Monitoring and Evaluation Indicators of the HIV & AIDS programme in Grahamstown‘s public sector health care system

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DEDICATION

To the loving Memory of my Grandmother

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Abstract

South Africa is one of the countries hardest hit with the Human Immunodeficiency Virus (HIV) and Acquired Immuno Deficiency Syndrome (AIDS) epidemic. In response to the epidemic, the South African government adopted the Comprehensive HIV & AIDS Care, Management and Treatment programme strategic plan (CCMT) in 2000 (1) and developed the Operational Plan for CCMT for antiretroviral therapy roll-out in 2003 (2). In order to monitor the progress of the implementation of CCMT, the National Department of Health (NDOH) adopted the Monitoring and Evaluation (M & E) framework in 2004 (3).

The aim of this study was to assess the HIV & AIDS programme in Grahamstown‘s public sector health care system by using the national M & E indicators of the HIV & AIDS programme.

The national M & E framework was used as the data collection tool and available information was collected from various sources such as the District Health Office (DHO), Primary Health Care (PHC) office, accredited antiretroviral sites and the provincial pharmaceutical depot. Group interviews were conducted with key stakeholder health care professionals at the District Health Office, Primary Health Care office, Settlers Hospital and the provincial Department of Health personnel. A one-on-one interview was conducted with the Deputy Director of HIV & AIDS Directorate, monitoring and evaluation in the National Department of Health.

Available indicators such as budget and expenditure including antiretroviral procurement; human resources; nutrition-related indicators; prevention care and treatment indicators were collected. A group interview was conducted to document current practices, or where there was a lack of documentation, for indicators such as traditional medicines and pharmacovigilance. Most of the national M & E indicators are not required to be collected or collated by the district because the reporting format designed by the provincial Department of Health is different. Facilities, districts and provinces in South Africa are at different levels of implementation of the antiretroviral programme and hence a common format of the M & E indicators is not used by all provinces. Uniform data collection is not achieved due to human resources‘ constraints

and other challenges such as continued use of manual reporting systems by the clinics. Districts are expected to report according to the formats drawn up by the provincial Department of Health (DOH) and there is a lack of awareness regarding the national M & E document amongst the Grahamstown Health Care Professionals.

There is a need for training on the use of the M & E national framework so that the HCPs at the primary and secondary levels of the health care system are proficient with the process of M & E, and can provide inputs as well as take ownership of the process. The establishment of an M & E unit in Grahamstown is essential so that data collection and submission of the HIV & AIDS programme in the public sector according to the National M & E framework is addressed. However, despite all constraints and challenges in the public sector health care system in Grahamstown, available human and financial resources are being used effectively to maintain the HIV & AIDS programme.

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Acronyms and abbreviations

AAI	Accelerated Access Initiative
ADE	Adverse Drug Events
ADR	Adverse Drug Reaction
AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral therapy
ARV	Antiretroviral
BMI	Body Mass Index
CAM	complementary and alternative medicines
CCF	Country Coordination and Facilitation
CCMT	Comprehensive HIV & AIDS Care, Management and Treatment Plan for South Africa
CD4	Antigen Identifying T –lymphocyte
CDC	Centre for Disease Control and Prevention
CEGAA	Centre for Economic Governance and AIDS in Africa
CG	Conditional Grant
CPT	Co-trimoxazole Preventive Therapy
CSMO	Community Service Medical Officers
DAI	Drug Access Initiative
DHIS	District Health Information System
DHO	District Health Office
DORA	Division of Revenue Act
DOH	Department of Health
DOTS	Direct Observed Therapy Short Course
ECDOH	Eastern Cape Department of Health
EDL	Essential Drug List
EDS	Essential Data Set
EFV	Efavirenz
FHI	Family Health International
GHWA	Global Health Workforce Alliance
GPA	Global Programme on AIDS
HAART	Highly Active Antiretroviral Therapy

HBC	Home-Based Care
HCP	Health Care Professional
HCF	Health Care Facilities
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
HIV & AIDS	Human Immuno-Virus & Acquired Immune Deficiency Syndrome
HPI	HIV Prevention Indicators
HR	Human Resource
HRH	Human Resource for Health
HST	Health System Trust
HSRC	Human Science Research Council
IMCI	Integrated Management of Child Illness
INH	Isoniazid
IPT	Isoniazid Preventive Therapy
LSA	Local Service Area
MAP	Multi-Country HIV & AIDS Programme for Africa
M & E	Monitoring and Evaluation
MDG	Millennium Development Goals
MLSA	Makana Local Service Area
MSP	Multi Sectoral HIV & AIDS Support Programme
MTCT	Mother-to-Child Transmission of HIV
NACOSA	National AIDS Coordinating Committee of South Africa
NDOH	National Department of Health
NGO	Non-Governmental Organization
NHIS/SA	National Health Information System for South Africa
NHLS	National Health Laboratory Services
NPC	Non-physician clinicians
NR	Not reported
NSP	HIV & AIDS National Strategic Plan for South Africa
NVP	Nevirapine
OAU	Organization of African Unity
OI	Opportunistic Infections

OPD	Out-Patient Department
PAED	Child or children (Pediatrics is the branch of medicine that deals with the medical care of infants, children, and adolescents)
PEPFAR	The US President‘s Emergency Plan for AIDS Relief
PHC	Primary Health Care
PI	Prevention indicators
PLWHA	People Living with HIV & AIDS
PMTCT	Prevention of Mother to Child transmission of HIV
ProTEST	WHO co-ordinated initiative aimed at promoting testing for HIV as an entry point to access for a range of TB and HIV prevention and care services
PSAM	Public Service Accountability and Monitor
RTC	Regional Training Centre
RUDASA	Rural Doctors Association of Southern Africa
SADC	Southern African Development Community
SANAC	South Africa National AIDS Council
SANC	South Africa Nursing Council
STD	Sexually Transmitted Disease
STI	Sexually Transmissible Infection
TB	Tuberculosis
TH	Traditional Healers
The Alliance	Global Health Workforce Alliance (see GHWA)
THP	Traditional Health Practitioners
TM	Traditional Medicine
TRIPS	Trade-Related Aspects of Intellectual Property Rights
TTR	An AIDS and Health Workforce plan dubbed ―Treat, Train, Retain”
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV & AIDS
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session
UNICEF	United Nations Children‘s Fund
USA	United States of America

USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
WHO/AFRO	World Health Organization Regional Office for Africa
WTO	World Trade Organization
ZDV	Zidovudine

1. Introduction

Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (HIV & AIDS) has become a major health emergency since it was identified 30 years ago (4). The impact of this epidemic is no longer confined only to the health sector, but extends to other sectors of the community, such as households, businesses and the social sector (5, 6). HIV & AIDS causes illness, disability and death, which results in severe economic and emotional disruption for families (7), with devastating effects on human development. The scale of the epidemic‘s impact varies greatly across and within countries due to the interrelationship of HIV & AIDS with other social determinants of health (4, 8, 9).

The number of people living with HIV continues to grow unabated, as does the number of deaths due to AIDS. According to the HIV & AIDS epidemic update by Joint United Nations Programmes on HIV & AIDS (UNAIDS) in 2010 it was estimated that a total of 33.3 million people were living with HIV at the end of 2009 (10). Sub-Saharan Africa continues to have the leading number of HIV & AIDS cases with two-thirds (67%) of all adults and children with HIV residing in this region. It is further reported that one-third of global epidemic cases are found in the southern African region, the sub-region of sub-Saharan Africa (11). The Republic of South Africa had the highest number of people living with the illness at the end of 2010, with an estimated 5.7 million people (10, 12).

1.1 About HIV and the discovery of AIDS

HIV is a member of the family lentivirus which has a highly variable genetic expression resulting in the extremely high turnover of the virus *in vivo* (13) which poses a considerable challenge in controlling the disease. The early signs of the disease were observed in June 1981 when the Centre for Disease Control and Prevention (CDC) reported five cases in young homosexual men in Los Angeles affected by the rare *Pneumocystis carinii* pneumonia. This marked the beginning of the HIV & AIDS epidemic and in 1982, the disease was named AIDS by the CDC (14, 15) and in 1983 the causative agent of the condition, retrovirus HIV, was isolated from a patient with AIDS (16).

In the early stages of the epidemic, male homosexuality and injection drug use were considered ―high risk factors" and the main mode of transmission (14). Homosexual spread remains a critical form of transmission and continues to pose a challenge to efforts at

controlling the HIV epidemic in many parts of the world (17, 18, 19, 20). In contrast, a lower HIV infection rate was reported in San Francisco in young homosexual and bisexual men aged 18-29 years in the early 1990s than in the early 1980s (21). In South Africa it has been found that the rate of infection among young gay men is increasing. According to the Human Science Research Council's first study of men who have sex with men , HIV infection among these men is increasing and the study implies that the country's heterosexual and homosexual HIV epidemics are becoming similar in magnitude (22). In South Africa and other sub-Saharan African countries, heterosexual transmission is the dominant route of HIV spread (23).

Since the identification of the virus the scientific world has made strides in identifying different strains and modes of HIV transmission. Concern about transmission is, therefore, not new (24, 25). HIV transmission can be classified as vertical and horizontal. There are also, however, some nosocomial and occupational infections which have been reported in the past years (26, 27).

1.2 HIV transmission modes

1.2.1 Horizontal transmission of HIV

Horizontal transmission of HIV, predominantly due to heterosexual transmission, (28, 29) accounts for about 85% of all HIV-1 infections (30, 31). In sub-Saharan Africa HIV-1 is spreading mainly due to this mode of transmission with the ratio of male to female HIV transmission 1:1, whereas it is 6:1 in the United States of America (USA) and 4:1 in Europe (32-34).

1.2.2 Vertical transmission of HIV

Vertical transmission is commonly referred to as mother-to-child transmission (MTCT) (28) and remains a major burden to the public health problem globally, while substantial reductions in MTCT has been achieved in North America and Europe (35, 36). Globally, is the highest source of HIV-1 infection in young children (37). According to the World Health Organisation (WHO), an estimated one third of children living with HIV die before the age of one year and almost half by the second year (38).

1.2.3 Nosocomial transmission of HIV

Nosocomial transmission, which arises as a result of hospitalization, is caused by acquired micro-organisms and is found to be low (26, 27). CDC estimates that every surgeon performs an average of 3,500 procedures in their career and the probability of transmission of a pathogen to at least one patient during this time is 0.81% to 8.1% for HIV (39).

1.2.4 Occupational transmission of HIV

The risk of occupational transmission of HIV to Health Care Professionals (HCPs) has been known since late 1984, when the first case of needle stick-transmitted HIV infection was reported (40). Exposure to blood-borne pathogens remains a serious risk for all HCPs, regardless of the health care setting (41). Worldwide, more than 300 occupational HIV transmissions to HCPs were reported in 2005 (24) and the risk of occupational exposure to HIV from needles and other contaminated devices ranges from 0.2% to 0.5% (42).

1.3 Impact of HIV & AIDS

1.3.1. HIV & AIDS in developed countries

Many developed nations have focused considerable efforts on addressing the burden of HIV & AIDS (43). However, it has also been found that prevention efforts have been lax in most industrialized countries and the epidemic is moving slowly into the most vulnerable populations. Countries with low HIV prevalence should maintain efforts to curb the epidemic coupled with continuous monitoring of the response to the disease (44).

Europe is currently experiencing the fastest rate of growth of HIV compared to any other region of the world (45, 46). In eastern Europe and central Asia, some countries, notably Russia, the Ukraine and China, have experienced a high increase in HIV infections, which is mainly attributed to infected drug users (44, 47). In Eastern Europe, the HIV prevalence rate was expected to peak in 2008, due partly to the life-prolonging effect of antiretroviral therapy (ART) (48). Western Europe has been experiencing an increasing number of infections which is attributed to the increasing number of migrants from regions in sub-Saharan Africa (45, 49). In most high income and industrialized countries, the disease affects specific risk groups such as injecting drug-users (50). The HIV epidemic in eastern Europe is more than a ―sexual crisis” since there are different modes of transmission. HIV control, therefore, cannot target

only sexual transmission, but must embrace other approaches, such as comprehensive harm reduction (46).

1.3.2 HIV & AIDS in developing countries

There is a stark difference in the HIV & AIDS epidemic between industrialized and developing regions, with the majority of infections occurring in developing countries (43, 51). The worst affected are the poorer regions of the world which have weak health infrastructures and social inequalities that further exacerbate the severity of the epidemic (52). In sub-Saharan Africa, which is the most affected region, the number of infected individuals is expected to increase further (48). The epicentre of the epidemic is southern Africa, where virtually all nations are affected (52). According to WHO and UNAIDS, 93% of the people living with HIV & AIDS globally reside in developing countries (11, 53). The rising burden of HIV & AIDS on developing countries has received more attention and there is a global commitment to reduce risk vulnerability and impact (43, 54).

1.3.3 HIV & AIDS in Africa

AIDS in Africa is the most extreme form of health crisis which African governments and the international community struggle to cope with (55). The crisis brought by the epidemic deepens poverty which in turn adversely affects the response to the disease (56-58). The inadequate health infrastructures are overburdened (59) and the disease raises the demand for scarce resources in all sectors: health, social and economic (60). Conditions for the spread and severity of the disease in Africa are influenced by poverty; complex social, economic and cultural factors; population mobility; frequent armed conflict and inadequate medical infrastructure (52, 61).

Most adult HIV infections in Africa are acquired heterosexually and by vertical transmission. (62). Life expectancy at birth in southern Africa was expected to decline to 45 years between 2005 and 2010 (52). More than 5,000 people continue to die from AIDS in Africa every day (62) as the epidemic is generalized rather than concentrated in and around specific risk groups (50). The prevalence of HIV varies widely across Africa (63). In sub-Saharan Africa, more than 2% of the adult population is infected by HIV in almost all countries and in some countries the prevalence rate is above 5% (32). The region has more than 70% of HIV-

infected adults and children in the world (64). HIV & AIDS is currently the main cause of illness and death in sub-Saharan Africa (65).

As the most affected region, southern Africa has a sero-prevalence in adults that often exceeds 20%. In Uganda the epidemic has slowed down: it has dropped from 25% of pregnant women in the early 1990s to the current 5–6%. In Central and West Africa, adult sero-prevalence is typically 2–10%, and in Mali 1.7%. In Senegal it is less than 1% (60). In contrast, North Africa is the least affected area, with sero-prevalence estimated to be less than 0.5% (51).

1.4 Five critical and uncertain forces driving AIDS in Africa

According to the UNAIDS publication ‗AIDS in Africa: Three Scenarios to 2025', there are five forces which have been identified as drivers of HIV & AIDS in Africa. Each of these forces operates at many different levels, from the household and community to the regional, and they also interact, creating further challenges for public health systems. However, a well-designed HIV & AIDS programme can lessen their devastating impact on society (63).

- –The growth or erosion of unity and integration” because the growth of the epidemic results in increasing disruption of families and an increase in child headed families (63, 66, 67) and orphaned and vulnerable children.
- –The evolution of beliefs, values, and meanings” because HIV & AIDS‘ myths and beliefs are rife in Africa and these ideas will influence the manner in which the disease is seen as a stigma or punishment (63, 68).
- –The leveraging of resources and capabilities” since the HIV & AIDS epidemic can increase the demand for resources as a result of which there is a challenge for authorities to leverage limited available resources (52, 63, 69, 70).
- –The generation and application of knowledge” because it is vital to keep abreast with developments and implement these in response to the epidemic (63, 71), but poor health literacy continues to remain one of the constraining factors for HIV & AIDS prevention, treatment and care (72, 73).
- –The distribution of power and authority” because strong leadership in responding to the HIV & AIDS is indicated as a key to broaden mobilization efforts against the epidemic (74, 75).

1.5 HIV & AIDS epidemic in South Africa

South Africa has a population of 50,110 million people has the largest number of people living with HIV & AIDS, which is about 14% of all people living with the disease globally (76-78). Since the start of the epidemic, AIDS deaths are estimated at 1.8 million in South Africa (79). The epidemic has been increasing steadily from less than 1% in 1990, 24.5% in 2000 to 29% in 2006, (9, 80) 29.3% in 2008 and in 2009 it is expected to have stabilized (81). It is estimated that over 1500 South Africans are infected with HIV daily (82, 83). The antenatal survey estimated that one in five South Africans aged between 15 and 49 are HIV-positive (76, 84, 85). About half of this population lives in rural areas (75) and carries a heavy HIV & AIDS burden (65, 76). These people often have limited or no access to health and welfare services (77). The vast majority depends on wage labour as a source of income (86) and HIV & AIDS exacerbates the situation (87, 88, 89). In South Africa young people and vulnerable children (90, 91) are at greatest risk for HIV infection and continue to be highly affected by the disease (9, 92).

Empirical research conducted in South Africa reveals that households in which multiple adult deaths have occurred are at a statistically higher risk of dissolution, migration and increased poverty (76). Projections using the Actuarial Society of South Africa model of 2003, taking into consideration factors that influence the disease, such as control of opportunistic infections (OI), tuberculosis (TB) as well as the effective implementation of ARV programmes, projected an increase in deaths due to AIDS from 336,901 in 2005 to 439,391 by the year 2020 (83). In contrast, a projection by using the Epidemic Projection Package developed by the UNAIDS Reference Group on Estimates, Models and Projections estimated the annual AIDS related deaths to peak at 487,320 in the year 2008 (84) and mortality due to AIDS-related conditions in 2008 was estimated at 350,000 [270,000–420,000] (85). By 2020, the total population of South Africa is expected to be 23% smaller than it would have been without AIDS. Life expectancy at birth is expected to decline dramatically to 45.6 between 2005 and 2010 and is 22 years lower than it would have been in the absence of AIDS (84).

1.5.1 Women and HIV & AIDS in South Africa

According to the WHO's report on women and health, 609,000 women aged 15–44 in Africa died as a result of HIV by 2008 (93, 94). In South Africa, a unique feature of concern is the young age of onset of infection for women (80) because 15.5% of young women, aged 20–24 years, are likely to be infected with HIV in comparison with 4.8% of young men of the same age group (78, 95). Between 1999 and 2005, the HIV prevalence in women increased (80). The Nelson Mandela/Human Science Research Council (HSRC) population-based HIV prevalence survey conducted in 2005 highlighted that HIV prevalence was highest for young females at 6.5% in comparison to 0.8% for males (83). Another study conducted in South Africa also concluded that the highest prevalence was among those aged 15–49 years, with higher prevalence among women (96).

An Antenatal Care (ANC) national survey conducted by the Department of Health (DOH) confirms the high HIV prevalence among young people in South Africa (97). According to the National Antenatal Sentinel HIV & Syphilis Prevalence Survey, women in the age group 25–29 had a high HIV prevalence incidence in 2006, 2007 and 2008 at 38.7%, 37.5% and 37.9% respectively (98-100). Pregnant women in the age group 30–34 years had the highest prevalence of 40.4% in 2008 compared to 39.6% in 2007. Eastern Cape Province[1] has the

[1] This is the province where the present study was conducted.

sixth highest HIV prevalence at 28.6%, 28.8% and 27.6% in 2006, 2007 and 2008 respectively (100). Cacadu district[2] has the second highest HIV prevalence of the seven Eastern Cape Province districts. In 2008, the province had an antenatal HIV prevalence of 23.8% compared to 20.0% in 2007 and 22.8% in 2006 (98-100).

1.6 HIV & AIDS influencing factors and determinants

The nature of the epidemic is shaped by interaction between different determinants and factors such as material, social, cultural and behavioural (9, 101). Material contexts such as poverty, unemployment and hunger (65), as well as aspects of the social environment, impact on the ability of communities to respond effectively to the challenges of HIV & AIDS (102).

- ***Unemployment and poverty*** - Under this material context determinant, rising unemployment, hunger and poverty remain important determinants of exposure to HIV & AIDS and are also associated with poor health and health compromising behaviours (65, 82, 103). HIV infection is rife among the poorest people who are the most infected and affected in Africa (104, 105). In South Africa, many people live below the national poverty level and HIV & AIDS is known to worsen the situation (106).

- ***Migration*** - Migration is an important social factor that has contributed to the AIDS epidemic (107, 108). South Africa's past history was characterized by geographical displacement and migratory labour due to migration of men from neighbouring southern African countries and rising mobility from urban to rural areas (109) which contributes to the increased spread of HIV (83).

- ***Behavioural factors*** – Most common behavioural factors are unprotected sexual intercourse, increased rate of partner change and concurrent multiple partnerships (83, 101) with alcohol as an indirect contributor (101), along with lack of preventive measures such as condom use (110, 111).

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[2] This is the district where the present study was conducted

1.7 Response to HIV & AIDS epidemic

The increasing burden of the HIV & AIDS epidemic has called for global attention and the urgency to design interventions to ameliorate the impact of the disease (44, 112). HIV & AIDS is now a common feature on the public health agenda at a global level as well as nationally in many countries. (113,114). Countries have also shown commitment by developing, financing and implementing prevention and treatment programmes in response to the epidemic (115, 116). With over three decades of experience, effective tools for prevention, treatment and support are now known (44). Responses to the epidemic‘s mitigation strategies executed to control and prevent the impact of HIV & AIDS (113) are based on the three core pillars of prevention, care and treatment (114) which require a concerted global response (16) based on national authorities recognizing HIV control as a major priority (114).

Research shows that a public health response alone is insufficient to address this devastating epidemic (52) which requires an urgent, comprehensive response beyond the public-health arena of epidemic control (112, 116). The third decade of the epidemic has seen several global commitments responding to the epidemic.

1.7.1 Chronology of global response

There was little global response to the epidemic before 1986 (117) but recognition of the epidemic in parts of Africa and its potential for spreading internationally, led to the first global response called the Global Programme on AIDS (GPA) (50).

1.7.1. a. Global Programme on AIDS

In September 1986, the WHO programme for the prevention and control of AIDS was formed. In February 1987 it was named the Global Programme on AIDS (GPA) (117) and assisted two countries – Uganda and Thailand – to successfully minimize the impact of the epidemic (16). By January 1990, the GPA was assisting 123 countries to develop national AIDS prevention plans. The national programmes that emerged from this emphasized public education and information on how HIV is transmitted (117).

1.7.1. b. Joint United Nations Programme on HIV & AIDS

In 1996, the GPA was replaced by the UNAIDS which was co-sponsored by six United Nations (UN) agencies, which has now increased to ten. Their primary aim was to lead an expanded, better co-ordinated, multi-sectoral global response (16) targeted at HIV & AIDS, human rights, assistance for nongovernmental organizations (NGOs), community-based organizations, HIV & AIDS organizations and people living with HIV & AIDS (118). UNAIDS was mainly created to bolster the UN interventions geared against the AIDS epidemic. The UNAIDS staff critically reassess their strategies, initiatives and partners every two years and build on their work and experiences to help combat HIV & AIDS (119).

1.7.1. c. Millennium Development Goals (MDG)

On 8 September 2000, 189 member states of the UN, of which 147 were represented directly by their heads of State or Government, convened under the auspices of the UN for the session on Development and Poverty Eradication. The UN Millennium Declaration, whereby the MDG were outlined, launched and adopted by 189 member states and commitments were made to intensify the fight against HIV & AIDS and tuberculosis as well as to reduce HIV prevalence in young people (115,120,121).

1.7.1. d. WHO's "3 by 5" initiative

Responding to the rapid increase of HIV infection and a dire need for AIDS treatment for the millions of AIDS patients in developing countries, WHO, together with UNAIDS, announced a plan on 1 December 2000, on the occasion of World AIDS Day. The plan was to provide ART to three million people living with AIDS in developing countries, by the end of 2005. This was an important move in pursuing the ultimate goal of universal access to AIDS treatment to all those who need it (115,120, 121).

Country support was central to the efforts to reach the 3 by 5 target and UNAIDS provided technical and advisory assistance. However, countries had to take the lead by providing firm commitment, leadership and financial resources which enabled more infected people to receive ART (122). It was hoped that under the 3 by 5 WHO plan, about 100,000 new paramedics and nurses in developing countries would be trained to provide simplified treatment to AIDS patients (123). The 3 by 5 initiative target has not been met, but according to the WHO, the initiative did show that HIV treatment can be delivered in low and middle

income settings. In two years, the number of people receiving ART in low-and middle-income countries had more than tripled with 1.3 million on ART at the end of 2005 (124).

1.7.1. e. UNGASS Declaration of Commitment on HIV & AIDS

In June 2001, the response to the epidemic was boosted when the delegates of the international community made the declaration of commitment at the United Nations General Assembly Special Session (UNGASS) by recognizing that care for people living with HIV & AIDS is an integral part of the response and ART is an important element of the comprehensive care (125). The delegates made a commitment for reducing the spread of HIV & AIDS and minimizing its impact on the world (120, 126‘ 127). This declaration aimed to achieve optimum prevention of HIV & AIDS . The response took into account local circumstances, ethics and cultural values. Another prevention strategy adopted was HIV & AIDS information and education, through which it was hoped to reach 90% of youth of both genders of 15–24 years by the year 2010. The prevention of mother-to-child transmission of HIV (PMTCT) was another goal in combating the epidemic (126, 128).

1.7.1. f. Abuja Declaration

The Abuja Declaration on HIV & AIDS, TB and other related infectious diseases prevalent in Africa was adopted in Abuja in 2001 by the heads of states and government parties to the Organization of African Unity. They met at a special summit to address the challenges of these diseases (127, 129) and recognised that poverty, poor nutrition and underdevelopment play a role in increasing vulnerability (129). The leaders committed themselves to allocating at least 15% of government expenditure to the health sector (130).

1.7.1. g. 15th International AIDS Conference in Bangkok

The theme of the AIDS conference in 2004, ‗Access for All‘‘, called for extending treatment to all those in need, providing sufficient resources and a set of proven interventions to prevent new infections and save lives through effective treatment (131). According to WHO and UNAIDS, in 2008 it was globally estimated that 59% of people living with HIV were women (132) who were more prone to HIV infection than men and studies have reported that they can be 2.5 times more vulnerable to be HIV-infected than men (104). In sub-Saharan Africa, women comprised 60% of people living with HIV (132) and are twice as likely to be HIV infected as young men, with up to six times the infection rate compared to males (104). A new guideline on PMTCT was launched during the conference (133).

1.7.1. h. 2006 UN General Assembly

The 2006 a UN General Assembly high level meeting on AIDS united the world against AIDS when the heads of states, governments and representatives of states acknowledged that the epidemic had caused immense suffering to the countries around the world, increasing health costs and affecting the economy of both businesses and countries. The participants recognized the contribution made by various donors in responding to the disease (134) and reiterated their commitment to secure and improve coordination and acceleration of national, regional and international response to curb the epidemic (135) This UN General Assembly meeting also called for annual HIV expenditure in low and middle income countries to increase from $8.3bn in 2005 to around $23bn by 2010 (134).

1.7.1. i. Brazzaville commitment

In March 2006, the Brazzaville Commitment on scaling up comprehensive and integrated universal access to HIV & AIDS services in Africa by 2010 was adopted by the African Union and also received support from UNAIDS and WHO. They identified the problems of weak health systems and delivery services, and reiterated the need to improve capacity building and infrastructures (136).

1.8. Nutrition and HIV & AIDS epidemic

In HIV positive individuals, most metabolic phases such as energy balance, carbohydrate, lipid and protein metabolism are affected by the infection and the HIV positive individuals are more prone to infections (137, 138). It has been shown that malnutrition and infection in humans affect each other in a synergistic manner whereby one problem worsens another and results in the development and progression of the disease (139). The review of available evidence resulted in the 1968 WHO monograph on ―Interactions of Nutrition and Infection" It is one of the priorities of WHO that those complex nutritional disorders in HIV-infected people be unraveled and well documented (139, 140). The HIV & AIDS epidemic also affects nutrition and food security in countries that are hardest hit by the disease (141) like in sub-Saharan Africa, particularly its sub region southern Africa (142, 143) where chronic food insecurity remains endemic (141, 144). In South Africa, it is estimated that approximately 35% of the population, or 14 million people, are at the brink of food insecurity (145, 146) and 43% of households cannot afford a nutritionally adequate diet (147).

In order to bring a consolidated response to the dual burdens of under-nutrition and HIV & AIDS, in April 2003, the consultation on Nutrition and HIV & AIDS was held in Durban, South Africa. Seven UN agencies participated, which included WHO and UNAIDS as well as South Africa's DOH and representatives from 20 countries in southern and eastern Africa. The participants called for the integration of nutrition into an essential programme of care, treatment and support for people living with HIV & AIDS (148). The recommendations of the Durban meeting were instrumental in various national, regional and global activities such as workshops and training for trainers in HIV prevention. (149). WHO further held an Eastern and Southern Africa Regional Meeting on Nutrition and HIV & AIDS , in Nairobi, Kenya, in May 2007 (150).

1.9. Drug Procurement and Distribution

There is enormous inequity in global pharmaceutical access between developed, developing and under-developed countries due to major income differences (151). Drug procurement and distribution issues pose an enormous challenge to health sectors in under-developed and developing countries due to high costs of medicines making it unaffordable (152). In these resources constrained countries, medicines account for 20–60% of health expenditure (153). WHO highlighted that the access to medicines in developing countries is affected by increased medicine prices, and ineffective and inconsistent health and supply systems (154). Though developing countries make up 80% of the global population, they consume only 20% of the global pharmaceuticals (155). It is estimated by the WHO that one-third of the world's population does not have access to essential medicines (152). In sub-Saharan Africa, access to the medicines used to treat HIV & AIDS and tuberculosis (TB) which affect the population to a high degree, has been of great concern (156). In this region, the countries are sometimes characterized by a big difference between procurement, supply and management of ARVs and other essential medicines because of issues associated with patents, prices and quality (157). Price and patent issues affect responses to the HIV & AIDS epidemic (158) and there are different prices in different countries (159). As a result there has been mounting pressure for the reduction of price for ARV drugs (160). In these countries, the number of individuals infected with HIV & AIDS and in need of treatment exceeds the supply of ARVs. There are also few health care facilities (HCFs) available for ARV distribution and this makes allocation of limited supply of ARVs among HCFs, a big challenge (161). Therefore,

sustainable and uninterrupted procurement and distribution of affordable medicines for developing countries to tackle HIV & AIDS epidemic is vital (162).

1.9.1. Drug Access Initiative (DAI) and Accelerated Access Initiative (AAI)

Unsustainable and interrupted access to ARVs and other essential medicines in developing countries urged a response from global health bodies. The UNAIDS secretariat identified the challenges of drug procurement and distribution and, in 1998 with several pharmaceutical companies, it introduced the Drug Access Initiative (DAI), which was launched in 1998 in Côte d'Ivoire, Senegal and Uganda (125, 162). The pace of access to ARV drugs was increased when the AAI was established in May 2000 as a partnership between five UN organizations (the United Nations Population Fund [UNFPA], United Nations Children's Fund [UNICEF], the World Health Organization [WHO], the World Bank and the UNAIDS Secretariat) and five pharmaceutical companies to address the issue of affordability of ARVs in developing countries. AAI represents 34% of those treated in Africa (163). UNICEF provides aid and support to achieve “universal access to treatment, care and support” for HIV by 2010, as agreed at the June 2006 United Nations General Assembly High-Level Meeting on HIV & AIDS (164).

1.9.2. TRIPS and the Doha Declaration

The Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement was adopted in 1995 to recognise and protect intellectual property of new medicines in the market. The TRIPS agreement came with a rule for the patenting of medicines which limited access to essential medicines in developing countries and it raised a concern especially for access to ARVs (165). Due to the public health outcry and proactive role of various key stakeholders, including AIDS activists, members of the World Trade Organization (WTO) had to respond to the urgency of the public health situation in developing countries resulting from the HIV & AIDS epidemic (166). As a result, the Doha Declaration was adopted in 2001 by WTO members to affirm that “the TRIPS Agreement does not and should not prevent member states from taking measures to protect public health” and refers to aspects such as the right to grant compulsory licenses (167, 168). The Doha Declaration affirms that access to drugs is ensured and public health interests are protected by allowance of TRIPS flexibilities (168). Currently TRIPS offers flexibilities to overcome this hurdle with the production of generic drugs and the parallel importation of drugs (166).

1.10. Voluntary Counselling and Testing (VCT) for HIV

VCT is reported to be an integral component of the comprehensive response to HIV & AIDS because it is an entry point for access to services including TB screening, PMTCT and clinical treatment for HIV-related OI (169). In most countries in sub-Saharan Africa where HIV is high, there has been a corresponding increase in TB cases and there is a varying acceptance rate of VCT in this region. The importance of VCT in the provision of HIV & AIDS service is entrenched and sub-Saharan Africa is experiencing an increase of VCT sites (170). Countries like Malawi (171) and Kenya (170) are experiencing high acceptance whereas Burkina Faso (172) and Rwanda (173) have a low VCT acceptance rate. A high utilization of VCT services is vital as it can enhance access to HIV and TB services.

1.11. HIV & AIDS and TB control

The world is confronted with an increasing burden of TB which is coupled with a growing HIV epidemic. Global TB control is hampered by the growing HIV epidemic (174). In 2007, there were 2.6 million new smear-positive cases of TB infection from Direct Observed Therapy Short course (DOTS) and non-DOTS programme individuals whose HIV status was not known (175).

Countries that are hardest hit by the HIV & AIDS epidemic, particularly in the sub-Saharan Africa region, are faced with a burden of HIV and TB co-infection (175). According to the WHO 2009 Global TB Control Report, there were 1.37 million estimated new cases of TB among HIV infected people in 2007 and 456,000 deaths, with one out of four TB deaths being HIV related (176). In South Africa, 48% of TB patients are estimated to also be infected with HIV (177). HIV not only makes the risk of activation of latent TB higher, but it also affects the speed with which TB progresses to full infection (174).

There have been global efforts to combat and manage TB and HIV & AIDS epidemics. The MDG target for global TB control aims for a decrease in the incidence of TB by 70% by the year 2015 (175). The WHO‘s stop TB strategy is mainly driven by DOTS with components of commitment by the government, increased diagnosis through microscopy, supervised treatment with regular supply of TB medicines, and ongoing monitoring (178, 179).

1.11.1. ProTEST Initiative

The WHO in collaboration with UNAIDS, the Canadian International Development Agency , the Norwegian Agency for Development Cooperation, the Department for International Development and the USA Agency for International Development (USAID) established the ProTEST initiative in 1997 to amass a response to TB by integrating TB and HIV & AIDS programmes. The initiative aimed to promote VCT for HIV so as to improve access to HIV and TB prevention and care interventions such as Isoniazid Preventive Therapy (IPT) to treat latent TB infection in HIV positive patients and Co-trimoxazole Preventive Therapy (CPT) to reduce morbidity and mortality due to HIV related OI (180). IPT treats latent TB infection in HIV positive patients and is one of the key strategies of the ProTEST initiative. The efficacy of TB prevention has been reported in sub-Saharan Africa (181).

The WHO recommends collaborative TB/HIV actions and ‗The Three Is': IPT, *Intensified* case finding for active TB, and TB *Infection* Control , were identified by the WHO in an effort to control TB (182). A consensus statement of the Core Group of the TB/HIV Working Group of WHO Stop TB Partnership is that: ―IPT works, IPT is safe, IPT works with ART or by itself". The ProTEST projects in South Africa, Malawi and Zambia succeeded in increasing the recruitment of a considerable number of patients for IPT (183). This prevention method is considered to be one of the key public health strategies to curb the impact of TB on the HIV & AIDS epidemic.

1.12. Highly Active Antiretroviral Therapy

Highly Active Antiretroviral Therapy (HAART) was introduced in 1996 (184) and it was a defining moment for HIV & AIDS treatment and care intervention which was mainly available in developed countries (185). Treatment of AIDS patients with HAART resulted in a decline of AIDS-related morbidity and mortality (117, 186-195) as the rate of decline of the CD4 cell count was reversed (196). By saving lives, the economic and social productivity of the population benefits all countries addressing the challenges of HIV & AIDS (197).

According to WHO, about 30 million of the estimated 33 million living with HIV reside in low and middle income countries and at least 9.7 million people are in need of ARV medicines. WHO continues to steer ARV delivery and scale-up by providing countries with guidance, support and tools for public health (198). In 2002, WHO introduced ARVs on the

WHO‘s Model Essential Drug List (EDL) (199) and now ARVs are considered an integral part of the comprehensive response to HIV prevention, care and support. In an effort to close the gap of access to ARVs in developing countries, the ―3 by 5” initiative was launched by WHO and UNAIDS in December 2003 (200). This has resulted in continued expansion of ARVs in resource-poor settings (201, 202) and it was further strengthened when WHO published the recommendations for a public health approach in order to enhance health services to fight HIV & AIDS (200). A considerable improvement came with the availability of generic drugs, the drastic price reduction of brand-name medicine and the simplification of treatment (203). As a result of these initiatives, many countries in sub-Saharan Africa have designed and implemented ART programmes (204). Before these developments, WHO and UNAIDS focused on increased HIV prevention rather than providing treatment because of high costs and the pharmaceutical companies gave fewer price concessions, which resulted in the death of millions of Africans because they lacked access to ARV medicines. The situation changed when access to ARV medicines increased from 1% to 6% of people needing ARV medicines in sub-Saharan Africa within six years, in 2006 (205).

As the ARV medicines became widely available**,** the world began to see the results of how ARVs can be used in resource-poor settings (196). Between 2001 and mid-2006, the number of people on antiretroviral therapy in low-income and middle-income countries increased from 240,000 to about 1.5 million. As a consequence, an estimated 250,000 to 350,000 deaths were averted in 2005 (124). By the end of 2005, 21 countries had met the ―3 by 5” target of providing treatment to at least half of those who needed it (112). The expansion of the response in low- and middle-income countries could reverse the impact of the HIV & AIDS epidemic and avert nearly 30 million infections by 2010 (128). Although big strides have been made in treatment and care, the global response to the epidemic still calls for continued effort to counsel AIDS patients on treatment in order to minimize any treatment default (206).

1.12.1. Overview of the ART programme in Eastern Cape

The Eastern Cape‘s Department of Health (ECDOH) acknowledged having one of the highest HIV growth rates in the world at the end of 1999 with over 50,000 people in the province who had been infected with the virus (207). In 2006, the Eastern Cape had an HIV prevalence rate of 28.6% as reported by the National HIV and Syphilis Prevalence Survey for 2006

(208). According to the Public Service Accountability Monitor (PSAM), from the year 2000 to 2004, the Eastern Cape public sector healthcare system faced limited treatment facilities (209) and a lack of human and financial resources, which is also a national issue of concern. (207). In spite of these constraining factors, the Eastern Cape, like the other provinces, started providing ART in 2004 (209, 210).

The ART programme in the Eastern Cape started with seven pilot sites for ARV provision, support and care (210). At the end of June 2005, there were already 30,851 patients on the ART waiting list. By the end of March 2007, the DOH had 28,382 patients registered for ART and had reached the set target of 27,000 patients. However, there are still a number of patients eligible for treatment remaining on the waiting list. The department had set itself a target of 40,000 patients registered for ART for the 2007/08 financial year. AIDS related conditions caused 38,507 (60%) of the total 64,096 deaths in the province in 2006 (208). In 2006, a study on the Demographic Impact of HIV & AIDS in South Africa reported that there were 54,000 HIV positive people in the Eastern Cape who were at an advanced stage of infection and in need of ART (96), and the implementation and expansion of ART programmes continues to face challenges.

1.12.2 Overview of the ART programme in Grahamstown

Settlers District Hospital serves a population of 140,000 and the hospital initiated ART roll-out in August 2004 (209). The ARV treatment programme was implemented in three phases: initial intensive training of health professionals and lay counsellors; the treatment plan which was implemented between April 2004 and March 2005 (210, 211); and between April 2005 and March 2008, an expansion of the programme was envisaged (211). As of mid December 2010 two hospitals have been accredited to initiate ART, Temba TB Hospital (August 2009). In June 2010, two Primary Health Care (PHC) centres: Joza and Raglan Road clinics, and Settlers Day Hospital started initiating ART and in early December 2010, Fort England Psychiatry Hospital was also accredited to initiate ART.

1.12.3 ART Programme challenges

Developing countries, particularly in sub-Saharan Africa, are faced with constraining factors such as shortage of health workforce (Section 1.16.2), finance and poor infrastructure to

implement comprehensive HIV treatment programmes (191, 212). These limitations negatively affect the response to the epidemic**.**

Developing countries with limited health care infrastructure experience uphill challenges in the establishment of adequate infrastructure required to ensure consistent health service delivery (212, 213). According to the World Bank‘s country list of economies classification, South Africa is an upper middle income country (214) but despite its relative wealth, several of the health challenges faced by it are similar to the rest of sub-Saharan Africa (215). Inadequate laboratory and patient-care infrastructure affect access to ART and other health services (216).

1.12.4 HAART and HIV prevention compromise

It has been said that HAART alone does not suffice as an effective response to the epidemic (128). A response to HIV that only emphasises treatment tends to weaken prevention efforts in the long term (117, 131) and it has been reported that there is a decrease in condom use and an increase in risky behaviour. This behaviour hampers the sustainability of prevention against HIV (217-219).

1.12.5 Integrated treatment and prevention programmes

The reports showing that prevention and treatment cannot operate alone highlight the need to integrate expanded care activities with prevention activities, if there is to be a long-term reduction in the number of new HIV infections and a significant decline in AIDS morbidity and mortality (131). Interventions that target people living with HIV & AIDS (positive prevention) being included in all comprehensive HIV prevention plans has been highlighted in southern Africa. This intervention has been shown to bear results in risk reduction for persons living with HIV & AIDS in USA and can improve efforts to curtail the spread of HIV (220, 221). There is an increase in the number of donors and funders for the implementation and expansion of HIV & AIDS programmes for treatment of the disease and complementing prevention efforts (57). However, a comprehensive global AIDS strategy that links prevention to treatment is essential to balance the response (222). By the end of 2003, there was a move to integrate prevention, care, treatment and support priorities (223). While both prevention and care are put on a par, there is a need to make both interventions available and accessible to the local population. Another major challenge in the context of African

countries as ARVs and prevention programmes are expanding, is the possible concurrent use of traditional medicines (TM) and ARVs which could lead to drug interactions between these two medicines (224).

1.13 TM and AIDS treatment

TM remains a popular and widely used option to deal with primary health care needs in developing countries. Even in developed countries, there is an increased use of complementary and alternative medicines (CAM) (225). Concurrent use of TM with ARVs is reported (226). Various factors ranging from cultural preferences to high cost and inaccessibility of ARVs, coupled with unreliable availability of ARVs in resource-constrained public health care sectors of developing countries, result in continued use of TM as the primary health care choice for the vast majority of the people in sub-Saharan Africa to treat HIV & AIDS (227). Thus the WHO advocates the provision of safe and effective TM/CAM therapies as a critical tool for increasing access to healthcare which can be achieved by developing national policies on TM in order to facilitate their integration into national healthcare systems (231). This is relevant in Africa since 80% of the population uses TM (228).

Collaboration between the modern and traditional health sectors is essential in building comprehensive HIV & AIDS control interventions (229). Agencies such as UNAIDS and WHO have been spearheading the efforts to include traditional health practitioners (THP) in HIV & AIDS care and prevention, especially in resource-constrained sub-Saharan Africa (230). The efforts to bring biomedical and traditional health care together to respond to the challenges of HIV & AIDS epidemic was initiated in the early 1990s by the WHO when it recommended that TM be included in national responses to HIV (231).

Under the support of UNAIDS, the Nairobi declaration recognized the decade 2000-2010 as –the decade for the development of African Traditional Medicine” with HIV & AIDS as a priority disease for research and development (232). Subsequently a regional task force on TM and AIDS in east and southern Africa was launched in Kampala, Uganda, on 10 April 2000 with the aim of coordinating activity related to the use of TM by people with HIV & AIDS in Africa and the role of traditional healers (TH) in AIDS prevention (233). South Africa, together with seven other countries (Botswana, Central Africa Republic, Uganda,

Malawi, Mozambique, United Republic of Tanzania and Zambia) initiated collaboration according to the criteria of UNAIDS best practice of bringing effective and ethical interventions that are sustainable and relevant for HIV & AIDS prevention and care (231). Due to the widespread use of TM, it is critical to have a system which monitors the ART of individual patients so as to assess drug interactions that might happen with the concurrent use of TM.

1.14 Laboratory services in HIV & AIDS response

In sub-Saharan African countries, the medical laboratory services inadequately cover the required services for tests and diagnostics as a response to the HIV & AIDS epidemic although they form part of the critical components of a comprehensive response to it. These services remain a major weakness despite recent efforts to improve global laboratory services (234). Thus WHO recognized the urgency to strengthen the laboratory infrastructure and quality assurance systems in the resource-limited settings in order to improve the reliability of HIV diagnostics and other services (235). In this plan, WHO offers support to countries in expanding access to quality HIV diagnostics and for strengthening HIV-related laboratory services by providing guidance, training and quality assurance programmes (236) to improve the availability of HIV diagnostics and services such as CD4 count and viral load determination (237). Laboratories provide confirmatory diagnosis and improved management of disease, essential public health information and disease surveillance (238, 239). They are also important to meet the demand of a growing need for ARV initiation and monitoring (240). A widespread strengthening and support of laboratory services along with a reliable quality assurance system is critical in developing countries to sustain momentum in the response to the AIDS epidemic.

1.14.1 Quality Assurance and Quality Control

Quality Assurance is the process that ensures that the final results reported by a laboratory are as accurate as possible (237, 241). Quality control refers to the initiatives and measures that are taken to monitor the quality of the diagnostics and assay (242). In an effort to realise these conditions, the Maputo Declaration states the need to develop and expand quality-assured laboratory services (243). It is also important that the countries have External Quality Assessments to ensure that diagnostics are performed and interpreted correctly (244).

The need to develop and strengthen laboratory systems has become more critical as a result of increasing global development in the management of the HIV & AIDS and TB epidemics (238). Since 2002, the WHO Regional Office for Africa (WHO/AFRO) has been engaged in helping countries to improve and increase laboratory capacity to respond to the challenge of universal access to HIV services by 2010 and invigorate laboratory services as part of its focus (240). Each country is encouraged to have a National Laboratory Strategic Plan as part of its National Health Plan in order to ensure adequate access to quality laboratory support with a strict quality assurance system (234).

1.14.2 Maputo Declaration

The Maputo Declaration was compiled at a technical consultation meeting which was held in Maputo, Mozambique in January 2008 to help in expanding sustainable quality testing in order to improve the care and treatment of people living with HIV & AIDS and TB. The main focus was to strengthen laboratory capacity in order to accelerate the scale-up of HIV & AIDS and TB in resource-limited settings (245). Subsequently, the Maputo Declaration on Strengthening of Laboratory Systems was adopted by the participants of the meeting. The development of greater laboratory capacity in developing countries is an urgent need and calls on national governments to give laboratory systems high priority by supporting it with the development of a National Laboratory Policy that will guide the implementation of a National Strategic Laboratory Plan (246).

1.14.3 African Centre for Integrated Laboratory Training

The US President‘s Emergency Plan for AIDS Relief (PEPFAR) and CDC provided technical and financial assistance for the establishment of regional training for the African Centre for Integrated Laboratory Training in Johannesburg, South Africa. It serves as a reference laboratory for TB, HIV, and other diseases. CDC provides training and technical guidance to ACILT, so as to increase the expertise of laboratory technicians and health care worker (HCWs) trained in TB and HIV diagnostics throughout Africa (243).

1.14.4 National Health Laboratory Services (NHLS)

NHLS is a national network of integrated pathology laboratories in South Africa (247). NHLS was a product of uniting fragmented public health services and was initiated in June 1999. It is the largest diagnostic pathology service in South Africa with about 265

laboratories employing around 5,500 people, and serving 80% of the country‘s population**.** It conducts health-related services such as HIV & AIDS and TB diagnostic and treatment monitoring (247, 248). South Africa took firm steps in entrenching integrated laboratory services by adopting the National Health Laboratory Service Act No. 37 of 2000. It states that ―the realization of the right to health care can be achieved by the establishment of a single national public entity to provide public health laboratory services in the country" (249).

