RISK FACTORS FOR TRANSMISSION; MEASURES FOR PREVENTION AND CONTROL; TREATMENT, CARE AND SUPPORT OF HIV/AIDS INDIVIDUALS IN SOUTH SUDAN; USING SOUTH SUDAN HIV/AIDS STRATEGIC FRAMEWORK

By

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DVM, Assiut University, Egypt, 1993

A Report

Submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

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KANSAS STATE UNIVERSITY
Manhattan, Kansas

2013

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Abstract

The national AIDS response of South Sudan is coordinated by the South Sudan HIV and AIDS Commission (SSAC) that was established in 2006 by a presidential decree. The mandate of SSAC is to coordinate the development of policy frameworks and strategies for curbing and combating the spread of HIV. SSAC works closely with the Division of HIV/AIDS whose mandate is to develop health sector response to HIV/AIDS by ensuring the accessibility of quality, equitable HIV prevention services, treatment, care and support for the people infected with and affected by HIV/AIDS.

With leadership from SSAC and the Ministry of Health (MOH), the Government of South Sudan (GoSS) developed the Southern Sudan HIV/AIDS Strategic Framework (SSHASF 2008-2012) which is currently driving HIV/AIDS response in the country. The strategic framework comprehensively addresses HIV/AIDS prevention, treatment, care and support services in the post-conflict context, with an overall goal of reducing HIV transmission and mitigating the impact of HIV/AIDS through improvement of the quality of life of those infected and affected by HIV/AIDS. The SSHASF clearly articulates the need for targeting specific populations in a multi-sectoral response: women and girls, youth, sex workers, orphans and vulnerable children. Also outlined in the SSHASF is an HIV policy for other specific vulnerable population settings such as the workplace, schools and prisons.

SSAC and MOH have developed a number of guidelines and policy documents in the past few years, including: HIV/AIDS Behavior Change and Communication (BCC) strategy (2008), HIV/AIDS Monitoring and Evaluation (M&E) framework (2008), Guidelines for Anti-retroviral therapy (ART) use in adults and children (Revised 2010), Guidelines for Voluntary Counseling and Testing (VCT) (2008), Guidelines for Prevention of Mother-to-Child-Transmission (PMTCT) 2010, National Condom Strategy.

With permission from SSAC chairperson, Dr. Esterina Novello, I have participated with the National HIV/AIDS Response Division to do my field experience as follows: Reviewed HIV/AIDS strategic framework for prevention and control and conducted a field work; reviewed

the strategic framework for HIV/AIDS treatment, care and support for infected and affected individuals and conducted a field work; reviewed and fully understood the risk factors for transmission and continuing spread of HIV/AIDS among the South Sudanese people.

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ACRONYMS/ LIST OF ABBREVIATIONS

AIDS	**Acquired Immune Deficiency Syndrome**
ANC	**Antenatal Care**
ART	**Antiretroviral Therapy**
ARV	**Antiretroviral (drugs)**
AU	**African Union**
BCC	**Behavior Change and Communication**
BeG	**Bahar el Ghazal**
CDC	**Centers for Disease Control and Prevention**
CPA	**Comprehensive Peace Agreement**
CPHC	**Comprehensive Primary Health Care**
CPT	**Cotrimoxazole Preventive Treatment**
DFID	**Department for International Development**
DOTS	**Direct Observed Treatment Short Course**
DTC	**Diagnostic Testing and Counseling**
EU	**European Union**
FBO	**Faith Based Organization**
GOS	**Government of Sudan**
GoSS	**Government of Southern Sudan**
GoSSHA	**Government of Southern Sudan Health Assembly**
HBM	**Health Belief Model**
HCT	**HIV Counseling & Testing**
HIV	**Human Immunodeficiency Virus**
HHS	**Household Health Survey**
HSDP	**Health Sector Development Plan 2012-2016**
HTC	**HIV Testing & Counseling**
IGAD	**Inter-Governmental Agency for Development**

INGO	**International Non-Government Organization**
INH	**Isoniazid**
KKBS	**Kejo Keji Behavior Survey**
IPT	**Isoniazid Preventive Treatment**
KSU	**Kansas State University**
M&E	**Monitoring and Evaluation**
MCH	**Maternal and Child Health**
MCHW	**Maternal Child Health Worker**
MDG	**Millennium Development Goals**
MDR	**Multiple Drug Resistant (TB)**
MDTF	**Multi Donor Trust Fund**
MMR	**Maternal Mortality Ratio**
MoH	**Ministry of Health**
MPH	**Masters of Public Health**
NGO	**Non-Governmental Organization**
OI	**Opportunistic Infection**
OVC	**Orphans and Vulnerable Children**
PEP	**PostExposure Prophylaxis**
PHC	**Primary Health Care**
PHCC	**Primary Health Care Centre**
PHCU	**Primary Health Care Unit**
PLWHA	**People living with HIV/AIDS**
PMTCT	**Prevention of Mother to Child Transmission (of HIV)**
PPP	**Public Private Partnership**
RSS	**Republic of South Sudan**
SHHS	**Sudan Household Health Survey**
SMoH	**State Ministry of Health**
SPLA	**Sudan People Liberation Army**
SPLM	**Sudanese People's Liberation Movement**
SSDP	**South Sudan Development Plan**
SSHASF	**South Sudan HIV/AIDS Strategic Framework**

SSP	**South Sudan Pound**
STIs	**Sexually Transmitted Infections**
SWOT	**Strength, Weakness, Opportunity, Threat**
TB	**Tuberculosis**
TLC	**Total Lymphocyte Count**
UK	**United Kingdom**
UN	**United Nations**
UNAIDS	**United Nations Programme on HIV/AIDS**
UNDP	**United Nations Development Programme**
UNESCO	**United Nations' Organization for Science, Culture, and Education**
UNFPA	**United Nations Populations Fund**
UNICEF	**United Nations Children's Fund**
USA	**United States of America**
USAID	**United States Agency for International Development**
USD	**United States Dollars**
WHO	**World Health Organization**

Chapter 1 - Overview of South Sudan

A. General Overview

South Sudan, officially the **Republic of South Sudan** and previously known as **Southern Sudan**, is a landlocked country in east-central Africa that is part of the United Nations sub-region of Eastern Africa. Its current capital is Juba, which is also its largest city; the capital city is planned to be moved to the more centrally located Ramciel in the future. South Sudan is bordered by Ethiopia to the east, Kenya to the southeast, Uganda to the south, the Democratic Republic of the Congo to the southwest, the Central African Republic to the west and Sudan to the north. It includes the vast swamp region of the Sudd, formed by the White Nile and known locally as the *Bahr al Jabal*.

The modern states of South Sudan and Sudan were part of Egypt under the Muhammad Ali Dynasty, later being governed as an Anglo-Egyptian condominium until Sudanese independence was achieved in 1956. Following the First Sudanese Civil War, the Southern Sudan Autonomous Region was formed in 1972 and lasted until 1983. A second Sudanese civil war soon developed and ended with the Comprehensive Peace Agreement of 2005. Later that year, southern autonomy was restored when an Autonomous Government of Southern Sudan was formed.

South Sudan became an independent state on 9 July 2011, following a referendum that passed with 98.83% of the vote. It is a United Nations member state, a member state of the African Union, and a member state of the Intergovernmental Authority on Development. In July 2012, South Sudan signed the Geneva Conventions

Figure 1 South Sudan in map of the world

Figure 2 South Sudan in Africa

Figure 3 Sudan and South Sudan

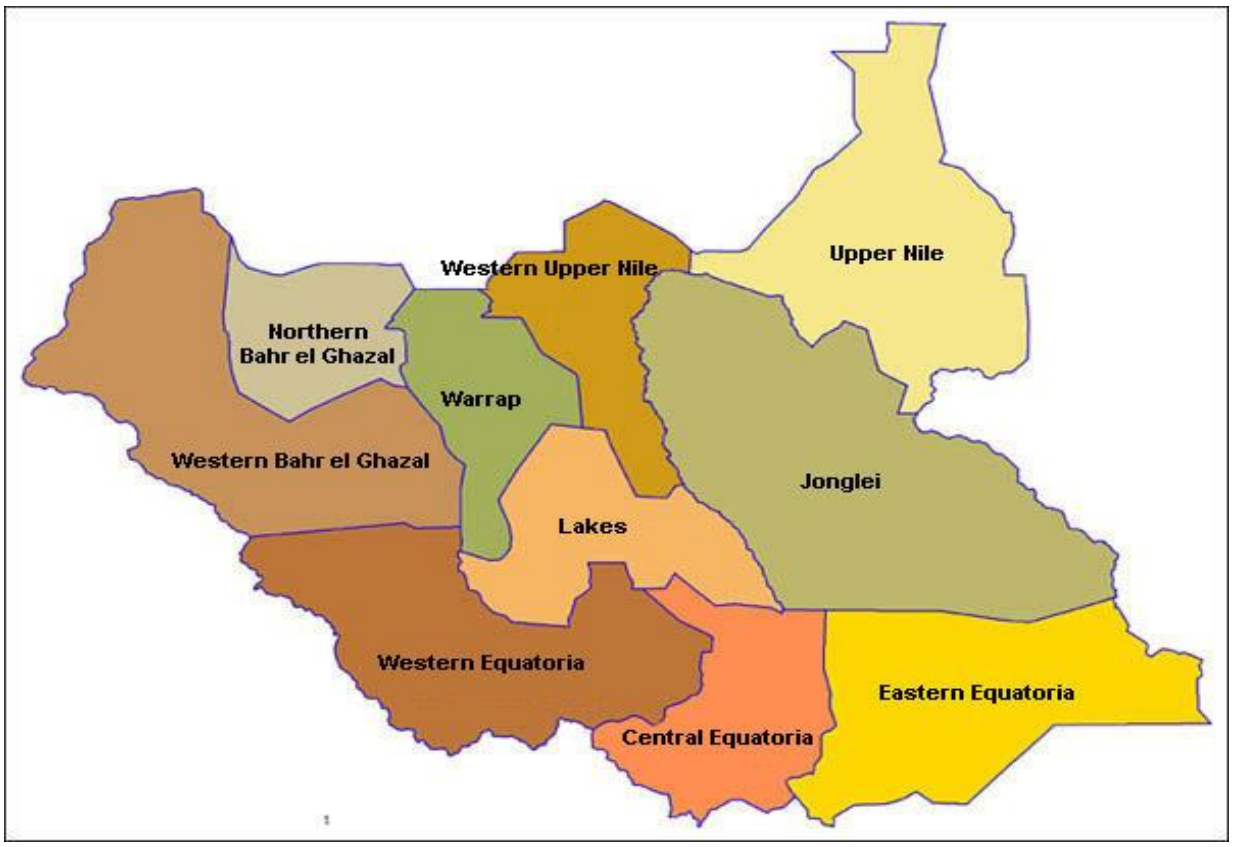


Figure 4 map of South Sudan showing the 10 states

Figure 5 Flag of South Sudan

Motto: "Justice, Liberty, Prosperity"

Anthem: ***South Sudan Oyee!***

B. SITUATION ANALYSIS

1. Political Context

South Sudan has witnessed perhaps the longest liberation war in modern Africa. The war, which began just after independence in August 1955, ended with the signing of the Comprehensive Peace Agreement (CPA) in January 2005. The war destroyed physical infrastructure and social structures. Over 2.5 million people died while close to 4 million were displaced. Consequently, the health system collapsed. During the last phase of the war (1983-2005), international non-governmental organisations (INGOs) and faith based organisations (FBOs) assumed responsibility for basic health service delivery in liberated areas. However, due to insecurity and the vast geographical extent of the country, effective health service coverage has remained low at under 25 %.

