when projections indicated that national adults HIV prevalence peaked at 8%. After 1997, it plateaued at about 6.4% from 2005/06, (UNAIDS, 2008). The two population surveys of 2003-04 and 2007-08, and HIV prevalence data from various sources e.g. the antenatal HIV sentinel surveillance system and HIV prevalence among blood donors confirms these trends

Trend HIV Surveillance in the General Population:

Data from the two household surveys (2003-04 THIS and 2007-08 THMIS) indicate slight, perhaps statistically insignificant decline HIV prevalence among adults 15 – 49 years from 7% in 2003 to 5.7% in 2008. The decline in HIV prevalence occurred among men and women and in all age groups except 45-49 years.

Trends in Antenatal HIV prevalence:

Although antenatal HIV sentinel surveillance began in 11 regions of Tanzania mainland, only three regions of Mbeya, Kagera and Mwanza have regular trend data. From these data, during 1988-1998, antenatal HIV seroprevalence in urban sites increased from 7% to 28% in urban areas while in rural areas it increased from 2% to 33%, (*NACP Epidemiological reports No 1 -11 1989 -1996*). Data from MoHSW indicate that there has been a decline in HIV prevalence among ANC attendees in the last 6 years: HIV prevalence amongst pregnant women has reduced at a national level from 9.6% in 2002 (NACP 2003) to 8.2% in 2006, with all seven regions indicating a decrease in HIV prevalence. (NACP 2006). The figures below show trends in site specific antenatal HIV prevalence in the country.

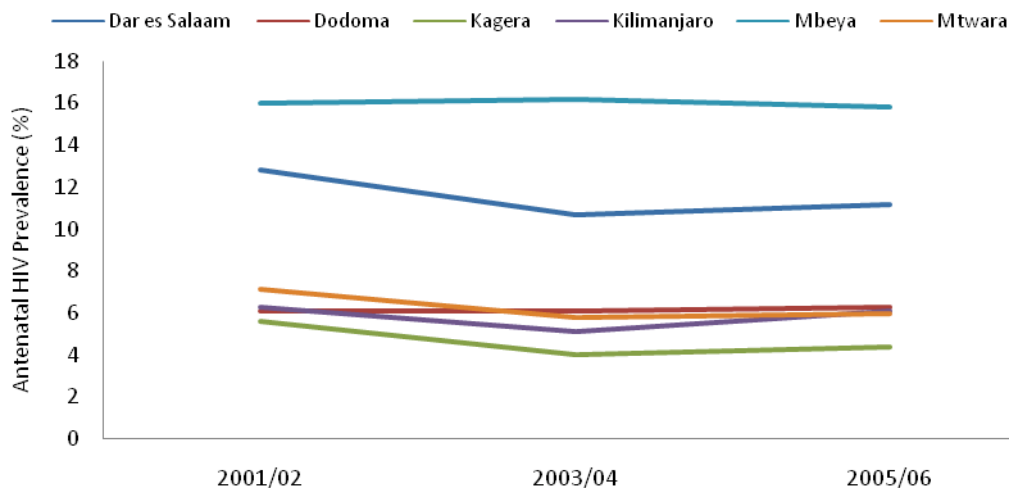


Fig. 2: Trends in antenatal HIV seroprevalence among selected ANC surveillance sites 2001-2006

Trends in HIV Prevalence among Blood Donors:

The prevalence of HIV among blood donors in Tanzania increased among women and men from 1987 – 1996, (*NACP Epidemiological reports No 1 – 12; 1986 -1997*). For instance HIV prevalence among male donors increased from 3% in 1987 to 6.8% in 1996 and among women 7.1% in 1987 and 8.2% in 1996. However data after this period was not available.

2.4 Magnitude and Trends of HIV Incidence in Tanzania

Data on HIV incidence (numbers and rate of new HIV infections) in Tanzania are limited. However, such data is necessary to track impact of HIV prevention programmes. According to UNAIDS (2008), HIV incidence rates have, according to estimates and projections, evolved in the following way:

- Urban HIV incidence peaked in the late 1980s at about 3.4 %, declined steeply to about 1% and is now presumed to have stabilised at about 1.4%
- Rural HIV incidence peaked approximately 4 years later in the early 1990s at about 1.5, declined to about 0.5 thereafter, and has increased to a secondary plateau at about 0.7%
- National HIV incidence peaked at about 1.5 and is estimated to be at a stable level of 0.8% - 0.9% in 2008.

The figure below shows trends in projected HIV incidence among adults in Tanzania obtained from EPP and Spectrum modelling and projections.

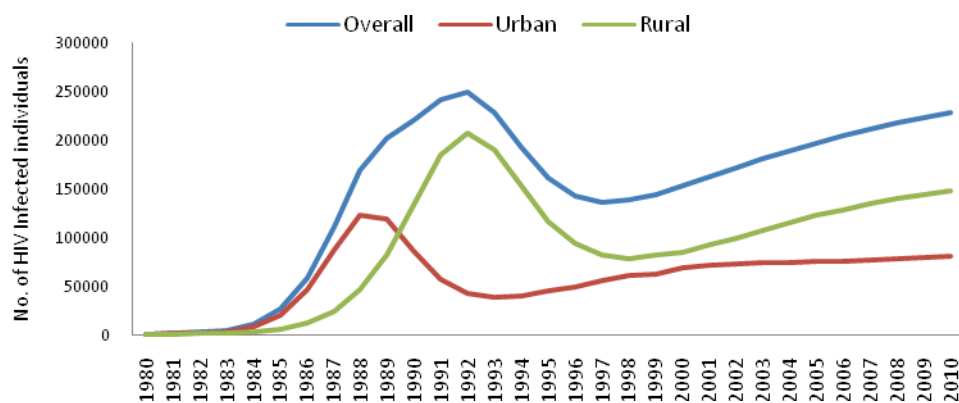


Fig 3: Annual Number of New Infections in Tanzania (Source: NACP, MoHSW, HIV Surveillance report, 2005)

Studies done Kagera and Mwanza showed that HIV incidence was high in both urban (1.8 – 5.2 HIV cases per 100 persons-years) and road side settlement, 3.2 per 100 person-years), while in rural areas it was low 0.8 per 100 person-years, (Killewo et al (1993). Kwesigabo et al (1998) reported a decline in incidence of HIV in urban Bukoba from 47.5 per 1000 person-years during the period 1987 – 1989 to 5.6 per 1,000 person years during 1993 – 1996.

2.5 Patterns of HIV Transmission Risk Behaviour

Both 2003-04 THIS and 2007-08 THMIS surveys showed high levels of HIV/AIDS related knowledge, and average levels of comprehensive knowledge of HIV prevention among adults in Tanzania. However, the challenge has been to translate the high levels of knowledge into risk perception and appropriate preventive sexual behaviour and designing workable interventions around them. It is ironical that individuals such as educated, wealthy and urban residents are more likely to be knowledgeable, but also invariably have higher rates of risk-taking behaviour and higher levels of HIV infection.

Undoubtedly, HIV-transmission risk taking behaviour of HIV-infected and uninfected people will influence the future direction of the HIV epidemic in the country. Information on sexual behaviour and sexual network patterns is important in designing and monitoring HIV prevention programmes.

Age at sexual debut:

Age at first sexual intercourse has been reported to have an influence on HIV prevalence. Mnyika et al (1997) found a correlation between age at sex debut and HIV infection. It is good to note that the age of sexual debut is increasing in both women and men, (TRCHS 1999, THMIS 2008). According to these surveys, the percentage of women aged 15 – 19 years who had sex before age 15 has decreased from 15% to 11% during 1999-2008. Among men, the proportion of teenagers aged 15 – 19 years who had sex before age 15 has decreased from 24% to 11% in 1999-2008 respectively. It is important to maintain gains made in delayed sexual debut and ensure health youth transition to healthy sexual behaviour.

Multiple sexual partnerships:

Data from the 2007-08 THMIS indicate that multiple partnerships (both concurrent and serial) is highly prevalent especially among men. Three percent of women reported having had sex with more than one partner in the 12 months preceding the survey compared with 18 percent of men. Extramarital sex is also common among married couples, and might partly account for the high prevalence of discordancy of HIV serostatus. Among married individuals, 16 percent of women and 29 percent of men reported to have had sex in the past 12 months before the survey with a non-marital, non-cohabiting partner. In view of the high prevalence of HIV among individuals in marital relationships and correlation of HIV prevalence with multiple partnerships, the HIV prevention strategy needs to address both multiple and extramarital partnerships.

Higher risk sex

Traditionally, higher risk sex refers to sexual relationships with casual or non-marital, non-cohabiting partners. However, there is current evidence that other relationships, such as sex with discordant partners or partners of unknown HIV status is perhaps more risky. Nevertheless, higher-risk sex in the traditional sense is still highly prevalent in Tanzania. In 2007-08 THMIS, about 29% of sexually-active men and 16% of women indicated that they had had sex with a non-marital, non-cohabiting partner in the previous 12 months. Although

these figures represent a commendable decline from 46% of sexually-active men and 23% of women who engaged in this behaviour in the preceding 12 months in the 2003-04 THIS, there are also significant variations across socio-demographic and economic subgroups. Reduction of these behaviours should be a major focus in the next phase of HIV prevention.

Condom use:

In the 2007-08 THMIS, among women who reported having had higher risk sex in the past 12 months, 43% had used condom at the last higher risk sex, while 53% of men also did. This was a slightly improvement from 2003-04 where 38% of women and 50% of men used a condom during such encounters. However, more than half of these risky sexual acts were not protected. Younger respondents are more likely to have used condoms than older respondents. Low levels of condom use, where by less than half of risky sexual acts were protected by condoms may be driving HIV transmission, especially from older individuals who already have high HIV prevalence, but are less likely to use condoms.

Sex work / paid sex

Sex work/paid sex constitutes a special form of HIV-transmission risky behaviour owing to the complex set of sexual networks, involving a big number of concurrent multiple partners. Eight percent of men age 15 – 49 paid for sex in the last 12 months and 60% used a condom. This practice was significantly more common among men who were divorced, separated or widowed at a high rate of 23%. The 2003-04 THIS showed that less than 2 % of men indicated that they had recently had sex with prostitutes, with just over half (58%) reporting using condoms; the practice reported more frequently in the coastal regions. Lugalla et al (2007) has linked sex work with tourism which is concentrated on the coastal areas of Tanzania. All in all, the magnitude of commercial sex is likely to be grossly underestimated. Furthermore, transactional sex is perhaps more common in Tanzania. Cross-generation sex in particular often involved transactional element and is also very common.

Anal sex:

Anal sex is another form of increased risk behaviour for HIV transmission. Data on this practice is scarce, but a few studies indicate that in some parts of the country, anal sex (heterosexual or among men who have sex with men) occurs and may be important factor for the spread of HIV (URT PMO 2007). Mwakagile et al (2001) studied 1,423 youths attending a youth clinic and found 3.4%, and 5.1% of males and females respectively engaged in penetrative anal sex. Homosexual practice was reported by 2.3% of males. Additionally, Hoffman et al (2004) found in focus group discussions with women who are part time sex workers that anal sex is also practised and the pay is higher than for vaginal sex". These few observation indicate that the HIV prevention strategy needs to address these practices.

Sexual Behaviour of HIV-infected People:

Data on the sexual behaviour of HIV-infected people is not available. However, data from the region indicate that over two thirds of HIV-infected people are sexually active (Bunnell, 2008); a significant proportion engage in HIV-transmission risk sexual behaviour such as inconsistent condom use, multiple and casual partnerships including extramarital affairs. However, the majority of their sexual activities were with their partners. A significant proportion did not know their own or their partners' HIV serostatus, and a few who know their status have not disclosed their own status to partners. In one study, a small proportion knew their partners to be uninfected, and yet do not consistently use condoms, and this varied by gender. The specific risk sexual behaviour of HIV-infected individuals in Tanzania needs to be assessed, in order to design HIV-prevention for HIV-infected individuals.

Drivers of HIV Transmission in Tanzania and Most-at-Risk Populations

The spread of HIV in Tanzania is driven by individual level behavioural and biological factors, as well as community, societal and structural factors that influence sexual and health seeking behaviour as well vulnerability to HIV infection. These factors operate at various levels, some predominantly in the general population, while others operate on specific population groups.

2.6 Individual Level Behavioural and Biological Factors

Multiple Concurrent Partnerships

Available data indicate that MCP is widespread in Tanzania. The 2008-08 THMIS showed that 27% of sexually active men reported having more than one sexual partner. In Mwanza, another study indicated that of primary and secondary school girls aged 15-20 years, 28.4% had dated a married man, but this rose to 50% for females aged 21-26 (Luke and Kurz, 2002).

Multiple partnerships take several forms, concurrent or serial, extramarital, premarital and casual relationships. Extramarital affairs during the previous 12 months were reported by 16% of married / cohabiting women and 29% of men. In Tanzania, a typical form of such sexual relationships is with a partner that might be considered “*steady*” yet in non-marital relationship. A man might have a “njumba ndogo” or “small house” with a female partner and might even have children. These relationships are usually kept secret from the regular partner, and sometimes even community members condone it. These relationships often form if a man is dissatisfied with sexual relations with his spouse, and is often cloaked under the acceptability of polygamy (Soul City, 2008).

In the 2007-08 THMIS, HIV prevalence data showed an exponential increase with increase in number of life time sexual partners from 3% among women with one life time partner to 22% among those with 10 or more lifetime partners. Among men, HIV prevalence increased from 1.4% among men with one life time partners to 11.4% among men reporting 10 or more life-time partners, figure 4.1 below

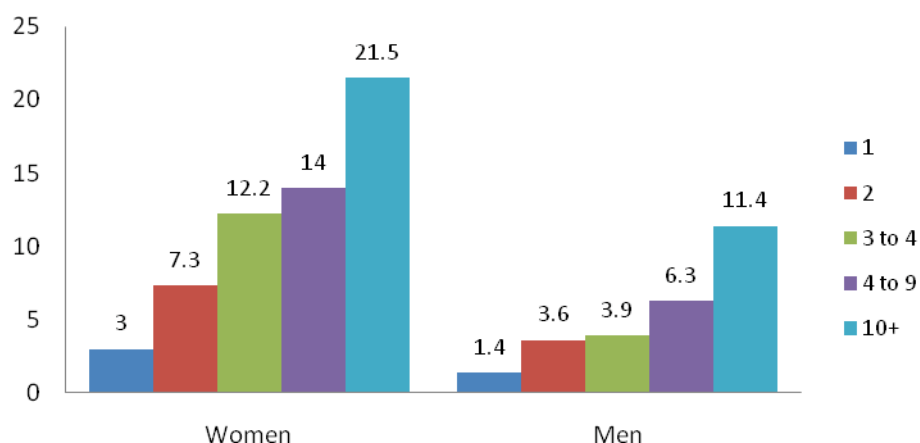


Fig. 4: HIV prevalence among men and women by number of lifetime sexual partners (Source 2007-08 THMIS)

Cross-generational relationships,

Cross Generational sex usually between a young woman and an older man, is another form of multiple partnerships and is common throughout Tanzania. According to the 2007-08

THMIS, 8% of young women had sexual relationships with men ten or more years older. A study of urban girls aged 14-19 years showed that approximately 33% of their sexual partners were 10 years or older and 85% of these partners were professionals. Another study of urban Tanzanian girls aged 15-19 years in urban Dar es Salaam who were receiving hospital treatment for induced abortions showed that 45% of these women's sexual partners were married men; 73% of their partners were 30 years or older (Luke and Kurz, 2002). Kaaya et al, (1998) point out that majority of young females involved in cross-generational sex, and are more likely to be infected with HIV than women with younger partners. The gender power relations may worsen the likelihood to HIV infection -Young girls are relatively powerless when dealing with older partners who are experienced, increasing their risk of infection from STIs and/or HIV infection (Bujra, 2000, UNFPA, 2002). The power imbalance makes it difficult for your girls and women to resist sexual engagement or negotiate for condom use during sexual encounters.

Although poverty has been found to increase the vulnerability of young girls to cross-generational sex, poverty is not necessarily the only driving force. Peer pressure has also been found to force young girls into cross-generational sex. This means that HIV prevention interventions will need to address young girls from both poor and wealthy families. Furthermore, planned interventions will also have to address both young girls and men.

Transactional relationships

Transactional sex is another form of multiple partnerships that is common in the country. Transactional sex, though not necessary seen culturally as commercial sex, has been in existence for long. For example, it has been widely accepted that sex work is linked to poverty and tourism (Lugalla et al, 2007). Maganja et al (2007) found that youth exchanged sex for money and other materials in all types of relationships, casual and long term. A study in Mwanza among male and female students aged 12 years and older showed that among these students, the main reason for having a sexual relationship was to receive presents or money (52% of female primary school students, 10% of female secondary school students (Luke and Kurz, 2002)). Another study showed that women were at higher risk of acquiring HIV if they had engaged in paid sex within the previous three months (Watson-Jones, 2009).