1.15 Prevention of Mother-to-Child Transmission of HIV

The MTCT is the main mode of acquisition of the virus in babies in resource-limited settings. It is estimated that 90% of 2,200 children who become infected annually with HIV worldwide are living in sub-Saharan Africa (250). South Africa, having the highest number of people living with HIV, also has a high prevalence of MTCT (251). In the Eastern Cape, several studies conducted have shown that the province has factors constraining the provision of PMTCT such as the province‘s socio-economic situation resulting from poor roads, transportation system, inadequate health care staff, poor telecommunications and underdevelopment of HCFs which hamper access to health, even when free healthcare services are available (252 - 254).

In June 2001, the United Nations Special Assembly on HIV & AIDS set reduction targets of 20% by 2005 and 50% by 2010 for the number of children who would otherwise be newly infected with HIV (255). Many possibilities have been investigated for their potential role in the PMTCT (256) and have been put into effect since the 1980s. The administration of ARVs before delivery has been shown to reduce early transmission rates by 38–50% (255, 257, 258). In sub-Saharan Africa it has been shown that MTCT can be decreased with the use of Nevirapine (NVP) and Zidovudine (ZDV) (259). According to a survey conducted in Zambia there is a high uptake of NVP by HIV positive mothers (260) and also mother and child pairs (261), and a lower NVP uptake in Zimbabwe for mother and child pairs (262). A high uptake was also observed in Kenya while in contrast in Malawi there was low NVP uptake (263). Very low MTCT was obtained in Cameroon where it was found that at 6–8 weeks after NVP administration, there was no HIV transmission, thus demonstrating the effectiveness of NVP for lowering the risk of HIV-1 MTCT (264). Short-course ARV regimens during the last four weeks of pregnancy have resulted in the rate of virus transmission being reduced by half in non-breast-feeding populations in a South Africa

cohort study (265). Results from the Ugandan HIV Network for Prevention Trials study demonstrate that a single-dose regimen of NVP given to the mother at the onset of labour and to the infant within 72 hours of birth can dramatically reduce the rate of MTCT (266). A prevention therapy using ZDV prophylaxis in HIV-infected pregnant women was used in many countries, including Switzerland. In 1999, it was shown that before and during birth, transmission can be decreased by approximately 50% when short-course, oral antiretroviral therapy is used during pregnancy and labour (267). Shorter and simpler regimens of monotherapy have been associated with a reduction of 50% in such transmission among non-breastfeeding populations and of up to 40% in breastfeeding populations. (268). A successful implementation of available perinatal HIV interventions could substantially improve global child survival (269) and the efforts to manage and control MTC and other HIV transmission require adequate resources.

1.16 Resources to combat HIV & AIDS

Resource input in the battle against HIV & AIDS is a key component (270). A sufficient supply of human and financial resources remains a key challenge for the response to the epidemic (116, 271).

1.16.1 Financial Resources

Sustainable financing for HIV & AIDS programmes is critical for a smooth response to the disease. One of the MDGs was to ensure the development of national strategies and financing plans for combating HIV & AIDS to address this epidemic by 2003 (126, 272). Financial assistance for health particularly for HIV & AIDS has increased, especially in sub-Saharan Africa (43, 57, 273, 274). The major global forces have agreed to join their efforts in curbing the impact of the disease. The partnership includes, the World Bank‘s Multi-Country HIV & AIDS Programme for Africa (MAP), PEPFAR (16, 275, 276), along with the Global Fund to fight AIDS, TB and Malaria which was founded in 2000 (217, 277).

In 2001, in Abuja, Nigeria, where the Abuja Declaration was adopted, the sub-Saharan African countries pledged that total public expenditure to be allocated to the health sector would be increased to 15%. The public funding needed for HIV & AIDS prevention, care and support would be about 3% of all public spending on health in sub-Saharan Africa (278). It was also shown by data from the Organization for Economic Co-operation and Development

that 21% of health aid was allocated to HIV in 2004, up from 8% in 2000 (279). In order to achieve an equitable and sustainable health financing system, the Kampala Declaration on Fair and Sustainable Health Financing was adopted in 2005 in Uganda whereby the delegates acknowledged health as a fundamental human right, and encouraged the governments to ensure efficient and equitable distribution of financial resources in the health sector (280).

1.16.2 Human Resource for Health in the era of HIV & AIDS

Human Resource for Health (HRH) is an important component of the health system and approximately over 60% of Health Ministry budgets are allocated to human resources (HR) (281). HRH is the most significant element of a health system‘s input (212, 282 - 284) and plays a critical role in delivering health services to the population (285, 286). Health is a sector which requires a large amount of labour and, therefore, depends on the workforce (287). The extent to which health workforce planning is done has a significant influence on the performance of the health system (288).

There is a HRH crisis worldwide, particularly a workforce shortage that hampers the effective operation of the health system (289). The global shortage of health workers is estimated at more than 4 million, and a quarter of the global shortage is experienced in sub-Saharan African countries (212, 290, 291, 292). It is further estimated by the Global Health Workforce Alliance (the Alliance or GHWA) that about 1.5 million trained workers are needed to address the present dearth of trained workers in the African health system. Based on another WHO estimate, 57 countries were faced with a high shortage of (HRH) in 2006, equivalent to a global deficit of 2.4 million doctors, nurses and midwives. The shortage is most severe in sub-Saharan Africa (212) which is estimated to have only 750,000 health workers serving 682 million people, which accounts for a quarter of the shortage (287, 288). Health workers in sub-Saharan Africa make up 3% of 59 million global health personnel in the world‘s health workforce. The World Bank reported that in those countries with a high HIV incidence of approximately 15% adult HIV prevalence, there is up to 3.3% annual loss of HCWs (212). There is a lack of health work force in different categories such as nurses, doctors, pharmacists and data capturers in resource-poor settings. In the low and middle income countries the few available health workforce members are unequally distributed (212, 291 - 294).

The unequal distribution of the workforce ~~is~~ commonly between rural and urban, formal and informal peri-urban areas and tertiary and primary levels of care" (284, 286, 295). The distribution that causes the inequality between rural and urban is in the allocation of specialist -and highly skilled health personnel (284). In Tanzania, for example, the overall nurse to population ratio is 160:100,000 whilst in some rural districts it is just 6:100,000 (296). As a developing country, South Africa faces numerous challenges in implementing equitable access to health care for its population. The ratio of HCPss to the population is reported to be eight doctors, 41 nurses and three pharmacists per 10,000 populations (297). The shortage could be due to low financial resources, uneven distribution of health workers at different levels (253, 286, 298) and, most importantly, migration of health personnel (299, 300). The sub-Saharan Africa region and southern Africa are highly affected by the migration of healthcare workers, which further deepens the shortage (290) and this results in a noticeable imbalance in HRH (298) because there is a lower replacement rate of workers (282,301). This has led to an acute shortage of skilled workers in the health sector in developing countries (253, 302). These challenges on HRH are deepened by morbidity and mortality of health workers caused by HIV & AIDS which result in loss of staff and increase in absenteeism (287, 295, 303 - 305). Expanding HIV & AIDS services and allocating the resources towards achieving HIV & AIDS targets may be at the peril of other essential programmes (306). HRH shortages in the workforce continue and hence should occupy a prominent position on the health policy agenda of both national governments and international agencies (307). HRH management is critical to ensure an effective response to the HIV & AIDS epidemic.

1.16.3 Initiative to address the HR crisis

The crisis in the HRH needs to be given high priority and to be afforded systematic and collaborative action (308). In response to the health worker crisis due to the shortage and lack of trained workers, the Alliance was established by the United Nations in 2006 as a common platform for action to address health workforce issues. The Alliance is a partnership of national governments, civil society, international agencies, finance institutions, researchers, educators and professional associations dedicated to identifying, implementing and advocating solutions (309). At the G8 Summit in Heiligendamm, Germany, in 2007, it was recommended that low and middle income countries provide access to a suitably qualified and trained workforce that is highly motivated and enjoys good infrastructure and working conditions with decent remuneration. Developing countries are encouraged to formulate a

comprehensive strategy to address health worker migration and adopt policies to develop self-sustainable health workforces to meet health workforce needs (310).

In the sub-Saharan Africa region, countries are putting together means to minimize the impact caused by the human resource crisis. There are three types of human resource strategies that have been pursued with some success: better geographical distribution in order to make more efficient use of available personnel, greater use of multi-skilled personnel where suitable (311), and an appropriate skill mix ensuring a closer match between skills and functions to facilitate efficient delivery of health service (308, 311). In the region, 47 countries are pursuing a promising route of using non-physician clinicians (NPC) to replace physicians in clinical services and countries like Tanzania are exploring the potential to use the retired workforce (296). By scaling up, NPCs could relieve the workforce shortage and imbalance (312). There is also ongoing development and implementation of comprehensive capacity development programmes (306) and the advancement of the learning agenda could help increase skills in the workforce (313). Non-financial incentives play an important role with respect to increasing motivation of health professionals (314) and at the same time, key aspects such as enhancing motivation and morale as well as protecting and valuing the health worker is equally vital (315).

1.16.3. a High Level Forum to respond to the crisis

At a High-Level Forum in Geneva in January 2004, the dire need to manage the crisis of HRH for achieving the health MDG was recognized. The necessity for multi-sectoral policy development for collaboration among stakeholders was emphasized and facilitated at the High-Level Forum, the Oslo Consultation and the Joint Learning Initiative. The Joint Learning Initiative is a multiple stakeholder participatory process with the intention of dealing with the problem of HRH, improving equity in global health and helping workers perform to optimum levels by identifying strategies to strengthen their performance (300).

1.16.3. b Abuja High Level Forum

In December 2004 in Abuja, Nigeria, a High Level Forum was held to address the pressing situation of Africa‘s Health Workforce. African leadership was united in the support for country-led and country-based action. The participants agreed on five core principles for addressing Africa‘s health workforce crisis. These are:

- ‗Country-led action, global responsibility and collective solidarity‘ which calls for political commitment and resource allocation since response should start from country level;
- ‗Learn from experience and build on it‘ which advises countries to work on existing experience to build on efforts to accelerate action;
- ‗Go beyond the health sector in seeking solutions‘ since HIV & AIDS is no longer confined to public health, so the response must also reach the decision makers;
- ‗Seize the opportunities‘ created by campaigns like MDGs and the political attention created by them; and
- ‗Train, Retain and Sustain‘ in order to create a sustainable need to improve working conditions and upgrade curricular and institute learning opportunities" (212).

1.16.3. c Oslo consultation

In Oslo, Norway, a consultation held in February 2005 considered ways of overcoming the HRH crisis in sub-Saharan Africa. The consultation recognized the need for speeding up country-led and country-based action, backed by more coherent backing from the regional and global communities. Oslo‘s triple C – ―Consultation-Consensus-Call for action" – was adopted to harmonize isolated and disjointed country HRH efforts and a country-led effort organized around a single framework. The Oslo consultation called for the acceleration of education and training to produce appropriate HRH and the harmonization of public and private sectors in all countries (316).

1.16.3.d Kampala Declaration on Human Resource

The response to the HRH crisis was strengthened when the first Global Forum on HRH was initiated by the Alliance in March 2008 in Kampala, Uganda. The Kampala Declaration and Agenda for Global Action, ―Health Workers for All and All for Health Workers", was endorsed at this meeting with specified sets of good practice for the next decade in the response to the HRH crisis (317). The need for effective co-ordination among the key stakeholders in HRH, so that they can work together, was found to be a critical element that could also help to improve the commitment of involved stakeholders through the use of the sets of good practice. (309).

1.16.3.e Accra multisectoral response meeting

The need for co-ordination among the stakeholders involved in HRH was increased when over 170 delegates from 14 African countries and development partners gathered in Accra, Ghana in October 2009 and there was a call for a multisectoral response to HRH challenges. The meeting was around a guiding document, *HRH: Good Practices for Country Co-ordination and Facilitation* (CCF) which was based on the *Kampala Declaration* and *Agenda for Global Action.* It includes a set of good practices for co-ordination among all stakeholders involved and the need to bolster the health workforce. The draft CCF proposed co-ordination to bear the desired results, with all stakeholders working on HRH issues in the country being involved in setting up country co-ordination mechanisms (282).

1.16.3. f Treat, Train and Retain

In May 2006, a WHO consultation was held in Geneva to discuss the AIDS and Health Workforce Plan dubbed ―Treat, Train, Retain" (TTR) that was proposed by the International Labour Organization and the International Organization for Migration, and other delegates from various key stakeholders in the field of HIV & AIDS. The consultation designed a strategy to handle and lessen the health workforce crisis by outlining three key interventions. Emphasis is on providing comprehensive treatment and services (318), improving the skills of health workers, and encompassing the means to ―retain" HCWs in the public health system (314). TTR must be integrated with plans for the development of national HRH to combat HIV and depends on ownership, political will and leadership (319).

1.16.3g Task shifting

Task shifting has been found to be a successful human resource strategy to tackle the health workforce crisis and strengthen capacity to provide HIV prevention, treatment and care services. The system entails delegation of specific tasks, where appropriate, from highly qualified health workers to other health workers (320) to increase, retain and sustain health staff (321). In Lesotho, Malawi and South Africa, Médecins Sans Frontières, is using task shifting in efforts to scale-up ART and has shown that the strategy has enabled increased access to treatment, improved the mix of workforce skills, increased the efficiency of health systems and minimized migration (322).

1.16.4 Monitoring and Evaluation of HRH

M & E of HR development strategies in the health sector on an international basis between different countries lack consistency and do not follow a consistent approach (294, 323). Different methods are used to translate the required number and types of health services into time estimates, and then express these as full-time equivalents of health personnel, using norms and standards of actual productive time (324).

In South Africa, the government‘s NDOH developed HR Planning and Development and Management programmes, 2001–2005, with stated goals, objectives and indicators in order to monitor and evaluate progress made and sustained. The document‘s goals are to –ensure that there is sufficient staff with the right skills in the right location and transformation of training and education of health professionals" (284).

1.17 Monitoring and evaluation of HIV & AIDS programmes

In response to the HIV & AIDS epidemic there has been an increasing number of interventions being worked out and introduced (325). It is also known that in the early days of the epidemic, programme managers had little information about interventions relative to their particular situations. Early interventions against the epidemic were not subjected to M & E (325, 326), but to be successful, any intervention needs to be seen to be effective and relevant to the particular epidemic conditions. Although today there are more requirements for accountability by funding agencies (327, 328), there is still a lack of investment in M & E of HIV & AIDS programmes (329). An M & E system is of primary importance and UNAIDS recommends setting aside 10% of the national HIV & AIDS budget for it, which excludes the routine surveillance of HIV and risk behaviour (325).

M & E are two activities that have different functions and complement each other (3). Monitoring is the ongoing routine tracking of information on inputs and outputs which are related to the national HIV & AIDS programme with the main aim of checking what is being done so as to ensure that the activities are on track. Evaluation is not an ongoing process and is usually undertaken at a particular period for the collation and analysis of information related to a programme with the main aim of assessing the effectiveness of interventions in place. The process of evaluation enables programme managers to attribute a particular output

or outcome to an intervention. Evaluation assessment is carried out by methods that are scientifically developed and dependable (3, 116, 325, 330-332).

Many countries around the world collect health information disseminated through various means such as registries and surveys. There is a huge gap that limits the response to global health due to the lack of “reliable and comparable health information to inform local, regional, national, and global decision makers” (333). It is noted that a lack of effective M & E also exists in developed countries, however it now features prominently on the health agenda of many developing countries such as Botswana (334), Côte d‘Ivoire, Senegal and Uganda (162, 335), Malawi (336, 337) and Zambia (338), which have used it to assess their ART programmes. There are three sequential levels or phases of evaluation: process: evaluation, outcome evaluation and impact evaluation.

1.17.1 Levels of evaluation

1.17.1. a Process evaluation

In this phase, the assessment of programme content and quality is evaluated by tracking inputs and outputs. It is important that implemented interventions be carried out on time, correctly and within the allocated budget (325, 339). The findings of the process evaluation determine whether to continue with the next step of evaluation. If the findings of the process evaluation conclude that the programme is reaching its intended audience, then the next step of the evaluation, the short-term outcome evaluation, is commenced (325).

1.17.1 b Outcome evaluation

In the step of outcome evaluation, the tracked changes can be directly attributed to the implemented intervention. The evaluation design should be able to associate observed outcomes with a programme, and should show that the observed outcomes are not the result of non-programme factors (325).

1.17.1 c Impact evaluation

The impact evaluation phase assesses the impact of HIV & AIDS programmes, and always requires quantitative measurements. It determines which objectives of the programme were achieved and to what extent. This evaluation stage is classified as a long-term outcome (339). The outcome and impact phases of evaluation are the most important stages of evaluation and

are referred to as "effectiveness evaluation" which measures the extent to which the objectives of the programme were attained and is used to determine whether the programme is making a difference (116, 339).

1.17.2 The importance of monitoring and evaluation of HIV & AIDS programmes

M & E is useful in assessing progress in the implementation of comprehensive HIV & AIDS programmes. The collected data is a valuable aid for national, regional, provincial and local level planners and implementers to identify gaps in care and support service delivery. The prevention indicators (PI) provide evidence that overall prevention efforts are reducing the incidence of HIV and its impact (327). M & E of programmes can also help to track the number of patients served (340). The evidence allows for an effective plan to prioritize and allocate resources. It can also ensure that the resources going into the programmes are properly utilized, which is especially critical in resource-constrained areas. Valuable lessons can be learned that can facilitate expansion and scale-up of ongoing services as well as the impact that HIV & AIDS is having on health care systems and communities. M & E is a reliable tool to respond to funders' requirements of reporting (3, 325, 328, 330, 341, 342). An overall picture of the implementation of the national response can also be drawn (325).

1.17.3 The monitoring and evaluation framework

The M & E framework is composed of five important components known as inputs, process, outputs, outcome and impact. These form the basis for a complete M & E plan and are commonly used for the selection of indicators (342). Inputs are mainly composed of basic financial and HR and the supply of medicines and equipment as well as the procedures and guidelines which are in place (332, 343-345). Good information on invested financial and HR is vital. Inputs can allow for proper tracking of activities (333). The inputs invested go through a process and the programme achieves its goals when there are outputs such as an increased number of people receiving VCT, patients receiving ART, home-based care (HBC), referral services, trained staff, increased services and people living with HIV & AIDS access other health services such as TB testing (332, 341-347).

The output stage is followed by the outcome stage which is realized when the outputs are successfully designed to reach the desired targeted population. The outcome can be in the

form of behaviour change, enhanced quality of life, care and support, increase in safer sexual practices and improved acceptance of people living with HIV & AIDS (331, 340 - 342, 345).

The outcomes, which are short-term in nature, should lead to changes in the long-term impact of programmes. The desired impact will normally be in the form of fewer new cases of HIV and lower morbidity and mortality rates (332, 344-347).

1.17.4 The indicators in Monitoring and Evaluation

Indicators are instruments which are used to measure or assess progress made by a programme and are quantitative or qualitative in nature (332). According to WHO, an indicator is a valuable signal that is utilized to assess the progress towards set targets of HIV & AIDS response programmes. They are normally selected during the programme planning process (344). Various indicators have been used to measure HIV & AIDS related interventions (325) by measuring programme performance tracked over time by the monitoring system (344).

UNAIDS has developed a set of core indicators to help countries to track and assess the targets set in response to HIV & AIDS . A core set of indicators is normally linked to important factors that influence the epidemic (346). It is recommended by UNAIDS that countries adopt a core set of indicators to track the epidemic at a particular stage. In an effort to strengthen a global M & E, WHO has identified PI, which are often adapted to local circumstances by many countries (344). Countries have different M & E needs, which are governed by the state of the HIV epidemic in the country (325). Therefore, in order for M & E to be relevant to local epidemic conditions, countries are encouraged to select any additional indicators (325, 348) relevant to their local epidemic response. The criteria for inclusion will also be governed by the goals of the programme, which will in turn be determined by the state of the epidemic. The capacity of M & E and the type of services which are being offered also have an influence on the indicators to be selected (344). A careful selection of indicators provides good quality feedback to strengthen a national response to HIV & AIDS (325, 347).

1.17.5 The criteria for indicators

The appropriate choice of indicators will focus on the key aspects of HIV & AIDS programmes (325). For any M & E system to gather appropriate data, the indicators should fulfill criteria identified by the WHO. The most important criteria are –affordability, reliability, and feasibility". Above all, the indicators need to be –measurable and should also be valid, meaning that they should measure the event that they are meant to" (348). The indicators themselves should be able to be assessed and quantified with tested reference standards (344, 348). It is also important that an M & E system employs indicators that allow data collected from various sources to be comparable when compared with data collected using different methods (332).

1.17.6 Use of indicators at different levels

The collection and dissemination of information on key indicators of inputs, outputs, outcome and impacts of health interventions is of vital importance for health information to monitor impact locally, nationally, or globally (333). M & E indicators are applied at different levels – international, national, district and facility levels – so that an overall picture of the implementation of the national response can be drawn (325, 332).

1.17.6. a International level

The collection of indicators in different countries is useful for M & E at the international level to track the trends of the epidemic and the response in the global arena. A comparison of the pace, the shaping up and the response to the epidemic in different regions can be drawn. Equitable allocation of financial and technical resources can be achieved to allow the greatest impact on the global response (325, 348).

1.17.6. b National level

National level indicators to track changes are complex because the response to the epidemic requires a multi-sectoral response (116). Indicators are useful for drawing an overall picture of the country‘s HIV & AIDS trends at a national level but in developing countries, adequate resources are not available for this purpose (325).

1.17.6. c District level

Districts are now playing a more important role in AIDS programmes. Good reporting by districts is critical to facilitate M & E at a national level. Data obtained through the indicators is usually compiled at the district level and later forwarded to the national level to be collated. The district contributes to national level M & E and focuses on reporting input and output data in line with national guidelines. The district has two main functions: district level monitoring of AIDS programmes and the submission of data to the national level, but only limited resources are available at district levels and UNAIDS recommends between 3–5 % of district financial allowance for AIDS to be allocated for monitoring and evaluation activities (325).

1.17.6. d Facility level

The facility level is the starting point for the collection of data. At this level, it is vital that the indicators are designed in such a way to facilitate the data collected to be easily absorbed into the national M & E system (325). The data is then sent to the district level to be compiled. M & E at the facility level is accomplished by a mix of input, process, output and impact indicators and they have to be closely related to the programme activities and improve the achievement of the programme‘s objective and goals. This characteristic increases the impact of the programme. It is essential that there is regular feedback to the district and the facility (331).

1.17.7 Monitoring and Evaluation in USA

In the USA, the CDC, as one of the agencies spearheading the fight against the epidemic, also realized the need for M & E of HIV & AIDS programmes. National and local health departments were required to evaluate, develop and submit comprehensive intervention planning, monitoring, and process and outcome evaluation plans in the mid-nineties. In 1986, CDC started funding HIV prevention programmes for national and local health departments, and in June 1995 it recognized a need for a coordinated HIV prevention evaluation strategy by first strengthening internal evaluation capacity (349). In the past, CDC‘s ability to monitor and evaluate HIV prevention programme performance was limited by varying level evaluation capacity among health departments which affected the implementation of a national evaluation system. It was only in 1999 that CDC started requiring departments to develop evaluation systems for their sponsored prevention

programmes. Many departments started instituting an evaluation system to collect data on clients and services rendered (328, 350) and CDC started to require Departments of Health to develop comprehensive evaluation plans and to submit activities such as intervention planning, monitoring, process monitoring and outcome evaluation (328).

Initially, HIV & AIDS programmes even in the USA lacked coordination and a standardized set of HIV prevention indicators (HPI) (330). Collaboration and coordination of HIV & AIDS M & E was initiated by two agencies: the CDC and the USAID, since 1999 for coordinating M & E support to other developed countries too. In 2004, they joined other US government agencies in formulating one strategy for international HIV M & E (328, 329).

In the USA it was also found that there was a need for enhanced coordination among in-country partners with the commitment in line with the “three ones principle”, which calls for “one” organizing authority, “one” national strategic plan, and “one” comprehensive national M & E plan (351). A growing need for uniform and timely data to monitor and evaluate HIV prevention programmes led to the design and implementation of the Programme Evaluation and Monitoring System, which is a national USA data reporting system with a standardized set of HPI, software for data entry and management, data collection and evaluation guidance and training, and software implementation support services. This system enables the CDC to monitor HIV prevention efforts in a consistent, efficient, and effective manner across the USA (330). This was the start of a standardized evaluation system for HIV & AIDS prevention programmes data reporting which enables uniform data collection throughout the country so as to be able to draw a nationwide picture of HIV & AIDS prevention programmes (328).

1.17.8 Background of Monitoring and Evaluation in South Africa

In the early 1990s, in response to the HIV & AIDS epidemic, the government of South Africa formed the National AIDS Coordinating Committee of South Africa (NACOSA). In 1997, an assessment of the NACOSA plan by the South African National STI and HIV & AIDS Review concluded that there was progress. A wide range of consultation processes led to the development and subsequent launch of the five-year (2000–2005) Strategic Plan for HIV, AIDS and STI in 2000. The plan, commonly referred to as Comprehensive HIV & AIDS Care, Management and Treatment (CCMT), aimed to cover four key areas of intervention,

namely: prevention; treatment, care, and support; research, monitoring and surveillance (1, 3). A second five-year plan, covering the years 2007 to 2011, was introduced in 2007 (352).

For treatment, care and support interventions to take off, the DOH developed the Operational Plan for Comprehensive HIV & AIDS Care, Management, and Treatment which was approved by the Cabinet and launched in November 2003. This was followed by the development of the M & E Framework for the comprehensive HIV & AIDS care, management and treatment programme of South Africa (3). In 1994, the National Health Information System for South Africa (NHIS/SA) was established with the aim of strengthening information distribution so as to ensure that quality data is collected and distributed (352). NHIS/SA is used to monitor implementation of health programmes to support the effective delivery of services at all levels of the health system (353). NHIS/SA adopted the Essential Data Set (EDS) for PHC Centres in April 1999. The EDS has been implemented in all PHC facilities and serves as a basis for the District Health Information System (DHIS) which resulted in initiating monitoring systems in PHC facilities. NHIS/SA adopted the DHIS software provided by the Health Information System Programme. Provinces defined their own EDS (354). The adopted system is used in all health sectors and HIV & AIDS interventions includes indicators such as VCT, PMTCT and management of STIs, but still does not include the full ART indicator set outlined in the M & E framework. An M & E plan for the CCMT plan requires reporting on 126 indicators (355).

2. Aim and Objectives

2.1 Aim

The aim of this study was to conduct operational research in the field of monitoring and evaluation of HIV & AIDS indicators in the public sector healthcare system of the Makana Local Services Area (MLSA), Grahamstown, Eastern Cape, South Africa.

2.2 Objectives of the study

- To conduct an observational study to identify how Grahamstown‘s HIV & AIDS programme in the public sector healthcare system functions.
- To collect the indicators at the MLSA district level based on those identified by the M & E Framework of the Comprehensive HIV & AIDS Care, Management and Treatment in the M & E document at the national level in South Africa.
- To identify the indicators collected by the district HIV & AIDS programme in accordance with the M & E document of South Africa.
- To identify facilitating and constraining factors in Grahamstown‘s HIV & AIDS programmes in the public sector healthcare system based on the M & E indicators.

3. Method

3.1 Study Setting

This study was conducted in Grahamstown, which is part of the MLSA, a sub-district in Cacadu district in the Eastern Cape Province of South Africa. Eastern Cape is one of South Africa's nine provinces (see Figure 3.1).

Figure 3.1: Map depicting South Africa's nine provinces

Cacadu district is one of the seven districts of the Eastern Cape Province (see Figure 3.2) and with farms, game parks and semi-arid areas in this district, it covers an area of 58,242 km^2 (356). The district is made up of three sub-districts, Makana, Kouga and Camdeboo local service areas (LSAs). The district has the lowest population density of seven people per square kilometre compared to the six other districts of the province and has the second lowest population in the Eastern Cape with 388,206 people, and 59.8% of the population lives in poverty, which is the second lowest in the province (357). Settlers Hospital in Grahamstown

was one of the seven ARV pilot sites accredited to provide ARVs in the public sector health care system. The ARV clinic at this accredited site is called Masonwabe (isiXhosa[3] word meaning ―let‘s be happy").

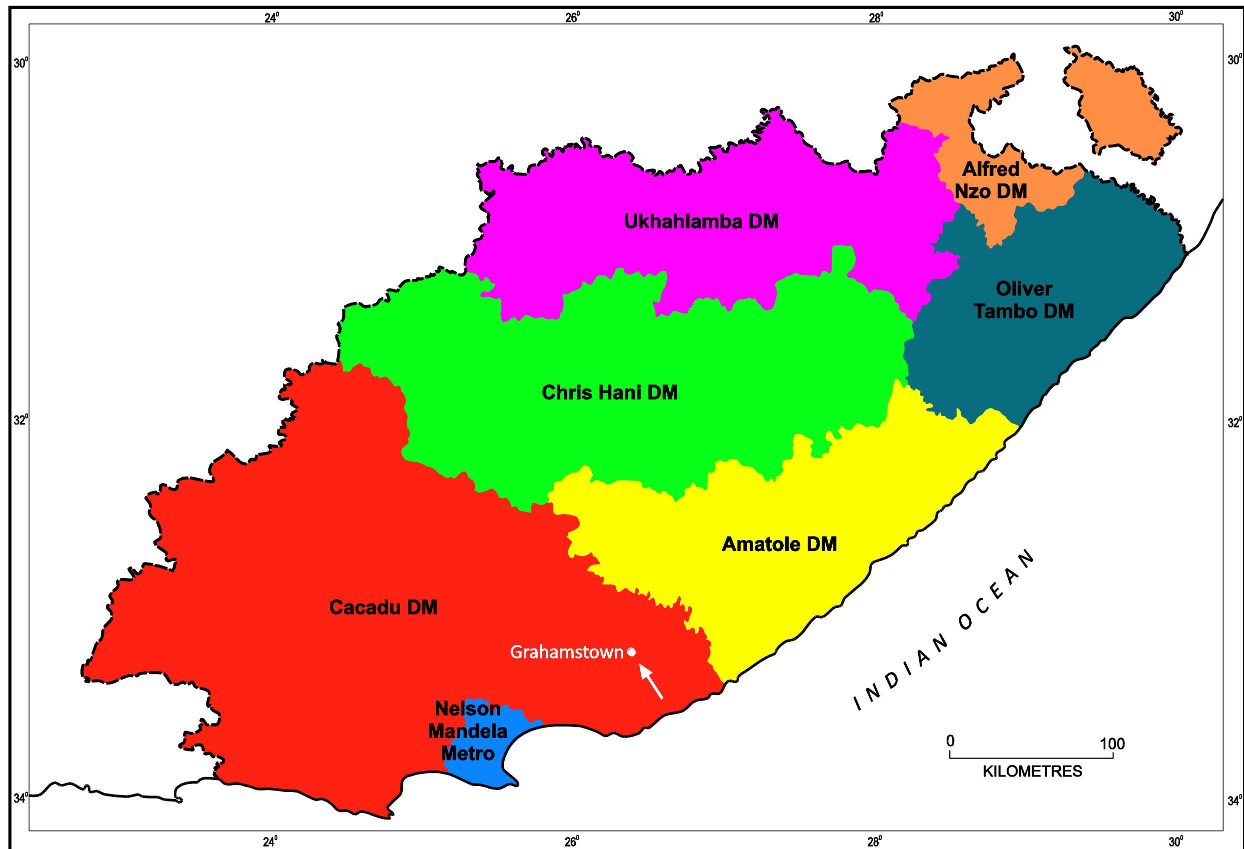

Figure 3.2: Map of Eastern Cape with seven districts

3.2 Data collection in Grahamstown

Primary HCFs and the Settlers Day Hospital submit their HIV & AIDS activities data to the Information Manager at the District Health Office (DHO).

3.2.1 Facilities where indicators were collected

a. DHO in Grahamstown
b. Settlers Day Hospital (accredited antiretroviral site)
c. Primary Health Care Office and facilities
d. Port Elizabeth Pharmaceutical Depot
e. Eastern Cape Province Pharmaceutical Services

[3] ―isiXhosa" is one of the local languages predominantly used in the province.

f. Makana Treasury Department
g. NHLS unit operating in Settlers Hospital.

The M & E Framework of the Comprehensive HIV & AIDS Care, Management and Treatment Plan for South Africa (CCMT), adopted by the South African Cabinet in September 2004 (see Appendix 3), was used as the data collecting tool in this study (3). The national M & E document outlines three types of indicators – Core indicators; Inputs, Process and Output indicators; and the Patient Outcome and Impact indicators – and is made up of 14 sets of indicators.

3.2.2 Core set of indicators

A core set of indicators (Table 3.1) was drawn up by the National DOH from a wider set of programmatic indicators and was required to be used in reporting the Comprehensive HIV & AIDS plan to the Cabinet, National Health Council and other relevant authorities (3).

Table 3.1: Core set of indicators outlined in the national M & E Framework

Indicators	Frequency
Monthly expenditure on personnel, drugs, micronutrient supplements and nutrition supplements, laboratory services, information systems	Monthly
Unit price trends for drugs year on year – periodic	Annually
Functioning accredited service points per district	Quarterly
Number of service points with functional information systems in the country	Annually
Percentage of facilities experiencing stock-out of basket of tracer drugs at any time in the last month – not periodic	Monthly
Full time equivalent per category as proportion of required personnel	Monthly
Percentage of staff per category trained and certified per category by quality assurance and health training centres	Quarterly
Male and female condom distribution rate	Monthly
Percentage of eligible patients (HIV positive, patients on antiretroviral therapy, children diagnosed with HIV, pregnant women) receiving supplement meal and micronutrient supplements	Annually
Proportion of clients HIV pre-test counselling (excluding antenatal)	Monthly
STI partner treatment rate	Monthly
Proportion of treatment start among TB smear positive	Quarterly
Number of TM products found safe and efficacious	
Percentage of patients using any traditional and complementary medicines	Monthly
Proportion of adult patients on antiretroviral therapy with adherence lower than 70%(unacceptable level of adherence)	Quarterly
Proportion of registered patients on regimen 1a or 1b, 2 or child regimen	Monthly
Cohort viral load effectiveness parameter	Annually
Cohort CD4 effectiveness parameter	Annually
Cohort weight gain parameter	Annually
Cause specific mortality rate – treatment (children and adults)	Annually
Specific mortality rate attributable to regimen (1a, 1b, 2)	Annually
Cause specific mortality rate – TM	Annually
Specific morbidity due to interaction of ART and TM.	Annually
Survival rates	Two yearly
Percentage of people who report to have obtained information on HIV & AIDS from health promoters, mass media and Khomanani	5 yearly
Percentage of people who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconception about HIV transmission or prevention.	5 yearly

The sources in Grahamstown used to collect the indicators are shown in Tables 3.2 - 3.4.

Table 3.2: Input, Process and Output indicators

Indicators	**Source**
Budget and Expenditure	MLSA Treasury Department, DHO and EC pharmaceutical services
HR and Training	DHO, Settlers Day Hospital and PHC office.
Accreditation of Service Points	DHO
Nutrition Related Indicators	DHO
Drug Procurement and Distribution	Settlers Hospital and EC Pharmaceutical Services
Laboratory Services indicators	Settlers Hospital

The second phase, which indicates whether the invested inputs that went into the planning phase are making an effective change, is called the evaluation stage and has outcome and impact indicators (Table 3.3).

Table 3.3: Patient Outcome and Impact indicators

Indicators	**Source**
VCT, PMTCT, STI and TB	DHO and Settlers Hospital
ART Indicators	Settlers Hospital
TM	Settlers Hospital
Social Mobilisation and Communications	DHO
Pharmacovigilance Indicators	Settlers Hospital

The indicators were collected at different time frames from different sources around Grahamstown and Provincial DOH (Tables 3.2 and 3.3). The indicators could not be collected exactly according to the National M & E framework because these indicators are not available or recorded at the district level. Also, the indicators were collected at different time frames according to the availability of information as well as time frames that were feasible provided to the researcher by the concerned health officials.

3.3 HCPs' inputs with group interviews

The facilities of the Grahamstown public sector healthcare system report HIV & AIDS activities to the district and to the province according to a format designed by the ECDOH. As all the indicators identified by the National M & E could not be collected by the MLSA, the methods followed by the MLSA in accordance with the provincial DOH were also traced; hence inputs were collected from HCPs in the MLSA at

- the Settlers Day Hospital,
- the DHO, and
- the Primary Health Care Office.

3.3.1 Group Interviews

Group interviews were conducted at Settlers Hospital with key stakeholders involved in HIV & AIDS programmes to draw information on the indicators of TM and pharmacovigilance since these two indicators were not recorded or reported according to the M & E framework (Table 3.5). Group interviews with key stakeholders were conducted at the Settlers Day Hospital, the Primary Health Care Office and the DHO to find out if key stakeholders were aware of the M & E framework and how it is collated and reported to the province. At the provincial DOH, four key health officials were involved in a group interview in order to find out why a different format from the National M & E framework is used for reporting to the province. All the interviews were audio recorded with the permission of the participants. Each interview audio recording was transcribed. A full reporting in the text has been done for the group interviews (Section 4.6.1).

Table 3.4 Group interviews conducted in and at the ECDOH

Group interview participants for Pharmacovigilance indicator and TM indicator	**Settlers District Hospital** **Group interview participants**	**District Health Office (DHO)** **Group interview participants**	**Primary Health Care Office** **Group interview participants**	**Provincial DOH** **Group interview participants**
District pharmacist	ART Programme Coordinator	Sub-district Manager	PHC Assistant Director	Programme Manager CCMT
Pharmacist responsible for dispensing ARVs	ART Programme Administrator	Clinics' Supervisor	Senior Professional Nurse from PHC office	Two Assistant Directors CCMT
Physician treating HIV & AIDS patients at the hospital	ART Social Worker	Communicable Disease Manager	NG Dlukulu (Extension 7) clinic manager	Assistant Director M & E
Manager of the ARV programme	Two doctors from Masonwabe ARV Clinic	Non-Communicable Disease Manager	Joza Clinic manager	
Two nursing sisters involved with down-referred HIV & AIDS patients at the primary health care clinics.	Pharmacist	Integrated Nutrition Manger	Raglan Road Clinic manager	
		Information Manager	Middle Terrace Clinic manager	
		HIV & AIDS Programme Manager	V Shumanu Clinic (Tantyi Clinic) manager	
		Health Promotion Manager	Anglo Africa Street Clinic (Town Clinic) manager	

3.3.2 One on one interviews

An interview with the Deputy Director of HIV & AIDS Directorate M & E in the NDOH was held to determine why the National M & E framework is not used in MLSA for reporting on comprehensive HIV & AIDS Care, Treatment and Management Programme; to find out whether all the provinces are required to record according to M & E framework and whether this document was circulated to the provinces and if any training on the use of the document was conducted. The interview was audio recorded and transcribed. A full reporting in the text has been done for the interview (Section 4.6.3, Page 106).

3.4 Ethical Clearance for Research

Ethical clearance to conduct the research was granted by Rhodes University's Faculty of Pharmacy Ethics Committee on 9 January 2007 (see Appendix 1) and subsequently followed by the ECDOH on 26 February 2007 (see Appendix 2). Permission to collect data at the DHO was granted by the MLSA Sub-District Manager, the Makana Corporate Social Services Director granted permission to collect information from the primary health care office and V Shumanu Clinic gave permission to collect information on nutrition-related indicators at the clinic.

4. Results

4.1 Observational study of Public Sector Health Care System in Grahamstown

Grahamstown's public sector healthcare system comprises six ART accredited sites: Settlers Hospital (since July 2004), Temba TB Hospital (since August 2009) and Fort England Psychiatry Hospital (since mid December 2010), while Settlers Day Hospital, Raglan Road clinic and Joza clinic are PHC facilities which started ART initiation in July 2010. Till June 2010 Settlers Day Hospital and six primary HCFs (Figure 4.1) were the feeder clinics which refer HIV patients for treatment to Settlers Hospital. These clinics were the centres for down-referred HIV patients who complete the first six months on ART at Settlers Hospital and have been stabilized. Presently the feeder clinics for down referral of patients are NG Dlukulu clinic, Anglo Africa Street clinic, Middle Terrace clinic and V Shumane clinic.

Settlers Hospital, the district hospital, is an ARV accredited site that also provides HIV & AIDS related services such as PMTCT, prophylaxis for rape victims and palliative care for terminally ill HIV patients, as well as providing care for patients with other chronic diseases. Settlers Hospital experienced major changes when a new building linked to the old building was officially launched on 3 August 2009 to start the Private Public Partnership between Settlers Hospital and Netcare consortium Private Hospitals[4] from Johannesburg (358). Many sections of Settlers Hospital, including the Masonwabe clinic which provides the ARVs to HIV positive patients, moved to the new building. Temba TB Hospital provides TB treatment for patients who are admitted for the full duration of their treatment and also provides ART to patients. As from July 2010, Settlers Day Hospital, the biggest PHC centre in Grahamstown together with Raglan Road Clinic and Joza Clinic are also accredited sites for providing ART.

Settlers District Hospital serves a population of approximately 140,000 and the ARV roll-out was initiated in Grahamstown in May 2004 (359). The programme employs a full-time project manager, an administration officer and a social worker. Other HCPs involved are two doctors, a public health technical advisor and an information officer. Also involved in the programme are a hospital pharmacist and nutritionist, but they are not seconded and their salaries are not funded by the programme. In each of the seven PHC clinics, two community

[4] Settlers Private Hospital provides services such as pathology, pharmacy, general medicine, eye care, general surgery, neonatal intensive care and other intensive care which supplement existing services at the hospital.

health workers out of five conduct home-based care which requires them to visit patients in their homes and assess treatment eligibility (359).

Figure 4.1: PHC facilities for down-referral of HIV-positive patients on ART in Grahamstown by June 2010

PHC was formally introduced to South Africa in April 1994 as the steering principle for health care provision. Its main focus was the creation of clinics for basic health care programmes such as safe motherhood, child health and nutrition, expanded immunization, management of communicable diseases and the treatment of chronic ailments (360). The clinics are operated by registered professional nurses and support staff and if the need to refer to a doctor arises, patients are referred to the PHC centre, Settlers Day Hospital or the district hospital.

The DHO is headed by a Sub-district Manager. There are Programme Managers, two Clinic Supervisors and a school nurse (Table 4.1).

Table 4.1: DHO Health Professionals

Programme Managers	**Communicable Disease Manager**
	Non-Communicable Disease Manager
	HIV & AIDS Programme Manager
	Mother-to-child Transmission of HIV Manager
	Integrated Nutrition Manager
	Health Promotion Manager
	Skills Development Manager
	Rehabilitation Manager
Clinic Supervisors	Two Clinic Supervisors
School Nurse	School Nurse
Pharmacist	District Pharmacist
Information manager	Information Manager

In Grahamstown the policy of employing a full time District Surgeon was discontinued and instead there is a part-time medical doctor reporting to the DHO.

4.2 ART Programme in Grahamstown Public Health

Voluntary HIV counselling and testing is conducted at PHC facilities and if a patient tests positive for HIV, there is a follow-up which includes a CD4 test. If a patient's CD4 count is below 350 (since June 2011) or there is an opportunistic infection, the patient's files are referred to Settlers Hospital and a home visit (Appendix 7.2.1) is conducted by a social worker or community health worker to assess psychological, social and diet-related aspects. The patient's files are then referred to a review meeting conducted by a multidisciplinary review committee. If the patient qualifies for treatment the Hospital initiates ART. An appointment date for a first consultation and examination by one of the Masonwabe clinic doctors is then set up for the patient who qualifies for ART. The patient is encouraged to bring an identified treatment supporter to their hospital and clinic visits. After six months if the patient on ARVs is stabilized, they are referred back to the PHC facility closest to their home.

An average of 20 patients is reviewed by the multidisciplinary team once a week. The Administrator at the District Hospital highlighted that statistics were collated weekly during

the period May 2004 to August 2006 and since September 2006, ARV data is being collected monthly. By March 2010, Settlers Hospital had enrolled a total of 1,908 patients on ARVs since accreditation. The total number is made up of 108 children under the age of 15; 1,090 female adults and 614 male adults. The remaining balance of 96 patients was made up of patients who were deceased, defaulted or were lost during follow up, transferred out and two patients who discontinued ART as a result of poor adherence. The total number of patients down-referred to Grahamstown PHC facilities was 548, including 20 transferred to Fort England (in Grahamstown), 20 to Alicedale and 2 patients to Riebeeck East clinic outside Grahamstown (Table 4.28). Figures 4.2 and 4.3 show the number of females and males respectively who were on the waiting list for ART at Settlers Hospital during 2007-2010 and Figure 4.4 shows the number of patients who were on the waiting list at Temba TB Hospital.