Following the signing of the CPA, which stipulated an interim period of six years, the Government of Southern Sudan (GoSS) was established. This status quo continued until January 2011, when the Southern Sudan Referendum on Self-determination was conducted and over 98 % of Southern Sudanese voted in favour of secession. On July 9, 2011, South Sudan's independence was proclaimed thus ending more than 190 years of foreign occupation and the beginning of a transitional period led by H.E Salva Kiir Mayardit, the first President of the Republic of South Sudan.

The country is administratively divided into ten states (Figure 3), which are further sub-divided into seventy nine counties. The counties are partitioned into 514 smaller

administrative units, referred to as Payams.

2. Demographic and socio-economic situation

The Republic of South Sudan covers a geographical area of approximately 640,000 square kilometres. The population is estimated at 8,260,490 million with a density of 15 people per square kilometre. More than 90% of the population lives in rural areas. The average annual population growth rate is 2.2%. The population is projected to increase to 12 million by 2015, due to both the annual growth rate and the return of South Sudanese from the diaspora, following the historic independence of the Republic of South Sudan. Females constitute 52% of the population while males account for 48%. The total fertility rate is estimated at 6.7, while the average life expectancy at birth for both sexes is 42 years.

South Sudan is endowed with vast natural resources, which include arable agricultural land, fresh water, minerals and oil. On the contrary, income per capita is extremely low, with about half of the population (50.6%) living on less than 1 US$ per day. In addition to high levels of poverty, South Sudan has a high disease burden and low levels of education, thus ranking as one of the poorest countries in the world. The vast majority of the population is engaged in rural subsistence farming and cattle herding. Living conditions are associated with poor access to potable drinking water (less than 50%), poor access to proper sanitation (less than 7%) and high illiteracy rates among the adult population (88% among women and 63% among men).

3. Health status and disease burden

South Sudanese people have experienced poor health care provision due to the protracted resource and politically motivated conflicts that disrupted the health system. Inevitably, this resulted in the country having the worst key health indicators globally.

Chapter 2 - Overview of HIV/AIDS

A. Introduction

HIV stands for human immunodeficiency virus. It is a retrovirus. After getting into the body, the virus kills or damages cells of the body's immune system. As the infection progresses, the immune system becomes weaker, and the person becomes more susceptible to infections. The body tries to accommodate by making new cells or trying to contain the virus, but eventually HIV progressively destroys the body's ability to fight infections and certain cancers.

AIDS stands for acquired immunodeficiency syndrome. It is a collection of symptoms and signs of disease. It is the most advanced stage of infection with HIV. It is caused by HIV and occurs when the virus has destroyed so much of the body's defenses that immune-cell counts fall to critical levels or certain life-threatening infections or cancers develop. It can take 10-15 years for an HIV-infected person to develop AIDS.

HIV is transmitted through unprotected sexual intercourse (anal or vaginal), contact with contaminated blood or blood products during blood transfusion, sharing of contaminated needles, and between a mother and her infant during pregnancy, childbirth and breastfeeding.

The first signs of HIV infection may be swollen glands and flu-like symptoms. These may come and go a month or two after infection. This is typically followed by a prolonged period without symptoms called clinical latency. As the illness progressed, it interferes more and more with the immune system, making the person much more likely to be infected including opportunistic infections and tumors that eventually lead to AIDS.

HIV can be prevented through safe sex (consistent use of condoms), needle exchange programs, and giving Anti-retroviral medications to mothers during pregnancy, childbirth, and avoidance of breast milk to infants and children.

There is no cure or effective vaccine, but anti-retroviral drugs can dramatically slow the

progression of the disease and may lead to near normal life expectancy.

AIDS was discovered in 1981 by the Centers for Disease Control and Prevention (CDC). Its cause, HIV infection, was identified two years later, in 1983. Since its discovery, AIDS has killed nearly 30 million people as of 2009 and approximately 34 million people have contracted HIV globally as of 2010.

B. Global, Regional, and Sub-Saharan Africa HIV and AIDS estimates, 2009 and 2010

1. Global HIV and AIDS estimates, 2009 and 2010

The latest statistics of the global HIV and AIDS epidemic were published by UNAIDS, WHO and UNICEF in November 2011, and refer to the end of 2010.

Table 1 Global HIV/AIDS Estimates 2010

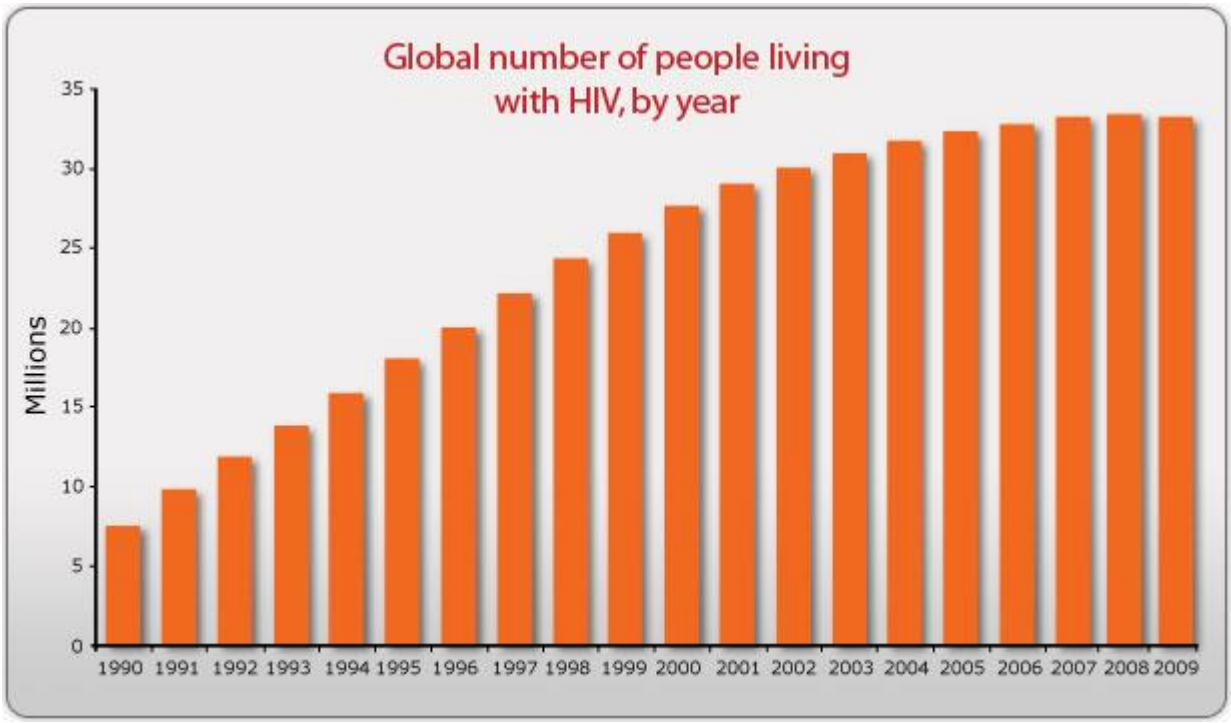
	ESTIMATES	Range
People living with HIV/AIDS in 2010	34 million	31.6-35.2 million
Proportion of adults living with HIV/AIDS in 2010 who were women (%)	50	47-53
Children living with HIV/AIDS in 2010	3.4 million	3.0-3.8 million
People newly infected with HIV in 2010	2.7 million	2.4-2.9 million
Children newly infected with HIV in 2010	390,000	340,000-450,000
AIDS deaths in 2010	1.8 million	1.6-1.9 million

Statistics published by UNAIDS in November 2010, referring to the end of 2009

Table 2 Global HIV/AIDS Estimates 2009

	Estimate	**Range**
People living with HIV/AIDS in 2009	33.3 million	31.4-35.3 million
Adults living with HIV/AIDS in 2009	30.8 million	29.2-32.6 million
Women living with HIV/AIDS in 2009	15.9 million	14.8-17.2 million
Children living with HIV/AIDS in 2009	2.5 million	1.6-3.4 million
People newly infected with HIV in 2009	2.6 million	2.3-2.8 million
Adults newly infected with HIV in 2009	2.2 million	2.0-2.4 million
AIDS deaths in 2009	1.8 million	1.6-2.1 million
Orphans (0-17) due to AIDS in 2009	16.6 million	14.4-18.8 million

Figure 6 Global Trends



Note:

The number of people living with HIV rose from around 8 million in 1990 to 34 million by the end of 2010. The overall growth of the epidemic has stabilized in recent years. The annual number of new HIV infections has steadily declined and due to the significant increase in people receiving antiretroviral therapy, the number of AIDS-related deaths has also declined.

Since the beginning of the epidemic, nearly 30 million people have died from AIDS-related causes.

2. Regional statistics for HIV and AIDS, end of 2010

Table 3 Regional Statistics for HIV/AIDS end of 2010

Region	Adults & children living with HIV/AIDS	Adults & children newly infected	Adult prevalence*	AIDS-related deaths in adults & children
Sub-Saharan Africa	22.9 million	1.9 million	5.0%	1.2 million
North Africa & Middle East	470,000	59,000	0.2%	35,000
South and South-East Asia	4 million	270,000	0.3%	250,000
East Asia	790,000	88,000	0.1%	56,000
Oceania	54,000	3,300	0.3%	1,600
Latin America	1.5 million	100,000	0.4%	67,000
Caribbean	200,000	12,000	0.9%	9,000
Eastern Europe & Central Asia	1.5 million	160,000	0.9%	90,000
North America	1.3 million	58,000	0.6%	20,000
Western & Central Europe	840,000	30,000	0.2%	9,900
Global Total	34 million	2.7 million	0.8%	1.8 million

* Proportion of adults aged 15-49 who are living with HIV/AIDS

With around 68 percent of all people living with HIV residing in sub-Saharan Africa, the region carries the greatest burden of the epidemic. Epidemics in Asia have remained relatively stable and are still largely concentrated among high-risk groups. Conversely, the number of

people living with HIV in Eastern Europe and Central Asia has more than tripled since 2000.

Adults are defined as men and women aged 15 or above, unless specified otherwise. Children orphaned by AIDS are defined as people aged under 18 who are alive and have lost one or both parents to AIDS.

All the statistics presented in table 3 should be interpreted with caution because they are estimates.

3. Sub-Saharan Africa HIV & AIDS Statistics

In 2010 there were an estimated 22.9 million people living with HIV in Sub-Saharan Africa. This has increased since 2009, when an estimated 22.5 million people were living with HIV, including 2.3 million children.

