Tackling the HIV Challenge in Sudan: The Way Forward

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(SHAWG)

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November 2008

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Acknowledgement:

We would like to express our gratitude to Dr Thabita Butrus, Minister of Health**,** and Dr Kamal Abdelgadir, undersecretary for health, for their ongoing support and encouragement.

We would also like to extend our thanks to the Sudan National AIDS Programme for inviting us to conduct this review of their activities. Special thanks go to Dr Mohamed Ahmed Abdel Hafiz and Dr Eltayeb Mustafa Mansour for their understanding, openness, and continuous support. We would also like to thank the management team of the national tuberculosis programme for their cooperation.

Special thanks go to the UNDP/TOKTEN programme for sponsoring our activities. Our heartfelt thanks go to Mr Mohamed Elsayed, Ms Howida Elrasheed, Mr Elnazir Mohieldeen, and Ms Aicha Elbasri for their tremendous support.

We would also like to thank WHO staff in Khartoum. In particular, we would like to thank Dr Nuha Hamid, Dr Endalamaw Tegegne, and Dr Rogers Busulwa

We are deeply indebted to our frontline colleagues in Sudan for their active participation in our HIV training workshop. Our deep affection and admiration go to Dr Omer Nemery, Dr Nour Elhuda Allagabo, and Dr Eltaj Osman for their diligence and dedication to establishing clinical HIV services in Sudan. We would also like to thank members of staff at the Continuous Professional Development (CPD) centre in Khartoum for hosting our HIV workshop activities.

We would like to pay a special tribute to Professor Mamoun Humeida for embracing our ideas as well as helping us reach out for a larger Sudanese audience by hosting us in his successful television programme. We are particularly indebted to the patients who volunteered to share their experiences with our workshop participants in the most moving and dignified manner.

We are grateful to Dr Hanan Tahir, University of Medical Sciences & Technology (UMST), for giving us the opportunity to meet with their HIV diploma students. In addition, we would like to express our gratitude to Dr Hala Abuzeid and Dr Imtithal Elsalamabi from the Sudanese Association for Physicians for their support.

Abbreviations:

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ART	Anti- Retroviral Therapy
BTS	Blood Transfusion Service
CD4	CD4 lymphocyte subset
EBM	Evidence Based Medicine
FMOH	Federal Ministry of Health (Sudan)
HAST	HIV, AIDS, STIs, TB
HIV	Human Immunodeficiency Virus
HSV	Herpes Simplex Virus
OI	Opportunistic Infection
OMACU	Omdurman Aids Care Unit
OTH	Omdurman Teaching Hospital
MDRTB	Multi-Drug Resistant Tuberculosis
PCP	Pneumocystis Pneumonia
PCR	Polymerase Chain Reaction
SNAP	Sudan National Aids Control Programme
TB	Tuberculosis
TOKTEN	Transfer of Knowledge Through Expatriate Nationals
TBNRL	Tuberculosis National Reference Laboratory ” Stack ”
UN	United Nations
UNDP	United Nations Development Program
VLS	Visceral Leishmaniasis
VL	Viral Load
VZV	Varicella Zoster Virus
XDRTB	Extended Drug Resistant Tuberculosis

Executive Summary of Recommendations:[2]

1. HIV Diagnosis:

1.1 Increase the uptake of HIV screening services

- 1.1.1 Introduce mandatory HIV screening for all antenatal care attendees
- 1.1.2 Introduce point-of-care HIV screening on an opt-out basis. This should be rolled out at primary, secondary and tertiary level healthcare facilities.
- 1.1.3 Restructure the existing VCT service

1.2 Improve the quality of HIV screening service within blood banks

- 1.2.1 Potential donors are given leaflets/audio messages informing them that they will be referred to a designated member of the HIV management team for further evaluation if their specimens became reactive upon HIV testing

1.3 Improve the diagnostic capacity of national as well as regional laboratories

- 1.3.1 Provide modern molecular diagnostic equipment
- 1.3.2 Train laboratory personnel on the use of molecular diagnostic equipment

2. HIV Treatment:

2.1 Improve access to HIV treatment facilities

- 2.1.1 Integrate HIV care (currently linked to VCTs) into the mainstream healthcare structure
- 2.1.2 Develop networks of satellite centres for HIV treatment (supported by a named tropical diseases unit in the region)

2.2 Improve compliance with anti-retroviral therapy (ART)

- 2.2.1 Conduct qualitative research into root causes of poor compliance with HIV treatment
- 2.2.2 Extrapolate the likelihood to adhere to ART from the level of compliance with OI prophylaxis
- 2.2.3 Establish sound community-based support for HIV patients

2.3 Improve management of HIV-related opportunistic infections

- 2.3.1 Integrate TB and HIV treatment activities in order to provide a one-stop shop for patients
- 2.3.2 Optimize management capacity of the “tropical diseases wards”

2.4 Improve standards of care for infectious and tropical diseases (including HIV) in Sudan

- 2.4.1 Expand the role of Hospital for Tropical Diseases (Omdurman) to function as a leading tertiary referral centre for HIV

2.5 Improve standards of care of sexually transmitted infections (STIs)

- 2.5.1 Expand the role of the Dermatology and Venereal Diseases Hospital (Khartoum) in the management of STIs (including HIV)
- 2.5.2 Ensure each state hospital has a fully functioning STI unit

[2] Further information supplied under the proposed plan of action section (pages 19-28)

3. HIV Prevention:

3.1 Prevent mother-to-child transmission of HIV

3.1.1 Provide ART to pregnant women with positive HIV serology

3.2 Raise awareness regarding availability of HIV testing as well as care and treatment facilities

3.2.1 Conduct assertive, far-reaching, and sustained information, education & communication (IEC) campaign using Sudanese radio and television stations. HIV messages should be broadcast during prime time using a number of local dialects and languages.

3.2.2 Actively involve patients living with HIV (PLWH) in running the IEC campaign

3.2.3 Generate and disseminate up-to-date epidemiological data on HIV/AIDS, STI, and TB (HAST)

4. HIV Advocacy

4.1 Reduce HIV-associated stigma

4.1.1 Lobby politicians to adopt draft legislations banning any form of discrimination against HIV patients

4.1.2 IEC as in 3.2.1. Furthermore, high-profile individuals within the wider Sudanese society should be approached to publicly endorse the rights of people living with HIV/AIDS (PLWHA)

4.1.3 Strengthen the role of NGOs involved in creating better environment for PLWHA

5. Human Resources Development

5.1 Transfer up-to-date HIV knowledge to healthcare professionals working in Sudan

5.1.1 Organize regular training workshops on HIV for physicians and other allied professionals

5.1.2 Establish HIV clinical mentorship schemes for physicians and other allied professionals

5.2 Incorporate HIV education in undergraduate as well as postgraduate medical training curricula in Sudan

5.2.1 Advocate for including modules on HIV medicine at undergraduate as well as postgraduate level

6. Recommendations for Future HIV Training Workshops

6.1 Bi-annual HIV training workshops to be held regularly (August-February cycle). Target group will be physicians currently involved in treating HIV patients in Sudan as well as medical and paediatrics officers/registrars.

6.2 Duration of the programme to be reduced from 7 to 5 days. The contents of the training programme/number of sessions remain unchanged.

6.3 A one-day symposium for Obstetricians & Paediatricians (consultants, registrars, and senior midwifery staff) to be introduced as a new activity running after the main training workshop for physicians. The main thrust of this symposium will be antenatal HIV screening as well as prevention of mother to child transmission.

6.4 Dedicated secretarial support should be provided to help participants receive invitation letters, timetable, handouts and other training materials in a timely manner. Furthermore, secretarial support will be helpful in terms of distribution and collection of evaluation forms as well as feedback data entry and analysis.

6.5 Holding future workshops outside Khartoum would enable a greater number of doctors, especially those working in areas with high HIV prevalence, attend training activities. In addition, such move will give the TOKTEN volunteers further insights into the HIV situation in several parts of Sudan.

Introduction:

This report addresses the challenges and opportunities pertaining to the current level of support received by patients before and after being diagnosed with HIV in Sudan. The magnitude of support at community and hospital levels will be reviewed and a package of interventions proposed.

Precise estimates of HIV prevalence in Sudan are lacking. According to the UNAIDS 2008 report on the global AIDS epidemic, there are at least 300 000 people living with HIV in Sudan and that at least 25 000 people died of HIV by the end of 2007. UNAIDS estimates the current prevalence rate in adults aged 15-49 years to be about 1.4%. Of note, 59% of HIV infections in Sudan occurred in women aged 15-49 years and this finding is particularly alarming as more children will be born with HIV unless urgent action is taken. Currently, it is estimated that 25 000 children below 5 years of age are living with HIV.

The Sudan National AIDS Programme (SNAP) provides HIV services in 15 northern states through 94 voluntary counseling and testing (VCT) centres, 35 care and treatment centres, and 7 centres for prevention of mother-to-child transmission. We note that the current model of HIV services runs parallel to the mainstream healthcare structure in Sudan and this has the potential to creating significant problems with regards to access to treatment for HIV and other related conditions. At present, the register of HIV infected patients in 15 northern states in Sudan includes around 23 000 patients but only 2100 patients currently receiving ART, the vast majority of whom are looked after by OMACU. Of concern, 48% of HIV patients enrolled in ART so far have dropped out by either defaulting or by becoming lost to follow up. This is a serious situation and it certainly poses a significant risk for emergence of drug resistance for a condition in which lifelong therapy is required to keep the virus fully suppressed. To add insult to injury, it appears that many doctors in Sudan are not keen to get involved in HIV management activities because of fear of stigma as well as gaps in their knowledge with regards to HIV/AIDS.

The Sudan HIV/AIDS Working Group (SHAWG) is a voluntary network of healthcare professionals with interest in HIV/AIDS. SHAWG was founded by Sudanese expatriates working as HIV specialists in the United Kingdom and South Africa and was officially launched in a press conference held in Khartoum on 10 August 2008. The main objectives for SHAWG are as follows:

- To provide clinical, scientific, and technical assistance to the Sudan National AIDS Programme (SNAP) and other relevant organizations in Sudan
- Facilitate HIV training workshops aimed at physicians, nurses, and laboratory technicians
- Facilitate long-term clinical mentorship schemes supporting core teams providing HIV care in Sudan
- Develop national clinical guidelines for HIV/AIDS care in Sudan in consultation with SNAP and other relevant bodies
- Promote good standards of HIV/AIDS care in Sudan
- Contribute to fighting HIV/AIDS stigma in Sudan through information, education, and communication campaigns to facilitate change in behaviour
- Identify operational research priorities in the field of HIV/AIDS in Sudan

Terms of Reference:

The following points sum up the terms of reference which were shared by the authors in their capacity as TOKTEN volunteers/advisors:

Quality of HIV services provision:

1. Establish the level of clinical mentoring and supportive supervision to state programmes with the aim to improve the quality of HIV services.
2. Review current monitoring tools for HIV patients.
3. Conduct rapid quality assessment for services provided by the SNAP.
4. Develop quality improvement strategy for the services provided by SNAP.
5. Co-facilitate training of health care providers and resource persons working in the care and treatment of HIV/AIDS.

