



World Health Organization

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Joint Annual Report - Sudan



Federal Ministry of Health

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Preface

This annual report is a joint product of the Federal Ministry of Health and the World Health Organization in Sudan. It is the result of the mid-term review and describes in a comprehensive manner the achievements 2004 towards implementation of the biennial Country Collaborative Programme 2004-2005. The excellent relationship between the Federal Ministry of Health (FMOH) and the World Health Organization (WHO) in Sudan allowed for a transparent and sincere critical analysis of constraints to be removed in order to smoothly implement planned activities.

2004 has seen a number of developments in Sudan of particular significance for the humanitarian situation and WHO work. The most critical has been the escalation of the conflict in Darfur, with major humanitarian consequences. With over 1.5 million internally displaced persons, spread over more than 130 temporary settlements throughout an area as big as France, the health situation remains critical.

Thankfully, in the course of the year, peace negotiations between the Government of Sudan and the Sudan People's Liberation Movement Army took place to bring an end to the internal conflict situation in Sudan. The Comprehensive Peace Agreement (CPA) signed in Naivasha brings a new dimension to the work of WHO in Sudan, while the Country enters a complex and predictably long transition.

WHO's overall goal in Sudan is to see avoidable mortality and morbidity among the most vulnerable people reduced, and help the Country progress towards the attainment of the Millennium Development Goals under the leadership of the United Nations (UN).

Strategically, this means ensuring that the threats to human life and health are tackled promptly, and in a manner that contributes to social stability and peace. At the same time, the foundations for healthier livelihoods, i.e. reduction of child mortality, improvement in maternal health and reduction of risk from major epidemics, need to be established in an equitable and sustainable manner across the Country. This calls for cohesive macro level policies and local initiatives.

Consistent and well chosen investments are essential and WHO must lead by example. For Sudan's health sector to benefit in full from the UN Humanitarian Plan of Work and the Framework for Transition, Reconstruction and Poverty Eradication, WHO Country Cooperative Programme, and the other activities conducted under Polio, Global Fund for AIDS Tuberculosis and Malaria (GFTAM), Global Alliance for Vaccines and Immunization (GAVI), 3 x 5 and Commission on Macroeconomics & Health (CMH), need to fit seamlessly in the UN unified approach led by the Special Representative to the Secretary General, and this effort needs to be evident to all actual and potential partners.

According to what stipulated in the CPA, the transition (or: the Interim Period) will last six years. WHO's strategic shift will be incremental and is expected to be fully underway by the third quarter of 2005. Meanwhile, WHO will maintain, and build upon its work and its partnerships in the North and in the South, while realigning its assets according to the new context.

In Sudan WHO intends: a) to sustain the survival of vulnerable peoples, b) to ensure the delivery of priority health services across the country, c) to back the transitional & peacekeeping processes, d) to facilitate the recovery of the health sector in the South and e) to support the decentralization efforts of MoH.

Dr Guido Sabatinelli
WHO Representative

Dr Abdallah Said Ahmed
Undersecretary FMOH

I. Country Profile: Republic of the Sudan

Demographic indicators

- Total population of Sudan is estimated at 33 million; 27 million is estimated to live in the North. (*SMS, 1999*)
- Life expectancy at birth is 56 years old.
- Disability- adjusted life expectancy is around 43 years old.
- Annual growth rate is 2.6% with total fertility rate of 5.9 births per woman. (*SMS, 1999*)
- Women in reproductive age are 24.8% of the population, census of 1999. (*WHO/EMRO Annual Report of the Regional Director, 2003*)

Health expenditure

- FMOH expenditure in relation to the GDP is 0.8%.
- Health expenditure per capita is US\$ 17.5, corresponds to 4.5% of the GDP
- Public expenditure on drugs is estimated at US\$ 2 per capita.
- Funding through CAP to the health sector reached US\$ 4,700,000 (22% of the total revised requirements of US\$ 21,345,744) in 2003 by the end of September. (*WHO/EMRO Annual Report of the Regional Director, 2003*)

Socioeconomic indicators

- Gross domestic product (GDP) per capita is US\$ 395, 2001.
- Adult literacy rate is 50%, 2000.
- Unemployment rate is 17%, 1996.
- Regular smokers represent 15%, 2000. (*WHO/EMRO Annual Report of the Regional Director, 2003*)

Primary health care indicators

- Health services coverage is 40-60% of the total population, MICS 2002.
- PHC coverage ranges between 10% to 30%.
- Fixed immunization coverage is 50% (measles among infants 62%, DPT3 64%, OPV3 64, BCG 68%, tetanus among pregnant women 35%). (*FMOH, 2002*)
- Ever use rate of contraceptives is 21%; current use is 7%. (*SMS, 1999*)
- ANC (Antenatal Care) coverage is 71%. (*SMS, 1999*)
- Deliveries attended by skilled person are estimated at 57%. (*SMS, 1999*)
- Deliveries made at home are estimated at 86%. (*SMS, 99*)
- TT (Tetanus Toxoid) coverage for pregnant women is 42%. (*EPI, 1998, Annual FMOH Report 2003*)

National health indicators

- Infant mortality rate per 1000 live births (LB) is 68 in the North & 82 in South Sudan. (*SMS, 1999*)
- Under 5 mortality rate per 1000 LB is 104 in the North & reaches 132 in the South.
- Maternal mortality rate per 100 000 is 509 in the North and ranging from 365- 865 in the South (*SMS, 1999*)
- Perinatal mortality rate is 38/1000 LB. (*SMS, 1999*)
- Neonatal mortality rate is 31/1000 LB. (*SMS, 1999*)
- HIV prevalence is 1.6% but reaches 10% among groups at risk. (*SNAP, 2002, FMOH*)
- Estimated number of HIV cases is 500,000 – 600,000. (*SNAP, 2002, FMOH*)
- Actual registered number of both HIV/AIDS cases is 11,511. (*SNAP, 2004, FMOH*)
- South Sudan hosts an estimated of 80% of the total guinea worm cases worldwide
- Chronic malnutrition is estimated at 36% and acute malnutrition at 16%, micronutrient deficiencies are widely common.
- Annual expected number of Malaria cases is 700,000.
- Annual reported cases of meningococcal meningitis are 1,937.
- Annual reported cases of pulmonary tuberculosis are 20,439. (*WHO/EMRO Annual Report of the Regional Director, 2003*)

II. Theme, purpose and primary objectives

This report constitutes the first joint mid-biennium review for the implementation of the Country Collaborative Program in Sudan. Although the review of the joint work plan for 2004 is the primary goal of this document, establishing a standard framework that can serve as a demonstration model for future Monitoring and Evaluation (M&E) of WHO-supported country plans is one of the significant anticipated outcomes of this report.

The report follows the format of the report of WHO Eastern Mediterranean Regional Office (EMRO)¹, with minimum modification, to include the country characteristic features and the presence and impact of WHO on the health situation in Sudan. Thus, the two issues (report design and the model of M&E) will set the main features for the future M&E process. Accordingly, it is expected that the Federal Ministry of Health (FMoH) and WHO together can use this framework for an effective and objective review of WHO plans aiming at continuously improving FMoH-WHO special partnership and utilizing the full potential of WHO support in Sudan.

In the first chapter, this report describes the overall implementation of the work plan for the year 2004 by different programmes, including tracking of activities requiring action from both FMoH and WHO sides. For instance, flow analysis has been made to illustrate the whole administrative procedure of request for fund release, to identify actual bottlenecks and make realistic as well as flexible rectifications for improvement and eliminate any unnecessary delay to implement planned activities. Such improvement may also enable both sides to follow in operational terms the recommendations of the Country Cooperation Strategy (CCS) aiming at shifting the role of WHO Sudan from merely programme support to strategic planning, management, capacity building and system-wide improvements.