The increase in people living with HIV could be partly due to a decrease in AIDS-related deaths in the region. There were 1.2 million deaths due to AIDS in 2010 compared to 1.3 million in 2009. Almost 90% of the 16.6 million children orphaned by AIDS live in sub-Saharan Africa.

The latest figures for each sub-Saharan African country showing the number of people living with HIV, the number of deaths from AIDS, and the number of living orphans were published in 2010 and refer to 2009. They are shown below.

Table 4 Sub-Saharan Africa Statistics, 2009, the greatest burden nations

Country	People living with HIV/AIDS	Adult (15-49) prevalence %	Women with HIV/AIDS	Children with HIV/AIDS	AIDS deaths	Orphans due to AIDS
South Africa	5,600,000	17.8	3,300,000	330,000	310,000	1,900,000
Nigeria	3,300,000	3.6	1,700,000	360,000	220,000	2,500,000
Kenya	1,500,000	6.3	760,000	180,000	80,000	1,200,000
Tanzania	1,400,000	5.6	730,000	160,000	86,000	1,100,000
Mozambique	1,400,000	11.5	760,000	130,000	74,000	670,000
Uganda	1,200,000	6.5	610,000	150,000	64,000	1,200,000
Zimbabwe	1,200,000	14.3	620,000	150,000	83,000	1,000,000
Zambia	980,000	13.5	490,000	120,000	45,000	690,000
Malawi	920,000	11	470,000	120,000	51,000	650,000

Table 5 All sub-Saharan Africa nations

Country	People living with HIV/AIDS	Adult (15-49) prevalence %	Women with HIV/AIDS	Children with HIV/AIDS	AIDS deaths	Orphans due to AIDS
Angola	200,000	2.0	110,000	22,000	11,000	140,000
Benin	60,000	1.2	32,000	5,400	2,700	30,000
Botswana	320,000	24.8	170,000	16,000	5,800	93,000
Burkina Faso	110,000	1.2	56,000	17,000	7,100	140,000
Burundi	180,000	3.3	90,000	28,000	15,000	200,000
Cameroon	610,000	5.3	320,000	54,000	37,000	330,000
Central African Republic	130,000	4.7	67,000	17,000	11,000	140,000
Chad	210,000	3.4	110,000	23,000	11,000	120,000
Comoros	<500	0.1	<100	...	<100	<100
Congo	77,000	3.4	40,000	7,900	5,100	51,000
Côte d'Ivoire	450,000	3.4	220,000	63,000	36,000	440,000
Dem. Republic of Congo	(430,000-560,000)	(1.2-1.6)	(220,000-300,000)	(33,000-86,000)	(26,000-40,000)	(350,000-510,000)
Equatorial Guinea	20,000	5.0	11,000	1,600	<1,000	4,100
Eritrea	25,000	0.8	13,000	3,100	1,700	19,000
Gabon	46,000	5.2	25,000	3,200	2,400	18,000
Gambia	18,000	2.0	9,700	...	<1,000	2,800
Ghana	260,000	1.8	140,000	27,000	18,000	160,000
Guinea	79,000	1.3	41,000	9,000	4,700	59,000
Guinea-Bissau	22,000	2.5	12,000	2,100	1,200	9,700

Kenya	1,500,000	6.3	760,000	180,000	80,000	1,200,000
Lesotho	290,000	23.6	160,000	28,000	14,000	130,000
Liberia	37,000	1.5	19,000	6,100	3,600	52,000
Madagascar	24,000	0.2	7,300	...	1,700	11,000
Malawi	920,000	11.0	470,000	120,000	51,000	650,000
Mali	76,000	1.0	40,000	...	4,400	59,000
Mauritania	14,000	0.7	4,000	...	<1,000	3,600
Mauritius	8,800	1.0	2,500	...	<500	<1,000
Mozambique	1,400,000	11.5	760,000	130,000	74,000	670,000
Namibia	180,000	13.1	95,000	16,000	6,700	70,000
Niger	61,000	0.8	28,000	...	4,300	57,000
Nigeria	3,300,000	3.6	1,700,000	360,000	220,000	2,500,000
Rwanda	170,000	2.9	88,000	22,000	4,100	130,000
Senegal	59,000	0.9	32,000	...	2,600	19,000
Sierra Leone	49,000	1.6	28,000	2,900	2,800	15,000
South Africa	5,600,000	17.8	3,300,000	330,000	310,000	1,900,000
Swaziland	180,000	25.9	100,000	14,000	7,000	69,000
Togo	120,000	3.2	67,000	11,000	7,700	66,000
Uganda	1,200,000	6.5	610,000	150,000	64,000	1,200,000
United Rep. Of Tanzania	1,400,000	5.6	730,000	160,000	86,000	1,100,000
Zambia	980,000	13.5	490,000	120,000	45,000	690,000
Zimbabwe	1,200,000	14.3	620,000	150,000	83,000	1,000,000
Total sub-Saharan Africa	22,500,000	5.0	12,100,000	2,300,000	1,300,000	14,800,000

Note

These estimates include all people with HIV infection, including those who have not developed symptoms of AIDS.

Adults in this page are defined as men and women aged over 15, unless specified otherwise.

Children are defined as people under the age of 15, whilst orphans are children aged under 18 who have lost one or both parents to AIDS.

Chapter 3 - HIV/AIDS- Prevalence, Risk Factors, and Transmission in South Sudan

A. BACKGROUND

Based on available antenatal surveillance data (2009), South Sudan has a generalized low HIV epidemic with a prevalence rate of 3% among the adult population. UNAIDS South Sudan HIV /AIDS estimates put the number individuals living with HIV in 2012 at 151996 adults and children. Recent MOH behavioral and sero-prevalence studies indicate high risk behaviors' among young people, the military and among PLWHA and low condom use suggesting that the epidemic could rapidly increase and reach as highly as nearly 6% by 2015, unless current interventions are scaled-up and sustained. Geographic disparities exist between urban and rural areas and also across states: Juba 6 percent; highest estimates in Western Equatoria at 7.2 percent and lowest in rural areas at 1 percent. The 2010 household survey data show that only 53 percent of women 15-49 years old have ever heard of HIV or AIDS, and only 19.3 percent know of a place to get tested. In addition, only 15 percent of women who give birth two years prior to the study and had access to ANC services received HIV counseling and testing, while only 9 percent of these women were tested for HIV while seeking antenatal care.

Table 6 Projected adult HIV prevalence, new infections and PLWHA in need of ART and PMTCT services in South Sudan.

Year	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
HIV Adults + Children	119359	124555	129513	134236	138687	143048	147284	151996	157315
HIV Adults 15+	108553	112730	116679	120432	123993	127558	131103	135283	140217
HIV population-Children	10806	11825	12834	13804	14694	15490	16182	16712	17098
Prevalence Adult	2.99	3.03	3.05	3.06	3.06	3.06	3.05	3.06	3.08
New HIV infections- Adult	12157	12044	12076	12260	12539	12758	13064	13316	13200
New HIV infections-Children	2558	2639	2703	2751	2773	2767	2731	2613	2476
Need for ART-Adult (15+)	16350	18286	20165	21927	23546	25066	26693	49515	52176

Table 7 HIV/AIDS Estimates in South Sudan, 2011

Number of people living with HIV	150,000 [100,000 - 200,000]
Adults aged 15 to 49 prevalence rate	3.10% [2.10% - 4.20%]
Adults aged 15 and up living with HIV	130,000 [88,000 - 180,000]
Women aged 15 and up living with HIV	77,000 [52,000 - 100,000]
Children aged 0 to 14 living with HIV	16,000 [11,000 - 23,000]
Deaths due to AIDS	11,000 [7,500 - 16,000]
Orphans due to AIDS aged 0 to 17	N/A

B. Risk Factors that may be contributing to continuing HIV incidence in South Sudan

The southern Sudan HIV epidemic and response review report (SSAC 2011) gives a summary of findings of two recent behavioral studies, the Household Health Survey 2010 (HHS) and the Kajo Keji County Behavioral Survey 2009 (KKBSS), demonstrating that there are several biological and behavioral factors that may be contributing to continuing HIV incidence in South Sudan. These include;

- A high rate of sexually transmitted infections (STIs)
- Most men in Southern Sudan who are not Muslim are not circumcised
- Early age of first sex and a low level use of condoms
- Multiple sexual partners
- A low level of knowledge in both men and women about the means of transmission of HIV and how to protect themselves
- A high level of stigma and discrimination against people who might be HIV-positive

C. Transmission of HIV/AIDS

In general, HIV is transmitted by three main routes; sexual contact, exposure to infected body fluids, tissues, or organs and from mother to child during pregnancy, childbirth or breastfeeding (vertical transmission).

Most commonly, HIV infection is spread by having sex (vaginal, anal, or oral) with an infected partner. The virus can enter the body through the lining of the vagina, vulva, penis, rectum, or mouth during sex.

Women can transmit HIV to their babies during pregnancy or birth, when infected maternal cells enter the baby's circulation, or through breastfeeding.

HIV frequently spreads among injection-drug users who share needles or syringes that are contaminated with blood from an infected person.

HIV can be spread in health-care settings through accidental needle sticks or contact with contaminated fluids such as amniotic, synovial, or cerebro-spinal fluids.

HIV can be transmitted through transfusion of contaminated blood or blood components. This still happening in developing countries, but is very rarely in developed nations where blood and blood products are screened before used. Similarly, if tissues or organs from an infected person are transplanted, the recipient may acquire HIV. Donors are now tested for HIV to minimize this risk.

Chapter 4 - Management, Treatment, Care and Support of HIV/AIDS individuals in South Sudan

A. General Management of HIV/AIDS

Currently, no cure or effective HIV/AIDS vaccine, but treatment consists of high active antiretroviral therapy (HAART) which slows progression of the disease. Treatment also includes preventative and active treatment of opportunistic infections and certain cancers, post-exposure prophylaxis, as well as complementary/alternative medicine and healthy lifestyle and home remedies.

1. Anti-retroviral therapy

Figure 7 Abacavir – a nucleoside analog reverse transcriptase inhibitor (NARTI or NRTI)

It is recommended to take at least three different anti-retrovirals (ARVs, or HAART) from two different classes to avoid creating strains of HIV that are immune to single drugs.
The classes of anti-HIV drugs include:

- **Non-nucleoside reverse transcriptase inhibitors (NNRTIs).** NNRTIs disable a protein needed by HIV to make copies of itself. Examples include efavirenz (Sustiva), etravirine (Intelence) and nevirapine (Viramune).
- **Nucleoside reverse transcriptase inhibitors (NRTIs).** NRTIs are faulty versions of building blocks that HIV needs to make copies of itself. Examples include Abacavir (Ziagen), and the combination drugs emtricitabine and tenofovir (Truvada), and lamivudine and zidovudine (Combivir).
- **Protease inhibitors (PIs).** PIs disable protease, another protein that HIV needs to make copies of itself. Examples include atazanavir (Reyataz), darunavir (Prezista), fosamprenavir (Lexiva) and ritonavir (Norvir).
- **Entry or fusion inhibitors.** These drugs block HIV's entry into CD4 cells. Examples include enfuvirtide (Fuzeon) and maraviroc (Selzentry).
- **Integrase inhibitors.** Raltegravir (Isentress) works by disabling integrase, a protein that HIV uses to insert its genetic material into CD4 cells.