HIV sero-prevalence among sex workers is often higher than that of the general population. A study of HIV prevalence among sex workers in Moshi (2002-2003) showed that 20% of CSWs were infected. Another study in 2000-2001 in two mining towns in Mwanza found that about 40% of sex workers were infected. In Mbeya region, a survey indicated that HIV prevalence among sex workers increased with age, about 50% of sex workers under 20 were infected, rising to 70% for those 30 and over. The 2003-04 THMIS showed that less than 2 % of men indicated that they had recently had sex with prostitutes, with over half of men (58%) reporting use of condoms. Recent case studies confirmed that often, whenever sex is part of an economic exchange, women's ability to protect themselves from STIs and other related infections is limited.

Low and inconsistent condom use:

There is evidence that condom use for both men and women in Tanzania is low. Availability of condoms is often cited as one of the causes of low condom use, especially in the rural areas, but there are also power relations, low use among long standing relationships, opposition from religious groups and misconceptions. The high cost of condoms, frequent stock outs, stigma and perceptions around the use of condoms are other important factors that hinder condom use. However, even when female condoms are accessible, power relations

and decision making between men and women, including the relative social and economic status of partners influence the extent to which condom use can be successfully negotiated (UNAIDS, 2004.) In addition, teenage pregnancies are increasing (ME&VT, 2008), a trend indicating the extent of unprotected sexual activity among young women.

Untreated Sexually Transmitted Infections:

The correlation between STD and HIV infection has been well documented. Untreated STIs have been found to increase the probability of HIV infection in both men and women by as much as ten times (UNAIDS, 1997). In the 2007-08 THMIS, 6% of sexually active men and 7% of women indicated that they had recently had symptoms of STIs, of whom, only 56% sought treatment from a qualified health care provider. Poor health services and barriers associated with access to STI treatment especially in rural areas are perhaps responsible for this. Untreated STIs in women, as a factor in HIV infection is probably more important since symptoms are often less detectable in women. Bacterial STIs including Chlamydia and gonorrhoea, candidiasis and trichomonas are associated with higher HIV viral loads in genital secretions. The treatment of STIs is important to reduce viral load and therefore HIV transmission to partners.

Unsafe Injections, Blood Transfusions and Contact with Body Fluids

The World Health Organization estimates that, on at least 5% of new HIV infections globally are attributed to unsafe injection practices. In Tanzania, research suggests that 47% of injections are unsafe. There are high rates of inadequate disposal procedures (89%), and 50-90% of curative injections could be avoided. Factors contributing to unsafe practices include lack of safe disposal containers, improper disposal procedures, and disposal of hazardous wastes in open, unguarded rubbish areas. A recent study in Tanzania suggested that HIV acquisition was associated with having received injections during the previous three months (Watson-Jones, et al, 2009).

Both men and women are vulnerable to HIV infection through blood transfusion, especially in circumstances where quality of transfused blood is not assured. However, women are at greater risk than men due to pregnancy and delivery that increase need for blood transfusion. Furthermore, women giving birth, especially in rural settings face more risks of blood contamination through 'unsafe' handling during delivery (Marjorie, 2006). A study in Tanzania showed that in 2003-04, approximately 15 out of 66 health facilities reported cases of accident exposure to potentially infective materials. About 42% of workers reported they had experienced accidental exposure in the last five years, however, only 21% reported it, while 54% of those who did not report were not aware that they were supposed to.

Alcohol, Drug and Injecting Drug Use (IDUs):

It has been noted that there is an increase in the number of IDU in Tanzania (UNGASS, 2008), although data is limited. The size of these population groups on the mainland has also not been estimated, nor their networks and extent of bridging to the general population. However, some information on the behaviour of these groups is available. In Dar es Salaam, there are significant gender differences for needle use behaviours. A greater proportion of men engage in riskier needle use behaviours; 18% of men reported injecting themselves with used needles, compared to 6% of women; 53% of men reported injecting with others, 24% shared needles, 21% gave or loaned used needles, and 23% shared with an injector who also shares. In comparison, 13% of women reported injecting with others, 6% shared needles, 11% gave or loaned used needles, 6% shared with an injector who also shares.

There are also gender differences with regards to IDU and sexual behaviours. Among female IDUs in both mainland Tanzania and Zanzibar, 94% reported having had sex within the last 30 days. Of these, 84% traded sex for money, and 28% traded sex for drugs. These figures were considerably lower for male respondents. Female respondents reported having over 12 times the number of sexual partners. During the last sexual encounter, 69% of the women reported condom use, compared to 28% of men. About 12% of women reported using alcohol during sexual encounters, compared to 51% of men. In addition to drug use, overall substance abuse is even higher. There is also a greater HIV risk among IDUs and bridging populations, as needle-sharing IDUs also do sex-work to fund their substance use (Ross et al 2007).

HIV prevalence is also influenced by abuse of other substances such as alcohol use. Among men, HIV prevalence among individuals who said they used alcohol at last sex is almost 3 times that of men who said neither they nor their partners used alcohol (20% versus 7%). For women, HIV prevalence is almost double for those who reported using alcohol at last sex, as compared to women who said that neither they nor their partners used alcohol (14% versus 7%). Another study showed that women had a significantly higher risk of acquiring HIV if they drank 30 or more drinks per week (Watson-Jones, et al., 2009). Alcohol use is associated with a lower prevalence of safer sex precautions, such as condom use.

Men who have sex with men (MSM):

Data on the extent of MSM in Tanzania is scarce. However, a few studies indicate that in some parts of the country, practice of sexual intercourse (heterosexual or among men who have sex with men) occurs and may have an important role in driving HIV transmission. There is anecdotal evidence that this practice might be more common in Zanzibar and Pemba islands. On the mainland, the practice might be increasing along the coastal regions. Makwagile et al (2001) and Hoffman et al (2004) also documented anal sex behaviour among young people on the mainland and the practice might be common among sex workers and their clients. It is also acknowledged that many men who have sex with men also engage in sexual intercourse with women. From these reasons, it is necessary for the HIV prevention strategy to quantify the magnitude of these practices and recommend appropriate strategies.

Mother to Child Transmission:

With more than 1.5 million births annually and 8.2% HIV prevalence among antenatal women, approximately 123,800 HIV positive women deliver exposed infants annually in Tanzania. Assuming a 35% transmission rate without intervention, approximately 43,300 children would become infected with HIV each year. Currently, 98% of pregnant women attend ANC at least once during pregnancy (DHS 2004-05), a fact that provides an excellent opportunity to prevent paediatric HIV infections as well as provision of care and treatment to HIV infected women and their families.

Mobility:

Studies have revealed that mobile population groups are vulnerable to HIV infection because their occupation forces them into high- risk sexual behaviour. A study in Kisesa found that high levels of short and long term mobility and being close to the trading centre were significantly associated with increase in HIV incidence (Boema et al 2002). Another study found that long term mobile men did not report more risky behaviour than resident men, but short-term mobile men reported having multiple sex partners in the last year more often (Kishamawe et al 2006). In contrast, long term mobile women reported having multiple sex partners more than often resident women (6.8% versus 2.4%,) and also had a higher HIV prevalence (7.7% versus 2.7%,). These results are consistent with the 2007-08 THMIS which

found that individuals that travel away from home frequently are more likely to be HIV positive than those who do not. Among women, those who had travelled away from home five or more times in the past 12 months were twice as likely to be HIV positive (12%) as those who did not travel away from home (6%). Similar findings were found among men. Mobile population groups such as seasonal labourers and truck drivers are vulnerable to HIV infection. Long-distance truck drivers often have multiple partners along their truck stops and studies have found high HIV prevalence of up to 50% (www.tanzania.go.tz/hiv_aids.html). Truck stops constitute hotspots that attract sex workers. This suggests that interventions for HIV prevention among people whose occupations requires frequent travel should aim at both women and men, but also for women and men who remain at home. Focus of activities on truck stops and similar hotspots might be cost effective.

Coverage of Male Circumcision:

Male circumcision has been demonstrated to significantly reduce the risk HIV acquisition by 50-60% among men. In Tanzania, male circumcision is mainly conducted as a cultural or religious practice. In regions like Mara, Arusha, Manyara, Singida, and Dodoma male circumcision is for cultural factors; and 75% of males are circumcised. In about half of the regions in Tanzania male circumcision prevalence is very low. HIV prevalence data from the THMIS 2007-08 shows that most regions in Tanzania with higher HIV prevalence, like Iringa (15%), also have lower prevalence of male circumcision (37.7%). According to these data, men who are circumcised are less likely to be HIV positive (4%) than those who have not been circumcised (6%). From this survey it appears that there is an inverse relationship between the regional prevalence of circumcision and regional HIV prevalence. This relationship according to UNAIDS (2008) has remained statistically significant over time ($p = 0.0002$ in 2003 and $p = 0.0009$ in 2007). It has been estimated that if male circumcision is performed on large numbers of males; it could lead to reduction of at least six million new HIV infections and three million deaths in Sub-Saharan Africa (SADC, 2006). This implies that there is a need to advocate circumcision practices all over Tanzania regardless of religious beliefs. Focus should be on regions with low male circumcision.

Lack of knowledge on own and partner's HIV status

In Tanzania, over 60% of adults have never tested for HIV and don't know their HIV-sero-status. With the limited coverage of couple testing and disclosure of HIV test results, knowledge of partner HIV sero-status is even lower. Both the 2003-04 THIS and 2007-08 THMIS found high rates of HIV discordancy among couples. In the 2003-04 THIS, eight percent of couples were HIV-discordant, i.e. one partner was already HIV-infected while the other was still HIV-negative, while among 2.6%, both partners were infected. In the 2007-08 THMIS, 6.3% of married or cohabiting couples were in HIV-discordant relationships, 2.5% were concordant HIV-positive and 91% both partners were uninfected. Excluding HIV-negative couples, about two-thirds (67%) of HIV-infected individuals had HIV-negative or discordant partners. This situation puts the uninfected partners at extremely high risk of HIV infection and represents a high unmet need for HIV prevention. This makes a compelling case for knowledge of HIV sero-status of partners. It has been shown in Rakai district in Uganda that the per-act risk of transmission among discordant couples is more than ten times that of the general population (Gray R, 2001). This is particularly so in light of low rates of condom use in marital and other long standing relationships.

Women are more unlikely to know their partner's HIV status than men. This could be due to the existing masculinity norms in different societies. The HIV transmission sexual behaviour of HIV infected people already highlighted would require knowledge of HIV status of

individuals and that of their partners in order to take responsible choices. Expanded HIV prevention should promote knowledge of individual and partner HIV sero-status.

2.7 Cultural and Gender related Drivers of the HIV Epidemic

Gender and sex based violence:

Physical violence, the threat of violence and the fear of abandonment contribute directly and indirectly to women's and young people's vulnerability to HIV infection. Fear of violence is a barrier for women negotiating safer sex and discussing fidelity with partners. Furthermore, fear of violence undermines seeking for treatment, including for STIs. Women may hesitate to test for HIV or if tested fail to receive test results because of fear of disclosing their HIV-positive status to their partners since doing that may result into physical violence, expulsion from home or social ostracism. A study in Dar es Salaam found that only 57% of women who tested HIV-positive reported receiving support and understanding from partners.

Sexual and gender-based violence is also common in Tanzania. The risk of HIV infection for women increases during violent and forced sex. For example, the abrasions caused through forced penetration of women facilitate entry of HIV. This also happens to young girls and boys, if they are forced to engage in sex, (WHO, 1995, Baden and Wach, 1998; UNAIDS, 2001). Orphaned girls have also reported being sexually assaulted by family members (REPOA, 2009). A recent study in northern Tanzania indicates that physically and sexually abused women are more like to abuse alcohol, have more sexual partners, and report an STI. (Ghebremichael, 2008)

Gender Inequalities:

In many communities in the country, there are consistent differences between women and men's roles, access to productive resources, and decision-making. Gender gaps between women in literacy, school enrolment, land ownership, and access to credit testify this imbalance in power, (UNFPA, 2002). The imbalance in resource seeking opportunities drives young women to transactional sex. This vulnerability is intricately tied to social norms about femininity and masculinity which maintain the imbalance of power unfavourable towards young women and girls. The NMSF 2008-2012, observes that: "...*The HIV epidemic is largely driven by unprotected sex especially among men on the one hands, and by female subordination and lack of economic independence*", and it places emphasis on the need for 'democratization of sexual relation' in the fight against the pandemic.

Socio cultural norms

Societal perceptions on how women and men behave in sexual relationships contribute to vulnerability to HIV. For instance, fear of being labelled promiscuous, limits ability to learn about safer sex. A study in Rungwe District in Mbeya, showed that attempts by women and young girls to visit health facilities seeking information on STIs was challenged by communities stigmatizing them as "sinners" (Mbilinyi and Kaihula, 2000). In many cultures, virginity is still the dominant framework within which young girls are encouraged to understand their sexuality. Within this context, they are encouraged to maintain the culture of silence surrounding their sexuality which prevents them from receiving information on HIV.

Gender norms have implications for patterns of sexual relations (UNAIDS, 2005) as well as an individual's attitude towards sexuality. For example, men are expected to dominate and women to be passive in decisions about sexual relationships. Within this situation, women are likely to experience little control or ability to negotiate change in sexual behaviour. The

power underlying any sexual encounter largely determines who can adopt protective behaviour, and who is at greater risk of HIV infection (Baylies and Bujra, 2000).

The masculinity norms, where men are socialised to exercise manhood by having more sexual partners as a way of exercising virility also drives the epidemic. In many cultures, in Tanzania, women have little say on men's infidelity. A study on gender and generational struggles in Lushoto noted that "though many women expressed concern about infidelity of their partners, they were lacked control over the situation (Baylies and Bujra, 2002).

Furthermore, many cultures still maintain harmful practices that render women and young vulnerable to HIV infection. These practices include: early marriages, female genital cutting, wife inheritance, dry sex, and initiation of girls. Below are cultural factors that need attention.

- Early marriages: despite the legal minimum age for marriage at 18 years, the age at which marriage is allowed with parental consent is often lower 14 (Mascarenhas, 2007)
- Female genital cutting is still carried out in 15 of the 21 regions on mainland Tanzania.
- Initiation rites of adolescent girls into womanhood often involve initiating sexual activity.
- Though a dying culture, in some communities, inheritance of a wife by the deceased husband's relative is still practised, often without knowledge of HIV status of the widow.
- In some communities, after the death of a husband, widows are disinherited of marital property, and left with responsibility of caring for children, thereby pushing them into poverty and risk of transactional sex. A study in northern region showed that being widowed or weekly household expenditures less than TShs 7,000 was associated with seropositivity, (Landman, at al., 2008).

2.8 Socio-economic and other Underlying Drivers of the HIV Epidemic

Poverty and Wealth:

Data from 2007-08 THMIS indicates that HIV prevalence increases with wealth for both males and females. Overall, HIV prevalence for people in the highest wealth quintile is three times greater than for people in the lowest wealth quintile. Poverty often leads women and poor men to taking risky actions as well as preventing them from taking protective action. Poverty and unequal economic rights between men and women often limits the bargaining power of women and girls and place them at greater risk of sex work. Poverty also limits women's ability to access information. Furthermore, breast-feeding has gender and poverty dimensions (Seidel and Tallis, 1999). The option of exclusive bottle-feeding to reduce infection is often not be viable to very poor women. On the other hand, wealth is also associated with risk taking behaviour. Although wealth elites are also more likely to use condoms during such activities, it is well known that it is difficult to sustain condom use.

Conflict Situations:

Though Tanzania has not experienced war and related conflicts that have resulted in unprecedented waves of population displacement in other countries in the region, both within and across borders, Kigoma and Kagera regions are home to large concentration of refugees from neighbouring countries of Burundi, Rwanda and DRC. There is evidence that concentration of populations and confinement in one area erodes the protective cultural norms and force people to engage in high risk sexual behaviours. Women refugees and children in their camps in Kigoma and Kagera are reported to be vulnerable to sexual abuse and to a larger extent forced to engage in transactional sex.

3. Programmes for HIV Prevention in Tanzania Mainland

3.1 HIV Prevention Programmes in Tanzania

Tanzania has been piloting and implementing HIV prevention programmes since the 1980s. The specific interventions have evolved overtime as scientific evidence become available. The NMSF identifies HIV prevention as its top priority, and sets appropriate strategies for delaying sexual debut, mutual faithfulness to partners of known HIV status, reduction of sexual partners and correct consistent use of condoms, especially with casual partners or partners of unknown HIV status as well as promotion of utilisation of HIV prevention services. The roll-out of new interventions such as male circumcision is also prioritised.