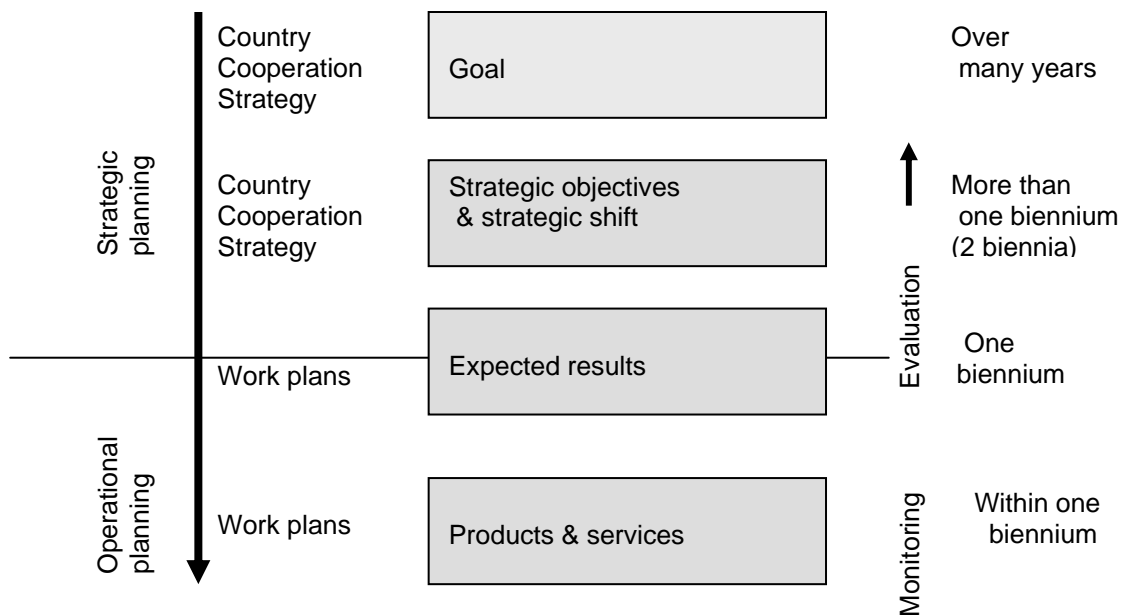
Moreover, a country profile at a glance with an executive summary has been added to the report. As for the implementation of planned activities, the logical framework -aggregated in the same manner as in the Report of the WHO/EMRO- has been used in terms of achieved results, lessons learned, constraints and strategic directions. All the above with regard to areas and programmes in four chapters, including chapter two on health policy and management; chapter three on health system and service development; chapter four on integrated control of communicable disease; chapter five on health promotion; and chapter six which is an overview of the role, mandate, scope of work and added value contribution of WHO presence in Sudan.

The main purpose of the mid-biennium review is to define implementation rates of each programme, based on the absorptive capacity of the programmes and corresponding effectiveness as well as efficiency of the WHO office in supporting the implementation process during the first year of the biennium. Additionally, there are a number of operational objectives of the review, including the on-going assessment of programmes, particularly in terms of implementation status in relation to the plan's targets and indicators; evaluate the shift made in distribution of the budget to each proposed function for the 2004-2005 plan in comparison with the 2002-2003 plan; and the rationale of any modifications suggested for 2005 activities. All of which can facilitate the achievement of this strategic shift as per CCS guiding principles. Subsequently, and in line with the overall cooperation theme of the Mid-Term Joint Review Meeting held on February 16, 2005, both the FMoH and WHO are committed to systematically work together to assess progress made, remove constraints to improve performance, accelerate actual implementation, and most importantly make sustainable impact on the state of health of the country, and the well-being of its citizens.

¹ The Work of WHO in the Eastern Mediterranean Region: Annual Report of the Regional Director

Furthermore, and while the Country Cooperation Strategy (CCS) was primarily developed to re-define the overall strategic direction, WHO Sudan-Government biennial plans should translate the strategic direction into short-term plans. The CCS document identifies clearly the main strategic directions of WHO support in Sudan, including stewardship, health systems development, reduction of burden of diseases and responsiveness. The document therefore outlines the strategic shift required to reach pre-established strategic goals by re-focusing efforts from merely supporting programme implementation towards an upstream policy emphasis. However, such shift can only be monitored on long-term basis (i.e., by the end of the four years). Thus, progress made can be measured through on-going M&E mechanisms set for the biennial plans. The biennial plan defines the results to be achieved at the end of the biennium (country-specific expected results), and draw up its work plan on the basis of products needed to achieve those results. While meeting the short-term monitoring purposes, the results should be derived from, and support the overall strategic directions set out by the CCS Document. Such direction requires close cooperation through development of an integrated and performance-based approach to M&E, both biennial plans and the newly evolved strategic direction in the CCS will be directed towards achieving the strategic goals. Examples may include actual adjustment of resources between areas of work and designing and redesigning of the expected results. It is therefore a continuous and mutual undertaking throughout the biennium and at the time of developing the biennial plans to bridge the gap for reaching the strategic goals. Such special coordination is designed to ensure more cost-effective utilization of available resources to achieve the intended results while using performance-based M&E system (see Graphic 1.1 below).

Graphic 1.1 Monitoring & Evaluation of WHO-supported plans, Sudan



III. Executive Summary

1. Overall implementation

This chapter covers the overall implementation of the plan in 2004. The plan, the rate of implementation and the way it was implemented are analyzed using some cross-cutting indicators. The 2002-2003 biennium was used as a baseline for comparing the differences. Such description might point out to the shift in directions of the plan towards the recommendations of the CCS. The following provides more specific data on the overall implementation of the plan:

- The current (2004-2005) budget allocated by WHO to Sudan is US\$ 4,570,173 with US\$ 6,396,914 extra-budgetary funds (140% of the budget).
- Analysis of the plan by components reveals that the budget is divided as follows: 25% NTA; 18% LC; 17% S&E; 13% FEL; 10% ACS; 7% STC; 6% MIS; and 4% LTS. Comparing allocated budget between current and previous biennia indicates an increase in allocation for NTA, STC, LC, LTS and MIS and a reduction in S&E, ACS and FEL. (See page 13 for the explanation of acronyms)
- Comparing allocated budget between current and previous functions reveals that there is an increase in allocation for policy advice, research and monitoring, as well as piloting and seeding, while there is a reduction in information and knowledge and long-term implementation. The overall shift is towards the recommendations of the CCS (the shift in three functions out of five is in the direction of the CCS recommendations).
- Implementation in 2004: Only 69% of the activities were requested (compared to 100% target for the end of 2004), 49% of the budget was released/obligated (72% out of the requested), 15% of the budget was used for implementation of activities (31% of the released/obligated budget), and 9% of the budget was liquidated (58% of the budget of the implemented activities)
- Tracing of activity in relation to time: for national training activities the mean time for the activity is 225 days with 37 days for releasing phase, 95 days for implementation phase, and 93 days for liquidation phase.
- Implementing the remaining budget in 2005: US\$ 2,093,910 is still remaining for use in 2005 and 76% of it is suggested to be used in February, March, and April 2005.
- Suggested changes in activities for 2005: amounted for US\$ 325,159. Analysis of the changes in activities according to functions revealed that the suggested changes will put more money into information and knowledge at the expense of another three functions (piloting and seeding will remain unchanged).

2. Health Policy and Management

- Activities carried out in 2004 have resulted in functioning health planning directorates in eight states, all equipped with trained staff. A workshop on skills-based management and another workshop on monitoring and evaluation have been successfully conducted. Development of health policies remains a priority. Two manuals on health policy planning and skills-based management were developed. A three-day annual planning meeting was held and training programmes in health planning, policy and economics were carried out.
- Technical and steering committees were formed to develop a system for National Health Account (NHA). A review was conducted under the Commission on Macroeconomics & Health (CMH) to identify information gaps in Sudan, aiming at information building and a knowledge hub, both necessary for evidence based planning. The efforts of the FMoH related to generating intelligence extend to support health system research and coordinating researches conducted by other institutes. A conference on coordination of health research supported by the Council on Health Research for Development (COHRED) was held.
- Decentralization has always been a concern as well as a tool of health systems reform. In the Sudan decentralization has taken different shapes and levels during the past years. This shifting has its implications on the health system and services. To have a clear vision

and strategic directions for forthcoming challenges, the first draft of the decentralization policy and the policy towards the private sector were completed.

- A 10 year plan for human resources development was endorsed. The focus of this plan is to respond to the "Sudan Declaration on Nursing and Allied Health Sciences Development and Educational Reform". An operational plan has to be specified and put in effect as soon as possible. To foster the educational reform, the MoH is in the process of physical rehabilitation of a continued professional development. Priority advanced training for health professionals and personnel was also carried out.
- There was a significant effort in the area of developing and upgrading the computer system. Four new computer programmes for salaries, epidemiology, meetings follow up and a computer centre were developed. For tele-health services, a strategic plan was developed for introduction of tele-matics in Sudan.
- For emergency preparedness and humanitarian action, activities undertaken in 2004 were focused mainly on responding to the Darfur crisis, which is out of the regular plan of WHO. An emergency unit was established in one of ten priority high risk states and the federal unit was further re-enforced. The draft of the national policy for disaster is developed and ready for endorsement.