Current guidelines indicate that treatment should begin if:

- You have severe symptoms
- Your CD4 count is under 500
- You're pregnant
- You have HIV-related kidney disease
- You're being treated for hepatitis B

Treatment with anti-retrovirals often improves current, as well as decreases the risk of future, opportunistic infections. However, vaccination against Hepatitis A and B is advised before and after infection with HIV. Prevention and treatment of Tuberculosis, provision of

Trimethoprim/Sulfamethoxazole prophylaxis, prevention of pneumocystis carini pneumonia, and prophylaxis for Toxoplasmosis and Cryptococcal meningitis for people with substantial immunosuppression are also advised.

2. Post-exposure Prophylaxis

Post-exposure prophylaxis (PEP) involves taking anti-HIV drugs as soon as possible after you may have been exposed to HIV to try to reduce the chance of becoming HIV positive. There are two types of PEP: (1) occupational PEP, (sometimes called "oPEP"), and (2) non-occupational PEP, (sometimes called “nPEP”).

Workplace exposure (oPEP) is when someone working in a health-care setting is potentially exposed to material infected with HIVsuch as needle sticks or cuts, getting blood or other body fluids in their eyes or mouth, getting blood or other body fluids on their skin when it is chapped, scraped, or affected by *dermatitis*

Non-occupational exposure (nPEP) is when someone is potentially exposed to HIV outside the workplace (e.g., condom breakage, sexual assault, etc.)

To be effective, PEP must begin within 72 hours of exposure, before the virus has time to rapidly replicate in your body. PEP consists of 2-3 *antiretroviral* medications and should be taken for 28 days. Your doctor will determine what treatment is right for you based on how you were exposed to HIV. The medications have serious side effects that can make it difficult to finish the program. PEP is not 100% effective; it does not guarantee that someone exposed to HIV will not become infected with HIV.

3. Healthy Lifestyle

While medicines are a must for treating HIV, they are only one part of living a healthy life. A good diet, daily exercise, plenty of rest, and going to all of your medical appointments are all part of a healthy life.

B. Strategies use for Treatment, Care and Support for HIV/AIDS individuals in South Sudan

One of the major objectives of the Ministry of Health is to provide greater care, support and treatment to the larger number of PLHIV in South Sudan, with ultimate goal of universal access for all those who need it. The Care, Support and Treatment component of the HIV/AIDS Division aims to provide comprehensive management to PLWHA with respect to prevention and treatment of Opportunistic Infections including TB, Anti-retroviral Therapy (ART), psychosocial support, home-based care, positive prevention and impact mitigation.

Anti-retroviral Therapy (ART) for eligible persons living with HIV/AIDS was launched in 2004 in three hospitals. Since then, the programme has been scaled up both in terms of facilities for treatment to 22 and number of beneficiaries seeking ART. The Main services provided to PLWHA under care, support and treatment include:

- Registration of PLWHA for ART and pre-ART services;
- Assessment of eligibility of ART based on clinical examination and CD4 count;
- Provision of first line ART to all eligible PLWHA and CLHA
- Follow-up of patients on ART by assessing drug adherence, regularity of visits and periodic examination and CD4 count (every 6 months)
- Care, support and home-based services
- Treatment of opportunistic infections; and
- Provision of alternate first line and second-line ART to those experiencing drug toxicities and treatment failure, respectively

Program Results

1. Activities undertaken in 2011

1. The HIV/AIDS/STI Division in the Directorate of Community and Public Health, Ministry of Health – Republic of South Sudan (MOH-RoSS) in collaboration with UNDP organized and conducted a seven days training for the Health Care Providers on the Management of HIV/AIDS in pediatrics. The training took place in Yei town at Crop Training Center from 8 - 15, Aug. 2011. This training was done among the ART site clinicians for the first time in the Republic of South Sudan. The participants were those who had already been trained in Integrated Management of Adolescent and Adult Illness (IMAI) and were still practicing in the ART facilities. A total of 27 participants attended the training from all over 10 States of South Sudan. The learning Objectives were:

    a) Explain briefly and in basic terms what HIV is and how it is transmitted to Infants and children. Describe how to assess and classify a child for HIV/AIDS. Describe how to assess, classify and treat acute common illnesses in young infants and children classified for HIV/AIDS.

    b) Describe how to assess, classify and treat common opportunistic infections in infants and young children classified for HIV/AIDS, with a focus on skin and mouth conditions.

    c) Describe how to prevent common illnesses in infants and young children classified for HIV, describe how to effectively communicate with the HIV positive mother.

    d) Describe different feeding options and the processes involved in counseling the HIV positive mother about feeding. Describe how you would follow up children born to HIV positive women, and be able to differentiate between:

    e) Follow up of children classified as HIV exposed

f) Chronic care for children with suspected symptomatic HIV or confirmed HIV infection

2. The Division of HIV/AIDS staff conducted Supportive supervision visits to health facilities providing ART in three states (Eastern and Western Equatoria and Western Bahr El Ghazal) of South Sudan. The objectives of the visits included;

   - Visit the ART, PMTCT, VCT clinics to evaluate HIV related activities
   - Provide clinical mentorship to the ART team
   - Meet with the ART staff members to provide feedback of the visit
   - Meet with the hospital director to debrief on the visit findings and recommendations

   The methodology used in the supportive supervision visits comprised of interviews with health workers, data verification/validation and observation of service provision.

Figure 8 Division of HIV/AIDS staff verify ART Registers and monthly ART report data at Torit State Hospital

2. Some of the challenges facing the ART sites;

- ARV and other medicine runs out which leads to patients dropping from treatment
- Limited availability of stock cards, poor knowledge of filling the stock cards and how to place orders
- Poor quality of medical care due to unavailability of medicines most of the time.
- New patients are not thoroughly examined for proper staging
- Weak home based care and support to HIV patients. Health workers have problems accessing patients at home due to poor means of transport
- Lack of power supply to the facility can contribute to poor storage conditions of test kits that need cold temperature.

- Inadequate space in the labs for installing required equipment
- Inadequate training in operating CD4 machines
- There is poor recording of registers, compilation of monthly reports and weak reporting system at most of ART sites in South Sudan which leads non reporting, delayed reports or inaccurate reports being sent to the HIV/AIDS/STIs division in the MOH.
- Limited provision of maintenance services to the CD4 and Hum count machine is always a problem because the agents for the manufacturers are not based in South Sudan.
- Drug distribution to some facilities in-time remains a big challenge

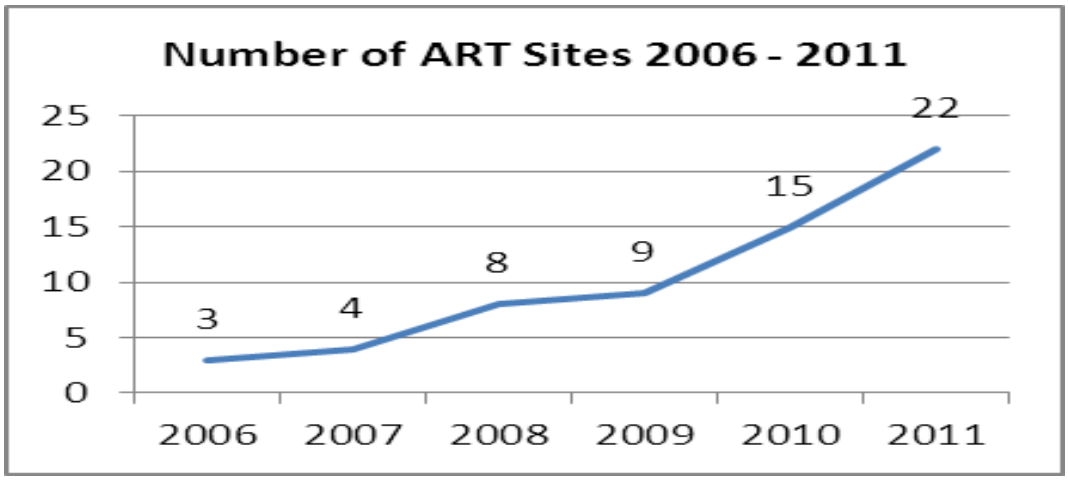
3. Recommendations from the Supportive Supervision visits include;

- Drug exchange (e.g. CTX) based on need among the different ART facilities in the state to reduce cases of out-stocked and over-stocked
- Supply chain management refresher training for the store keepers and dispensers
- Proper arrangement for drug delivery to the health facilities
- The current services provision to both CD4 and Humacount machines should be reconsidered
- Regular supportive supervision of a joint team between the MOH,UNDP and WHO should be organized for a good technical support on the ground
- Monitoring of the initial enrollment of HIV clients into either care or on ART according to STGs
- Strong counseling on adherence to treatment, care and support should be improved

4. Number of sites

In 2011/2012, 7 new facilities started offering HIV Care and treatment services in South Sudan. This brings the total number of facilities offering HCT services to 22 as figure 10 shows. All these facilities are located in all the ten states of South Sudan and receive support from the Ministry of health, Global Fund and WHO.

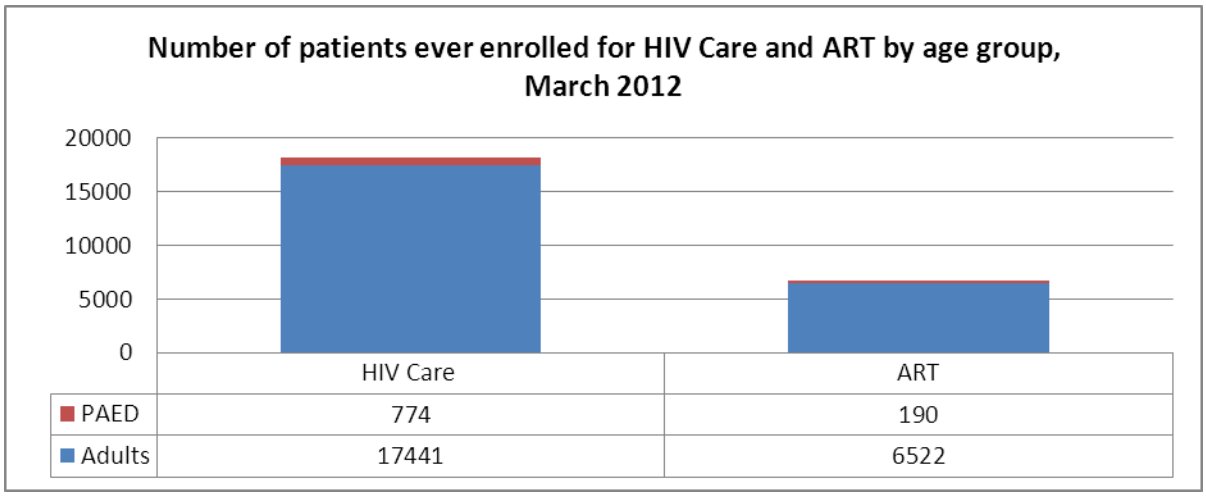
Figure 9 Number of ART Sites 2006-2011



5. Number of adults and children ever enrolled on HIV Care and ART

As figure 11 below shows majority of patients ever enrolled for HIV Care (17441) and ART (6522) are adults. Only about 774 and 190 children have ever been enrolled for HIV Care and ART respectively. This shows the need to put more children on HIV Care and ART.