HIV service promotion and scale-up:

1. Conduct rapid assessment for the current SNAP services to identify bottlenecks and areas for improvement.
2. Meet with concerned partners and bodies to discuss recommendations for scaling up SNAP services.
3. Develop a plan to improve HIV service promotion and utilization.
4. Develop specific plans to raise awareness among health care professionals as well as help improve attitudes towards HIV patients.
5. Co-facilitate training of health care providers and resource persons working in the care and treatment of HIV/AIDS.

HIV patients' support and follow-up:

1. Meet with the concerned parties to ensure patient support.
2. Review the current patients support programs.
3. Develop patients support strategy.
4. Co-facilitate training of health care providers and resource persons working in the care and treatment of HIV/AIDS.

Human Resources Development:

1. Review the current training programmes and modules implemented by the SNAP.
2. Provide recommendations to improve the quality of the training modules.
3. Assess the current capacity of the HIV care and treatment units and develop plans for capacity building.
4. Identify training needs for the SNAP care and treatment unit.
5. Develop training plans for the HIV care and treatment units at national as well as state levels.
6. Co-facilitate training of health care providers and resource persons working in the care and treatment of HIV/AIDS.

Activities:

We visited the Sudan in the period from the 1st to the 19th of August 2008 with the aforementioned terms of reference. We conducted an intensive workshop for just over 50 physicians working as frontline staff in the field of HIV/AIDS in Sudan. Details on the training workshop are discussed in a different part of this report (see below).

We also met with the management teams of SNAP as well as the national tuberculosis programme, and had the opportunity to examine existing data, activities, policies and guidelines. Moreover, we discussed with SNAP and the TB programmes their views with regards to integrating their activities in order to enhance their performance on HIV and TB control. In addition, we conducted field visits to voluntary counseling & testing (VCT) centres as well as antiretroviral therapy (ART) centres in Bashaier (Khartoum), Omdurman and El Obied hospitals. Similar visits were paid to the tuberculosis and virology sections at the national reference laboratory in Khartoum, blood bank at Khartoum teaching hospital, and Khartoum dermatology & venereal diseases hospital.

Furthermore, we met with the Minster of Health as well as the undersecretary for health and engaged in a constructive dialogue with them regarding the current HIV situation in Sudan. Also, we had the opportunity to meet with senior members of staff at WHO and UNDP missions in Sudan and listened to their viewpoints with regards to the HIV control activities in Sudan.

As members of SHAWG, we had the opportunity to explain our mission to the media in a press conference organized by the UNDP/TOKTEN programme. Furthermore, some of us were hosted by two major Sudanese satellite channels as a local radio station in Khartoum and all these interviews focused on the HIV/AIDS situation in Sudan.

On another front, we were privileged to meet with representatives from the Sudanese society for patients living with HIV/AIDS and had useful discussions with regards to addressing social stigma. We also explored their level of satisfaction with the existing HIV care and treatment services.

We also had the opportunity to meet with postgraduate doctors studying for the diploma in HIV medicine at the University of Medical Sciences & Technology (UMST) in a symposium on HIV and sexually transmitted infections, HIV tropism and targets for antiretroviral therapy, and case-based discussions highlighting missed opportunities in making an early diagnosis of HIV in clinical practice. A state-of-the-art lecture on HIV/AIDS was also delivered to a gathering of the Sudanese Association of Physicians in their monthly meeting in Al Salam Rotana hotel and was attended by over 60 physicians.

The Training Workshop on the Clinical Management of HIV in Sudan

We conducted a 7-day training workshop on the management of HIV in the period from 03-11 August 2008. The workshop was co-sponsored by the Sudan National AIDS Control Programme (SNAP) and the United Nations Development Programme (UNDP). It was held at the centre for continuous professional development (CPD) in Khartoum. The closing ceremony was attended by the federal minister of health who handed out attendance certificates to participants.

The workshop was attended by 51 doctors from all over Sudan. However, those working outside Khartoum accounted for < 40% of the participants. The vast majority of participants were working in the antiretroviral therapy (ART) centres run by SNAP. A smaller number of highly motivated doctors with varying degrees of exposure to HIV care and treatment expressed their desire to take part and were subsequently enrolled as participants. Participants were encouraged to share their experiences and some of them presented difficult cases or situations that they came across. This was certainly a breath of fresh air that helped participants reflect on the challenges they face on a day to day basis. Furthermore, patients living with HIV/AIDS had a dedicated session in which they shared their personal experiences with stigma as well as the difficulties encountered with the current healthcare system. This session was well received by everybody and was certainly a major highlight of the workshop.

Our workshop training curriculum targeted specific HIV issues including basic virology, epidemiology, as well as major public health interventions such as post exposure prophylaxis and prevention of mother-to-child transmission. Furthermore, organ-based clinical themes using a case-based discussion format covered in detail the interplay between HIV and major opportunistic infections in Sudan. Principles of antiretroviral therapy with special emphasis on management issues in resource-limited settings were thoroughly discussed. A session on HIV and children covered the principles of diagnosis and management of HIV in the paediatric population. Prevention of mother-to-child transmission was covered in a similar session. Ethical issues as well as stigma surrounding HIV were also discussed as part of the curriculum.

Overall, the feedback from the workshop participants has been excellent. Specific areas for improvement have been highlighted in the feedback and have therefore been adopted in our recommendations for future workshops.

Recommendations for future HIV training workshops

- Bi-annual HIV training workshops to be held regularly (August-February cycle). Target group will be physicians currently involved in treating HIV patients in Sudan as well as medical and paediatrics officers/registrars.
- Duration of the programme to be reduced from 7 to 5 days. The contents of the training programme/number of sessions remain unchanged.
- A one-day symposium for Obstetricians & Paediatricians (consultants, registrars, and senior midwifery staff) to be introduced as a new activity running after the main training workshop for physicians. The main thrust of this symposium will be antenatal HIV screening as well as prevention of mother to child transmission.
- Dedicated secretarial support should be provided to help participants receive invitation letters, timetable, handouts and other training materials in a timely manner. Furthermore, secretarial support will be helpful in terms of distribution and collection of evaluation forms as well as feedback data entry and analysis.
- Holding future workshops outside Khartoum would enable a greater number of doctors, especially those working in areas with high HIV prevalence, attend training activities. In addition, such move will give the TOKTEN volunteers further insights into the HIV situation in several parts of Sudan.

Timetable for the HIV Training Workshop (August 3rd – 11th 2008)

Sunday 03/08/08	**Opening day**	
09:30 – 10:00	Registration	Delegates
10:00– 10:15	Aims & objectives of the workshop	Dr Bushra Herieka
10.15 – 10:35	UNDP/TOKTEN manager speech	Mr Mohamed Elsayed
10:35 – 10:45	Director of SNAP speech	Dr M. A. Abdelhafiz
10:45 – 11:00	Introduction & ice-breakers	Delegates/Facilitators
11:00 – 11:45	Coffee/Tea/Snacks break	
11:45 – 12:30	Pre-test	Dr Zahir Osman Eltahir
12:30 – 13:30	Lunch break	
13:30 – 14:15	HIV epidemiology: the global picture	Dr Bushra Herieka
14:15 – 15:00	HIV epidemiology: Sudan perspective	Dr Eltayeb Mansour
15:00 – 15:10	Coffee/Tea break	
15:10 – 15:55	Public health interventions in HIV	Dr Nuha Hamid (WHO)
15:55 – 16:00	Round-up of the day's events	Dr Bushra Herieka
16:00	Close	
Monday 04/08/08	**HIV: the basic facts**	
09:00 – 09:45	HIV basic virology & immunology	Dr Zahir Osman Eltahir
09:45 – 10:30	HIV: natural history & overview of clinical syndromes	Dr Bushra Herieka
10:30 – 11:30	Breakfast	
11:30 – 12:15	HIV care in Sudan: the OMACU experience	Dr Omer Nemery
12:15 – 13:00	Experiences of HIV patients in Sudan	Expert HIV patients
13:00 – 14:00	Coffee/Tea break/Prayers	
14:00 – 14:45	Supporting HIV patients: delegates experiences	Dr Bushra Herieka
14:45 – 15:30	Setting up HIV service: How to manage an HIV clinic?	Dr Bushra Herieka
15:30 – 15:35	Round-up of the day's events	Dr Zahir Osman Eltahir
15:35	Close	
Tuesday 05/08/08	**HIV and the body – part I**	
09:00 – 09:45	HIV & the gastro-intestinal tract	Dr Zahir Osman Eltahir
09:45 – 10:30	Case-based discussions (gastroenterology)	Dr Zahir Osman Eltahir
10:30 – 11:30	Breakfast	
11:30 – 12:15	HIV & the liver/ Case-based discussions (hepatology)	Dr Zahir Osman Eltahir
12:15 – 13:00	HIV & the skin/case-based discussions	Dr Bushra Herieka
13:00 – 14:00	Coffee/Tea break/Prayers	
14:00 – 14:45	HIV & the CVS/case-based discussions	Dr Bushra Herieka
14:45 – 15:30	HIV & major tropical infections	Dr Zahir Osman Eltahir
15:30 – 15:35	Roundup of the day's events	Dr Bushra Herieka
15:35	Close	
Wednesday 06/08/08	**HIV and the body – part II**	
09:00 – 09:45	HIV and the CNS	Dr Zahir Osman Eltahir
09:45 – 10:30	Case-based discussions (neurology)	Dr Zahir Osman Eltahir
10:30 – 11:30	Breakfast	
11:30 – 12:15	HIV and the eye/case-based discussions	Dr Zahir Osman Eltahir
12:15 – 13:00	HIV & sexually transmitted infections (STIs)	Dr Bushra Herieka
13:00 – 14:00	Coffee/Tea break/Prayers	
14:00 – 14:45	Case-based discussion (STIs)	Dr Bushra Herieka
14:45 – 15:30	Immunizations & OI prophylaxis in HIV	Dr Hamad Abdulhadi
15:30 – 15:35	Roundup of the day's events	Dr Bushra Herieka
15:35	Close	