3. Health system and service development

- As a result of the Federal Act of 2003, the administrative structure of health at local level was extremely affected. To face the public health challenges with the new developments on health management and position at local level, formulation of clear vision and the definition of the mission of the Public Health Care (PHC) directorate at this critical time were crucial and extremely necessary.
- Thirty two localities in 16 states were selected to start implementation of a model for PHC system that will efficiently respond to the needs of communities and population within the context of new health challenges and scarce resources. A basic PHC package of services was developed to be delivered in the selected areas. WHO support to all these activities continued. More focus on supporting training and supervision was experienced.
- In each locality two areas will implement one or more of the Community Based Initiatives (CBI) projects according to priority needs of communities. The geographical coverage of the CBI witnessed a great shift from a cumulative number of 31 villages up to the end of 2003 to reach 60 villages by the end of 2004. This remarkable shift was mainly due to inspiration of the concept, and creation of the demand by surrounding communities and to extension of partnership with Non-Governmental Organizations (NGOs) and Community-Based Organizations (CBOs).
- In support to secondary and tertiary care, the national policy for free medication of emergency care was developed. Another major leap was the development of policy for hospital accreditation. Two senior staff members were trained abroad in a two-week training course on management and planning. The hospital information system was reviewed and standardized and is now ready for dissemination and implementation. A national policy for hospital infection control and guidelines for implementation of an infection control programme were developed.
- Blood transfusion protocols, guidelines and Standard Operating Procedures (SOPs) for blood safety were printed and disseminated. Blood bank technicians from the States Ministry of Health were trained using these guidelines. A workshop on efficient use of blood, targeting doctors and nurses was conducted.
- The achievement in the field of laboratory technology support is so far below expectations.
- Concerning the WHO collaborative plan in the field of pharmacy and traditional medicine the national 25-year strategy of pharmacy was developed and adopted as part of the national strategic plan. The first draft of the national drug policy was developed and the Essential Drug List (EDL) was revised. A master degree for national drug policy was introduced for the first time in the country. For the undergraduate students, a workshop for sensitization of schools of nursing, medicine, and pharmacy was conducted. Capacity building of the State Ministry of Health (SMoH) was one of the major concerns. Two

pharmacists were trained abroad on handling of cytotoxic drugs. Three seminars in three teaching hospitals to advocate for Adverse Drug Reaction (ADR) reporting were held.

- Significant achievements were attained by the National Tuberculosis Program (NTP) during 2004. The programme has reached the WHO recommended targets for the Directly Observed Therapy Short-course (DOTS) strategy. Moreover the programme is now shifting to strengthening the QUALITY OF DOTS with its four components. The NTP requested 98% of its allocated funds for activities since early second quarter. One of the major activities initiated was conduction of quality assurance of microscopic networks. Another achievement was formulation of agreement on protocol and expansion in other sectors with limited access to the FMoH health facilities.
- A training workshop to increase the managerial capacity of the SMOH coordinators was conducted, and training for surveillance officers in TB surveillance was implemented, as well as promotion of application of the treatment TB protocol.
- Launching of coordination with the HIV/AIDS programme and encouragement of state teams to implement it at state level was achieved.
- The work in the Leishmaniasis programme has been below expectations with only 22% of the programme budget being requested.
- No regular budget is available for the other tropical diseases in Sudan, e.g.: Lymphatic Filariasis (LF) & Sleeping Sickness (SS) programmes. Most of the extra-budgetary funds are allocated for mapping surveys.
- All Lymphatic Filariasis surveys conducted in Southern and some Northern states revealed high endemicity rates. Accordingly a diagnostic and treatment centre was established in Juba.

4. Integrated Control of Communicable Disease

- One of the vital planned steps made was the establishment and strengthening of Integrated Control of Communicable Disease (ICCD) surveillance, especially in Darfur states, making use of the availed funds and resources for the crisis situation. Training was carried out on software, data management and electronic reporting of surveillance data. Training has been also initiated on Geographic Information Systems (GIS) for disease mapping, outbreak investigation and control of poor health. A national workshop to develop guidelines for epidemic preparedness and response measures was held. As for HIV/AIDS, the efforts were directed to streamline activities towards improving the capacity of the states to effectively respond to the epidemic: comprising series of training courses and workshops organized at the state-level, including training in Sexually Transmitted Infections (STIs) syndromic management, blood safety, care and treatment. The adoption of the Integrated Management of Adulthood Illnesses (IMAI) module and training of providers on it as part of the 3 x 5 initiative was achieved during the year 2004. Moreover, the development of the national policy document and the revision of the national strategic plan were successfully accomplished in 2004.
- As an acknowledged step, the first pilot project on Preventing Mother-to-Child Transmission of HIV/AIDS (PMTCT) in Sudan was initiated. Remarkable improvement in monitoring, coordination and supervision of improved Voluntary Counselling and Testing (VCT) services through training of counsellors and provision of supplies to the VCT has been achieved.
- Appreciable work was done in the control of Malaria in the country. One of the main achievements is the implementation of the new Malaria treatment protocol. In Darfur states, 138 medical doctors and 516 medical assistants were trained on New Malaria Drug Policy, Artemisinin Combination Therapy (ACT) through the Darfur Emergency Initiative. Training of medical doctors and public health officers on management aspects of Malaria programme and public health issues in relation to Malaria was one of the priorities achieved. A technical support mission from WHO together with four national teams conducted monitoring of Roll Back Malaria (RBM) control interventions in many states.
- In the area of personal protection 25,000 pieces of insecticide treated nets (ITNs), from the 2003 WHO budget, were received in 2004 and distributed

according to COMBI methodology. Training in vector control and mosquito net impregnation was attended overseas. Strategies for vector control were implemented.

- The Leprosy elimination programme has achieved the global target for detection and at a coverage rate of 100%. Therefore efforts were directed towards ensuring sustainability of such optimal situations through supervision.
- The diagnostic capabilities of the programme of Schistosomiasis and Soil-Transmitted Helminthes were strengthened. A survey among school pupils was carried out in many states and followed by mass treatment of infected pupils according to the results. A training workshop by Ubu-Oshar National Centre for Schistosomiasis was conducted for statisticians on data base systems.

5. Health Promotion

- One of the ongoing activities is the development of the health promotion strategic plan. Capacity building activities were directed at both Federal and State levels. In the field of school health, there was an active participation in the Global School Based Health Survey (GSHS) workshop, held in Cairo.
- This has paved the way to conduct the survey in 50 schools in Sudan next year. Occupational health standards for workplaces have been developed. For tobacco control, the government signed the Framework Convention on Tobacco Control (FCTC). The programme participated in Intergovernmental Meeting on FCTC in Geneva and in the Global Tobacco Youth Survey in Cairo. Three workshops in water surveillance, water contaminants and solid waste management were held in support of the Environment for Health programme. The work in food inspection, water surveillance and water quality improved significantly in Khartoum State. The child health policy was developed -for the first time in the country- in close collaboration with WHO/EMRO and the Sudan office. WHO supported a plan in the area of reproductive health and is complementing other plans supported by other UN agencies (UNFPA and UNICEF) as well as the on-going effort of the government under the guiding principles of the poverty reduction strategy.
- Total intake in village midwifery school was 631 against planned 500. Total number of midwives graduated was 1034 village midwives in 2004 and 120 assistant health visitors. Training of medical doctors on emergency obstetric care was conducted in two states, and in-service training of village midwives in four states. A child nutrition policy, as part of the national child policy, will be finalized soon. In responding to the Darfur crisis, assessment supervisory visits were done and emergency plans of action were developed for each state. Courses on basic nutrition training on therapeutic feeding centres and supplementary feeding and reporting system for localities in West Darfur were conducted. The efforts for control of Non-Communicable Diseases (NCDs) were directed to building the capacity of the programme and to develop a surveillance system on NCDs in Khartoum State. In the area of prevention of blindness, most of the activities in this area are funded from extra-budgetary sources. In WHO-supported programme, supervisory visits to five eye surgery camps and workshops for ophthalmology medical assistants in safe strategy were implemented.