Figure 10 Number of HIV Patients ever enrolled for HIV Care and ART by age, March 2012

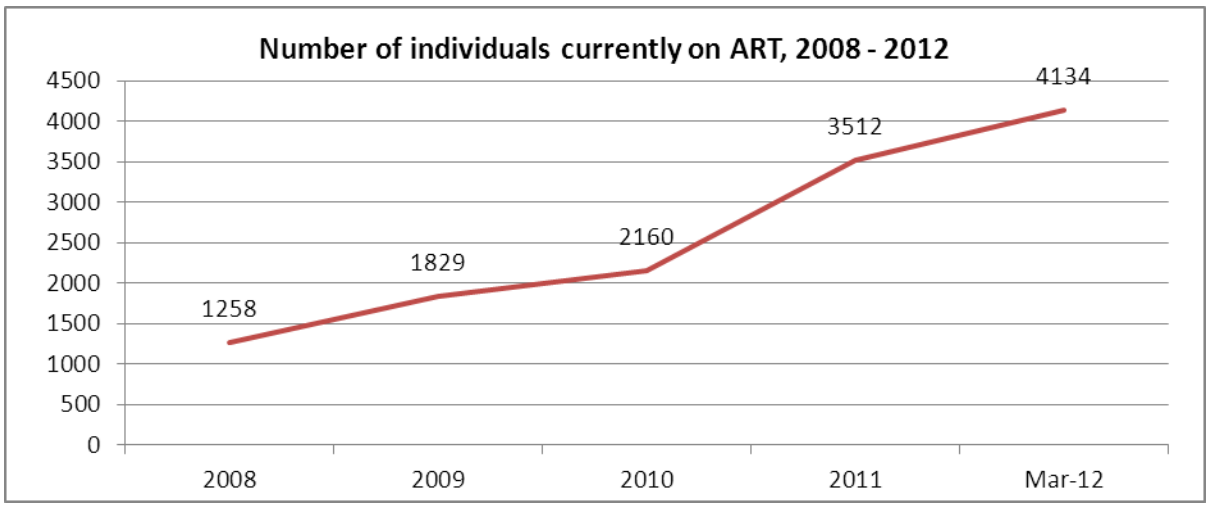


6. Number of individuals currently on ART

Adherence to ART is an essential component of individual and programmatic treatment success. Higher levels of adherence are associated with improved virological and clinical outcomes. Rates of adherence exceeding 95% are desirable in order to maximize the benefits of ART. This means taking the correct dose of drugs at the correct times while observing any dietary restrictions

As of March 2012, there were 4134 individuals currently on ART. As figure 12 below shows this is a great improvement from 1258 the number currently on ART 2008. However, this number does not compare well with the total number of individuals (6712) ever enrolled on ART. This means that about 39 percent have either died, lost to follow up or did not pick their drugs.

Figure 11 Number of individuals currently on ART, 2008-2012



7. Number of individuals currently on Cotrimoxazole Prophylaxis

According to the Ministry of Health guidelines for the use of Antiretroviral drugs in adults and children, all HIV-infected individuals, regardless of age, treatment or immunological status, should be given Cotrimoxazole unless contraindicated. Studies have suggested Cotrimoxazole is effective against common causes of death and risks of disease including malaria in people with HIV regardless of whether they are on ART or not.

Contraindications include allergy to Cotrimoxazole which commonly manifests as a rash that can be severe and progress to Stevens Johnson Syndrome. This recommendation is in line with the 2006 WHO guidelines for use of Cotrimoxazole prophylaxis in resource-limited settings where bacterial infections and malaria are prevalent and cause significant morbidity across a wide immunological spectrum in PLWHA.

Approximately 7600 patients received Cotrimoxazole in the month of March 2012 in all the HIV Care and ART facilities that reported. This figure can be used as a proxy for estimating the number of HIV positive individuals currently on HIV care. This includes the number of patients on ART

8. Standardized Antiretroviral Drug Regimens

The Ministry of Health, Republic of South Sudan has decided on standardized antiretroviral drug regimens in line with the revised (2006) WHO Guidelines on ART in resource limited settings. The choice of regimens reflects the imperatives of a public health approach to scaling up of ART. Further, the regimens chosen have been selected with efficacy, tolerability and opportunities for second line treatment in mind.

Table 8 Number of Patients on 1st Line ARV Regimen by sex and age, March 2012

On 1st line regimen	**Male**	**Female**	**Total**
Adults (>14 years)			
ZDV-3TC-EFV	244	320	564
ZDV-3TC-NVP	708	1728	2436
d4T-3TC-EFV	16	16	32
d4T-3TC-NVP	304	643	947
TFV-3TC-EFV	3	1	4
TFV-3TC-NVP	2	2	4
ABC-3TC-EFV	0	0	0
ABC-3TC-NVP	0	0	0
Children (0-14 years)			
ZDV-3TC-EFV	8	6	14
ZDV-3TC-NVP	56	36	92
d4T-3TC-EFV	0	0	0
d4T-3TC-NVP	25	16	41

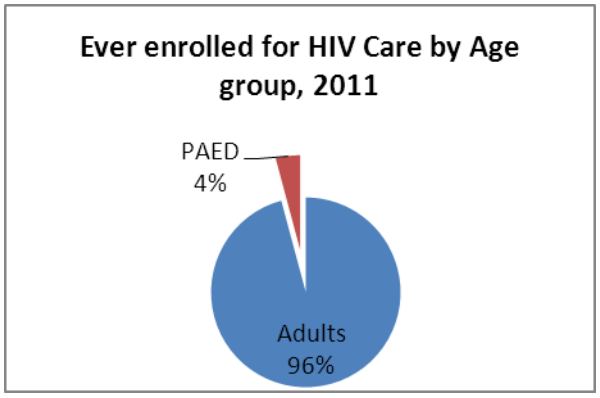
9. Pediatric HIV Care and ART

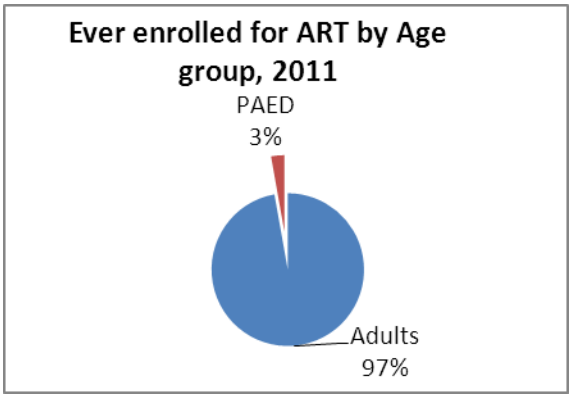
Most children acquire HIV infection in-utero, during delivery or through breastfeeding. Thus, the most efficient and cost-effective way to tackle pediatric HIV is to reduce mother-to-child transmission. However, every day there are new infections in children under 15 years of age and most being associated with Mother-To-Child Transmission.

HIV-infected infants frequently present with clinical symptoms in the first year of life, and by one year of age an estimated one-third of infected infants will have died, and about half by 2 years of age. There is thus a critical need to provide antiretroviral therapy (ART) for infants and children who become infected despite the efforts being made to prevent such infections.

As figures 13 below show there are very few children enrolled both on HIV Care and ART in South Sudan

Figure 12 Individuals ever enrolled for HIV Care and ART by age, 2011





As figure 14 below shows majority of children on ART are aged between 5 and 14 years. Only about 2 percent are aged less than 1 year. 61 percent and 28 percent are on ZDV-3TC-NVP and d4T-3TC-NVP respectively.

Figure 13 % of PEADs by age

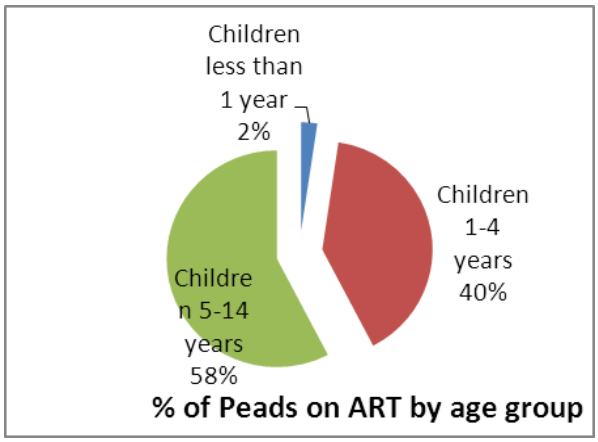
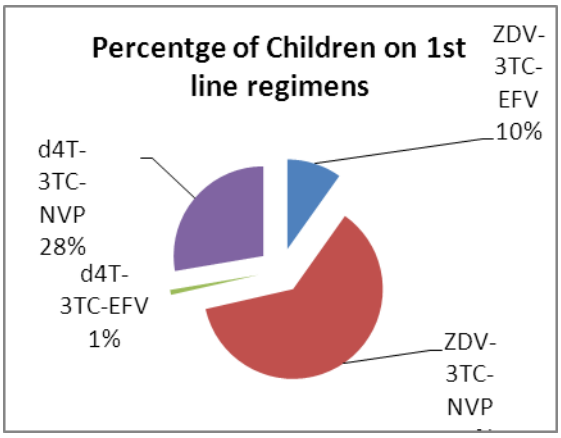


Figure 14 % of PEADs by 1st line regimen



10. TB - Screening and Treatment at ART Sites

Tuberculosis (TB) is a significant cause of morbidity and mortality in HIV-infected patients. The risk of developing tuberculosis (TB) is estimated to be between 20-37 times greater in people living with HIV than among those without HIV infection.

The *Three I's* for HIV/TB (Intensified case finding for TB, Isoniazid preventive therapy, and Infection control) reduces the burden of TB among people living with HIV and therefore must be urgently implemented by all HIV services. People living with HIV need early diagnosis and treatment of active TB disease. If TB is not present, they should receive Isoniazid preventive therapy (IPT). The treatment should be free of charge and is not expensive for the health system.

Table 9 TB Screening and treatment at ART Sites, 2011

	Male		Female		Total		
	PreART	ART	PreART	ART	PreART	ART	Total
Number TB Screened, found with no signs of TB	610	620	1361	1419	1668	1905	4010
On INH prophylaxis	0	0	0	0	0	0	0
Sputum: TB suspect Sputum sample taken	15	17	12	12	27	29	56
TB Refer: TB suspect referred for investigation	12	5	23	13	14	5	53
TB Rx: On TB treatment during the month	17	30	15	29	32	58	91
TOTAL whose TB status was assessed at last visit during the reporting period	654	671	1419	1468	1750	1991	4312

Isoniazid (INH) is an anti-tuberculosis medication which when taken regularly can significantly reduce the rate of later development of active TB disease. As table 8 above shows no TB/HIV patients were on INH prophylaxis in South Sudan for 2011.