Thursday 07/08/08	**HIV and the body – part III**	
09:00 – 09:45	HIV and the respiratory system	Dr Hamad Abdulhadi
09:45 – 10:30	HIV and Mycobacterial infections (respiratory)	Dr Hamad Abdulhadi
10:30 – 11:30	Breakfast	
11:30 – 12:15	Case-based discussions (respiratory)	Dr Hamad Abdulhadi
12:15 – 13:00	HIV and the blood (including malignancies)	Dr Hamad Abdulhadi
13:00 – 14:00	Coffee/Tea break/Prayers	
14:00 – 14:45	Case-based discussions (haematology)	Dr Hamad Abdulhadi
14:45 – 15:30	Fighting HIV stigma	Dr Abdul-Karim Elgoni
15:30 – 16:15	HIV & the renal/endocrine systems/case-based discussions	Dr Zahir Osman Eltahir
16:15 – 16:20	Roundup of the day's events	Dr Bushra Herieka
16:20	Close	
Sunday 10/08/08	**Antiretroviral therapy day**	
09:00 – 09:45	Overview of antiretroviral therapy	Dr Bushra Herieka
09:45 – 10:30	ARVs: current treatment strategies	Dr Hamad Abdulhadi
10:30 – 11:30	Breakfast	
11:30 – 12:15	Management of HIV in resource-limited countries	Dr Omer Nemery
12:15 – 13:00	ARVs: management of adverse effects	Dr Bushra Herieka
13:00 – 14:00	Coffee/Tea break/Prayers	
14:00 – 14:45	Post exposure prophylaxis (PEP) and post exposure prophylaxis after sexual exposure (PEPSE)	Dr Hamad Abdulhadi
14:45 – 15:30	HIV and resistance to ARVs: basic concepts	Dr Zahir Osman Eltahir
15:30 – 16:15	HIV case presentations	Dr Omer Nemery
16:15 – 16:20	Roundup of the day's events	Dr Omer Nemery
16:20	Close	
Monday 11/08/08	**Special situations in HIV**	
09:00 – 09:45	HIV: preventing mother to child transmission	Dr Hala Abuzeid
09:45 – 10:30	HIV: ethical and legal dilemmas	Dr Hamad Abdulhadi
10:30 – 11:30	Breakfast	
11:30 – 12:15	HIV and children	Dr Nur Elhuda Allajabo
12:15 – 13:00	Skills station (4 themes rotating every 15 minutes)[3]	4 Facilitators
13:00 – 14:00	Coffee/Tea break/Prayers	
14:00 – 14:45	Post-test	Dr Zahir Osman Eltahir
14:45 – 15:30	Workshop feedback & evaluation	Delegates
15:30 – 16:00	Certificates & closing ceremony	Dr Thabita Butrus, Minister of Health
16:00	End of workshop	

[3] The themes are as follows: (1) Summary on the basics of HIV: immunopathology, transmission, natural history, and diagnosis (2) Principles of anti-retroviral management of HIV in resource-limited countries (3) Summary on the management of major opportunistic infections (4) Summary on the management of HIV in pregnancy and peri-natal period

List of Participants for the HIV Training Workshop (August 3rd – 11th 2008)

No	Name	ART Centre	Qualifications
1	Dr Abubakr Taj Elssir Taha	Atbara	MBBS
2	Dr Shazaliya Adam Mahmoud	Sennar	MBBS
3	Dr Darelsalam Ishag	El Fashir	MBBS
4	Dr Nour Elhuda Attalla Allajabo	Omdurman	MBBS
5	Dr Huda Ahmed Hassan	SNAP	MBBS
6	Dr Arafa Eltoum Mahdi	Kosti	MBBS
7	Dr Rudwan Ahmed Ali Elmahi	Alshaab (Khartoum)	MBBS
8	Dr Munir Abdelrahim Mustafa	El Obied	MBBS
9	Dr Adam Mohammed Fadl	Omdurman	MBBS
10	Dr Sir Elkhatim Ismaeil Sirri	Khartoum	MBBS
11	Dr Jawaher Gibreel Dawood	Bashier (Khartoum)	MBBS
12	Dr Safa Salih Ahmed Fadul	El Nuhood	MBBS
13	Dr Adil Hassan Al Imam	SNAP	MBBS
14	Dr Mohammed Awad Eltoum	Gedarif	MBBS
15	Dr Mona Yousif Mohammed	Wad Medani	MBBS
16	Dr Tamadur Elnour Elsadig	Khartoum	MBBS, MD (paediatrics)
17	Dr Layla Mahdi Ibrahim	SNAP	MBBS
18	Dr Osman Mohamed Dafaalla	SNAP	MBBS

19	Dr Mohamed Alamin A.Magid	SNAP	MBBS
20	Dr Ahmed Elshareif Elwaseila	Al Jenaina	MBBS
21	Dr Omer Nemery	Omdurman	MBBS, MD
22	Dr Taj Elddin Hajosman	Bashier (Khartoum)	MBBS, MD
23	Dr Rehab Fath Elrahman	Nyala	MBBS
24	Dr Maha Ellidir		MBBS
25	Dr Aisha Osman Yousif	SNAP	MBBS
26	Dr Randa Ali Nemeri	Khartoum (FMoH)	MBBS
27	Dr Linda Salah Mohamed	Khartoum (FMoH)	MBBS, MRCOG (1^{st} part)
28	Dr Mohammed Abdella Alhassan	Wad Medani Military Hospital	MBBS
29	Dr Enas Azhari Khalil Mohamed	Omdurman	MBBS
30	Dr Yasir Bakri Sid Ahmed	Omduraman	MBBS
31	Dr Osman Mohammed Saeed		MBBS
32	Dr Gamal Awad Salih Ali		MBBS
33	Dr Rudwan Hassan Rudwan	Al Dalanj	MBBS
34	Dr Sarah Elyas Elamir	Khartoum	MBBS
35	Dr Abdelaziz Salih Mohammed	Dongola	MBBS
36	Dr Amel Jaber Elhassan Hamad	Khartoum	MBBS
37	Dr Adam Ahmed Mohmed		MBBS, MD dermatology
38	Dr Amal Omer Bashir	SNAP	MBBS
39	Dr Nuha Sharf eldin Eltayeb	Haj Elsafi (Khartoum North)	MBBS, MD (paediatrics)

40	Dr Ayda Abdien Hago Taha	UMST (Khartoum)	MBBS
41	Dr Alex Bolek Abuk	Khartoum North	MBBS
42	Dr Omar Mohamed Albashir	Singa	MBBS
43	Dr Ali Zakaria Omar	El Damazin	MBBS
44	Dr Nisreen Omer		MBBS
45	Dr Ali Ahmed Badi	Nyala	MBBS
46	Dr Khadija Alhakam Taifour	Khartoum North	MBBS, MD
47	Dr Mutaz Ali Abdallah Ali	Omdurman	MBBS
48	Dr Kediende Mapuer Akec	Sudan Council of Churches	MBBS
49	Dr Khalid Abdelrahman	SNAP	MBBS
50	Dr Omer Mohammed Osman	SNAP	MBBS
51	Dr Yasir Mohammed Ahmed	Kassala	MBBS

Proposed Plan of Action to Tackle the HIV Situation in Sudan

This logical framework summarizes our vision to improve the HIV situation in Sudan. This is meant to provide planners with a coherent and rapid tool for planning, monitoring and evaluation of the proposed interventions.

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
Goals 1.1 To contribute to the efforts aimed at controlling the current HIV epidemic in Sudan 1.2 To reduce HIV-associated morbidity and mortality in Sudan	1.1 Allocate financial resources to build local capacity to combat HIV 1.2 Adopt evidence-based interventions to control the spread of HIV 1.2 Strengthen health information systems	1.1 Leadership in tackling the HIV epidemic demonstrated by the FMoH	1.1 HIV incidence reduced by 50% over 3 years period 1.2 HIV-associated mortality reduced to <10% over 3 years period	1.1 HIV epidemiological survey 1.2 Clinical audit of health records	1. Political commitment secured 2. Expert advice on HIV/AIDS sought from relevant professionals
Purpose 1. To improve diagnostic and clinical services for HIV in Sudan	1. Build adequate capacity in the healthcare system to allow expansion of HIV-related services	1. Improved access and utilization of HIV services	1. 60% of regional and district health facilities provide care and treatment for HIV in 3 years time	1.1 Records of Sudan National AIDS Control Programme	1. Political commitment secured 2. Expert advice on HIV/AIDS sought from relevant professionals
Specific Objectives					
1. *Diagnosis* 1.1 Increase the uptake of HIV screening services	1.1.1 Introduce mandatory HIV screening for all antenatal care attendees	1.1.1 HIV screening offered at all antenatal clinics on an opt-out basis	1.1.1 At least 75% of antenatal attendees undergo HIV testing on an opt-out basis	1.1.1 Antenatal records 1.1.2 Audit of clinical records of female HIV patients	1.1.1 Rapid HIV test kits made available at all antenatal clinics 1.1.2 Key members of antenatal care staff trained on HIV screening

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
	1.1.2 Introduce point-of-care HIV screening on an opt-out basis. This should be rolled out at primary, secondary and tertiary level healthcare facilities.	1.1.2.1 HIV test offered to all medical admissions into hospitals 1.12.2 HIV test offered to all adults attending primary health care facilities	1.1.2 At least 90% of all adults coming in contact with the health service undergo HIV testing on an opt-out basis	1.1.2 Hospital lab records 1.1.3 Audit of clinical records of HIV patients	1.1.2 Rapid HIV test kits made available at all hospitals
	1.1.3 Restructure the existing VCT service	1.1.3 Access to VCT services improved by creating a network of community-based centres 1.1.4 Increased publicity with regards to VCT activities	1.1.3 At least 30% annual increase in the uptake of HIV testing 1.1.4 Number of new VCTs opened for use by the public 1.1.5 Number and frequency of radio and TV adverts publicising VCT services	1.1.3 VCT records 1.1.4 Records of local radio and TV stations 1.1.5 Audit of clinical records of HIV patients	1.1.3 Roll out of new VCT centres is given the go ahead 1.1.3 VCTs focus mainly on screening activities. The existing model implies that VCTs provide ARVs, which distracts VCTs from their original task i.e. testing for HIV.
1.2 Improve the quality of HIV screening service within blood banks	1.2 Potential donors are given leaflets/audio messages informing them that they will be referred to a designated member of the HIV management team for further evaluation if their specimens became reactive upon HIV testing	1.2 Potential donors with reactive HIV tests referred to a designated member of the HIV management team for repeat testing and further clinical evaluation	1.2 100% of potential blood donors with reactive specimens are referred to the HIV care and treatment services	1.2.1 Blood bank records 1.2.2 Audit of clinical records of HIV patients	1.2.1 Blood bank service agrees to sign up to this activity 1.2.2 Each hospital hosting a blood bank facility assigns a specific person to act as the focal point for such referrals.