Chapter One: WHO in Sudan

1. Background
2. Mission statement, mandate and the new role of WHO Sudan
3. Country cooperation strategy for WHO-Sudan
4. WHO support in Darfur



1. Background

Since its inception in Sudan in 1956, WHO had no country programmes of its own, but it has provided technical support to priority national health programmes in the following areas:

- Fielding experts and consultants.
- Fellowships.
- National training activities.
- Provision of supplies and equipment.
- Research support, particularly operational research.
- Inter-country and regional meetings organization.
- Information exchange and support.

WHO financial and technical support has been directed primarily to meet part of the major needs of the country in health, and health related sectors. Identification of needs, followed by programming, detailed planning and budgeting were the basic tasks of the Country Collaborative Program. Although different forms of technical support have been provided in 2004, the following section describes the achievements made in selected components of WHO collaborative programmes:

- 2004-2005 planned budget is US\$ 4,570,173 with US\$ 6,396,914 extra-budgetary funds (140% of the original budget), excluding Darfur related support. The actual working budget amounted to a Regular Budget (RB) of US\$ 4,113,156 out of which 56.7% of the RB and 93.6% from Extra-Budgetary Sources (EBS) were utilized.
- Analysis of the planned budget by components reveals that the budget is divided into 25% NTA; 18% LC; 17% S&E; 13% FEL; 10% ACS; 7% STC; 6% MIS; and 4% LTS.
- Implementation in 2004 was only 69% of the activities requested (compared to 100% target for the end of 2004), 49% of the budget was released/obligated (72% out of the requested), 15% of the budget was used for implementation of activities (31% of the released/obligated budget), and 9% of the budget was liquidated (58% of the budget of the implemented activities).

Implementation by components:

- 32 fellowships were awarded during 2004. A great majority was to Malaysia, followed by Egypt, Oman, Iran, Thailand, Italy and Jordan. The fields of study included: public health, clinical pathology, Malaria, programme planning and management, oncology, radiology, ear nose and throat (ENT), nursing, etc.
- 51.7% of the NTAs budget for the biennium 2004-2005 was released during 2004.
- A total of 21 APWs were issued, which amounted to about 40% of the total APWs for the biennium 2004-2005
- Supplies and equipment (S&E) that were purchased for Sudan during the year 2004 amounted to 50% of the biennial S&E regular budget allocations. Moreover, an amount of US\$ 2,634,410 has been spent on purchase of S&E for Darfur and Kassala crisis, under emergency funds.
- 146 missions and STCs were made to Sudan during the year 2004. Four high delegation missions visited Darfur. 76 missions were to assist the Darfur operations, six were for Malaria, four to develop post-conflict health plans and Poverty Reduction Strategy Paper (PRSP), one for capacity building and system development, five for HIV/AIDS, three for measles burden study, six for Community Directed Ivermectin Treatment (CDIT) impact, 13 are Somali diploma course students, three for gender and RH training, two for Leishmaniasis and the rest were for various other issues.
- 343 personnel have been recruited by WRO-Sudan during 2004, out of which 273 were on Special Services Agreement (SSA) contracts. The rest were on other forms of contracts. 91 of EHA were SSA holders. The regular programme had 182 and of the other contracts holders, EHA had 32 and the regular programme had 38.

2. Mission statement and mandate and the new role of WHO Sudan

The purpose of the WHO country presence in Sudan is to mobilize WHO related support for achieving national health and development goals, and to enable the country to have a greater influence on global and regional public health action². WHO's "country focus" aims at putting country health needs at the centre of WHO's scope of work through strengthening its country office. This requires a clear, country specific and strategic agenda to take full advantage of WHO input and integrate its technical expertise into national health and development coordination mechanisms, and a country's contribution to international platforms and mechanisms.

WHO Sudan experienced a great deal of changes throughout 2004. For the first time, WHO assumed a role of implementer during the Darfur crisis. To foster more decentralized coordination, WHO established three sub-offices; one per each Darfur state capital, namely in Nyala, El-Fasher and El-Geneina. Each sub-office consists of four international staff members supported by 2-3 national public health officers and additional service support staff. These are further backed by a team of six full-time international 'roaming' technical officers who have been focusing for the most part on priority areas as epidemiology and environmental health. Additional technical resources were called forward as required on a short-term basis, to complement existing in-country resources from the WHO country office. These included pharmacy, nutrition, health facility engineering, communicable disease control (from CDC Atlanta), mental health, and vector control. A further 'back office' team of 12 international and 12 national staff were needed to provide administrative, human resources, financial, systems, tele-communications, external relations, security, and logistics service support.

3. Country Cooperation Strategy for WHO Sudan

WHO's Country Cooperation Strategy (CCS) for the period 2004-2007 was set out in 2003 within the following guiding principles:

- Greater focus on what to support in the country's health sector.
- Greater flexibility within precise boundaries for response.
- More emphasis on WHO's role as policy advisor and broker.
- Wider partnerships and greater attention to partners' strategies and activities.
- Maintenance of visibility and credibility of WHO and differentiation of WHO's work and performance from that of the government.
- Guidance for achieving the health sector related Millennium Development Goals (MDGs).

Subsequently, the role of the WHO country office has been redefined within the following five distinct functions:

1. Supporting long-term implementation of routine activities.
2. Catalyzing adoption and adaptation of strategies; seeding large-scale implementation.
3. Supporting research and development; monitoring health sector performance.
4. Sharing information and knowledge; providing policy options; standards; and advocacy.
5. Providing policy advice; serving as broker; influencing policy, action and spending.

Meanwhile, the CCS process has four specific strategic directions to be used by WHO Sudan in the period of 2004-2007:

- 1) Stewardship: Health deserves a central position in the broader peace- and macro-development agenda of the country: WHO will act as an advocate and play a proactive role in policy formulation, priority setting and strategic planning for the health sector.
- 2) Health Systems Development: Sudan needs health systems that are equitable and fair, i.e. based on a comprehensive view of the determinants of health. WHO will provide technical leadership on capacity building, integrated delivery of services through primary health care, public-private partnerships, research, health intelligence and monitoring.

² WHO. (2004). Proposed Program Budget 2006-2007. World Health Organization. Geneva, Switzerland.

- 3) **Reducing Burden of Diseases:** Sudan's burden of mortality and morbidity must and can be reduced. WHO will continue its long-term support for priority programmes, address priority and emerging issues, promote healthy lifestyles and improve the quality of life with a special focus on the most vulnerable and underserved segments of the population.
- 4) **Responsiveness:** Sudan's exceptional circumstances and the fast pace of change pose extreme challenges to the very survival of people and healthy livelihoods. WHO will work at strengthening the knowledge, institutional resources, technical and managerial capacities and mechanisms that are needed for an effective response to all health aspects of emergencies and humanitarian assistance.

Accordingly, in the period 2004-2007, WHO Sudan will have to:

- Shift from mainly programme support to strategic planning and management;
- Decentralize technical presence across the country;
- Build new partnerships and alliances across and around the health sector; and
- Upgrade its structure for greater efficiency and operational and administrative flexibility.

The CCS will form the main framework under which the role of the WHO country office is going to be assessed. Future directions will be formulated accordingly.

4. WHO support for Darfur

The scope of work for WHO support in Sudan consists of the following 5 main areas aiming at improving the overall health care situation for the people of Darfur:

1. Information and coordination management

FMoH-WHO assembled weekly health coordination meetings, which have had a wide attendance of UN agencies, and national and international NGOs. Weekly sector meetings were organized on outbreak preparedness, hospital care & referral systems, nutrition, water and sanitation, health promotion and hygiene and reproductive health/GBV. WHO produces technical documents and disseminates them in the form of weekly reports from the Darfur states and a consolidated one (having input to the monthly OCHA Situation Report). WHO's mapping department produces and distributes updated maps of health facility locations, PHC coverage, NGOs in the field, secondary health care coverage and access to services.

2. Improved access to hospital care and referral systems

WHO targeted the rehabilitation of 3 general hospitals (Nyala Teaching Hospital, Geneina General Hospital and El Fasher Teaching Hospital) and 5 rural hospitals (Kass, Edain, Kulbus, Fur Baranga & Maliet). The waiving of user fees and free access to IDPs within Darfur has been made in the following hospitals; Nyala Teaching Hospital, Geneina General Hospital, El Fasher Teaching Hospital, Kass and Edain. The organization has provided improvement in the monitoring of control of services, as well as setting up Health Information Systems in the above-mentioned hospitals. These hospitals in turn produce reports on a weekly, monthly and quarterly basis. Reactivation of blood banks and laboratories has been reached in Nyala, Geneina, El Fasher, Kass and Edain Hospitals. Technical support has been provided by WHO for international and national staff in the form of regular training courses. WHO is also providing three Medical Emergency Response Teams (MERTs) in Darfur for provision of first aid, stabilization, and medical evacuation in the event of injury to UN and NGO international and national staff.