The current government strategy under the NMSF therefore emphasises multiple strategies, comprising of various interventions, focussing on the general population or specific population groups, risk behaviours or other drivers of the HIV epidemic. Currently, the main HIV prevention interventions in the country comprise of behavioural prevention initiatives that focus on the general population, young people, vulnerable and high-risk population groups, condom promotion, prevention of mother-to-child transmission (PMTCT), HIV Counselling and Testing (HCT), blood transfusion safety, Medical infection control (including injection safety and post-exposure prophylaxis (PEP)).

In addition, the Government of Tanzania, in collaboration with USG is conducting feasibility studies to inform policy formulation to guide the introduction of medical male circumcision for HIV prevention. Involvement of HIV-infected individuals in HIV prevention activities (prevention with positives) is also being gradually introduced especially in HIV care settings. In Tanzania's generalised HIV epidemic, addressing underlying drivers of the epidemic such as cultural norms, gender inequalities and economic environment are all central to effective HIV prevention. The coverage, scope, target groups and challenges of various interventions are discussed in the sections that follow.

3.2 HIV Prevention Policies and Technical Guidelines

Tanzania developed an overarching National Policy on HIV/AIDS that provides a framework for multisectoral HIV/AIDS control activities in the country. In addition, the HIV/AIDS Prevention and Control Act, 2007, passed by the Tanzanian Parliament gives legal effect to many of the provisions for HIV/AIDS control in the country. The HIV/AIDS policy is due for review to incorporate issues that have emerged recently.

To guide specific interventions, TACAIDS and sector ministries especially the MoHSW, MEVT and MAF, have developed technical guidelines, policies or strategies for specific interventions. TAMISEMI has also issued workplace guidelines for ministries and MDAs. These guidelines support the overarching national HIV/AIDS policy. The formulation of these policies and guidelines often involves participatory processes, and take into account local evidence and global best practices. Some of these guidelines and policies are regularly updated. The specific technical guidelines/policies for HIV prevention are discussed in detail under each intervention. Policies and technical guidelines for new HIV prevention interventions such as medical male circumcision are still under discussion.

3.3 National Targets for HIV Prevention

The overall target of HIV prevention is to reduce the rate of new infections, although no quantifiable targets are provided. However, Tanzania is signatory to international conventions such as MDGs, UNGASS and universal Access that have set specific targets for reduction of new infections. By inference, these targets apply to the country's efforts. The other national targets are discussed in the sections that follow under each intervention.

3.4 Coverage, Target Groups and Challenges of HIV Prevention Programmes:

The major HIV prevention programmes in Tanzania, their target groups and coverage as well as challenges and constraints are as follows:

3.4.1 Behavioural Interventions Programmes:

Behavioral intervention for the general population and specific high risk groups in Tanzania are designed to promote adoption of safer sexual behaviors, focusing mainly on delaying sexual debut, decreasing numbers of sexual partners and correct condom use. They also promote health seeking behavior and utilization of HIV prevention, care and treatment services. In this review, behavioral interventions were categorized into: i) mass media, ii) interpersonal communication / social change approaches, iii) educational and life skills programmes for in- and out-of-school youth and iv) educational programs in the workplace.

National Communication Guidelines and Policies:

In Tanzania, the communication guidelines for behavioural interventions comprise of the National HIV/AIDS communication and advocacy strategy developed by TACAIDS in 2005, and Guidelines for HIV/AIDS and Life skills Education Programme in schools. Overall, these guidelines promote multi-channel and multimedia behavioural change communication approaches, using mass media, print media, interpersonal, community mobilisation etc), targeting diverse population groups. In addition, some development partners and NGOs have their own institutional communication strategies.

Major strategies:

The major strategies for behaviour change promotion in Tanzania include i) emphasis on communicating messages through mass media, ii) encouraging interpersonal communication / social change approaches, iii) emphasis on youths in school and out-of-school educational and life skills, and iv) development of educational programs in the workplace

National targets:

The national targets for behaviour change communication elaborated in national strategic plans are:

- Raising the level of comprehensive knowledge about AIDS among young people aged 15-24 from 40% in 2008 to 60% by 2012.
- Decreasing early sexual debut i.e. before 15 years from 9.5% and 10.6% in 2003/4 to 7% in 2012 among males and females (15-24 years) respectively.
- Increasing condom use during multiple sexual partnerships among adults from 38% and 49.7% in 2003/4 to 45% and 55% by 2012 among females and males respectively.

Major Programmes Implemented in the Country:

Sexual behaviour change interventions in Tanzania are implemented by a wide range of partners in a multi-sectoral landscape. The major programmes for behavioural interventions in Tanzania in the public and private sector according to the different approaches include:

Mass media programmes: This programme aims to raise general awareness, promote comprehensive knowledge and improve utilisation of HIV prevention, care and treatment services. In line with the communication strategy, multi-media communication approaches are used, involving electronic (television, FM radio stations etc) and print media such as newspapers. These programmes are supported by the government and development partners and are implemented by national and international public and private institutions including civil society organizations. Some of major programmes include:

- Femina-HIP, one of the leading NGOs that produce mass communication programmes. Their behaviour change communication materials include *Si Mchezo* magazine for out-of-school youth, *Fema* magazine, circulated to secondary schools, Chezasalama.com, a website on HIV and sexuality, Radio Pilika Pilika, *Fema* TV Talk Show and the One Love Campaign against multiple concurrent partnerships.
- The Tanzania Communication and Marketing Company (T-MARC) is a Tanzanian NGO that designs and implements health communications campaigns and recently launched two HIV/AIDS campaigns on faithfulness/partner reduction and condoms use.
- The MoHSW/NACP has radio and billboard programme (*Fataki*), behaviour change programme focusing on cross-generational sex. The NACP also sponsors radio and TV plays promoting changing sexual behaviours (for example: Tingisha –Radio Tumaini).
- TACAIDS has availed all Regional Multisectoral AIDS Coordinators (RMAC) with cinema cars that are used for education campaigns. The car has all required materials such as screen, speaker, generator, petrol tank, amplifier, laptop, digital camera, video shooter etc. and at both sides of the body of the car there are small white boards.

Interpersonal communication or social mobilisation programmes: This programme aimed at improving skills and self-efficacy among individuals and population groups to foster HIV prevention. The major partners in the country supporting these approaches include:

- PSI/Tanzania, an NGO that implements discussion groups among IDUs on harm reduction, one-on-one outreach with sex workers promoting condom use, small group workshops on partner reduction for MSM and peer education on abstinence for youths.
- Other NGOs and CSOs supported by PEPFAR are also implementing interpersonal communication activities in diverse parts of the country

Programmes for in-school youth in the country: These include:

- The MoEVT which has developed a strategic plan, and is rolling out curricular-based life skills education in schools. Life skills are therefore included in the career subjects. By the end of 2007, 29,625 primary school teachers and 12,000 secondary school teachers had been trained to teach HIV&AIDS and 236 tutors had been trained on HIV education and 52 principals of teacher training colleges were sensitized to provide supervision. About 60 visually-impaired teachers were trained.
- PASHA project which is housed at the MoEVT is running peer education programme for primary schools, with a focus on communication about HIV/AIDS among peer groups.
- TAYOA (Tanzania Youth Aware Trust Fund) runs a youth FM AIDS-Radio program targeting rural and urban schools and out-of-school youths, in collaboration with educational institutions (University of Dar es Salaam, Open University of Tanzania, Dar-es-Salaam City Primary/Secondary Schools).
- AMREF is involved in the development and implementation of MEMA kwa Vijana (*Good things for young people*) programme and has been supporting four project districts to reach out-of-school youth.

Programmes for out-of-school youth in the country: These include:

- The Ministry of Labour, Employment and Youth Development (MLEYD) is responsible for out-of-school youth. The MLEYD has developed a framework that is to be harmonised with the education framework in order to develop coherence in the holistic approach to life skills education for out of school youth. The MoEVT also supports out-of-school life skills through the COBET programme.
- Most of the programmes which support life skills in school such as TANESA, Mema kwa Vijana, Students Partnerships Worldwide (SPW), and Peace Corps also have out of school components that focus on behaviour change communication.
- Family Health International (FHI) through its Ujana Project supports youth serving organisations that provide HIV education to young people. FHI also implements the ISHI Campaign, which is a nationwide programme targeting 10-24 years youths, to increase HIV risk perception in the target districts; HCT in youth-friendly centres; and increase community support for youth HIV prevention. The programme has formed Youth Advisory Groups (YAGs) and trained theatre arts groups to implement community youth focused interventions and mass media outreach.
- In the MYELD, life skills training have been incorporated in the activities of youth programmes.
- Most programmes that support life skills education for in-school youth such as TANESA, Mema kwa Vijana, SPW and Pearce Corps also have out-of-school youth programmes.

Programmes for behavioural interventions in the workplace: These include:

- HIV/AIDS Business Coalition of Tanzania (ABCT), an NGO involved in HIV/AIDS at work places, offers training for peer educators and promotes workplace interventions.
- A number of MDAs implement workplace behavioural change interventions.
- Tanzania Breweries, Tanzania Harbours Authority, Mtibwa Sugar Company, Kagera Sugar Company, Urafiki also implement behavioural change activities in workplaces
- The Tanzania Informal Economy Networks on AIDS Initiative (TIENAI) in the informal sector is now establishing itself in all regions.

Achievements of Behavioural Change Communication Programmes:

The following are the collective achievements of the Behaviour change programmes in the country.

- HIV and AIDS knowledge among adults is currently over 98%
- Gains have been made in increasing comprehensive HIV knowledge, currently, 39% of women and 42% of men aged 15-24 have comprehensive knowledge of HIV/AIDS.
- There have also been gains in improving young peoples' sexual behaviour; early sexual debut, i.e. before the age of 15 years decreased among young women and men 15-19 years, from 15% to 11% and 24% to 13% respectively, during 2004-2008. During the same period, secondary abstinence among teenager aged 15-19 increased from 50% to 65%. Multiple partnerships among teenagers aged 15-19 decreased from 20% to 10%. The median age at first sex for women and men was already high and held steady.
- In the MoEVT, 75% of secondary schools and 48% of primary schools were actively providing life skills-based HIV education in Tanzania Mainland by 2007 (BEST, 2007).

Challenges, Constraints and Gaps in Behavioural Interventions:

The main gaps in behavioural intervention programmes include:

- There is low coverage of mass media especially in rural areas and there is currently no quality assurance for mass media messages. The quality of existing mass media is variable and most programmes do not provide avenues for interactive communication with target audiences to facilitate individual perception of risk.
- The focus of mass media communication and other behavioural change communication is not fully aligned to current epidemic drivers. There are few initiative and messages targeting concurrent multiple partnerships, transactional sex, stigma and discrimination.
- There is preponderance of mass media in behavioural interventions at the expense of interpersonal communication although the later has been proved to be more effective in fostering individual perception of risk and behaviour change.
- The quality of HIV life skills educational programmes in schools is not tracked, but anecdotal evidence indicates some weaknesses. There have been instances of over-emphasis on abstinence education, without imparting knowledge on other HIV prevention approaches necessary to equip young people for transition to responsible adulthood.
- There is no standardised curricular for training peer educators for out-of-school youths. Individual programmes have their own training manuals that have not been harmonised with a risk of conveying consistent messages.
- Most interventions do not focus on modifying cultural norms and practices.
- Most youth interventions do not include parents, guardians and other adults. Since youths live in adults' households, separating adults from youth interventions would tend to retard the successes of the interventions.
- The coverage of workplace interventions is still very low and their comprehensiveness assessed.

Strengths and Best practices of Behavioural Intervention Programmes in Tanzania:

- Programmes such as Mema kwa vijana (*good things to young people*) were found to be comprehensive in content and they produced teaching-learning materials for Tanzanian schools as well as materials for community and peer education.
- The assessment of the ISHI programme reported reduction in multiple partners, increase and consistency in condom use, improvement in HIV and AIDS dialogue, improvement in partner communication and improvement of youth HIV risk perception among youths in the target districts.
- TANESA programme in Mwanza provided best practices for school based behaviour change intervention. Its comprehensive peer education program that was accepted by the MoEC and was replicated nationwide.
- Student Partnership Worldwide (SPW) was found to have successfully met 11 and partially met 5 of the 16 UNAIDS benchmarks for effective programmes.

3.4.2 Condom Promotion

In Tanzania, condoms promotion has been part of the HIV prevention portfolio since the mid 1980s. However, current levels of condom use are still low, with less than half of risky sexual activities protected by condoms in 2008.

Policies and Technical Guidelines:

There are currently no specific policies or technical guidelines for condom promotion or distribution in Tanzania. However, other existing policies and regulations are supportive of condom programming. For instance, the overall National Policy on HIV/AIDS is explicit on condom promotion.

National Strategies:

The major strategies for condom promotion in the NMSF II are: i) to increase knowledge and skills of correct condom use in the general public and address misconceptions, iii) to expand accessibility to quality condoms to all areas of the country through social marketing and strengthening and diversifying the distribution mechanisms and outlets for free public sector condoms, iv) to address gender and other socio-cultural barriers to condom use including advocating with religious leaders to accept condom use, particularly in discordant couples, vii) to increase accessibility and affordability of females condoms.

National Targets for condom Promotion:

The overall target for condom promotion in the country is to increase correct and consistent use of condoms especially during high-risk sexual encounters in urban and rural areas, and to expand the availability of female condoms. The specific targets for condom promotion are: to increase the annual number of male and female condoms distributed to end users from 158 million to 250 million males condoms and 760,000 female condoms in 2006 to 1.5 million by 2012; and to increase condom use during high risk sexual encounters from 38% and 49.7% to 45% and 55% among adults by 2012. However, in the HSHSP the target for condom use in at least 60% of risky sexual encounters by young people 15-24 years by 2012.

Major Programmes for Condom Promotion in Tanzania:

The major programmes promoting condom use in the country are:

- Public-sector based distribution through public health clinics and workplaces, supported by the MoHSW through the Medical Stores department. In this programmes, condoms are distributed through the network of public health facilities through RCH clinics
- Social Marketing of condoms implemented by PSI-Tanzania, T-Mark, MSI and other NGOs. Of the 82.7 million condoms distributed in the country during 2008, 48.4 million were through social marketing by PSI. PSI’s social marketing uses traditional and non-traditional sales outlets (pharmacies, clinics, bars, hotels, brothels, kiosks and salons), to reach populations that may not have access to commercial condoms. T-MARC’s condom program recently launched a male condom, *Dume*, a female condom, *Lady Pepeta*, and *Flexi P*.
- Commercial outlets through shops, supermarkets, pharmacies, supported by the private sector
- There is also limited targeted distribution of condoms to some most-at-risk groups such as CSWs in some urban areas. These are implemented by PSI through peer group networks.

Achievements of Condom Programming in Tanzania:

Reports show that there has been a steady increase in the number of male condoms procured and distributed in the country from 50 million in 2003 to over 150 million in 2006, table 4.1.

Table 4.1: Annual number of condoms procured and distributed in Tanzania through various channels:

Mode of Condom distribution	Annual Number of Condoms distributed during the Year					
	2003	2004	2005	2006	2007	2008
Public Sector Condoms (MoHSW)		17,311,500	11,300,000	14,262,000	43,233,126	
Social Marketing						
PSI	30,000,000	38,900,000	54,443,000	55,338,768	64,693,494	65,000,000
T-MARC			376,480			
Commercial Outlets				1,429,830	5,144,243	
Total	30,000,000	56,213,504	66,121,485	71,032,604	113,072,870	65,000,000

Source: Constituted by authors from review of literature from various sources

Challenges, constraints and Gaps in Condom Promotion:

The major challenges and constraints for condom promotion in Tanzania comprise of:

- The condom promotion strategy in the country has no specific emphasis on high risk groups where consistent use of condoms is more likely, and where current evidence for their effectiveness has been demonstrated. For instance, while adults, especially those in marital relations comprise of the highest potential for new infections, very few programmes have specific interventions addressing older adults.
- The condom outlets are unevenly distributed between rural and urban communities, with condoms hardly available in rural areas. This is aggravated by the fact that a very small proportion of condoms distributed in the country (less than 20 percent) are free, and therefore, poor groups especially in rural areas have limited access.
- The logistics supply chain management for condoms is weak, with frequent stock-outs and interruption of supply especially for people in rural areas. The review was informed that there were 40 million condoms in MSD stores and in health facilities. However, peripheral facilities and districts were not dispensing them out to communities because of lack of such channels as peer group networks or community-based distributors. Moreover, distribution of condoms from MSD stores to districts and onwards to facilities was constrained by cost implications since they are bulky and expensive to transport.
- The prevailing gender-related limitations of condom use, for instance, women are not expected to introduce use of condoms in most societies. Moreover, condoms are mainly available through health units and other outlets that are not conducive for effective demand. Community-based distribution is still highly limited.
- There is still cultural and religious-based opposition to condom promotion and misconceptions are also prevalent.
- The uptake of female condoms is quite low due to low availability, acceptability coupled with high costs with only 776,000 condoms distributed in the country in 2006.
- The targets set for condom promotion in the country appear to be modest to turn the tide of the epidemic. Other countries in the East African region have already surpassed the national targets set for 2012.