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
1.3 Improve the diagnostic capacity of national as well as regional laboratories	1.3.1 Provide modern molecular diagnostic equipment 1.3.2 Train laboratory personnel on the use of molecular diagnostic equipment	1.3.1 HIV viral load assays performed at regional and national level 1.3.2 Molecular and serological assays relevant to HIV-related opportunistic infections performed at regional and national levels.	1.3.1 HIV-related molecular and serological assays available at regional and national levels	1.3.1 Regional and national laboratory records	1.3.1 Funding for equipment and training secured from external donors
2. *Treatment*					
2.1 Improve access to HIV treatment facilities	2.1.1 Integrate HIV care (currently linked to VCTs) into the mainstream healthcare structure	2.1.1.1 To establish pilot units/wards for "tropical diseases" in each regional/large district hospital in order to provide high quality care for HIV patients while preserving the confidentiality of their status. Such units/wards should act as centres of excellence for the management of HIV and other infectious diseases.	2.1.1.1 100% of Pilot "tropical diseases" units/wards fully operational by the end of 2009 2.1.2 Full evaluation of the "tropical diseases" units/wards pilot scheme completed by the end of 2009	2.1.1 Clinical audit on the management of HIV and common opportunistic infections 2.1.2 HIV patients' satisfaction survey	2.1.1 Global Fund (GF) continues to supply antiretroviral drugs free-of charge 2.1.2 Additional financial support made available to HIV patients by Ministry of Health and local charities 2.1.3 Funding secured to sponsor qualified Sudanese physicians to attend the DTM&H course in England

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
		2.1.1.2 All patients admitted to tropical diseases wards should receive baseline investigations and other forms of treatments free of charge 2.1.1.3 Physicians heading tropical medicine units successfully completes a short diploma course in tropical medicine			
	2.1.2 Develop networks of satellite centres for HIV treatment (supported by a named tropical diseases unit in the region)	2.1.2.1 Establish pilot satellite, community-based ART centres (maybe hosted by a health centre, dispensary, etc)	2.1.2.1 100% of satellite ART centres for each "tropical diseases ward" fully operational by mid 2009 2.1.2 Full evaluation of the "tropical diseases" wards pilot scheme completed by the end of 2009	2.1.2.1 Clinical audit on the management of HIV and common opportunistic infections 2.1.2 HIV patients' satisfaction survey	2.1.2.1 Pilot schemes for tropical medicine units given the go ahead by FMoH
2.2 Improve compliance with anti-retroviral therapy (ART)	2.2.1 Conduct qualitative research into root causes of poor compliance with HIV treatment 2.2.2 The likelihood to adhere to ART could be	2.2.1 Better understanding of why patients drop out of HIV treatment achieved 2.2.2 "Outreach workers "play a focal	2.2 ART default rate reduced to <5%	2.2 Records of ART centres	2.2 Most HIV counsellors based at VCTs agree to be redeployed as "outreach workers". The main task of this category will be to provide ongoing

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
	extrapolated from the level of compliance with OI prophylaxis 2.2.3 Sound community-based support for HIV patients should be established	role in optimizing adherence to treatment provided for HIV patients 2.2.3 Community-based ART centres (close to where patients live) provide the necessary support to help HIV patients comply with their treatments.			support to HIV patients at community level.
2.3 Improve management of HIV-related opportunistic infections	2.3.1 Integrate TB and HIV treatment activities in order to provide a one-stop shop for patients	2.3.1 HIV screening offered for all cases of TB 2.3.2 Combined protocol for the management of HIV/TB co-infection produced and made available for healthcare professionals 2.3.3 ARVs and anti-medications prescribed and dispensed from the same health facility	2.3.1 100% of TB patients are tested for HIV 2.3.2 100% of healthcare professionals adhere to combined TB/HIV protocols 2.3.3 100% of co-infected patients receive joint care for HIV and TB	2.3.1 Clinical audit of HIV/TB patients records 2.3.2 HIV/TB patients' satisfaction survey	2.3.1 Commitment from the National TB programme to adopt an integrated management approach secured
	2.3.2 Optimize management capacity of the "tropical diseases wards"	2.3.2 Improve existing isolation facilities (e.g. TB) to conform with	2.3.2 Appropriate isolation facilities available and maintained regularly	2.3.2 Inspection of isolation facilities. 2.3.3 Audit of nursing care plans.	2.3.2 Concept of dedicated "tropical diseases" wards accepted and

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
		standard biosafety levels 2.3.2 Basic nursing standards such as care plans and temperature charts etc should be implemented. 2.3.2 Microscopy as well as basic stains (such as India ink, Gram, and Giemsa stains) are performed at ward level 2.3.2 Rapid bedside diagnostic tests (e.g urine dipstick, malaria ICT kits, Leishmania rk39 kits) available at ward level	2.3.3 Nursing care plans, temperature charts and other elements of nursing are appropriately practised 2.3.4 Basic stains available for use at ward level 2.3.5 100% of visceral leishmaniasis patients are tested for HIV	2.3.4 Audit of case-note records with regards to the availability and use of basic stains and rapid diagnostic kits	implemented by the Ministry of Health
2.4 Improve standards of care for infectious and tropical diseases (including HIV) in Sudan	2.4.1 Expand the role of Hospital for Tropical Diseases (Omdurman) to function as a leading tertiary referral centre for HIV	2.4.1 Produce national clinical guidelines on the management of HIV and relevant opportunistic infections 2.4.2 Provide specialist training in HIV for physicians, nurses, and	2.4.1 Clinical guidelines approved, published and made available to healthcare professionals 2.4.2 Specialist training curricula developed and implemented.	2.4.1 Independent external review of protocols and guidelines	2.4.1 Political willingness and support maintained

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
		laboratory technicians			
2.5 Improve standards of care of sexually transmitted infections (STIs)	2.5.1 Expand the role of the Dermatology and Venereal Diseases Hospital(Khartoum) in the management of STIs (including HIV) 2.5.2 Ensure each state hospital has a fully functioning STI unit	2.5.1 Produce national clinical guidelines on management of STIs 2.5.1 Provide specialist training in HIV and other STIs for physicians, nurses and laboratory technicians	2.5.1 Clinical guidelines approved, published and made available to healthcare professionals 2.5.2 Specialist training curricula developed and implemented. 2.5.3 100% of patients with STIs are tested for HIV	2.5.1 Independent external review of protocols and guidelines	2.5.1 Political willingness and support maintained
3. *Prevention*					
3.1 Prevent mother-to-child transmission of HIV	3.1.1 Provide ART to pregnant women with positive HIV serology	3.1 .1 pregnant mothers with positive HIV serology identified 3.1.2 HIV-positive pregnant women receive ART at the appropriate gestational age 3.1.3 Delivery	3.1 .1 100% of all HIV-positive women contacted and offered ART. 3.1.2 100% of HIV-positive women receive ART at the appropriate gestational age 3.2 At least 99%of	3.1.1 Antenatal records 3.1. 2 Neonatal & paediatrics records	3.1.1 Antenatal screening service up and running

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
		plans are in place by the appropriate gestational age 3.1.4 Multi-disciplinary team approach developed and maintained throughout	HIV-positive women give birth to HIV-negative babies 3.3 100% of neonates born by HIV-positive mothers receive appropriate post-exposure prophylaxis		
3.2 Raise awareness regarding availability of HIV testing as well as care and treatment facilities	3.2.1 Conduct assertive, far-reaching, and sustained information, education & communication (IEC) campaign using Sudanese radio and television stations. HIV messages should be broadcast during prime time using a number of local dialects and languages 3.2.2 Actively involve patients living with HIV (PLWH) in running the IEC campaign 3.2.2 Generate and disseminate up-to-date epidemiological data on HIV, AIDS, STI, and TB (HAST)	3.2.1 Increased awareness of the Sudanese public regarding the nature of HIV as well as locally available services for diagnosis, treatment and prevention 3.2.2 Hold an annual conference on HAST to facilitate exchange of knowledge and experiences	3.2.1 Frequency and quality of health education messages 3.2.2 Frequency and quality of HAST conferences	3.2.1 Public surveys on HIV-related knowledge, attitudes and practices. 3.2.2 Evaluation and feedback from HAST conferences	3.2.1 Political willingness and commitment secured

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
4. Advocacy					
4.1 Reduce HIV-associated stigma	4.1.1 Lobby politicians to adopt draft legislations banning any form of discrimination against HIV patients 4.1.2 IEC as in objective 3.2.1. Furthermore, high-profile individuals within the wider Sudanese society should be approached to publicly endorse the rights of people living with HIV/AIDS (PLWHA) 4.1.3 Strengthen the role of NGOs involved in creating better environment for PLWHA	4.1.1 Final legislations approved by Sudan National Assembly 4.1.2 Outputs as in 3.2.1	4.1.1 Anti-discrimination legislations incorporated into Sudan judiciary system 4.1.2 Change in attitude and behaviour towards HIV and PLWHA.	4.1.1 Anti-HIV discrimination laws published in Sudan Gazette 4.1. 2 Public attitude change towards HIV measured using the Knowledge-Attitude-Practice (KAP) method	4.1.1 Political willingness and commitment secured
5. *Human Resources Development*					
5.1 Transfer up-to-date HIV knowledge to healthcare professionals working in Sudan	5.1.1 Organise regular training workshops on HIV for physicians and other allied professionals 5.1.2 Establish HIV clinical mentorship schemes for physicians and other allied professionals	5.1.1 Bi-annual advanced HIV training workshops conducted regularly 5.1.2 Clinical mentorship schemes involving Sudanese and British HIV units launched by mid 2009	5.1.1 Quality of HIV workshops educational materials as assessed by facilitators and participants 5.1.2 Quality of mentorship schemes as assessed by mentors and mentees	5.1.1 Attendance records of HIV training workshops 5.1.2 Workshop evaluation forms 5.1.3 Mentorship evaluation forms	5.1.1 Adequate funding secured for training 5.1.2 Expatriate HIV specialists continue to provide input into knowledge transfer 5.1.3 UK-based HIV units agree to engage in clinical mentorship schemes