Chapter 5 - Measures for Prevention and Control of HIV/AIDS in General and in South Sudan

A. Overview of Measures for Prevention and Control of HIV/AIDS

Social strategies

These strategies require people to change their behaviors in order to avoid contracting HIV. These include sex education, LGBT sex education, needle-exchange programs, safe injection sites, safe sex, serosorting, sexual abstinence, immigration regulation.

Sexual contact

Consistent and proper use of a new condom in every sex act (anal, vaginal) reduces the risk of HIV transmission by approximately 80% over the long-term. Where one partner of a couple is infected, consistent condom use results in risk of HIV infection for the uninfected person of below 1% per year. During oral sex use a condom, dental dam — a piece of medical-grade latex — or plastic wrap. Condoms are a universally medically proven method for preventing the spread of HIV during sexual intercourse. They are also the only method promoted by health authorities worldwide. Similarly, women can consider female condoms and vaginal gel as well.

In sub-Saharan Africa, both World Health Organization and UNAIDS recommended male circumcision as a method of reducing female-to-male HIV transmission in 2007. There is evidence that male circumcision reduces the risk of HIV infection in heterosexual men by between 38% and 66% over two years.

Abstain from sex. This obviously has limited appeal, but it absolutely protects against HIV transmission by this route.

Comprehensive sexual education provided at school may decrease high risk behavior.

Mother-to-child

The risk of HIV transmission from a pregnant woman to her baby is significantly reduced if the mother takes medications during pregnancy, labor, and delivery and her baby is given medications (ARVs) for the first six weeks of life. The key is to get tested for HIV as early as possible in pregnancy. In consultation with their physician, many women opt to avoid breastfeeding to minimize the risk of transmission of HIV after delivery. Sometimes, elective caesarian sections are considered.

Pre-exposure prophylaxis (PrEP)

This is a new HIV prevention method in which people that do not have HIV take a daily pill to reduce their risk of becoming infected. When used consistently, PrEP has been shown to be effective in men who have sex with men (MSM), sero-discordant couples, and heterosexually-active men and women.

Based on studies to date, in July 2012 the U.S. Food and Drug Administration approved the combination medication tenofovir disoproxil fumarate plus emtricitabine (TDF/FTC) for use as PrEP among sexually active adults at risk for HIV infection.

Those who work in a health-care field should follow recommended guidelines for protecting themselves against needle sticks and exposure to contaminated fluids.

Harm reduction strategies such as needle/syringe exchange programs are effective in preventing HIV among intravenous drug users (IDUs) and broader community.

Pharmacy sales of syringes and physician prescription of syringes have been also found to reduce HIV risk. Supervised injection facilities are also understood to address HIV risk in the most-at-risk populations.

Post-exposure prophylaxis (PEP)

Post-exposure prophylaxis is the use of ARVs as soon as possible after exposure to HIV, to prevent HIV infection. These medications are only available with a prescription. PEP should begin as soon as possible after exposure to HIV but certainly within 72 hours. Treatment with 2 or 3 ARVs should continue for 4 weeks, if tolerated.

PEP has been standard procedure since 1996 for healthcare workers exposed to HIV. Workers start taking medications within a few hours of exposure. Usually the exposure is from a "needle stick," when a health care worker accidentally gets jabbed with a needle containing HIV-infected blood. PEP reduced the rate of HIV infection from workplace exposures by 79%. However, it is still possible for health care workers who take PEP to get HIV infection.

In 2005, the Centers for Disease Control reviewed information on PEP. They concluded that it should also be available for use after HIV exposures that are not work-related. People can be exposed to HIV during unsafe sexual activity, when a condom breaks during sex, or after sexual assault, or if they share needles for injecting drugs. Infants can be exposed if they drink breast milk from an infected woman. In a study of PEP in 400 cases of possible sexual exposure to HIV, not one person became infected with HIV.

Current treatment regimens typical use lopinavir/ritonavir and lamivudine/zidovudine or emtricitabine/tenofovir and may decrease the risk further.

7. Vaccination

As of 2012 there is no effective vaccine for HIV or AIDS. A single trial of the vaccine RV 144 published in 2009 found a partial efficacy rate of ~30% and has stimulated optimism in the research community regarding developing a truly effective vaccine. Further trials of the vaccine are ongoing.

B. Measures for Prevention and Control of HIV/AIDS in South Sudan

Mother to child transmission (MTCT) is by far the most significant way of spreading of HIV infection to children under the age of 15 years. This occurs during pregnancy, childbirth, or breastfeeding. AIDS threatens to worsen child survival in South Sudan, which has one of the worst infant mortality rates in the world.

The Ministry of Health (M.o.H), Republic of South Sudan, uses the WHO/UNICEF/UNAIDS strategies to minimize MTCT of HIV:

- Primary prevention of HIV among parents.
- Prevention of unwanted pregnancy among HIV positives.
- Prevention of HIV transmission from HIV infected females to their infants through ARVs to pregnant females (reduce maternal viral load with ARVs drug).
- Prevention of avoidable exposure to maternal virus at birth through improved obstetric practices (strict application of infection prevention precautions, and where applicable, caesarian section) and reduction of exposure to HIV through breast feeding or replacement feeding for infants.
- Provide appropriate treatment, care and support for women living with HIV, their children and families.

The guiding principles of the PMTCT program include;

- **Integration:** PMTCT service must be integrated into all maternal newborn and child health, antiretroviral therapy, family planning and sexually transmitted infection services.
- **Equity:** Access to services must be equitable, with prioritization or scale up of PMTCT services to the most affected, higher prevalence communities.
- **Standardization:** Women and children attending maternal, newborn and child health services should be provided with an integrated package of services.

- **Human Right, Confidentiality, Voluntary Informed Consent, Community Participation and Mobilization, and Family Centered Care:** Identifying women living with HIV in PMTCT programs should be used as an entry point to recommend HIV testing and counseling to other family members.
- **Involvement of People Living With HIV/AIDS (PLWHA):** The participation of peers, especially women living with HIV.
- **Partner involvement in Prevention of Mother to Child Transmission (PMTCT):** PMTCT interventions should be based on the principle that both mother and father have an impact on HIV transmission to the infant.

Prevention of Mother to Child Transmission (PMTCT) Programs:

1. Activities undertaken

- The Ministry of Health in collaboration with International HIV/AIDS Alliance, UNICEF, conducted a training workshop for health care providers on PMTCT in YEI, from 7-12 November 2001, 14 participants were trained; in TORIT, 18 participants were trained, in MALAKAL, from 15-22nd August 2011, 21 health care providers were trained using South Sudan PMTCT training manual.
- Distribution of PMTCT data collection and reporting tools.
- Supportive supervision to facilities. During the period under review three supportive supervision visits were conducted to the sites. The aims of the supervision visits included offering programmatic support to the sites, on job training and mentoring and data verification. The following sites were visited YEI Civil Hospital, St. Bakhita PHCC, St Martha PHCC, YEI SPLA VCT, Lasu PHCC, Ombasi, Kay PHCC, Wodabi.
- With support from Health Net TPO the Ministry of health conducted TOT training on PMTCT in Wau from June 12-23. 8 participants drawn from Unity, Western Bahr el Ghazel, Northern Bahr el Ghazel and Warrap states were trained.

- In collaboration with MSH the Ministry of health conducted PMCT refresher training in Juba from the 26 - 31 March 2012. The 12 participants were drawn from Western Bahr el Ghazel, Upper Nile, and Central Equatoria states. The participants included Midwives, Nurses, VCT counselors, and community health workers.

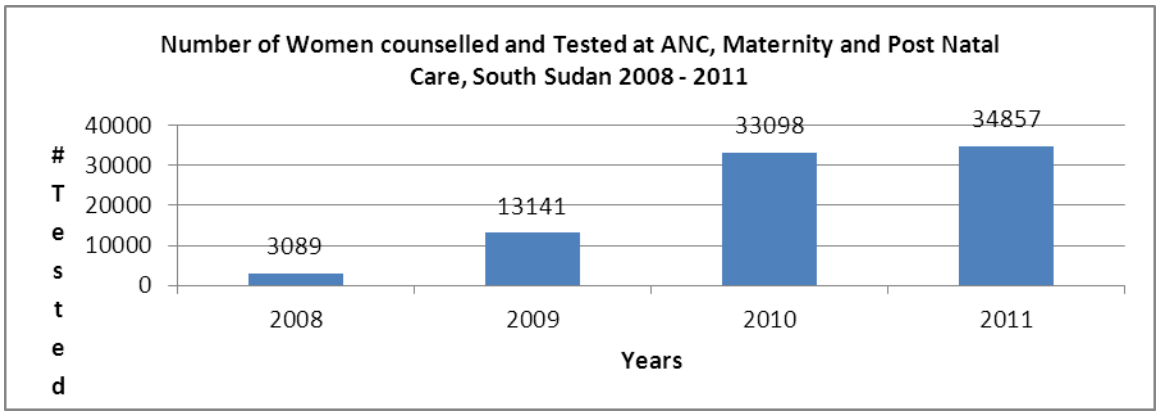
2. Number of sites

In 2011, a total of 25 facilities started offering PMTCT services in South Sudan. This brings the total number of facilities offering PMTCT services to 65 sites. All these facilities are located in all the ten states of South Sudan and receive support from the Ministry of health and partners including; Global Fund, UNICEF and PEPFAR.

3. Counseling and Testing at PMTCT sites

In 2011, the number of pregnant women counseled and tested at ANC, Maternity and Post Natal care as figure 15 below shows were 34875, from a low of 3089 pregnant women in 2008. This is a tenfold achievement since the PMTCT services were started in South Sudan in 2008. This brings to a total of 84185 pregnant women tested at PMTCT sites since 2008.

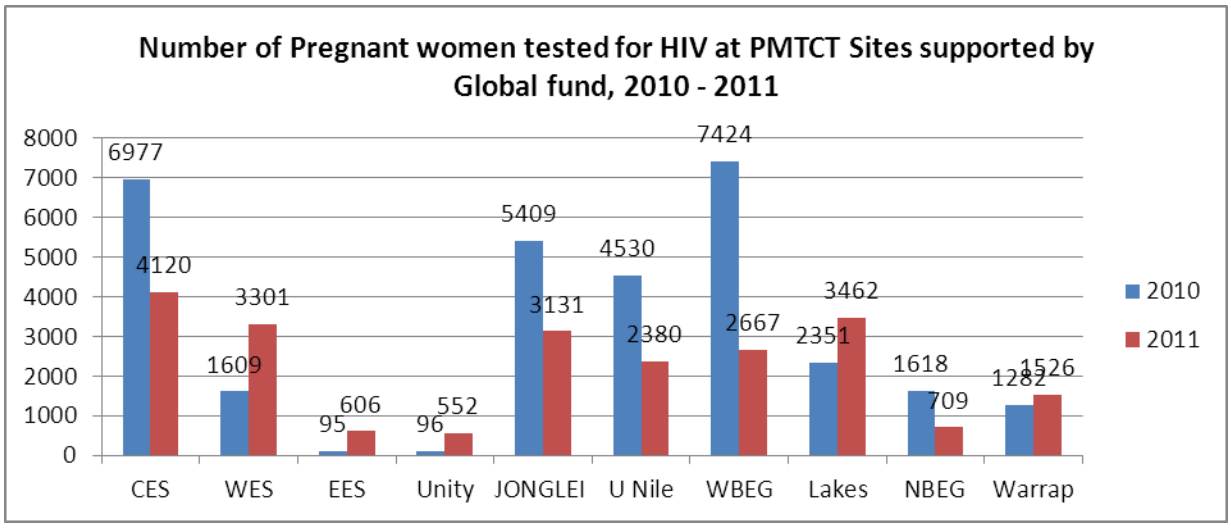
Figure 15 Number of women counseled and tested at PMTCT sites, South Sudan 2008 - 2011



4. Provision of PMTCT Services in Various States

As figure 18 below on testing for HIV at PMTCT for Global fund supported sites shows, more pregnant women were tested in 2010 than in 2011. The reason for this is an acute shortage of HIV test kits towards the end of year. The data also reveals that majority of the pregnant women tested in 2010 and 2011 were in Central Equatorial State, Jonglei and Western Bar El-Ghazal. Whereas, states such as Eastern Equatorial State, Unity, Warrap and Northern Bar El-Ghazal reported the least pregnant women tested at PMTCT sites.