Strengths and Best Practices for Condom Promotion:

Prior to the introduction of the social marketing programme, condoms were available free of charge through RCH services. However, condoms in general suffered low visibility and most people who needed condoms could not access them. The introduction of social marketing of condoms was therefore an innovative approach that has complemented and even surpassed the free distribution of public sector condoms (NMSF, 2007).

3.4.3 Prevention of Maternal-to- Child HIV Transmission

Mother-to-child HIV transmission currently accounts for about 18% of new HIV infection in Tanzania. Implementation of the programme for averting mother-to-child HIV transmission started in 2000. It is estimated that about 1.56 million women got pregnant during 2008, of whom, 8.2% were HIV infected. The PMTCT programme in Tanzania is implemented as part of comprehensive RCH and HIV/AIDS package i.e. integrated with other relevant RCH services i.e. ANC, PNC, EPI, IMCI, PITC and delivery.

National Strategies for PMTCT:

In line with international best practice, the PMTCT programme in Tanzania is based on a four pronged strategy i.e. i) primary prevention of HIV among reproductive age women and their

partners, ii) provision of family planning services for HIV-infected women and their partners to prevent unintended pregnancies, iii) HCT for antenatal mothers and ARV prophylaxis for prevention of HIV transmission from mothers to infants, and iv) clinical and CD4 count assessment to determine eligibility of mothers for ART and provision of treatment, care and support to HIV-infected women, their partners, infants and families.

National Policies and Technical Guidelines:

The PMTCT programme in Tanzania is based on the National PMTCT policy and technical guidelines, developed by the MoHSW and stakeholders. The current national guideline recommends two ARV regimens for ARV prophylaxis for PMTCT (a combination for use at all health facilities that have the capacity to initiate ART and have medication available (Nevirapine, Zidovudine and lamivudine), and a minimum single drug regimen that can be used at sites that do not have the capacity to initiate ARV drugs (single dose Nevirapine).

National targets for PMTCT:

The government of Tanzania mainland has the following national targets for PMTCT:

- at least 80% of pregnant mothers receiving PMTCT services by 2012
- 80% of exposed babies receiving co-trimoxazole prophylaxis within 2 months of birth by 2012
- Increasing ARV prophylaxis for HIV-infected women and their exposed babies from 10% in 2006 to 50% in 2012,
- Providing early infant HIV diagnosis based on DNA PCR to at least 50% of infants born to HIV-infected women
- Providing HIV counselling and testing to at least 50% of male partners of women tested for HIV through PMTCT programmes.

Major Programmes of PMTCT Programmes in the country:

Delivery of PMTCT services is based on multi-sectoral and multidisciplinary approaches, with effective coordination and partnership of all actors by the government. Stakeholders including public, private, NGO, CSOs and PLWHA are all involved in planning, implementation and monitoring of the programme. The major implementers of PMTCT Programmes in the country are:

- The MOHSW through the PMTCT coordination unit in NACP is responsible for developing policies, guidelines and standards for coordination of programme roll-out, capacity building and M&E. The RHMTS ensure PMTCT services are integrated into CCHP, coordinate implementing partners according to scale up plan and programme reporting. The CHMTs ensure planning, integration of PMTCT services, training of PMTCT service providers, supervision of PMTCT services (facility and community), availability of essential consumables and advocacy/social mobilization.
- In addition to supporting the MoHSW, the USG through PEPFAR is supporting several implementing partners to roll out PMTCT services. These include Family Health International (in Morogoro, Dodoma and Singida regions), AIDS Relief (in Mwanza, Mara and Tanga), EGPAF (in Tabora, Shinyanga and Kilimanjaro, Ntwara and Arusha), Engender Health (in Iringa and Manyara CHAI in Lindi), DoD/AMREF (in Ruvuma), DoD (in Rukwa) and DoD and GTZ (in Mbeya)

Coverage of PMTCT Services:

The PMTCT cascade still shows missed opportunities for averting vertical infections. For instance, in 2008, 65% (3029) of RCH clinics country were offering PMTCT services, and provided services to 61% (958,103) new antenatal women in the country. Of these 96%

(919,377) were offered and accepted HIV tests, of whom 11.2% (102,212) tested HIV-positive (higher than 8.2% in the antenatal HIV surveillance report, 2005). Furthermore, about 69.4% (70,944/102,212) of the HIV-positive women received ARV prophylaxis, and only 40% (41,347) of HIV exposed infants received ARV prophylaxis after birth, figure 5 below.

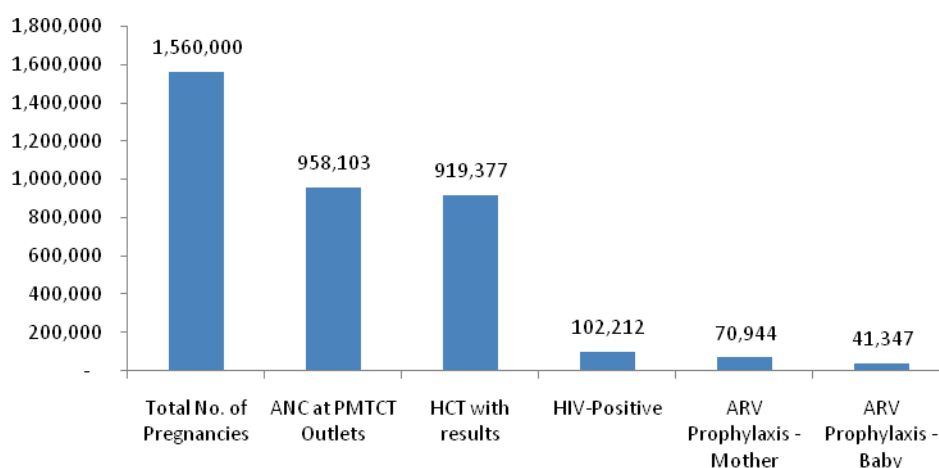


Fig 5: The PMTCT Cascade in Tanzania, 2008: Source: Drawn by authors with data from NACP PMTCT scale up plan

Overall only 32% (41,347/127,920) of HIV-exposed babies received ARV prophylaxis for MTCT and 55% (70,944/127,920) of HIV-infected antenatal women in the country received nevirapine prophylaxis in 2008.

In terms of geographical coverage, PMTCT services were available country-wide, although there were disparities in coverage in various regions of the country, table 4.2

Table 4.2 Distribution of PMTCT outlets versus RCH clinics in the various Regions

Region	No. of RCH clinics	No. of facilities providing PMTCT services	% Coverage of PMTCT
1 Dar es salaam	205	134	65
2 Arusha	209	155	74
3 Dodoma	274	148	54
4 Coast	194	159	82
5 Kilimanjaro	301	213	71
6 Singida	142	107	75
7 Shinyanga	273	194	71
8 Rukwa	189	90	48
9 Tanga	237	59	7
10 Ruvuma	221	191	86
11 Mbeya	288	149	52
12 Mtwara	169	145	86
13 Mwanza	284	112	39
14 Kigoma	202	160	79
15 Iringa	306	249	81
16 Morogoro	256	111	43
17 Kagera	211	144	68
18 Tabora	226	183	81
19 Manyara	145	111	77
20 Lindi	188	163	87
21 Mara	140	52	37
Total	4660	3029	65

Achievements of PMTCT Programme:

The main achievements for PMTCT in the country include:

- There has been a steady increase in the coverage of PMTCT services in the country. The number of PMTCT service outlets increased from 5 in 2000 to 3,029 by December 2008. By June 2008, PMTCT services were available in all 21 regions and 98% of the countries 126 districts.
- The PMTCT cascade shows that the missed opportunities for averting perinatal HIV transmission have been progressively diminishing. The coverage of PMTCT by facility level is as follows:

Table 4.3 PMTCT Coverage among facilities by June 2008

Particulars	National	With PMTCT Services	Percent
Hospitals	190	164	86
Health Centres	347	288	83
Dispensaries	4110	2042	50
Total No. of facilities	4647	2474	53

- By 2008, the programme had trained 254 TOTs at regional and district level to support training of HCWs and 3,856 health care workers in the existing PMTCT sites
- Some Development Partners like ICAP started pilot projects in Kigoma, Kagera and Coast regions, where groups of HIV-positive women under facilitation of health care workers meet together and share various issues including the importance of ARV-adherence, proper breast feeding etc
- The PMTCT programme in Tanzania has developed and disseminated relevant guidelines and training materials to guide programme roll-out. Most of these documents were developed in 2004 and revised in 2007. They include: PMTCT guidelines, PMTCT training materials, PMTCT monitoring tools, PMTCT managers orientation guide etc.
- Early infant diagnosis based on DNA PCR of dry-blood spots collected from facilities and shipped to zonal centres has been started.

Challenges Constraints and Gaps:

The main challenges and constraints facing PMTCT services include:

- There is limited coverage of services especially in rural areas. The 2007-08 THMIS found that only 43% of rural women aged 15-49 years that had been pregnant in preceding two years indicated that they were offered and accepted HIV testing during antenatal care.
- The linkage of HIV-positive women to appropriate AIDS care and treatment including ART is still weak. For instance, ART eligibility assessment for HIV-positive women is conducted only at CTC centres which require that all HIV-positive pregnant women be referred to the nearest CTC.
- The roll-out of more efficacious ARV combination regimens for prophylaxis is still very low. Single-dose Niverapine is offered in facilities providing only PMTCT services while combination prophylaxis (NVP +AZT) is offered at facilities providing ART services.
- There is still minimal involvement of men in PMTCT and therefore women are often the first partners in a couple to be tested for HIV, giving them a task of disclosure due to the low coverage of couple counselling and testing. As a result, they often suffer stigma and discrimination at home and community level.
- The slow rate of integration of PMTCT services into RCHs providing ANC services means that there are more missed opportunities for PMTCT. Integration would offer family planning services to women and men such as barrier methods and contraceptives.
- Gender-based obstacles in accessing PMTCT services such as using ARV prophylaxis and alternative infant feeding practices also continue to pervade the programme

3.4.4 HIV Counselling and Testing:

HIV counselling and testing is recognised as a cornerstone for HIV/AIDS control, providing a continuum from HIV prevention to care, treatment and support. The roll-out of HCT services in the public health system and in stand alone facilities in Tanzania started in 1995 and has progressed steadily since then. The aim of the HCT roll out was to foster early detection of HIV infection and link HIV-infected individuals to care, treatment and support services while at the same time promoting development of personalised risk reduction plan for clients, that takes into account their individual HIV sero-status.

National Policies and Technical Guidelines:

In Tanzania, the MoHSW has approved technical policies and guidelines for HIV counselling and testing. These guidelines are based on a serial testing algorithm using rapid tests (Bioline as screening and Determine as confirmatory, while Unigold is the tie-breaker). The guidelines for HIV Testing and Counselling in Clinical Settings, (NACP,2008) and the National Guidelines for Voluntary Counselling and Testing, (NACP, 2005) were formulated and recently updated to guide HCT roll out in the country, based on provider initiated and client initiated counselling and testing approaches respectively.

National Strategies for HCT in the NMSF (2008-2012):

The MoHSW has approved the adoption of both client initiated voluntary counselling and testing (VCT) and provider initiated counselling and testing (PITC) approaches as part of “the standard of care for all individuals attending health care facilities. The national strategy is to increase the number of people in Tanzania who know their HIV status and who adopt appropriate measures to protect themselves and /or their partners from HIV infection.

National targets:

According to the HSHSP, the national targets for HCT include: increasing the proportion of individuals that have ever tested and received their test results from 15% to 60% by 2012, establish PITC services in at least in all hospitals, health centres, and 10% of dispensaries, and expand home-based counselling and testing to at least 30% of districts in the country.

Major Programmes for HCT in Tanzania:

HCT services in Tanzania are currently provided by the public sector and NGOs in a multisectoral landscape. The major programmes for HCT comprise of the following:

- Public facility-based HCT services, offering both VCT and provider initiated routine counselling and testing services supported through the MoHSW and NGOs. These services are available in the network of 1,035 facilities countrywide although the coverage is uneven. Private facilities including FBO-owned health facilities e.g. Marie Stopes also provide HCT services in their health facilities.
- Stand alone facilities supported by AMREF/ ANGAZA provide dedicated HCT services mainly based on VCT approaches. These programmes commenced in 2001.
- Mobile VCT for high-risk and hard-to-reach groups are provided mainly by NGOs in some urban areas and other hotspots. In addition, community/family counselling and testing have been implemented in some pilot projects with positive initial results
- Provider initiated home-based counselling and testing has recently started in some high HIV prevalence areas with support from PEPFAR and are set to expand this year

in some high HIV prevalence regions.

- A highly successful national HIV testing campaign was conducted last year, lasting nine months in which over 4.2 million individuals were tested by various partners in the country.

Coverage of HCT Services:

The number of counselling and testing sites has increased considerably in recent years. Currently, HCT services are available in 1,035 sites and about 80 of the 121 districts in the country have at least six testing sites. About 37% of women and 27% of men aged 15-49 had ever been tested for HIV by 2007-08, representing a significant leap from 15% of women and men in 2003-04. Furthermore, the majority of these individuals had only recently tested.

Challenges, Constraints and Gaps in HCT Services:

The major challenges, gaps and constraints for HCT services in the country include:

- Irregular supply of HIV test kits and other supplies that afflict most sites with frequent stock-outs and interruption of services.
- Couple counselling and disclosure of HIV test results to partners are still very weak.
- The current HCT guidelines need updating to strengthen risk-reduction counselling for HIV-infected and uninfected individuals.
- Linkage of HCT services to care, treatment and support services is weak and affecting uptake of HCT services.
- The availability of HCT services especially in rural areas and other hard-to-reach areas is still sub-optimal. As a result, there is still unmet need for HCT, with over 60% of adults in the country having never taken an HIV test and probably don't know their HIV status.
- Stigma and discrimination remain high in the society and preventing people from testing for HIV.
- There is inadequate coordination of various partners involved in HCT services.
- Most HCT services do not provide youth-friendly services, which creates barriers for youth. In addition, there is currently no policy and guidelines for paediatric HCT to facilitate provision of services to children.
- Critical shortage of human resources for provision of HCT services constrains service provision in existing outlets and expansion of services to new outlets. Besides, currently, the position of counsellor is not provided for in the public service establishment.

Best practice:

The training of lay counsellors implemented by some partners to address the critical shortage of health workers and overburdening of the existing staff has had encouraging initial results. This represents a potential area for expansion of HTC services especially community and home-based testing and will also provide opportunities for "task shifting".

3.4.5 Control of Sexually Transmitted Infections

Sexual transmitted infections are highly prevalent in Tanzania, with 10-20% of sexually active adults estimated to contract STIs each year. Prevention and treatment of STIs for HIV prevention in Tanzania started in the early 1980s. In 2005, 325,998 cases of STIs were reported from public health facilities in the country, while antenatal syphilis seroprevalence was 7.3%.

National Strategies:

The national strategy for STI control aims to reduce the prevalence of STI through expanding coverage of quality STI Services in public, FBO and private health facilities, providing youth

friendly services and accessible to other high-risk population groups. STI control strategies in the country comprises of primary prevention of STIs, promotion of appropriate STIs-care seeking behaviour, syndromic STI case management, partner notification, prevention and prophylaxis of ophthalmic neonatorum, provision of STI drugs, and antenatal STI screening.

National Policies and Technical Guidelines:

The cornerstone for STI control in the national guidelines is effective case management based on the syndromic approach in primary health care facilities. The national STI management Guideline developed by MoHSW were recently updated.

National Targets for STI Control:

The national targets for STI control in Tanzania, as spelt out in the HSHSP are:

- Increasing appropriate clinical management of STIs in health facilities from 67% to 80% by 2012,
- Increasing the proportion of health facilities providing syndromic STI management services from 66% to 85% by 2012,
- Increasing routine antenatal syphilis screening from baseline by 20% in 5yrs;
- Increasing appropriate preventive counselling of STI clients on condom use, partner notification and referral for HIV testing from 9.3% in 2003 to 50% by 2012; and
- Increasing the proportion of health facilities without stock-outs of STI drugs from 39.7% in 2003 to 60% by 2012

Major Programmes for STI Control:

Currently, STI services are integrated into routine health service delivery in the network of health care facilities of the MoHSW and coordinated by RHMT, CHMT, Referrals, Regional and District Hospitals, Health centres, Dispensaries countrywide. Most private health facilities in the country also provide STI management services, but the coverage and quality of these services has not been previously assessed.