	Activities	Outputs	Verifiable indicators	Means of verification	Assumptions
5.2 Incorporate HIV education in undergraduate as well as postgraduate medical training curricula in Sudan	5.2.1 Advocate for including modules on HIV medicine at undergraduate as well as postgraduate level	5.2.1 Medical schools are required to introduce special modules on HIV medicine in their curricula 5.2.2 Sudan medical specialization board introduces HIV training modules into medical, paediatrics, and obstetrics curricula 5.2.3 Practising physicians are required to produce evidence of continuous medical education in HIV medicine	5.2.1 100% of medical schools have adequate modules on HIV medicine 5.2.1 100% of postgraduate medical, paediatrics, and obstetric training curricula ensure adequate exposure to HIV-related issues 5.2.3 At least 95% of all practising physicians in Sudan obtain evidence of CME in HIV medicine	5.2.1 Medical schools curricula 5.2.2 Postgraduate training curricula for medicine, paediatrics, and obstetrics 5.2.3 Records of the continuous professional development centre, FMoH, Khartoum	5.2.1 Willingness of medical schools, Sudan medical specialisation board, and the Federal Ministry of Health to engage in promoting HIV medicine

Concept papers:

i)	Scaling up and promoting HIV services	Dr Abdul-Karim Elgoni
ii)	Improving the quality of HIV services	Dr Hamad Abdel Hadi
iii)	Improving HIV patients' care and support	Dr Zahir Osman Eltahir Babiker
iv)	Overview of HIV services in Sudan	Dr Elbushra Ali Mohamed Herieka

i) Scaling up and promoting HIV services – Dr Abdul-Karim Elgoni

Here I am focusing on the ideas for health systems improvement. Detailed plan and costing can be done after the final comments from the group

Introduction

- Because of poverty, internal migration and displacement, war and illiteracy, Sudan has high sexually transmitted infection (STIs) including HIV.
- The estimated number of people living with HIV and AIDS (PLWA) is 600,000 patients, of them about 17,000 (2.8%) are registered and only about 1700 on treatment. Lack of information and inconsistent reporting of the incidence of STIs is halting the efforts for proper planning.
- Public awareness on prevention and care is poor, even among health professionals.
- The Government, despite political commitment, is not funding HIV and AIDS prevention and care programs, which are mostly dependent on international donors
- There is poor of infrastructure for integration of HIV and AIDS Program activities with STIS and TB management as pre-requisite for successful management of the epidemic and mitigating its impact.
- There is a not even a single Centre of Excellence for STIs management, as Khartoum Dermatology and STIs Hospital is very poorly resourced.
- It is known that STIs accelerate the transmission of HIV between partners as STIs indicates a recent unprotected sex with an infected partner. Improved prevention and control of STIs is one of the most cost-effective strategies to reduce HIV transmission as people with STIs represent a pool for transmission of HIV *(from high-risk groups)* to the general population.
- The level of STIs can provide an early warning system of the future direction of HIV epidemic. Since HIV infection is an STI, STIs should be a sensitive indicator for the evaluation of the outcome and impact of HIV/AIDS control interventions.
- There is poor quality of STI care at PHC facilities with lack of appropriate skills *(poor training in colleges & lack of CME programs)*, poor management, (*STIs not being prioritized in planning of services)* and lack of sustainability of programs targeting quality of care improvement
- The changing epidemiology of STI requires on-going research and review of management protocols- this is lacking
- The HIV and AIDS Management Centre in Omdurman is poorly equipped and supported, just to mention that it has no equipment for checking clients' viral loads, a very important parameter in evaluating response to ARV treatment and identifying early failures.
- Preventing mother to child transmission, a very successful prevention program is still rudimentary compared to the need of the pregnant women population in Sudan. This is

a loss of opportunity for HIV and AIDS awareness programs as PMTCT proved very successful in awareness and stigma reduction in many African countries.

- Sudan National AIDS Council (SNAC) is handling HIV and AIDS as a developmental issue challenging the persistent misconception that HIV/AIDS is just a `health' issue. Hence its national response is multi-sectoral and multidisciplinary. There appears to be a strong political and government commitment and leadership, as seen from the involvement of the national Minister of Health. This can be harnessed and translated into real actions and support for sustained and effective interventions against HIV and AIDS epidemic. There is a need to focus on states with the highest prevalence rates. These include Khartoum, Darfur, South Kordofan and Gedaref. An HIV and AIDS, STIs and TB (HAST) Crisis Plan can make a difference and halt the progress of the epidemic in Sudan.
- The objectives in this Crisis Plan are effectively achieved through comprehensive approach that includes prevention of HIV infection, care and support to those infected and affected by HIV and AIDS.
- HIV and AIDS -related stigma plays a major role in fuelling the spread of HIV infection. Combating stigma must be sustained ensuring community involvement, with active visible participation of PLWHA, in a sustained response.
- In the Sudan context, there is a huge potential of an enabling spiritual and socio-cultural values that can be harnessed to reduce infection and increase support to the infected and affected populations. Religious leaders and faith-based organisations can play a leading role in the fight against HIV and AIDS.
- Transmission of HIV is preventable through education for a positive behavioural change and use of condoms. Hence, information on HIV and AIDS and behavioural change communication are necessary for people and communities. Access to acceptable and affordable HIV and AIDS services including voluntary counselling and testing, diagnosis and treatment of STIs and opportunistic infections is crucial for an effective response.
- As high risk groups play a major role in transmission of HIV, appropriate strategies aiming to reduce the risk of HIV infection among specific high risk and vulnerable groups are essential for a comprehensive response. Interventions focused on mobile groups, uniformed forces, truck drivers and tea sellers is needed. Young people are a high risk group. Educating young people, especially school learners, about HIV and equipping them with life skills, improves their self-confidence and ability to make informed choices.
- HIV/AIDS pandemic has given urgency to the need for rapid assessment capacity development, particularly at state and community level. Developing the capacity of actors in the struggle against HIV in relation to surveillance, information management and reporting is a fundamental element of a comprehensive response to HIV and AIDS prevention, care and mitigation.

Objectives of the crisis plan:

- Facilitate training on HAST management for at least 5o% of the clinical staff at state hospitals and clinics in the selected states (doctors, nurses, medical assistants, laboratory technicians and pharmacy staff)
- Investigate and provide solutions for bottlenecks in HAST management supplies, medicines and equipment at facility levels.
- Provide HAST management training for health and social welfare (Including Zakaat officers) structures managers at state and District level.

- Broaden the awareness program to reach schools, high risk groups, universities, media and religious leaders
- Strengthen PLWHA organizations to be able to sustain their involvement in awareness activities.
- Strengthen information recording, analysis and reporting through regular information sharing sessions and an annual HAST conference

ii) Improving the quality of HIV services provision – Dr Hamad Abdel Hadi

Background:

According the WHO and UNAIDS; the global number of people living with HIV is estimated around 40 million cases worldwide. In 2007 there were 2.7 million new cases of infection with HIV and 2 million HIV related deaths. Sub-Saharan Africa accounts for more than two third of HIV cases and three quarters of HIV related deaths (1).

The estimated prevalence of HIV in Sudan; is around 1.6 % with projected cases between 1.2 million (high) and 120.000 (low) according the WHO survey in 2003 (2). Currently we are awaiting the results of recent surveys for better understanding of the HIV epidemic. Sudan is surrounded by nine African countries; seven of which has higher HIV prevalence. Such reason together with the factors of regional instability, war, peace accord, internal and external displacement; it is plausible to expect a growing problem.

With better preparation for HIV prevention, control and treatment; it is more likely to halt the progression of the epidemic. More recently the WHO global HIV fund has worked closely with Sudan National Aids Control Program (SNAP) for provision of care centres able to provide Anti Retroviral Treatment (ART). Sudan relatively new experience faced difficulties of rapid expansion as well as problems with quality of service provision. For this reason SNAP has approached the UNDP TOKTEN program for recruitment of national expatriate experts to help in assessing and advising on HIV care in Sudan. At the beginning of Aug 2008; four expatriate national experts from UK and South Africa were appointed to evaluate and give advice of strategies to improve the service. In addition they also participated in a workshop to train local HIV care providers in all aspects of HIV medicine.

Summary of Key Recommendations:

- Invest in good leadership
- Provide continous training for doctors , nurses and medical students.
- Introduce modern technology for supportive diagnostics..
- Scale up HIV awareness and prevention
- Appoint a lead HIV specialist
- Perform regular Audits to assess quality of service across units
- Empower HIV care units
- Introduce free intial evaluation tests for HIV infected patients
- Improve networking and communication between relevent programs
- Invest in Database and information technology to improve data collection and research.
- Integrate TB with HIV care
- Improve TB diagnostics

- Impliment effective preventive Mother to Child Tranmission Program
- Adopt Effective Sexually Transmitted Infections preventive measures.
- Link Blood Transfusion Service to HIV care
- Provide adequate measures to diagnose and manage Opportunistic Infections

I- General Principles:

I) Resources:

A) Human

Leadership and teamwork are crucial to any success. For any successful programs to achieve its targets; it is of utmost importance to invest and then harvest the fruits of good leadership. Any successful program and organizations should promote and support good leadership at the same time of trimming and suppressing bad leaders. Bad leadership will not only lead to poor quality of service but also will sprouts into complicated mistakes which are impossible to rectify (3).

We clearly noticed very successful examples of good leadership and team work which should be encouraged and supported for example the committed leadership and team of SNAP as well as Omdurman AIDS Care Unit (OMACU).

B) Continuous Training and Professional Development

Provision of good quality service depends on continuous training of care providers. Regular teaching, seminars, workshops, case studies are crucial to quality of service.

We noticed good elements of continuous training although this can improve with structured regular programs for doctors, nurses and other health professionals. We also noticed that training heavily relies on few internal trainers and facilitators with no significant expansion of training personnel. We recommend linking career progression in HIV service with completion of regular training modules and obtaining higher qualifications in the specialty.

We also recommend regular participation of external trainers and facilitators who can channel the best evidence based medicine (EBM) under guidance of local expert to suit medical practice in Sudan.

One of the major obstacles in HIV medicine is to remove the public and medical stigma. We noticed the absence of medical school core curricula of detailed training in HIV medicine despite the plight of the problem. The three greater Khartoum HIV care unit; does not participate in regular medical education. If medical students does not grasp the fact that HIV is a treatable and preventable chronic condition; it is inevitable that medical stigma will eventually prevails. It is the duty of SNAP to address all medical school in Sudan to ensure that HIV medicine is impeded in their curricula and make them aware of the opportunities at training centres.

C) Modern Technology

The field of HIV is challenging; with difficult assessment of acute and chronic patients. In many cases late presentation; co-infection with TB and hepatitis leads to significant morbidity and mortality. Modern technology had made huge milestones in the field of HIV medicine. This should always thought carefully in resource poor setting because of the implications of cost versus effectiveness. Nevertheless we recommend introduction of modern technology like measurement of HIV viral load (in specific settings); hepatitis serology as well modern diagnostic facilities for TB in specific entities as outlined below.