3. Communicable disease control, surveillance and outbreak response

WHO provides technical support and guidance to the SMoH and partners in health on the management of communicable diseases. The Early Warning and Response System (EWARS) has 78 reporting units across the states which are proving to be effective. From this a weekly epidemiological bulletin is produced with collaboration of the FMoH. Measles, Meningitis and Malaria campaigns were conducted Darfur-wide with UNICEF/NGO support. WHO continues to

facilitate sectoral work on cholera preparedness which includes the pre-positioning of cholera kits in each state. Other supplies have been pre-positioned for diarrhoeal diseases. Routine EPI coverage has moved from 32% annual rate target in the first quarter to 40% by the end of 2004. Polio mop-up mass vaccination conducted earlier in the year and TOT courses provided for the forthcoming National Immunization Days (NIDs) against Polio on 10 January 2005. Outbreak Task Forces have been set up in the three Darfur states for control of Hepatitis E (HEV). Standardization of outbreak investigations has been completed.

4. Improved access to PHC and environmental health

WHO provides technical monitoring and targeted assistance for the SMOH/FMoH in coordination with UNICEF. WHO supplied basic health kits and Maternal and Child Health (MCH) kits to NGOs setting up PHC services in gap areas as well as the establishment of a GBV working group in coordination with UNFPA. WHO participates in the weekly nutrition coordination (chaired by UNICEF) and RH coordination meetings. WHO also undertakes campaigns for vector control, garbage removal and promotion of healthy environment in the camps. WHO supported the Water and Environmental Sanitation Department (WES) and SMOH in the development of an Emergency Environmental Health Plan for IDP camps as well as having on-going training of staff.

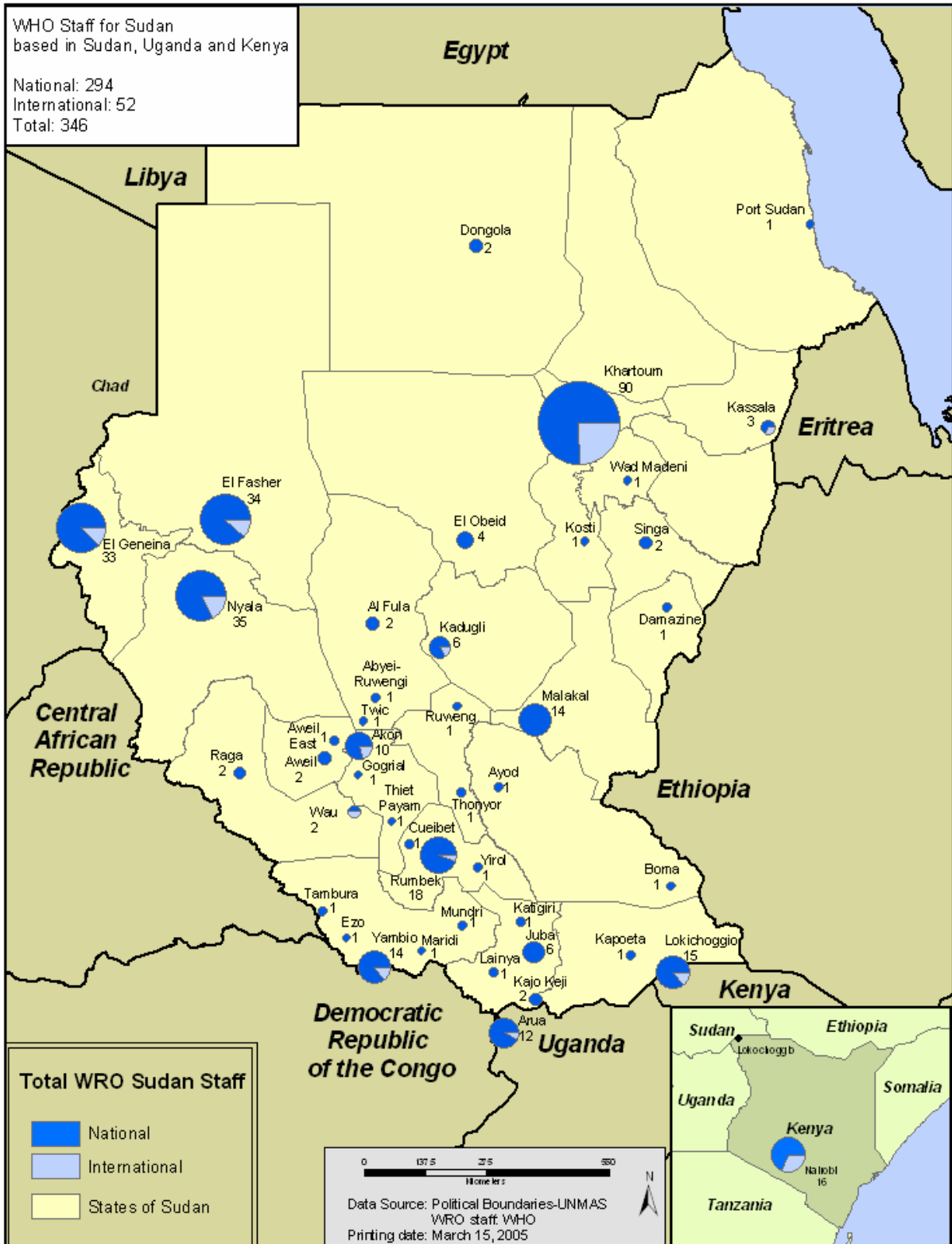
5. Management and operational support

A central WHO warehouse in Khartoum is now in operation. WHO has been able to achieve a fast and efficient system for distribution of medical supplies to the field as well as tracking the movements. Nyala sub-office has been relocated to new and larger premises to accommodate the increased workload. Communication (Vsat.) equipment had been installed in each WHO sub-office to facilitate communication and the smooth the flow of information to and from Darfur.



Presence of WRO Sudan Staff

Data available as of March 2005



Disclaimer: The presentation of material on the maps contained herein does not imply the expression of any opinion on the part of the World Health Organisation concerning the legal status of any country, territory, city or areas or its authorities of its frontiers or boundaries

Chapter Two:

Achievements in 2004 and expected results in 2005



1. Achievements in 2004 and expected results in 2005

This chapter describes the overall implementation of the plan in 2004 and the work needed for the remaining budget in 2005. The plan, implementation rate and the way it was implemented are analyzed using cross-cutting indicators. The 2002-2003 biennium is used as a baseline for comparing the differences in indicators with the 2004-2004 biennium. This is important in order to examine the shift, if any, in directions of the plan towards the recommendations of the CCS.

The 2004-2005 budget is US\$ 4,113,156, divided into 12 main areas compared with 32 programmes for 2002-2003 budget. During the implementation, US\$ 3,600,999 was added as extra-budgetary³ (91% to support polio eradication program) and most of this extra-budgetary fund was already used in 2004. The extra-budget fund availed for 2004 comprises 88% in addition to the original regular budget.

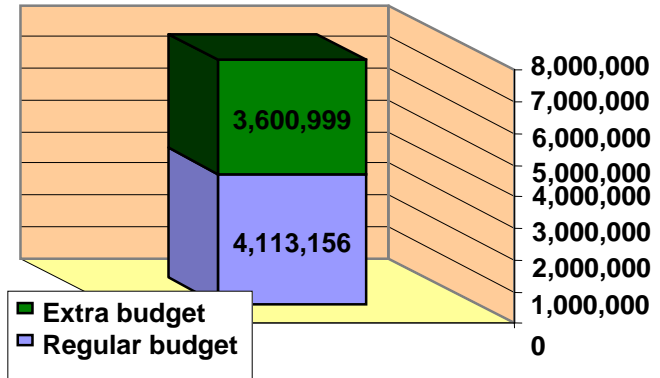


Figure 1.1 Regular and extra-budget resources

1. Analysis of the budget components reveals that a quarter of the budget was allotted for national training activities (NTA), 18% for local cost activities (LC), 17% for supporting programmes with supplies and equipments (S&E), 13% for fellowships outside and in the country (FEL), 10% to support special contractual agreements to technical persons or institutes, to undertake specific technical tasks for the programmes (ACS), 7% for consultants undertaking short-term tasks (STC), 6% for miscellaneous cost (MIS), and 4% to support implementation of the plan for long-term recruitment of technical specialists (LTS).