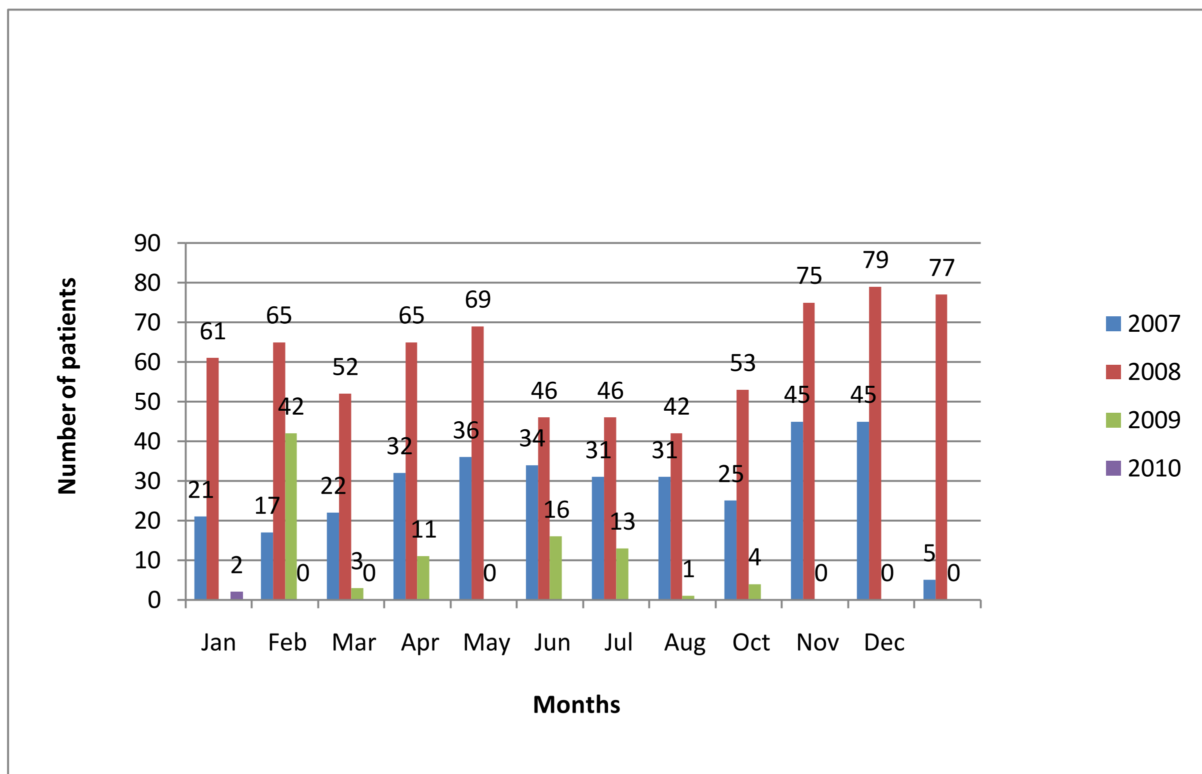

Figure 4.2: Female HIV patients medically eligible for ART on the waiting list at Settlers Hospital

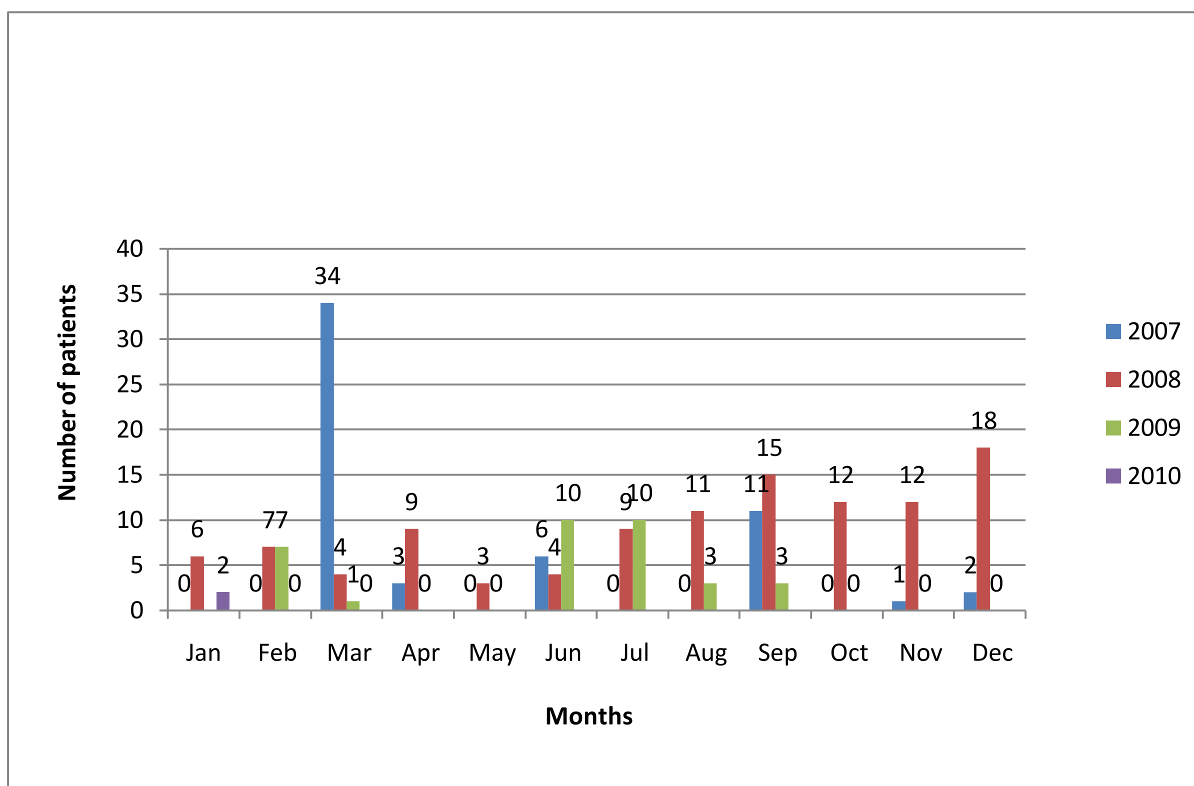

Figure 4.3: Male HIV patients medically eligible for ART on the waiting list at Settlers Hospital

4.2.1 Temba TB Hospital ART programme

Temba TB Hospital started initiating ART in August 2009 with 7 adult males and 3 adult females. The number of patients who started treatment per month varies from 1 to 12. By March 2010, a total of 94 adults of which 45 were males and 49 females, were registered on ARV. Patients are referred to the hospital for TB treatment by the PHC facilities and also by Settlers Hospital. Some patients have TB and HIV infections and others do not know their HIV status. VCT for HIV is offered to patients who have TB infection and individuals who are not infected with TB also go for VCT to learn their HIV status. Patients who test HIV positive as well as those who are already HIV positive, have their CD4 counts determined. Patients with CD4 counts less than 350, qualify for ARV treatment. Temba initiates ARV treatment and the hospital retains patients without down-referring patients to PHC facilities after six months because the clinics are not coping with large numbers of patients on TB and HIV treatment.

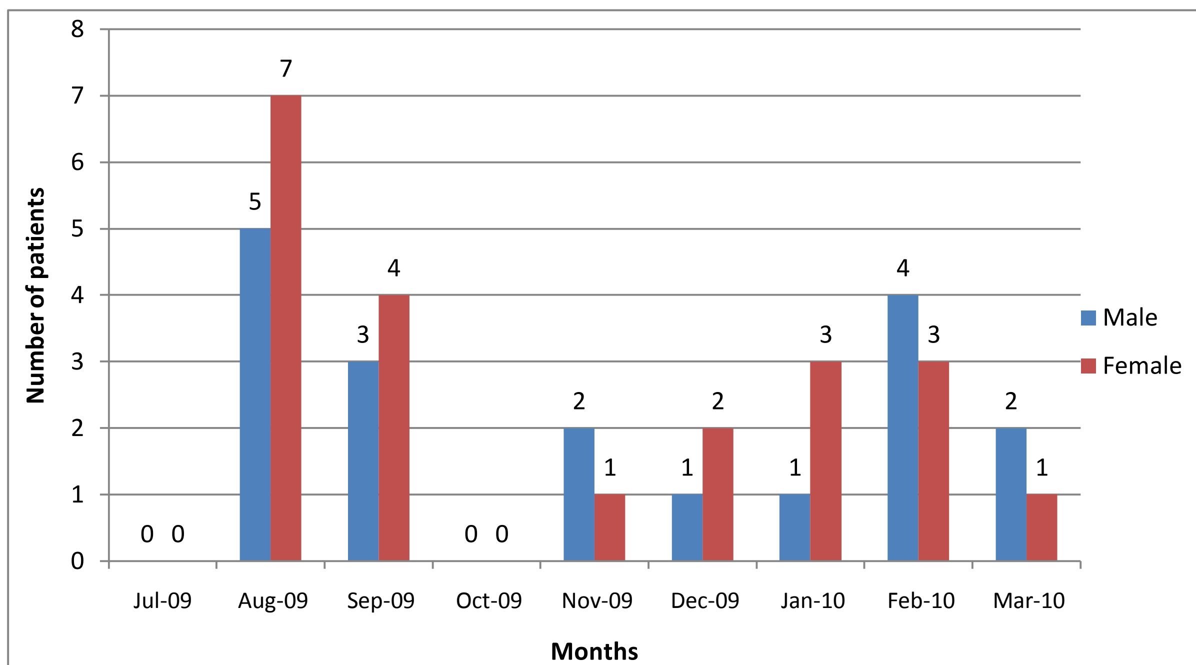

Figure 4.4: HIV-positive patients on the waiting list for ART at Temba TB Hospital

Even though the multidisciplinary committee at Settlers Hospital assesses at least 20 new patients per week, the number of patients who are placed on ART varies per month. Figures 4.5 to 4.7 show the number of patients on ART every month from 2007 to 2010 and at Temba TB Hospital from the beginning of accreditation to March 2010.

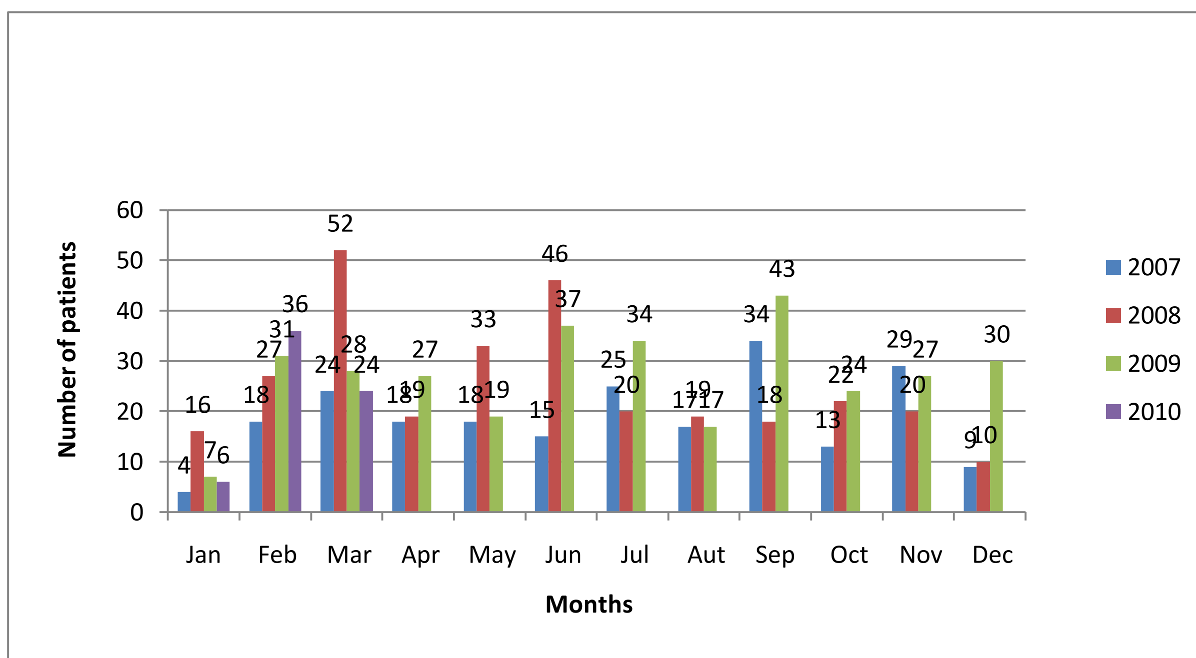

Figure 4.5: Registered female HIV patients who started ART at Settlers Hospital

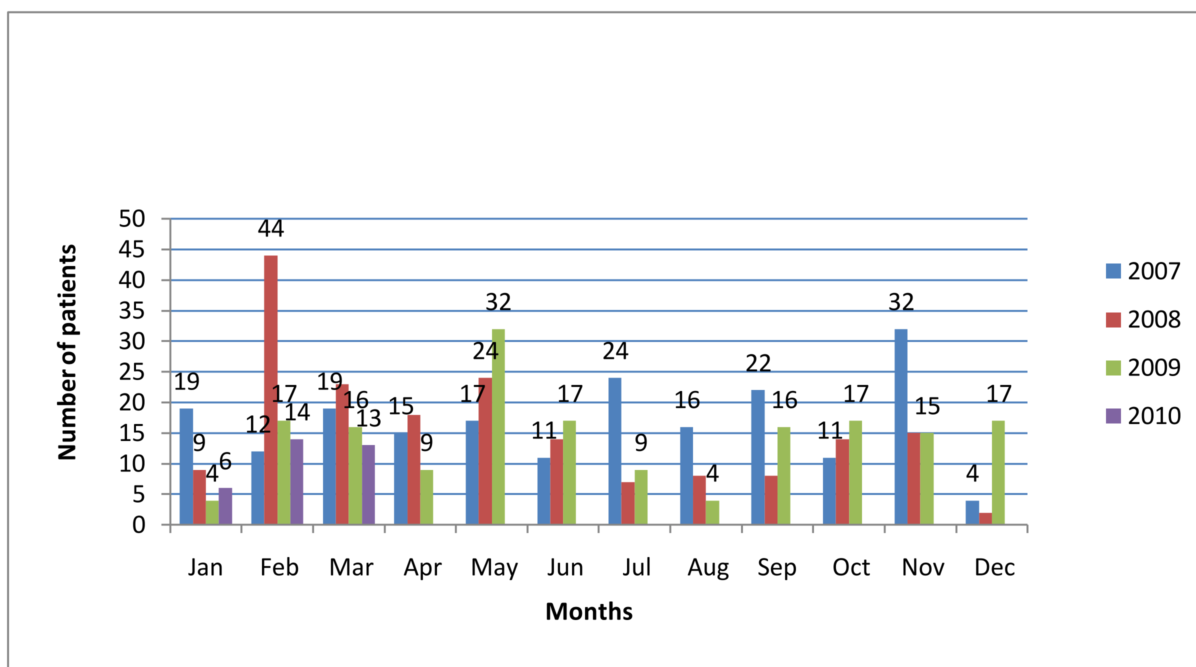

Figure 4.6: Registered male HIV patients who started ART at Settlers Hospital

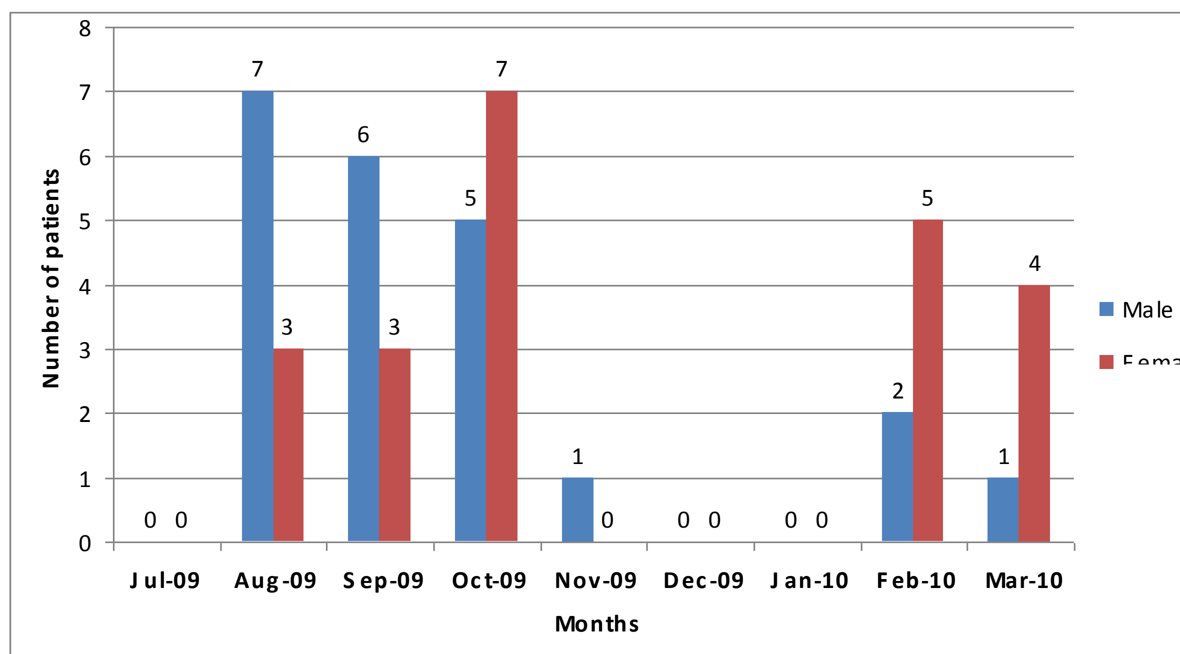

Figure 4.7: Registered HIV patients who started on ART at Temba TB Hospital

The number of patients on ART is increasing every month as both adult and children are enrolled on ART. In Figures 4.8 and 4.9 the total number of adult females and males who enrolled for ART from 2007 to March 2010 at Settlers Hospital is shown and Figure 4.9 shows male and female patients who are on ART since the initiation of ART at Temba TB Hospital.

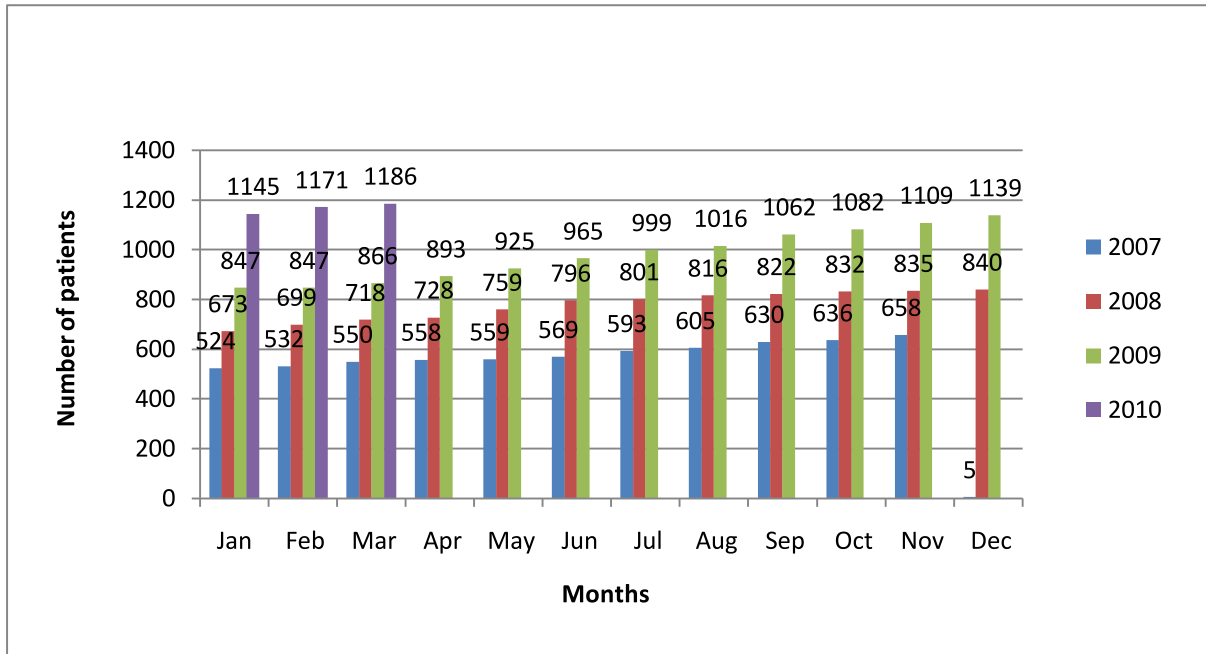

Figure 4.8: Total number of adult female HIV patients (>14yrs) on ART each month at Settlers Hospital

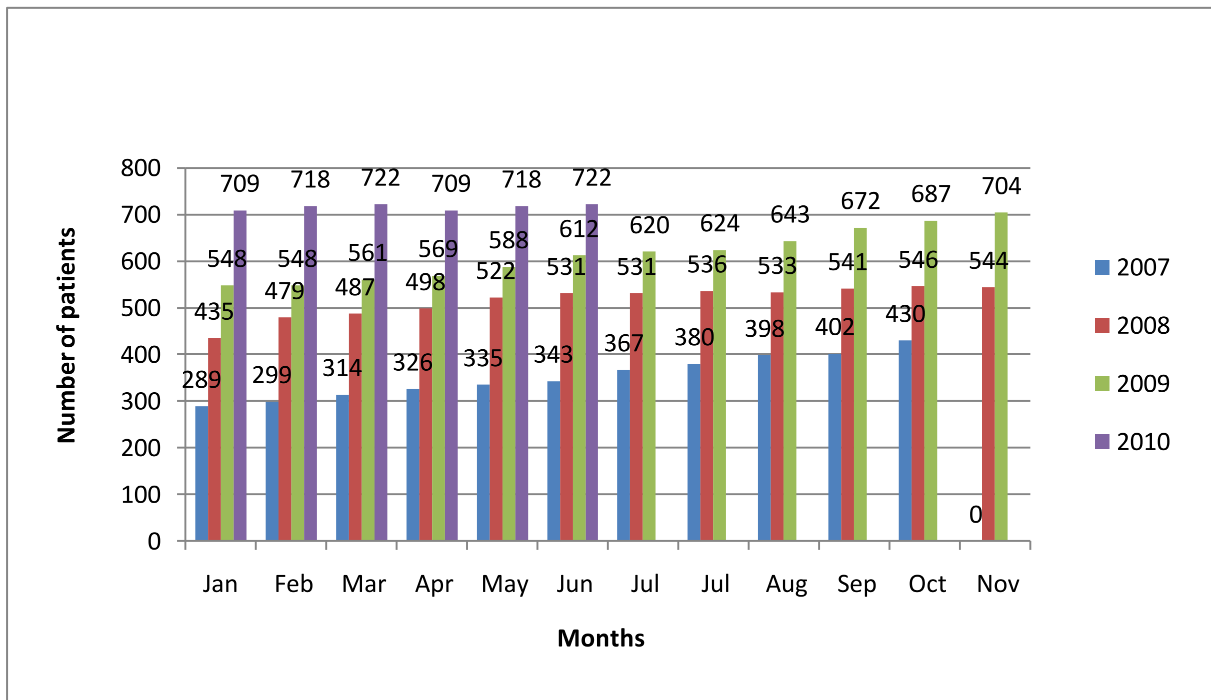

Figure 4.9: Total number of adult male HIV patients (>14yrs) on ART each month at Settlers Hospital

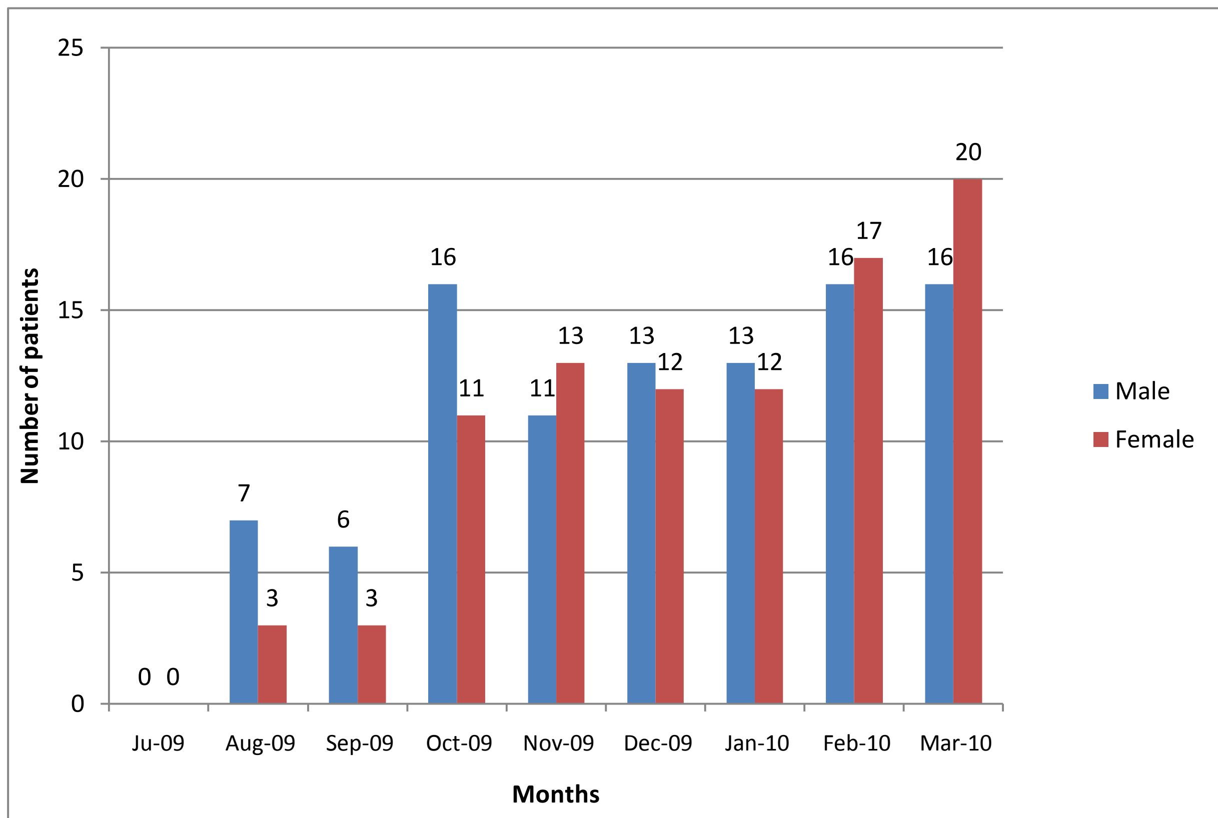

Figure 4.10 Total number of adult HIV patients who are on ART at Temba TB Hospital

In Grahamstown, quarterly ARV programme reporting is done by Settlers Hospital and Temba TB Hospital to the Cacadu District and to the ECDOH. In Table 4.2, the report of the first quarter of the financial year April 2009 to March 2010 by Settlers Hospital to the district is shown and Table 4.3 shows the reporting by Temba TB Hospital to the district in the same financial year.

Table 4.2: Cacadu District ART January – March 2010 Quarterly Report of Settlers Hospital sent to the provincial HIV & AIDS Directorate

Health District	**Cacadu**	**Local Service**	**MLSA**	
Hospital: Settlers Hospital	**Reporting Period: Jan – Mar 2010**			**Hospital**
Indicators	**January**	**February**	**March**	**Grand Total**
Total number of registered ARV patients				1 908
Number ART assessment first visit	12	107	37	156
Number of HIV patients medically eligible for ART on waiting list	4	0	0	4
Number of registered ART patients – ART start	12	50	35	97
Number of registered ART patients transferred in new	1	4	7	12
Number of deregistered ART patients transfer out	1	3	9	13
Number of deregistered ART patients due to death	1	0	0	1
Number of CD4 tests done	131	159	167	457
Number of HIV viral load done	143	159	165	467
Number of STI treated (new episode) among ART patients	0	0	0	0
Number of CD4 turn-around >6 days	0	0	0	0

Table 4.3: Cacadu District ART January – March 2010 Quarterly Report of Temba TB Hospital sent to the provincial HIV & AIDS Directorate

Health District:		**Cacadu**	**Local Service**	**Makana Sub District**	
Hospital: Temba TB Hospital		**REPORTING PERIOD: Jan – Mar 2010**			
Indicators		Jan	Feb	Mar	Grand Total
Number ART assessment first visit	Male	0	4	0	4
	Female	0	3	3	6
Number of HIV patients medically eligible for ART on waiting list	Male	1	4	2	7
	Female	3	3	1	7
Number of registered ART patients - ART start	Male	0	2	1	3
	Female	0	5	4	9
Number of registered ART patients transferred in	Male	0	1	0	1
	Female	0	0	0	0
Number of registered ART patients Total	Male	13	16	16	45
	Female	12	17	20	49
Number of registered ART patients 15 yrs and older	Male	13	16	16	45
	Female	13	17	20	49
Number of registered ART patients under 15 yrs (PAEDS).	Male	Nil	Nil	Nil	0
	Female	Nil	Nil	Nil	0
Number of de-registered ART patients transfer out	Male	0	0	0	0
	Female	0	0	0	0
Number of de-registered ART patients due to death	Male	0	0	0	0
	Female	0	1	1	2
Number of CD4 tests done	24				
Number of HIV viral load done	5				
Number of STI treated new episode among ART patients	Male	0	0	1	
	Female	0	0	1	
Number of CD4 turn-around > 6 days	24				

4.3 Collection of Monitoring and Evaluation indicators of HIV & AIDS programme Grahamstown

The data for different indicators were collected from different facilities as outlined in section 3.2.1. In Table 4.4 the availability and non-availability of different indicators is presented.

Table 4.4: Indicators in the M & E framework available and collected in Grahamstown

Set of indicators	Number of indicators	Availability in MLSA	Collection period
1. Input, Process and Output Indicators			
Budget and Expenditure indicators	Monthly expenditures on personnel, drugs, micronutrient supplements and nutrition supplements, laboratory services, information systems	√	2007, 2010
Human Resource and Training indicators	Full time equivalent per category as proportion of required personnel	√	2007, 2010
	Percentage of staff per category trained and certified per category by quality assurance and health training centres	√	
	Annual turnover rate by category	×	
	Number of quality assurance and health training centres established in each province	×	
	Number of people per category planned to be certified by quality assurance and health training centres.	×	
Accreditation of Service Points	Functioning accredited service points per district	√	2007-2010
Nutrition related indicators	Percentage of eligible patients (HIV positive, patients on antiretroviral therapy, children diagnosed with HIV, pregnant women) receiving supplement meal and micronutrient supplements	√	2008
	Percentage of accredited service points that receive the quantity of nutritional supplements	√	

Nutrition related indicators	Percentage of accredited service points that receive the quantity of supplement meals ordered Percentage of accredited service points that experience being out of stock of supplementary meals at any time Percentage of accredited service points that experience being out of stock of micronutrient supplements at any time Number of supplementary meals available and issued per month Number of micronutrient supplements available and issued per month Proportion of patients who experience specific food-drug interactions Average intake of proteins /micronutrient supplements	√ √ √ √ √ × ×	2008
Drug Procurement and Distribution	Unit price trends for drugs year on year – periodic Percentage quantity of drugs purchased vs. quantity contracted – periodic Percentage of accredited service points experiencing stock out of drugs at any time in the last month Percentage of facilities experiencing stock out of TB drugs at any time in the last month Percentage of facilities experiencing stock out of basket of tracer drugs at any time in the last month Percentage quantity of drugs ordered vs. quantity received (service level)	√ × √ √ √ ×	2007

	Percentage orders received within the contracted lead time Percentage of facilities experiencing stock out of basket of tracer drugs at anytime in the last month – not periodic	× ×	
Laboratory Services	Percentage of laboratories performing within external quality assessment standards Percentage of CD4 counts results received by clinician < 6 days Percentage of Viral loads results received by clinician < 6 days Number of corrective actions taken on turnaround time by NHLS Number of CD4 counts completed per month Number of CD4 counts results <200/month Number of CD4 counts results <50 per month Number of CD4 counts <15% per month Number of viral loads completed per month Number of ALT tests per month Number of full blood counts done per month Number of fasting cholesterol and triglyceride tests done Number of fasting glucose tests done	× × × × √ × × × √ × × × ×	2007
Patient Information System, Monitoring and Research	Number of service points with functional information systems in the country Availability of output and outcome indicators	× ×	

Patient Information System, Monitoring and Research	Proportion of research questions on research projects have been commissioned Project proposal approved by research priority area per year Project proposals funded by research priority area per year Research projects completed by research priority area per year Studies published per year by research priority area per year Percent budget allocated for research on the comprehensive HIV & AIDS plan per financial year	× × × × × ×	
Progress Monitoring Indicators	Monthly returns on 10 core indicators by Province Monthly returns on patient laboratory profile from NHLS Full provincial monthly reports received Monthly monitoring feedback distributed to each province Indicators booklets distributed to each province Availability of data collection system in all provinces Provincial training for data collection system	× × × × × × ×	
2. Patient Outcome and Impact indicators			
Prevention, Care and Treatment indicators			
VCT, PMTCT, STI and TB	Incidence of STI treated new episode Incidence of male urethritis syndrome treated new	√ √	2007 – 2010

VCT, PMTCT, STI and TB	episode		2007 – 2010
	STI partner notification rate, tracing & treatment rates	√	
	Male and female condom distribution rate	√	
	Proportion of clients HIV pre-test counselling (excluding antenatal)	√	
	HIV testing rate (excluding antenatal)	√	
	HIV prevalence among clients tested (excluding antenatal)	√	
	Proportion of antenatal clients tested for HIV	√	
	Syphilis prevalence among antenatal clients tested	√	
	NVP uptake rate among babies born to women with HIV	√	
	NVP dose to baby coverage rate	√	
	Prophylaxis among rape victims – proportion	√	
	Prophylaxis among occupation HIV exposure cases – proportion	√	
	TB case finding index	×	
	Proportion of treatment start among TB smear positive	√	
	Incidence of Isoniazid preventive therapy (IPT) start in HIV positive	×	
	Incidence of cotrimoxazole prophylaxis rate in HIV positive.	√	

Antiretroviral Therapy	Assessment first visit	√	2010
	Total assessment visits	√	
	Proportion CD4 turn-around > 6 days	×	
	Known-death rate during readiness assessment	√	
	Number of Registered patients	√	
	Proportion of patients assessed eligible for treatment	√	
	Total number of visits by patients on antiretroviral therapy	√	
	Patient transfer out rate	√	
	Known-death rate among patients on antiretroviral therapy	√	
	Total number of registered patients on antiretroviral therapy	√	
	Stop index	√	
	Loss to follow up index	√	
	De-registered patients index	×	
	Proportion of registered patients on regimen 1a or 1b, Proportion of registered patients on regimen 2	√	
	Proportion of registered patients on any child regimen	√	
	ART Adherence last 3 days proportion 100%	√	
	Scheduled dose defaulting rate regimen	×	

Antiretroviral Therapy	Cohort Viral Load Effectiveness Parameter Cohort Weight Gain Parameter Adult cohort WHO Stage Parameter Child cohort WHO Stage Parameter Cohort CD4 Effectiveness Parameter Incidence of STI treated new episode among patients on antiretroviral therapy Proportion of adult patients on antiretroviral therapy with adherence greater or equal 90% Proportion of adult patients on antiretroviral therapy with adherence lower than 70% (unacceptable level of adherence) Proportion of patients registered who missed one dose or more in the last 3 days Average number of years lived while on treatment	× × × × × × × × × ×	2010
TM indicators	Percentage of patients using any traditional and complimentary medicines Percentage of Registered THP trained on treatment and care of patients Percentage of patients referred by THP to service points	× × ×	
Social Mobilization indicator	Proportion of clients receiving home-based care assistance for the first time Proportion of clients served by the Community based care around the accredited service points Number of referrals between service points and community based organisations	× × √	2007-2008
Social Mobilization indicator	Number of clients served by home-based care	√	2007-2008

	round the accredited service points Proportion of established Provincial AIDS Council sub-committees on Community mobilization Percentage of people who report to have obtained information on HIV & AIDS from health promoters, mass media and Khomanani Percentage of people who report to have obtained information on HIV & AIDS from health promoters, mass media and Khomanani Percentage of people who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconception about HIV transmission or prevention.	 × × × ×	
Pharmacovigilance	Percentage of spontaneous adverse drug events (ADE) reports Percentage of ART related ADE experienced at sentinel sites in children Percentage of ART related ADE experienced at sentinel sites in adults Number of patients on treatment with regimens that had to be switched due to serious ADE Percentage of patient discontinuing ART due to ADE Specific mortality rate attributable to specific drugs Specific mortality rate attributable to ART regimen (1a, 1b, 2) Specific morbidity rate attributable to ART regimen (all severe & mild cases) Regimen change rate	× × × × × × × × ×	

Pharmacovigilance	Discontinuation of treatment rate	×	
	Adherence rate to treatment	×	
	Cause specific mortality rates (ART and TM)	×	
Health Systems Strengthening Indicators	Percent of facilities with systems that supports quality service delivery	×	
	Facilities with working referral system	×	
	Availability of policies, plans, guidelines that promote access to HIV & AIDS services	×	
	Number of service points with functional information systems in the Country	×	
	Facilities submitting completed routine management information system (MIS) report on time	×	
	Facilities using information to monitor performance	×	
	Facilities with adequate storage for all supplies	×	
	Proportion of established Provincial AIDS Council sub-committees on Community mobilization	×	

√ denotes availability and × denotes unavailability of data for the indicator

Reporting of health activities in the Grahamstown public sector healthcare system does make use of some of the indicators identified by the M & E Framework of **the CCMT** but the reporting follows the reporting format created by the provincial DOH. The DHO collates data from all the clinics and the District Hospital under various headings such as EDL indicators and Monthly indicators. The DHO has access to many indicators on its database and the M & E indicators are not sorted separately because it is not required to do so according to the provincial reporting systems. From among the 14 sets of indicators, it was possible to collect only 11 sets of indicators in this study, based on availability of data at the district level. In the

M & E framework, there are indicators that are collected at the provincial level and the national level which are outlined in Table 4.5.

Table 4.5: Indicators collected at provincial and national level

Provincial Level	
Accreditation of service points	**Indicators**
	Number of accredited service points per district
	Functioning accredited service point per district
Progress Monitoring Indicators	Monthly returns on 10 core indicators by province
	Full provincial monthly reports received
	Monthly monitoring feedback distributed to each province
	Indicators booklets distributed to each province
	Availability of data collection system in all provinces
	Provincial training for data collection system
Health System Strengthening indicators	Proportion of established Provincial AIDS Council sub-committees on Community mobilization
National level	
Human Resource	Number of quality assurance and health training centres established in each province
Health Systems Strengthening Indicators	Number of service points with functional information systems in the country
	Proportion of established Provincial AIDS Council sub-committees on Community mobilization
	Full provincial monthly reports received
Patient information system monitoring and research	Number of service points with functional information systems in the country
Progress Monitoring	Monthly monitoring feedback distributed to each province
	Indicators booklets distributed to each province
	Availability of data collection system in all provinces
	Provincial training for data collection system

4.4 Inputs, Process and Output Indicators

4.4.1 Budget and Expenditure Indicators

The indicators of budget and expenditure are not collected by MLSA or available centrally in one health care facility or office. Budgeting is carried out by every department and the process also involves the community. According to the special unit programme of Makana Municipality, people are asked about their concerns and their needs (personal communication). This involves NGOs and other important stakeholders such as health officials. The municipality collects the information, collates it and the budget is put together and sent to the Makana Treasury Department. The expenditure for PHC is worked out monthly by Makana Treasury Department. Expenditure for July in the financial year 31/05/2006 to 30/06/2007 Makana Municipality − PHC is outlined in Table 4.6.

Table 4.6: Allowances for Primary Health Care in Makana municipality – July 2007

	Rand
Salaries	284,977.12
Training course	5,000.00
Health education	800.00
HIV tests and activities	1,800.00
Purchases: Medical supplies	8,500.86

Table 4.7: Medicine Expenditure (not ARVs) for six clinics for June 2007 first seven months of 2010 (DHO)

Month	**Clinic name**					
	Joza clinic	Raglan Road	Extension 7	Tantyi clinic	Middle Terrace	Town clinic
June 2007	R25,011.26	R20,220.70	R 2,638.77	R 19,298.59	R 7,710.40	R16,072.76
Jan 2010	R82,324.63	R64,617.66	R53,128.61	R26,512.45	R487.45	R519.40
Feb 2010	R8,771.52	R15,198.22	R11,658.53	R37,005.63	R71,432.73	R28,499.45
Mar 2010	R63,860.27	R31,254.56	R44,558.28	R4,045.07	R3,784.43	R300.00
Apr 2010	R46,145.95	R32,064.02	R125,452.39	R61,360.88	R49,293.97	R46,973.46
May 2010	R26,708.02	R40,447.07	R49,423.44	R29,390.64	R23,423.05	R8,232.47
June 2010	R129,548.35	R28,882.77	R-8,876.39	R42,600.33	R83,688.05	R171,768.21
July 2010	R10,769.69	R49,149.81	R18,654.98	R5,016.56	R6,002.67	R34,099.56

According to the Principal Pharmacist at the Port Elizabeth depot, ARV medicines are zero-rated[5] and that is the reason Grahamstown does not pay for them nor is it reflected in their expenditure. Other services and products not paid for by the MLSA are shown in Table 4.8.

Table 4.8: Services and products that MLSA does not pay for

Category	Provided by
Antiretroviral medicine	Provincial DOH
Micro nutrients supplements	Eastern Cape Pharmaceutical Depot
Nutritional supplements	Provincial office
Laboratory services	National Health Laboratories Services

4.4.2 HR and Training Indicators

4.4.2. a Full time equivalents per category as proportion of required personnel (reported monthly)

Allocation of nurses is done according to the population that each clinic caters to. It must be noted that Joza clinic and Extension 7 clinic each have one Professional Nurse (PN) from the Province who are temporarily based. Each PHC clinic has two lay counsellors, two home visit workers and three DOTS supporters.

Table 4.9: Nurse Category – August 2010

Clinic name	Required staff	Available staff in May 2007	Available staff in August 2010	Population served
Joza clinic	5 PN and 1 SPN	3 PN and 1 SPN	3 PN and 1 SPN	12,566
Raglan Road	5 PN and 1 SPN	3 PN and 1 SPN	3 PN and 1 SPN	13,106
NG Dlukulu (Ext 7)	4 PN and 1 SPN	3 PN and 1 SPN	2 PN and 1 SPN	13,228
V Shumane (Tantyi)	4 PN and 1 SPN	3 PN and 1 SPN	2 PN and 1 SPN	7,046
Middle Terrace	4 PN and 1 SPN	3 PN and 1 SPN	2 PN and 1 SPN	8,312
Anglo African Street (Town clinic)	4 PN and 1 SPN	3 PN and 1 SPN	2 PN and 1 SPN	7,475

[5] Zero rated – Provincial Department of Health purchase ARVmedicines and Grahamstown‘s District DOH does not pay for ARVs.

- PN: professional nurse
- SPN: Senior professional nurse

In the PHC centre, Settlers Day Hospital, although 44 nurses are required, only 18 Professional nurses are available. They are assisted by three nursing assistants and one staff nurse. Although three pharmacists are required, only two are available and they are assisted by four pharmacy assistants in training. Settlers Day Hospital is required to have two pharmacy assistants in Level 6 and four in Level 5. Although four doctors are required, they have access to only one permanent doctor.

Table 4.10 shows a breakdown of full-time staff per category outlining available staff and required staff at the Settlers Hospital and Settlers Day Hospital.

Table 4.10: Settlers Hospital and Settlers Day Hospital human resource data

Health facility	Category	Available staff	Required staff
Settlers Day Hospital	Pharmacist	2 Posts	3 Pharmacists
	Auxiliary Pharmacist	4 Posts	2 Vacant posts
Settlers Hospital	Pharmacists	3 posts	1 post vacant
	Auxiliary Pharmacist	Two level 4	Two level 4
			Two level 5
	General Assistants	2	
Masonwabe Clinic	Medical Doctors	1	3
	SPN	1	
	PN	1	
	Auxiliary Nurse	2	
	Lay Counsellors	3	
Palliative Care Unit	Professional Nurse	2 Nurses per Night duty	3 Night duty
	Professional Nurse	1 day duty	3 Day duty
	Nursing Assistant	1	2
	Care Givers	2	2
	Sessional (S) Sisters	3	
	S Nursing Assistants	1	
	General Assistants	2	

- Pharmacy assistant Level 4 is the level that is in training, level 5 is basic level and Level 6 is post basic level.

4.4.2. b Percentage of staff per category trained and certified per category by quality assurance and health training centres

According to the Clinics' Supervisor who is charge of training, the percentage of staff per category trained and certified per category by quality assurance and health training centres is not known.

A total of 20 counsellors were trained and certified in the quarter April – June 2007 from Dlambe and Cacadu District of MLSA for VCT and PMTCT, four VCT and 4 PMTCT, Integrated Management of Child Illness (IMCI) personnel were certified by quality assurance for the Cacadu District. In an effort to strengthen the HIV & AIDS programme in Grahamstown, two professional nurses attended a five-day training course on Palliative Care and HIV & AIDS Chronic Care Management. The information management Administration Officer attended a workshop on Information Management at Cacadu and informal in-service training by those trained continues with mentorship offered to all clinics.

4.4.2. c Annual turnover rate by category

The annual turnover rate was recorded as 17.6% for the nurses' category in PHC.

4.4.2. d. Number of quality assurance and health training centres established in each province

The number of quality assurance and health training centres established in each province is monitored annually. The Regional Training Centre (RTC)[6], based in Port Elizabeth[7], is one centre which conducts quality assurance and health training. The Centre conducts HIV & AIDS training and helps institutions to get accreditation. RTC also assisted Settlers Day Hospital to become accredited by assessing the services offered by the Hospital.

[6] RTC – Regional Training Centre: Eastern Cape Centre for HIV/AIDS, STI and TB assist in training healthcare workers in HIV management, preparing sites for accreditation, clinical mentoring and coaching, research.
[7] Port Elizabeth is a city 120Km away from Grahamstown .

4.4.2. e Number of people per category planned to be certified by quality assurance and health training centres.

Training in IMCI for 22 health care providers in MLSA was conducted between 27 August – 7 September 2007. IMCI is the whole assessment of a child which includes referring children for HIV testing. This indicator is monitored quarterly. Once trained, the health care providers are certified to carry out child assessments.

Table 4.11: Settlers Hospital ART Quarterly Provincial Report format on Human Resource

Health District	Cacadu	Local Service	Makana Sub District
Hospital	Settlers Hospital	Reporting Period	Jan – Mar 2010
Staff Category	Employment Status	Number	Assumption of Duty
Doctor	Employed	2	1 Nov 2004 1 March 2007
	Seconded		
Assistant Director	Employed	1	1 May 2009
	Seconded		
Pharmacist	Employed	0	
	Seconded		
Professional Nurse	Employed	2	1 Feb 2006 1 Sep 2008
	Seconded	1	
Enrolled Nursing Assistant (Senior)	Employed	1	1 Feb 2006
	Seconded		
Snr Staff Nurse	Employed	1	Feb 2009
	Seconded		
Senior Admin Officer	Employed	1	1 Nov 2004
	Seconded		
Senior Data Capturer	Employed	1	1 Nov 2007
	Seconded		
Community Health Care Workers: Stipend	Employed	2 (1 resigned in Feb 2010)	
	Seconded		
Social Worker	Employed		
	Seconded	1	1 NOV 2004

Table 4.12: Temba TB Hospital ART Quarterly Provincial reporting on human resources

Health District:	**Cacadu**	**Local Service**	**Makana Sub District**
Hospital	Temba TB Hospital	REPORTING PERIOD	Jan – Mar 2010
Staff Category	Employment Status	Number	Training Obtained
Doctor[8]	Employed	1	
	Seconded		
Assistant Director	Employed	1	TB/HIV/ART related
	Seconded		
Pharmacist[9]	Employed	1	
	Seconded		
Professional Nurses	Employed	0	
	Seconded		
Enrolled Nursing Assistant	Employed	0	
	Seconded		
Admin Officer	Employed	0	
	Seconded		
Data Capturers	Employed	1	Data capturing
	Seconded		
Community Health Worker: Stipend	Yes	3	
	No		
	Number	3	

4.4.3 Accreditation of Service Points

The ECDOH‘s accreditation processes were steered by a non-profit, private accrediting institute called the Council for Health Services Accreditation of Southern Africa (369).The indicator ‗Functioning accredited service points per district' for providing ARV is Settlers Hospital, accredited in July 2004, Temba TB Hospital from August 2009, Settlers Day

[8] Doctor commenced duty on the 01 February 2010 (permanent position).
[9] Pharmacist commenced duty on the 01 January 2010.

Hospital and two clinics Raglan Road and Joza as from July 2010 and Fort England Psychiatry Hospital was accredited in mid December 2010.

4.4.4 Nutrition Related Indicators

Settlers Hospital and Temba TB Hospital are the accredited service points that are supposed to receive nutritional supplements and micronutrient supplements. However, Temba TB Hospital is purchasing them from their own budget until the supply from the provincial office is processed. As of April 2010 Temba TB Hospital is in the process of receiving nutritional supplements from the province. They provide patients with Vitamin B6, Vitamin B Complex (for TB patients) and also multivitamins. In Grahamstown, the number of micronutrient supplements available and issued per month by the DHO depends on clinics submitting orders for the particular month.

Temba TB Hospital is also an accredited service point in Grahamstown that receives the quantity of supplementary meals ordered. Settlers Hospital had not experienced stock-outs of supplementary meals in the first three months of 2010 as reported by the Provincial report of the first quarter of 2008 financial year. Settlers Hospital experienced stock-out of micronutrient supplementary meals according to June 2008 report.

The number of supplementary meals available and issued by the DHO to the PHC facilities in Grahamstown per month varies depending on orders placed by the clinics. There are different kinds of supplements. A milk supplement is offered to children who are born to HIV-positive mothers who are not breast-feeding. A fortified infant formula with iron which is suitable from birth is also supplied to HIV-positive mothers for their new-born infants. Table 4.13 tabulates the amount of nutritional supplements distributed in June 2007 to health facilities around Grahamstown.

Table 4.13: Nutritional Supplements distributed[10] in Grahamstown (June 2007)

Health facilities	Philani[11] (Children)	Philani (Adult)	Nutri A[12]
Joza clinic	2 boxes	8 boxes	5 boxes
Middle Terrace clinic	Nil	2 boxes	Nil
Raglan Road clinic	12 boxes	9 boxes	6 boxes
V Shumane clinic	1 box	5 boxes	3 boxes
NG Dlukulu clinic	Nil	12 boxes	8 boxes
Settlers Hospital	Nil	Nil	Nil
Temba TB Hospital	Nil	Nil	Nil
Settlers Day Hospital	Nil	Nil	Nil

Patients on ART, children diagnosed with HIV, pregnant women who are HIV-positive and persons infected with TB and HIV are eligible to receive supplementary meals and micronutrient supplements. Table 4.14 shows the details of eligible patients in each health care facility in August 2007.