Achievements and Coverage of STI Control:

The main achievements of STI control in Tanzania include, providing treatment to 325,998 STI episodes in public health facilities countrywide in 2005. (National HIV/STI surveillance report no 20 of 2005). The quality of STI case management in health facilities has been improving, and by 2005, about 67.2%(2005) of STI patients were managed appropriately according to national guidelines (NACP, 2005). The coverage of STI services has also improved with about 60% of all public facilities providing STI syndromic case management. In addition, some FBOs, NGOs and private health facilities are providing STI services.

Challenges, Constraints and Gaps in STI Control:

The major challenges and constraints to STI control in Tanzania include:

- The STI-care seeking behaviour in the country is still poor. Most STI-infected individuals do not seek treatment because STIs are often asymptomatic especially among women, or only have mild symptoms. Furthermore, those with symptoms often resort to self-medication and obtaining drugs from community pharmacies or shops.
- Support for STI control has declined in recent years. There has been a shift of partners from supporting STI programmes, apparently due to conflicting evidence on the efficacy of STI management for HIV prevention
- Clinical management and preventive counselling of STI clients in health facilities is also still weak. Health care workers are often overstretched and therefore don't have adequate time to provide adequate counselling to clients. In fact STIs services can serve as good

entry points for HIV prevention e.g. HCT, condom provision, education, etc but this is not exploited.

- Although targeted STI services for high-risk groups are cost-effective, there are few dedicated STI services for high risk population groups such as CSWs, truck drivers, fishermen etc, yet these groups have high prevalence of STIs and are not adequately served by services for the general population.
- Shortfalls in the procurement and supply chain management of medical and pharmaceutical supplies for STI management such as drugs, condoms, laboratory test kits often leads to stock-outs and interruption of service delivery
- Antenatal screening for syphilis in RCH facilities is not sufficiently rolled out
- Most service outlets do not provide youth friendly services and therefore, there is low utilisation of STI services by young people
- The current STI syndromic algorithms do not include herpes simplex type 2 virus infection (HSV-2) despite its high prevalence and proven role in facilitating HIV spread.
- There is also weak monitoring of antimicrobial susceptibility of STI causative organisms that is necessary to inform formulation of STI management guidelines.

3.4.6 Blood Transfusion Safety

In Tanzania, the screening of blood and blood products for HIV before transfusion started in 1987. In 2004, the government established the National Blood Transfusion Service (NBTS) in the MoHSW through a cooperative agreement with United States Centers for Disease Control (CDC). The establishment of NBTS is in line with the World Health Assembly resolution, WHA 28.72(1972) that urges all states to develop comprehensive and well coordinated blood transfusion services based on voluntary, non-remunerated blood donation.

National Policies and Technical Guidelines for Blood Transfusion:

The Government of Tanzania produced a National blood transfusion policy and Blood donor recruitment and retention Guidelines in June, 2006 to guide blood transfusion activities, with emphasis on VNRBD instead of remunerated or replacement blood donors. Specific blood transfusion guidelines are also available as well as guidelines on clinical use of blood and blood products that guide health workers to resort to blood transfusion only as a last resort, with preference given to alternatives such as haematinics and colloids.

National Strategies:

The strategies to ensure blood transfusion safety in Tanzania include strengthening the blood collection, screening and distribution capacity of NBTS, mobilisation and retention of HIV free low-risk blood donors, community awareness for blood donation, strengthening M&E system and the Quality assurance scheme.

National Targets:

The national targets for blood transfusion safety in Tanzania comprise of: expanding safe blood provision from 15% to 50% of hospitals by 2012, increasing low-risk donations from base line to 70% in public and private hospitals by 2012, reducing the prevalence of TTIs to less than 1% of blood collected by 2010, increasing the proportion of blood donation from repeat VNRBD from 9.6% to 60% by 2010, and increasing the number of blood units collected from 67,000 to 500,000 units per year by 2010 (MoHSW/MTSP 2007-2010, 2008).

Major Programmes for Blood Transfusion Safety:

The major programmes for blood transfusion safety in Tanzania are:

- The NBTS, the technical unit in the MoHSW is responsible for coordinating blood donor recruitment, collection, screening and distribution of adequate blood to health facilities as well as its quality assurance. However, although its coverage has been steadily increasing, its current coverage is still less than 50% of health facilities. The number of VNRBDs has been steadily increasing and all blood is screened for HIV, HBV, HBC and syphilis, using ELISA tests under a rigid quality assurance scheme.
- All facilities that are not covered by NBTS also collect and screen blood mainly on a replacement basis from relatives and friends of individuals that need blood transfusion.
- The Tanzania Red Cross works closely with the NBTS to collect, screen and distribute blood in the regions of Kagera, Shinyanga, Kigoma, Singida, Manyara, Morogoro, Tanga and Rukwa. It is also instrumental in mobilization of low-risk blood donors and formation of blood donor clubs
- The Tanzania Army (the Tanzania People's Defence Forces) has established a regional blood bank at Lugala barracks to ensure availability of blood for the army and police.

Blood safety activities are mainly supported by the USG through PEPFAR, the Government of Norway. Expansion of blood safety has been included in the country application to the Global Fund under the round 9 proposals.

Main Achievements of the Blood transfusion Safety Programme:

The main achievements of the Blood transfusion safety programme in Tanzania include the establishment of six zonal blood transfusion centres in Dar as salaam, Mwanza, Mbeya, Mtwara, Tabora and Kilimanjaro in September 2007, while that in Dodoma is under construction. To facilitate collection of adequate quantities of blood, a database of low risk voluntary blood donors has been established in every region (HSHSP 2008-2012). Blood donor clubs have been formed in schools and other low-risk population groups in all regions of the country and have contributed to the increased collection of blood from VNRBD. In 2007, 67,000 units of blood were collected of which 25% was from Tanzania Red Cross. However, 500,000 units are required annually in the country (MTSP 2007/8 to 2009/10). Because of increase blood collection from VNRBD, the prevalence of HIV in screened blood dropped from 6.9% in 2006 to 3.7% in 2007. In addition, all district and regional hospitals in the country, screen blood for transfusion and all private hospitals that provide blood transfusion screen blood for HIV before transfusion.

Challenges, Constraints and Gaps:

The main challenges and constraints for blood transfusion safety are:

- The number of repeat VNRBD mobilised is still limited and doesn't currently provide enough blood to meet the country's requirements. For instance, only 33% of the annual demand of blood units were collected and screened for HIV using the quality assured techniques
- There is low and uneven distribution of blood transfusion centres and resources in the country and the existing blood transfusion services do not have the necessary storage, testing and distribution capacity.
- Lack of quality assurance scheme for the national blood transfusion services at distribution points and in private hospitals.

Strength and Best Practices:

Among the strengths of the current programme, maintaining a database of low risk voluntary blood donors that has been established in every region is worth noting. There was 20%

increase in repeat VNRBDs, (MTSP 2007-09). The USG has proposed closer integration of HCT services and blood transfusion which will potentially improve the resource base for blood donation and also improve risk reduction counselling of blood donors.

4.4.7. Medical Infection control, Injection Safety and Post-exposure prophylaxis

Medical infection control aims to prevent transmission of HIV and other infectious diseases using universal precautions for infection control during health care practices in health facilities and communities. Where accidental exposure to potentially infectious body fluids or during cases of sexual abuse, post-exposure prophylaxis (PEP) with a short-course of antiretroviral drugs is recommended.

National strategy

The national strategy on Medical infection control and PEP is to implement comprehensive infection control in health facilities to protect health workers and clients from medically acquired infections.

National Policies and Technical Guidelines:

The MoHSW National infection prevention and control guidelines are based on universal precautions. In addition, national guidelines on PEP have been developed. Instructional materials including a pocket guide for health workers in Tanzania have been produced.

National Targets:

According to HSHSP, the national targets for medical infection control comprise of strengthening infection control in health facilities at all levels to minimize the risk of contracting HIV infection by 80% following exposure, by 2012

Major Programmes for Medical Infection Control in Tanzania:

The major programmes for infection control in Tanzania comprise of: the development of national policies, guidelines and reference materials by MoHSW, training of health care workers in infection control and PEP protocols by Zonal training centres and partners including private hospitals. The USG is also supporting the Making Medical Injections Safer (MMIS) project that is implemented by JSI. This project has conducted training of health care workers, procured safe biohazard disposal boxes and introduced single use syringes and needles with autodestruct features. Infection control committees at national and facility level have also been established.

Main Achievements and Coverage of Services for the Control of Medical Infections:

The MoHSW has developed a strategic plan for the control of HIV among HCWs at the workplace for the period 2006-2011 to operationalise the National prevention and control guideline for health care workers. About 12,000 HCWs in 143 of 5,379 health facilities have been trained. In addition, single use syringes and needles with auto destruct features have been introduced as part of the essential drug kits and have been registered by the Tanzania Food and Drug Administration.

Table 4.4 Percentage of facilities with various items required for Medical Infection Control

Facility	Percentage of facilities with		
	all items required for infection control ⁵	adequate systems for disposal of biohazardous waste	adequate disposal system for sharps

⁵ Soap, running water, sharps disposal box, latex gloves in assessed areas

Hospital	0	48	53	68
Health Centre	2	34	34	24
Dispensary	6	26	28	12
Stand alone	0	10	84	10
Total	5	28	30	15

Source: 2007 TSPA

Challenges and constraints:

The main constraints for medical infection control include the high unmet need for infection control in health facilities and communities especially households providing home-based HIV/AIDS care. There are inadequate supplies of protective equipment for health workers and infection control materials in health facilities. Table 4.4 above shows that only 5% of facilities had all the essential items for infection control in facilities, 2007 TSPA. There is also limited awareness of HIV transmission risks in hospital settings and communities as well as a high demand and use of unnecessary injections. The coverage of PEP is also low; according to the 2007 TSPA, PEP services were available in only 4% of health facilities, mainly hospitals, although PEP guidelines were available in 58%. Most HCWs who are exposed to occupation hazards are women and therefore need to be protected. It has been reported that the National quality improvement committee on infection control is weak, and the monitoring of infection control activities is also weak.

4.4.8 HIV Prevention among Positives

Involvement of HIV-infected individuals in HIV prevention i.e. Positive Prevention aims to help HIV-infected people to avoid onward transmission to others individuals and to help them avoid re-infection. This is particularly important among HIV-discordant couples.

National Policies and Technical Guidelines:

Although provisions are made in the national guidelines for management of HIV/AIDS for integration of HIV-prevention in ART and AIDS care and treatment programmes, no specific policies or guidelines on HIV prevention among positives have been developed yet.

National Strategies:

Currently, there are no explicit national strategies for positive prevention for AIDS care programmes and networks of HIV-infected individuals. However, the generally accepted strategies apply. These include integration of HIV prevention into AIDS care and treatment programmes, risk reduction counselling of HIV-infected identified during HCT sessions and involvement of networks of PLWHA.

Major Programmes:

Some networks of PLWHA are currently engaged in HIV prevention among positives through individual counselling and provision of condoms. Existing AIDS care and treatment programmes are also integrating HIV prevention into AIDS care and treatment. Many HCT programmes, particularly those implementing provide initiated HCT are increasingly identifying HIV discordant couples and providing appropriate risk reduction counselling.

Challenges, constraints and Gaps:

The HIV-transmission behaviour of HIV-infected individuals in Tanzania has not been adequately characterised in order to inform programme planning in this areas. Secondly, there is inadequate information on the extent to which AIDS care and ART programmes are integrating HIV prevention. There is also inadequate meaningful engagement and involvement of PLHIV for positive prevention.

4.4.9 Medical Male Circumcision

Three clinical trials in South Africa, Kenya and Uganda recently demonstrated that medical male circumcision reduces HIV acquisition among men by 50-60% in high HIV prevalence areas (Auvert et al., 2005; Bailey et al., 2007, Gray et al., 2007). Following this evidence, the NMSF II (2008-2012) and HSHSP (2008-2012), provide for male circumcision as one of the primary HIV prevention interventions to be rolled out in the country.

Policies and Technical Guidelines:

Currently there is no policy on male circumcision but the MoHSW in collaboration with USG is planning feasibility studies, and a technical committee to develop a policy framework for its roll out has been established in the MoHSW.

National targets:

According to the HSHSP, the national target is to increase the prevalence of male circumcision from 70% to 80% by 2012, with emphasis on areas with low prevalence of circumcision.

National Strategies:

The national strategies for medical male circumcision in existing plans comprise of establishment of a policy framework, public advocacy and mobilization, and roll out in selected regions, after careful study of policy, cultural, and operational aspects of MMC.

Major Programmes:

Currently, policy development is being undertaken by the MoHSW, TACAIDS and other stakeholders. The USG in country team has been requested by the Government of Tanzania to conduct demonstration projects for the introduction of male circumcision. These programmes will be rolled out in four regions next year.

Achievement and Coverage of Male Circumcision:

There are no programmes rolling out medical circumcisions yet, however, male circumcision is a widespread cultural and religious practice, and over two-thirds of adult men are already circumcised (2007-08 THMIS). However, there are regional variations in prevalence of circumcision described in earlier sections of this report.

Challenges, Constraints and Gaps

The main challenges, constraints and gaps regarding male circumcision in Tanzania are:

- Although it has been three years since the protective effect of male circumcision was confirmed, relevant technical policies and guidelines have not yet been formulated.
- The dilapidated health infrastructure and human resources scarcity will require substantial investment to cope with the potential demand for the service.
- The potential for behavioural dis-inhibition arising from misconceptions and false sense of security afforded by circumcision will require intensive educational interventions. The acceptability of male circumcision might also vary across regions in the country.

4.4.10 Programmes for HIV Prevention among Most-at-Risk Populations

Vulnerability to HIV infection is substantially higher in specific population groups than the general population. This is through social and cultural marginalization or the work brings them in frequent contact with the risky sexual contexts. The NMSF provides for specific

focus on HIV prevention among most at risk populations and vulnerable population groups such as sex workers, MSMs, prisoners, refugees, displaced people, and IDUs.

National Policies and Guidelines:

While there are no distinct policies or technical guidelines for HIV prevention among MARPs, the Ministry of Community Development, Gender and Children (MoCDGC) developed a strategic plan on protection of women and children, including sex workers, mobile populations, injecting drug users (IDUs), Men having Sex with Men (MSM), and single mothers. For substance abuse issues, the Tanzanian Drug Commission in collaboration with the MOHSW is developing a strategic framework on outreach & treatment guidelines and medicated assisted therapy for substance using populations especially IDU.

Major Programmes for MARPs in Tanzania:

The major programmes in Tanzania that are currently providing HIV prevention services for MARPs, their target population groups and types of services are:

- UMASITA targets sex workers and provides prevention education in 4 urban areas in Tanzania (Dar es Salaam, Arusha, Moshi and Mwanza)
- T-MARC has HIV communication programmes addressing MARPs, for example, “*Sikia Kengele: Tulia Na Wako*” is a faithfulness initiative that was launched in March 2007 and uses large mobilization events to encourage communities that interact with high-risk groups in Tanzania to adopt healthy sexual behaviours by promoting partner reduction and faithfulness. The *Vaa Kondom* is also a generic initiative distributing and promoting use of condoms among high-risk population groups that live along key transportation corridors in Tanzania. Specifically, the programme focused on areas of high HIV prevalence (Mbeya, Iringa, Dar es Salaam, Pwani and Tabora) as well as seasonal traffic regions (Arusha, Dodoma and Mwanza) and HIV/AIDS worksite programs.
- PSI/Tanzania provides *Salama* condoms to high-risk outlets (such as bars, guesthouses, brothels). To ensure an adequate distribution of condoms among MARPs, high-risk outlets now stock condoms with availability surpassing 85%. PSI/Tanzania aims to make *Salama* condoms and *Care* female condoms available in more than 90% of high-risk outlets (bars, guesthouses, etc). More than 40 high-transmission areas (HTAs) such as mining centres, border crossings, transit junctions, and ports are served by a dedicated information and sales agent, who ensures that condoms are available at high-risk outlets in these areas.

Challenge, Constraints and Gaps

The major challenges and constraints affecting provision of HIV prevention services to MARPS include:

- Most MARPs are hard to reach populations, often marginalized and discriminated in society and their practices often not legal and subject to criminal prosecution. This hinders provision of services to most MARPs. For instance, homosexuality and bisexuality are considered unacceptable by most religious communities leading to mainstream stigmatization, including ridicule.
- The poor coordination existing among implementers of MARPs activities also constrains provision of quality services to MARPs.
- Prevention strategies of HIV/AIDS continue to rely too much on problem of behaviour change based on access to information and condoms. Messages in mass campaigns on behavioural changes have created considerable awareness of AIDS, but relatively little change in sexual behaviour insufficient to reduce their own risk of infection or to protect

partners. There was a need for adoption of more effective prevention strategies that address among others, key underlying causes of HIV/AIDS rooted in inequitable gender relations and cultural contexts leading to power relations between different social groups. For example, the issue of care burden of HIV/AIDS on women is hardly a part of HIV prevention messages.