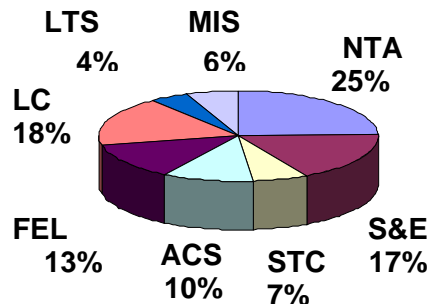


Figure 1.2 - 2004-2005 budget by components

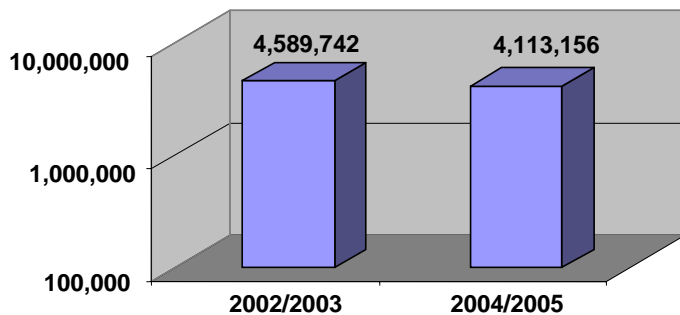


Fig. 1.3 Comparing allocated budget 2002-2003 and 2004-2005

2. Comparing allocated budget between current and previous biennia indicates a small reduction of allocated budget for all the areas in 2004-2005 compared to 2002-2003. This was mainly due to a reduction in the overall 2004-2005 budget. The reduction is clearest in the area of control of communicable diseases and health promotion.

³ Not including funds for Darfur

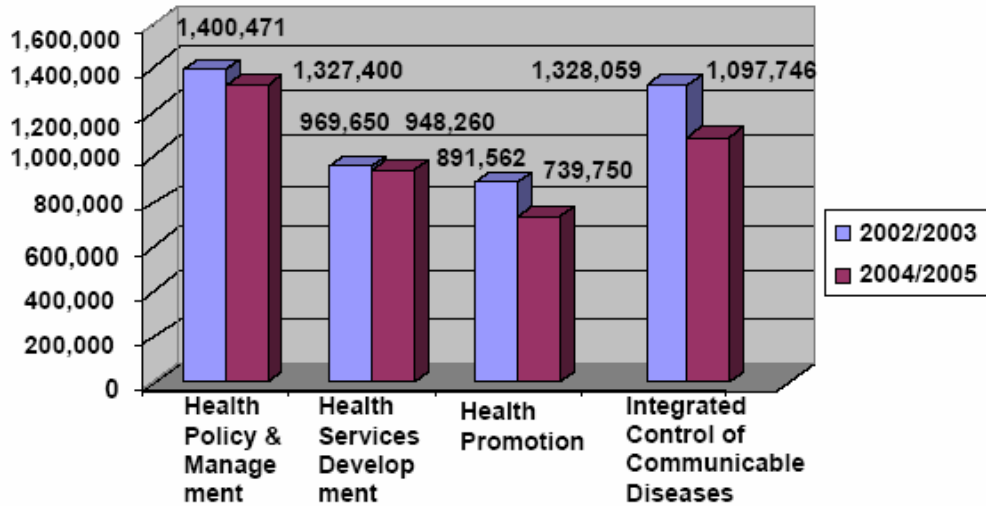


Fig. 1.4 Comparing overall budget 2002-2003 and 2004-2005 biennia by area of work

3. Comparing allocated budget between current and previous biennia by components by absolute amount of money shows that there is a marked decrease in amount of money allotted in 2004-2005 compared with that for 2002-2003 for supplies and equipments (S&E) that exceeds US\$ 450,000, more than US\$ 250,000 for fellowships (FEL) and slightly less than US\$ 200,000 devoted to agreements for contractual of service (ACS). Meanwhile, 2004-2005 budget exceeds that of 2002-2003 only slightly in national training activities (NTA), short contractual agreements (STC), local cost (LC), long-term contract for service (LTS), and miscellaneous cost (MIS).

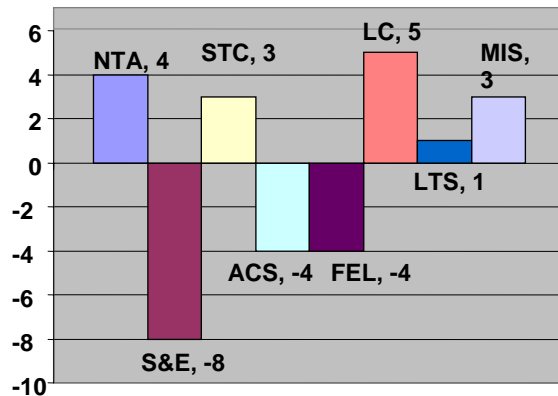
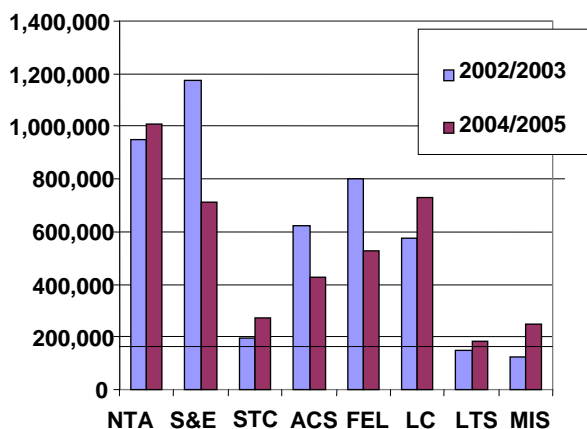


Figure 1.5 Comparing budget allocated to each components of the two biennia



If this is compared in terms of differences in percentages of money allotted for each component between the two biennia, we will find that supplies and equipment are affected the most by a reduction of 8%, followed by local cost with an increase of 5%, then comes agreement for contractual service and fellowships with 4% reduction for each and national training activities with 4% increase, then short contractual agreements and miscellaneous cost with 3% increase for each, and long-term contracts for service 1% increase.

Figure 1.6 Differences of percentages of the two biennia by components

4. Comparing allocated budget between current and previous biennia by function indicates an increase in the allotment for 2004-2005 compared with 2002-2003 for policy advice, research and monitoring and piloting and seeding. In absolute amount of money, the increase in policy advice is more than US\$ 550,000 and about US\$ 450,000 for research and monitoring. For the three functions (policy advice; research and monitoring; piloting and seeding) the amount allotted has more than doubled.

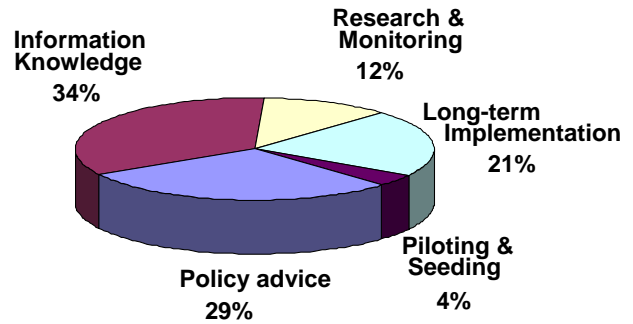


Figure 1.7 Biennial budget by functions

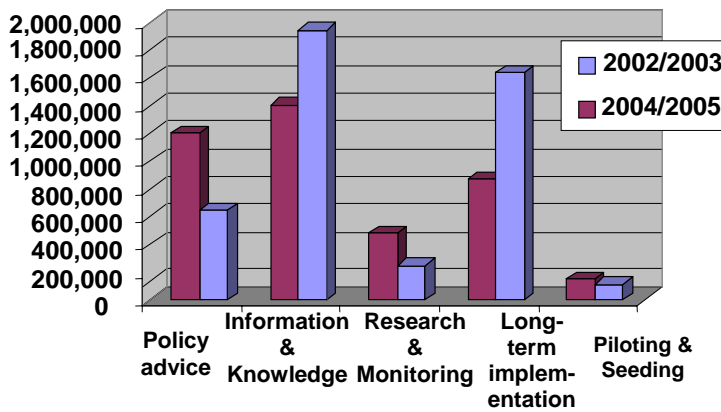


Figure 1.8 Budget for the two biennia by functions

One the other hand, there is a decrease in the allotment for 2004-2005 compared with 2002-2003 in information and knowledge, and long-term implementation. The decrease is more than US\$ 750,000 in the function of long-term implementation, and about US\$ 540,000 in information and knowledge, which accounts for 15% and 8% differences in the percentage of allocation for each function respectively.