Table 4.14: Number of Eligible HIV-positive Patients Receiving Supplementary Meals and Micronutrient Supplements (August 2007)

Health facility	<14 years (Children)	>14 years (Adults)
Joza clinc	59	88
Raglan Road clinic	4	44
NG Dlukulu clinic	18	48
V Shumane clinic	13	88
Middle Terrace clinic	0	5
Settlers Day Hospital	11	15
Temba TB Hospital		25
Settlers Hospital		16
Total	105	329

The information for the indicators ‗Proportion of patients who experience specific food-drug interactions‘ and ‗average intake of proteins/micronutrient supplements‘ were not available.

[10] Each HIV-positive patient is given four supplement meals per month.
[11] Philani – formula with vitamins and minerals.
[12] Nutri A – Carbohydrate, Fat, Proteins, Vitamins and Minerals .

Tables 4.15 and 4.16 presents the quarterly provincial reporting details of Settlers Hospital and Temba TB Hospital in 2010

Table 4.15: Settlers Hospital Quarterly Provincial reporting on Nutrition related indicator

Health District	**Cacadu**	**Local Service**	**Makana Sub District**
Hospital	**Settlers Hospital**	**Reporting Period**	**Jan – March 2010**
Nutritional Supplements available for adults		Yes	
Nutritional supplements available for children		Yes	
Any stock-outs (discussed under General Comments)		No	
Number of patients on nutritional supplements		Overall:	
		January	22
		February	7
		March	15

Table 4.16: Temba TB Hospital Quarterly Provincial Reporting on Nutrition related indicator

Health District:	**Cacadu**	**Local Service**	**Makana Sub District**
Hospital:	**Temba TB Hospital**	**Reporting Period**	**Jan – Mar 2010**
Nutritional supplements available for adults			yes
Nutritional supplements available for children			NIL
Any stock-out (discussed under General comments)			NIL
% of patients of nutritional supplements			NIL

Table 4.17 shows the monthly monitoring tool for ARV sites in June 2008, for which information is collated from the PHC facilities in Grahamstown.

Table 4.17: Monthly Monitoring Tool for ARV Sites (PHC facilities) for July 2008

Indicators	**MLSA Data**	
	<14yrs	**>14yrs**
Total number of HIV positive patients in MLSA	102	1,967
Number of patients on ARV treatment	20	529
Patient Statistics		
Children and adults on ARV treatment		
Total number of patients receiving the supplementary meals	10	162
Children and Adults not on ARV treatment		
Total number of patients receiving the supplementary meals	67	156
Pregnant women on ARV treatment		
Total number of pregnant women receiving the supplementary meals		0
Pregnant women not on ARV treatment		
Total number of pregnant women receiving the supplementary meals		13
Patients on TB treatment		
Total number of TB patients receiving the supplementary meals	67	240
Malnourished patients		
Total number of malnourished or at risk children receiving supplementary meals	10	
Total number of malnourished or at risk pregnant and lactating women receiving the supplementary meals		4
Total number of malnourished or at risk chronically ill patients receiving supplementary meals		16
Anthropometric information		
Total number of patients with improved weight gain or BMI receiving the supplementary meals	13	61
Patients on TB Treatment		
Total number of TB patients with improved weight gain or body mass index (BMI) receiving the supplementary meals	13	136
Patients not on ARV treatment		
Total number of patients with improved weight gain or body mass index (BMI) receiving the supplementary meals	37	126
Malnutrition patients		
Total number of malnutrition or at risk clients with improved weight gain receiving supplementary meals	10	7
Stock Availability and Issue		
Total number of supplementary meals (packets) available in the storeroom.	9	0
Total number of supplementary meals (packets) issued per month	880	1,030
Number of infants 0-5months receiving Vitamin A	6	

4.4.5 Drug Procurement and Distribution Indicators

Table 4.18 presents the July 2007 MLSA data for drug procurement.

Table 4.18: Drug Procurement and Distribution Indicators

Drug Procurement and Distribution Indicators	**MLSA data**
Unit price trends for drugs year on year – periodic	See Table 4.19
Percentage quantity of drugs purchased vs. quantity contracted – periodic	Not captured in MLSA
Percentage of accredited service points experiencing out-of-stock drugs at any time in the last month	0%
Percentage of facilities experiencing out-of-stock of TB drugs at any time in the last month	0%
Percentage of facilities experiencing out-of-stock of basket of tracer drugs at any time in the last month	0%
Percentage quantity of drugs ordered vs. quantity received (service level)	80% received
Percentage orders received within the contracted lead time	Not captured in MLSA

The unit price trends of drugs vary with different drugs as shown in Table 4.19. The prices paid out for ARV medicine for the periods 2004/5 to 2009/10 show that for some drugs, such as Efavirenz (EFV) capsule 50 mg 30s, there has been no noticeable change for the four periods 2004/5, 2005/6, 2006/7 and 2007/8. Other drug prices have experienced a decrease in unit price, for example EFV capsules 200 mg, 90s and Stavudine powder for oral solution 1mg/ml, 200 ml. Stavudine powder for oral solutions 1mg/ml, 200 ml as shown in Table 4.19 experienced a substantial decrease in price for the second and third periods. Examples of drugs with slight increase in the unit price are Lopinavir and Ritonavir Capsules 133,3 mg; 33,3 mg; 180s which were R 325.31; R 325.39; R 354.86 and R 359.47 respectively for the periods 2004/5, 2005/6, 2006/7 and 2007/8, before decreasing to R 319.07 in 2009/10. The range of items changed in 2009/10 financial year when Didanosine Capsules Enteric Coated 250 mg 30s, and Tenofovir Disoproxil Fumarate Tablets 300 mg 30s were introduced and Stavudine Capsules 40 mg 60s and Didanosine Tablets 150 mg 60s were discontinued

Table 4.19: Drug prices paid out (average on orders)

Description	2004/5	2005/6	2006/7	2007/8	2009/10
Abacavir Solution Oral;20 mg/ml;240 ml					R 134.43
Abacavir Tablets 300 mg.60s					R 320.13
Didanosine Tablets 25 mg. 60s		R 71.05	R 72.47		R 54.15
Didanosine Tablets 50 mg. ;60s		R 70.40	R 71.15	R 83.57	R 56.33
Didanosine Tablets 100 mg. ;60s	R 129.54	R 72.75	R 80.06	R 102.28	R 67.83
Didanosine Tablets 150 mg. 60s	R 165.98	R 133.00	R 133.00	R 134.59	
Didanosine Capsules Enteric Coated;250 mg. 30s					R 186.13
Didanosine Capsules Enteric Coated Beadlets 400 mg. 30s					R 240.20
Efavirenz Capsules 50 mg. 30s	R 25.75	R 25.13	R 26.76	R 27.24	R 29.80
Efavirenz Capsules 200 mg. 90s	R 309.69	R 301.22	R 270.04	R 262.07	R 142.50
Efavirenz Tablet 600 mg. 30s	R 214.31	R 224.55	R 190.34	R 163.60	R 110.41
Lamivudine Oral Solution 10 mg/ml;240 ml	R 37.05	R 25.27	R 26.96	R 32.29	R 21.41
Lamivudine, 150 mg, 60s	R 40.50	R 37.01	R 38.93	R 41.73	R 29.89
Lopinavir /Ritonavir, 80/20 mg/ml, liquid, 60ml	R 81.64	R 137.06	R 85.39	R 109.47	R 63.81
Lopinavir and Ritonavir Capsules 133,3 mg. 33,3 mg. 180s	R 325.31	R 325.39	R 354.86	R 359.47	R 319.07
NVP Hemihydrate Oral Suspension 50 mg/5ml;240 ml	R 199.50	R199.50	R 199.50	R 199.50	R 36.31
NVP Tablets 200 mg. 60s	R 58.59	R 45.62	R 52.71	R 48.44	R 32.11
Ritonavir Capsules 100 mg. 84s	R 73.02	R 73.02	R 79.05		R 63.73
Ritonavir Oral Solution 80 mg/ml; 90 ml	R 62.59	R 63.16	R 71.63	R 74.06	R 82.78
Stavudine Capsules 15 mg. 60s		R 21.96	R 21.96	R 21.96	R 16.95
Stavudine Capsules 20 mg. 60s	R 19.61	R 19.90	R 20.32	R 21.78	R 21.22
Stavudine Capsules,30 mg. 60s	R 25.11	R 22.95	R 22.01	R 23.56	R 17.07
Stavudine Capsules 40 mg. 60s	R 28.82	R 25.68	R 24.09	R 26.97	
Stavudine Powder For Oral Solution 1 mg/ml;200 ml	R 77.73	R 63.52	R 12.85	R 18.80	R 12.85
Tenofovir Disoproxil Fumarate Tablets 300 mg. 30s					R 159.49
ZDV Syrup 50 mg/5 ml. 200 ml	R 40.83	R 26.61	R 27.48	R 32.74	R 22.65
ZDV Capsules 100 mg. 100s	R 120.91	R 118.08	R 126.11		R 70.83
ZDV Tablets 300 mg. 60s	R 99.06	R 78.88	R 82.31	R 92.40	R 71.09

The percentage quantity of drugs purchased versus the quantity contracted varies depending on the tenders agreed upon. Medical Depot uses a tendering system for drug provision. For a particular medication, the Depot sends tenders or quotes to the companies making that particular medication. Each company submits their offer specifying their prices. The best price is selected, bearing in mind the company‘s previous service ability, and contracting is

done a year in advance. The demographic of the company is also considered, as it is important that these details are in line with the present dispensation of the country in employing previously disadvantaged people. One of the ways of ensuring there is enough stock is that every month the Medical Depot in Port Elizabeth issues a questionnaire to Settlers Hospital to check stocks to ensure that the hospital does not run out of stock. The hospital ensures that they have a ‗safety stock‘ of at least six weeks supply in storage. The percentage orders received within the contracted lead time, which is the period between an order of medicine and its delivery, varies as does the lead time itself. The lead time is normally ten to 15 days. Most orders arrive within the lead time, but based on personal communication with the principal pharmacist at the hospital, the orders are not always complete because of factors that cause late arrival such as problems at the Depot, and industrial actions and disputes that may result in a ―go slow” by workers.

4.4.6 Laboratory Services Indicators

Some Laboratory Services indicators could not be sourced because they are collected as total number of tests done by the laboratory technician. These tests (Table 4.20) are not recorded with details regarding the particular PHC facility that asked for it, but instead they are lumped together as ‗HIV & AIDS tests‘. Also these indicators are reported manually and as a result the available records are not easily accessible/made available for research purposes by the National Health Laboratory Service in Grahamstown.

Table 4.20: Indicators not available at Grahamstown Laboratory

	Indicators
1	Percentage of Viral loads results received by clinician < 6 days
2	Number of corrective actions taken in turn around time by NHLS
3	Number of CD4 counts results <200/Month
4	Number of CD4 counts <15% per Month
5	Number of CD4 counts results <50 per Month

Indicators such as ‗Number of Alanine aminotransferase (ALT) tests per month‘, ‗Number of full blood count tests done per month‘, ‗Number of fasting cholesterol and triglyceride tests done‘ and ‗Number of fasting glucose tests done‘ are available at Settlers Hospital.

Table 4.21: Laboratory Services Indicators (August 2007)

Laboratory Services Indicators	MLSA data
Percentage of CD4 count results received by clinician > 6 days	Number of CD4 counts > 6 days (315) / registered patients (994) = 32%
Number of CD4 counts completed per month	224
Number of viral loads completed per month	112

In this study, viral load and CD4 count tests are sent to a reference laboratory in Port Elizabeth. NHLS utilizes transportation networks to facilitate specimen transport. Chemical and Hematology quality control is conducted daily by the laboratory technicians and monthly external quality assurance is conducted by a Johannesburg-based company. The laboratory records CD4 counts and viral loads received by clinicians more than six days after submission. According to a personal communication with the laboratory manager, the viral load return time[13] from referral laboratory in Port Elizabeth is always more than two weeks. The HIV serology tests are not performed; only rapid tests are done. The laboratory receives a large number of sputum tests for TB and approximately 41 sputum samples testing for TB are conducted per day. The laboratory was using Kinyoun stain technique until late 2007 and since then has used a more reliable fluorescent light machine which eliminates false positive results. The lab also receives cerebrospinal fluid from lumber punctures to test for cryptococcal meningitis. According to the Laboratory Manager, TB and cerebrospinal fluid tests are labour intensive.

Tables 4.22 and 4.23 present the quarterly report prepared for submission to the provincial DOH by Settlers Hospital and Temba TB Hospital for the laboratory services.

[13] Viral load return time – Time taken for samples to be tested for viral load and returned from referral lab to Settlers Hospital

Table 4.22: Settlers Hospital Quarterly Provincial Laboratory Services

Health District	**Cacadu**	**Local Service**	**Makana Sub District**
Hospital	**Settlers Hospital**	**Reporting Period**	**Jan – March 2010**
Lab Tests			**Number**
CD4 Counts		Number below 200	98
		Between 200 – 350 mmol	n/a
		Total done	457
Lactate			n/a
Turnaround times over (6 days)		CD4	0
		Viral Load	467
		Lactate	n/a
		Overall/Other	0
General typical turn around		CD4's ± 3 days; Viral load ± 2 weeks[14]	

Table 4.23: Temba TB Hospital quarterly provincial reporting for laboratory services

Health District:	**Cacadu**	**Local Service**	**Makana Sub District**
Hospital:	**Temba TB Hospital**	**Reporting Period**	**Jan – Mar 2010**
LAB TESTS			**Number**
CD 4 counts		Number below 200	11
		Number Between 200-350mmol/	13
		Total done	24
		Number of Feeders drawing blood for CD4	Nil
Turnaround times over (6days)		CD4	24Hrs
		Viral Load	
		Lactate	
		Overall/Other	

[14] Most other blood results (e.g. full blood counts) are obtained the following day. If there is an urgent need, the lab is contacted and the results are provided immediately (Jan-Mar 2010 Provincial report – Appendix 4, pg223).

4.4.7 Patient Information System, Monitoring and Research

Most of the indicators of the patient information system are recorded at the country level and the indicator –Availability of Output and Outcome” are not recorded in MLSA.

The following indicators are supposed to be recorded at the provincial level: Proportion of research questions on commissioned research projects, project proposals approved by research priority area per year, project proposals funded by research priority area per year, research projects completed by research priority area per year, studies published per year by research priority area per year and percentage budget allocation for research on the comprehensive HIV & AIDS plan per financial year. The number of service points with functional information systems in the country is supposed to be recorded at national level.

4.4.8 Progress Monitoring Indicators

The only indicator that could be provided for the Progress Monitoring Indicator set is the monthly returns on patient laboratory profiles from NHLS. This varies and depends on requests made for tests by the Masonwabe clinic and other clinics. There are no set monthly returns. Most tests, such as FBC, CD4 and viral load, are done every six months or at any particular time when there is a need. The remaining indicators are supposed to be monitored at the provincial level.

4.5 Patient Outcome and Impact Indicators

4.5.1 Prevention, Care and Treatment Indicators

4.5.1a VCT, PMTCT, STI and TB

For most of these sets of indicators, the DHO collects the data from the clinics and the District Hospital at MLSA. The data elements are checked and collated by the information manager for the VCT, PMTCT, STI and TB indicators dataset (Appendix 6.1.1).

The data for prophylaxis among rape victims and occupational HIV exposure was sourced from the Out-Patient Department (OPD) and Casualty Unit at Settlers Hospital. Many rape victims do not come back for follow up treatment for HIV, and the number of defaulters is not recorded. The OPD and Casualty Unit also experience defaulters in the PMTCT programme. Table 4.24 tabulates the indicators under VCT, PMTCT, STI and TB indicators for the period April 2006 to March 2007.

Table 4.24: VCT, PMTCT, STI and TB indicators

VCT, PMTCT, STI and TB indicators	MLSA Data
Incidence of STI treated new episode	3.50%
Incidence of male urethritis syndrome treated new episode	2.40%
STI partner notification rate	87%
STI partner tracing rate	115%
STI partner treatment rate	24%
Male and female condom distribution rate	12%
Proportion of clients HIV pre-test counselling (excluding antenatal)	8.20%
HIV testing rate (excluding antenatal)	94%
HIV prevalence among clients tested (excluding antenatal)	21%
Proportion of antenatal clients tested for HIV	81%
Syphilis prevalence among antenatal clients tested	10%
NVP uptake rate among babies born to women with HIV	103%
NVP dose to baby coverage rate	17%
Prophylaxis among rape victims - proportion	70%
Prophylaxis among occupational HIV exposure cases – proportion	Not recorded separately
TB case finding index	204 cases[15]
Proportion of treatment start among TB smear positive	204 cases[16]
Incidence of IPT start in HIV positive	Introduced in Sep 2010
Incidence of cotrimoxazole prophylaxis rate in HIV positive	59%

All case records were reported from the financial year 1 April 2006 to 1 March 2007 except for TB cases which are from 1 January 2008 to 31 December 2008 because the system for recording can only capture half yearly to twelve months and the output cannot be done according to the financial year like the others. In MLSA, the IPT was not introduced but treatment was offered to TB smear positive individuals. The IPT has recently been implemented in MLSA after training of health professionals for its delivery was conducted between 2008 and 2009. Some facilities in Kouga LSA[17], one of three sub-districts of Cadadu district, have started providing Isoniazid.

[15] 2nd Quarter 2010 (July-September).
[16] 2nd Quarter 2010 (July-September).

[17] Kouga Local Service Area: one of three sub-Districts of Cacadu district (see Section 3.1).

HIV testing is reported monthly to the DHO by antenatal clinics from PHC facilities. The number of pregnant women tested for HIV and those who tested positive during the financial years July 2007 to July 2008 and July 2009 to June 2010 are shown in Figures 4.11 and 4.12 respectively.

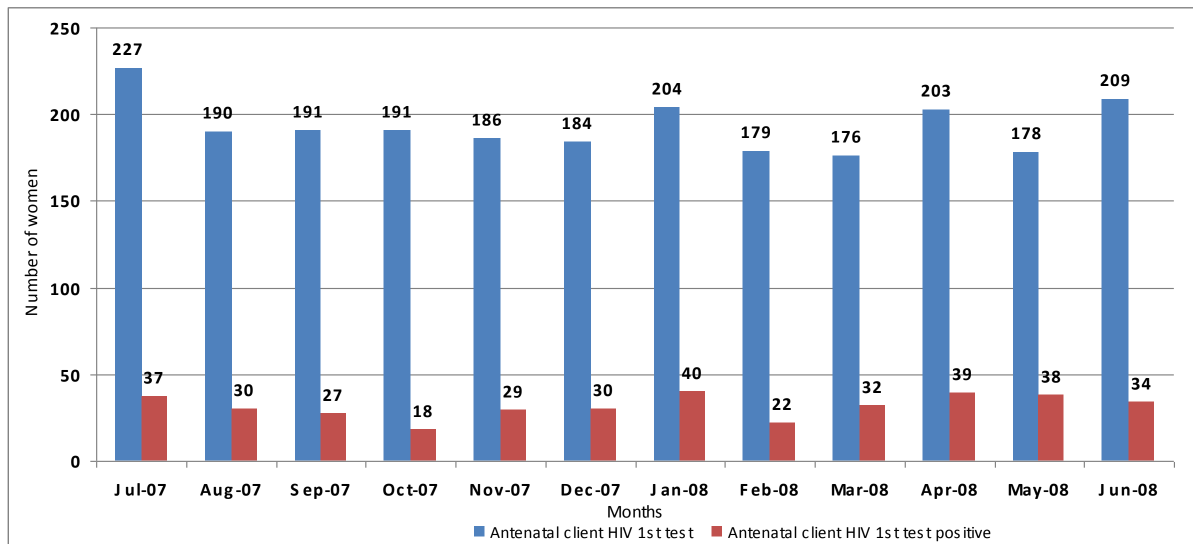

Figure 4.11: Makana Sub-District Antenatal Clients tested for HIV and those who tested positive between July 2007 and July 2008

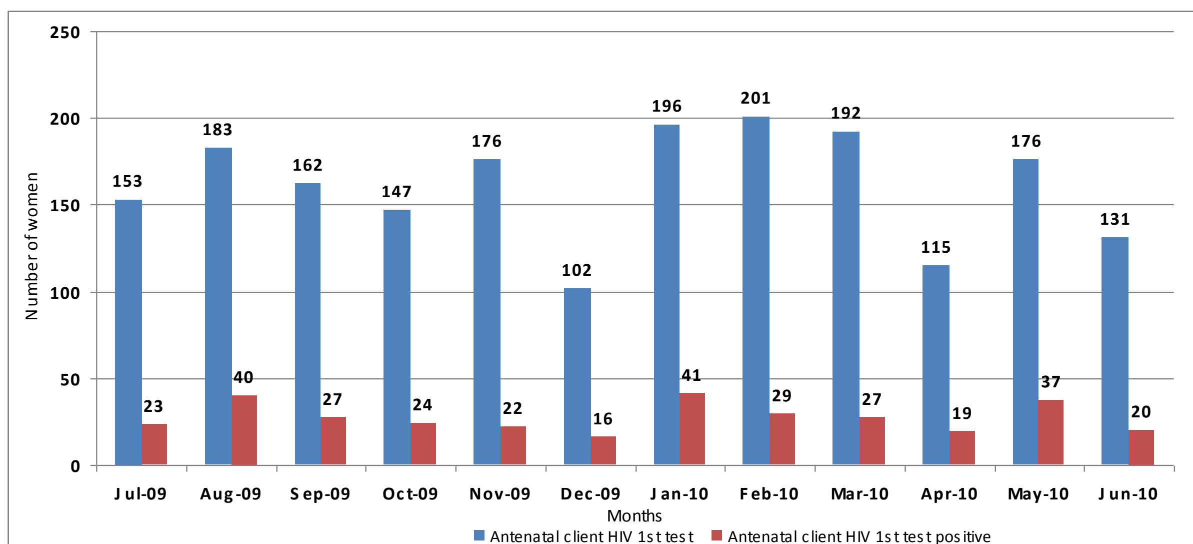

Figure 4.12: Makana Sub-District Antenatal Clients tested for HIV and those who tested positive between July 2009 and June 2010

VCT data collected in Grahamstown is submitted monthly to the DHO where it is collated. The number of people who attended pre-test counselling for HIV and those who tested positive for HIV for the financial year July 2007 – July 2008 and July 2009 – June 2010 are shown in Figures 4.13 and 4.14 respectively. According to the Information Manager, some people avail themselves for pre-test counselling and later decline to be tested for HIV.

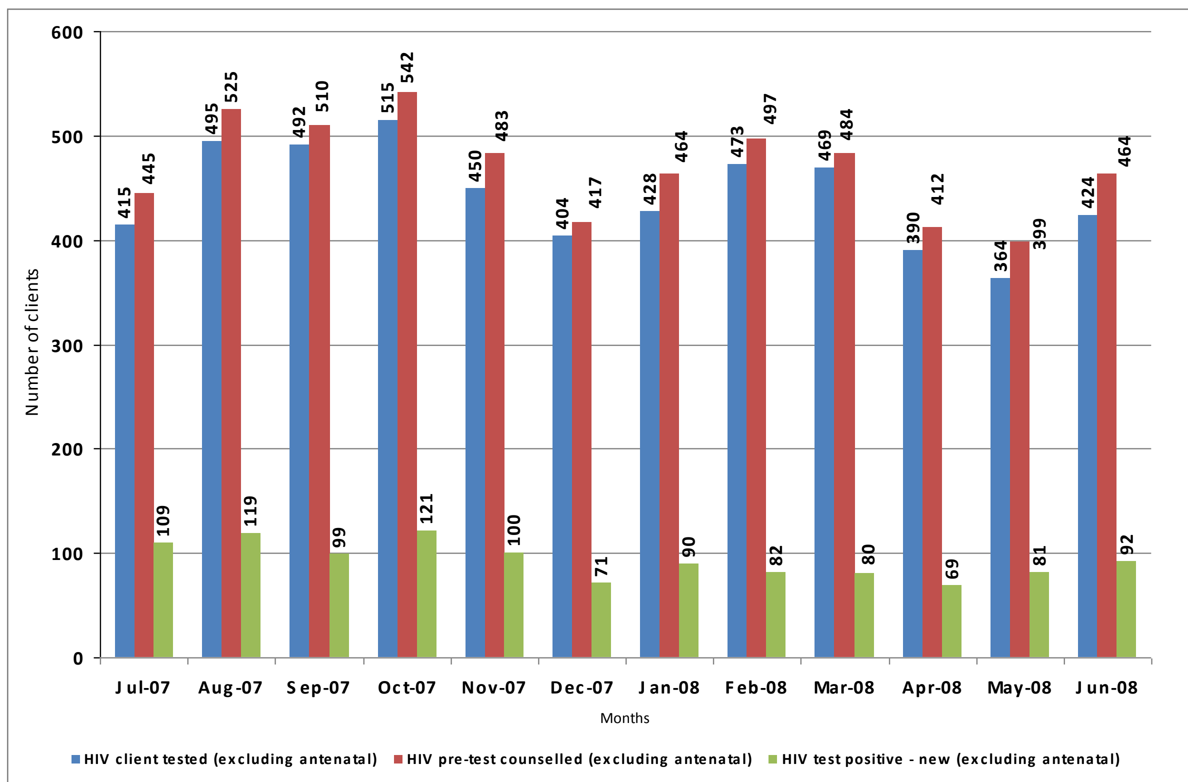

Figure 4.13: Makana Sub-District Clients tested for HIV (excl. ANC) and those who tested positive between July 2007 and July 2008

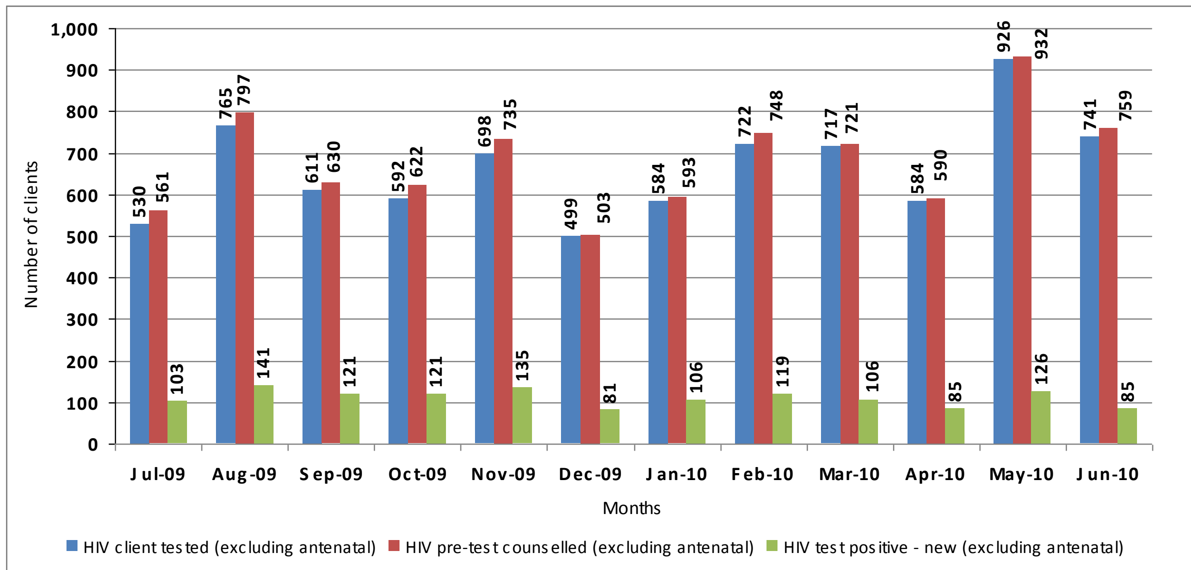

Figure 4.14: Makana Sub-District Clients tested for HIV (excl. ANC) and those who tested positive between July 2009 and June 2010

4.5.1b Antiretroviral Therapy indicators

Data for the ART indicators was collated from the ARV Manager's office at the District Hospital. The data elements to be reported and captured were developed by the provincial HIV & AIDS Directorate. The indicators which could be provided by MLSA are shown in Table 4.25.

Table 4.25: Antiretroviral Therapy Indicators (4th Quarter – Jan, Feb and March 2010)

Antiretroviral Therapy	Data of MLSA
Assessment first visit	156 (4th Quarter)
Total assessment visits	450 (4th Quarter)
Proportion CD4 turn-around > 6 days	0
Known death rate during readiness assessment	1 (4th Quarter)
Number of registered patients	97 (4th Quarter)
Proportion of patients assessed eligible for treatment	4 (4th Quarter)
Total number of visits by patients on antiretroviral therapy	±300
Patient transfer-out rate	3 patients
Known death rate among patients on antiretroviral therapy	17 female and 13 males in 2009 (Jan – Mar 2010, Female – 0, Male – 1)
Total number of registered patients on antiretroviral therapy	1908
Stop index	0%
Loss to follow-up index	1 males + 1 females
Proportion of registered patients on regimen 1a or 1b	Regimen 1a – 1448 (Jan) Regimen 1b – 214 (Jan)
Proportion of registered patients on regimen 2	30 (Jan)
Proportion of registered patients on any child regimen	0 (4th Quarter)
Incidence of STI treated new episode among patients on antiretroviral therapy	5 (4th Quarter)

Since September 2006, after the collation of indicators was changed from weekly to monthly collection, some of the data elements recorded previously have been deleted and additional data elements were added to the list provided by the Provincial HIV & AIDS Directorate. Most of the indicators developed by the national M & E document are not incorporated in the provincial reporting format and therefore these details are either not collected or not collated by MLSA when they prepare reports for provincial submission. However, some of the indicators can be collated from patient files or other manual records if required.

This highlights the fact that there is a lot of data in the patient files and in paper work involved in treating patients which, when collected or collated, can provide details required for the national M & E indicators, but these functions are not undertaken at MLSA because the provincial reporting format is different. In Table 4.26 the ART indicators that could not be provided by MLSA are tabulated.

Table 4.26: ART Indicators that could not be collated

	Indicator
1	Cohort viral load effectiveness parameter
2	Cohort weight gain parameter
3	Adult cohort WHO stage parameter
4	Child cohort WHO stage parameter
5	Cohort CD4 effectiveness parameter
6	ART adherence last 3 days proportion 100%
7	Average number of years lived while on treatment

The information for indicators that are tabulated in Table 4.26 is however available at Settlers Hospital, but is not used to collate reports to the provincial DOH and HIV & AIDS Directorate. Cacadu District ART Monthly Report by ARV accredited site at Grahamstown District Hospital to the provincial DOH is tabulated in Table 4.27.

Table 4.27: Cacadu District ART Monthly Report by ARV accredited site Settlers District Hospital to the provincial HIV & AIDS Directorate for January 2010

DATA ELEMENTS	Numbers	Comments
Number of new HIV Positive clients registered at the site	12	
Total number of REGISTERED patients on ART	1,854	
Total number of ADULT clients on ART	1,659	
Total number of PAEDS clients on ART	195	
Total number of new ADULT clients on ART	12	
Total number of new PAED clients on ART	0	
Number of ADULT clients medically eligible for ART	4	
Number of PAED clients medically eligible for ART	0	
Number of new pregnant women on ART	2	
Number of clients on Regimen 1a	1,448	
Number of clients on Regimen 1b	214	
Number of clients on Regimen 1c	141	
Number of clients on Regimen 1d	11	
Number of clients on Regimen 2a	14	
Number of clients on Regimen 2b	24	
Number of clients on Regimen 2c	0	
Number of clients on Regimen 2d	2	
Number of ART clients transferred out	1	
Number of ART clients transferred in	1	
Number of ART clients on TB and ART	1	
Number of clients defaulting Antiretroviral treatment	18	
Number of staff trained on ART courses	1	Smart care training
Any ART Drug Stock out	0	
Any nutritional supplement stock out	0	
Any Bactrim/Fluconazole stock outs	0	
Number of ADULT clients on nutritional supplements		
Number of PAED clients on nutritional supplements		

Down-referrals of HIV patients who are on ART (March 2010)

In Grahamstown, treatment of HIV patients was only initiated at the accredited ARV clinic at Settlers Hospital called Masonwabe clinic (before July 2009). The patients are provided with treatment for six months at the Settlers Hospitals. After the patients have stabilized with six months of therapy, they are then down-referred to feeder clinics (based on proximity to patient residence) where they will continue receiving treatment and care. By March 2010, 506 patients had been down-referred to the feeder clinics excluding 42 patients transferred to Alicedale, Fort England and Riebeeck East. Table 4.28 provides details of down-referred patients.

Table 4.28: Patients receiving treatment from feeder clinics as of March 2010

Facility name	Number
Anglo African street clinic	31
Raglan Road clinic	126
Middle Terrace clinic	18
NG Dlukulu clinic	92
V Shumane clinic	93
Settlers Day Hospital	50
Joza clinic	96
Total	**506** [18]

4.5.1c TM Indicator

As the TM indicator is not recorded in Grahamstown, a group interview was conducted with concerned health professionals. The participants in the group interview were made up of key stakeholders including the District Pharmacist, pharmacist responsible for dispensing ARVs, physician treating HIV & AIDS patients at the hospital, manager of the ARV programme and nursing sisters involved with down-referred HIV & AIDS patients at the PHC facilities. All participants agreed that they were not sure whether patients provide information about concomitant use of TM and ARVs truthfully, although the HCPs are aware of the integral use of TM by the local population based on cultural beliefs. The doctor mentioned that the results

[18] Total is 548 when including Alicedale – 20; Riebeeck East clinic – 2; Fort England – 20.

of liver function tests provided some indication of possible TM use. Based on national M & E indicators, the percentage of registered THP trained on treatment and care of patients is not recorded. HCPs are not aware of the percentage of patients referred to the hospital by THP. According to the National M & E document, TM indicators are not required to be collated by Settlers District Hospital.

4.5.1d Social Mobilisation and Communications Indicators

A sample of forms used for home-based care (Appendix 8.1) for areas around and including Grahamstown was provided by the HIV & AIDS programme manager from the DHO for the quarter April–June 2007. According to the official in charge, the HIV & AIDS Programme Manager at the DHO, there has been poor coordination of the programme and little attention has been given to this indicator. Hence, the HIV & AIDS programme manager was employed as a full-time coordinator of the programme at the beginning of 2008. Presently home-based care coordination is done by the Health Promotion Manager and HIV & AIDS Manager for treatment, care and support. Table 4.29 presents July 2007 data for the Social mobilisation and communications indicators.

Table 4.29: Social Mobilisation and Communications Indicators

Indicators	**MLSA data**
Number of referrals between service points and community-based organisations	57
Number of clients served by home-based care around the accredited service points	156
Proportion of established Provincial AIDS Council sub-committees on community mobilization	Reported at Provincial level
Percentage of people who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission or prevention.	Not known (see description below)

A large percentage of the population is reached by the MLSA when disseminating information on HIV & AIDS. According to the Health Promotion Manager from the DHO there are many awareness campaigns that are carried out around Grahamstown by non-governmental organizations involved in HIV & AIDS awareness such as the Treatment Action Campaign, the Black Sash, Hospice and Love Life. There is a slot on Radio Grahamstown for HIV & AIDS, to promote awareness. The LSA is working closely with

Khomanani[19] on the awareness campaigns. Local companies and other governmental departments collect information, education and communication material in the form of posters and pamphlets from the LSA office. Awareness activities are also carried out during the Grahamstown Arts Festival in conjunction with local organizations. Prevention awareness is promoted in schools whereby students are trained to be peer educators and life skills programmes are taught.

Table 4.30 presents data for April–June 2008 of the Home-Based Care monthly report.

Table 4.30: MLSA HBC[20] Monthly Report Register (April–June 2008)

	Month	Settlers Day Hospital	V Shumane Clinic	Raglan Rd Clinic	NG Dlukulu Clinic	M Terrace Clinic	Joza Clinic	Anglo African Road Clinic
Number of patients served	April	37	NR	NR	NR	NR	NR	NR[21]
	May	35	13	24	NR	NR	NR	NR
	June	31	12	NR	NR	28	NR	NR
	Total	103	25	24		28		
Number of visits	April	140	NR		NR	NR	NR	NR
	May	138	165	NR	NR	NR	NR	NR
	June	120	205	NR	NR	32	NR	NR
	Total	398	370	NR		32		
Referrals	April	5	0	0	NR	0		10
	May	28	10	13	NR	0	0	17
	June	0	14	15	NR	5	0	9
	Total	33	24	28		5	0	36

[19] Khomanani - SA Government's HIV & AIDS Communications Campaign addressing key communication issues of HIV & AIDS (361).
[20] HBC – Home Based Care.
[21] NR – Not recorded.

4.5.1e Pharmacovigilance Indicators

As the indicators in the national M & E document are not required to be collated by the provincial office, data for Pharmacovigilance indicators could not be collected and hence a group interview was held at Settlers District Hospital in Grahamstown. The pharmacist and doctor at the District Hospital had initiated the monitoring of Adverse Drug Events (ADE) of patients initiated on ARVs at the hospitals as well as those referred back by the PHC centres for treatment of ADEs at the hospital. Approximately 15% of the patients were seen for ADEs. Regime change rate and adherence rate were recorded by the hospital pharmacist until 2007. However, lack of access to information prevents documentation of the specific mortality rate attributable to ARVs and specific mortality rates due to ARVs and TM. Six cases of peripheral neuropathy, 21 cases of lipodystrophy and two cases of hyperlactataemia were referred to and managed at the District Hospital. Inadequate manpower to collate all the required data and lack of access to information once patients are down-referred to PHC facilities, result in unavailability of all the pharmacovigilance data so that dissemination of information to all HCPs involved in the HIV & AIDS programme is not possible.

There is a need for electronic databases, which was highlighted as one of the challenges in the February 2009 Summary of HIV & AIDS Treatment Care & Support activities at Settlers Hospital prepared for the province. Even though pharmacovigilance indicators outlined in the National M & E framework are not collected in Grahamstown, adverse drug reaction (ADR) monitoring is taking place at Settlers Hospital as reported to the province (Table 4.31).

The physician from Masonwabe clinic in the current study stated that there is a lack of time to conduct routine pharmacovigilance monitoring due to the excessive workload of many patients, long consultations, the filling in of many forms and attending meetings. The local clinics cannot cope with reporting adverse effects for large amounts of medicine for HIV and TB treatment and supplements. He further stated that there were no qualified personnel to handle the drugs in the clinics as nurse assistants were also managing bin cards and drug procurement. Currently pharmacy assistants have been trained and deputed to each PHC facility to manage bin cards and drug procurement for the clinics. The physician also added that there are too many registers for different projects, files and forms and, as a result of increased paperwork, proper attention is not given to pharmacovigilance.

Table 4.31: Provincial reporting of Adverse Drug Events Monitoring (Jan –Mar 2010)

Health District	Cacadu	Local Service	Makana Sub-District
Hospital	Settlers Hospital	Reporting Period	Jan – March 2010
ADE		Number of cases	Referred/Managed
Lipodystrophy			Yes
Peripheral Neuropathy			
Hyperlactataemia			
Anaemia			

4.6 Group and individual interviews in Grahamstown, Eastern Cape Provincial DOH and National DOH

4.6.1 Group interviews in Grahamstown

Group interviews were conducted at the Settlers Hospital on 21 November 2007, at the DHO on 10 March 2008 and at the PHC office on 11 March 2008, to establish details regarding distribution of the National M & E framework to the hospital and other staff and the requirement to report back to the province based on the national framework.

The interview was attended by six participants from the hospital and eight participants each for the DHO and the PHC office (see Table 3.5).

4.6.1. a Awareness of the South African National M & E framework for the comprehensive HIV & AIDS Care, Management and Treatment Plan brought out in September 2004

Most participants in all three group interviews responded that they were not aware of the national M & E document, and the provincial and/or national DOH did not introduce it to them. PHC and DHO group participants said that they became aware of this document only when they participated as respondents in the present study.

Some participants from Settlers Hospital became aware of this document based on the information available in the South African Strategic Plan of 2000 – 2005. One of the participants stated that accreditation was carried out without full consultation when the ART programme was initiated. The HPCs and health facilities in Grahamstown were told to place

orders for the ARVs from the depot because the Health Member of the Executive Council was visiting Grahamstown. At the PHC office group interview, a senior professional nurse responded that they were not aware of the M & E document and said ―But we know that monitoring is done because there are programme managers and clinic supervisors. So monitoring is done. I am not sure whether it is done according to this document."

The ARV programme coordinator said, ―Oh, yes I am aware of this document but it was not given to us initially when we started the programme".

4.6.1. b Involvement of MLSA in the development of National M & E framework

None of the participants in all three groups were involved in the development of the M & E framework. The ART Programme coordinator commented that ―We were not part of the initial plan at all. That is for the information manager and the others."

4.6.1. c District reporting format for the Comprehensive HIV & AIDS Care, Management and Treatment programme

All the three group interview participants said that when CCMT was implemented in Grahamstown, it was not required of the MLSA to report using the M & E framework. However, the Sub-District Manager from the DHO mentioned that there were some indicators that they usually report on such as ‗drug stock-out', even though they do not use the M & E framework. ―This is quite a comprehensive document as it includes all areas of HIV & AIDS reporting, but there are indicators definitely that we are reporting on, like condom distribution rate, nutrition and supplementation but we were not aware that they are from this document," said the Sub-District Manager, Information Manager and Clinics Supervisor. The Programme Manager of CCMT said that some patient outcome and impact indicators for prevention and for ART are reported to the province. She also said, ―For all areas, there are a set of indicators that come from the provincial office that we need to report on. What I can say is that, that has not really come down to our level in terms of submitting that information."

―When we started maybe we had about eight data elements that we had to report, it was just a pre drawn-up table. Now things have changed. We went into the DHIS. The indicators are now 41," stated the ARV programme coordinator. She further mentioned that the ARV sites

have their own capturing of the DHIS and the hospital site has its own capturing of DHIS, for STI and VCT, which they also forward to MLSA.

The information manager at DHO highlighted that the source of information from health facilities being submitted to the DHO is not only DHIS, but also others such as District Health Plan, Annual Performance Plan and MDG. There are various documents that are used with different sources to help the province to report to national level. The ARV programme administrator mentioned that there was a plan –to have the computers at the facility site, clinics and a person at that level to capture information and forward it to the DHO, but it does not happen that way (always)."

4.6.1. d Reasons why the national M & E document and the provincial reporting format are different

All three group interview participants responded that they did not know why there was a difference between the national M & E document and the provincial monitoring format. They were not sure why the national and province indicators differ because they expect the province to work with indicators developed at the national level.

PHC participants expressed a hope that their seniors at the DHO might know the reason. –What I think is that maybe at the level above ours (DHO) might know the information, but primary health care is at the ground level. We submit our reports to the supervisor and we don't know what is done at the background. Maybe they have got a document that is guiding them to compile our report. We do submit reports but we are not aware of this document. It is at the higher level where they should know why it is not being used at the LSA", said the Senior Professional Nurse from the PHC office.

4.6.1. e Availability of M & E committee in MLSA

There is no M & E committee in Grahamstown. However, one of the participants from the Settlers Hospital responded that it might not be called M & E at the MLSA level, but they do discuss at LSA programme meetings. The participants also said that every single programme manager has to report on statistics for the programme they are heading. The Information manager reported that a plan was in the pipeline to establish what will be referred to as the LSA information committee in March 2009. However, the group participants acknowledged that there is monitoring that is undertaken in the Grahamstown public health sector. –The way

I understand, up to now as part of the big strategic plan, we certainly monitored figures – it might not have been the correct figures. We have monitored how many patients have started treatment. We know what is happening even if it is not perfect. And our financial reports that we submit are a form of monitoring. It is also a monitoring tool," said the ARV programme coordinator.

According to the clinician from Settlers Hospital, they practice monitoring on a smaller scale. –There is endless filing of registers by a clinician. The monitoring and collection of data is actually done at the clinic level. It is done by clinicians here as well (while) he or she is also trying to see patients as well," said the clinician in the group.

The participants reported that Grahamstown does not use the services of a full time officer who is responsible for M & E activities. The information manager is the official deemed to be responsible for this activity. They also said that the major implementing partners in MLSA are the information manager, programme managers, LSA manager, municipality, PHC and NGOs.

4.6.1. f Training to monitor HIV & AIDS programme

Training was conducted at Settlers Hospital, where certain aspects related to M & E were highlighted, but it was not labelled as M & E training. In late 2007, the Clinics' Supervisor and other programme managers attended DHIS training and also an information sharing workshop conducted by the RTC.

At the DHO, training was conducted on M & E. –When the Provincial M & E unit was formed, they did take us through what is M & E. What are the requirements? How is the unit working? What are quarterly reporting systems? What are the early warning indicators? Not everybody has been taken through that. It was done at the district level," responded the Sub-District manager. The HIV & AIDS programme manager stated that at provincial meetings, as programme managers, they normally have M & E personnel who present to them and update them on how the programme should be carried out.

4.6.1. g Feedback from the province for the report format submitted by the District

All three group interview participants responded that they do receive feedback. The ARV programme coordinator and DHO officials go to quarterly provincial meetings where they

have an information report back. The ARV programme coordinator highlighted that there is feedback on items such as the number of patients who have started ARV treatment. She further stated that at quarterly provincial meetings for the last 18 months, there has always been a slot for information management report back on the sites, such as how many patients started ARV treatment.

One of the clinic supervisors from the PHC office responded that they always get feedback in terms of statistics submitted, for example statistics which indicate the VCT rates, number of males who are tested for HIV, pregnant women and VCT uptake. The PMTCT programme reports on the number of women booked at antenatal clinics and those tested for HIV.

Grahamstown clinics supervisors based at the DHO find the feedback that they receive from the province is very valuable. The feedback provides inputs on how they are performing and what they are expected to do, and also gives them an idea how the provincial and NDOH evaluate their statistics. The feedback further enables them to be aware of what to look for and how to provide feedback to the clinic managers and facilitate meaningful bidirectional feedback and communication. ―One can see the weakness and progress of the programmes," commented the clinic supervisor.

4.6.1. h Need for M & E committee at the district level to sustain and scale up the HIV & AIDS programme

All three group interview respondents expressed a great need for M & E of the HIV & AIDS programme in MLSA. According to the clinician from Settlers Hospital, M & E will be beneficial to ensure scale-up of the programme and health access for the people in the rural area, especially those who rely on the mobile clinic. ―If the mobile does not come, they won't have their treatment. Patients also cannot afford to come to the hospital for treatment," he said.

In responding to general aspects of the M & E document, the HIV & AIDS programme manager found the document an invaluable guideline for planning, achieving the target, enabling one to see the gaps so as to perform based on what is expected. She also said, ―Especially because this is specific with HIV & AIDS, integration with other programmes is really a guideline like for instance with this national report back and see what annually and five yearly, so at least we can also have a long time (term) plan."

The Sub-district manager expressed that it is better if both HIV & AIDS managers (HIV & AIDS Manager for prevention and Manager for treatment) took a look at the M & E document to highlight indicators they are not recording, build on their information and obtain inputs from quarterly meetings at the provincial level to utilize the document effectively. ―I think this is very important. Secondly, I am also looking at the different programmes that are very valuable, for other programme managers as well, like Health promotion, nutrition, issues of drug resistance and ensuring safe use of medicine," the sub-district manager concluded.

4.6.2 ECDOH Interview

4.6.2. a Involvement of ECDOH during the development of the National M & E document

The interview participants were not sure whether Eastern Cape was involved in the development of the document. However the CCMT programme manager stated that during the planning of CCMT the then director was regularly interacting with the NDOH office. Regarding the membership list and affiliation of members involved with development of national M & E indicators for the HIV & AIDS programme, ―No, I wouldn't have the list of membership, because this was developed by the national Department of Health and meetings used to take place at the national Department of Health," said the CCMT programme manager.