D) HIV Awareness and Prevention

The scale of the tragic HIV epidemic in Africa is disturbing. Although HIV / AIDS were firs described and isolated in the west; their effective awareness and control programs managed to corner HIV/AIDS and prevent its epidemic spread. Many African countries delayed their effective awareness programs, which eventually proved to be catastrophic.

High scale HIV awareness in using different media facilities is essential. It was clear that although the estimates of HIV cases is Sudan are significantly high; the registered cases are disproportionally low. Reaching and diagnosing those at risk; will not only prevent further escalation of the problem but also will allow earlier diagnosis and prevent morbidity and mortality associated with late presentation.

Proactive engagement with the public through Radio, TV & press should be a continuous strategy rather than an occasional one to compact the problem. Identification of the major cause of transmission of HIV as being sexual is an integral part in its prevention. Unfortunately because of social and religious boundaries this message is difficult to get across freely. We also have seen efforts of introducing HIV awareness at schools and universities; a step which should be supported and encouraged.

II) Specific Recommendations:

1- HIV Hospital Care

For any program to deliver its objectives; it should be guarded by continuous quality control of service. Regular inspections, assessments and audit of service are of paramount importance. With the rapid expansion of treatment units; it is mandatory to provide a strategy to guide SNAP towards assessment of its satellite units.

We recommend an HIV clinical assessor to inspect treatment units and provide a report either once or twice a year. In such way treatment units will be under supervision and hopefully that will lead to improvement of service. We also expect such lead HIV specialist to be the focal point to give advice and support in complicated cases when needed. We also recommend annual audit of service for each unit with general principles of identifying total number of cases, those in treatment, mortality at diagnosis and mortality after starting treatment. The audit standards can be changed centrally.

Unfortunately we also noticed a strong medical prejudice against HIV medicine across all boards of specialties. Medical directors of different hospital resist expansion of the HIV service despite the growing problem.

We also heard the horror stories of refusal to care for HIV patients from members of the medical profession. Unfortunately if we are not able to remove the stigma from the medical profession; it will be impossible to take that further with the public.

We advice that the FMOH and SNAP should make clear statements to hospital housing HIV units of the importance of HIV medicine and need of provision of good indiscriminate quality patients' care. Such endorsement should empower HIV specialist in their remote units and help them towards removing the medical stigma.

We also noticed that the majority of HIV infected cases are poor and cannot afford basic screening test and HIV centres. Such preliminary screening tests are essential at the initial assessment since to will identify existing pathology, opportunistic infection as well as co-infections. During the management of HIV infected cases; comparison with initial results is of paramount importance for thorough evaluations.

For such reason we recommend:

- Appoint a lead internal / external HIV specialist
- Perform regular Audits to assess quality of service across units
- Fight institutional medical stigma against HIV
- Empower HIV specialists
- Free initial screening tests for HIV patients to include full blood count, urea and electrolytes, liver function test, general urine and a chest x ray.
- Evaluate the possibility of introducing free tests for syphilis serology as well as hepatitis B infection both are associated with significant morbidity and mortality and are has effective available treatment within the HIV context.

2- Networking & Communication

We identified a serious networking and communication problem affecting close programs which should be rectified as soon as possible. For example we believe the interaction between HIV and TB is so close that its essential for the two program to collaborate as close as possible. The sheer scale of HIV primarily drives the emerging epidemic of TB in Africa. Not only that but management of Co-infection with TB is challenging in the setting of HIV with common grounds of compliance problems, defaults and emerging resistance which in the case of TB will eventually leads to the emergence of Multi-Drug Resistance TB (MDRTB) as well as Extended Drug Resistance TB (XDRTB) both of which are public health scares and associated not only with high morbidity and mortality but also with high cost to control.

The lack of communication and networking between the two programs is deleterious to both. We suggest regular quarterly meetings involving SNAP, TB control programs, TB National Reference Laboratory (TBNRL; Stack) as well as leaders of front line HIV care. Such communication meeting is essential of identifying problems regarding diagnostics, drugs flow, guidelines, resistance and effective management.

We also recommend similar networking between Visceral Leishmaniasis (VLS) program since there is clear problem of interaction between HIV and VLS and associated high morbidity, mortality, difficult management and relapses in AIDS patients.

In maternal health; there is clear lack of provision of screening for HIV for pregnant women. Such problem can also be highlighted with continuous communication and networking to reach implementation stage.

3- Database , Information Technology and Research

We identified good record keeping in treatment centres but unfortunately manual entry cannot provide live database which will allow rapid access to stored information. Sudan has an expanding information technology; which make it easy to introduce the service in treatment centres. Provision of computers with appropriate soft ware programs and training will lead to a phenomenal flow of information. This understandable should be guarded to secure patients confidentiality (Database protected by of pass word for few users).

Using such method; clinicians will have better management of patients. Tabulated sheets showing the CD4 count can be printed easily to show the progress of patients over time. Previous ART regimens and confections can easily incorporate into the database. More over we can easily identify total number of cases, mortality, those receiving treatment, late presentation, epidemiological stratifications, age groups, gender, pregnancy and co infection. Such tool will allow easy implementation of research which proved to improve HIV care in developed countries.

4- Tuberculosis

We were alarmed with the poor service of TB diagnosis at OMACU which houses the best centre of HIV care as well as serving the most populous province. Provision of good free TB diagnostic service at Omdurman Teaching Hospital (OTH) is mandatory; since many patients might present with tuberculosis as an indicator of HIV. Moreover HIV patients frequently presents with symptoms of TB which needs urgent assessment at one centre. We are also concerned with the high rate of smear negative TB (estimated at 70 % in OMACU) which points towards probable poor technical diagnosis as well as lack of supporting technology. Induced sputum devices have made a significant impact in improving diagnosis and it is relatively cheap compared to the costly option of bronchoscopy (4). Such service should be introduced first at big centres since valuation of its impact can be measured easily.

We recommend:

- Integrate HIV and TB services for better quality of care.
- Support all HIV care unit with TB diagnostic facilities
- Train laboratory TB technicians to improve service quality
- Introduce induced sputum devices to aid diagnosis of smear negative cases
- Introduce molecular technology (i.e. TB PCR) to aid diagnosis of difficult cases

Our field visit to the TB National Reference Laboratory (TBNRL at Stack) showed a good standard laboratory with good leadership as well as plans of future expansion. Again although there is close link between the TBNRL and respiratory physicians this was not the case with HIV care providers although the service is free of charge! One of the main problems to this is the central location of TBNRB which make it difficult to access. Collaboration between HIV care providers and TBNRL is mandatory for good quality of service especially in difficult cases as well cases of MDRTB or possible XDRTB. The only drawback we found is the delay in TB culture and sensitivities (currently 3 months). This length of time precludes timely adequate management.

We recommend:

- Close links between HIV units and TBNRL
- Introduction of modern technology like liquid TB culture media, which will allow reduction in time of culture and sensitivities to almost half its present (5).
- Introduction of modern TB molecular diagnostics (TB PCR) which is not developed in TBNRL. Such technology will not only lead to rapid diagnosis; but also rapid identification of resistance strains (Rifampicin resistance genes). By this we can identify resistance case almost one week from presentation (6). We acknowledge that the service is costly but this should be reserved for difficult cases were TBNRL has the ability to filter them. More over such tool is a great research tool, which will attract significant flow of funds in collaboration with international research centres.

5- Mother To Child Transmissions (MTCT)

One of the best rewarding interventions in HIV medicine; is the prevention of MTCT through good screening programs for all pregnant women followed by ART at the second trimester and as well as good post natal care and advice. Research showed by such intervention we can reduce the incidence of transmission from as high as 30 % to as low as less than 1 % with the subsequent benefit of maintaining healthy children. One of the major factors which predict low level of transmission; is the undetectable maternal viral load before delivery. Moreover research showed that maternal viral load below 1000 copies per ml does not necessitate caesarean intervention (7)

The cost effectiveness of such program is so rewarding since paediatric HIV infection is associated with high morbidity and mortality. More over the social consequences of caring for HIV infected children is so devastating.

Unfortunately our assessment showed almost a non existing program. Prevention of MTCT is rather sporadic and mainly for known cases of HIV infected women. Screening programs of pregnant women does not exist; hampered by fear of offering the test as well as ignorance of the subsequent benefit. There was also disengagement from obstetricians in such vital program. There is also a clear paucity of provider of care mainly from obstetrical and paediatric colleagues. We also found no clear guidelines or algorithms for patients care.

We strongly recommend:

- Establishment of separate division for prevention of MTCT aiming primarily to scale up screening, monitoring, teaching, training, guidelines, intervention and ART provision. Such division ideally should be under the umbrella of SNAP
- Engagement with relevant colleagues by addressing the problem in national conferences and workshops as well as offering training opportunities both locally and abroad.
- Adopt a universal screening program for all pregnant women with discussion regarding of an opt out strategy. Such program should be free with known clear guidelines of further counseling, referral and management.
- Introduce HIV Viral Load mainly for the MTCT program
- Offering of a free antenatal care Service (ANC) for all HIV pregnant women including free delivery to encourage acceptance of screening.
- Creation of MTCT working groups from HIV specialist, obstetricians as well as HIV paediatricians to oversee and advice in guidelines, algorithms as well as collaborate towards patients' care.
- Creation of MTCT specialist nurses to advice on HIV and pregnancy, ART, ante and pos natal care

6- Sexually Transmitted Infections (STIs)

There is epidemiological evidence at all continents that STIs affects mainly adult populations between the ages of 17-35. There is also good evidence that STIs is associated with increased transmission of HIV as well as increased incidence of HIV in affected patients (9). STIs are commoner in the deprived communities especially at the outskirts of big cities. We noticed from the HIV registry that the majority of patients fit such profile which supports the observation.

For such reasons provision of a good STI service is mandatory especially in developing countries by which we can significantly diagnose as well as prevent HIV infection.

Our assessment showed paucity of such service with no supporting facilities of diagnostics. There is also a socio- political fear that by scaling up such service we might inadvertently promote sexual liberty. Unfortunately ignoring the problem means increase of the epidemic of STIs as well as HIV. There are many ways of getting around such dilemma for which we recommend:

- Provision of STIs service in remote heavily populated and deprived areas under different auspices (i.e. Dermatology or Women Care)
- Link such units with national HIV service
- Support such units with continuous training and education
- Provide good diagnostic facilities (For HIV, HSV, Gonorrhea and Syphilis)
- Provision of free points of care
- Provision of sexual health preventive counseling

7- Blood transfusion Service (BTS)

Although BTS are an essential point of entry for early diagnosis of HIV; we identified a serious gap of the service. Screening at BTS although frequently identify positive cases; referral to HIV care providers is not the norms. Frequently the positive result might not get

through blood donors jeopardizing effective early testing and screening facilities. Engagement with BTS is mandatory to identify strategies of cases counseling and then referrals to care providers. Also SNAP should oversee all diagnostic facilities of BTS and give appropriate advice regarding risks stratifications (to identify possible cases of early seroconverting blood donors) and use of effective screening tests.