- Lack of data on characteristics, risk taking behaviours, magnitude, and social economic situation of MARPs. Surveillance of HIV prevalence and sexual behaviour among MARPs as well as their size estimation has never been done.

4.4.11 Programmes addressing Gender, Socio-cultural and other Underlying Factors of HIV transmission

National Policies:

The government of Tanzania has provided an enabling policy framework for enhancing gender equality and reduction of vulnerability. The enabling policies include:

- Macro policies aimed at providing opportunities for socio-economic benefits and empowerment. MKUKUTA provides for a strengthened focus on social sectors such as health, education, water and HIV/AIDS.
- The National Gender Strategy developed by MCDWAC, is very comprehensive on how each sector, including HIV/AIDS should approach gender equity and vulnerability. In addition, there is also the National Action Plan to eliminate FGM (2000), and National Plan for Action for the Prevention and Eradication of Violence Against Women and Children (2001-2015) developed by MCDWAC

Major Programmes

Although there are no specific HIV/AIDS programmes addressing the underlying drivers of the HIV epidemic, these factors are addressed in their own right as part of overall socio-economic development. HIV/AIDS programmes leverage these inputs. Some of the existing programmes for underlying drivers of the HIV in Tanzania include:

- The universal primary education has provided opportunities for increased schooling enrolment for boys and girls and similar efforts have begun for secondary schools. This will improve gender parity in school enrolment and transition to secondary giving hope to change of attitudes from harmful cultural practices through empowering communities
- On going efforts to engender national budget guidelines for selected sectors such as Health resulting in increased budget allocations to benefit poor men and women.
- The ongoing growth of CSOs and women organizations that play active role in identifying gender inequalities and lobbying to advocate for change.
- On going training of policy makers and technocrats on gender equality and HIV/AIDS issues in several sectors
- Awareness rising by women organizations, PLHAs Networks and other CSOs on links between gender, poverty and HIV/AIDS are providing environment for enhancing HIV prevention with gender equity approaches.

Major Achievements:

Achievements in creating an enabling policy environment for HIV prevention that focus on eliminating gender inequities as one of key drivers for HIV/AIDS in the country include:

- The status of women and young girls is improving in aspects such as education, decision making, legal frameworks and participation in progressive public debates.

- Increased policy commitment in reviewing legal frameworks for progressive pro-poor and gender equality outcomes e.g. the amendment of constitution for increased women's participation in Parliament and in local government councils.
- Law reforms on Sexual Offence Bill (SOSPA, 1999) making rape a criminal act, and the Amendment to the land act in 2004 which incorporated key gender equality concerns).
- Recently, the government developed an HIV/AIDS Law (2008/9?) with progressive provisions for women, PLHAs and others
- Gender specific policies and increased mainstreaming of gender in sectoral policies with key provision for enhanced equality and focus on vulnerable groups.

Strengths/best practices

- The enactment of Sexual Offences (Special Provisions) Act, 1998 is one of the best practices, where the government, has made FGM illegal. It also bans trafficking in women and sexual harassment. Though the practice continues in some pockets of Tanzania, and the law does not recognize marital rape, it is an attempt by the government to offer legal protection for girls and women regarding their sexual lives.
- A number of good practices also include such initiatives for 'rescuing' girls in commercial sex (KIWOHEDE), CHODAWU in getting girls out of exploitative domestic work, TAMWA in addressing FGM and sexual abuse, FAWE in promoting gender friendly environments and increasing girl's access to education.

Challenges/Constraints

- Persistence of patriarchal values, attitudes and practices.
- At local government level there are no major strategies to address negative cultural customs and practices such as early marriages, disinheritance of widows, FGM or SGBV.
- At the implementation level, the legal system in Tanzania offers some contradictions. The three tiered system consisting of customary, religious (especially Islamic) and statutory law. The co-existence of these systems and the passing of new legislation without the appropriate amendments to existing laws, often contributes towards the denial of women's and vulnerable. Some of the laws which are very contradictory include: Land Act, 2002, the Marriage Act, 1971, and Inheritance Act.
- Low capacity in terms of financial and human resources in the MCDGC as coordinator of gender equality, childrens' and community empowerment.

3.5 Strategic Information for HIV Prevention Programmes

Strategic Information is essential to track the impact and outcomes of HIV prevention programmes, coverage of HIV prevention services as well as populations in need of services.

Tracking impact of HIV prevention Programmes.

Currently, the main data sources for tracking the impact of HIV prevention programmes in Tanzania are based on HIV prevalence. HIV prevalence data in Tanzania is available from the HIV surveillance system among antenatal women and blood donors, and the two national population-based HIV-serological surveys, i.e. 2003-04 THIS⁶, and 2007-08 THMIS⁷.

- The national antenatal HIV sero-prevalence sentinel surveillance system began in 1990 in 11 regions. Currently there are about 134 ANC sentinel surveillance sites. This system is based on WHO/UNAIDS recommendations. This information is augmented with HIV sero-prevalence data among blood donors. HIV sero-prevalence data from these sources

⁶ 2003 Tanzania HIV/AIDS Indicator Survey

⁷ 2007-08 Tanzania HIV/AIDS and Malaria Indicator Survey

are analysed every two years and reports prepared and disseminated. The last annual report was compiled in 2006.

- Population-based HIV serological surveys were also conducted in 2003-04 and 2007-08, based on nationally representative statistical samples of adults and children. These surveys were conducted by the National Bureau of Statistics and TACAIDS.

Data on HIV incidence that would ideally be best suited for tracking impact of HIV prevention programmes is not readily available in Tanzania and other countries in the region. However, some data is obtained from mathematical modelling using antenatal HIV sero-prevalence data and other population demographic parameters using WHO/UNAIDS EPP and Spectrum programmes. Proxy measures of HIV incidence are also available based on HIV sero-prevalence among young individuals whose HIV infection is likely to be recent, especially those aged 15 – 24 years in population-based and antenatal HIV sero-prevalence surveys. Data on HIV incidence that used to be available from sub-national population-based annual surveys in research cohorts of Mwanza and Kagera, but most of these have since closed (Kwesigabo et al 2000 and, Kilewo et al 1993). Other novel approaches for obtaining HIV incidence data in Tanzania such as HIV incidence assays on cross-sectional biological samples and other mathematical models such as the UNAIDS HIV incidence model have not yet been applied in Tanzania.

Tracking of the Outcome of HIV Prevention Programmes:

Tracking the outcome of HIV prevention programmes in Tanzania is based on periodic monitoring of behavioural and HIV/AIDS knowledge indicators as well as the quality of HIV prevention services in health facilities. Based on these data sources, trends in HIV prevention outcome indicators have been described.

- The two national population based surveys in addition to providing information on biological impact indicators also provided data on HIV/AIDS knowledge and behavioural outcome indicators.
- Additional data is available from the AIDS module of the Tanzania Demographic and Health Surveys (TDHS) of 1991/92, TDHS 1996.
- Health facility-based surveys of the availability and quality of HIV prevention services such as the 2007 TSPA, the 2005 evaluation of STI services in Tanzania mainland, provide outcome data on facility based HIV prevention services but are less regular.

Tracking outputs and coverage of HIV Prevention Services:

Tracking of outputs and coverage of HIV prevention services is mainly based on routine reporting systems, but also available from some periodic population-based and facility-based surveys.

- The MoHSW vertical system for collecting routine health data provides information on PMTCT, HCT, STIs etc through the reporting channels involving health facilities, districts, regions and NACP.
- The HMIS in the MoHSW collects data on biomedical programmes and follows the reporting system of the health sector.
- The Tanzania Output Monitoring system for non-medical HIV and AIDS (TOMSHA) data has been recently established to capture data from community level activities (excluding health facilities). This system has developed data collection forms and procedures for collection and submission of reports to TACAIDS. These special forms are to be used by all implementers of non medical HIV activities. Information flow is such that the implementers will report to the CHAC, to the RAS, and to their parent

organization. Every organization will submit a data set to the respective district. The CHAC will capture TOMSHA data onto local government data base and submit the electronic data to RAS and TACAIDS. These data will be reported quarterly. However, this system is not yet operational.

- Additional information is provided by the routine reporting systems of other sectors such as that of the MoEVT
- The population-based and facility-based surveys highlighted above also provide data on coverage of some interventions although they are less frequent and therefore not suited for tracking coverage of interventions that change very frequently.

Challenges, Constraints and Gaps:

Although Tanzania has systems for regularly tracking of strategic information on HIV prevention, we found several constraints and challenges. However, most of these processes are inadequate and not sufficiently rolled out nor followed. There is the lack of up-to-date consolidate information on coverage of most HIV prevention services. There appears to be no system for regularly consolidating all information into one national report on a regular basis, and disseminating to stake holders. While sufficient data is available for periodic national outcome and impact evaluation, there are major gaps, especially in knowledge of the size of population groups and corresponding coverage of key prevention services. Process and output level indicators essential for monitoring coverage of programmes are available for biomedical interventions such as HCT, PMTCT, condoms, blood transfusion safety, but such information is not well consolidated for other interventions especially behavioural interventions, IEC-mass media and programmes for environmental factors. This strategic information is necessary to guide performance and identify persisting problems.

The monitoring and evaluation systems for HIV prevention have various drawbacks including inadequate staffing in terms of numbers and ability to collect, analyse and report data on HIV prevention. Partnership between the government, private institutions and civil societies is weak. Funding to implement monitoring and evaluation at all levels is inadequate. The Mkukuta monitoring system contains indicators that can not be measured and targets that can not be achieved easily e.g “reduction in HIV prevalence”. All the available systems are not harmonised.

5. Resources for HIV Prevention in Tanzania

5.1 Resources for HIV/AIDS Control in Tanzania

In 2007/08, the total expenditure on HIV/AIDS prevention, care, treatment and support services in the country was TShs. 595.7 billion. This represents more than 100% increase from TShs. 226 billion in 2005/6. About 95% of these resources was in the form of Official Development Assistance (ODA) from multilateral and bilateral development partners and most of the spending is off-budget (i.e. were not channelled through the budget of the Government of Tanzania). Table 5.1 below shows information on HIV/AIDS expenditure obtained from the 2007/8 HIV and AIDS Public Expenditure Review (PER).

Table 5.1: Resources for HIV/AIDS spending in Tanzania: 2005/6 – 2007/8

	Actual 2005/6	Budget 2006/7	Actual 2006/7	Budget 2007/8
Total HIV/AIDS Spending (Billion TZS)	226	354.9	399.2	595.7
ODA (Billion TZS)	204.2	330.6	377.8	568.2
ODA as % of Total Spending	90%	93%	95%	95%
Off-Budget Spending (% of Total)	47%	80%	84%	74%

Source HIV/AIDS PER, 2007/08

5.2 Resources for HIV Prevention in Tanzania

Existing information on HIV and AIDS expenditure in Tanzania indicate that HIV prevention is currently receiving the biggest share of financial resources for HIV and AIDS control. Although figures are not consistent, the recent National AIDS Spending Assessment (NASA, 2008) shows that HIV prevention accounted for the biggest share of HIV/AIDS spending (30.5%) in 2005/06. The National Health Accounts (NHA) showed a higher share, i.e. 41.8% of total HIV/AIDS spending in 2006. However, both NASA and NHA do not provide the details of prevention spending (they provide only the aggregated HIV prevention expenditure). The NASA estimated expenditure on prevention interventions at about TZS 105,374,810,000 out of total of TZS 345,506,000,000 in 2005/06. The National Health Accounts indicate that spending on HIV prevention amounted TZS 101.7billion out of the total of about TZS 242.9billion in 2006. Table 2 shows the distribution of HIV/AIDS spending based on the data from NHA.

This relative increase in HIV prevention share of HIV/AIDS resources as well as the absolute increase in overall HIV/AIDS resources is perhaps partly in response to the concern raised in the 2006 HIV and AIDS Public Expenditure Review (PER), which highlighted the need for *“More emphasis on HIV prevention, which remains under-resourced in several crucial areas, including: too few condoms being purchased, with too short a pipeline of commitments; need to further expand access to STI services; inadequate focus on prevention in schools and in the ministry of defense; need to expand the coverage and expenditure of the district and community response.”* Previously, the 2003/04 PER had pointed out the unbalanced HIV and AIDS spending trends *“with a big increase in commitments to care and treatment, while prevention interventions remain too small scale and localised, and mitigation continues to lack policy direction or significant funding”*. The same was echoed by 2005 PER which called for increased priority in prevention and district response.

Table 5.2: Distribution of Expenditure among HIV/AIDS Control Programmes, 2006

HIV and AIDS Function	Expenditure by Function	% of the total
HIV prevention	101,680,058,747.9	41.8
Care and Treatment	78,162,015,027	32.2
Program Management and Administration Strengthening	59,573,501,884	24.5
Incentives for human resources	1,102,890,496	0.5
Enabling environment and community development	751,572,350	0.3
Research including operations research	1,700,000,000	0.7

Source National Health Accounts NHA (Forthcoming)

5.3 Distribution of HIV Prevention Resources

The UNGASS report (2008) disaggregated HIV/AIDS expenditure data into various intervention categories. Data on HIV prevention resources from domestic and external sources is summarised in table 3 below. The UNGASS analysis disaggregates prevention expenditure data (using UNGASS tool) into 17 HIV preventive interventions as shown.

Table 5.3: Expenditure on HIV Prevention during Financial Year 2005 -2006

HIV Prevention Category	Domestic Funds	Foreign/Donor Funds	Total Spending /sub-category	Proportion of HIV Prevention Resources
1 Communication for social and Behavior change	17,000,000	1,580,561,957	1,597,561,957	1.6%
2 Community mobilization	556,200,000	1,996,155,862	2,552,355,862	2.5%
3 Voluntary counseling and testing	2,591,000,000	3,531,182,184	6,122,182,184	6.0%
4 Programs for vulnerable and special populations	-	65,880,000	65,880,000	0.1%
5 Youth in school	565,061,400	1,070,359,085	1,635,420,485	1.6%
6 Youth out of school	5,000,000	353,142,289	358,142,289	0.4%
7 Prevention programs for PLHA	-	924,470,448	924,470,448	0.9%
8 Programs for sex workers and their clients	21,000,000	32,940,000	53,940,000	0.1%
9 Workplace activities	206,269	132,268,362	132,474,631	0.1%
10 Condom social marketing	-	988,200,000	988,200,000	1.0%
11 Public and commercial sector condom provision	-	988,200,000	988,200,000	1.0%
12 Female condom	-	164,700,000	164,700,000	0.2%
13 Microbicides	-	293,448,902	293,448,902	0.3%
14 Improving management of STIs	799,100,000	1,164,460,819	1,963,560,819	1.9%
15 Prevention of mother-to-child transmission	326,136,000	3,991,738,585	4,317,874,585	4.2%
16 Blood safety	467,857,400	5,236,436,272	5,704,293,672	5.6%
17 Others / Not-elsewhere categorised	64,068,752,914	9,748,600,000	73,817,352,914	72.6%
Total	69,417,313,983	32,262,744,765	101,680,058,748	100%

Source: UNAIDS, Tanzania UNGASS Report, 2008.

This analysis did not disaggregate about 73% of the HIV prevention expenditure that was reflected under the category of other. Without disaggregating this expenditure, it is not possible to comment on the relative allocation of expenditure among HIV prevention categories. More work will be required to unpack that expenditure in the first instance.

These data based on the UNGASS classification of HIV prevention did not reflect any specific allocations from either domestic or foreign resources for Safe medical injections Universal precautions, Post-exposure prophylaxis, Programs for MSM, Harm reduction for

IDUs and Male Circumcision. Expenditure on these prevention categories during this period could have been captured under the category of “others”. In the case of medical circumcision and programmes for MSM and IDUs, there might have been no expenditure on these programmes during this period.

5.4 Distribution of HIV Prevention Resources by source of funding

The external sources of funds for HIV/AIDS in Tanzania comprise of multilateral development partners (mainly the World Bank and the Global Fund) and bilateral development partners comprising of the US Government (USG) through PEPFAR, SDC, AXIOS, JICA, EU, and the German government. According to the 2008 Public Expenditure Review, the USG is the leading source of funds for the national HIV/AIDS response in the country. The USG contribution and the Global Fund accounted for 86% of donor support in 2007/8 (and is expected to rise to more than 90% of in 2008/9). The review based on identified categorisation of HIV/AIDS activities in the government budget i.e. HIV Prevention, Economic and Social Support, Care and Treatment, and Cross-cutting. Table 4 summarises the USG and GFATM expenditure on HIV/AIDS for 2005/06.