4.6.2. b Distribution of national M & E document in the Eastern Cape

The provincial DOH group interview participants said that the national M & E document was distributed to the province.

4.6.2. c Reasons for distributing the national M & E document to provinces and districts

The question was asked whether the national M & E document was distributed to the provinces to gather feedback in finalizing the document or to make them aware of the document for future use in reporting to national programme.

The CCMT manager believed that the document was distributed partly to make district key stakeholders aware of the document rather than to gather feedback in finalizing the document. But she said that everything that was done during the planning phase was communicated to the province.

4.6.2. d Reporting format of the districts to Eastern Cape Province using the M & E framework

The participants said that it was required that the district report to the province on the strategic plan using the national M & E framework. –Not all the indicators are reported. That is why you find that at the facility they are not there. They are collected at different levels. And secondly not all indicators are collected down there. They are going to be introduced gradually," responded the CCMT programme manager. The Eastern Cape Division of Revenue Act (DORA) template which is used by the province to report to NDOH includes some indicators from the VCT, PMTCT, STI and TB set of indicators.

4.6.2. e Training for the provincial and district DOH personnel on M & E of HIV & AIDS programme by the NDOH

The CCMT Programme manager said "Yes, the NDOH has conducted training several times. The training was conducted by the Health Systems Trust and organized by the NDOH Director General of Monitoring and Evaluation. Sometimes we would also call them to discuss issues of information. They would explain the indicators to us. That was done constantly." She said that there is still a need for more training and further mentioned that even if they are trained, there is a problem of a high turnover. –So even though people are trained, people gradually leave the Department of Health to work elsewhere. So you may find that at local level those people that have been trained are no longer there," said the CCMT programme manager.

4.6.2. f Establishment of M & E unit at the provincial level

An M & E unit has been established in the ECDOH. The CCMT programme manager said that they could not tell exactly when it was established but mentioned that it was strengthened in 2005 and the permanent Director joined in 2007. –There is a central M & E unit of the department that we report to, but it is not specifically for HIV & AIDS," stated the CCMT programme manager. Since M & E is not specifically for HIV & AIDS, a full time officer in the Eastern Cape responsible for monitoring and evaluation is not available. However, there are directorates of different categories.

4.6.2. g National Treasury Department's CGs for the ECDOH

The ECDOH still receives CGs[22]. For HIV & AIDS there is one grant for CCMT which caters for different sub-programmes. “There is strategic planning for a certain number of years in the provincial DOH. And then from that strategic planning, we submit annual business plans to the NDOH so that the NDOH can give us conditional grants to sustain the programme. Most of the HIV & AIDS programmes are funded by the national grant,” said the CCMT Programme manager.

“The conditional grants have strict reporting requirements. The finance directorate assists in reporting and monitoring of the conditional grants. The report on the conditional grants to the provincial authorities is included with the reports for the Quarterly Reporting System where there is a portion on budget when we do the report for M & E. They check whether we have adhered to those plans and whether we have utilized the budget accordingly. And that goes to be further reported to the authorities of the department. But also the HIV & AIDS directorate from the NDOH comes to the province on a quarterly basis to look at the expenditure and business plans whether we have adhered to those business plans in terms of the output. We also have to deal with ARV sites and give them expenditure of ARV sites,” said the CCMT programme manager. Further, the CCMT manager said that each and every year within the CCMT there is an accreditation process of ARV sites which is a requirement to ensure that the services are rendered within an environment of high quality. She said that expanding plans go hand in hand with the accreditation of more sites so that access for health services can be created in other parts of the province. The CG is allocated in order to assist in the expansion. CGs and some benefit of an equitable share and fund from provincial coffers assist in the sustainability of the programme. The CG alone is usually not adequate, and as a result there is overspending because the programme is expensive, and the number of patients on ARV is increasing. To track the expenditure on CGs, Division of Revenue Act (DORA) indicators are utilized. The CCMT manager further elaborated that DORA indicators (Appendix 7) are used by NDOH to monitor the expenditure on the CGs. “They will take their report depending on whatever they will find, and advise us on how to carry on if we have challenges and they will look at the budget, and whether the budget has reached the outputs and whether the money has been used accordingly, I think the M & E framework works together with DORA,” said the CCMT programme manager.

[22] Conditional grant: Funds for HIVAIDS programme to be used for sub-programmes have strict requirements and the provincial DOH must submit reports to the national Treasury department for the expenditure.

―I would not know how other disease programmes report," responded the CCMT programme manager. ―There is a special meeting where each and every disease programme manager of the province reports in which the senior managers are in attendance. Then we have budget meetings in which everyone, each sub-section, reports on their activities and the budget that has been utilized. So, maybe the reporting is the same," she said.

4.6.2. h Uniformity of Eastern Cape district reporting format

―Yes, there is a quarterly reporting format and also the information that is being gathered is the same information", said the CCMT programme manager. ―There is the standard data collection tool that is filled by sites. It is filled on a monthly basis and the template is sent to the DHIS. So they are all using the same format," concluded CCMT programmer manager.

4.6.2. i Reporting format used by MLSA

―Hey, I don't know what format they are using, because even with other programmes, formats are the same. We have District HIV & AIDS coordinators and we meet with them as different sub-programmes on a quarterly basis, most of the sub-programmes have meetings with their LSA coordinators on a quarterly basis" replied the CCMT Manager. ―The NDOH also requires us to report on a quarterly basis and the reports that we send to NDOH are informed by the reports that come from the LSA. So the formats are the same. For example let's say the PMTCT; there are the same indicators that are distributed to all the LSA so that they report in terms of the same format."

When queried about the envisaged frequency of reporting being put into practice, the CCMT programme manager responded: ―I will say yes, there are different reports that are required at different intervals. And those reports go to various authorities. For example, CCMT for ARV require institutions to send monthly statistics to the central information officer of the department. We are informed by what comes from the District and therefore I would say we do adhere to the requirement of the reporting," she stated.

4.6.2. j Integration of the management system at district level

―As far as I am concerned this tool looks like DHIS. It has been there long time ago. Even the HIV & AIDS reports to that system. ART is a new programme, all along it has been paper based system, it had not been integrated into DHIS, but since last year, that is 2007, ART is on DHIS, which is an electronic reporting," responded the CCMT programme manager.

4.6.2. k Feedback of the report to the health facilities

According to the CCMT programme manager the facilities receive the feedback for the ARV programme on a quarterly basis. There are quarterly meetings where there is an ARV programme representative from each institution and they are given feedback. The data format used to collect data is used to provide feedback. The CCMT manager also explained that the provincial DOH is experiencing huge information management challenges. ―We find that there are usually big gaps in information management. So whenever we discuss the information as the Directorate, we find that there are discrepancies. And sometimes information is not correct. The information manager at the central information office when he gets information from DHIS is said to find many mistakes at times and even talks to the facilities about their information. Centre of information directorate has had to go out to the sites, even our internal information officer goes to the facilities and looks at their registers and assists them in managing their information so that we can get the correct information. Despite the stated challenges, they do get feedback quite frequently. But a structure is through quarterly meetings," said the CCMT programme manager. She also said that to strengthen monitoring and evaluation of HIV & AIDS directorate, there is a plan in an advanced stage to get a suitably qualified professional to handle M & E affairs of the directorate

4.6.3 NDOH Interview – Interview: Deputy Director M & E Directorate

4.6.3. a Stakeholders involved in developing the national M & E framework

The Deputy Director, M & E Directorate, said that there were various local organizations and international organizations. The ECDOH had three representatives.

4.6.3. b Circulation of national M & E document to all the provinces in South Africa

According to the Deputy Director of M & E directorate, all national M & E documents were circulated to all the provinces in South Africa. When the national M & E document was circulated to all the provinces in South Africa, ―It was for both – to gather information as the programme is being implemented and for creating awareness as well," responded the Deputy Director.

4.6.3. c Training conducted for the provincial DOH personnel on M & E of HIV & AIDS programme

―Yes, training was conducted by Health Systems Trust. We developed the document and there was training," responded the Deputy Director.

4.6.3. d Establishing M & E unit at the national level

―Yes, the M & E unit has been established in the national office. It was established during the time the M & E framework was developed which is the period between 2002-2003 and as far as affiliation is concerned we cannot provide you with the list of membership or members because we are not obliged by law to register with South African M & E Association as you see with the health professionals they have to register with health professional council," responded the Deputy Director. Further he also explained that the provinces were required to establish M & E units for HIV & AIDS programmes. The NDOH assisted on the technical side, in relation to post establishment and the level of positions. The M & E was to be developed in very close interaction with organizational development.

4.6.3. eFormat of Provincial report on the strategic plan

According to the Deputy Director of M & E directorate, the provinces were required to report according to the M & E framework. He stated that ―Yes, they (the provinces) are required to report in a common specified format".

When asked if the provinces are allowed to make decisions on reporting formats that are different from the national format, he responded, ―Well it is difficult to answer this question with either yes or no. But it‘s critical for national M & E to receive the information that is requested from the provinces in accordance with what the framework is defining. However, we cannot hold back provinces from collecting additional information. So, we cannot stop them from doing additional work in as far as M & E of HIV & AIDS is concerned as long as they will be able to comply with what we are requesting."

When asked how the NDOH gets an overall picture of the country‘s HIV & AIDS to cope with sustainability of the programme if provincial reporting formats do not match, he responded, ―Provinces are reporting according to the national M & E, but what we need to note is that they are at different levels of implementation. There are those that are reporting on fewer indicators and those that are reporting on even more indicators. The programme is

being run phase by phase. We started with about 5 or 6 indicators and they moved on to about 14-16 indicators. And, we are currently working on how to ensure that they all become the same level of reporting.”

4.6.3. f Reason why the MLSA is using a different format for reporting to Eastern Cape Province

―I am not aware of the fact MLSA is using a different data collection tool in as far as reporting is concerned because the national office communicates directly with the Eastern Cape in as far as M & E of CCMT data is concerned. And the Eastern Cape Province always provides data including MLSA,” Deputy Director of M & E responded.

Regarding the frequency of M & E framework reporting, ―The provinces are reporting frequently on a monthly basis although there are few challenges because they are on different levels of implementation. Sometimes you will get information later than the set deadline. You have to make frequent follow up to find out what is happening until you get the information. But the information is forthcoming and at this stage we are able to produce a monthly statistical report,” he responded.

―No, no, not all the reporting is electronic. In some places it is still paper-based and others it is electronic. Electronic will mean some provinces will report via the DHIS,” he responded.

4.6.3. g South Africa’s implementation of “three ones” principle

―It‘s difficult for me to actually say as a country we have implemented all three principles. I think the members of CCMT section may be able to provide information about the implementation of the other two principles of ―three ones principles”. However, I can comment on the last point which says one country level M & E system. Yes, initiatives have been put into place to ensure that we have such a system. I would say the system is there, but however it has challenges. Because as it is national, it means we need to have data from the public sector, which is the government departments, our nine provinces and the private sector which is largely private hospitals etc. In as far as the arrangements is concerned, the data collection tool that is used to collect for CCMT has also been widely given to private sector as well. One level M & E system is there, but there is some work to be done to ensure that it works efficiently,” he responded.

5. Discussion

5.1 Monitoring and Evaluation

Developing countries are characterized by the lack of a common operational M & E framework that optimizes efforts to increase capacity in collecting quality data, with adequate use of M & E to monitor performance (362, 363). It is important to have an accurate picture of HIV & AIDS input resource distribution within a population as well as the impact of implemented programmes in managing the disease (355). The South African National AIDS Council (SANAC) is a structure with a unit allocated for M & E to collect and aggregate data within the M & E framework, to gauge the goals and objectives of the National Strategic Plan for HIV & AIDS and STI, 2007-2011. The country's M & E systems and framework covers UNGASS indicators but the implementation of the M & E framework has been slow and the country and the provinces are at different levels of implementation of the national M & E framework indicators (364).

In the current study, the full set of indicators identified in South Africa's national M & E framework are not used to collect data in Grahamstown's public sector healthcare system to monitor comprehensive CCMT as explained in section 4.3. Data is not readily available, M & E unit does not exist in Grahamstown and the national M & E framework is not utilized. However reporting on different programmes by specific programme managers such as TB, Nutrition, Health promotion and HIV & AIDS is collated at the DHO (Section 4.6.1.e). During 2008-2009, commitment to reporting HIV & AIDS continued as a requirement of and mandatory programme reporting by government departments to National Treasury. This reporting is linked to monitoring of the use of CGs for HIV & AIDS including ARVs in the public health sector (364).

In the current study the participants from all three interview groups advised that they were not expected to report on CCMT using the M & E framework as explained (see Section 4.6.1.c). The interview participants from the provincial DOH stated that reporting is done according to the M & E framework but not all indicators are reported. The official from the NDOH concurred. The MLSA adheres to the provincial reporting format for ART sites report but, laboratory services and nutrition and pharmaceutical services indicators are different from the national M & E framework.

In September 2003, the need to address the problem of uncoordinated AIDS responses was recognized at the 13th International Conference on AIDS and STIs in Africa in Nairobi, Kenya. UNAIDS officials from African nations, concerned agencies, NGOs and the private sector met and reached consensus around three principles applicable to stakeholders in national-level AIDS response. These have become known as the ‗three ones' principles (365): One AIDS action framework that provides the basis for coordinating the work of all partners; One National AIDS coordinating authority with a broad-based multi-sectoral mandate and One country level M & E system (360). The principle targets one national M & E system which is integrated into the national AIDS framework, with a set of standardized indicators. It calls for an alignment of multiple actors around a set of core indicators and core elements of an M & E system so as to forge stronger national M & E frameworks (366). In South Africa it is important to apply these principles in the provincial HIV & AIDS programmes, as responsibility for implementation of the HIV & AIDS programme largely lies with the provinces (359). Strict adherence to the third principle – ―One agreed country level Monitoring and Evaluation System" – can support the capacity of national HIV & AIDS response to track, monitor and evaluate programme results and contribute to stabilization of the policy (363).

According to the ―Republic of South Africa 2010 Country Progress Report on the Declaration of Commitment on HIV & AIDS", South Africa lacks two out of three of the UNAIDS ―Three Ones" principles: ―One National AIDS Coordinating Authority, with a broad-based multi-sectoral mandate" and ―One agreed country-level Monitoring and Evaluation System". It is reported that SANAC's leadership is ineffective in managing the overall response to the epidemic. Also, lack of an adequately staffed M & E unit, a single data system for collecting data, and a national database are major constraining factors for monitoring and evaluating the epidemic. There is a lack of strong commitment and coordination to control the epidemic across all sectors. There is also no suitable data management system to support the clarity of indicators which results in inconsistent data and reporting (364).

The EDSs were adopted in 1999 for reporting HIV & AIDS data elements. Prior to their adoption, the systems for monitoring different HIV & AIDS service interventions were largely programme-specific and not integrated into the overall monitoring system. The implementation of the EDS resulted in coordination of most programme-specific routine reporting, including most HIV & AIDS programmes (353). There is a need for better

integration of essential data related to HIV & AIDS collected through the DHIS and through other sources such as VCT, PMTCT and ART programmes (355).

There is parallel reporting that is electronic (at the district level) and manual routine record systems (paper-based system) at facility level using forms and registers (353) which are not fully based on the EDS or compatible with the DHIS software for capturing, analyzing and distributing routine monthly data, especially in-patient, laboratory, and pharmaceuticals record systems (354). According to the information manager at the district office there are other sources of information apart from DHIS which are the District Health Plan, Annual Performance Plan and MDG (Section 4.6.1.c). There is tardiness in reporting of information from the clinics since the reporting is paper-based. The ARV programme administrator mentioned that there was a plan ~~to~~ have the computers at the facility site, clinics and a person at that level to capture information and forward it to the site" (Section 4.6.1.c). There are challenges in streamlining coordinated reporting globally. Constraining factors faced in M & E of HIV & AIDS programmes in developing countries have also been faced in developed countries such as the USA (367).

5.2 Inputs, Process and Output Indicators

5.2.1 Budget and Expenditure

Budget and expenditure to respond to the HIV & AIDS epidemic are the most important inputs that show the commitment by a government of an affected country. A carefully planned budget enables HIV & AIDS interventions and other related important activities such as laboratory services to be implemented (368). In Grahamstown, the DOH prepares a budget for HIV & AIDS activities such as Health Education, HIV testing and purchase of medical supplies in consultation for each financial year. Health facilities are consulted by the Grahamstown Treasury Department regarding their proposed needs concerning health delivery for the year. The treasury department assesses the proposals, approves and allocates funds (Section 4.4.1). Budgeting and financial allocation for laboratory services, nutritional supplements and ARV purchases are done at provincial and national level and MLSA submits orders for a particular requirement. Good functioning units that oversee budgets and expenditure for services to facilitate a smooth response to the epidemic are vital. In the

current study a presence of budget and expenditure at local, provincial and national level is a facilitating factor of the HIV & AIDS programme.

Globally, more funds are now being made available in order to ensure a good response to the HIV & AIDS epidemic. WHO spearheaded the effort when it allocated 87% of its total budget for 2006/7 to infectious diseases, including HIV & AIDS. This trend of funding has been observed in Africa too, where funds were allocated towards HIV & AIDS and other infectious diseases (369). Among the five countries of Southern Africa, the sub-region of sub-Saharan Africa, South Africa, was the only country which honoured the Abuja Declaration (section 1.7.1.f) by setting aside 15% of government expenditure to health, ahead of Botswana, Lesotho, Mozambique, Swaziland and Zimbabwe in 2003, the third year of the country's comprehensive HIV & AIDS care, management and treatment programme. It is important to note that some countries such as Mozambique had the lowest budget while South Africa set aside the highest total health expenditure, which is an important improvement in South Africa because during the mid-nineties, South Africa was the only country among those countries whose total health expenditure did not increase (370). However, UNAIDS released a report that funding for the response to HIV & AIDS in low and middle income countries was only about half that which is needed to provide basic services (371).

In spite of the continued demand on South Africa's limited financial resources, in response to HIV & AIDS the government took a positive step by earmarking new funds in 2009/10 – 2011/12 (372). In October 2009, the government announced an increment of R5,400 million for spending on HIV & AIDS programme (373). South Africa's budget allocated for the Comprehensive HIV & AIDS grants for 2010/2011 is R1,700 million and R2,800 million for 2011/2012 (374). In South Africa, the delivery of public health services lays with the provinces (368) and the distribution of the funds for HIV & AIDS intervention to the country's nine provinces is allocated by the National Treasury. The provinces are nearly entirely reliant upon national government for their revenue and the amount of grants allocated to each province differs (375). The financial share of Grahamstown's public health fund is directly affected by the national and provincial trends; hence increased allocation of national revenues results in more public funds available in Grahamstown for the HIV & AIDS programme.

A total health budget allocated to the ECDOH for the financial year 2009/10 was R11,330 million which is an increase of R689 million or 6.48% from the financial year 2008/09. 44% of the total budget, R4.94 billion, the largest amount, was allocated to the District Health Services Programme. The funds distributed to the provinces by the National Treasury Department to respond to HIV & AIDS are made up of CGs and equitable share fund (Section 4.6.2.g) (368, 376). The Eastern Cape had an increase of 14.6% in CG allocated in the financial year 2009/10 to R1.64 billion as compared to R1.43 billion in 2008/09. This increase is largely due to an increase of 26.71% in the Comprehensive HIV & AIDS grant from R300.52 million in 2008/09 to R401.72 million 2009/10 (376). At their discretion, provinces allocated additional funds to HIV & AIDS from their own budgets in 2002/2003 and again in 2003/4 within the DOH (275). It is reported that in 2004/5, provinces on aggregate made a contribution of 37% from their own budgets towards the HIV & AIDS programme in their health departmental budgets (368). It is worth noting that this is the financial year when ARV was rolled out in South Africa when the Eastern Cape contributed 37% from the equitable share and there has been a decreasing contribution from the ECDOH equitable share since then.

In the financial year 2008/09, the DOH contributed less from its equitable share to fund the comprehensive HIV & AIDS programme than it did in 2006/7 (377). The Department‘s discretionary allocation from its equitable share was R121.61 million or 26.33%, while 73.67% came from the CG. For the financial year 2009/10, the departmental allocation for this programme from the equitable share accounts for R78.43 million or 16.33% of the total allocation and the remaining 83.67% is from the CG (376). Budgeting and allocation of available funds for key HIV & AIDS interventions is still functional despite all constraints and a decrease in equitable shares of the provincial DOH.

The studies and reports outlined above demonstrate considerable commitment and dedication to tackle the HIV & AIDS epidemic in African countries by allocating financial resources in the response to the disease. Organizations such as WHO and Global AIDS Fund are leading in funding comprehensive responses to tackle HIV & AIDS in developing countries.

5.2.2 Human resource and training indicators

HRH is crucial for optimum delivery of health care services. The global health sector is faced with human resource challenges in this era of the HIV & AIDS epidemic. According to the WHO report, the shortage of health workers affects many parts of the world. The report reveals that a shortage of health workers is felt in 57 countries that were studied and this crisis is mainly felt in sub-Saharan Africa (206). The HRH in Grahamstown, as in many parts of the developing world, is a major constraining factor for health service delivery. An indicator which revealed shortages and imbalances was nursing staffing (Section 4.4.2.a). There were fewer nurses than the required number in all six clinics in Grahamstown primary health care (Table 4.9). As at the end of 2008, South Africa had 437 nurses for every 100,000 people (378) and in the Eastern Cape there were 497 patients per qualified nurse (379). There has been an increasing number of vacant posts for registered nurses in the Eastern Cape which were 34%, 35.8% and 54.6% in 2006, 2007 and 2008 respectively (380). In 2007, the Cacadu district had a vacancy rate for nurses of more than 35% and in 2008 the district‘s clinical workload was 44 patients per day, higher than the national figure for South Africa which is 26.9 patients per day (381).

In Grahamstown, the physicians (one full-time and two part-time) involved in AIDS care at Masonwabe clinic experience a heavy load of patients for consultations because of a high number of patients on treatment (Section 4.6.1.e). The PHC facility in the MLSA has one part-time Medical Officer (section 4.4.2.a). ARV treatment at the District Hospital has been available for five working days a week since 2006 after Masonwabe clinic moved and was expanded, and this places enormous pressure on the dispensary (pharmacy) which has limited personnel and has to deal with a large number of patients. This is in line with other countries in sub-Saharan Africa which have inadequate capacity to deliver health care to their communities (382). South Africa is reported to have lost many health professionals and the number of nurses, doctors and other HCPs leaving the country to work overseas is much higher that any of the other sub-Saharan African countries (283). It was revealed that 37% of doctors trained in South Africa are practicing in Australia, Canada, Finland, France, Germany, Portugal, the United Kingdom and America. South African trained nurses working in these countries made up 13,496 of the local workforce of 184,459 health professionals (212, 383, 384).

Many countries in Southern Africa such as Malawi, Zambia, Zimbabwe and Swaziland are faced with the problem of losing skilled health professionals (302, 385). A study of Cameroon, South Africa, Uganda and Zimbabwe showed that these countries are hard hit by migration of health workforce (383). Loss of health professionals can be as much as 15–40% per year according to estimates from Zambia, Ghana and Zimbabwe (296). It has also been reported that Nigeria follows South Africa as the major source of emigrating health professionals (283, 386). Ethiopia is also facing a critical shortage of HR to deliver health services and this hampers the expansion of HIV & AIDS services. In 1999, the physician-to-population ratio in Ethiopia was 1:48,000, one of the lowest in the world. In 2003, the doctor-to-patient ratio was 1:34,000 and the nurse-to-patient ratio was 1:4,300, more than four times lower (306). In rural areas of Mount Frere district, South Africa, an estimated doctor to population ratio is 1:30,000 (387). In 2007, the physician-to-patient ratio was 1:549 in South African urban areas and in contrast in the USA where the physician-to-patient ratio is 1:69 (388). In a study of six districts in the Eastern Cape, , there were few doctors to visit PHC clinics. In some cases only 7% of the required number of doctors was available and in other cases doctors were not available (389). Efficient health delivery challenged by lack of human resource is worsened by increasing global inequities in the distribution of the health workforce (390).

South Africa faces numerous challenges in implementing equitable access to health care for its population. There are limited HCPs available for communities and according to a 2008 WHO report, the ratio of HCPs to the population is reported to be eight doctors, 41 nurses and three pharmacists per 10,000 population (300). South Africa is also experiencing a major shortage of doctors in the rural areas and 46% of South African population resides in rural areas (387). In the current study, the participants in the group interview from Settlers Hospital highlighted that patients in rural areas do not have easy access to health because they have to travel a long distance and use their personal money for transport. Similarly, in Ghana, 87% of general physicians work in urban regions, while 66% of the population lives in rural areas (297). The South African government had a policy change that allows rapid expansion of ART access to ensure that health institutions, not only accredited service points, are prepared for readiness to assist patients. This initiative saw involvement of nurses in initiation of ART (391). In the current study, three PHC facilities – Joza Clinic, Raglan Road Clinic and Settlers Day Hospital – have started initiating treatment for AIDS patients. Task shifting is now becoming a common feature in the HIV & AIDS public sector healthcare system in sub-

Saharan Africa (322). Zambia successfully implemented a task shifting strategy which was accompanied by intensive training of HCPs and preparation of health facilities (392) similar to the current study.

There are also initiatives to minimize the lack of physicians in the rural public health sectors by organizations such as the Rural Doctors Association of Southern Africa (RUDASA) in partnership with the Rural Health Initiative and the Placement Project which attract physicians from other countries into South Africa and their South African colleagues back home (393). The introduction of Community Service Medical Officers (CSMO) was suggested by RUDASA to increase the number of doctors in rural and underserved areas (394). Only about 35 of 1,200 medical graduates who graduate annually in South Africa opt to join a rural public hospital on a full time basis (395). There are also few CSMOs in the provinces in South Africa for 2010. In the Eastern Cape, more than 30 hospitals did not have CSMOs allocated to them while 75% were assigned for placements in urban areas (395, 396).

The provincial DOH is undertaking continuous training of existing and new staff so as to maximize the output from available HCPs. VCT and IMCI counsellor training were highlighted by the participants in the current study (Section 4.4.2.b). The ECDOH has made HR a priority and the department acknowledges that it is responsible for training and retaining HR (377). But contrary to the priority of HRH in the province, in MLSA there was a decrease in the budget allocated for training by R107.41 million or 21.28% of 2008/09 allocation (376). The Health Sciences and Training Programme has a 5% share of R11.33 billion of the 2009/10 financial year of the ECDOH total budget (377**.** In another effort to alleviate the impact of the shortage of HCPs, pilot projects use a task-shifting approach that involves the utilization of professional nurses as well as private sector physicians in ART case management. These models are being introduced in the public sector (364).

The above studies and reports demonstrate that the HRH shortage and mal-distribution are continuing to be a major impediment in implementation, scalability and sustainability of HIV & AIDS programmes and adversely affect optimum health delivery. The situation calls for the country and the provinces to increase investments to train, recruit and retain skilled health professionals so as to sustain comprehensive HIV & AIDS programmes. The response to the epidemic in Grahamstown has made big strides despite human resource posing a major challenge. Human resource issues in MLSA deserve close attention from all key stakeholders.

5.2.3 Accreditation of service points

Many countries in resource limited settings are expanding ART services but they are also faced with challenges of ensuring that delivery of HIV & AIDS services are of high quality (397). In order to ensure high quality delivery of comprehensive HIV & AIDS care and treatment, accreditation of service points is required. In the current study, Settlers District Hospital, Temba TB Hospital and recently Fort England Psychiatry Hospital and three PHC facilities, Settlers Day Hospital, Joza clinic and Raglan road clinic are accredited sites to provide ART to patients living with AIDS. Among the requirements for a health facility to qualify for accreditation to provide ART, are the presence of ARV programme managers at the service points; an on-site care team of trained clinicians, nurses and a nutritionist; 24-hour access to care and space to assure confidential consultation, treatment and counselling for patients; a pharmacy; and easy access to laboratory services (398, 399). Similar accreditation criteria of service points are followed in other countries such as Uganda (400).

In South Africa, the process of accreditation of service points where ARV treatment is provided was commenced in the beginning of 2004. The country started with a target of having one service point for each of the 53 districts in the country to be authorized to provide ART by March 2005 (401). By March 2007, 313 ART sites in the public sector were accredited across South Africa (402), and as of February 2008, there were 407 facilities accredited to provide ARV medicine in the country (403). The ECDOH started the ART programme with seven focal points (pilot plants) with Settlers District Hospital as one of the sites accredited and the Eastern Cape RTC helped mould the sites into fully functioning ARV sites which are accredited (404). In 2007, the province had 42 health facilities which were fully accredited and operational ARV sites (405). The improvement of standards in spite of challenges such as a shortage of HR has been observed in the Eastern Cape and other provinces such as the Free State and KwaZulu-Natal with the scaling-up of access to ARV in these provinces (402) as a result of accreditation (406, 407).

In comparison, Uganda‘s national advisory board took steps to ensure that ARV treatment was provided under high clinical service quality by developing criteria of accreditation for clinical centres that would be authorized to supply ARV. The country started with five accreditation centres for the DAI and in 2003 they had 25 accredited sites providing ARV treatment (400). In 2008 there were a total of 44 health facilities accredited to provide ART

and in order to increase access to ART, the DOH undertook a study to survey the training needs of these facilities with the aim of increasing task shifting (397). Similarly Tanzania set a target of increasing accredited service points from 20 to 240 to sustain ART scale-up which was initiated in mid-2004 in accordance with the country‘s five year Care and Treatment Plan (408).

The description and outline provided for this indicator rightly depict it as a critical indicator tool which helps to set the scene for smooth implementation of ART. Proper consultation and planning for training in advance for health professionals are vital so as to ensure that the required resources – financial, human and infrastructure – are in place to ensure efficient operation of HIV & AIDS programmes. The accreditation of the service points indicator can be considered a facilitating factor in Grahamstown for scaling-up and sustaining HIV & AIDS programmes and improving access to health as the initiation of ART has moved closer to the people.

5.2.4 Nutrition-related indicators

In countries such as Rwanda, Malawi and South Africa, National Guidelines for HIV & AIDS and Nutrition have been developed. South Africa adopted its guidelines in 2001 (409). Other East African countries with policies and programmes related to HIV & AIDS, food and nutrition security are Kenya, Tanzania, and Uganda together with Southern African countries such as Mozambique and Zimbabwe (142).With financial aid from PEPFAR, Botswana, Namibia and Zambia developed national guidelines on HIV & AIDS and nutrition (410). In comparison, the development of South Africa‘s National Nutritional Guidelines for people living with HIV & AIDS and their caregivers was developed for the country‘s NDOH by issuing a tender and awarding a contract to a UNICEF technically supported Consultancy Company (411).

By following the World Food Programme strategy which focuses on food insecurity and malnutrition brought on by HIV & AIDS, South Africa is one of the 26 African countries which receive aid from the WHO (412). The country has an Integrated Nutrition Programme with the goal of promoting food security. The project was piloted in 52 clinics in the Eastern Cape and KwaZulu-Natal (142).

In the present study, nutritional meal supplements and micro-nutrients were found to be allocated to local health facilities, six clinics, Settlers Day Hospital and the District Hospital for patients living with HIV & AIDS. Various micro-nutrients have been shown to benefit the HIV-infected (413) by delaying the progression of HIV disease (414) and curbing malnutrition-related weight loss (147). In Grahamstown, HIV-positive patients, with and without TB, experience weight gain and increased BMI (see Table 4.17).

In a study conducted in Tanzania, women were assigned to receive a multivitamin supplementation to curb progress to advanced stages of HIV disease (415). In Bangkok, Thailand, data shows decreased mortality among HIV-infected Thai adults who received multivitamins (416). In keeping with WHO recommendations, children born to HIV-infected mothers living in resource-limited settings should receive periodic doses of vitamin A, which children in South Africa duly receive (139). Also, in Grahamstown, pregnant and lactating women receive micro-nutrients and supplementary meals.

The above studies and reports show the growing awareness of the integral role of nutrition and the need to improve access to balanced nutrition for people living with HIV. This commitment is being shown by countries adopting National Guidelines for HIV & AIDS and Nutrition along with guidance from World Food Programme. The guidelines can aid countries in ensuring an appropriate diet and use of nutritional food supplements. Consistent access to nutritional supplements in the PHC centres to patients on ARVs is an extremely positive sign in Grahamstown. The nutrition indicator is a facilitating factor for sustaining the response to the HIV epidemic in Grahamstown since many people affected by the disease are living in poverty but the DOH is making provision to provide nutritional supplements.

5.2.5 Drug Procurement and Distribution

The compliance with TRIPS in developing countries and adoption of the Doha Declaration resulted in an increase in the availability of generic ARV drugs at low cost, which enabled the government to have more access to ARV drugs in the public sector health care system (417). ARV medicines were made available free of charge to patients accessing the public sector health care system in South Africa from 2004 (355). Free provision of ARVs in the public sector can be compared to Botswana, which in 2002 became the first country in Africa to offer free ARVs (418). Senegal, which launched the first HAART treatment programme in

Africa in 1998 (162), also offered free ARVs and other countries in Africa such as Congo, Ethiopia, Kenya, Nigeria and the United Republic of Tanzania followed suit. These countries also adopted universal free access to ART in the public sector (419). By comparison, it was only in May 2007 that it became possible for the Cameroon government to distribute free drugs (420) after many years of patients having had to pay for drugs (421). In Uganda, as in South Africa, free care is provided at the service delivery point, which is a vital part of achieving universal access to HIV & AIDS treatment in developing countries by 2010 (419). Free care and provision of ARVs at the delivery point is the WHO's public health approach for increasing access to treatment for HIV & AIDS in resource-constrained countries (422).

In the current study, the responsibility lies with the provincial pharmaceutical services based at Bisho, the capital of the Eastern Cape, which oversees the province's drug procurement and distribution. According to the Principal Pharmacist at Settlers District Hospital, this helps to ensure that important functions such as ordering, delivering and tendering are done in the correct manner for which the provincial Pharmaceutical Services works closely with the Provincial Pharmaceutical Depot.

In the unit price trends, one of the drug procurement indicators provided by Provincial Pharmaceutical Services for the periods 2004/5 to 2007/8, there has been no noticeable change for drugs such as EFV capsule 50 mg. 30s (see Table 4.19). Other drug prices have experienced a gradual decrease in unit prices, such as EFV capsules 200 mg. 90s. Stavudine powder for oral solutions 1mg/ml, 200ml experienced a high decrease in price for the second and third periods. An example of a drug with an increased unit price is Lopinavir and Ritonavir Capsules 133,3mg, 33,3mg, 180s with prices of R325.31, R325.39, R354.86, R359.47 and R319.07 for the periods 2004/5, 2005/6, 2006/7, 2007/8 and 2009/10 respectively.

In March 2003, procurement of ARVs was analysed in countries such as Cambodia, Cameroon, Guatemala, Honduras, Kenya, Malawi, Mozambique, South Africa, Thailand and the Ukraine. Médecins Sans Frontières found that the price of first-line therapies ranged from US$288 (Malawi) to US$593 (Ukraine) per patient per year (156). According to WHO, procurement of ARVs involves not only documenting required drugs and choosing appropriate procurement methods, but an integral part also involves dealing with tenders, determining contract terms, adhering to contract agreements, choosing the best prices and

ensuring drug quality (423). The ECDOH Pharmaceutical Services ARV unit price trends appeared to be experiencing a decrease in accordance with the WHO‘s report of Global Prices Report Mechanism of the transaction prices for ARV medicines for HIV & AIDS from 2004 to September 2008 (424). According to the report, the cost of WHO‘s recommended adult defined daily dose of NVP 200 mg 2 capsules per day was US$88, US$84, US$63, US$44, and US$42 respectively for 2004-2008. The Eastern Cape unit ARV drug unit price trends for NVP Tablets 200 mg 60s was R58.59, R45.62, R52.71, R48.44 and R32.11 for the periods 2004/5, 2005/6, 2006/7, 2007/8 and 2009/10 respectively. There was a decreasing trend in the drug price for both the WHO recommended daily doses and the Eastern Cape paid prices for NVP. In the case of EFV 200 mg 3 capsules were US$507, US$507, US$270, US$226, US$207 while in the Eastern Cape EFV capsules 200mg 90s were R309.69, R301.22, R270.04, R262.07 and R142.50 for the financial years 2004/5, 2005/6, 2006/7, 2007/8 and 2009/10 respectively (Table 4.19). There is a steady decrease in drug prices for both WHO recommended daily doses and Eastern Cape prices for EVF.

In the present study, the percentage quantity of drugs purchased when compared to the quantity contracted varies, depending on the tenders agreed on. The Pharmaceutical Depot uses a tendering system for drug provision. For every medication required to be procured, the Depot sends tenders or quotes to the companies making that particular medication. Each company provides an offer specifying prices. Generic prices are often 50% or less than the price for the leading brand names (159).

In Botswana, the Central Medical Stores works closely with procurement and distribution of ARVs. The Central Medical Stores aims at providing an uninterrupted service by purchasing high quality items on time (425). A study in Uganda documented drugs expiring on shelves because procurement is uncoordinated in the entire health sector (426). In comparison, in the current study conducted in Grahamstown, ARV drug procurement is done by one body at the Provincial Pharmaceutical Services and distributed to the accredited ARV health facilities and it is ensured that the required amount is available and ordered. Stock-out of ARVs has not been recorded in Grahamstown as the procurement and distribution system is functioning optimally despite challenges of HR.

The above reports and studies document some of the initiatives used to increase availability of ARV medicines which has resulted in increased access to these medicines in many

countries. The contributing factors are mainly an increase in the availability of generic drugs as a result of TRIPS and the Doha Declaration. The efforts to increase access to ARV in limited resource countries, such as the DAI and AAI piloted in countries in Africa, have not only improved access to the medicines but also showed that ARVs can be efficiently used in these countries. In Grahamstown, unimpeded and timely availability of drugs is a crucial facilitating factor for scaling-up and sustaining the HIV & AIDS programme.

5.2.6 Laboratory Service Indicators

In Grahamstown, laboratory services indicators, like other indicators, are not collected according to South Africa's M & E framework. At the NHLS in Settlers Hospital, data for some indicators are collected and put together as total values. According to the WHO, the status of information capacity of laboratories in the African region remains inadequate. There are few established laboratory information systems (236) similar to the present study. In resource limited settings medical laboratory services are not equipped with computerized information facilities for capturing data and producing reports (427) and this results in a lack of information like the outlined indicators in the present study.

In the current study, quality assurance and quality control are adhered to and regularly undertaken. Quality control is conducted daily by laboratory technicians. External Quality Assessment is conducted once a month by a Johannesburg-based company. In the African region only 41.2% of countries currently have a National Quality Assurance Programme (236). In an effort to realise high quality conditions, WHO external quality assessment and quality control activities are supported by an active programme of training, workshops and guidelines and these are extended to Africa (237). An effort to strengthen African medical laboratory systems peaked in January 2008 in Maputo, Mozambique, when the Maputo Declaration was endorsed. The declaration states the need to develop and expand quality-assured laboratory services and also encourages national governments to have high priority to support laboratory systems and develop a national laboratory policy that will steer the inception of practice of a national strategic laboratory plan (237) so that efficient laboratory services can be achieved.

TB diagnosis that is rapid is not yet available in resource-limited settings. Sputum smear microscopy is rare, limiting access to treatment of TB (428). Modern techniques such as

fluorescence microscopy are needed (239). In the current study, in late 2007, a fluorescence microscope was purchased to replace the Kinyoun stain, acid fast bacillus method. Fluorescence microscopy is said to be more sensitive and easier to detect positive results. In line with the development in Grahamstown, in Nairobi, Kenya, the fluorescence microscopy method was found to shorten the diagnostic process (429). Also in Kenya, a study showed another method, the Polymerase Chain Reaction method, which is not used in Grahamstown, to be an alternative in settings with many patients. The Polymerase Chain Reaction method can handle large numbers of specimens, with results available on the same day (430).

In South African NHLS, the referral of tests to reference laboratories and the delivery of results have been reliable (247). In the current study, a contracted courier system was utilized and rendered a reliable and efficient service. In contrast, in Malawi, patients�hardcoded specimens are transported using a bus. Timely delivery is not guaranteed and long delays between collection points and testing is often experienced. One of the studies conducted (431) reported only 40% of patients‘ TB sputum specimens arrive at the Central Reference Laboratory. In Uganda, patients‘ samples are sent to a private or public laboratory depending on the physician‘s preference, the patient‘s socio-economic status and the reputation of the laboratory and this is said to result in complications in health care delivery whereby physicians do not have the same monitoring for their patients as there are delays experienced in sending specimens to public laboratories (432).

The above studies and reports highlight how critical laboratory services are in the response to HIV & AIDS. There are both successes and challenges experienced by countries when trying to establish and strengthen laboratory services with latest accessible infrastructure. The accurateness and reliability of diagnostics and chemical analysis samples rely on quality assurance and quality control which are adhered to in Grahamstown. The laboratory services at Settlers District Hospital, with some limitations of information management, but with hope of introduction of new equipment, is an encouraging facilitating indicator for scale-up and sustainability of HIV & AIDS programmes in Grahamstown.

5.3 Patient Outcome and Impact Indicators

5.3.1 VCT, PMTCT, STI and TB

5.3.1. a. VCT excluding antenatal care

In the current study, during the financial year July 2007 to July 2008, 6,085 individuals (15 years and older) had undergone pre-test counselling, 5,711 had agreed to be tested for HIV and 314 declined to be tested (Figure 4.13). In the financial year April 2006–March 2007, 94% of pre-counselled individuals agreed to be tested for HIV. The HIV prevalence rate among clients tested excluding ANC was 21%. The acceptance for HIV testing increased in the financial year July 2009 to June 2010 when the number of people who tested increased to 7,969 from 8,191 adults who made themselves available for pre-test counselling, which is a 97% HIV testing uptake and of these, 1,329 tested positive (17%). In comparison, a lower testing rate was reported in a study conducted in Malawi to assess the feasibility and effectiveness of VCT where 1,019 (96%) patients were HIV pre-test counselled and 964 (91%) underwent HIV testing. The overall HIV sero-prevalence rate was 77% (433). In another study in Malawi, of 1,049 new TB patients, 1,007 (96%) were pre-test counselled, and 955 (91%) agreed to undergo HIV testing. A lower HIV testing uptake was experienced in a study conducted in Uganda where 93% of individuals initially requested HIV results, but only 62.2% accepted VCT (434). In Kenya, in response to a demand for counselling, the Kenya Association of Professional Counsellors was formed in 1991 so that counsellors became more directly involved and it resulted in a service that was client-friendly. These changes positively influenced the uptake of counselling and testing which improved from 55% to 68% (170).

A study conducted among the population of mine workers in South Africa identified a fear of a positive result as being a major barrier to HIV testing. Clients also raised concerns about confidentiality (435). In South Africa, the country's National Strategic Plan (NSP) Goal 6 seeks to improve access to VCT by expanding the use of rapid HIV testing methods. The main objective is to increase the number of persons presenting themselves for VCT (1) in Grahamstown, because there are a number of people who undergo voluntary counselling but decline to be tested, according to the Information manager at the DHO. Despite existing challenges for VCT, the uptake of pre-counselling and testing in Grahamstown is encouraging and hence a facilitating factor in scaling-up the HIV & AIDS programme.

5.3.1. b. ANC VCT

Maternal, child and women's health is one of the South African government's main priorities in its health care system (436) which is also in line with the MDG (437). During the financial year July 2007 to July 2008, the antenatal clinics in the current study had 2,546 pregnant mothers who agreed to be tested for HIV of which 411 tested HIV-positive. The HIV testing rate among antenatal clients was 81% and the HIV prevalence rate was 16%. It is observed that VCT uptake is comparably similar to a study conducted in Côte d'Ivoire, where of the 4,309 pregnant women who attended their first antenatal care visit, 3,756 underwent voluntary counselling (87.2%), and 3,452 (80.1%) agreed to undergo HIV testing with an HIV prevalence rate of 17% (438). The HIV testing uptake in Grahamstown can also be compared to the one observed in Nigeria, where 79% of patients agreed to be tested and 11.8% were HIV-positive (439). In contrast, a lower HIV testing uptake was observed in Zambia, where 17,263 pregnant women were counselled for HIV, 12,438 (72%) were tested and 2,924 (24%) were found to be infected with HIV (269). In contrast, in a study in Malawi of 3,136 new antenatal mothers, 2,996 were pre-test counselled and 2,965 (95%) underwent HIV testing, all of whom were post-test counselled (262).

In a study conducted in Mtubatuba, a rural area in KwaZulu Natal, in South Africa, there was an increased rate of HIV testing found in three audits that were conducted, when over 90% of women initiating ANC at the hospital were tested for HIV (440). In Tanzania, 92% of women who attended antenatal clinics accepted VCT (441). The comparable findings in Zimbabwe, where 2,298 pregnant women accessed VCT within 18 months, and the acceptance of HIV testing reached 93.0% (261). Another study in Zimbabwe concurred with the previous one, where during the first 18 months of implementing a rural programme of PMTCT, of the 2,471 pregnant women using antenatal services, 2,298 were pre-test counselled and the HIV testing reached 92.9%. Overall, HIV prevalence was 20.4% (442). Lower uptake of HIV testing was reported in Uganda where a total of 20,738 women attended antenatal services and 62.8% of them accepted testing for HIV (443). In contrast, a low acceptance rate for HIV testing was reported in another study in Zimbabwe, where of 6,051 pregnant women who attended antenatal clinics (ANC), 1,824 (30%) underwent pre-test counselling, 1,547 (26%) were tested, and 429 (28%) were HIV-infected (444).

All the studies reported above show that in some countries pre-test counselling is being promoted by the government and, increased government prevention health promotion

messages and increased coverage in the media, people are accepting pre-test counselling and proceeding to undergo HIV testing. These positive reinforcements are facilitating factors in sustaining and scaling-up HIV & AIDS programmes. The positive result for this indicator in Grahamstown are surely very encouraging and is a facilitating factor to improve the HIV & AIDS programme here.

5.3.1. c. Tuberculosis

In the second quarter of 2010 (April-June) 204 TB smear-positive patients started treatment in Grahamstown (Appendix 6.2a). The TB case finding index (number of episodes found TB positive from the first TB sputum test), that is new smear-positive cases notified, was 204 cases in the second quarter of 2010. The global case detection rate was 2.6 million new smear-positive cases notified in 2007. There is a global need for TB case finding to be optimised, and the Pro-Test initiative was introduced as a pilot project in Malawi, South Africa and Zambia. It is a WHO coordinated initiative aimed at promoting testing for HIV as an entry point to access a range of TB and HIV prevention and care services. The project has demonstrated the potential of utilising VCT as an entry point to TB case finding (183).

In the present study, there were reported cases of TB relapses, as a result of treatment default and also after TB treatment failure (Appendix 6.2a). IPT for HIV-positive patients was introduced at the beginning of September 2010 in MLSA (table 4.24). The South African NDOH did not promote IPT in the National Plan for roll-out of TB/HIV Joint Activities (180) despite the recurrence of TB infection reported to occur in HIV-infected individuals. In a study conducted in South Africa, recurrence occurred in 37 HIV-positive and 46 HIV-negative men (435). In another study, TB relapse and re-infection after cure in South African mineworkers with HIV1 infection showed that 65 patients (20%) had a recurrent episode of tuberculosis (445). The recurrence of TB indicates a need for viable preventative measures to control the TB epidemic. IPT has been found to be effective among HIV-infected Southern Africans in curbing TB recurrence. The therapy resulted in reduction of the overall incidence of recurrent TB by 55% among men who received IPT. In a feasibility study conducted in South Africa, routine IPT provision assessment was found to reduce TB incidence by 38% overall in HIV-infected adults and 46% in adults who had reported no history of TB. These studies show that IPT use is feasible in the South African health setting. In Malawi, IPT was implemented in a single VCT site. A small number of eligible HIV-positive clients were screened and, of those started on IPT, only 32% completed the course. In Zambia, IPT was

implemented in all sites and of 3,986 HIV-positive clients, 2,652 (68%) were screened for IPT and 1,390 (52%) of these started IPT; 1,264 were ready for evaluation, of whom, during a period of 12 months, 365 (29%) had completed a six-month course in IPT (180). In Zambia, the prevention therapy was shown to protect against TB for at least two and half years (446). In Brazil, the use of IPT in HIV-infected patients was associated with a high reduction in the incidence of tuberculosis (447). In a study in Uganda, IPT has been shown to be 70% effective at preventing tuberculosis in the HIV-infected patients. This prevention therapy has been successfully implemented by clinics specialising in the care of persons with HIV & AIDS (448).