According to the CCS recommendations, there should be a shift from mainly programme support to strategic planning and management. That means more emphasis should be given to policy advice, information and knowledge, and research and monitoring and shifting away from supporting long-term implementation and piloting and seeding. The shift done in the 2004-2005 plan compared with the 2002-2003 plan was according to the CCS recommendations in three functions (policy advise, research and monitoring, long-term implementation) failed in making the necessary increase in budget allocation for information and knowledge or the necessary decrease in piloting and seeding.

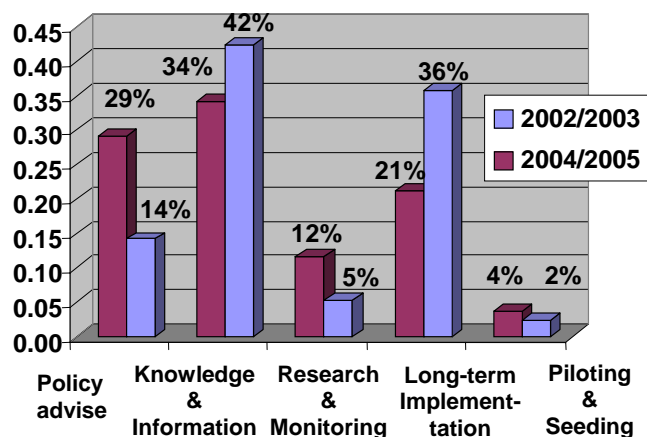


Fig 1.9 Percentage of funds by functions between the two biennia

Table 1.1 WHO strategic profile shift relevant to functions and shift made in 2004-2005 plan

Strategic direction	Function 1: Long-term implementation	Function 2: Piloting, seeding	Function 3: Research and monitoring	Function 4: Information and knowledge	Function 5: Policy advice
1: Stewardship	↓↓	↓	↑	↑	↑↑
2: Health systems	↓	↓	↑	↑↑	↑↑
3: Burden of disease	↓	↓	↑	↑↑	↑↑
4: Responsiveness	↑	↑	↑	↑	↑
Total	↓	↓	↑	↑↑	↑↑
The shift in 2004- 2005 plan	↓	↑↑	↑↑	↓	↑↑

5. Implementation in 2004 is below expectations in relation to what was planned at the beginning of the year. Only 69% of the activities were requested (compared to 100% target for the end of 2004), 49% of the budget was released/obligated (72% out of the requested), 15% of the budget was used for implementation of activities (31% of the released/obligated budget), and 9% of the budget was liquidated (58% of the budget of the implemented activities).

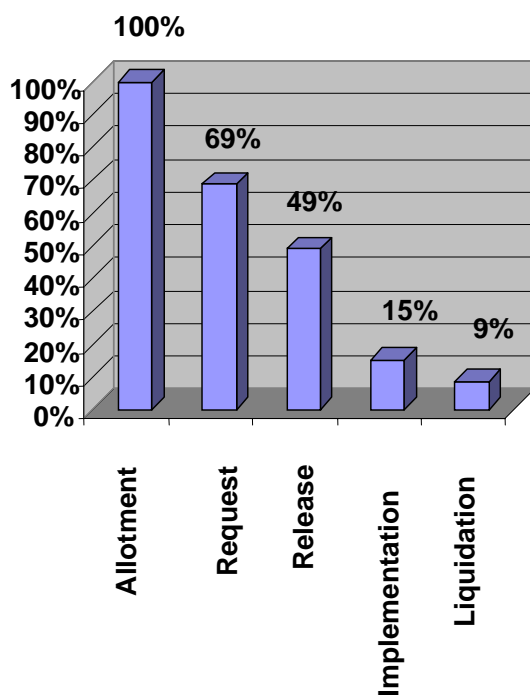


Figure 1.10 Budget implementation in 2004

6. Tracing of activity in relation to timeframe was done to assess the actual timeframe taken for each activity to complete its lifespan. Accordingly, each activity was traced through its three phases using date of request, date of fund release/money obligation, date of implementation, and date of liquidation as a benchmark. Due to unavailability of some information at the level of the programmes and the Directorate General of International Health, only national training activities could be completely tracked through three phases. Information obtained has been analyzed into the following three phases as follows:

- I. Release phase: From the date of request to the date of fund release or money obligation;
- II. Implementation phase: From the date of fund release or money obligation to the date of implementation of the activity; and
- III. Liquidation phase: From the date of implementation to the date of sending the liquidation documents to WHO office.

It was observed that the values obtained are widely dispersed (the release phase takes from 10-143 days, implementation phase from 1-322 days, and liquidation phase from 3-322 days), so the standard deviation formula was used to calculate the mean, so as to minimize the effects of the extreme values. Mean time for the release phase was found to be 37 days, for implementation phase 95 days, and 93 days for liquidation phase. It is clear that the time taken for each phase is extremely long. For the release phase it was expected that the new regulation of WHO to give more delegation to the country offices in releasing fund will reduce the time for this stage, which was not reflected in 2004. Measures for acceleration of the work at this phase need to be discussed and implemented immediately. For the implementation and liquidation phase reasons behind these long delays need to be investigated and action taken to improve both effectiveness and efficiency of the whole process.

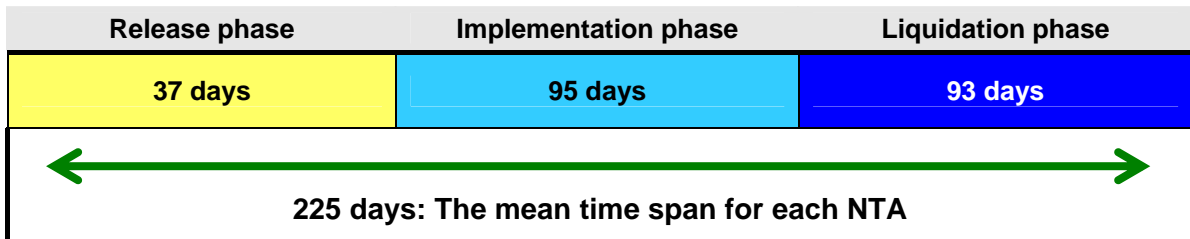
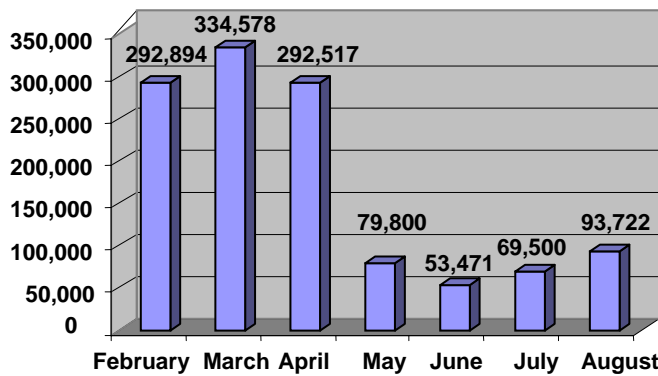


Figure 1.11 Duration of the activity cycle

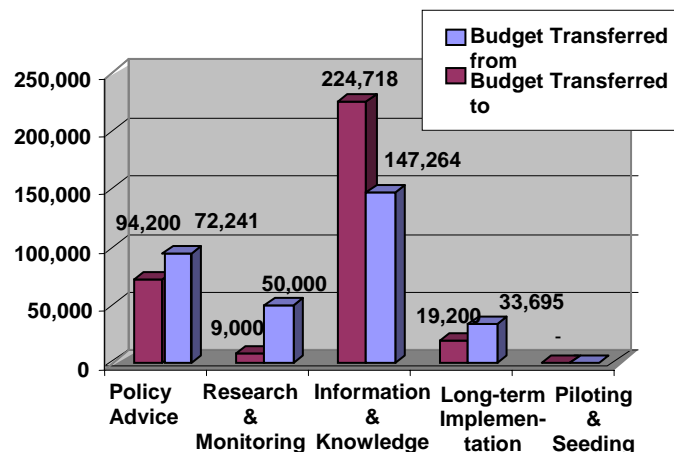
7. Implementing the remaining budget in 2005: There is US\$ 2,093,910 is not being used from the regular budget, out of which US\$ 887,428 was requested. A suggested timeframe for implementation of the non-requested remaining budget was developed to help in planning of money release from WHO and for internal arrangement in and between programmes to prepare for implementation. June-July 2005 has been targeted as an end line for implementation or at least obligation of the regular budget to allow for extra funds to be requested from EMRO. Most of the remaining funds are planned to be implemented in February, March, and April (76% of the remaining non-requested budget).