Table 5.4: Summary of USG and GFATM Expenditure on HIV/AIDS for Financial Year 2006/7

	HIV Prevention	Economic and Social Support	Care and treatment	Cross-cutting	Total
USG 2006-07 Financial year (in TZS Billion)	47.8	18.8	164.0	30.7	261.4
GF Round 4 (TZS Billion)	4.4	7.9	52.5	10.2	74.9
Estimated total expenditure 2006-07: (in TZS Billion)	52.2	26.7	216.5	40.9	336.3
% US Government	18.3	7.2	62.8	11.8	100.0
% Global Fund	5.8	10.6	70.0	13.6	100.0
% Combined	15.5	7.9	64.4	12.2	100.0

Source: PER 2007/8

Most of the external funds for HIV control, especially from the Global fund were allocated to HIV care and treatment, with little going to HIV prevention. For instance, from table 4.4 above, 18.3% of resources from US Government were allocated to HIV prevention programmes in 2006/7. On the other hand 5.8% of resources from Global Fund were allocated to HIV prevention. Overall, HIV prevention expenditure accounted for only about 15.5% of all the HIV and AIDS resources from the USG and GFATM. Care and Treatment account for the biggest share (64.4%).

In the financial year 2005/06, PEPFAR allocated US \$37.2 million to HIV prevention, i.e. about 20.7% of the total budget of \$179.7 million. Nearly half of this financed biomedical interventions for HIV prevention, including PMTCT (6.4% of all PEPFAR budget), and support to blood safety (2.4%) and injection safety (0.6%). In the financial year 2007-08, PEPFAR allocated about 18.3% of the total budget to HIV prevention. During that period, HIV prevention activities that were funded by PEPFAR include PMTCT, abstinence and faithfulness (AB) programs, blood and injection safety, and other behavioural prevention initiatives focused on high prevalence urban areas, transportation corridors, and most at-risk populations (MARPs). Table 5 summarizes the breakdown of expenditure during that period.

Table 5.5: Funding of Prevention Activities by PEPFAR, 2007-08

Prevention Activity	Amount Spent	Proportion of Prevention Spending
PMTCT	11,525,310	31%
Abstinence/Be Faithful	11,908,695	32%

Blood Safety	4,423,680	12%
Injection Safety	1,055,000	3%
Other Prevention	8,655,000	23%
Total	37,567,685	100%

Source: PEPFAR funding information on <http://www.pepfar.gov/about/82457.htm>

5.5 Distribution of HIV Prevention Resources by Beneficiary Groups

The available data does not allow analysis of distribution of HIV prevention resources by beneficiary group, since expenditure reporting and budgeting are mainly based on thematic areas rather than target population. However, a review of UNGASS data, for HIV prevention expenditure that was categorised (less than 30%), reveals that the resources channelled to the general public constituted about 76%, antenatal mothers (16%), and youth about 7%. Interventions for most-at-risk groups received less than 1%, figure 5.1

Of the HIV prevention expenditure that was categorised, HCT accounted for 22% while more than 54% was for other interventions for the general population, i.e. community mobilization, communication for behaviour and social change, condom distribution, management of STIs, and blood safety. HIV prevention expenditures for which the youths (in school and out of school) are the beneficiaries, account for only 7%. However, with the largest amount of HIV prevention expenditure not categorised, the proportional allocation indicated here can only give a very rough picture of distribution of HIV prevention resources in Tanzania.

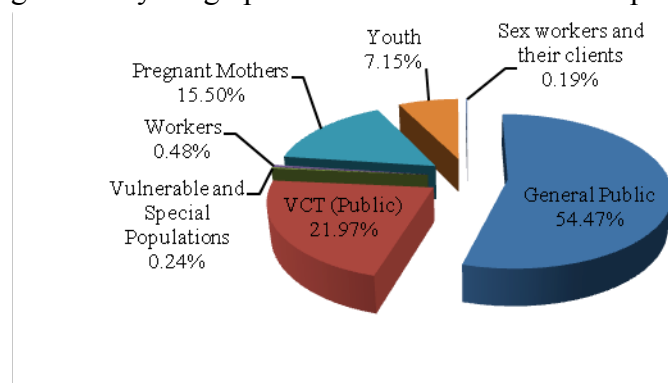


Figure 5.1: Distribution of HIV prevention expenditure among beneficiary groups

5.6 Financing Mechanisms

Funds for HIV/AIDS interventions are channelled through NGOs, Government Ministries, Departments and Agencies, and Local Government Authorities (LGAs), which ultimately allocate the funds to service providers. The government acts as a provider of services at program management level, but in a few occasions, it acts as programme/project implementer at grassroots level (Kessy, 2007). In the case of HIV prevention, funds are often channelled to MDAs (for workplace programs); health facilities (mainly PMTCT and treatment of STIs) and NGOs. Also, some HIV prevention funds go to LGAs and lower LGA (including wards and villages). For instance, the community level HIV prevention Services focus on the existing structures at District, Ward, Mtaa (in urban areas) and Village levels. Under this initiative, the government, through a loan from the World Bank, established the Community HIV & AIDS Response Fund (CARF), with a view to both complementing and strengthening the support envisioned through existing government systems.

The CARF is earmarked for providing technical support to Regional Secretariats (RSs), LGAs and the Village Council Multi-sectoral HIV and AIDS Committees (VMACs) and to facilitate the provision of technical and financial support to NGOs, FBOs, CBOs in order to improve their competence in HIV/AIDS interventions. Between 2005- 2007, TShs 6.1 billion was distributed to 12 regions, through the Regional facilitating Agents (RFAs). Activities for HIV prevention constituted about 38% of the funds disbursed. Table 6 provides a summary of HIV prevention expenditure by regions for year 2005/06.

Table 5.6 Expenditure on Prevention (District Community Response - April 2005 – September 2007)

Region	HIV prevalence among 15-49 yrs adults	Amount Spent on Prevention	Proportion
Iringa	15.7	388,358,490	16.73%
Ruvuma	5.9	263,903,105	11.37%
Kagera	3.4	156,157,445	6.73%
Mwanza	5.6	312,744,517	13.48%
Tabora	6.4	73,514,492	3.17%
Kigoma	1.8	275,499,690	11.87%
Arusha	1.6	120,288,784	5.18%
Manyara	1.5	154,471,550	6.66%
Coast	6.7	152,079,370	6.55%
Morogoro	5.1	204,613,420	8.82%
Singida	2.7	71,217,650	3.07%
Dodoma	3.3	147,824,543	6.37%
Total	5.7	2,320,673,056	100%

Sources: UNGASS report, 2008; Tanzania HIV/AIDS and Malaria Indicator Survey, 2007-08

Table 5.6 shows that for the 12 regions which received funding, Iringa region, which has the highest HIV prevalence in the country, had the largest allocation to HIV prevention. Regions with low HIV prevalence had relatively smaller HIV prevention allocation, except Kigoma, which, despite having low HIV prevalence, 1.8%, allocated 11.8% to HIV prevention.

5.7 Challenges and Gaps in the Review of HIV Prevention Resources

The review of HIV prevention resources was affected by several challenges and constraints. Fore most is the lack of a financial tracking system in the country that routinely tracks all financial resources for HIV/AIDS. Disaggregated data on HIV prevention expenditure were not available in literature and in the documents that were available to the team for review i.e., Public expenditure reviews (both for Health Sector and HIV/AIDS, or National Health Accounts). In many cases, the data is not provided in a ‘disaggregated’ form, to clearly indicate the amount of resources channelled to various HIV prevention interventions. In addition, since most HIV/AIDS funding in Tanzania is off-budget, it is difficult to obtain adequate details necessary due to the various budgeting and finance reporting systems of the various partners. These constraints rendered it difficult to dis-aggregate expenditure along specific HIV prevention categories. Some tracking studies e.g. UNGASS have done this ‘disaggregation’ for only one year – 2005/06, but even that was incomplete.

Tracking resources allocated to various drivers and population groups was not attained either since available data are not recorded along thematic areas.

6. Alignment of HIV Prevention Programmes and HIV Transmission Dynamics

6.1 *Alignment of HIV Prevention Policies to Global Best Practices*

Tanzania's national HIV/AIDS Policy and the HIV/AIDS and control Prevention Act of 2007 provide an overarching framework for HIV/AIDS control, including HIV prevention in the country. The national HIV/AIDS policy is due for review, which is expected to incorporate emerging issues such as streamlining condom programming, medical male circumcision, paediatric HIV counselling and most-at-risk population groups.

Biomedical HIV prevention interventions in the country are guided by appropriate technical policies and guidelines. The guidelines for PMTCT, HCT, STI control, blood transfusion safety, post-exposure prophylaxis and medical infection control are based on the latest scientific evidence and global best practices. Operational guidelines, training manuals and roll-out plans for most of these interventions are also available, and well articulated although some of them e.g. blood transfusion safety and condom use have modest national targets. Furthermore, promotion of condoms in the country is not guided by well articulated policies and guidelines, although most of the existing policies and guidelines are supportive of condom promotion. The lack of technical guidelines on condom distribution is in part responsible for the current shortfalls in condom promotion in the country, as well as lack of appropriate targeting of MARPs among whom condoms have been demonstrated to be most effective, and where their use is more likely to be consistent.

Behavioural interventions on the other hand, currently lack appropriate guidelines in most sectors. While TACAIDS has elaborated a national HIV/AIDS Communication strategy, the MoHSW that implements most IEC/BCC activities is just developing one. The MoEVT has elaborated guidelines for life skills training for in-school youth. However, the focus of these guidelines is not on behaviours and underlying factors that are driving the epidemic in the country. The life skills education programme is not addressing transition from abstinence to sexual activity in adulthood, nor involving adults or parents of the children. There is no standardised curriculum for out-of-school youth.

There is lack of technical policies and guidelines for medical male circumcision. However, a technical working group to develop the relevant policies had been established. In addition, the government is working with in country UNCT and USG teams to conduct feasibility assessment and demonstration projects. However, the lack of policies and technical guidelines for this intervention, three years since its efficacy was confirmed, represents missed opportunities for HIV prevention.

There are no clear guidelines on HIV prevention programmes for most-at-risk populations especially those that require targeted services. Consequently, the country has not developed a plan for targeted STI and condom promotion services for sex workers, long distance truck drivers, fisher folk and others. However, the USG is supporting various implementing partners to support these programmes in some parts of the country. However, the HIV prevention package delivered as part of these efforts was not assessed for comprehensiveness.

With regard to underlying factors for HIV prevention such as socio-cultural norms, gender inequities, etc, some policies and technical guidelines were available in different sectors.

However, mainstreaming HIV/AIDS prevention in such guidelines and policies is not yet universal. Furthermore, the existing policies and guidelines for biomedical and behavioural interventions too do not consistently feature significant focus on these underlying factors that influence uptake and utilisation of services in the first instance.

6.2 Alignment of HIV Prevention Programmes and Policies to the Drivers of the Epidemic

In Section 3 of this report, we summarised the drivers of the HIV epidemic in the country, while in section 4, we reviewed existing HIV prevention programmes. This facilitated analysis of whether existing HIV prevention programmes and policies respond to the drivers of the HIV/AIDS epidemic.

The review noted that overall, existing HIV prevention programmes are well designed to address the country's generalised epidemic, with relevant policies and programmes for the general population. Consequently, mass media and school HIV/AIDS education programmes predominate in the area of behavioural interventions, and health-unit based services for biomedical interventions.

However, although multiple partnerships constitute perhaps the single most important driver of the epidemic in the country, current behavioural intervention programmes and communication strategies do not appear to address this behaviour appropriately. Equally, no communication strategies and few IEC/BCC messages address transactional sex, while cross generational sex is mainly addressed through mass-media communication channels, with very little community dialogue and interpersonal communication channels or an appropriate mix that is more suited to promote sustainable behaviour change. However, in spite of this, some implementing partners, particularly those supported by PEPFAR address some of the major drivers of the epidemic to varying extents. Although lack of male circumcision is also driving the epidemic in some parts of the country, there are currently no public health programmes to address this driver of the epidemic.

This review has highlighted most-at-risk populations and vulnerable groups that need focussed attention and services, beyond general population approaches. Such vulnerable groups include HIV-negative partners in HIV discordant relationships that need services such as couple counselling and testing, disclosure of HIV test results, positive prevention, etc. Programmes for addressing HIV prevention needs for most MARPs such as sex workers, fish mongers and truckers e.g. targeted STIs, HCT and condoms promotion services also have insufficient coverage.

Lastly, socio-cultural and other underlying factors that drive the epidemic in Tanzania are not sufficiently addressed in existing policies. Consequently, most HIV prevention programmes in the country do not take them into account during implementation. Since these factors influence HIV risk and health care seeking behaviour, the sub-optimal attention to these factors limits the impact of the existing efforts.

6.3 Are HIV Prevention Policies aligned to Areas of the Greatest Need

Although Tanzania is experiencing a generalised HIV/AIDS epidemic for which the current HIV prevention measures aimed at the general population are appropriate, there is a compelling case for a strategic focus on key drivers of the epidemic and most

disproportionately affected groups without compromising the gains made with more generalised approaches.

Currently the bulk of HIV infections and potential for HIV transmission is among older individuals, residents of urban areas, individuals currently or formerly in union, wealth individuals, those in employment, residents of some high prevalence regions etc. These are population groups that currently do not constitute the focus of either HIV prevention policies or HIV prevention programmes. A strategic shift to address all such groups is necessary in the expanded phase of HIV prevention in the country.

The evidence presented in this report also shows that knowledge about HIV is already reasonably high. It is also higher among individuals living in wealthy households as well as more educated and elite members of society. This challenges the notion of the current behaviour change approaches that appear to be more biased towards mass communication. It is now time to consider a strategic shift in this approach, to focus HIV prevention policies and programmes from being entirely mass media based approaches to an appropriate mix of mass media and more intimate interpersonal communication approaches that are more suited for increasing risk perception and fostering behaviour change.

The current HIV prevention programme in Tanzania is also weighted in favour of young people, with programmes for life skills education for in-schools and out-of-school youth. The quality of these programmes as well as their comprehensiveness appears to be insufficient. While the focus on children should not be lost, the current evidence indicates that the epidemic has shifted to adults and other MARPs. In order to align HIV prevention efforts to where the majority of new infections are, there is need to develop tailored HIV prevention programmes for adults and MARPs. There should also be concerted efforts to improve the comprehensiveness and quality of existing programmes for youth.

7. Recommendations

Based in this review of the epidemiology of HIV infection and HIV prevention activities in Tanzania mainland, the following recommendations for the short – medium term arise.

7.1 Policy Level Recommendations

The following policy level implications arise from this review of HIV prevention in Tanzania.

- HIV prevention in Tanzania should be based on combined HIV prevention interventions where minimum HIV prevention packages for the general population and various population subgroups are defined and promoted. Partners should be encouraged to ensure that the comprehensive package of HIV prevention services is delivered to all population groups. In some instances, this will require referral networks and linkages.
- The expanded phase of HIV prevention in Tanzania should increasingly focus on population groups with disproportionately higher prevalence and incidence of HIV infections, but that currently don't constitute the focus of HIV prevention programmes. These population groups include urban residents, older individuals, married and formerly married, working and wealthy men and women and residents of high prevalence regions.
- In order to improve efficiency of allocation of HIV prevention efforts, programmes should balance interventions, giving priority to those interventions that have the potential for the greatest impact on HIV transmission at this stage of the epidemic. These interventions include reduction of sexual partners, transactional sex, medical male circumcision and consistent condom use especially in high risk sexual encounters and among most-at-risk population groups. These interventions do not constitute the focus of current HIV prevention efforts.
- The development of policies and technical guidelines for medical male circumcision and health facility infrastructure improvement should be expedited as essential prerequisites for rolling out medical male circumcision
- A strategy for interventions among MARPs based on a minimum package of services for specific groups should be developed and promoted.
- A strategy with clear messages for each of the major drivers of the epidemic that are not currently adequately addressed by existing HIV prevention guidelines should be developed with clear operational guidelines for grass-roots level implementation.