The above pilot studies of the Pro-Test initiative spearheaded by WHO in Malawi, South Africa and Zambia demonstrate how WHO is raising awareness and promoting testing for TB using HIV testing as an entry point. This effort can help control the complication in the management of TB as a result of HIV infection. The strengthening of this initiative can increase the uptake of HIV testing and also contribute to the WHO Stop TB campaign. TB relapse, re-infection or recurrence is known to be a common opportunistic infection of people living with HIV. In spite of TB prevention therapy being shown to be effective it has only recently been introduced in Grahamstown but may become a facilitating factor once established.

5.3.1. d. Co-trimoxazole Prevention Therapy

In the current study, the rate of use of Co-trimoxazole as a prophylaxis in HIV-positive persons is 59% (see Table 4.24). CPT was introduced in both Malawi and South Africa, but eligibility for the therapy differed. In Malawi, CPT was provided to all HIV-positive TB patients; in South Africa it was provided to all HIV-positive persons with WHO clinical stage 3 or 4 of HIV disease, with or without TB. Zambia did not introduce CPT in any setting (180). In a study conducted in Malawi, 691 (94%) of all HIV-positive TB patients were put on CPT, and in another study a total of 693 (65%) patients were given Co-trimoxazole and this resulted in the improvement of the outcome of TB treatment (433). In another study conducted in Malawi, 93% of the HIV-infected individuals who completed anti-tuberculosis treatment were continued with CPT with the main aim of preventing illness associated with HIV (449). In Karonga District, Malawi, the Co-trimoxazole prophylaxis was found to reduce mortality in 70% of HIV-infected TB patients and the overall case fatality rate fell from 37% to 29%, (450). In Uganda, Co-trimoxazole prophylaxis among HIV-infected persons reduced

both morbidity and mortality (451), and therefore CPT was increased. It is therefore important for a system to be put in place so as to ensure that patients who are at WHO stage 3 or 4 of HIV infection are provided with Co-trimoxazole since it has been found to be effective. The above studies indicate that CPT is now increasingly used in sub-Saharan Africa in the management of the dual TB and HIV & AIDS epidemic. The provision of CPT to HIV-positive patients in the current study is a facilitating factor in ameliorating the impact of TB and HIV & AIDS.

5.3.1. e. Prevention of Mother-to-child transmission of HIV

In 2001, the United Nations General Special Assembly on HIV & AIDS (Section 1.7.1.c) set the goal of 50% reduction of MTCT by 2010, and provision of PMTCT services to 80% of those in need by 2010 (452). PMTCT is essential in South Africa. In South Africa, reduction of the rate of MTCT to below 5% is one of the aims of the country‘s NSP, 2007-2011 (251). Since the initiation of PMTCT programme in 2004 in South Africa, PMTCT scale-up and uptake has increased. The efforts to reduce MTCT in the country have reached the NSP target of 95% coverage in the public health sector and PMTCT was almost universally available in public health sector antenatal services facilities in 2008. The proportion of HIV-positive pregnant women receiving ARV medicines to reduce the risk of MTCT was 86% and 83% in 2008 and 2009 respectively (364). Another major boost to South Africa‘s effort to prevent MTCT is the adoption of revised 2008 PMTCT guidelines which aim to reduce ―missed opportunities for PMTCT" (254). In the revised guidelines, the inclusion of the dual therapy regimen NVP and ZDV was adopted. It was announced that the regimen would be changed as of 1 April 2010, starting women on the HIV prophylaxis regimen at 14 weeks instead of 28 weeks (364).

In the current study, during the financial year 1 April 2006 to 1 March 2007, a high NVP uptake rate among babies born to women with HIV was observed (Table 4.24). The number of NVP doses given to babies born to mothers who are HIV-positive was 491 whereas there were 477 antenatal clients who tested HIV-positive. According to the MLSA information manager the difference of 14 (Appendix 6.1) could be attributed either to a mother who tested positive in the previous year giving birth in the current financial year or to some mothers giving birth to twins. A study conducted to assess PMTCT programmes in South Africa revealed a poor delivery of NVP to mothers and postnatal tracking of mother and infant pairs

after 12 months for HIV testing, and these are some of the constraints for the health system (453).

In the Cacadu district, in 2008, a study conducted to assess the implementation of the programme for PMTCT reported the need for a well-functioning health system with sufficient and trained staff, appropriate case recording, and an improved patient follow-up system (452). Another study which was conducted by the Human Science Research Council found the need to improve M & E because it is reported that most clinics in the district have a problem of filling too many registers and the need for one comprehensive computerized register was identified. M & E is not done regularly on a monthly basis and as a result records are not kept up to date. The study also reported the instance of disagreement in reporting in 13 out of 21 facilities including NG Dlukulu and Joza clinic, and fewer cases are recorded in case registers at Raglan Road. In clinics at NG Dlukulu, Joza, V Shumane and Settlers Day Hospital, more clients were recorded in daily clinic registers than in a monthly tally of clients recorded in clinics' summary sheets (381). Similar challenges of PMTCT data management were reported in KwaZulu-Natal when 36 clinics and hospitals in three districts were assessed. The data to be used to track progress and outcome of PMTCT was incomplete and inaccurate (454). There is a need to simplify systems for recording patients and cases, and provision of administrative support to facilitate this is critical (452). The HSRC study further reports that in the Cacadu district, the women deliver babies in hospital and as a result most clinics do not issue NVP at labour and data is not available for babies delivered at the clinics (381). A need for the implementation of standardized and sustainable routine data collection and reporting systems continues to be a challenge for health information systems in South Africa (455)

In the current study, the NVP dose to baby coverage rate was 17%. In the calculation of the NVP dose coverage rate the same NVP dose of 491 provided for the calculation of the NVP uptake rate was used as the numerator in this calculation (see Appendix 6.1.1) but in this case the denominator is population instead of number of babies born to HIV-positive mothers. According to the UNGASS progress report, South Africa's NDOH plans to implement one ART monitoring system with the aim of establishing a standardized tool for data collection and eliminating contradicting methods of calculating numerators and denominators (364).

The HSRC study conducted in the Cacadu district showed that pregnant women who tested HIV-positive collected NVP at 32-34 weeks although some facilities issued it at 28 weeks. Few women collected NVP; for example at NG Dlukulu clinic, four women accepted NVP but none collected, and at Raglan Road, seven accepted NVP but none collected it (381). However in another South African study, 7,853 (55%) pregnant mothers were provided with NVP and 7,950 (99%) infants born to women identified as being HIV- positive received NVP syrup (45). In a study conducted in Johannesburg there was an increased rate of HIV testing and NVP uptake. By the third audit, 86% (43/50) of HIV-positive women and 74% (37/50) of newborns were documented to have received NVP (440). Similar studies in Tanzania report the overall NVP uptake to be 97% (441).

The above studies report an increased rate of using prevention therapy in the comprehensive response to HIV & AIDS epidemic in different countries. Both CPT and PMTCT have been shown to be effective in preventing OI and thereby decreasing morbidity and mortality in people living with HIV & AIDS and in preventing MTCT. Prevention therapy is a facilitating factor in the comprehensive response to the HIV & AIDS epidemic. Both therapies can form an integral part of the response to the epidemic in Grahamstown; the challenge of data management needs to be resolved so as to give a clear and true interpretation of data.

5.3.2 Antiretroviral Therapy indicators

South Africa has nearly a million people enrolled in the ART programme in the public health sector and the country has the largest ART programme in the world. In South Africa, ART is now provided to HIV-positive patients whose CD4 count is 350 or less. Previously, a new ART guideline was making an exception for only HIV-positive pregnant women who would be eligible for ART with a CD4 count of 350, and patients who are also co-infected with HIV and TB will also be initiated on ART programme. The drug changes were with D4T being replaced with Tenofovir for new patients and existing patients who experience side-effects from D4T can be put on Tenofovir. Also, in the second line treatment ZDV replaced Didanosine (ddI). (456). In an effort to lessen the workload on the strained public health sector, the South African government has given approval to the ARV providing sites to give patients on ART a three-month supply of ARV medicine so that they do not require a monthly consultation. In some areas of the Western Cape, patients are now given a three-month supply of ARV medicine (457)

In the present study, according to group interview participants from Settlers Hospital, adequate consultation with key stakeholder HCPs was not carried out when the ART programme was introduced in Grahamstown (see Section 4.6.1.a), which resulted in inadequate preparation and insufficient infrastructure development. Another study carried out in the Grahamstown District Hospital concurs with the views of the participants in the present study. Participants reported a shortfall in preparation for the implementation of the ART programme due to limited support at district, provincial and national levels for development of local implementation systems. There was also lack of proper forecasting and analysis of the situation to ensure availability of suitable infrastructure and personnel for an ART programme at the hospital (359). As compared to this study, in Botswana, the pilot programme was instrumental in preparing medical officers to deal with a rapid increase in patient demands. Unlike in MLSA, Botswana offered consultation with the HPC providing preparatory training to medical officers, nurses, pharmacy staff and counsellors. In this country, before the ARV roll-out, patient education tools and materials, laboratory requisitions and tracking forms were developed (458, 459). The Botswana ARV clinic, similar to MLSA, has a medical practitioner working on a full-time basis and has a fully operational laboratory capable of performing CD4 counts, viral load counts and chemical analysis (459). MLSA experienced challenges in the implementation of the ART programme as did other countries in sub-Saharan Africa. A study conducted in Senegal, Côte d'Ivoire, Uganda and Kenya showed challenges of laboratory service and adequately trained personnel during the early phase of the programme (460). A lack of personnel to capture patients‘ information leaves the medical doctors in the present study with the dual task of filling in endless forms and rushing to consult with the patients. In South Africa, ARV roll-out is mainly steered by doctors who diagnose, prescribe ART and consult with patients (458). Treatment and care throughout the country is an integral part of the HIV/AIDS/STD Strategic Plan (1) which plans to promote a nurse-centred approach to the roll-out of ARV drugs in South Africa, and recently the nurses do feature prominently in the administration of ART (461). In Grahamstown, the professional nurses are also actively involved in the PHC centres and are assisted by the community health workers in ARV treatment and care of HIV & AIDS patients once they are down-referred to the PHC centres after their treatment is initiated and stabilised at Settlers District Hospital. Table 4.28 shows the down-referred patients who are taken care of by the nurses at the clinics, and task shifting is resulting in more optimal use of available human and infrastructure resources. Task shifting in MLSA is

employed as a means of dealing with the shortage of medical doctors to attend to patients and is a facilitating factor in patient care.

5.3.2. a. Access to health

In the present study, the group interview participants mentioned that many rural people do not have access to health care and rely on a mobile clinic (Section 4.6.1.h). There is a need for strengthened health care systems in order to improve access to ART in resource-constrained countries (462). South Africa‘s operational plan set a target that there will be full access to ART for all HIV-infected individuals requiring treatment within the public health care system (2) but many South Africans live with little access to basic health care (215, 458). Public hospitals are characterized by limitations in service delivery and long queues (2). It is known that rural communities have limited access to health care in South Africa and this problem was exacerbated by a policy of administering ART for HIV patients at hospitals before more sites were accredited to initiate ART. This is known to hamper access to treatment for a large number of people because of the distance they have to travel (382). Treatment and care is out of reach for the rural population, and this is the case in Northern KwaZulu-Natal where patients have to walk long distances to access treatment (463, 464). In Grahamstown too, most patients had to either walk or use personal funds for taxis, to reach the hospital to initiate their treatment. The government of South Africa announced the launch of a campaign to increase HIV testing with a target of testing about 15 million people in South Africa (456, 465). In Grahamstown, in May 2010, the start of the campaign, 150 more people tested for HIV as shown in Figure 4.14. In anticipation of having a high number of people testing and more people who might need to access ART, in Grahamstown as from April 2010 five clinics have been assessed for readiness to provide ARVs. In the beginning of July 2010 three PHC facilities – Settlers Day Hospital, Joza Clinic and Raglan Road Clinic – started to initiate ART for AIDS patients.

5.3.2. b Long waiting period for ART

Before people can be enrolled in an HIV treatment programme and receive ART, in some areas in Africa they are on the waiting list until they become visibly sick (466). Waiting lists in South Africa are common in both urban and rural areas (458). In the current study, the number of female patients who were on the waiting list for ART increased in 2007 and 2008 and in 2009 the number of female patients decreased to below 10 after August when the Public Private Partnership between Netcare and the DOH was signed (see Figures 4.2 and

4.3). The number of male HIV patients also decreased but the number of male patients on the waiting list was fewer than female patients. There were no male patients in the first quarter (January-March) who died while on the waiting list and only one female died while waiting to be enrolled on ART during readiness assessment. However, in the Zambian ARV programme, there are a high number of patients on the waiting list eligible for ARV treatment (467), and in Botswana there are many patients on the waiting list because of the high demand for treatment (459) as was experienced before the Public Private Partnership was implemented in Grahamstown. In MLSA, ART initiation was initially done only at Settlers Hospital and this has resulted in a long waiting list as the demand for treatment exceeds HR, and this also limits access to ART for patients in the rural areas (468). Patients experience a long waiting period, hunger and transport costs (469) and this was also highlighted by one of the group interview participants in this study (see Section 4.6.1.h).

ART is becoming widely available in resource-limited settings as highlighted by the different studies mentioned above. However, the introduction of the ARV treatment programme has been characterised with many challenges such as inadequate infrastructure and the limited number of health professionals to deal with the large number of patients. This resulted in many patients being compelled to walk long distances to access health and most of them remain on a long waiting list. These challenges which constrain the smooth implementation and operation of the programme require attention so as to ensure sustainability of the programme in Grahamstown.

5.3.2. c. Loss to follow-up of patients on ART

Retention of patients on treatment for a long duration in the increasing scale-up of ART programmes is vital for the programme in sub-Saharan Africa. In this region, patient loss to follow-up is a major problem facing ARV public health programmes (470-472). It is estimated that 5–25% of patients are reported as ―lost to follow-up" (473) and long-term retention of patients on ART is said to be 60% at 2 years (474). In southern Africa, the provision of ARVs in the public health is also faced with the problem of long-term retention of patients in primary care (470). In another study conducted in a rural district in South Africa, of the 675 patients initiated on treatment, 100 (15%) patients were lost to follow-up (475).

By March 2010, Settlers Hospital had enrolled a total of 1,908 patients on ARVs since accreditation. The total number is made up of 108 children under the age of 15, 1,090 female adults and 614 male adults. The remaining balance of 204 patients was made up of patients who were deceased, defaulted or lost to follow-up or who transferred out. Two patients were discontinued from ART as a result of poor adherence. A total of 548 patients were down-referred to feeder clinics (see Table 4.2). Other studies conducted in South Africa document 5% (476) and 4.7% (477) loss to follow-up. In comparison, Malawi had 9% patients lost to follow-up (473) while another study in a rural Malawi district reported 91 out of 1,200 patients (7%) who were lost to follow-up (337). In a Malawi hospital, a large number of patients who were not retained on ART were patients who were transferred out to other clinics (474). In a Lusikisiki rural community, in a South African decentralized model of ART delivery at clinic level, its patient tracing techniques resulted in easier access and increased enrolment of people into treatment. Due to better workload and dissemination among the clinics, the system had better retention of patients in treatment with only 2% lost to follow-up (478).

South Africa‘s national ARV treatment guidelines highlight the need for a health care system that is inter-linked from primary to tertiary level, from the clinic to the community as well as from pre-diagnosis to palliation (479). The gaps in the system need to be dealt with to achieve the continuum of care (477) and unravel the problem of patient loss to follow-up so as to have feasible patient tracing procedures in place (471). A loss to follow-up compromises the success of the HIV & AIDS treatment programme since regular and complete patient follow-up is critical for monitoring and evaluation of the programme so that clinical and laboratory results are available to make decisions on ARV treatment response (480). The above studies have shown tracking of patients after being referred to other facilities to continue ART. A loss to follow-up is a constraining factor and needs close attention from the public health fraternity. In MLSA it is encouraging to note that ART has been initiated in Temba TB Hospital, Settlers Day Hospital, Raglan Road clinic and Joza clinic. This decentralization of treatment is a facilitating factor in minimizing a loss to follow-up of patients. The decentralizing and integration of the ART programme in PHC and in rural Kwazulu-Natal have shown that there are desirable positive outcomes which can be deemed to be feasible in southern Africa. (481)

5.3.2. d. Mortality in ART programme

Compared to developed countries (482), in sub-Saharan Africa, HIV-infected patients on ART continue to experience high rates of early mortality (193, 472, 483, 484). The assessment of mortality in sub-Saharan Africa in a total of 3,749 patients followed up showed 8.6 deaths per 100 persons per year (472). In the current study in MLSA, the number of deaths reported among patients for the year 2009 was 17 females and 13 males, and in March 2010 there was no incidence of females who died and only one male patient who died (Table 4.25). These patients died in the first six months of ART initiation. In a rural district in Malawi, the majority of deaths – six out of every ten – happened within 3 months of starting treatment (485). In Khayelitsha, Western Cape, in South Africa, a high incidence of early mortality (up to 10%) was found in the ART programme (486). In another study in rural South Africa, out of 675 patients, 119 (18%) died, with the highest mortality during the first few months of treatment (475).

In Abidjan, Côte d'Ivoire, 50% of deaths were from previous infections prior to ART initiation, mainly TB (483). Similarly, TB was the main cause of mortality at a district hospital in Ethiopia (193). In Senegal, the incidence rate of death in the first year of treatment was 6.3/100 person years and as reported in earlier studies, was influenced by TB (487). When compared to the previous reports, in MLSA there were 36 HIV-positive patients on ART and TB treatment in the first quarter of 2008 and there was no established association of TB and mortality mentioned in MLSA.

According to Settlers Hospital quarterly report to ECDOH, there is a problem with individuals presenting themselves for HIV testing and treatment at a late and advanced stage of the disease. When patients present with WHO stage IV with a CD4 count less than 50 cells per µL (470), malnutrition and previously infected with TB (485), it results in early mortality after ART initiation (458). In South Africa, most early in-programme deaths occurred among patients with advanced immunodeficiency (488). However, there is another study in South Africa which shows a fall in mortality at 6 months from 12.7% to 6.6% (477). In rural KwaZulu-Natal in South Africa, a decline in mortality was reported in 2006, as ARV drugs became increasingly available (489). Focus should be given to the early weeks or months of treatment when mortality is high (193). There is a need for a campaign to encourage timely diagnosis and assessment of treatment eligibility. This, coupled with timely ART initiation, might reduce excess mortality (480, 482). In Uganda, mortality was lower when co-

trimoxazole was used together with ART in 16 weeks of treatment. Increased access to ART and co-trimoxazole prophylaxis could result in reduction in mortality of people with HIV & AIDS (490). The studies in this section have shown a high number of mortality incidents in ART programmes is an impediment to an optimum ART programme. In MLSA as in these reported cases, mortality is a constraining factor, but it is encouraging that in the first quarter of the current financial year only one death was reported (see Table 4.25).

5.3.3 TM Indicators

In the South African National M & E framework, provision was made to document the use of traditional and complementary medicines by patients to be initiated on ARV treatment (3). In the current study, the HCPs in the group interview did not know the number of registered THP who are trained in treatment and care of patients and the number of patients referred by THPs to service points is not known. The HCPs were also not sure if patients provide information truthfully about whether they are concurrently using TM and ARVs and HCPs are aware of the integral use of TM by the local population.

WHO estimates that at least two-thirds or more of the South African population make use of TM for their everyday health care needs (491). Treating HIV in South Africa has been dubbed as “a tale of two systems” – traditional and western medicine (492). TH are consulted by more than 80% of the rural population in South Africa. South Africa took a step to legitimize TM on 5 Aug 1998 when Parliament proposed that a statutory council be set up to regulate 350,000 THs (493). The government of South Africa adopted the Traditional Health Practitioner Act in 2005 and this paved the way for the establishment of the Interim THP Council (494, 495).

WHO recognizes that TM can play a vital role in PHC and the need to include the healers in the National Health Strategy, and it is now recognised that they can play an active role in HIV prevention. The efforts to facilitate a working relationship between traditional and biomedical health practitioners in different countries such as Botswana, the Central African Republic, Guinea, Malawi, Mozambique, South Africa and Uganda were initiated by offering workshops and awareness training projects for THs (231). In KwaZulu-Natal, which is hard hit by the epidemic, the efforts to curb the epidemic have nurses, physicians and THPs working together (496). The study conducted found a high level of preparedness among THs

to work with and refer patients to western medical health practitioners, though no levels of referral by biomedical practitioners to THPs were found after the training (497).

It has been shown that equipping THPs with adequate knowledge, skills and support can facilitate efficiently integrating biomedical information of HIV & AIDS into their practices, and being able to use culturally relevant media to reach out to patients (498, 499). An initial report of establishing links with Grahamstown THPs to introduce the biomedical view of HIV & AIDS and possible interaction of concomitant use of ARVs with TM has been initiated (500). Continued efforts such as those by the DOH and HCPs in Grahamstown are critical to build a long-lasting trusting working relationship with THPs. Similar training of THs in Western Nepal showed a marked improvement of their knowledge of HIV transmission, prevention and care measures (501).

A study conducted in two provinces in South Africa highlighted that there was concurrent use of TM and ARVs among clinic attendees who were on ARV although 84% declared they had never used TM (224). In a study conducted in Tanzania, the use of TM to treat OI was also revealed (502). In Zambia there were no studies that documented the referral of patients by THPs to the hospital; however the THPs interviewed in the study were not willing to refer their patients and felt they could treat AIDS and its OI (503).

Many studies have reported the use of TM and consultation with THPs by a large number of people in sub-Saharan Africa seeking help for HIV related issues. The continued efforts to involve the THPs in HIV prevention and care can be a key step in strengthening the response to the epidemic. The government of South Africa took a constructive step by adopting the THP Act, and by including TM use as one of the indicators in the M & E framework. In Grahamstown, even though the knowledge of the use of TM and ARVs is not known and documented, the initiative to bring awareness to THPs of the implications of the concurrent use of ARVs and TM is a facilitating factor for the sustainability of the HIV & AIDS programme in Grahamstown.

5.3.4 Social Mobilization and Communication

Community involvement in health provision is increasing in the HIV & AIDS impacted areas and has succeeded in providing desired aid to people infected or affected with HIV. In low

and middle income countries, this provides relief to under-resourced health facilities which are over-burdened with a large number of HIV & AIDS patients. (504).

It has further been reported that a HBC health care delivery system by trained lay workers can be effective in sub-Saharan Africa. In the current study, the number of clients served by HBC around the accredited service points was 180 in April to June 2008 as shown in Table 4.30 (adding the total number of patients served by PHC facilities). The number of visits by lay counsellors (preferably the counsellor who performed pre- and post-test counselling if possible) to people living with HIV from April to June 2008 was 800 when adding the total number of visits recorded at PHC facilities (Table 4.30). In another study conducted in South Africa it was reported that each person living with HIV & AIDS, and on a HBC programme, is visited five times a month on an average by volunteers offering counselling, welfare assistance and psychological support (505). In comparison, a study conducted in Malawi in 2008 had over 300 new patients enrolled in that year in the villages who were identified by HBC volunteers and it is reported that there were 200 to 250 follow-up visits each month to give medicine, support and advice or to refer if needed (506).

The primary aims of the communication strategy are to disseminate information and knowledge about the HIV & AIDS programme and its requirement to the large South African population including relevant government programmes, health care providers, people living with HIV & AIDS (PLWHA), their families, care-givers and stakeholders. Television, radio and local newspapers have been used to provide communication and education on the comprehensive HIV & AIDS programmes. Print media in the form of newspapers and 11 million copies of a booklet on prevention, care and treatment have been distributed nationally. The Khomanani Social Mobilization Campaign has been active in increasing awareness of HIV & AIDS prevention. The UNGASS South Africa report states that to disseminate the prevention intervention efforts of HIV transmission, media campaigns and other programmes focus on behaviour change using programmes such as Khomanani, which is the official government communications campaign (507); Love Life, which focuses on public schools; Soul City, which is a televised national prevention campaign which offers education through edutainment; and Soul Buddyz, a radio/television aimed at 6-12 year olds. In 2008, 27% young men and 27% women aged 15-24 correctly identified ways of sexually transmitting HIV and rejected major misconceptions about HIV transmission (364).

In the current study, the percentage of people in the population who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission or prevention is not known but it is believed to be high (see Section 4.4.1.d). The results from MLSA are comparable to Kenya, where mass media and other communication strategies inform and educate the population about the HIV & AIDS epidemic and encourage healthy sexual practices. Although awareness of HIV transmission is high in Kenya, there is a lack of understanding of messages communicated to the population in the rural community (508). In South Africa, trained health workers in community-based organizations offer HBC services to both HIV-infected and -affected individuals. There are referrals between the community health workers and health facilities in both South Africa and Kenya (509). A co-ordinated referral system between different HIV & AIDS related health services, hospitals and clinics is vital. Family Health international, a public health and development organization which strives to improve the lives of the most vulnerable people, provides guidelines to establish the network. In Malawi, the certification of eight members in home-based care in 2006 by the Government of Malawi helped to ensure care for community members infected with HIV and also educated the community about HIV transmission and the consequences of the disease (510). In the current study, the number of referrals by HCWs to the clinics was 57 for July 2007. In another study in Malawi, community-based organisations were involved in conducting VCT. Over a two-year period, a total of 21,358 (41%) of the 52,510 HIV tests performed at VCT sites were conducted by lay community VCT counsellors. From these services there were referrals for TB and sexually transmitted infections (511). Similarly, in Tanzania, there is an integrated service between the community-based organizations whereby health volunteers work closely with hospital medical personnel. The hospital receives patients from the community and refers them back to the community for support services and 418 people living with HIV & AIDS were enrolled in home-based care programmes (512). In Ethiopia, the response was strengthened by integrating home-based care programmes involving people living with HIV & AIDS, their families and linking poverty alleviation with HIV & AIDS programmes (513).

There is an increasing involvement of home based care-givers as mentioned in the above studies in different countries. Home visits, care and increase of HIV & AIDS awareness and knowledge in the media can prepare people living with HIV to accept their status and also encourage patients to adhere to their medication regime. With a full-time officer and more

activities in Grahamstown, the social mobilization and communication indicator is a facilitating factor in sustaining and scaling up of the HIV& AIDS programme.

5.3.5 Pharmacovigilance Indicators

ARV medicines are increasingly linked with mild and severe ADE which, in some cases is chronic. These ADEs pose a challenge to patients and public health safety concerns, but are not regularly identified and rarely methodically reported in low and middle income settings (514, 515). The main reasons for this are scarcity of resources, infrastructure and expertise. As a result, the profile of the ARV drug side effects cannot be fully monitored and acted upon (516). In the current study, pharmacovigilance indicators, like the other indicators outlined in the M & E national framework, are not collated in a format outlined in the South Africa National Monitoring and Evaluation framework. These indicators could not be collected and hence a group interview was held at the District Hospital. Information such as ADRs, regime change rate and adherence rate were recorded electronically by a hospital pharmacist dedicated to the ARV programme in 2004 when the roll-out was initiated. After the pharmacist moved to another hospital, these details were no longer recorded electronically and hence these details are difficult to find as they are hand-written in the patient files. The physician at Masonwabe HIV & AIDS clinic highlighted the lack of human resource and expertise to carry out systematic reporting of pharmacovigilance indicators. A study conducted in MLSA PHC confirmed a challenge posed by insufficient training and insufficient HCPs. There are also misconceptions with regard to the incidence of side effects and the capability of patients to adhere to treatment, but HCPs had the perception that patients had few side effects (517). At Settlers Hospital, the reporting of ADE of patients on ARVs is recorded by physicians as they conduct consultations on individual patients. This is referred to as spontaneous reporting, and this type of reporting is characterized by a high level of under-reporting (518), which may be attributed to the excessive workload of physicians and nurses, as is the case in this study. In the Eastern Cape region, the endless filling in of reporting forms is one of the barriers to conducting proper pharmacovigilance (519). In contrast, a study conducted in Spain successfully made use of an electronic hospital information system and consequently they were able to develop ADE reporting and this not only allowed easy access for improved review and intervention but also alleviated the workload of physicians (520).

In the current study, the lack of access to information on other indicators prevents documentation of the specific mortality rate attributable to ARVs and the specific mortality rate due to mixing ARVs with TM. There is a need for an electronic database, which was highlighted as one of the challenges in the February 2008 ART report. In this study, the patients on ART come for review consultations at the hospital every six months and for the remaining months they are maintained by the nurses in the PHC centres closest to the patients' homes. It is recommended that routine laboratory monitoring of HIV patients on ART should be done approximately every 3 months to determine the progress of treatment and to determine if the patient has asymptomatic abnormalities (521).

In South Africa, as in other developing countries, ADEs have been shown to be a major cause of hospital admissions, and HIV & AIDS is an important factor in the profile of admissions (522). In the present study approximately 15% of the patients are seen for ADEs (Section 4.5.1.e). In contrast the adverse events in a Swiss cohort study of 1,078 patients, 23% laboratory ADEs and 45% clinical events were observed (523). In Grahamstown, common ADEs were peripheral neuropathy, hyperlactaaemia, anaemia and lipodystrophy at the end of March 2010, however the cases were not documented but were reported to have been managed successfully (Table 4.31). In the entire Eastern Cape the most frequently reported ADE was peripheral neuropathy at 32% between June and October 2006 but another common side effect was lipodystrophy (519). In 2006/2007, 146 peiripheral neuropathy cases were reported in the Eastern Cape (524). In British Columbia, Canada, 50% of 1,035 participants appeared to have probable lipodystrophy (525). The most common reason for modifying therapy in this study was the occurrence of ADEs, which have also been recorded in studies conducted in South India (526). In London, a modification and discontinuation of HAART regimes is experienced in the first 12 months, due either to ADE's effects or to poor compliance (527).

However, a few important strides have been reached in the current study despite the challenges experienced. The pharmacist responsible for ART and the doctor at the hospital had initiated the monitoring of ADE. They had also started documenting details of patients who had been initiated on ARVs at the hospital and were being stabilised and down-referred patients who were referred back by the PHC centres for treatment of ADEs at the hospital. However this documentation was not sustained sufficiently when the pharmacists responsible for the ART left the hospital. In May 2007, the Eastern Cape RTC Models of Care Project

under the HIV & AIDS Treatment Programme offered a Pharmacovigilance Plan and Training course at Settlers Hospital. There were, however, no follow-up developments after this initiative as the hospital was required to take ownership of ADE monitoring.

According to the studies reported above, recording the pharmacovigilance indicator is challenging in South Africa and in other resource-limited settings. The pharmacovigilance indicator in Grahamstown needs to be given more attention by increasing the number of skilled personnel so as to decrease the workload of physicians so that regular reporting of ADEs is ensured. There is also a need to incorporate ADE reporting into the electronic DHIS. In this study the pharmacovigilance indicator is a constraining factor to the HIV & AIDS programme in Grahamstown. It is critical that undesirable drug events are monitored so that the individual treatment progress can be managed. The training which was started by the Eastern Cape RTC is an encouraging sign for the sustainability of HIV & AIDS programme in Grahamstown.

6. Recommendations

There is a need for the establishment of a M & E Unit with Strategic Information Centre to collect and analyse data in Grahamstown.

There is a need for a single and integrated on-site electronic capturing of data at all clinics in Grahamstown.

There is a need for improvement in co-ordination between national government and provinces, in particular between the NDOH and provincial DOH, to facilitate uniform M & E of the HIV & AIDS programme at the District level in Grahamstown.

There is a need for training of end users at the facility level and relevant stakeholders on the M & E framework and indicators so as to foster the spirit of ownership of the Comprehensive HIV & AIDS Care, Management and Treatment programme.

There is a need for the integration of different information sources such as the Patient Information System, NHLS and DHIS as well as introduction of on-site electronic submission.

There is a need for strategy recruitment of health professionals and maximized efforts to retain staff and manage migration.

Referral systems and patient tracking mechanisms should be strengthened so as to minimize a loss to follow-up.

The patient information system infrastructure should allow the management of information in admissions, discharge and transfers, maintaining full patient records on the National Patient Master Index.

7. Limitations of the study

- The data for the study was collected at different time frames because district level data was not readily available as the South African National M & E HIV & AIDS Framework is not utilized by the District DOH. Instead the District level data is gathered according to the format provided by the Provincial DOH, which does not follow the national M & E Framework for HIV & AIDS indicators. Also data was collected from various sources and was based on data that could be provided by various officials in the health care system. Consequently, a –cross sectional” picture of the programme with a common time frame could not be conducted in this study.
- A mixture between group interviews and individual interviews was carried out based on availability of health personnel in the DOH. A focus group discussion and a systematic qualitative assessment of data could not be carried out in this study.

8. Conclusion

In this study not all the indicators outlined in South Africa‘s National M & E framework could be collected from Grahamstown‘s public sector health care system as some of the indicators were not available at the district level, and others were only collected at the provincial and national levels. The Inputs, Process and Output indicators that could be collected are Budget and Expenditure, HR and Training, Accreditation of Service Points, Nutrition Related Indicators, Drug Procurement and Distribution and Laboratory Services indicators. The set of Patient Outcome and Impact indicators that could be collected are VCT, PMTCT, STI and TB from the Information Manager, HIV & AIDS Manager and TB Manager at the DHO. The Out-Patient Department at the DHO provided statistics on rape victims, ART and Social Mobilisation and Communications. TM and Pharmacovigilance Indicators could not be collected since they are not required to be recorded according to the M & E framework by the province. Patient Information System, Monitoring and Research, Progress Monitoring Indicators and Health Systems Strengthening Indicators could not be collected at the district level health care system since they are not available or mostly required to be collected at only the provincial level and national levels. Some indicators of Inputs, Process and Output, and Patient Outcome and Impact, could not be collected and the ones which were available were sourced from different places and were not readily available. The only indicator set available according to M & E framework are VCT, PMTCT, STI and TB, however even these indicators were collated from different sources.

There is a lack of awareness of South Africa's National M & E Framework in Grahamstown‘s public sector healthcare system. Data collection and capture problems were identified since there is still manual reporting along with electronic reporting based on DHIS software.

The reporting is done according to the format designed by the ECDOH. The local health facilities receive regular feedback from the Provincial DOH, but there is a need for introductory training for the Grahamstown health personnel on the national M & E framework.

Based on the results in this study, Grahamstown‘s HIV & AIDS programme has many facilitating factors which sustain the programme and include the following: Accreditation of

Settlers District Hospital, Temba Tb Hospital, Ford England Psychiatry Hospital and three PHC facilities for scaling-up and sustaining the HIV & AIDS programme (Page 74); well managed nutrition related indicators (Page 75); timely access and availability of ARVs due to well managed drug procurement and distribution system (Page 79); well managed laboratory services (Page 81) , and availability of fluorescence microscopy for TB diagnosis (Page 82) and contracted courier service for transporting specimens (Page 82); Encouraging uptake of ANC and VCT (Page 84).

Other positive aspects such as introduction of IPT for HIV-positive patients to counter the treatment default and TB treatment failure (Page 85); CPT (Page 85); high NVP uptake rate among babies born to women with HIV (page 85); task shifting, down-referral of stabilised patients to PHC centres (Page 92) and decentralization of treatment ; adequate social mobilization and communication (Page 93); long waiting periods for ARVs which has reduced due to public private partnership (Page 133) - all have positive influences on scaling-up and sustaining the HIV & AIDS programme in Grahamstown.

Constraining factors such as - inadequate HR and training (Page 69); inadequate preparation, insufficient infrastructure development and inadequate consultation with key stakeholder HCPs before ARV roll-out (Page 96-97); unavailability of documented information regarding concurrent use of TM and ARVs by AIDS patients (Page 93); challenges in recording the pharmacovigilance indicator (Page 95) - exert negative effects on the HIV & AIDS programme.

Despite all the challenges experienced in sustaining the programme, the DOH utilizes the available resources in the most optimal manner. However the sustainability of this programme needs to be addressed. A shortage of health personnel needs to be addressed as a matter of high priority. Health personnel are overburdened with a large number of patients who are on ART. There is a need to create an M & E unit to address the staffing and data flow issues in order to create an integrated information management system.

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Appendix 1
Research permission by Rhodes University Ethical Committee

RHODES UNIVERSITY
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FACULTY OF PHARMACY • Tel: (046) 603 8381 • Fax: (046) 636 1205 • e-mail: paru@giraffe.ru.ac.za

9 January 2007

Phehello Mahasele
Faculty of Pharmacy
Rhodes University

Dear Mr Mahasele

APPLICATION FOR ETHICAL APPROVAL: MONITORING AND EVALUATION OF HIV/AIDS POLICY

I am pleased to inform you that your application for ethical clearance for the above project has been approved. You may proceed with your study.

Thank You

Yours Sincerely

Professor Santy Daya
Chairman: RUESC

cc: Prof Sunitha Srinivas

Appendix 2. Research permission by ECDOH

26-FEB-2007 18:14 From: To:6361205 P.1

Eastern Cape Department of Health

Enquiries	Zonwabele Merile	Tel No:	040 609 3916
Date:	28th February 2007	Fax No:	040 639 1440
e-mail address:	zonwabele.merile@impilo.ecprov.gov.za		

Dear Mr Phehello A. Mahasele

Re: Operational Research in HIV/ AIDS Program in Grahamstown's Public Health Sector

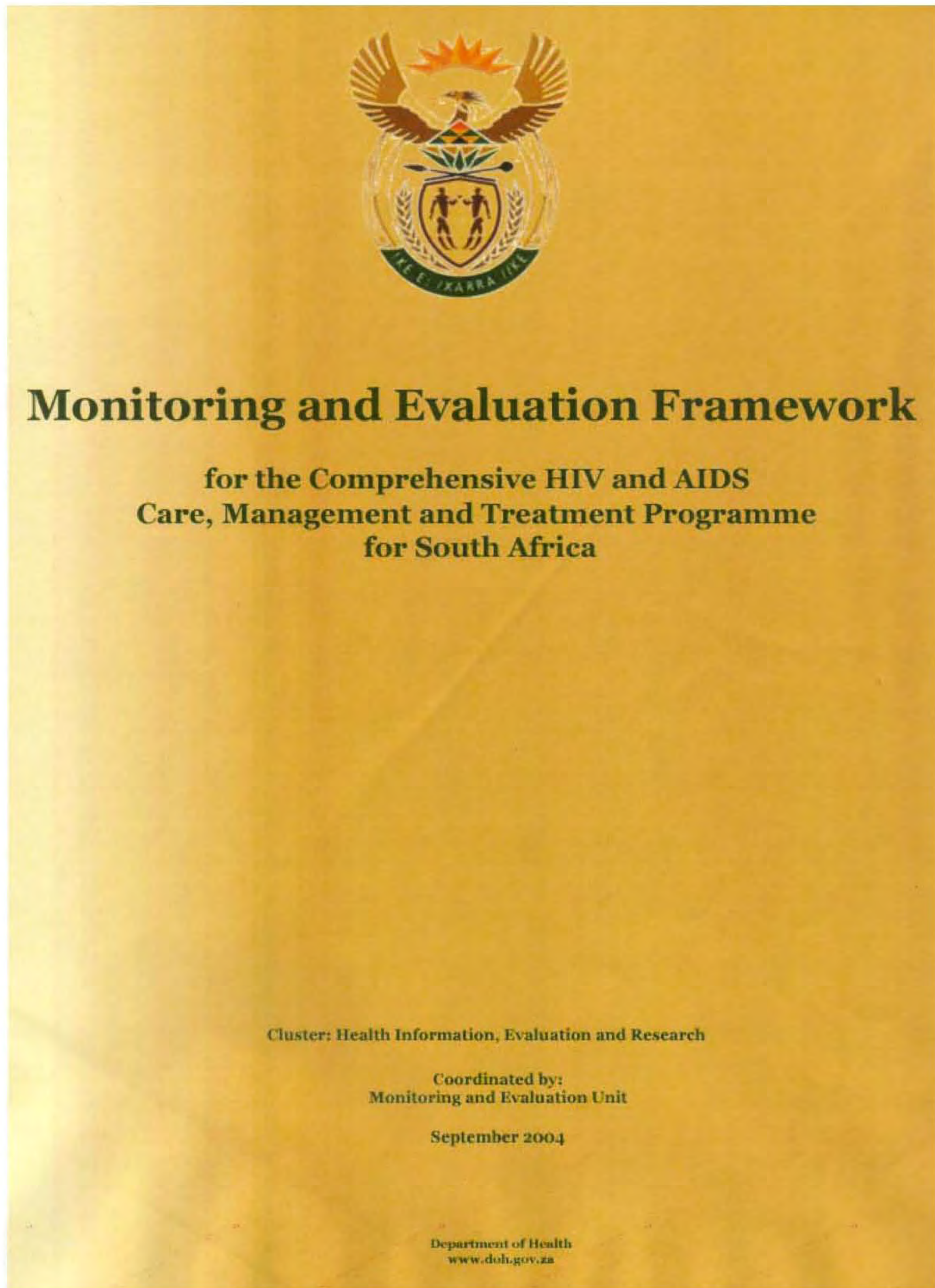
The Department of Health would like to inform you that your application for conducting a research on the abovementioned topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants. You will not impose or force individuals or possible research participants to participate in you study. Research participants have a right to withdraw anytime they want to. The Department of Health expects you to provide a progress on your study every 3 months (from date you received this letter) in writing.
3. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Epidemiological Research & Surveillance Management. You may be invited to the department to come and present your research findings with your implementable recommendations.
4. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

DEPUTY DIRECTOR: EPIDEMIOLOGICAL RESEARCH & SURVEILLANCE MANAGEMENT

Appendix3. M&E Framework of CCMT Plan for South Africa for South Africa



Monitoring and Evaluation Framework

Comprehensive HIV & AIDS Care, Management and Treatment Plan for South Africa

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PREFACE

As the HIV & AIDS continue to affect the lives of millions of people in South Africa, a growing sense of urgency has developed about the imperative need to respond to the epidemic by increasing all efforts to scale up the HIV & AIDS prevention, care and support including the provision of antiretroviral treatment. In all areas of the world including South Africa, national HIV & AIDS programmes, private sector initiatives, along with countless non-governmental organisations (NGOs) and community-based organisations (CBOs), have initiated the programmes to expand the response to the epidemic.

To strengthen the management of the HIV, AIDS and STIs in the country, the South African Cabinet took a decision in November 2003 and approved the Operational Plan for Comprehensive HIV & AIDS Care, Management and Treatment for South Africa. This led to a sequence of discussions and activities aimed at laying a solid foundation for the implementation of the plan, including the development of Monitoring and Evaluation (M & E) Framework for the programme.

This publication presents an overview of the ongoing activities starting with the outline of the early developments of public policy processes which led to the development of a detailed operational plan for comprehensive HIV & AIDS care, management and treatment and in particular the proposed Monitoring and Evaluation Framework for the plan.

It also presents a summary of input, process, output, outcome and impact indicators emanating from a two-day consultative workshop held on the 19-20 May 2004 whereby role players had the opportunity to contribute in the development of the M & E Framework and to make recommendations on a minimum set of indicators.

MONITORING SCHEDULE

Monitoring and evaluation is a critical component of the Comprehensive HIV & AIDS plan. The Department of Health has developed a comprehensive Monitoring and Evaluation (M & E) Framework, which is designed to measure progress towards the achievement of two interrelated goals of the comprehensive HIV & AIDS plan. The comprehensive M & E Framework aims to monitor the resources invested, the activities implemented, services delivered as well as evaluate outcomes achieved and long-term impact made.

Mechanisms are being put in place to improve data collection and flow mechanisms to ensure quality, valid, and accurate data. Existing data collection mechanisms are being enabled and new systems are being developed to respond to the data needs imposed by the plan. The mechanisms are also designed in a manner that ensures data confidentiality. Data collection, validation and use from the service point level up to the national office rely on existing expertise, commitment and dedication of members of the health team to use data collection tools and report data.

Information on indicators will be available incrementally as the data collection systems mature and grow over time. Current efforts are expended to ensure information on a primary set of selected input, process and output indicators are immediately available within six months. Some primary set indicators will be reported by gender, age-group and province.

Primary set of indicators to be reported within 6 months period
• Number of accredited service points per district
• Percentage of facilities experiencing stock out of basket of tracer drugs at any time in the last month
• Full time equivalent per category as proportion of required personnel
• Male and female condom distribution rate
• Percentage of eligible patients receiving supplement meal and micronutrient supplements
• Proportion of adult patients on antiretroviral therapy with adherence lower than 70%(unacceptable level of adherence)
• Number of CD4 counts done per month
• Number of viral loads completed per month
• Proportion of registered patients on regimen 1a or 1b, 2 or child regimen
• Percentage of patients with viral load <400 copies /ml
• Percentage of patients with CD4 > 200/mm^3
• Percentage of patients with weight gain >10% compared to baseline

It is anticipated that at least 75% of the information on the main set of indicators will be available within 24 months. Long term outcome and impact will be assessed after a long period of time following the implementation of the plan.

1. BACKGROUND ON POLICY PROCESSES AND LANDMARK EVENTS

The early developments of a coordinated public policy response to HIV & AIDS date back to principals laid out in the ANC Health Plan prior to 1994 and subsequently in the formation of the National AIDS Coordinating Committee of South Africa (NACOSA) in the early 1990s. Progress in implementing the NACOSA plan was assessed in 1997 by the South African National STI and HIV & AIDS Review. This review identified major strengths in the response to date, but also highlighted areas for substantial strengthening and improvement.

Following an extensive consultation process, government launched in 2000 its five-year Strategic Plan for HIV, AIDS and STI. This plan provided the framework within which interventions geared towards initiating and executing a comprehensive response to the epidemic are undertaken. Four key areas of intervention were identified in the strategic framework, namely: (1) prevention; (2) treatment, care, and support; (3) research, monitoring and surveillance; and (4) legal and human rights.

Government's commitment to address HIV, AIDS and STIs in the country has been demonstrated by consistent increases in the allocation towards HIV & AIDS over the last few years. This is illustrated both by budgetary trends of the Medium Term Expenditure Framework (MTEF) related to the health budget as well as by the Enhanced Response to HIV, AIDS, STIs and TB which detailed strategies and funding requirements for HIV & AIDS particularly.

In April 2002, Cabinet reiterated its commitment to the Strategic Plan. Noting progress in the implementation of the Plan and the impact beginning to be made with regard to the prevention campaign, Cabinet decided on a number of measures to strengthen and reinforce these efforts, including among others, continued use of nevirapine in preventing mother-to-child HIV transmission, and development of a universal rollout plan and removing systemic constraints on access to antiretroviral drugs.

In July 2002 government established a Joint Health and Treasury Task Team to investigate issues relating to the financing of an enhanced response to HIV & AIDS based on the Strategic Plan as further elaborated in the 17 April 2002 Cabinet statement and the subsequent Cabinet statements of 9 October 2002 and 19 March 2003. A particular focus of the Task Team was on the second component of the Strategic Plan, namely treatment, care and support for those infected and affected by HIV & AIDS.