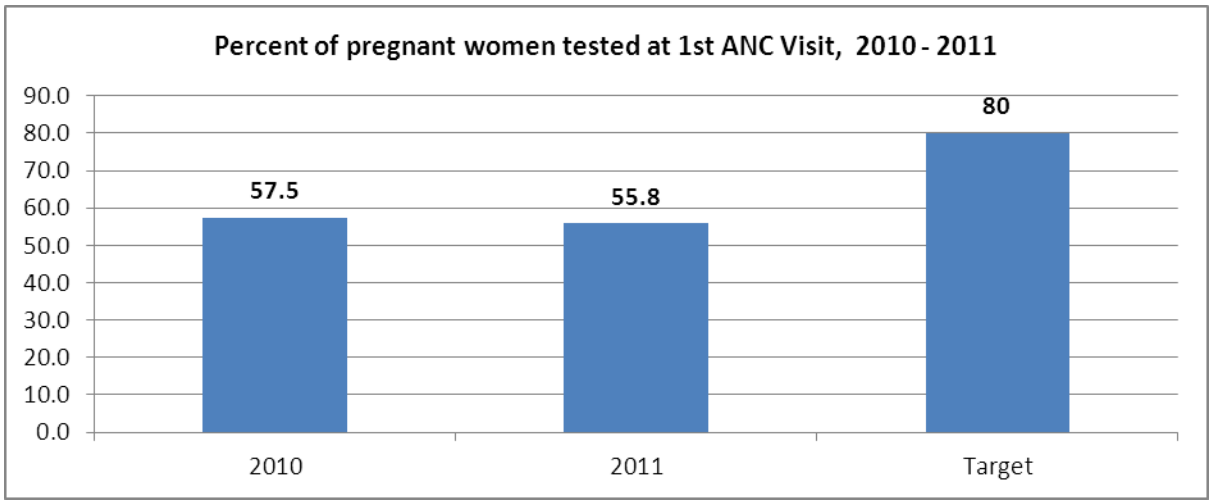
Figure 16 Number of Pregnant women tested for HIV at PMTCT sites supported by Global fund by States



5. HIV Testing uptake at PMTCT

The number of pregnant women tested for HIV at PMTCT sites increased from 33098 in 2010 to 34857 in 2011. However, PMTCT uptake at first ANC declined in 2011 when compared to 2010 as figure 17 below shows.

Figure 17 uptake of PMTCT Services at 1st ANC Visit, 2010 - 2011



Note:

In 2011, a total of 1037 pregnant women tested positive for HIV in all the PMTCT sites. Eighty eight percent (88%) of these were given antiretroviral for preventing mother to child transmission of HIV.

6. Challenges faced this Year

- Running out of HIV Test kits
- Inadequate qualified staff
- Inadequate funding for training and other programmatic activities
- Inappropriate selection of PMTCT training participants with inadequate or little educational back ground
- For refreshers and TOT training some of participants did not go under the basic training

7. Planned activities for the next year:

- Establish 5 new PMTCT sites
- Training of 200 health care providers on PMTCT
- Training of 280 health care professional on HBC

8. Ways forward

- To improve on Criteria for selecting participants for PMTCT training

2. HIV Counseling and Testing

In South Sudan, HIV testing is done at both VCT sites where a person is counseled and tested for HIV on his/her own volition (Client Initiated) or at PITC sites (Provider Initiated), where one is advised by a health service provider on the need to take a HIV test.

These sites are the entry points for reinforcing HIV prevention messages and linking the HIV positive people to HIV care, support and treatment services. When conducting counseling and testing services, people access accurate information about HIV prevention and care, and undergo an HIV test in a supportive and confidential environment. People who are found to be HIV-negative are supported with information and counseling to reduce risks and remain HIV-negative. People, who are found to be HIV-positive, are provided psychosocial support and linked to treatment and care.

HCT Program results

1. Activities undertaken

1. The Ministry of Health in collaboration with UNICEF conducted HCT training for Grater Bhar El Gazal in Wau from 10-28 September 2011 for 21 days according to South Sudan HCT training Guidelines. A total number of 28 participants were trained The methodology used in the training included Group discussion, role plays and practices on HIV testing.

2. The Ministry of Health also conducted HCT training in collaboration with International HIV/AIDS alliance in Yei for Central Equatoria and Eastern Equatoria from 21 November – 10 December 2011. The curriculum used in the training was based on South Sudan HCT training Guidelines. A total of 23 Health providers were trained.

3. The Ministry of Health in collaboration with UNICEF conducted HCT training for the counselors in Malakal from 24 October – 16 November 2011. This training brought together 23 participants from greater Upper Nile region.

4. The Ministry of Health in collaboration with Heath Net TPO conducted HCT TOT training in Wau from 12-28 June 2012 for 17days. 9 participants drawn from Unity, Western Bahr el Ghazel, and Northern Bahr el Ghazel and Warrap states were trained.

5. In collaboration with UNIDO, the Ministry of Health in collaboration conducted a HCT training from the 17 th April to 7th May 2012. The participants were drawn within Unity state in Leer, Mayandit, penyiger, and Boau. The number of trainees was 12**.**

2. Number of sites

In 2011 a total of 34 facilities started offering HCT services in South Sudan. This brings the total number of facilities offering HCT services to 112 as figure 18 below shows. All these facilities are located in all the ten states of South Sudan and receive support from the Ministry of Health and partners including; Global Fund, UNICEF and PEPFAR.

Figure 18 Number of HCT Sites, 2006-2011

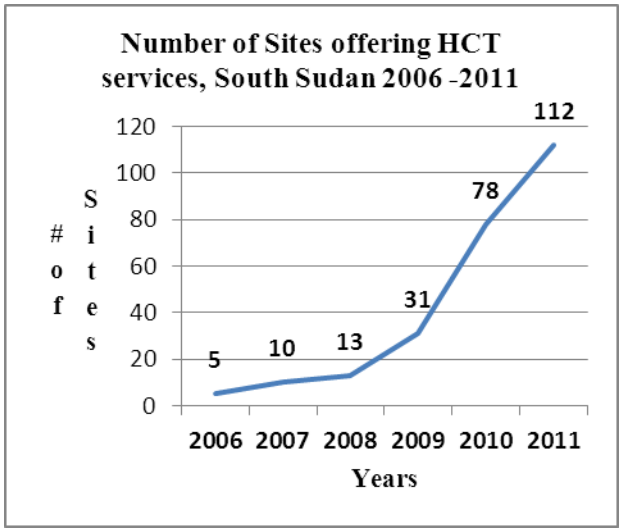
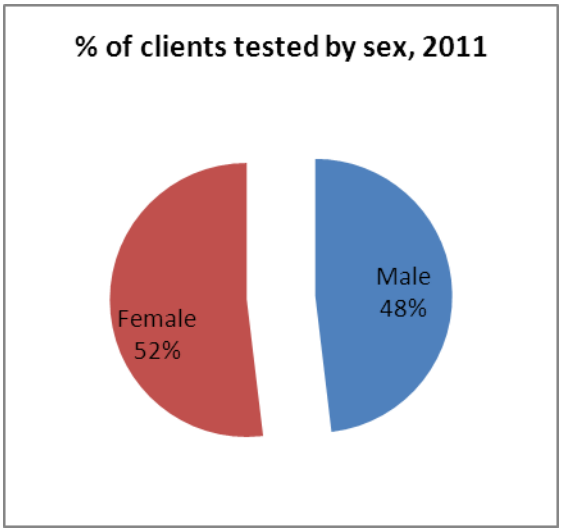


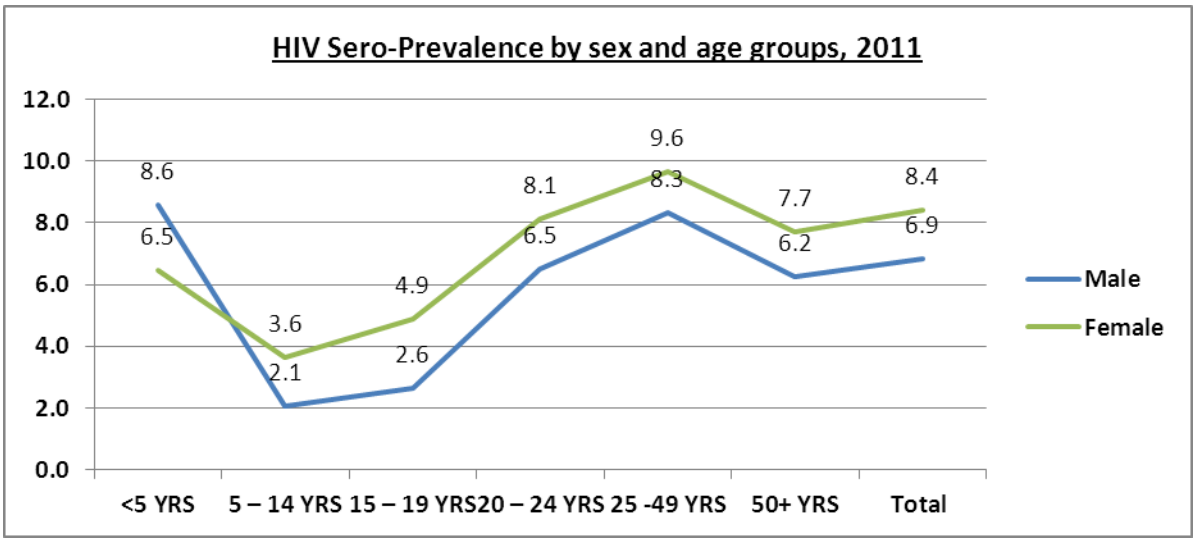
Figure 19 % of clients tested by sex, 2011



3. Number of Individuals Counseled and Tested

The number of individuals counseled and tested increased from 66301 in 2010 to 105647 in 2011. The data for 2011 as figure 21 above shows that females access HIV testing more than males. Further analysis of HIV testing data reveals females also have a higher sero-prevalence in all age groups except among children below 5 years as figure 20 below shows.