7.2 Programmatic Recommendations

Implementation of expanded HIV prevention in the next phase should consider the following:

- In order to improve the HIV-prevention programme coverage and access, there should be renewed efforts to meet national targets for universal access. This requires additional resources for HIV prevention and capacity building of public and private sector partners involved in HIV prevention efforts across the country. In addition, there is need to revise the apparently modest targets for instance, blood transfusion safety, consistent condom use and other essential prevention services.
- Condom promotion should be stepped up to ensure uninterrupted supply of good quality condoms and improved distribution especially at community level. Efforts to target high risk groups such as sex workers, truckers, and fishermen should be strengthened as well as strengthening condom use within long standing relationships

- IEC/mass media and behavioural interventions should be strengthened, with more efforts at ensuring that interventions are evidence-based and adequately based on behavioural theory and should focus on behaviours such as multiple partnerships, transactional sex, cross generation sex etc that are responsible for the majority of new infections.
- The roll out of HCT should be based on various approaches tailored to specific population groups using a combination of VCT, mobile HCT and provider initiated HCT, with emphasis on risk reduction counselling among HIV-infected and uninfected individuals and couple testing with disclosure of test results. There should be increased coordination of HCT stakeholders and programmes. There should be strategic and technical guidance to re-orientated HCT from emphasising HIV diagnosis for treatment and care purposes only, to risk reduction counselling of both HIV-infected and HIV-uninfected individuals. Guidelines for paediatric HCT also need to be developed.
- Safe male circumcision should be introduced in a phased manner, integrated into other components of the HIV prevention package, starting with regions with high prevalence and low prevalence of male circumcision.
- HIV prevention among HIV-infected people should be strengthened through rolling out integration of HIV prevention into all HIV/AIDS treatment, care and support programmes as well as strengthening linkages with HIV prevention services.
- Socioeconomic and cultural as well as other underlying factors influencing HIV transmission and vulnerability should be taken into account in all HIV prevention endeavours. Specific guidelines and targets for programmes addressing gender inequality and harmful gender norms and SGBV should be developed and disseminated.

7.3 Strategic Information and Institutional Arrangements:

Strengthening of strategic information for HIV prevention in the next phase of HIV prevention in Tanzania mainland should consider the following recommendations.

- Strengthening of strategic information should be taken as an essential component of HIV prevention in the country. In particular, data collection and analysis and dissemination, especially for non-biomedical data should be improved.
- There should be increased efforts to strengthen M&E systems to provide more comprehensive coverage data, better reporting, and more information on the quality of services. Outcome and impact monitoring should be supported including strengthening HIV/AIDS/STI surveillance systems. There should be regular aggregation of M&E data and dissemination to stakeholders to promote utilisation of these data for planning.
- Strengthened monitoring of the impact of HIV prevention programmes based on HIV incidence measures, based on innovative approaches should be explored and used. Tanzania should seriously consider implementing the UNAIDS modes of transmission study as well as triangulation of all existing data in order to better understand, characterise and track patterns of HIV. Such studies will help, for instance, in quantifying the magnitude of HIV transmission through IDUs and MSMs.
- Tracking dynamics of HIV transmission among MARPs through appropriate biological and behavioural studies and surveillance systems should be instituted
- Monitoring the sexual behaviour of HIV infected individuals should also be instituted and data used to inform HIV prevention programmes

8. Bibliography

1. Alice Wellborn and Joanna Hoare (eds): HIV and AIDS, Working in Gender and Development, OXFAM, 2008
2. Antelman G, Smith-Fawzi MC, Kaaya S, Mbwambo JK, Msamanga GI, Hunter DJ, et al. Predictors of HIV-1 serostatus disclosure: a prospective study among HIV-infected pregnant women in Dar es Salaam, Tanzania. *AIDS* 2001 Sep 28;15(14):1865-74.
3. ASAP/UNAIDS/TACAIDS: The HIV Epidemic in Tanzania: Where have we come from, where is it going, and how are we responding: November 2008. Dar es Salaam, Tanzania
4. Auvert B, Taljaard D, Lagarde E, Sobngwi-Tambekou J, Sitta R, Puren A. Randomized, controlled intervention trial of male circumcision for reduction of HIV infection risk: the ANRS 1265 Trial. *Plos Med* 2005 Nov;2(11):e298.
5. Baden and Wach, 1998;
6. Bailey RC, Moses S, Parker CB, Agot K, Maclean I, Krieger JN, et al. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *Lancet* 2007 Feb 24;369(9562):643-56.
7. Baylies and Bujra, 2000
8. Baylies and Bujra, 2002
9. Bloom SS, Urassa M, et al: Community effects on the risk of HIV infection in rural Tanzania, *Sex. Trans Infect* vol 78 (4) pgs 261-6
10. Boema et al: Comparative Study of Biologic, Behavioral, and Contextual Factors in Rural Populations in Tanzania and Zimbabwe
11. Boema JT, Urassa, M, Nko, S, Ng'weshemi J, Isingo R, Zaba, B and Mwaluko G. (2002) *Social demographic Context of the AIDS epidemic in a rural area in Tanzania with a focus on people's mobility and marriage*. *Sex TrsmInft* vol 78 Supl 1(pg 97 – 105)
12. Bujra, 2000, UNFPA, 2002.
13. Carolyn Belies and Janet Bora (ends), with the Gender and AIDS Group: AIDS, Sexuality and Gender in Africa, Collective Strategies and Struggles in Tanzania and Zambia, 2000
14. Commonwealth Secretariat: Gender Mainstreaming in HIV/AIDS: Taking a Multisectoral Approach, 2002
15. F. Kessy (2007): HIV/AIDS Resource Tracking in Tanzania
16. Georges Tiendrebeogo and Michael Buyckc., Faith- Based Organisations and HIV/AIDS Prevention and Impact Mitigation in Africa (A Desk Review) in Development Policy and Practice Bulletin (No. 361), KIT, 2004
17. Ghebremichael M, Paintsil E. High risk behaviors & sexually transmitted infections among men in Tanzania. *AIDS Behav.* 2009 Jul 28
18. Ghebremichael, Paintsil, and Larsen. Alcohol abuse, sexual risk behaviours, and sexually transmitted infections in women in Moshi urban district, northern Tanzania” by Sexually Transmitted Diseases, Dec. 2008, Col. 35, No. 12.
19. Global HIV Prevention Working Group: Behaviour Change and HIV Prevention: Considerations for the 21st Century: Accessed at www.GlobalHIVPrevention.org, June 2009
20. Gray RH, Kigozi G, Serwadda D, Makumbi F, Watya S, Nalugoda F, et al. Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial. *Lancet* 2007 Feb 24;369(9562):657-66
21. Gray RH, Wawer MJ, Brookmeyer R, Sewankambo NK, Serwadda D, Wabwire-Mangen F, et al. Probability of HIV-1 transmission per coital act in monogamous, heterosexual, HIV-1-discordant couples in Rakai, Uganda. *Lancet* 2001 Apr 14;357:1149-53.
22. Gray RH, Wawer MJ, Brookmeyer R, Sewankambo NK, Serwadda D, Wabwire-Mangen F, et al. Probability of HIV-1 transmission per coital act in monogamous, heterosexual, HIV-1-discordant couples in Rakai, Uganda. *Lancet* 2001 Apr 14;357:1149-53
23. Grosskurth H, Gray R, Hayes R, Mabey D, Wawer M. Control of sexually transmitted diseases for HIV-1 prevention: understanding the implications of the Mwanza and Rakai trials. *Lancet* 2000 Jun 3;355(9219):1981-7.
24. Hayes et al: The MEMA kwa Vijana Project: Design of a community randomized trial of an innovative adolescent sexual health intervention in rural Tanzania
25. HST: Assessment of the HIV Infection Risk Among Adolescent Girls in Tanzania: An Inception report to UNICEF and Ministry of Education and Vocational Training: January 2009: Dar es Salaam, Tanzania
26. Kakoko et al: Voluntary testing for HIV among a sample of Tanzanian teachers: A search for socio-demographic and socio-psychological correlates
27. Keren Landman, Evaline Ndos, et al: Gender Differences in the Risk of HIV Infection among Persons Reporting Abstinence, Monogamy, and Multiple Sexual Partners in Northern Tanzania
28. Kessy, 2007.
29. Killewo et al (1993).
30. Killewo JZJ, Kwesigabo G, Comoro C, Lugalla J, Mhalu FS, Biberfeld G, et al. Acceptability of voluntary HIV testing with counselling in a rural village in Kagera, Tanzania. *AIDS Care* 1998;10(4):431-9
31. Kishemawe, c, Vissers, DC, Urassa M, Isingo R, Mwaluko G, Borsboom GJ, and de Vlas (2006). *Mobility and HIV in Tanzanian couples: both mobile persons and their partners show increased risk* *AIDS VOL 20 (4) PG 601 – 8*
32. Kwesigabo et al (1998)
33. Landman, at al., 2008).
34. Lugalla J, Emmelin M, Mutembei A, Sima M, Kwesigabo G, Killewo J, et al. Social, cultural and sexual behavioral determinants of observed decline in HIV infection trends: lessons from the Kagera Region, Tanzania. *Soc Sci and Med* 2004 Jul;59(1):185-98.
35. LugallaJP, Kaara S, et al, Ministry of trade, Tourism and Investment: A consultancy Report: Situation and Impact Analysis of HIV/AIDS on Tourism Sector in Zanzibar. 17th May 2007.
36. Luke and Kurz. Cross-Generational and Transactional Sexual Relations in Sub-Saharan Africa” International Centre for Research on Women (ICRW), 2002.
37. Maganja et al: Skinning the goat and pulling the load: transactional sex among youth in Dar es Salaam, Tanzania
38. Marjorie, 2006
39. Mascarenhas, 2007
40. Mbilinyi and Kaihula, 2000
41. Mhondwa, Fimbo. Impact of HIV/AIDS on human resource for health in Tanzania, 2004
42. Ministry of Health and Social Welfare. (2008). National Guidelines for the Management of HIV and AIDS. NACP. Third edition.
43. Mnyika KS, Klepp KI, et al. Determinants of high risk sexual behaviour and condom use among adults in Arusha region, Tanzania. *Int J. ATDs AIDS.* 1997 Mar; 8(3)176-83
44. MoEVT: National Life skills Education Framework , Draft, March 2009. Dar es Salaam, Tanzania, 2007
45. MoHSW, Tanzania Mainland: Health Sector HIV/AIDS Strategic Plan – II 2008-2012. Dar es Salaam, November 2008
46. MoHSW: National Infection prevention and control Guidelines for healthcare services in Tanzania: A pocket guide for health care workers, Dar es Salaam, Tanzania, 2007
47. Mwakagile D, Mmari E et al: Sexual behaviour among youth at high risk of HIV infection in Dar es Salaam, Tanzania> *Sex trans Inf* 77:255-259(2001)

48. Mwaluko et al: Trends in HIV and sexual behaviour in a longitudinal study in a rural population in Tanzania, 1994–2000
49. NACP Ministry of Health: Surveillance of HIV/AIDS and Syphilis Infections Among Antenatal Clinic Attendees, 2005/06. November 2006. Dar es Salaam, Tanzania.
50. NACP, Ministry of Health: HIV/AIDS STI Surveillance Report, Report Number 17, March 2003. Dar es Salaam, Tanzania
51. NACP, MoHSW: HIV/AIDS STI Surveillance Report, Report Number 19, October 2005. Dar es Salaam, Tanzania
52. NACP, MoHSW: Implementation of HIV/AIDS Care and treatment Services in Tanzania: Report Number 1: May 2008. Dar es Salaam, Tanzania
53. NACP, MoHSW: Report of the Evaluation of Sexually Transmitted Infections Services in Tanzania Mainland, 2005
54. National AIDS Spending Assessment (NASA)
55. National Bureau of Statistics, Macro International. Tanzania Service Provision Assessment Survey, 2006. Dar es Salaam, Tanzania: National Bureau of Statistics and Macro International Inc.
56. National Health Accounts
57. Prime Minister's Office, TACAIDS: Tanzania National Multisectoral HIV and AIDS Monitoring and Evaluation System: Guidelines for the Tanzania Monitoring System for non-medical HIV and AIDS Interventions (TOMSHA): Dar es Salaam, Tanzania
58. Prime Minister's Office, TACAIDS: UNGASS 2008 Report: Country Progress Report: Tanzania Mainland, 2008
59. Prime Minister's Office. (2007). The second Multi sectoral Strategic Framework on HIV AND AIDS (2008-2012). 2nd Edition.
60. Prime Minister's Office: National Policy on HIV/AIDS: November 2001: Dodoma, Tanzania
61. Rebecca Bunnell, Alex Opio, Joshua Musinguzi, Wilford Kirungi, Paul Ekwaru, Vinod Mishra, Wolfgang Hladik, Jessica Kafuko, Elizabeth Madraa and Jonathan Mermin. HIV transmission risk behavior among HIV-infected adults in Uganda: results of a nationally representative survey. *AIDS* 2008, 22:617-624.
62. Ross et al 2007
63. SADC: Report of the Expert Think Tank on HIV Prevention
64. SADC: The SADC Regional Strategy and Action Plan for Universal Access to HIV Prevention, 2008-2010: October 2007
65. Seidel and Tallis, 1999).
66. Soul City. Multiple and Concurrent Sexual Partnerships in Southern Africa: a Ten Country Study" by, 2008).
67. TACAIDS, NBS, OCGS, Macro International: Tanzania HIV/AIDS indicator Survey 2003-04. Dar es Salaam, Tanzania.
68. TACAIDS, ZAC, NBS, OCGS, Macro International: Tanzania HIV/AIDS and Malaria Indicator Survey 2007-08, Dar es Salaam, Tanzania.
69. TACAIDS: HIV/AIDS Public Expenditure Review: Dar es Salaam, 2007
70. TACAIDS: Annual Report, December 2007: Dar es Salaam, Tanzania
71. TACAIDS: HIV/AIDS Public Expenditure Review : Dar es Salaam, Tanzania, 2007
72. TACAIDS: Public Sector Consultations on HIV Prevention Efforts: July 2006
73. TACAIDS: Report of the Assessment of Comprehensive Condom Programming in Tanzania Mainland, March 2008
74. TACAIDS: Tanzania Joint Bi-annual HIV/AIDS Sector Review: Report of Technical Review: Dar es Salaam, Tanzania, 2008
75. Tanya R. Muller, Wageningen University: HIV/AIDS, Gender & Rural Livelihoods in Sub-Saharan Africa, AWALAE SERIES NO. 2
76. Tanzania Services Provision Assessment TSPA: 2007
77. TGNP & SIDA-Tanzania: Gender Profile of Tanzania, Enhancing Gender Equity, TGNP and E&D, 2007
78. The Prime Ministers Office: The Second National Multi-sectoral Strategic Framework on HIV and AIDS, 2008-2012., October 2007
79. UNAIDS Inter-Agency Task Team on Gender and HIV/AIDS, Operational Guide on Gender and HIV/AIDS, A Rights-Based Approach, 2005
80. UNAIDS, 2001.
81. UNAIDS, 2005
82. UNAIDS, 2008.
83. UNAIDS, WHO: *AIDS epidemic update*. 2007, Geneva, Switzerland, 2007
84. UNAIDS. Towards universal access: assessment by the Joint United nations Programme on HIV/AIDS on scaling up HIV prevention, treatment, care and support. Website 2006, Available from: URL: http://data.unaids.org/pub/InformationNote/2006/20060324_HLM_GA_A60737_en.pdf
85. UNAIDS: Intensifying HIV Prevention: UNAIDS Policy Position Paper. Geneva, Switzerland, August 2005
86. UNFPA, Gender and HIV/AIDS, THE LEADERSHIP CHALLENGE, 2002
87. UNIFEM, Turning the Tide: CEDAW and the Gender Dimensions of the HIV/AIDS Pandemic, New York, UNIFEM
88. United Republic of Tanzania, UNGASS 2008 Report: Country Progress Report
89. Urassa M, Kumogola Y, Isingo R, Mwaluko G, Makelele B, Mugeye K, et al. HIV prevalence and sexual behaviour changes measured in an antenatal clinic setting in northern Tanzania. *Sex Transm Infect* 2006 Aug;82(4):301-6.
90. URT PMO 2007.
91. Wambura M, Urassa M, Isingo R, Ndege M, Marston M, Slaymaker E, et al. HIV Prevalence and Incidence in Rural Tanzania: Results From 10 Years of Follow-Up in an Open-Cohort Study 1. *J Acquir Immune Defic Syndr* 2007 Dec 15;46(5):616-23.
92. Watson-Jones D, Weiss HA, Rusizoka M, Changalucha J, Baisley K, Mugeye K, et al.; Effect of herpes simplex suppression on incidence of HIV among women in Tanzania. *N Engl J Med*. 2008 Apr 10;358(15):1560-71.
93. *Watson-Jones, 2009*
94. Watson-Jones, Baisley, Weiss, Tanton, Changalucha, Everett, Chirwa, Ross, Clayton, and Hayes. Risk factors for HIV incidence in women participating in an HSV suppression treatment trial in Tanzania, *AIDS*, 2009; 23).
95. Watson-Jones, et al, 2009.
96. Weiss Whelan, and G. Rao Gupta: Vulnerability and Opportunity: Adolescents and HIV/AIDS in the developing world, Washington DC, International Centre for Research on Women, 1996
97. WHO, "World Report on Violence and Health", Geneva, 2000
98. WHO, 1995,
99. Wilson D, de Beyer J. Male Circumcision, Evidence and Implications. Washington, World bank, 2006
100. www.tanzania.go.tz/hiv_aids.html