At its 8 August 2003 meeting, Cabinet received the Report of the Joint Health and Treasury Task Team (JHTTT) that was charged with examining treatment options to supplement Strategic Plan in the public health sector. This report provided options to support the strengthening of the second component of the country's five-year Strategic Plan. This included scaling up current policy interventions, and integrating additional interventions, including the option of introducing antiretroviral therapy for people with AIDS.

Following the discussion of this strategic report on 8 August 2003, Cabinet instructed the Department of Health to develop a detailed operational plan on comprehensive care, management and treatment by the end of September 2003. In view of that task, the Minister of Health appointed a National Task Team on the 19th of August 2003, to assist

in the development of a detailed operational plan. In November the operational plan was adopted.

2. THE COMPREHENSIVE PLAN

The South African Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment holds a significant position in international public health largely because it is the largest and most ambitious yet in the world for HIV care.

The plan is anchored on two important pillars:
a) Must be a comprehensive programme that will include:

- Ensuring that the great majority of South Africans who are currently not infected with HIV remain uninfected. The messages of prevention and of changing lifestyles and behaviour are therefore the critically important starting point in managing the spread of HIV and the impact of AIDS;
- Enhancing efforts in the prophylaxis and treatment of opportunistic infections, improved nutrition and lifestyle choices;
- Effective management of those HIV-infected individuals who have developed opportunistic infections through appropriate treatment of AIDS-related conditions;
- Provision of antiretroviral therapy in patients presenting with low CD4 counts to improve functional health status and to prolong life;
- Integration of traditional and complementary medicine into the comprehensive care, management and treatment programme
- Providing a comprehensive continuum of care, support and treatment

b) Strengthening of the National Health System as a whole in order to ensure the effective delivery of comprehensive HIV & AIDS care and treatment and other equally important healthcare priorities and programme. These include the improvement in laboratory services, in information systems, human resources and capacity development, drug procurements and distribution, etc.

3. GUIDING PRINCIPLES OF THE PLAN

The operational plan is guided by a number of important principles namely:

3.1 Quality of Care

The plan envisions significant investments to ensure that the highest available quality of care is provided to the people of South Africa in line with international and local norms and standards. Treating AIDS patients with antiretroviral drugs has been shown in some instances to prolong the lives of people who would have progressed to stage 3 and 4 of AIDS. The care and treatment protocols are based on international best practice. Accreditation procedures help to ensure that the facilities that are approved for the provision of comprehensive care, management and treatment are of good quality and observe the highest standards of care.

The plan also provides for extensive investments in monitoring and research to allow for continual evaluation and improvement in the quality of care. And all these efforts will ensure that the best information is available for the benefit of South Africans undergoing care and treatment.

3.2 Universal Care and Equitable Implementation

The programme is founded upon the principle of universal access to care, management and treatment for all, irrespective of race, colour, gender and economic status. This programme attempts to address the challenge of providing services in rural and urban settings equitably without compromising the quality of care. The operational plan aims to achieve a balance between areas that can readily implement the programme and those that need additional resources and investments to upgrade their general health capacity.

3.3 Strengthening the National Health System

The strengthening of the national health system as a whole in order to ensure the effective delivery of comprehensive HIV & AIDS care and treatment is fundamental principle of the plan. The operational plan calls for significant additional investments to improve the capacity and capabilities of the national health care system, in particular the strengthening of human resource capacity, and providing incentives to recruit and retain health professionals in historically underserved areas. The operational plan is reinforcing efforts to upgrade health care management information system, to improve patient tracking and referral mechanisms, and to continue with the upgrading and/or refurbishing of public hospital, health centres and clinics, and to improve efficiency of laboratory services.

3.4 Reinforcing the Key Government Strategy of Prevention

In the absence of a cure for AIDS, prevention remains the cornerstone of the country's response to HIV & AIDS. The current range of prevention strategies includes provision of barrier methods, voluntary counselling and HIV testing, prevention of mother-to-child-transmission (PMTCT), post-exposure prophylaxis (PEP), syndromic management of STIs, TB management, and a large and sustained information, education and communication campaign. Some of these strategies are critical entry points for care and treatment interventions.

3.5 Providing a Comprehensive Continuum of Care and Treatment

The comprehensive HIV and AIDS care, management and treatment programme embodied in this plan builds on the existing programmes as outlined in the five-year Strategic Plan for HIV, AIDS and STIs. Prevention of HIV and TB infections remains the mainstay of the programme.

3.6 A Sustainable Programme

There is currently no cure for AIDS. The best that an AIDS management programme can achieve is to prolong the lives of people living with HIV & AIDS, so that they can remain productive members of society. Once people enter into a comprehensive treatment and care programme, treatment must be sustained for the rest of their lives. Within the overall stewardship role of government, it is recommended that in order to ensure the sustainability of the programme, the biggest slice of the budget for this care and treatment programme should ideally come from the fiscus.

3.7 Promotion of Healthy Lifestyles

Any health care programme must begin with the promotion of healthy lifestyles, which includes physical exercise, and not smoking, good nutrition, the practice of safe sex, prevention of alcohol and substance abuse and effective prophylactic medical care are fundamental to good health. This remains true for all people – both to prevent the spread of HIV to those uninfected, and to sustain the immune systems of HIV-positive people for as long as possible. This programme is integrated with existing health education efforts to promote healthy lifestyles among South Africans.

3.8 Promotion of Individual Choice of Treatments

South Africans living with HIV & AIDS will be encouraged to make their own informed choices about the types of treatment they wish to seek. A wide range of interventions and options will be provided through this comprehensive package of care. These may include advice on general health maintenance strategies, positive living, exercise, nutrition, traditional and complementary medicines, and antiretroviral therapy.

3.9 Integration with Government Nutrition Strategy

Good nutrition is essential to good health. The South African government has in place a series of programmes to improve nutrition and food fortification among its people including those living with TB, HIV & AIDS and other chronic debilitating diseases. The new programme is being fully integrated with the existing programmes.

3.10 Ensuring the Safe Use of Medicines

If not administered and monitored properly, antiretroviral drugs can become less effective and cause serious side effects as drug-resistant strains of the virus develop. For these reasons, the plan goes to great lengths to monitor patient safety and educate or counsel p and the impact of these measures and to emphasize the safe use of medicines and the importance of adherence to treatment.

3.11 Drug Resistance

As with TB, poor management and poor compliance with antiretroviral therapy results in multi-drug resistant HIV, which could impact negatively on both diseases. To optimise care for HIV & AIDS patients who also have tuberculosis it is important to develop and sustain joint management programmes. Key elements in a containment strategy include the prudent use of antimicrobial agents, educational intervention, integrated surveillance and monitoring systems in all areas as well as good infection control practice.

3.12 Local and Regional Integration

The programme will be implemented in a manner that promotes and strengthens cooperation among government departments and all spheres of government. It will also pursue collaboration and harmonisation of strategies within the Region in line with the SADC HIV & AIDS Strategic Framework and Programme of Action 2003 – 2007 and in the Abidjan and Maseru declarations.

4. GOALS OF THE PLAN

The plan aims to accomplish two interrelated goals, namely:

- To provide comprehensive care, management and treatment for people living with HIV & AIDS; and
- To facilitate the strengthening of the national health system in South Africa.

The National Department of Health is working closely with Provincial Departments of Health to ensure smooth implementation of the programme and the National Treasury allocated R63 million to the National Department of Health in the 2004/05 financial year.

5. MONITORING AND EVALUATION FRAMEWORK

Monitoring and evaluation is absolute critical aspect of the plan. Good Monitoring and Evaluation (M & E) contributes to ensuring that the objectives of the operational plan are achieved. The role of M & E for planning and good financial management is emphasized in the Public Finance Management Act (PFMA).

The M & E Framework is based on the principles of monitoring and evaluation as reflected in the Health Goals, Objectives and Indicators 2001-05. Monitoring and evaluation are two complementary, but separate functions, which often serve distinct purposes. Monitoring is the routine ongoing assessment of activities applied to assess resources invested (inputs) in the programme, services delivered (outputs) by the programme, outcomes that are related to the programme. Evaluation in non-routine assessment and will be concerned with evaluation of programme's impact on the health and lives of South Africans. The M & E Framework adopts a logical approach of input, process, output, outcome and impact indicators *(Fig 1)* to ensure ongoing monitoring and evaluation of the goals and objectives of the Plan.

The M & E Framework is designed to measure progress towards the achievement of two above-mentioned interrelated goals of the plan. Therefore, the objectives of the M & E Framework are to collect and provide information that will be used to:

- Track progress on implementation of all components of the comprehensive HIV and AIDS care, management and treatment plan;
- Identify gaps and weaknesses in service provision;
- Support clinical management of the patients;
- Plan, prioritize, allocate and manage resources;
- Monitor the impact of HIV & AIDS on health care systems and communities; and
- Measure effectiveness of treatment.

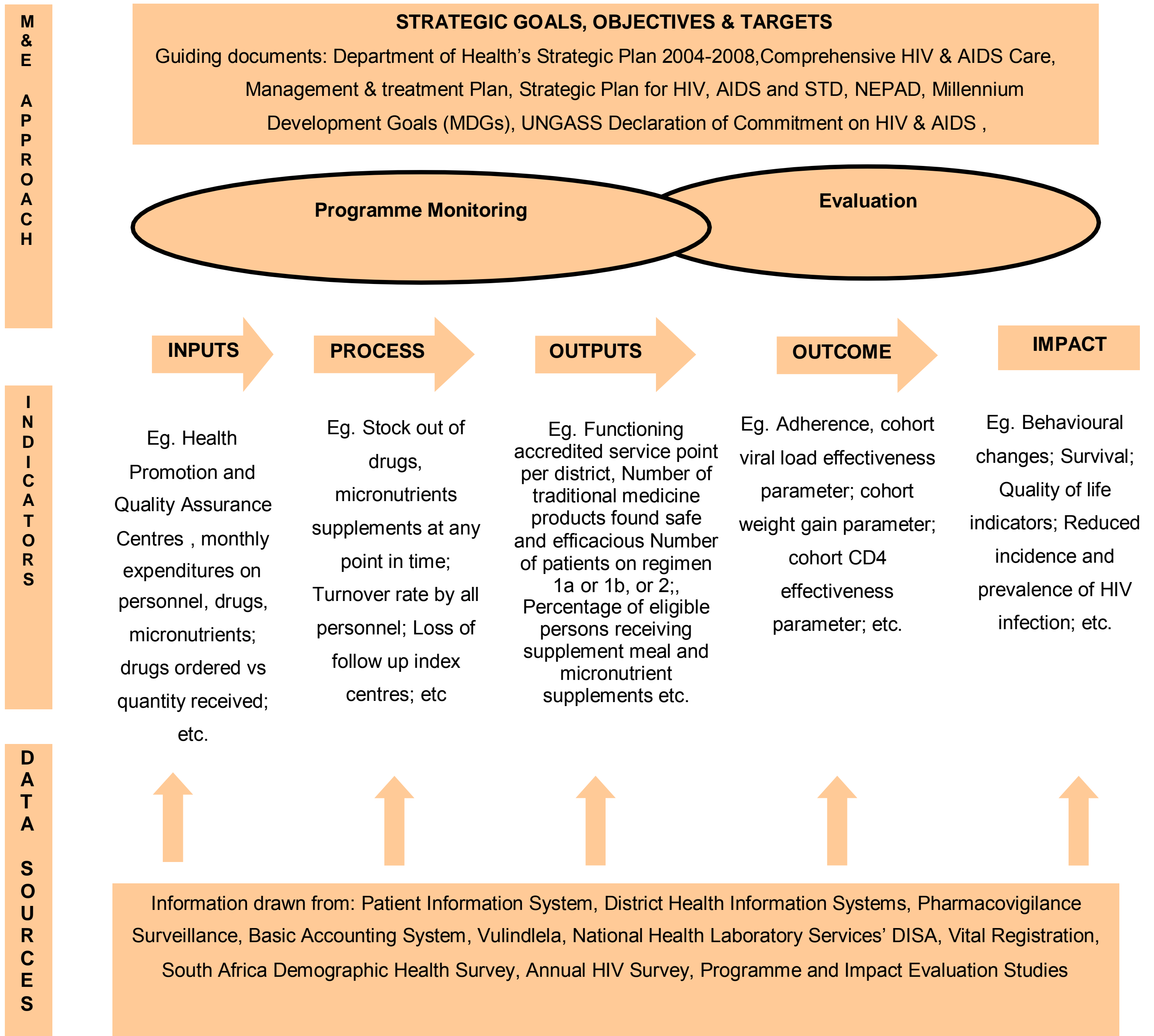


Figure 1: Monitoring and Evaluation Framework: Operational Plan for Comprehensive HIV & AIDS Care, Management and Treatment of South Africa

A minimum set of indicators is proposed taking into consideration the principles of universal access and equitable implementation, quality of services, continuum of care, efficiency, sustainability, affordability, compliance, safe use of medicines, integration and strengthening of health systems. The indicators can be subdivided into two broad arms, namely operational outputs and patient outcome indicators.

A two-day consultative workshop was held on the 19-20 May 2004 in Johannesburg to make recommendations on a minimum set of indicators from a wide list of proposed indicators. Ninety-one (91) role players and experts from diverse professions, disciplines, governmental, non-governmental, local and international and donor organizations attended the workshop.

The workshop gave participants an opportunity to contributing in developing the M & E Framework of the Plan and making recommendations on a minimum set of indicators to be considered, tools to be used to collect data and frequency of data collection.

Frequency of data collection will vary with the type of indicators. For example, indicators such as expenditure, availability of drugs and nutrition supplements, number of CD4 tests done can be done on monthly basis while some indicators can be calculated on quarterly, yearly or 5-yearly.

Data sources will include systems such as Patient Information System, National Health Laboratory Services', Pharmacovigilance Surveillance System, District Health Information Systems, Routine Data, Basic Accounting Systems and programme and impact evaluation research. Patient data will be stored in a Master Patient Index whereas programmatic indicators data will be kept on M & E database. Efforts are underway to ensure that the various systems with patient linked data are harmonised and even linked. It is also important that the upgrade of the information systems and harmonisation of tools and indicators is supplemented with on-site support to ensure the use, accurate and quality data. It is also requires dedication and commitment on every role player to collect and use information.

An illustration of a simplified and clearly defined information and data management procedures is presented on *Figure 2*. Agreed upon data management protocols are a necessary requirement at service point, district, provincial and national level. The protocol should not only describe the data flow but also state the operational procedures on secure storage, access and confidentiality. It is important that data is verified and used firstly at the primary point of collection prior to being submitted to the next levels.

Data collected at various entry points will be captured and stored at a central data point within a service point to support patient and programme management at that level and to monitor material usage, services outputs and performance. Data will then be submitted to the next levels including the district, provincial and national offices. Indicators will allow disaggregation by location in terms of service point, district municipality, province and national; and/or social defined groupings in terms population group, gender, age, education level and employment.

5.1 Implementation Challenges

This framework will provide the basis for monitoring risk related to achieving good patient outcomes and providing good clinical and health practice. In addition this framework will be able to identify important challenges to implementing the plan. The challenges that are already glaringly clear relate to ensuring appropriately adequate human resources, finance and infrastructure, narrowing the gap in resource availability between provinces, timely reporting and so on.

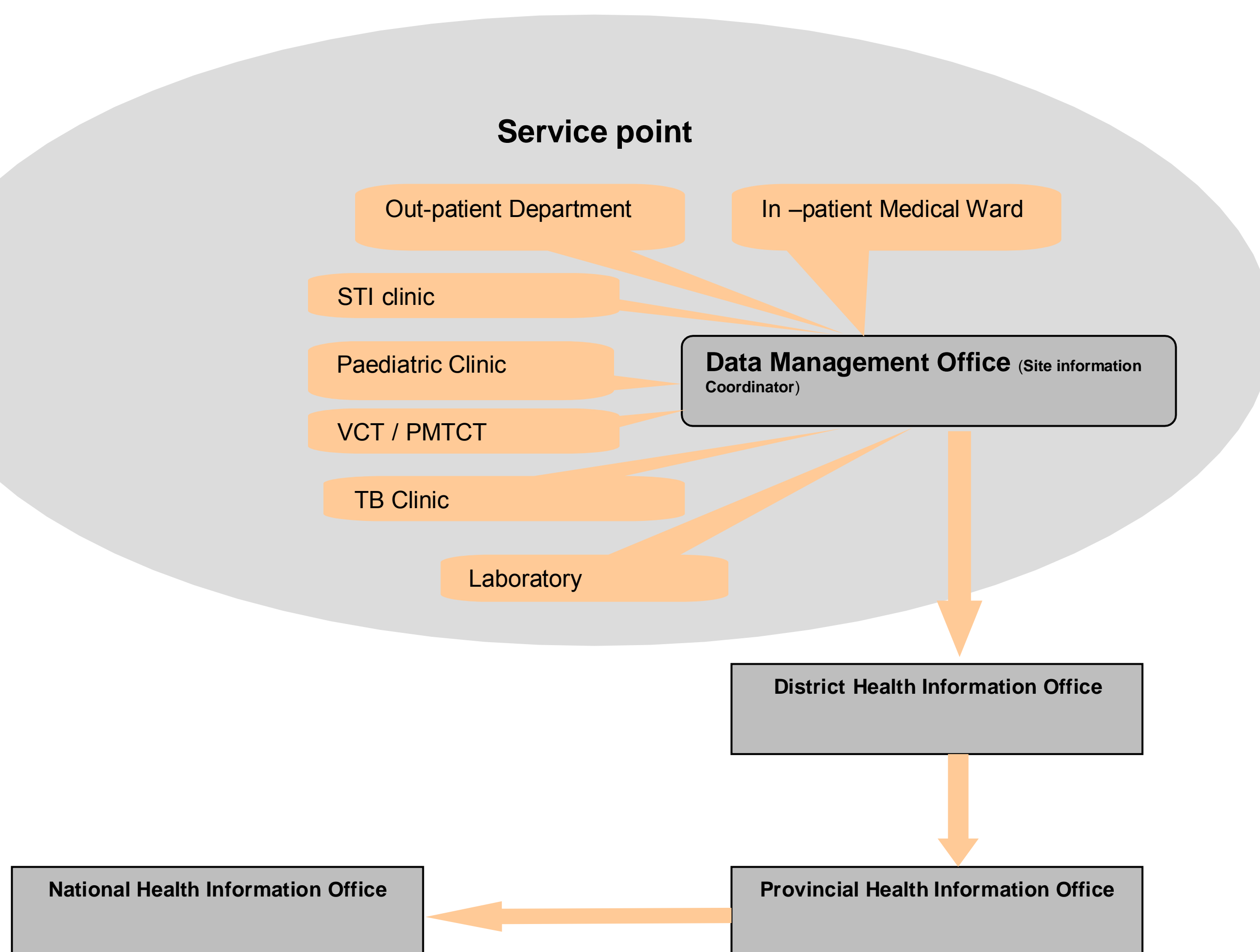


Figure 2: Simplified Data Flow Diagram

6. CORE SET OF INDICATORS

A core set of indicators has been extracted from a wider set of programmatic indicators. The set is recommended for purposes of reporting on the comprehensive HIV & AIDS plan to Cabinet, National Health Council and other relevant authorities.

Table1: Core Set of Indicators	Frequency[1]
• Monthly expenditures on personnel, drugs, micronutrient supplements and nutrition supplements, laboratory services, information systems	Monthly
• Unit price trends for drugs year on year – periodic	Annually
• Functioning accredited service point per district	Quarterly
• Number of service points with functional information systems in the country	Annually
• Percentage of facilities experiencing stock out of basket of tracer drugs at any time in the last month – not periodic	Monthly
• Full time equivalent per category as proportion of required personnel	Monthly

[1] The frequency of reporting indicated in all indicator tables in this document would become effective after mid 2005 because ongoing development in data collection and flow mechanisms.

Indicator	Frequency
• Percentage of staff per category trained and certified per category by quality assurance and health training centres	Quarterly
• Male and female condom distribution rate	Monthly
• Percentage of eligible patients (HIV positive, patients on antiretroviral therapy, children diagnosed with HIV, pregnant women) receiving supplement meal and micronutrient supplements	Annually
• Proportion of clients HIV pre-test counselling (excluding antenatal)	Monthly
• STI partner treatment rate	Monthly
• Proportion of treatment start among TB smear positive	Quarterly
• Number of traditional medicine products found safe and efficacious	
• Percentage of patients using any traditional and complimentary medicines	Monthly
• Proportion of adult patients on antiretroviral therapy with adherence lower than 70%(unacceptable level of adherence)	Quarterly
• Proportion of registered patients on regimen 1a or 1b, 2 or child regimen	Monthly
• Cohort Viral Load Effectiveness Parameter	Annually
• Cohort CD4 Effectiveness Parameter	Annually
• Cohort Weight Gain Parameter	Annually
• Cause specific Mortality rate - treatment (children and adults)	Annually
• Specific mortality rate attributable regimen (1a, 1b, 2)	Annually
• Cause Specific mortality rate -Traditional Medicine (TM)	Annually
• Specific morbidity due to interaction ART and TM.	Annually
• Survival rates	Two yearly
• Percentage of people who report to have obtained information on HIV and AIDS from health promoters, mass media and Khomanani	5 yearly
• Percentage of people who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconception about HIV transmission or prevention.	5 yearly

7. INPUT, PROCESS AND OUTPUT INDICATORS

This section describes the input, process, output indicators to be used to monitor budgeting and expenditure, human resources and training indicators, drug procurement and distribution, nutrition related interventions, and laboratory services.

7.1 Budget and Expenditure Indicators

Funding is one of the most important inputs into the plan that will be closely monitored. These will be monitored also by source of funding in terms of provincial, conditional grants and donor funding.

Table 2: Budget and Expenditure	Frequency
• Monthly expenditures on e.g. personnel, drugs, micronutrient supplements and nutrition supplements, laboratory services,	Quarterly

7.2 Human Resources and Training Indicators

Effective delivery of the Plan depends on the availability of adequate numbers of appropriately trained doctors, pharmacists, nutritionists/dieticians, professional nurses and counselors at the service points. The availability of such a health team is one of the minimum criteria for a service point to be accredited.

A minimum of 1 full time (FTE) medical officer, 2 FTE professional nurses, 5 FTE lay counselors, 1 FTE nutritionist/dietician and 0.5 FTE social worker is required to treat and care for 500 patients. Indicators to be used to monitor this component are as follows: -

Table 3: Human Resources and Training	Frequency
• Full time equivalent per category as proportion of required personnel	Monthly
• Annual turnover rate by category	Annually
• Percentage of staff per category trained and certified per category by quality assurance and health training centres	Quarterly
• Number of quality assurance and health training centres established in each province	Annually
• Number of people per category planned to be certified by quality assurance and health training centres.	Quarterly

7.3 Accreditation of Service Points

Access to care, management and treatment of highest available quality will be made available at services points accredited. A service point is defined as group of network of linked health facilities within a clearly demarcated health district called a health district that is coterminous with district or metropolitan council area. A health district should have at least one health service point. Physical access and functionality of accredited services points will be monitored to ensure that services provided are of high quality.

Table 4: Accreditation of Service Points	Frequency
• Functioning accredited service points per district	Quarterly

7.4 Nutrition Related Indicators

The plan recognizes the role of good nutrition and household food security among those infected with TB and HIV, and those who are on antiretroviral therapy. Amongst others, the nutrition interventions consist of nutritional assessment, the promotion of healthy diet, and free micronutrient supplements and supplement meals. Based on the nutrition assessment and household food security, access to free micronutrient supplements and supplement meals will be for patients who are on antiretroviral therapy, children diagnosed with HIV, pregnant women who are HIV positive and persons infected with TB and HIV. The availability of stocks and coverage of nutritional interventions should be monitored on the one hand and the relationship between nutrient intake, healthy diet, weight gain and disease progression should be measured on the other hand. Proposed indicators to be used for nutrition are shown below:

Table 5: Nutrition related interventions indicators	Frequency
• Percentage of accredited service points that receive the quantity of nutritional supplements	Monthly
• Percentage of accredited service points that receive the quantity of supplement meals ordered	Monthly
• Percentage of accredited service points that receive the quantity of micronutrient supplements ordered	Monthly
• Percentage of accredited service points that experience being out of stock of supplementary meals at any time	Monthly
• Percentage of accredited service points that experience being out of stock	Monthly

	of micronutrient supplements at any time	
•	Number of supplementary meals available and issued per month	Monthly
•	Number of micronutrient supplements available and issued per month	Monthly
•	Percentage of eligible patients (patients on antiretroviral therapy, children diagnosed with HIV, pregnant women who are HIV positive and persons infected with TB and HIV) receiving supplement meal and micronutrient supplements	Monthly
•	Proportion of patients who experience specific food-drug interactions	Biennially
•	Average intake of proteins /micronutrient supplements	Biennially

7.5 Drug Procurement and Distribution Indicators

Drug procurement aims to ensure availability of medicines of highest quality, a secure and sustainable supply at volumes large enough to meet the demand, purchase at the lowest possible price, local production and sustainable financing. Drug distribution aims to establish an efficient and secure process for storage, distribution and appropriate utilization in order to avoid stock outs and prevent shrinkages and re-exportation. Proposed indicators are: -

Table 6: Drug Procurement and Distribution	Frequency
• Unit price trends for drugs year on year – periodic	Annually
•Percentage quantity of drugs purchased vs. quantity contracted – periodic	Annually
• Percentage of accredited service points experiencing stock out of drugs at any time in the last month	Monthly
• Percentage of facilities experiencing stock out of TB drugs at any time in the last month	Monthly
• Percentage of facilities experiencing stock out of basket of tracer drugs at any time in the last month	Monthly
• Percentage quantity of drugs ordered vs. quantity received (service level)	Monthly
• Percentage orders received within the contracted lead time	Monthly

7.6 Laboratory Services Indicators

The National ART Guidelines state clearly when and on whom the individual laboratory tests are to be done. CD4 cell count, viral load, full blood count, ALT, fasting cholesterol, triglycerides and fasting glucose are the absolute minimum tests required for staging, regular monitoring and assessment of treatment outcome. The laboratory services are provided by the National Health Laboratory Services. The objectives of laboratory services component are : -

- To support best practices of patient care;
- To monitor safety for toxicity, adverse events and drug resistance;
- To establish evidence based, cost effective and sustainable laboratory services; and
- To expand currently available capacity within the NHLS to offer best support to the clinical services.

Monitoring quality assurance and efficient performance of the laboratories is of paramount importance and indicators for laboratory services have been developed as follows: -

Table 7: Laboratory Services	Frequency
• Percentage of laboratories performing within EQA standards	Quarterly
• Percentage of CD4 counts results received by clinician < 6 days	Monthly
• Percentage of Viral loads results received by clinician < 6 days	Monthly
• Number of corrective actions taken on turn around time by NHLS	Quarterly
• Number of CD4 counts completed per Month	Monthly
• Number of CD4 counts results <200/Month	Monthly
• Number of CD4 counts results <50 per Month	Monthly
• Number of CD4 counts <15% per Month	Monthly
• Number of viral loads completed per Month	Monthly
• Number of ALT tests per month	Monthly
• Number of FBC done per month	At baseline, 3 months 6 monthly
• Number of fasting cholesterol and triglyceride tests done	At baseline, 6 months & then annually
• Number of fasting glucose tests done	At baseline, 6 months & then annually

7.7 Patient Information System, Monitoring and Research

Information system must be strengthened at all accredited service points. Research to answer questions relevant to systemic, clinical and programmatic aspects of the Comprehensive HIV & AIDS Plan will be conducted. Proposed indicators on Patient Information System, Monitoring and Research include:

Table 8: Patient Information System, Monitoring and Research	Frequency
• Number of service points with functional information systems in the country	Annually
• Availability of output and outcome indicators	Quarterly
• Proportion of research questions on research projects have been commissioned	Annually
• Project proposal approved by research priority area per year	Annually
• Project proposals funded by research priority area per year	Annually
• Research projects completed by research priority area per year	Annually
• Studies published per year by research priority area per year	Annually
• Percent budget allocated for research on the comprehensive HIV and AIDS plan per financial year	Annually

Table 9: Progress Monitoring Indicators	Frequency
• Monthly returns on 10 core indicators by Province	Monthly
• Monthly returns on patient laboratory profile from NHLS	Monthly
• Full provincial monthly reports received	Monthly
• Monthly monitoring feedback distributed to each province	Monthly
• Indicators booklets distributed to each province	Annually
• Availability of data collection system in all provinces	Annually
• Provincial training for data collection system	Monthly

A research governance framework has been developed to support the research programme for the comprehensive HIV & AIDS care, management and treatment plan. Research will in turn generate important data and information for monitoring and evaluation of the programme.

8. PATIENT OUTCOME AND IMPACT INDICATORS

The sections deal with outputs, outcome and impact indicators. These indicators are concentrated mainly, but not to limited to, in components such as pharmacovigilance; social mobilisation and communication; and prevention, care and treatment.

8.1 Prevention, Care and Treatment Indicators

The prevention, treatment and care component aims to ensure that service points provide access to a full array of interventions and services within a context of continuum of care. The full array of interventions and services include voluntary counselling and HIV testing (VCT), prevention of mother to child transmission of HIV (PMTCT), tuberculosis control, treatment and prevention of sexually transmitted infections, nutrition assistance, antiretroviral therapy, psychosocial support, community based services and home based care. The target is to have at least one service point within a health district offering these services.

The development of indicators for the prevention, treatment and care component prompted a review of the existing indicators for VCT, PMTCT, STI and TB with a view to have a combined minimum dataset that will be collected at both primary health care facilities and hospitals. The combined PHC and hospital minimum dataset will use the District Health Information System Software for the following indicators: -

Table 10: VCT, PMTCT, STI and TB	Frequency
• Incidence of STI treated new episode	Monthly
• Incidence of male urethritis syndrome treated new episode	Monthly
• STI partner notification rate, tracing & treatment rates	Monthly
• Male and female condom distribution rate	Monthly
• Proportion of clients HIV pre-test counselling (excluding antenatal)	Monthly
• HIV testing rate (excluding antenatal)	Monthly
• HIV prevalence among clients tested (excluding antenatal)	Monthly
• Proportion of antenatal clients tested for HIV	Monthly
• Syphilis prevalence among antenatal clients tested	Quarterly
• Nevirapine uptake rate among babies born to women with HIV	Monthly
• Nevirapine dose to baby coverage rate	Monthly

• Prophylaxis among rape victims -proportion	Quarterly
• Prophylaxis among occupation HIV exposure cases- proportion	Quarterly
• TB case finding index	Quarterly
• Proportion of treatment start among TB smear positive	Quarterly
• Incidence of INH preventive therapy start in HIV positive	Monthly
• Incidence of cotrimoxazole prophylaxis rate in HIV positive.	Monthly

Indicators that would be used to measure not only access but also immediate outcomes and impact will be collected at accredited service points. These indicators are a combination of output and outcome indicators. Proposed indicators are: -

Table 11: Antiretroviral Therapy	**Frequency**
• Assessment first visit	Monthly
• Total assessment visits	Monthly
• Proportion CD4 turn-around > 6 days	Monthly
• Known-death rate during readiness assessment	Monthly
• Number of Registered patients	Monthly
• Proportion of patients assessed eligible for treatment	Monthly
• Total number of visits by patients on antiretroviral therapy	Monthly
• Patient transfer out rate	Quarterly
• Known-death rate among patients on antiretroviral therapy	Annually
• Total number of registered patients on antiretroviral therapy	Monthly
• Stop index	Quarterly
• Loss to follow up index	Quarterly
• De-registered patients index	Quarterly
• Proportion of registered patients on regimen 1a or 1b	Monthly
• Proportion of registered patients on regimen 2	Monthly
• Proportion of registered patients on any child regimen	Monthly
• ART Adherence last 3 days proportion 100%	Quarterly
• Scheduled dose defaulting rate regimen	Quarterly
• Cohort Viral Load Effectiveness Parameter	Monthly
• Cohort Weight Gain Parameter	Monthly
• Adult cohort WHO Stage Parameter	Monthly
• child cohort WHO Stage Parameter	Monthly
• Cohort CD4 Effectiveness Parameter	Monthly
• Incidence of STI treated new episode among patients on antiretroviral therapy	Monthly
• Proportion of adult patients on antiretroviral therapy with adherence greater or equal 90%	Quarterly
• Proportion of adult patients on antiretroviral therapy with adherence lower than 70%(unacceptable level of adherence)	Quarterly
• Proportion of patients registered who missed one dose or more in the last 3 days	Monthly
• Average number of year lived while on treatment.	Two yearly

These indicators will be calculated from the data collected using a set of patient forms, namely, the Patient Demographic Form, the ART Baseline Form, and the ART Follow-up Form.

8.2 Traditional Medicine

The indicators were developed to monitor the collaboration between health systems and Traditional Health Practitioners in implementing the comprehensive HIV & AIDS Plan. Proposed indicators on traditional medicine include:

Table 12: Traditional medicine	Frequency
• Percentage of patients using any traditional and complimentary medicines	Monthly
• Percentage of Registered Traditional Health Practitioners trained on treatment and care of patients	Quarterly
• Percentage of patients referred by Traditional Health Practitioners to service points	Quarterly

8.3 Social Mobilisation and Communications Indicators

The success in implementation will be facilitated by a well-defined social mobilization and communications strategy. The strategy includes external information, education and communications (IEC) strategy linked with social mobilization component that together articulate the implementation goals. The specific aims of the communication strategy are to ensure that all relevant government programmes, health care providers, people living with HIV & AIDS), their families, care givers and stakeholders are fully knowledgeable about tall the key provisions and requirements if the plan as well as their respective roles and responsibilities. It is the objective of this component to create a supportive and safe environment for people living with HIV and AIDS largely through educational programmes that address stigma and discrimination.

Social mobilization will aim to reach a broad arrange of South African society to mobilize people and communities to action. The aim of social mobilization is to ensure that people living with HIV & AIDS have access to care and treatment programmes and adequate support structures in their local communities. The indicators on social mobilization and communications will assess the extent of reach to the communities and some of these indicators may be collected through household or population-based surveys. The proposed indicators include:

Table 13: Social Mobilisation and Communications	Frequency
• Proportion of clients receiving home based care assistance for the first time	Annually
• Proportion of clients served by the Community based care around the accredited service points	Annually
• Number of referrals between service points and community based organisations	Annually
• Number of clients served by Home based care around the accredited service points	Annually
• Proportion of established Provincial AIDS Council sub-committees on Community mobilization	Annually
• Percentage of people who report to have obtained information on HIV and AIDS from health promoters, mass media and Khomanani	5 yearly
• Percentage of people who know about the comprehensive HIV & AIDS care, management and treatment plan	5 yearly
• Percentage of people who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconception about HIV transmission or prevention.	5 yearly

8.4 Pharmacovigilance Indicators

The plan proposes a comprehensive programme of pharmacovigilance in order to monitor the efficacy of the drugs that are being used and in particular to monitor adverse events. The specific aims of the antiretroviral pharmacovigilance programme are: -

- To determine the burden of drug related morbidity and mortality in patients with HIV & AIDS , particularly associated with ARV use, and develop measures to minimize their impact;
- To provide training and information to health personnel and patients on the safe use of antiretrovirals and other medicines commonly used in HIV infected and AIDS patients;
- To develop systems to asses the risks and benefits of treatments commonly used in patients with HIV, STIs, and TB, including over the counter medications / phyto-therapeutic agents;
- To identify, assess and communicate and new safety concern associated with the use of antiretrovirals and other HIV medicines;
- To support the regulatory and public health decision making through an efficient, national post-marketing system, monitoring the quality, benefits and risk or harm associated with ARVs and other medicines currently used in the health sector;
- To minimize the impact of misleading or unproven associations between adverse events and ARV therapy;
- To detect, assess and responds top safety concerns related to complementary and traditional medicines used in HIV-infected patients;
- To establish an early warning system for resistance to antimicrobials commonly used in HIV, including, but not limited to antiretrovirals; and
- To respond to unfounded and unsubstantiated claims of efficacy of untested products and treatment modalities.

Representative sentinel surveillance sites will be selected form the service points implementing the Plan. Specially designed forms will be used to collect information on adverse events. Proposed indicators on pharmacovigilance were presented at the workshop, they include:

Table 14: Pharmacovigilance	Frequency
• Percentage of spontaneous adverse events (ADE) reports	Annually
• Percentage of ART related ADE experienced at sentinel sites in children	Annually
• Percentage of ART related ADE experienced at sentinel sites in adults	Annually
• Number of patients on treatment with regimens that had to be switched due to serious ADE	Annually
• Percentage of patient discontinuing ART due to ADE	Annually
• Specific mortality rate attributable to specific drugs	Annually
• Specific mortality rate attributable to ART regimen (1a, 1b, 2)	Annually
• Specific morbidity rate attributable to ART regimen (all severe & mild cases)	Annually
• Regimen change rate	Annually
• Discontinuation of treatment rate	Annually
• Adherence rate to treatment	Annually
• Cause specific mortality rates (ART and TM)	Annually

Table 15: Health Systems Strengthening Indicators	Frequency
• Percent of facilities with systems that supports quality service delivery	Annually
• Facilities with working referral system	Annually
• Availability of policies, plans, guidelines that promote access to HIV and AIDS services	5 yearly
• Number of service points with functional information systems in the country	Annually
• Facilities submitting completed routine management information system (MIS) report on time	Monthly
• Facilities using information to monitor performance	Annually
• Facilities with adequate storage for all supplies	Annually
• Proportion of established Provincial AIDS Council sub-committees on Community mobilization	Annually

CONCLUSION

The Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment holds a significant position in international public health largely because it is the largest and most ambitious yet in the world for HIV & AIDS care. It also provides for extensive investments in monitoring, evaluation and research to allow for continual evaluation and improvement in the quality of care. And all these efforts will ensure that the best information is available for the benefit of South Africans undergoing care and treatment. It is against this background that the release of this Monitoring Framework is intended at sharing the information that relates to issues that are relevant to various aspects of the plan.

REFEREN ES

1. National Antiretroviral Treatment Guidelines, *National Department of Health, South Africa 2004*
2. Operational Plan for the Comprehensive HIV and AIDS Care, Treatment and Management for South Africa; *National Department of Health, South Africa 2003, http://www.doh.gov.za*
3. Research Governance Framework, *Department of Health Report*.

Appendix 4 Provincial reporting format for ARV sites

PROVINCIAL REPORTING FORMAT FOR ART SITES
4th Quarter – 2009/10

1. General Information

Health District	**Cacadu**	**Local Service**	**Makana Sub District**
Hospital	**Settler's Hospital**	**Reporting Period**	**Jan_ – MAR 2010**

2. Information Management

INDICATORS	Jan	Feb	Mar	Grand Total L
Total number of registered ARV patients				1 908
Number ART assessment first visit	12	107	37	156
Number of HIV patients medically eligible for ART on waiting list	4	0	0	4
Number of registered ART patients – ART start	12	50	35	97
Number of registered ART patients transferred in new	1	4	7	12
Number of deregistered ART patients transfer out	1	3	9	13
Number of deregistered ART patients due to death	1	0	0	1
Number of CD4 tests done	13 1	159	167	457
Number of HIV viral load done	14 3	159	165	467
Number of STI treated new episode among ART patients	0	0	0	0
Number of CD4 turn-around >6 days	0	0	0	0

Please note that total number of registered ARV patients is incorrect. We are in the process of doing stats „clean-up" and we are awaiting further guidance from Information Manager from Cacadu.

3. Human Resources

Staff category	Employment status	Number	Assumption of duty
Doctor	Employed	2	1 Nov 2004 1 March 2007
	Seconded		
Assistant Director	Employed	1	1 May 2009
	Seconded		
Pharmacist	Employed	0	
	Seconded		
Professional Nurse	Employed	2	1 Feb 2006 1Sept. 2008
		CPN post still vacant. Not been advertised.	
	Seconded	1	
Enrolled NA (Senior)	Employed	1	1 Feb 2006
	Seconded		
Snr Staff Nurse	Employed	1	Feb 2009
	Seconded		
Senior Admin Officer	Employed	1	1 Nov 2004
	Seconded		
Senior Data Capturer	Employed	1	1 Nov 2007
	Seconded		
Community Health Care Workers: Stipend	Employed	2 (1 resigned in Feb 2010)	
	Seconded		
Social Worker	Employed		
	Seconded	1	1 Nov 2004

4. Laboratory Services

Lab Tests		Number
CD4 Counts	Number below 200	98
	Between 200 – 350 mmol/	n/a
	Total done	457
Lactate		n/a
Turnaround times over (6 days)	CD4	0
	Viral Load	467
	Lactate	n/a
	Overall/Other	0
General	CD4"s ± 3 days; Viral load ± 2 weeks; Most other blood results (e.g. FBC), we obtain the next day. If there is an urgent need, we telephonically contact the lab and get the results immediately.	

-(Please comment under general comments on Turn around Time (State Number of hours or days it takes for health care workers to receive results from laboratory and the means of communications used to access results.)