8- Opportunistic Infections

From our field visits; it was evident from the registries that the majority of patients present late and eventually die as consequences of probably Opportunistic Infections (OI). There was clear lack of diagnostic facilities and effective management of OI. We strongly advice that provision of drugs to compact OI are essential in good quality HIV care. Training in management of OIs should be escalated to improve recognition as well as management of the problem. The following drugs are essential for is and should be made available to HIV care providers:

- Fluconazole for invasive Candida Infection as well as Cryptococcal meningitis.
- Sulfadiazine , Pyrimethamine & Dapsone for cerebral toxoplasmosis
- Cotrimoxazole for Peumocustis Jervoci Pneumonia (PCP) (We also recommend parentral formulation in severe cases where oral treatment is not feasible as well as second line therapy like Clindamycin and Dapsone)
- Native Amphotericin B (not liposomal which is expensive) for refractory fungal infections, severe cryptococcal meningitis and VLS
- Aciclovir for HSV and VZV infections

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iii) Improving HIV patients care and support – Dr Zahir O.E. Babiker

This report will address challenges and opportunities pertaining to the current level of support received by patients before and after being diagnosed with HIV. The magnitude of support at community and hospital levels will be reviewed and a package of interventions proposed.

- Community Level:

Challenges:

1. High level of stigma resulting in significant social disadvantage (e.g. loss of earrings, status, etc) and leading to substantial fear of disclosure which might impede access to HIV care and treatment services

Proposed interventions:

1.1 Targeted mass media mobilization through assertive, far-reaching, and sustained action should address the following issues:

(i) Fighting social stigma: For example, HIV positive groups can have supervised weekly access to the Sudanese radio listeners so as to share their experiences and also assume a more pro-active role in awareness raising (The medical radio station at the University of Medical Sciences & Technology, whose coverage is mainly within Khartoum state, is likely to be supportive to this idea and therefore it is worthwhile making a start with them and then scale up to the wider Sudanese listenership later).

(ii) Increasing community awareness and understanding of available HIV services. This can be achieved through targeted advertisement on national radio and television stations. This is likely to be more rewarding than spending time, effort, and money on posters and other written materials, especially that Sudan has a high illiteracy rate.

1.2 Strengthening community engagement and support through the existing social networks (HIV positive groups, school teachers and other community leaders). This can be achieved through the following:

(i) Supporting community-based organizations in providing home-based care (e.g. to focus on optimizing ARV adherence support, providing palliative care for terminally ill, etc) as well as promoting HIV prevention activities. A framework whereby the Sudan National AIDS Programme can establish effective partnerships with clear responsibilities with such organizations should be developed.

(ii) Development of links between local community structures and the healthcare system. For example, a local school teacher can be trained up as an HIV outreach support worker (see description of outreach support worker below)

(iii) Involvement of HIV positive patients groups as key informants, planners, and implementers of local HIV services. SNAP should take these groups more seriously and steer away from tokenism. A genuine partnership has to take place.

1.3 Legislative powers: Members of parliament and other politicians should be canvassed to pass legislations clearly prohibiting discrimination against HIV patients.

High court challenges against discrimination should be encouraged so that landmark rulings could be obtained.

2. *Low up-take of HIV voluntary counseling and testing services*

Proposed interventions:

2.1 Mandatory antenatal care (ANC) screening for HIV, Hepatitis B, and Syphilis should be rolled out nationally. Screening should be performed on an opt-out basis. Patients will reserve the right to decline or defer the test. No counselors needed for such opt-out screening programmes. Doctors and midwives should be able to seek consent for testing. A pilot project carried out in a large maternity setting such as Omdurman will certainly be helpful in identifying early teething problems.

2.2 A decentralized horizontal structure for HIV testing is likely to work better than the current vertical system using voluntary counseling and testing (VCT) centres. So far, VCTs have not achieved the desired impact in terms of identifying patients with HIV (only 23,000 patients diagnosed with HIV out of an estimated 300,000-600,000 patients according to the 2002 survey). All doctors and other experienced healthcare professionals (senior nurses, midwives, etc) should be encouraged to offer universal HIV testing for individuals who come in contact with the healthcare system. Such individuals will have the right to opt-out but at least they will come to know about HIV and may become agreeable to HIV testing on subsequent episodes of contact with the healthcare system. Radio and TV messages should be used to alert the public. There is evidence to suggest that it is more cost-effective to offer universal HIV testing in settings with prevalence > 0.2% in age groups 15-59 years *(CDC. Revised recommendations for HIV testing in adults, adolescents, and pregnant women in healthcare settings. MMWR,2006, 55, RR-14:1-17)*

2.3 At present, VCTs are providing ARVs and this extra-role make them function like treatment centres for HIV rather than simply being counseling and testing centres (as the name implies!). I believe providing ARVs at VCTs probably distracts VCTs from their original task which is to test for HIV. I think relieving VCTs from the duty of providing ARVs will allow rapid expansion in VCTs all over Sudan and may therefore increase the uptake of this service as it becomes widely available. On the other hand, HIV treatment activities should be integrated into the existing healthcare structure in order not to end up with a parallel vertical structure for HIV.

2.4 Blood donors with “reactive” test results for HIV should be given an “advice slip” asking them to attend their nearest VCT for further confirmatory testing and management. Doctors/lab technicians working in blood banks should explain to all potential donors that they might be referred on to VCTs for further testing if need be and that this is a standard procedure to make sure everything is all right. (or something along these lines!).

2.5 Effective utilization of mass media as outlined above

- Hospital Level:

Challenges:

1. Difficulty in accessing hospital-based HIV/AIDS care & treatment services: transport issues (prohibitively expensive transport fares), financial (e.g. patients have to pay for hospital stay as well as and other diagnostic and therapeutic measures for opportunistic infections) and social issues (stigma, fear of discrimination).

Proposed interventions:

1.1 Physical barriers: Not every patient need to be looked after in the main hospital. Creating peripheral satellite clinics that are near to where patients live can help address this problem. A designated consultant/HIV-trained medical officer should be tasked with the supervision of such networks of satellite clinics each locality/town.

1.2 Financial barriers: There is no simple solution to this problem! The best approach will be to integrate HIV care and treatment into mainstream curative medicine services with clear legal provisions for free-of-charge management of HIV as well as HIV-related conditions. A clinical code rather than stating "HIV" on request forms for x-rays/lab investigations or social support from Zakat or other similar institutions/charities could be used to ensure that HIV status is communicated to other health workers on a need-to-know basis. For example, the clinical code number for HIV in England "350D" is sometimes used by my department on request forms in the interest of preserving confidentiality.

1.3 Reducing HIV stigma: Hospital-based HIV care and treatment activities would be better delivered under the umbrella of infectious diseases & tropical medicine as well as dermatology and venereal diseases services as patients cared for by these specialties have diverse clinical conditions and do not necessarily have HIV. Therefore, such approach will help "normalize" as well as "humanize" HIV care and treatment activities. However, this will require major restructuring of the current practices in-patient care in Sudanese hospitals and will therefore require further consultations with the federal directorate of curative services at the federal Ministry of Health (see proposal below).

2. High default rates of HIV treatment:

About 48% of HIV patients receiving highly active antiretroviral therapy (HAART) in Omdurman hospital have dropped out of treatment. It is not entirely clear whether these patients have opted out of the service because of specific constraints or they simply died at home and nobody was able to ascertain this at the time this happened.

Proposed interventions:

2.1 Assessment of the patient's likelihood to adhere to therapy before commencing HAART should be jointly assessed by the patient's physician and their prospective outreach support worker (see below). A stepwise approach should be adopted by first assessing the patient's actual adherence to PCP

prophylaxis, addressing any obstacles that are likely to affect adherence in a speedily and timely manner, and then proceeding to HAART when all the requirements are met.

2.2 Creating a new category of healthcare workers called *outreach support workers* whose main task is to facilitate the delivery of HIV care and treatment to HIV patients in their communities. A preliminary job description should include the following criteria: the outreach worker must have basic understanding of HIV care plans; provides care and support as identified in care reviews and care plans; work experience in healthcare/support settings would be desirable (e.g. HIV, TB, Immunization programmes); highly motivated/non-judgmental attitude; ensures effective communication with all staff members; attends mandatory training days/courses; must be flexible and willing to travel/commute).

2.3 Redeployment of a substantial number of counselors to work as outreach support workers in the community. For a start, employing professionals to only counsel patients before and after HIV testing is not good value for money and can only add to the mystique and myths surrounding HIV. Doctors (and indeed any other healthcare worker with basic knowledge on HIV) should be able to conduct a pre and post-test discussion with patients. No effort should be saved to optimize compliance with HAART and therefore we should focus on getting the right level of support for patients starting this life-long kind of treatments.

2.4 Qualitative research into adherence issues will undoubtedly shed more light into specific factors relevant to the Sudanese culture

3. Sub-optimal/inefficient hospital-based HIV clinical care

Proposed interventions:

3.1 Restructuring of the current model for delivering HIV clinical services (VCT-based for outpatients treatment/follow-up and a general medical pool for inpatients management) as follows:

(i) Establish pilot wards for "tropical diseases" in Omdurman and Bashaier hospitals with the aim of providing care for HIV as well as other mainstream infectious diseases. The existing HIV units in Omdurman and Bashaier could be upgraded to fulfill this role. Such wards would offer integrated clinical service for HIV as well as excellent training opportunities for physicians, nurses, medical students, etc. Tropical diseases wards could then be rolled out to other district hospitals. I think approaching WHO with a proposal for funding for such wards – at least for the first couple of years or so- is worthwhile as most hospitals will lack the financial incentive to dedicate wards for "tropical diseases" under the current arrangements of healthcare services in Sudan and that WHO (or other UN/international NGOs) will give the money and ask for high standards of care to be met in return (which will ultimately benefit our HIV patients).

(ii) It is indeed extremely disappointing that the Hospital for Tropical Diseases (Omdurman) is not engaged in any shape, way or form in providing HIV services. This hospital needs major shake-up to help it assume its leading role in treating infectious and tropical diseases, including HIV. HIV was born in Africa and, by definition, is a tropical disease! Ideally, the hospital for topical diseases should

be utilized as a tertiary centre for infectious diseases whereas the "tropical wards" in teaching/district hospitals serve as secondary care centres. Sudan is a country with high burden of infectious diseases and surely deserves a centre of excellence in infectious diseases management.