Figure 20 HIV Sero-Prevalence by sex and age groups, 2011



4. Challenges faced this Year

- Running out of HIV Test kits
- Inadequate qualified staff
- Inadequate funding for training and other programmatic activities

5. Planned activities for the coming year:

- Conduct 10 training workshops for 250 counselors, 25 trainees per training with support of partners
- HCT Refresher training for 25 counselors. This training will be conducted with the support of partners

Chapter 6 - What I did in South Sudan (My Field Experience)

With a permission from South Sudan HIV/AIDS Commission (SSAC) chairperson, Honorable, Dr. Esterina Novello Nyilok, and Dr. Lul Riek, Director General for community and public health, Ministry of Health (M.O.H), Republic of South Sudan, I was allowed to participate with the team to do my field experience. Before I engaged in any field work, or practice I ….

- Reviewed the strategic framework for HIV/AIDS Prevention and control in South Sudan.
- Reviewed the strategic framework for HIV/AIDS Treatment, Management, Care and Support for infected/affected individuals in South Sudan.
- Reviewed and understood the Risk Factors that potentially contribute to the transmission and continuing of HIV/AIDS in South Sudan.

Here is what I did…..

- Developed /prepared lecture notes and educated health care professionals at Ministry of Health (M.O.H) and South Sudan HIV/AIDS Commission (SSAC) on knowledge about HIV/AIDS Risk Factors, ways of transmission, prevention and control measures, treatment, care and support for infected individuals.
- Raised awareness among the South Sudanese communities at ART, HCT, and PMTCT sites on HIV/AIDS prevention and control measures, and risky behaviors and practices that lead to an individual infection and spread of HIV/AIDS, adherence to treatment.
    - Used prevention education materials e.g. POSTERS to encourage them to use condoms during sexual acts.

Figure 21HIV Counseling & Testing in Yei

Figure 22 HIV Counseling & Testing in Wau

Figure 23a Patients receiving ARVs at dispensary –ART site -1

Figure 25b ART site-2

- Applied Social and Behavior Basis of Public Health theories/models that I have learned at KSU; THE HEALTH BELIEF MODEL AND SOCIO-ECOLOGICAL MODEL to encourage them to engage in and practice safe behaviors.

Health Belief Model:

Health Belief Model (HBM) is the theory I applied/used to convey knowledge about HIV/AIDS to South Sudanese communities during my field experience in South Sudan. The underlying concept of the original Health Belief Model is that health behavior is determined by personal beliefs or perceptions about a disease and the strategies available to decrease its occurrence (Hochbaun, 1958). And, personal perception is influenced by the whole range of intrapersonal factors including biological and psychological factors such as genetics, cognitions, and personality affecting health behavior.

The main constructs of the model are perceived seriousness, perceived susceptibility, perceived benefits, and perceived barriers. Each of these perceptions, individually or in combination, can be used to explain health behavior. In addition, more recently other constructs have been added to the HBM; thus, the model has been expanded to include cues to action, motivating factors, and self-efficacy.

Perceived Susceptibility:

Personal risk or susceptibility is an individual's assessment of his or her chances of getting or contracting the disease. It is one of the more powerful perceptions in prompting people to adopt healthier behaviors. The greater the perceived risk of contracting HIV and then AIDS, the greater the likelihood of engaging in behaviors to decrease the risk of getting HIV. It is only logical that when people believe they are at risk for a disease, they will be more likely to do something to prevent it from happening. In addition, what we have seen so far is that a perception of increased susceptibility or risk is linked to healthier behaviors and decreased susceptibility to unhealthy behaviors. This is what prompts men who have sex with multiple partners, those who are engaging in unsafe sex behaviors to use condoms in an effort to decrease susceptibility to HIV infection (Belcher et al., 2005). In South Sudan, for example, older men, in some tribes, usually marry naïve younger/teenager girls who perhaps are going to have the 1st sex in this early age (early age of 1st sex), since their traditions/customs/norms/cultures allow. These kinds of behaviors, lead to spread of HIV among these communities. Thus, when these older men/communities perceive risk of getting HIV infection they will change their behaviors.

Perceived Seriousness:

This is an individual's judgment/belief as to the severity or seriousness of the disease. While the perception of seriousness is often based on medical information or knowledge, it may also come from beliefs a person has about the difficulties a disease for example (HIV/AIDS) would create or the effects it would have on his/her life in general (McCormick-Brown, 1999). For example, when an individual belief/perceived seriousness of AIDS complications or fate, he or she would probably go for counseling and testing and then enrolled in treatment, care and support before HIV infection develop into AIDS, thus, avoiding potential serious effects and death.

Perceived Benefit:

This is an individual's conclusion/belief as to whether the new behavior is better than what he or she is already doing. For instance, people tend to adopt healthier behaviors when they believe the new behavior will decrease their chances of developing a disease. In addition, perceived benefits play an important role in the adoption of secondary preventive behavior as in the case of Voluntary Counseling and Testing (VCT) of HIV/AIDS. Here, people go through the process of compulsory counseling and testing, when identified as HIV positive, they are enrolled to take antiretroviral therapy (ART) regularly as preventive measures, thus, adopting a new behavior.

Perceived Barriers:

This is an individual's opinion as to what will stop him or her from adopting the new behavior. It addresses the issue of perceived barriers to change. Of all the constructs, perceived barriers are the most significant in determining behavior change (Janz & Becker, 1984).

In order for a new behavior to be adopted, a person needs to believe the benefits of the new behavior outweigh the consequences of continuing the old behavior (Centers for Disease Control and Prevention, 2004).This enables barriers to be overcome and the new behavior to be adopted.

For example, in HIV positive and AIDS patients, when perceived, the advantages of voluntary counseling and testing and enrollment in antiretroviral programs outweigh social stigma (fear of discrimination) they would adopt the new behavior.

Modifying Variables:

These are individual's personal characteristics/factors that influence personal perception or that affects whether the new behavior is adopted. These variable/factors, such as culture, education level, past experiences, skill, and motivation further, influence the four major constructs of perception.

Cues to Action:

Are events, people, or things that move people to change their behavior i.e. those factors that will start a person on the way to changing behavior. Examples include illness of a family member, media reports, mass media campaigns, and advice from others, reminder postcards from health care provider or health warning labels on a product. For example, knowing that a family member previously suffered from an HIV/AIDS related complications is a significant cue to action for a person to seek counseling and testing for HIV/AIDS and follow the appropriate treatment, management, support and care for this disease.

Self-efficacy:

Is a personal belief in one's own ability to do something (Bandura, 1977). People generally do not try to do something new unless they think they can do it.

Figure 24 HIV & AIDS Prevention awareness Education Material in Wau

Figure 25 Part of Stakeholders forum in Juba -2011

Figure 26 Association of people living with HIV in Nimule during WAD in Torit

Figure 27 School children in Kajokeji participate in HIV campaign

Chapter 7 - What I will do / nest steps

7.1 society and culture and HIV/AIDS

7.1.1 Religion and HIV/AIDS

Some religious organizations have claimed that prayer can cure HIV/AIDS. In 2011, the BBC reported that some churches in London were claiming that prayer would cure AIDS, and the Hackney-based Centre for the Study of Sexual Health and HIV reported that several people stopped taking their medication, sometimes on the direct advice of their pastor, priests, and other religious bodies, leading to a number of deaths.

Similarly, in South Sudan, pastors, priests, and some religious organizations advise people to quit HIV/AIDS medications following prayers, claiming that they are cured. Other people travel to West African countries to attend prayers allegedly for diseases cure such as cancer, HIV/AIDS, high blood pressure and others. These actions result in people obeying pastors, priests, religious organizations orders by quitting HIV/AIDS medications, this in turn lead to a number of unnecessary deaths that could have been avoided through adherence to HIV/AIDS medication, Antiretroviral therapy (ARV,ART).

Based on the above claimed, I have decided /committed to raise a heightened awareness on the danger/consequences of quitting HIV/AIDS medications among HIV positive and AIDS patients. This could be done through….

- Presentations/lectures to different communities of South Sudan to convey knowledge/understanding of danger/consequences of quitting HIV/AIDS medication.

Health professionals at M.O.H and other institutions

Students at universities, schools

And also through Health Warning Signs and posters.

- Narration or story telling for local communities.
- Applying the Health Belief Model.

Figure 28 Religious leaders campaigning for HIV and AIDS in Kajokeji

Figure 29 Church processing on the street during World AIDS Day in Juba

7.1.2 Stigma

HIV/AIDS stigma exists around the world in a variety of ways, including ostracism, rejection, discrimination and avoidance of HIV infected people; compulsory HIV testing without prior consent or protection of confidentiality; violence against HIV infected individuals or people who are perceived to be infected with HIV; and the quarantine of HIV infected individuals. Stigma-

related violence or the fear of violence prevents many people from seeking HIV testing, returning for their results, or securing treatment, possibly turning what could be a manageable chronic illness into a death sentence and perpetuating the spread of HIV.

Ryan White became a poster child for HIV after being expelled from school because he was infected.

Likewise, in South Sudan, HIV positive and AIDS patients are considered dead people. People tend to keep away from them. They believe that these people have contracted this disease because they have engaged in unethical/unacceptable behaviors such as prostitution, sex workers, and play boys, as perceived by some tribes/communities. Therefore, based on the above behavior, I have decided to lecture on this issue at state level, as well as small communities in South Sudan.

Figure 30 School pupils in Kajokeji raising slogan calling for fighting against HIV Stigma & Denial

7.2 Alcohol Use and HIV/AIDS

Alcohol-related risk behavior is common among youths, female sex workers, and in particular military personnel in South Sudan. Military personnel and some high rank government officials, when drunk, practice unsafe sex. They usually forced young girls and women to have sex without condoms. They threaten to take their lives if they refuse sex without condom. Such individuals usually contribute to the continuing spread of HIV/AIDS in South Sudan communities. Therefore, if I were a boss I would work together with the National Executive Assembly and the Judiciary System in South Sudan to find a common ground (appropriate laws) to prosecute these predators.

Rough sex can be a factor associated with an increased risk of transmission. Sexual assault is also believed to carry an increased risk of HIV transmission as condoms are rarely worn, physical trauma to the vagina or rectum is likely, and there may be a greater risk of concurrent sexually transmitted infections.

7.3 Education on HIV/AIDS

Health Officials, University Students, and school children in South Sudan need to be lectured on overall materials concerning HIV/AIDS at local and national levels.

Acknowledgements

Heartfelt thanks to the following for their great support and contribution to my success:

Major professor/Committee members:

Robert L. Larson, DVM, PhD

Professor, Clinical Sciences

Kansas State University

David C. Poole, DSc, PhD

Professor, Kinesiology, Anatomy & Physiology

Kansas State University

Jerome C. Nietfeld, DVM, MS, PhD

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Health Professionals, Ministry of Health (M.O.H) and South Sudan HIV/AIDS Commission (SSAC), Republic of South Sudan (RSS)

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