5. Pharmaceutical services

5.1 ARV Stock-outs

NO Stock out this quarter

5.2 Adverse Drug Events Monitoring

Adverse Events	Number of cases	Referred/Managed
Lipodystrophy		Yes
Peripheral Neuropathy		
Hyperlactataemia		
Anaemia		

6. Nutrition

Nutritional Supplements available for adults.	Yes	
Nutritional supplements available for children	Yes	
Any stock-outs (discuss under General Comments)	No	
Number of patients on nutritional supplements	Overall :	
	January	22
	February	7
	March	15

7. Down referrals

Patients currently receiving treatment from at **feeder clinics:**

Facility name	Number
Anglo African street clinic	31
Raglan Road clinic	126
Middle Terrace clinic	18
NG Dlukulu clinic	92
V Shumane clinic	93
Alicedale	20
Riebeeck East clinic	2
Fort England	20
Settlers Day Hospital	50
Joza	96
Total	**548**

Compiled by:

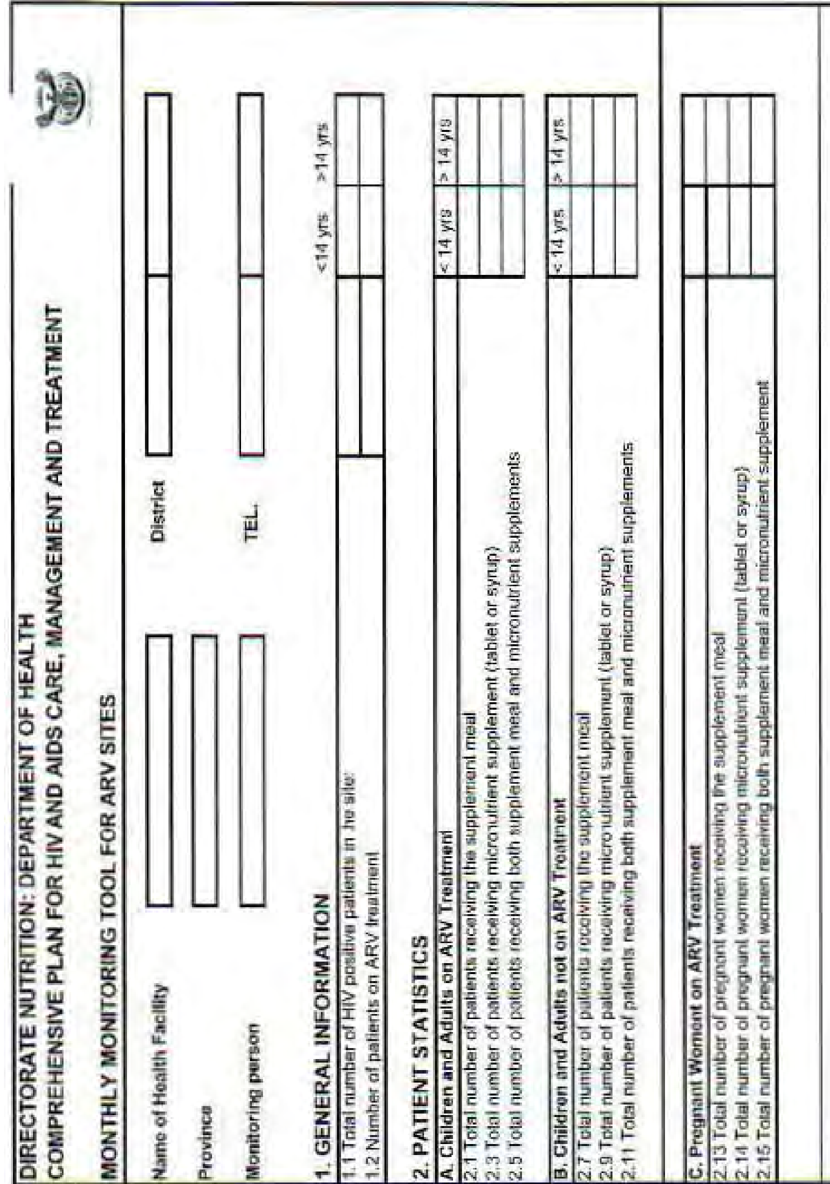
Date: 9 April 2010

Manager‟s signature

Signature: ________________________

Appendix 5 Nutrition related indicators

Appendix 5.1 CCMT Monthly monitoring tool for ARV Sites



DIRECTORATE NUTRITION: DEPARTMENT OF HEALTH

COMPREHENSIVE PLAN FOR HIV AND AIDS CARE, MANAGEMENT AND TREATMENT

MONTHLY MONITORING TOOL FOR ARV SITES

Name of Health Facility ______ District ______

Province ______

Monitoring person ______ TEL. ______

1. GENERAL INFORMATION

	<14 yrs	>14 yrs
1.1 Total number of HIV positive patients in the site:		
1.2 Number of patients on ARV treatment		

2. PATIENT STATISTICS

A. Children and Adults on ARV Treatment	< 14 yrs	> 14 yrs
2.1 Total number of patients receiving the supplement meal		
2.3 Total number of patients receiving micronutrient supplement (tablet or syrup)		
2.5 Total number of patients receiving both supplement meal and micronutrient supplements		

B. Children and Adults not on ARV Treatment	< 14 yrs	> 14 yrs
2.7 Total number of patients receiving the supplement meal		
2.9 Total number of patients receiving micronutrient supplement (tablet or syrup)		
2.11 Total number of patients receiving both supplement meal and micronutrient supplements		

C. Pregnant Woment on ARV Treatment		
2.13 Total number of pregnant women receiving the supplement meal		
2.14 Total number of pregnant women receiving micronutrient supplement (tablet or syrup)		
2.15 Total number of pregnant women receiving both supplement meal and micronutrient supplement		

D. Pregnant women not on ARV Treatment		
2.16 Total number of pregnant women receiving the suplement meal		
2.17 Total number of pregnant women receiving micronutrient supplement (tablet or syrup)		
2.18 Total number of pregnant women receiving both supplement meal and micronutrient supplement		

E. Clients on TB Treatment	<14yrs	>14yrs
2.19 Total number of TB clients receiving supplement meal		

F Malnourished Clients	<14yrs	>14 yrs
2.20 Total number of malnourished or at risk children receiving supplement meal		
2.21 Total number of malnourished or at risk pregnant and lactating women receiving supplement meal		
2.22 Total number of malnourished or at risk chronically ill clients receiving supplement meal		

3. ANTHROPOMETRIC INFORMATION

A. Patients on ARV Treatment	< 14 yrs	> 14 yrs
3.1 Total number of patients with improved weight gain or BMI receiving the supplement meal		
3.2 Total number of patients with improved weight gain or BMI receiving micronutrient supplement(tablet/syrup)		

B. CLIENTS ON TB TREATMENT	<14yrs	>14yrs
3.3 Total number of TB clients with improved weight gain or BMI receiving supplement meal		

C. Patients not on ARV Treatment	< 14 yrs	> 14 yrs
3.4 Total number of patients with improved weight gain or BMI receiving the supplement meal		
3.5 Total number of patients with improved weight gain or BMI receiving micronutrient supplement(tablet/syrup)		

D. Malnourished Clients

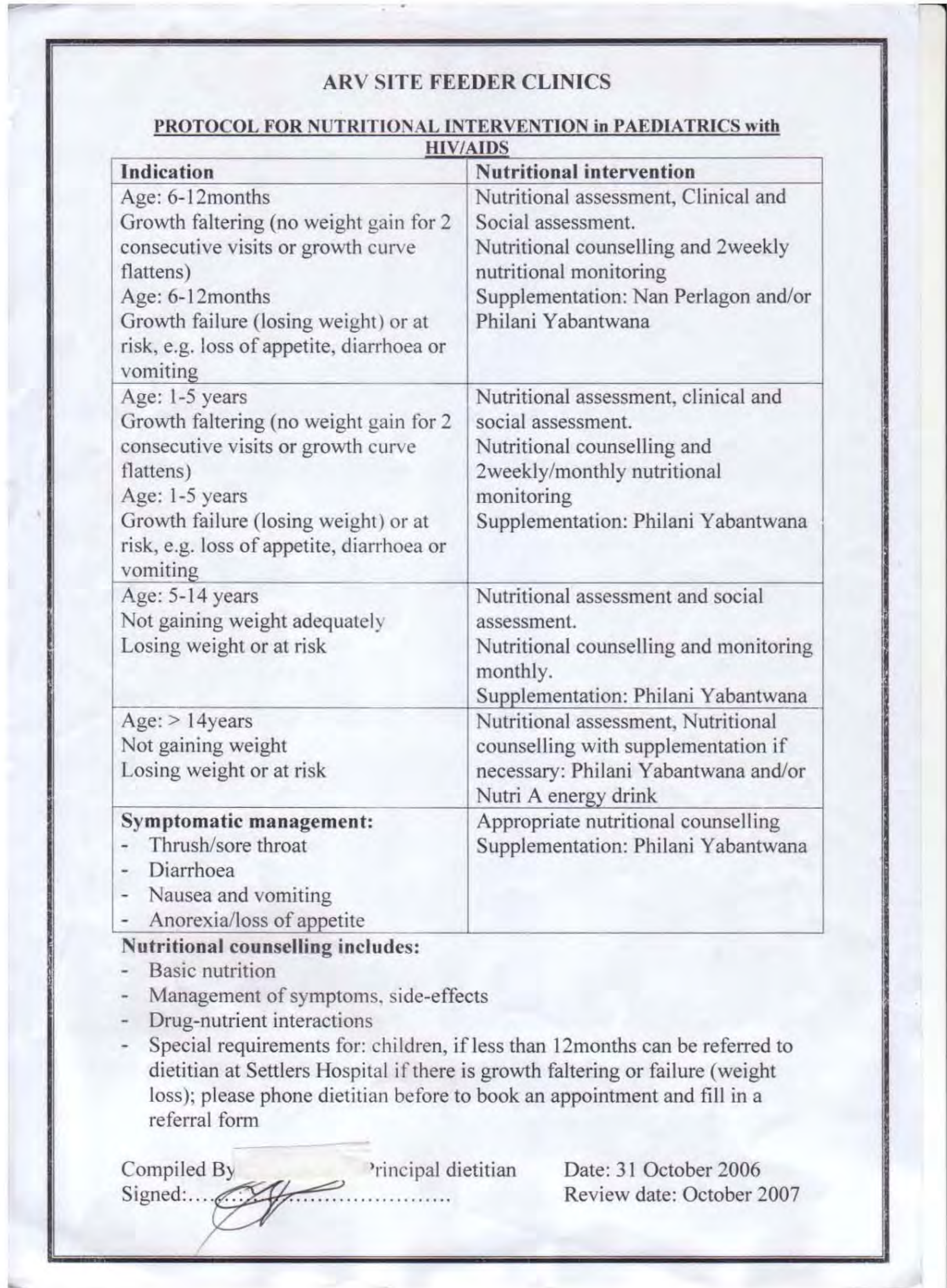
3.6 Total number of malnourished or at risk clients with improved weight gain receiving supplement meal

4. STOCK AVAILABILITY AND ISSUING

4.1. Total number of supplementary meals (packets) available in the storeroom		
4.2 Total number of micronutrient supplements(tablet or syrup) (packets) available in the storeroom		
4.3 Total number of supplementary meals (packets) issued per month		
4.4. Total number of micronutrient supplements (tablet/syrup) issued per month		
No of infants 0-5 months receiving Vitamin A		

5. ADDITIONAL INFORMATION

Appendix 5.2 Protocol for nutritional intervention in paediatrics with HIV & AIDS



ARV SITE FEEDER CLINICS

PROTOCOL FOR NUTRITIONAL INTERVENTION in PAEDIATRICS with HIV/AIDS

Indication	Nutritional intervention
Age: 6-12months Growth faltering (no weight gain for 2 consecutive visits or growth curve flattens) Age: 6-12months Growth failure (losing weight) or at risk, e.g. loss of appetite, diarrhoea or vomiting	Nutritional assessment, Clinical and Social assessment. Nutritional counselling and 2weekly nutritional monitoring Supplementation: Nan Perlagon and/or Philani Yabantwana
Age: 1-5 years Growth faltering (no weight gain for 2 consecutive visits or growth curve flattens) Age: 1-5 years Growth failure (losing weight) or at risk, e.g. loss of appetite, diarrhoea or vomiting	Nutritional assessment, clinical and social assessment. Nutritional counselling and 2weekly/monthly nutritional monitoring Supplementation: Philani Yabantwana
Age: 5-14 years Not gaining weight adequately Losing weight or at risk	Nutritional assessment and social assessment. Nutritional counselling and monitoring monthly. Supplementation: Philani Yabantwana
Age: > 14years Not gaining weight Losing weight or at risk	Nutritional assessment, Nutritional counselling with supplementation if necessary: Philani Yabantwana and/or Nutri A energy drink
Symptomatic management: - Thrush/sore throat - Diarrhoea - Nausea and vomiting - Anorexia/loss of appetite	Appropriate nutritional counselling Supplementation: Philani Yabantwana

Nutritional counselling includes:

- Basic nutrition
- Management of symptoms, side-effects
- Drug-nutrient interactions
- Special requirements for: children, if less than 12months can be referred to dietitian at Settlers Hospital if there is growth faltering or failure (weight loss); please phone dietitian before to book an appointment and fill in a referral form

Compiled By ʾrincipal dietitian   Date: 31 October 2006
Signed:.......................................   Review date: October 2007

Appendix 5.3 Protocol for nutritional intervention for ARV patients (Adults)

SETTLERS HOSPITAL

PROTOCOL FOR NUTRITIONAL INTERVENTION FOR ARV PATIENTS

Indication	**Nutritional intervention**
BMI < 18	Nutritional assessment, Nutritional counselling and 2weekly nutritional monitoring Supplementation: Nutri A energy drink
BMI 18-21	Nutritional assessment, Nutritional counselling and monthly nutritional monitoring Supplementation: Nutri A energy drink or Philani if necessary !
BMI > 21	Nutritional assessment, Nutritional counselling and monitoring 6monthly
BMI > 27	Nutritional assessment, Nutritional counselling with weight maintenance plan
BMI > 30	Nutritional assessment, Nutritional counselling with weight loss plan Blood tests: Fasting Blood Glucose, Cholesterol
Symptomatic management: - Thrush/sore throat - Diarrhoea - Nausea and vomiting - Anorexia/loss of appetite	Appropriate nutritional counselling Supplementation: Nutri A or Philani

Nutritional counselling includes:

- Basic nutrition
- Management of symptoms, side-effects
- Drug-nutrient interactions
- Special requirements for: children, pregnant and lactating women (remember BMI not for pregnant women, use pre-pregnancy BMI and gestational weight gain to assess)

Note: Stop supplementation once BMI is > 21

Compiled By Date: 7 August 2006

Signed:.............................. Review date: 7 August 2007

Appendix 5.4 Bin Card used at the clinics

Date	Requestion number:	Quantity Ordered	Voucher no.	To/ From	Quantity received	Quantity issued	Stock balance	Unit Price	Remarks

Prevention, Care and Treatment Indicators

Appendix 6.1 VCT, PMTCT, STI and TB

6.1.1 VCT, PMTCT, STI and TB calculation

Indicator	Numerator vs Denominator	Data	%
Incidence of STI treated new episode	STI treated new episode	3466	3.50%
	Catchment population 15yrs and older	99156	
Incidence of MUS treated new episode	MUS treated new episode	1095	2.40%
	Male Catchment population 15yrs and older	44204	
STI partner notification rate	STI partner notification slips issued	3020	87%
	STI Treated new episodes	3466	
STI partner tracing rate	STI Treated new episodes	3466	115%
	STI partner notification slips issued	3020	
STI partner treatment rate	STI partners treated New	827	24%
	STI Treated - new episodes	3466	
Male Condom Distribution Rate	Male Condoms Distributed	534811	12
	Male Catchment population 15yrs and older	44204	
Female Condom Distribution Rate	Female Condoms Distributed	6821	12
	Female Catchment population 15yrs and older	54952	
Clients pre-test counselling ratio	HIV pre-test counselled (excl ANC)	8182	8.20%
(Proportion of clients HIV pre-test Counselling (Excl ANC)	Catchment population 15 years and older	99156	
VCT testing rate	HIV clients tested (excl ANC)	7696	94%
HIV testing rate (Excl ANC)	HIV pre-test counselled (excl ANC)	8182	

Indicator	Data element	Value	Rate
VCT HIV positive rate	HIV test positive - new cases (excl ANC)	1589	21%
HIV Prevelence among clients tested (Excl ANC)	HIV clients tested (excl ANC)	7696	
HIV testing rate among antenatal clients	Antenatal client tested for HIV	2163	81%
(Proportion of ANC tested for HIV)	Antenatal 1st (booking) visits	2670	
Syphilis prevelence amongst ANC tested	ANC tested positive for syphilis	58	10%
	ANC client tested for syphilis	579	
Nevirapine uptake rate among babies born to women with HIV	Nevirapine dose to baby born to woman with HIV	491	103%
	Antenatal client HIV positive – new	477	
Nevirapine dose to baby coverage rate	Nevirapine dose to baby born to woman with HIV	491	17%
	Target population under 1 year	2853	
Co-Trimoxazole starting rate	Co-Trimoxazole receivers started	944	59%
(Incidence of Co-Trimoxazole prophylaxis rate in HIV positive)	HIV test positive - new cases (excl ANC)	1589	
Prophylaxis among rape victims propotion	Rape vctims who receiveed prophylaxis	165	70%
	Rape victims admited at Settlers hospital	237	
Prophylaxis among occupation HIV exposure cases - propotion	The cases recored together with the above		
TB case Index	Index case - The first sputum positive case detected in a TB check up.		409
Propotion of treatment start among TB smear positive	All positive TB cases are put on treatment		1132
Incidence of INH preventive theraphy start in HIV positive	Introduced in September 2010		

Appendix 6.1.2 MLSA TB Reports (Date created: 2010/09/02)
6.1.2a Case Finding Report

EASTERN CAPE Tuberculosis Programme

Case Finding Report
Report on New and Re-treatment Cases of Tuberculosis

MAKANA LSA — Quarter 2 of 2010

TB Cases	Pulmonary				EP	Total	%
	Smear +	Smear -	No Smear	Total			
New Cases	76	16	84	176	28	204	73.1%
Relapses	31	3	22	56	-	56	20.1%
After default	4	1	6	11	-	11	3.9%
After failure	1	-	1	2	-	2	0.7%
All other ReRx cases	-	-	-	-	6	6	2.2%
Total	112	20	113 *	245	34	279	100.0%
%	45.7%	8.2%	46.1%	100.0%			
% Pulmonary and EP out of all TB Cases				87.8 %	12.2 %		
% Smear + as proportion of Total PTB : 45.7%							
* of which children aged 0 - 7: 30							
This report excludes - patient(s) that died before treatment started							

TB Cases		0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	>74	Total	%
All TB Cases	M	11	10	19	23	41	19	10	4	2	139	49.8%
	F	14	2	27	45	31	8	8	4	1	140	50.2%
	TOTAL	25	12	46	68	72	27	18	8	3	279	100.0%
	%	9.0%	4.3%	16.5%	24.4%	25.8%	9.7%	6.5%	2.9%	1.1%	100.0%	
New Smear Pos Cases	M	-	3	6	9	13	3	2	1	-	37	48.7%
	F	-	-	13	14	6	3	3	-	-	39	51.3%
	TOTAL	-	3	19	23	19	6	5	1	-	76	100.0%
	%	0.0%	3.9%	25.0%	30.3%	25.0%	7.9%	6.6%	1.3%	0.0%	100.0%	
Re-Treat Smear Pos Cases	M	-	-	3	3	10	3	3	1	-	23	63.9%
	F	-	-	2	2	8	1	-	-	-	13	36.1%
	TOTAL	-	-	5	5	18	4	3	1	-	36	100.0%
	%	0.0%	0.0%	13.9%	13.9%	50.0%	11.1%	8.3%	2.8%	0.0%	100.0%	

Bacteriological Coverage = $\frac{\text{Total smear pos + Total smear neg}}{\text{Total PTB minus children 0-7 yrs}}$ = **61.4%**

6.1.2b **Treatment Outcome Report -** Quarter 2 of 2009

EASTERN CAPE Tuberculosis Programme

Report on the Outcome of Tuberculosis Treatment

Category	Outcome status	No	%
All TB Cases	**Treatment success**	308	69.5%
	Treatment failure*	6	1.4%
	Treatment not completed		
	- Died during treatment	49	11.1%
	- Defaulted from treatment	34	7.7%
	Transferred to another unit	18	4.1%
	Patients not evaluated	28	6.3%
	All TB Cases	**443**	**100.0%**
	* Of which 2 was diagnosed as MDR TB.		
New Smear Positive Cases	**Treatment success (67.7%)**		
	- Cured	80	60.2%
	- Treatment completed	10	7.5%
	Treatment failure**	2	1.5%
	Treatment not completed		
	- Died during treatment	13	9.8%
	- Defaulted from treatment	9	6.8%
	Transferred to another unit	11	8.3%
	Patients not evaluated	8	6.0%
	New smear positive cases	**133**	**100.0%**
	** Of which 1 was diagnosed as MDR TB.		
Re-treatment Smear Positive Cases	**Treatment success (59.3%)**		
	- Cured	29	53.7%
	- Treatment completed	3	5.6%
	Treatment failure***	1	1.9%
	Treatment not completed		
	- Died during treatment	9	16.7%
	- Defaulted from treatment	8	14.8%
	Transferred to another unit	1	1.9%
	Patients not evaluated	3	5.6%
	Re-treatment smear positive cases	**54**	**100.0%**
	*** Of which 1 was diagnosed as MDR TB.		

6.1.2c **Sputum Conversion Report -** Quarter 1 of 2010

EASTERN CAPE Tuberculosis Programme

Report on Response to Initial Phase Tuberculosis Treatment

Category	Sputum Conversion status	At 2 months		At 3 months	
		N	%	N	%
All Smear Positive Cases	**Treatment still ongoing**				
	- Converted to smear negative	55	29.9%	118	64.1%
	- Remaining smear positive	10	5.4%	11	6.0%
	Smear results not available	107	58.2%	37	20.1%
	Treatment discontinued				
	- Died during treatment	7	3.8%	9	4.9%
	- Defaulted from treatment	1	0.5%	5	2.7%
	Transferred to another unit	4	2.2%	4	2.2%
	All smear positive cases	**184**	**100.0%**	**184**	**100.0%**
New Smear Positive Cases	**Treatment still ongoing**				
	- Converted to smear negative	53	40.8%	100	76.9%
	- Remaining smear positive	9	6.9%	8	6.2%
	Smear results not available	60	46.2%	12	9.2%
	Treatment discontinued				
	- Died during treatment	3	2.3%	4	3.1%
	- Defaulted from treatment	1	0.8%	2	1.5%
	Transferred to another unit	4	3.1%	4	3.1%
	New smear positive cases	**130**	**100.0%**	**130**	**100.0%**
Re-treatment Smear Positive Cases	**Treatment still ongoing**				
	- Converted to smear negative	2	3.7%	18	33.3%
	- Remaining smear positive	1	1.9%	3	5.6%
	Smear results not available	47	87.0%	25	46.3%
	Treatment discontinued				
	- Died during treatment	4	7.4%	5	9.3%
	- Defaulted from treatment	-	0.0%	3	5.6%
	Transferred to another unit	-	0.0%	-	0.0%
	Re-treatment smear positive cases	**54**	**100.0%**	**54**	**100.0%**

Appendix 6.2 Monthly Sexual Assault register

Hospital/Rape Centre: ________________________**MLSA**: ____________________**Month and Year:** _______________

Date	Name	Address	HIV Counseling	HIV test	3 Days Starter Pack	Pregnancy Test	Emergency Contraception	STi Treatment	3 Days Follow Up	6 Weeks Follow Up	Complete ARV Course	3 Months Follow Up	Remarks

NB: Court Cases should please be entered in red in the remarks column

Appendix 6.3 ARV Therapy
Appendix 6.3.1: Home visit – Psycho – Social – Diet – Assessment

STRICTLY CONFIDENTIAL

MAKANA LOCAL SERVICE AREA – ARV PROGRAM
HOME VISIT – Psycho – Social – Diet – Assessment
Clinic Referral

Name of patient: ______________________

Referring clinic/hospital: ______________________

Home visit reference number: ______________________

Contents

1. **Patient's Profile**
2. **Information for the Review Team – Social Worker**
   a. Occupation & Income
   b. Psycho-Social & Relationship Aspects
   c. Home Situation, Facilities & Environment
   d. Religious Aspect
   e. Socio-cultural Aspects
3. **Information for the Review Team – Doctor(s)**
   a. Medication
   b. Chronic Disease Risk
   c. Knowledge & Awareness

Sections to be completed during the home visit

Notes: (please record details such as change of address, appointment date, patient not at home at time of visit etc.

MAKANA LOCAL SERVICE AREA - ARV PROGRAM
PLEDGE OF CONFIDENTIALITY
HOME VISIT INFORMATION

HOME VISITOR

I, ______________________________, hereby pledge to maintain the confidentiality of all the information I obtain during my home visit to this patient.

Signed: .... Date: ________________
Health Worker

Witness: .... Date: ________________
Patient/Supporter

PATIENT – Staging

By signing this agreement, I ______________________________ accept that, having been fully informed by having been part of the clinics routine ARV procedure, I now understand that:

1. A number of **medical tests** will be carried out by the clinic and the hospital. The results of these tests will be submitted to the review team as part of the ARV process. The test results will be held either in your file at the clinic and/or in my hospital folder or in a specific folder at the hospital or clinic which is kept for this purpose.
2. A home visit is included in the assessment process, and that this may be done without due warning. The **home visits** will be carried out by a member of the clinic staff or review team (these include community voluntary workers such as community health workers, social work students, etc.). The home visitor/s must pledge/sign the above undertaking to keep this information confidential.
3. The Review Team includes a doctor, nurse, social worker, pharmacist and dietician who will jointly assess the findings from the investigations and decide whether I am **eligible for ART**. I understand that no one person in the team makes such decisions.

Signed by:

Patient: .... Supporter .... Date: ______________

If Minor:
Patient's Legal Guardian: .... Witness: .... Date: ______________

Clinic Representative: .... Date: ______________

Please note: This consent form should be signed

MAKANA LOCAL SERVICE AREA - ARV PROGRAM
HOME VISIT – Psycho – Social – Assessment

Today's Date: ____________________
Day Month Year

PATIENT'S NAME: ____________________
First name Surname (Preferred name)

1. PATIENT'S PROFILE:

Gender: ☐ male ☐ female **Date of birth:** ____________________

Age: ______ years **Education level:** ____________________

Marital status: ☐Single, ☐Married, ☐Widowed, ☐Divorced, ☐Customary, ☐Stay together ☐ Separate homes

Home language: ☐Afrikaans, ☐English, ☐ Xhosa, ☐Other ____________________

Home address: ____________________ **Telephone:** Home landline: ____________________
Patient's cell: ____________________
Contact persons name: ____________________
Contact number: ____________________

Relationships in the home:

No	Name	Age	Sex	Relationship	Education	Occupation	Grants	Other
1								
2								
3								
4								
5								
6								

Other relationships not in the home: (including relatives, neighbours, friends etc.):

No	Name	Age	Sex	Relationship	Occupation	Significance of relation/support
1						
2						
3						

Contact with people with illnesses, death relating to HIV and/or people on treatment for TB, HIV or on ARV:
(in the home or of significance to the patient)

No	Name	Age	Sex	Relationship	Comments
1					
2					
3					

Do you have children ☐ Yes ☐ No
Please list names of children of children who are under the age of **18 YEARS**

	Name	Age	Sex	Have the child been tested?	If no, are you going to test them	When	Results N or P?
1							
2							
3							
4							

2. INFORMATION FOR THE REVIEW TEAM – SOCIAL WORKER

2A OCCUPATION & INCOME:

Please complete the appropriate section/s:

Are you employed? ☐ Yes ☐ No

If yes, Where? ____________________ Position

Has your illness affected your work in any way e.g. absenteeism, promotion prospect etc.?

If yes, please give details ____

____

If no, please give details of who supports you if you have no regular income ____________

____

Are you in receipt of a grant/s? ☐ Yes ☐ No

If yes, please give details: ☐ DG, ☐ OAP, ☐Child support grant, ☐ Care dependency grant, ĩ Grant in aid, Other____

Approximate total household income (including all grants, employment etc.): R ____________

Number of people dependent on this income: ___________

2B PSYCHO-SOCIAL & RELATIONSHIP ASPECTS:

Are you living: ☐ Alone, With a partner, ☐ With friend/s, ☐With family ☐ School/ University Res.

Do these people know about your HIV status? ☐ Yes ☐ No

If you have a partner/spouse:

Does s/he know about your HIV status? ☐ Yes ☐ No

Has your partner tested for HIV ? ☐ Yes ☐ No ☐ Don't know

If yes, what is his/her CD4 count ? ------------------

Does s/he stay in the same house with you? ☐ Yes ☐ No

What family planning do you or your partner/spouse use:

☐ Condom, ☐ Pills, ☐ Sterilized, ☐ Injection, ☐Other______________________________

If condoms, do you use them: ☐ Always, ☐ Most of the time, ☐ Never, ☐ Sometimes

Who is going to accompany you to the clinic/hospital and check that you have taken your medication at home? (supporter)

Name____

Relationship____

Address & contact telephone number______________________________

What experience of stigma/negative attitudes/aggression have you had towards you, if any, and does it continue ☐ Yes, ☐ No

If yes, please give details ____

Do you sometimes feel: ☐ Depressed, ☐ Angry, ☐ Moody, ☐ All alone, ☐ Unable to sleep, ☐ Sleep too much, ☐ Stressed, ☐ Other

2C. HOME SITUATION, FACILITIES & ENVIRONMENT:

Where is your home? ☐ Town, ☐ Township, ☐ Farm

How long have you stayed in this home? ________ Months/Years

How often do you go away ☐ Often, ☐ Sometimes, ☐ Never

Are you likely to move soon ☐ Yes ☐No

If yes, where will you be going? ______________________________

Type of housing: ☐ Shack, ☐ RDP House, ☐ House, ☐ Room

Accommodation: Do you have a room at home? ☐ Yes ☐ No

If no, how many people share your room? ________

Would sharing accomodation affect compliance with your medication? ☐ Yes ☐ No

If yes, how ____

Do you have a place where you can safely store your medication ☐ Yes ☐ No

Can this place be locked ☐ Yes ☐ No

Does your fridge function with ☐gas, ☐electricity or ☐paraffin ☐Don't have it

2D. RELIGIOUS ASPECTS

Religious affiliation: ☐Traditional ☐Indigenous ☐Mainline ☐Charismatic ☐Muslim ☐Christian ☐Other

Religious Denomination: ______________________________

Does the church or anyone in the church know about your status? ☐ Yes ☐ No

If yes, how are they dealing with this issue? ______________________________

What are the services offered by your church to people who are infected and/or affected?

☐ Counseling, ☐ Support group, ☐ Awareness and education, ☐ Food Parcels, ☐ None, ☐ Other (specify)

____

____

Do you use these services? ☐Yes ☐ No

3. INFORMATION FOR THE REVIEW TEAM – PHARMACIST

3A. MEDICATION

Do you take nutritional supplements/traditional medicines/herbal medications? ☐ Yes ☐ No

e.g. ☐ Multivitamins, ☐ St. Johns Wort, ☐ Moducare, ☐ Echinacea, ☐ Other ____________

If yes, please give medicine details ______________________________

____

If yes, where did you get them from? ☐ GP, ☐ Chemist, ☐ Traditional healer, ☐ Shop, ☐ Other

____

If yes, how much do the cost? R ____________

3B CHRONIC DISEASES RISK FACTORS

Smoking: ☐ Yes How many per day? ___ ☐ No
Recreational drugs: ☐ Yes ☐ No
e.g. Dagga, Mandrax, Tic-Tic
Alcohol: ☐ Every day ☐ Month end ☐ Weekend ☐ Big days ☐ Never
☐ Stopped When--------------------------------
What was the reason for stopping --

3C. KNOWLEDGE AND AWARENESS

Do you know that ART is for the rest of your life?	☐Yes ☐ No
Do you know that if you stop taking the drug regularly, the virus will become resistant to the drug?	☐Yes ☐ No
Do you know that adherence is judged by having no more than 3 missed doses a month?	☐Yes ☐ No
Do you know that drug resistant strains can be transferred to another person?	☐Yes ☐ No
Do you know that you also have to use condoms even if you are both HIV positive?	☐Yes ☐ No
Do you know that there can be side effects when you start your medication?	☐Yes ☐ No
Do you know that these side effects can be treated?	☐Yes ☐ No
Do you know that other medication (including herbal medication) may interact badly with A.R.V. treatment?	☐Yes ☐ No
Do you know you must not share medication with other people	☐Yes ☐ No
Do you know that you must give information on all the medication you are taking?	☐Yes ☐ No
Do you know that you will not be a good candidate for ART if you take alcohol or drugs?	☐Yes ☐ No
Do you know that it is important to involve the hospital or clinic, when you want to get pregnant?	☐Yes ☐ No

Please note:

The community health worker should not try to answer all these questions.
This questionnaire is intended to find out how much the patient knows about the medication.
If the person is accepted for ART the hospital pharmacist will answer all these questions in

Appendix 6.3.2 Cacadu District ART Patient counseling list follow up

ART PATIENT COUNSELLING LIST : FOLLOW UP

		0		ADULT
PATIENT :-		0	0	
DATE OF BIRTH :-			0	
ART NUMBER :-		EC/ART/CAC/MKA/SH/0		0
ADRESS :-		0		
SUPPORTER:-		0	0	
RELATIONSHIP:-			0	
ALLERGIES :-				

DATE:									
WEIGHT:	0.0								
HEIGHT:	0.00								
MISSED DOSES:									
EFV	600mg								
D4T	30mg								
3TC	150mg								
NVP									
AZT									
PROBLEMS REPORTED:									
PERIFERAL NEURO									
LIPODYSTROPHY									
HYPERLACTATAEMIA									
HEPATO-TOXAEMIA									
ANAEMIA									
INCREASEAD BMI									
TREATMENT FAIL									
TB TREATMENT									
OTHER									
RETURN DATE:									

DATE:									
WEIGHT:									
HEIGHT:									
MISSED DOSES:									
EFV	600mg								
D4T	30mg								
3TC	150mg								
NVP	0								
AZT	0								
PROBLEMS REPORTED:									
PERIFERAL NEURO									
LIPODYSTROPHY									
HYPERLACTATAEMIA									
HEPATO-TOXAEMIA									
ANAEMIA									
INCREASEAD BMI									
TREATMENT FAIL									
TB TREATMENT									
OTHER									
RETURN DATE:									

ALL MEDICINE PACKETS TO BE BROUGHT TO ART CLINIC VISITS

ADHERENCE COUNSELING FORM. ADULT

PATIENT	CLINIC :-		SISTER:-	
NAME:-			KNOWN NAME:-	
NUMBER:-	EC/ART/CAC/MKA/SH/0	FOLDER:-		DATE:-
CD4 COUNT:-		V L :-	WEIGHT:-	HEIGHT:- F
DATE OF BIRTH:-		SINGLE/MARRRIED/WIDOWED	TEL:	BMI

ADDRESS:-					ADULTS		CHILDREN	
STORAGE	YES	NO	COOL PLACE	YES	NO	NONE	YES	NO

SUPPORTER		LANGUAGE:-	E	A	X
NAME:-		RELATIONSHIP:-			
ADDRESS:-				STATUS	

READ/WRITE	PATIENT	YES	NO	STD		SUPPORTER	YES	NO	STD	NONE

DUTIES OF TREATMENT SUPPORTER

SUPPORTER TO COME EACH AND EVERY TIME PATIENT COMES TO THE CLINIC

DISCLOSURE	CONDITION	YES	NO	AFRAID OF DISCLOSURE	YES	NO
	TO WHOM			SPOUSE / FAMILY / PARTNER	FRIENDS	OTHER

COUNSELOR TO BE SENSITIVE TO HOUSEHOLD POLITICS

ESTABLISH PATIENT's KNOWLEDGE OF HIV AND AID's			***TRAIN PATIENT ON ART MEDICATION***	
Rx IS FOR LIFE	YES	NO	CONFIRM INFO / KNOWLEDGE	
CHRONIC CONDITION	YES	NO	FILL IN GAPS	
NOT A CURE	YES	NO	HIV DOES WHAT?	
CAN BE CONTROLLED	YES	NO	MEDICINES DOES WHAT?	
WHAT DOES VIRUS DO	YES	NO	RELEVANCE OF CD4 COUNT	
EXPECTATION OF ART	YES	NO	3 ARVs GET USED	
FIRST TIME TAKING ART	YES	NO	IMPORTANCE OF ADHERENCE	
CD4 COUNT	YES	NO	CD4 COUNT AT START	
RELEVANCE OF CD4	YES	NO	VIRAL LOAD AT START	
RESISTANCE	YES	NO	POTENT VIRUS	
CONDOMS	YES	NO	POTENT MEDICINES	
HEALTHY LIVING	YES	NO	RESISTANCE	
USE OF LIQUOR	YES	NO	ERRATIC USE	
SIDE EFFECTS OF ARV	YES	NO	TRIANGLE OF RESPONSIBILITY	

MEDICATION			
GROUPS OF MEDICINES		LIFE LONG COMITMENT	
DETAIL DOSAGES		DOUBLING OF DOSES	
DISCUSS TIME OF DOSING		OTHER MEDICATIONS	
DOSING TO FIT IN WITH LIFESTYLE		SIDE EFFECTS OF ART's	
MAKE DAILY ROUTINE		GENERAL	
THIS MEDICATION FOR *YOU* ONLY !!!!!		YOU FEEL SICK THEN IMPROVE	
ADHERANCE CHART		WARN NOT FRIGHTEN	
CHECK CLIENTS KNOWLEDGE		PROVIDE LIST	

OTHER CHRONIC CONDITIONS					
OTHER MEDICATIONS	CO-TRIMOXAZOLE	YES	NO	OTHER	
	FLUCONAZOLE	YES	NO		

ALTERNATIVE TREATMENTS:- HERBAL:- HOMEOPATHIC:- TRADITIONAL:-

WARN AGAINST PEOPLE WHO WILL CLAIM TO BE ABLE TO ***CURE*** HIV / AIDS

IF SOMEONE OFFERS CLIENT A BOTTLE THAT CAN ***CURE*** HIV IS CLIENT GOING TO TAKE IT?

STRESS STRICT ADHERENCE

CHECK PATIENTS ADHERENCE TO DOSING

WHAT TO DO IF YOU MISS A DOSE OF MEDICATION — HAS UP TO 2-3 HOURS TO TAKE A "MISSED" DOSE

THIS SHOULD NOT HAPPEN OFTEN

NEED TIME FOR THE ART MEDICATION TO SHOW BENEFITS

MOTIVATE CLIENT TO JOIN AND BELONG TO A SUPORT GROUP

ALL MEDICINE PACKETS TO BE BROUGHT TO ART CLINIC VISITS

ANY QUESTIONS FROM CLIENT REGARDING THEIR ART TREATMENT

DO YOU REALISE HOW IMPORTANT ADHERANCE IS?	SIGN	
DO YOU REALISE HOW IMPORTANT IT IS TO COME ON THE RIGHT DAY?	SIGN	
DO YOU UNDERSTAND ALL THAT HAS BEEN DISCUSED TODAY?	SIGN	

COUNSELORS ASSESSMENT :-	PATIENT		SUPPORTER	

Appendix7. Eastern Cape Division of Revenue Act template

Sub-programme	Indicators	Status end of Financial Year 07/08	2008				Financial Year 08/09	
			Q1 (April - June)		Q2 (Jul - Sept)			
		Actual	Target	Actual	Target	Actual	Target	Actual
6.1 STI	STI treated new episode							
	STI treated new episode incidence							
	Male Urethritis Syndrome treated - new episode							
	Male Urethritis Syndrome treated new episode incidence							
	STI partner notification slips issued							
	STI partner notification rate							
	STI partner treated new							
	STI partner tracing rate							
	STI partner treatment rate							
	Antenatal client tested for syphilis							

	Antenatal client tested positive for syphilis - new							
	Proportion antenatal clients tested for syphilis							
	Syphilis prevalence among antenatal clients tested							
	No. of STI treated new episode among ART patients							
	STI treated new episode among ART patients incidence							
	No. of STI sentinel surveillance sites reporting every month							
	Male condom distribution rate (public health facilities DHIS)							
	No. of male condoms distributed to province (LMIS)							
	No. of female condoms distributed to province (LMIS)							

Appendix 8 Social Mobilisation and Communications indicators
Summary
Community Home based Carers Monthly Report Name of facility:_________________ Month:_________________
Completed by:_____________ Checked by:_________ Date submitted:____________

Name HBC	No. of patients served	No. of home visits	Dependents patients	Semi dependent patients	Independent patients	Follow up visits	Referrals	No. of families served	No. of child headed families identified	No. of orphans identified	No. of food parcels distributed
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											
Total											

Appendix 9.1 ADE and product quality problem report form

ARF 1

ADVERSE DRUG REACTION AND PRODUCT QUALITY PROBLEM REPORT FORM

(Identities of reporter and patient will remain strictly confidential)

NATIONAL ADVERSE DRUG EVENT MONITORING CENTRE

Medicines Control Council,
The Registrar of Medicines,
Department of Health

Tel : (021) 447-1618
Fax: (021) 448-6181

In collaboration with the WHO International Drug Monitoring Programme

PATIENT INFORMATION

Name (or initials): .... Age:........ Weight (kg) :........

Sex:: M F DOB :...../......./....... Height (cm) :........

ADVERSE REACTION/PRODUCT QUALITY PROBLEM

Adverse reaction[1] ☐ and/or Product Quality problem[2] ☐ Date of onset of reaction: :....../....../...... Time of onset of reaction: ....h........min

Description of reaction or problem (Include relevant tests/lab data, including dates):

1. MEDICINES/VACCINES/DEVICES (include all concomitant medicines)

Trade Name & Batch No. (Asterisk Suspected Product)	Daily Dosage	Route	Date Started	Date Stopped	Reasons for use

ADVERSE REACTION OUTCOME (Check all that apply)

☐ Death
☐ Disability
☐ congenital anomaly
☐ required intervention to prevent permanent impairment/damage

☐ life-threatening
☐ hospitalisation
☐ Other..........

Event reappeared on rechallenge: Y N Rechallenge not done

Treatment (of reaction)..........

Recovered: Y N
Sequelae: Y N
Describe Sequelae:..........

COMMENTS: (e.g. Relevant history, Allergies, Previous exposure, Baseline test results/lab data)

2. PRODUCT QUALITY PROBLEM:

Trade Name	Batch No	Registration No	Dosage form & strength	Expiry Date	Size/Type of container

Product available for evaluation?: Y N

REPORTING DOCTOR/PHARMACIST Etc:

NAME: .... QUALIFICATIONS:..........

ADDRESS: ....

....
Signature Date

TEL: (.......)..........

This report does not constitute an admission that medical personnel or the product caused or contributed to the event.

Version: MCC2003/1 3

ADVICE ABOUT VOLUNTARY REPORTING

Report adverse experiences with:
- medications (drugs, vaccines and biologicals)
- medical devices (including in-vitro diagnostics)
- traditional and herbal remedies
- **For Adverse Events Following Immunisation (AEFI), please follow the reporting procedure recommended by the Expanded Programme in Immunisation (EPI)**

Please report:
- adverse drug reactions to recently marketed products
- serious reactions and interactions with all products
- adverse drug reactions which are not clearly reflected in the package insert.

Report even if:
- you're not certain the product caused the event
- you don't have all the details

Report Product Quality Problems such as:
- suspected contamination
- questionable stability
- defective components
- poor packaging or labelling
- therapeutic failures

Important numbers:

Investigational Products and Product Quality Problems:
- (012) 326-4344 to fax a report
- (012) 312-0000 to report by phone

Registered Medicines and Traditional and Herbal remedies:
- (021) 448-6181 to fax a report
- (021) 447-1618 to report by phone

Adverse Events Following Immunisation:
- (012) 312 0110 to phone for information
- (012) 321 9882 to fax a report

Confidentiality: Identities of the reporter and patient will remain strictly confidential.

Your support of the Medicine Control Council's adverse drug reaction monitoring programme is much appreciated. Information supplied by you will contribute to the improvement of drug safety and therapy in South Africa.

PLEASE USE ADDRESS PROVIDED BELOW- JUST FOLD IN THIRDS, TAPE and MAIL

Postage will be paid by Addressee
Posgeld sal deur die geadreseerde betaal word

No postage stamp necessary if posted in the Republic of South Africa
Geen posseël nodig nie indien in die Republiek van Suid-Afrika gepos

BUSINESS REPLY SERVICE
BESIGHEIDSANTWOORDDIENS
Free Mail Number:
***Vryposnommer*: BNT 178**

DEPARTMENT OF HEALTH
DEPARTEMENT VAN GESONDHEID
REGISTRAR OF MEDICINES
REGISTRATEUR VAN MEDISYNE
PRIVATE BAG/ *PRIVAATSAK* X828
PRETORIA
0001

Appendix 10 Group and Individual Interviews

M & E Framework for the CCMT Plan for South Africa

10.1 Informed concerned from

RESEARCH PARTICIPANT INFORMATION AND CONSENT FORM

Name of the Research Study: Operational research in HIV & AIDS programme in Grahamstown public health sector.

Purpose of the Study
The purpose of the study is to conduct interviews on monitoring and evaluation of Comprehensive HIV & AIDS Care, Management and Treatment Plan for South Africa in Grahamstown. The focus group will be conducted by Mr. Phehello Mahasele of Department of Pharmacy at Rhodes University and a research assistant.

Voluntary participation and withdrawal
You are being requested to participate in the focus group discussion. The participation in this study is voluntary. You may also choose not to answer particular questions that are asked in the study. You are also free t leave the room when the FGD is being conducted at any point of time based on your commitments.

Your part in the Research Study
I am requesting you to participate because you are working at the District Health office hence you are in the excellent position to comment on the use of National Monitoring and Evaluation of Comprehensive HIV & AIDS Care, Management and Treatment Plan for South Africa.

Possible Risks and Benefits
The information that you provide will help to understand better the monitoring and evaluation and particular needs and challenges in Grahamstown"s public sector HIV & AIDS program.

Confidentiality
The Focus Group Discussion will be recorded by an audio device. The record will be kept in a safe place. No one, except the researcher conducting the research, will know your identity. The information will not be divulged to any other party apart for academic purpose at Rhodes University and Provincial Department of Health according to the requirements based on their ethical clearance for the research project.

Further information
If you have any further questions about this study or require further information about the progress of this study, please contact:

Mr. Phehello Mahasele
Pharmacy Administration and Practice
Rhodes University
GRAHAMSTOWN
6140
Email: phehello@tbnpartner.co.za
Cell: 0835160048

I have reviewed the written informed consent form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature below confirms that I am willing to participate in this study.

I don‟t have objection to the use of audio recording in the study.

Yes……. **No**……….,,,,,,

Consent
Are you willing to participate in a focus group discussion on monitoring and evaluation of HIV & AIDS program in Grahamstown?

Yes……. **No**………. (Do not participate)

Participant signature **Date**

I have reviewed the informant and s/he has fully agreed to be in the focus group discussion. I further confirm to keep confidential anything that is said in this discussion.

Signature of Interviewer ________________________ **Date** / /

Appendix 10.2 Group Interview questions for Settlers Hospital, DHO and PHC

1. The South African government has developed the National M & E framework for the comprehensive HIV & AIDS Care, Management and Treatment Plan in September 2004. Were you made aware of this document?

Was Makana Local Services Area involved in the development of National M & E framework?

2. When HIV & AIDS programme was implemented in Makana Local Service Area, was it required of you to report according to this document?

3. Is there a reason why the national M & E document and the provincial reporting format is a different?

4. Is there M & E committee in Primary Health care service?.

5. Who are the major implementing partners involved in M & E program primary health care?

6. Has any training been conducted to monitor HIV & AIDS program?

7. Is there a full time officer in Grahamstown who is responsible for monitoring and evaluation activities Makana?

8. Do you receive any feedback from the province for the report format you submit?

9. Do you think there is a need for M & E committee at the district level to sustain and scale up the HIV & AIDS progamme?

10. Any other comments?

(Second question was rephrased for PHC as "Was PHC involved in ……)

Appendix 10.3 Questions for one on interview on M & E of CCMT for ECDOH

Background:
South Africa adopted HIV & AIDS/STD Strategic Plan in 2000. The document states that "effective monitoring and evaluation tools will be developed and customised for each intervention." It is further stated that "monitoring will ensure that activities are being implemented according to the plan and that each implementing agency and all partners contribute to the accomplishment of policy aims." (1)

The South African government subsequently developed the National M & E framework for the comprehensive HIV & AIDS Care, Management and Treatment Plan in September 2004(2).

1. Was Eastern Cape Department of Health involved during the National M & E document development? Is it possible to get the membership list with the affiliations of members?

2. Was the national M & E document distributed to Eastern Cape Province?

3. When the national M & E document was distributed to the provinces, was is it to gather feedback in finalizing the document or was it to make them aware of the document for future use in reporting to national program?

4. Was Eastern Cape required to report on the strategic plan using the M & E framework?

5. Has any training been conducted for the provincial and district department of health personnel on M & E of HIV & AIDS programme by the National DOH?

6. a. Has the M & E unit been established at the provincial level? If yes, please would you provide information on when it was established and membership list with affiliation of members?

6.b. Was the province required to establish M & E units for HIV & AIDS program? If yes, did the National M & E unit provide any inputs (technical, financial, etc).

7. Is there a full time officer in Eastern Cape who is responsible for monitoring and evaluation activities of the province?

8.

Background:
It was reported in 2005 that the provincial Department of Health receives nine conditional grants from National treasury which are:

- Anti-retroviral therapy and related interventions;
- Home-based care;
- High transmission area interventions;
- Post-exposure-prophylaxis after sexual assault;
- Prevention of mother-to-child-transmission;
- Strengthening of programme management;
- Regional training centres;
- Step-down care;
- Voluntary counseling and testing (3)

8a. Does the Eastern Cape DOH still receive those grants?

8b Is HIV & AIDS program reporting the same as other disease program reporting?

8c If HIV & AIDS program reporting is different from other disease programmes reporting how does the department cope with reporting from the facilities to the Province of different grants requirements?

8d. How does the department of health cope with sustainability and expansion of the HIV & AIDS programme?

9a Are all seven districts of Eastern Cape reporting using the same format?

9. Is there a reason why the Makana Local Services Area is using a different format?

Background:
"M&E framework states, "The frequency of reporting indicated in all indicator tables in this document would become effective after mid 2005 because ongoing development in data collection and flow mechanisms." (2) The national strategic plan states that "the sustainability of the response will depend on an efficient monitoring process in the areas of institutional strengthening and service delivery." (1)

10. Has the envisaged frequency of reporting been put into practice?

Background:
. "It is envisaged that the provincial M&E Unit will create an integrated information management system at district level which will feed into the provincial level."[1]

- Improve information gathering, management, analysis & dissemination.
- Improve coordination (3).

11. Has the integration of the management system at district level been commenced?

13. How often do the facilities get feedback of the report of the indicators they submit to the province?

References

1. DOH. HIV & AIDS strategic plan for South Africa, 2000-2005, Department of Health, South Africa, 2000, 1-38

2. DOH. Monitoring and Evaluation (M & E) Framework for the Comprehensive HIV & AIDS Care, Management and Treatment Plan for South Africa, Department of Health, South Africa, 2004,

3. Kelly, K (Ed.) *Review of multisectoral responses to HIV & AIDS in the Eastern Cape of South Africa.* Bhisho: Eastern Cape AIDS Council/ECSECC. 2005, 314

(Note: Please provide documentation wherever feasible and available to respond to all the above questions)

Appendix 10.4 Questions for one on one interview on M&E of CCMT in South Africa for NDOH

Background:
South Africa adopted HIV & AIDS/STD Strategic Plan in 2000. The document states that "effective monitoring and evaluation tools will be developed and customised for each intervention." It is further stated that "monitoring will ensure that activities are being implemented according to the plan and that each implementing agency and all partners contribute to the accomplishment of policy aims." (1)

The South African government subsequently developed the National M&E framework for the comprehensive HIV & AIDS Care, Management and Treatment Plan in September 2004(2).

1. Who were the stakeholders involved in developing the National M & E framework? Is it possible to get the membership list with the affiliations of members?

2. Was the national M & E document circulated to all the provinces in South Africa?

3. When the national M & E document was circulated to all the provinces in South Africa, was is it to gather feedback in finalizing the document or was it to make them aware of the document for future use in reporting to national programme?

4. Were the provinces required to report on the strategic plan using the M & E framework?

5. Has any training been conducted for the provincial department of health personnel on M & E of HIV & AIDS program?

6.a. Has the M & E unit been established at the national level? If yes, please would you provide information on when it was established and membership list with affiliation of members?
6.b. Were the provinces required to establish M & E units for HIV & AIDS program? If yes, did the National M & E unit provide any inputs (technical, financial, etc).

7. a. Are the provinces required to report in a common, specified format?
7. b. Are the provinces allowed to make decisions of reporting formats that are different from the National format?
7.c Is there a reason why the Makana Local Services Area is using a different format for reporting to Eastern Cape Province?
7.d In case all provinces are not reporting according to the National M & E, how does the national dept of health get an overall picture of the country and manage to cope with sustainability of the program?

Background:
"M&E framework states, "The frequency of reporting indicated in all indicator tables in this document would become effective after mid 2005 because ongoing development in data collection and flow mechanisms." (2) The national strategic plan states that "the sustainability of the response will depend on an efficient monitoring process in the areas of institutional strengthening and service delivery." (1)

8. Has the envisaged frequency of reporting been put into practice?

Background:
In 2003 UNAIDS adopted three principles to address the coordination of HIV & AIDS response
Three ones principles:

- One AIDS action framework that provides the basis for co-coordinating the work of all partners.
- One national AIDS coordinating authority with a broad-based multisectoral mandate.
- One country level monitoring and evaluation (M&E) system. (3)

9. Has South Africa implemented all the three ones principle? If yes, please specify how it has been done and how it is being monitored.

(Note: Please provide documentation wherever feasible and available to respond to all the above questions)

References

1. DOH. HIV & AIDS strategic plan for South Africa, 2000-2005, Department of Health, South Africa, 2000, 1-38

2. DOH. Monitoring and Evaluation (M & E) Framework for the Comprehensive HIV & AIDS Care, Management and Treatment Plan for South Africa, Department of Health, South Africa, 2004,

3. Kelly, K (Ed.) Review of multisectoral responses to HIV & AIDS in the Eastern Cape of South Africa. Bhisho: Eastern Cape AIDS Council/ECSECC. 2005, 314