(iii) Khartoum Dermatology and Venereal Diseases hospital (tertiary centre) should be supported to provide treatment for HIV patients as it enjoys both inpatient as well as outpatient facilities. Logistics and training issues could be addressed locally as ARVs are made available through the Global Fund and that there are some HIV-trained physicians who can help out with setting up such clinics. The ultimate goal is to develop a network of well-functioning STI clinics that provide HIV care and treatment in other parts of the country.

4. Lack of physicians with interest in HIV in Sudan

Unfortunately, most physicians in Sudan are not keen to look after HIV patients due to gaps in their knowledge leading to an avoidance behavior. Furthermore, I noticed that social stigma often extends to doctors treating HIV patients and this, of course, does not encourage other doctors to get involved in HIV. Also, the lack of clear guidance from the Sudan medical council on the ethics surrounding doctor-patient relationship with regards to HIV gives some doctors unconvincing justifications to not fulfilling the duty of care they are obliged to provide to their patients.

Proposed interventions:

4.1 HIV medicine should have a palpable presence in the teaching curricula of medical schools and therefore the Sudan Medical Council as well as the Ministry of High Education should be contacted with this regards. In addition, the potential role/interest of the world health organization (WHO) office in Sudan should be explored. The aforementioned bodies can influence the attitudes of medical schools as their graduates need to be recognized by them.

4.2 The Sudan medical specialization board and the Federal ministry of health should make it obligatory for medical, paediatrics, obstetrics & gynaecology registrars to spend part of their training on HIV medicine (should be a pre-requisite for sitting the final exit exam).

4.3 Specialists and consultants (medicine, paediatrics, obstetrics & gynaecology) currently employed by the ministry of health should meet an agreed standard of continuous professional (CPD) in HIV medicine.

4.4 The Sudan Medical Council should take bold steps to clarify the ethical guidance with regards to HIV care and treatment (and indeed all other communicable diseases) in terms of boundaries of doctor-patient relationship, patient's right to confidentiality, preserving patient's dignity, etc..

4.5 Providing further training opportunities for doctors working in HIV/AIDS through clinical exchange programmes as well as short courses in HIV and tropical medicine/paediatrics.

5. Fragmented HIV/TB treatment:

Proposed intervention:

(i) Integrating HIV/TB activities will present patients with a one-stop shop that delivers joint and optimized care. This will ultimately lead to cutting down the number of visits to health facilities and reducing the financial burden incurred by patients when making such visits.

Finally, it is almost impossible not to discuss issues relevant to HIV patients support and follow-up without touching on other closely related aspects of HIV/AIDS control as there are several overlapping points.

iv) Overview of HIV services in Sudan – Dr Elbushra A.M. Herieka

Background:

I have been invited by SNAP through TOKTEN project of the United Nations Development programme (UNDP) in April 2007 to review the situation with regard to the management and reporting of HIV/AIDS and sexually transmitted infections in the Sudan and to suggest ways of improving the service. I had the opportunity to meet the staff of SNAP, UNDP, MoH Khartoum State, Staff of Khartoum Dermatology and Sexually Transmitted infections Hospital, the Staff of Hilat Kuku health centre, Manager of Khartoum Teaching Hospital, and clinicians looking after HIV/AIDS patients in Bashaer, Omdurman, Ribat University and Port Sudan Hospitals. I also had the opportunity to attend the meeting between SNAP and the Global Fund Recipients Monitoring and Evaluation committee, Workshop on vulnerable groups in Assalam Rotana Hotel, and the Media Advocacy Meeting for supporting the rights of people living with HIV /AIDS.

I have also been a member of SHAWG visiting team in August 2008 (as mentioned earlier in this report). There is no change in the field between the two visits, however there is willingness to improve the situation. The momentum generated by the first visit is gathering some pace and has created some motivation for learning which was evident during the workshop held in August 2008.

Current problems:

- Sudan has all the ingredients to become the next focus of epidemic for HIV and sexually transmitted infection (STIs) as it is bordering 8 high HIV and STIs prevalence countries; war, internal displacement and poverty are in abundance.
- The prevalence of HIV infection is estimated at 1.6% with some regions e.g South and East having higher prevalence and some community strata e.g gay and bisexuals affected more than others.
- The estimated number of people living with HIV/AIDS (PLWHA) in the country is 600,000 patients, only 17,000 (2.8%) are registered to be aware of their status.
- Public awareness of the existence of HIV/AIDS and it's methods of transmission is low at 50-60%
- SNAP, though has a very committed and dedicated staff are handicapped by dependence on the global fund to fund their activities, lack of infrastructure and the need to start all HIV/AIDS projects from scratch.
- Patients with symptomatic STIs who present to primary health care centres are seen among the normal case mix i.e no specific measures to protect their privacy.
- Lack of information and inconsistent reporting of the incidence of STIs is halting the efforts for proper planning.
- Treatment for HIV and STIs is wholly dependent on the money provided by the WHO through the Global Fund with all its bureaucracy and restrictions.

- Despite the efforts of SNAP the services for HIV and STIs management still look fragmented and not consistent e.g one centre in Khartoum claims that the only ARVs available for them are Nevirapine, Lamivudine and Stavudine while a similar centre in Omdurman has around 7 drugs available from the global fund. Another example is the treatment of HIV/TB co-infected patients while one centre has the optimum treatment another centre is still using streptomycin.
- Though many people across the country were trained by SNAP to treat STIs using the syndromic approach; the syndromic approach itself might not be ideal in areas like Khartoum and other major cities where there should be facilities for proper diagnosis and management. The syndromic approach could be a short-term individualised solution but the long-term consequences for the community could be grave i.e. development of antibiotic resistance.
- There isn't a single centre in the country that is capable of proper diagnosis of STIs including the main dermatology and sexually transmitted infections hospital in Khartoum; they use the syndromic approach too.
- The main HIV centre in Omdurman has no facilities in checking patients' viral loads, a very important parameter in evaluating response to ARV treatment and identifying failures.
- The treatment for opportunistic infections that affect HIV infected patients is far from ideal e.g first line treatment for cerebral toxoplasmosis is co-trimoxazole.
- There is lack of clear guidance and policies for training junior doctors on HIV/AIDS and STIs management.
- There is no program of registered voluntary blood donors in blood banks. A country with so many young populations should have no problem in recruiting regular blood donors.
- Antenatal screening for HIV, syphilis and Hepatitis B (HBV) has not started despite some evidence that syphilis and HBV prevalence could be high in the country.

RECOMMENDATIONS:

1. Sexually transmitted infections:

- Establish a sexually transmitted infection clinic that practices evidence based medicine for diagnosis and treatment of sexually transmitted infections. The dermatology and sexually transmitted infections hospital in Khartoum has identified a space within the premises for this purpose. They have the trained doctors and statisticians however they need the space designed and refurbished to suit the purpose. They need to approach the central laboratory to coordinate swab collection and testing for STIs, they have a side laboratory to perform microscopy; interested candidates can easily be trained to acquire experience in diagnosing many infections with simple microscopy.

SNAP:

- Take a leading role in making this centre a reality by close collaboration with the manager of the dermatology hospital and lobbying the DoH and UNDP for this purpose.

The centre will become a tertiary centre for treatment, training, research and inspiration for other part of the country to follow suit.

- Identify in each health centre that treats STIs a key person to keep the records on patients who present with STIs and their partners.

  SNAP:
  - Contact this person regularly by phone or face to face, offer them incentives for sending the reports.

- Update drug regimens used in the syndromic approach for the treatment of STIs.

  SNAP:
  - Contact microbiologists to find out the local antibiotic resistance profile.
  - Collect data to identify the commonest STIs and advice on the use of antibiotic accordingly e.g if the commonest cause of genital ulcer disease (GUD) is HSV, treatment for HSV should be used more rather than treating everybody with GUD for syphilis, chancroid, etc….
  - Regular training and updating of all who are involved in the management of STIs. TOKTEN Volunteers can be used for this purpose till you have enough local trainers.

2. HIV/AIDS:

- There is a very good establishment in OMACU centre in Omdurman, however the centre has reached its full capacity. The Director and the staff are working hard to cope with this increasing workload but this may not continue for long.

  SNAP:

  - Support and encourage the staff of OMACU by visiting them regularly and offer them opportunities for training and progression whenever possible.
  - Involve clinicians and pharmacists in policy making especially when it comes to treatment options. First choice treatment for opportunistic infections with HIV has to be made available using the global fund money. Treating patients with ineffective regimens is unacceptable; even if this is a gift we have to stand where our priorities are.
  - Help OMACU to purchase a viral load machine, this is not very expensive and it is very important in monitoring the success of antiretrovirals (ARVs).
  - I was pleased to see the names of SNAP and OMACU staff on a poster in Toronto conference, this type of co-operation matters greatly and should be encouraged.
  - Try to replicate the same experience in Khartoum teaching Hospital, I have spoken to the hospital manager who identified a place for this purpose, follow-up from SNAP is needed.

3. The Number of PLWHA who are not aware of their diagnosis is very high (97.2%); this pool of undiagnosed patients could lead to a catastrophic outbreak as they continue spreading the disease unknowingly.

SNAP:

3.1.1 Increase the number of voluntary counselling and testing centres (VCTs), new ones need to be opened in places like universities, military hospitals.

3.1.2 Push for antenatal screening for HIV, HBV and syphilis on an opt-out approach. Omdurman Maternity Hospital is a good place to start with; staffs there are very motivated to the idea.

3.1.3 Lead the way in spreading the word of mouth about HIV/AIDS in the media (Radio, TV and newspapers) I was glad to know that the government is committed to this cause.

4. HIV/ AIDS is a rapidly expanding field with many challenges, I have noticed that, the training of some clinicians looking after patients with HIV/AIDS is insufficient as well as the lack of interest from junior doctors to get involved in this partly due to stigma and partly due to lack of inspiring leaders.

SNAP:

3.1.4 To meet clinicians regularly and address their training needs.

3.1.5 Make links with medical schools to increase student's knowledge in this field; again TOKTEN Volunteers can be used for this purpose.

3.1.6 Continuous professional development centre is a good way to introduce the subject of HIV/AIDS; I was pleased to know that Dr Bilail has given a talk on this.

5. The role of **SHAWG**

- We would like to keep close links with SNAP to ensure the above recommendations are implemented.
- We shall use our presence in the UK and abroad to attract support and help for people in Sudan who are planning and delivering care for patients with STIs and HIV/AIDS. This could be in form of sending people to Sudan to train, bringing interested candidates here for training, sharing knowledge and expertise as well as approaching voluntary organizations.
- We would certainly start working with OMACU and other ART centres and hope to start with the Unborn STI clinic in Dermatology Hospital once it is established.