June-July 2005 has been targeted as an end line for implementation or at least obligation of the regular budget to allow for extra funds to be requested from EMRO. Most of the remaining funds are planned to be implemented in February, March, and April (76% of the remaining non-requested budget).

Figure 1.12 Timeframe for implementation of the remaining funds in 2005

8. Suggested changes in activities for 2005 amounted for US\$ 325,159. Analysis of the changes in activities according to functions revealed that the suggested changes will put more money into information and knowledge at the expense of another three functions (piloting and seeding will remain unchanged).



Chapter Three: Health Policy and Management

1. Situation analysis
2. Health policy and planning
3. Human resources development
4. Emergency preparedness and humanitarian action



1. Situation analysis

The health policy system in Sudan has experienced marked reform, although still not fully shaped, in its strategic direction within all its directorates. Health policy, finance of the health services, health information and health system research is moving towards achieving the strategic objectives developed by the Federal Ministry of Health.

The health policy unit was established as part of the General Directorate of Planning and main priorities were defined. One of its main strategic directions is to set the national policies for different health issues. The health finance unit was established and Sudan is among the selected countries implementing the recommendations of the commission on macroeconomics and health and many steps were initiated in the preparation and setting function of the national health accounts under the supervision of an international WHO consultant. The existing health information system needs capacity building to cope with the new evolution of information technology, flow of information, its accuracy and credibility. Towards improving the system, establishment of the Geographical Information System (GIS) unit has started with functioning operations. Health system research is conducted by around 28 Sudanese institutions, but there is a weakness in communication, resulting in duplication of work, and low level dissemination and implementation of results. By the year 2003, health research units at 13 states were functioning at different levels. The database for health researchers was updated.

For human resources development, the last 10 years has seen remarkable expansion in medical and health institutes. At present, there are 25 medical faculties producing about 1,800 graduates annually. However, shortage of physicians and other health personnel remains a key problem, especially with the peace process now being finalized. There is a great need to fully staff the affected areas and to achieve equity in health services to all states.

Regarding nurses on allied health, the aim is to increase the number from the current 16,800 to 80,000 and to upgrade their qualifications to diplomas and bachelors degrees. The plan (Sudan declaration) is still under implementation to achieve within the 10 years period all its main components: rehabilitation of the training institutes, development, printing and distribution of curricula and upgrading of the existing teaching staff qualifications. Currently, a separate unit for Continuing Education/Continuing Professional Development (CE/CPD) is being established and rehabilitated to serve as a functioning resource centre for CE/CPD with full autonomy.

Through the Sudan Medical Specialization Board (SMSB), the intake of doctors in different postgraduate training programmes is now twice a year. Currently, 1,400 doctors are enrolled. Newly added priority specializations have been operational, including anaesthesia, radiology and orthopaedic surgery. The need to further develop the capacity of the board is still a main concern.

The emergency preparedness and humanitarian action system in Sudan is still in development and fragmented with an unclear line of demarcation between its different levels on one side, and between the different sectors in each level on the other side (the system is structurally built on three levels following the federal system of the country: federal, state, and local level). Moreover, the system is largely concentrating on the response phase with none to very little attention given to preparedness and mitigation activities. The newly established unit in the FMOH within the Directorate General of International Health is now looking into the issue of emergency mitigation, preparedness and response in relation to health and is establishing several committees that include related sectors especially at the time of emergency. At the state level, functioning structures at the Ministries of Health is still unclear. At the local level, the structure is weak and unclear too and is only being activated during emergency.

2. Health policy and planning

Achievements in 2004 were all towards accomplishing planned objectives. In the area of health policy and strategic planning, the number of functioning Health Planning Directorates (HPDs) at the states with a department set in place, equipped with trained staff was achieved in 8 States (Khartoum, Gezira, River Nile, Sinnar, Northern, White Nile, Kassala and Gedarif). 15 State Ministries of Health (SMoH) Directors (7 Directors General and 8 Planning Directors) were trained on health planning and management. A workshop on skill-based management was attended by 6 Planning Directors; another workshop on monitoring and evaluation was conducted and attended by three Planning Directors from State Ministries of Health.

The HPD has also developed two manuals on health policy planning and management (developed by a taskforce) and another on skills-based management was developed by a Short-term Professional (STP) and distributed to the states.

The annual planning meeting was held for three days with participation from Directors General of SMoH, Planning Directors and PHC Directors from SMoH, Directors General of Federal Directorates and programmes and some UN agencies representatives. Equipping the State Planning Directorates is a priority and a computer will be distributed to each state's planning unit. A Service Contractual Agreement (ACS) is requested to support the Planning Directorates in the 8 targeted states.

The HPD staff capacity was built through different training programmes in health planning, policy and economics, 2 STPs were appointed; one stayed for three months, the second will continue to complete two years. Training also includes (only some are supported by WHO):

- Master course in health policy, planning and management in UK.
- Master course in public health in The Netherlands.
- 6 months fellowship in international health in Scotland.
- 2 weeks fellowship in Turin, Italy.
- 2 weeks fellowship in health planning in China.
- 2 training workshops conducted (one on planning policy and management, the second on management skills) attended by staff from FMoH.
- A workshop on monitoring and evaluation of health projects.

Developing an effective and functioning system for NHA, a technical and steering committee were formed and three members of the technical committee received training in Egypt. A draft proposal for the national framework and classification categories was developed. Furthermore, a workshop is planned to be conducted in early 2005. In addition, two documents were prepared (Interim Poverty Reduction Strategy Paper (I-PRSP) and Joint Assessment Mission (JAM) plan). In line with the CMH recommendations, the National Council for CMH was formed by presidential decree. In the same area, a 10 year investment plan is being presently developed. To complete the work in the area of CMH, a document on information gaps for Sudan was developed.

In the area of health system research, a conference on coordination of health research supported by COHRED was held. The Central Research Directorate staffs were trained in health system research through workshops for proposals writing, a national course on data analysis, and a national one-day workshop for health research ethics. A proposal development course is planned in early 2005. Another objective was to conduct a number of priority health system researches. Four studies were proposed (decentralization, private sector, utilization of health services, burden of diseases). An Area of Performance of Work (APW) was requested for the decentralization study and private sector study. As for the burden of disease study, this is being carried out in collaboration with a postgraduate student in Doctor of Medicine (MD). A budget of US\$ 35,000 is available for small grants for priority researches.

For the development, endorsement and dissemination of a number of evidence based policies/systems; a first draft of decentralization policy and the policy towards the private sector were completed. To develop the health systems an APW was requested, an office keeping document was prepared and two groups are working in supervision and inventory systems. A preliminary draft document is prepared on ambulance systems, solid waste disposal, standards of

rural hospitals and health centres, equipment, and furniture, standards of biddings and contracting and tele-medicine.

To have a number of states implementing the modified comprehensive Health Information System (HIS) and having tele--health services remains an objective. Efforts for strengthening the management and administrative capacity of the federal level led to some improvement in the area of health & biomedical information. There was a significant effort in the area of developing and upgrading the computer system. Four new computer programmes for salaries, epidemiology, meetings follow up and a computer centre were developed. Three programmes were upgraded (accounting, house officer's management system and document organizer) and the house officers system has been upgraded to work through the internet. A GIS unit was formed in the Health Planning Directorate (HPD) and data was partially entered (villages and health survey data).

For tele--health services, a strategic plan was developed for introduction of tele--matics in Sudan and showing the future directions. Four pilot States' hospitals were connected to a central unit with the aim of providing consultancy services in the areas of tele--radiology, pathology and ultrasonography. Training is still a future objective to be incorporated into the next planning period. On the e-health area, the only activity implemented was using the WHO-HINARI initiative as an online reference.

		Indicator	Baseline	Achievement
ER <i>(Expected Result)</i>	By the end of 2005, HPD in FMoH and SMoH are fully functional at central level and 16 states	Number of functioning HPD (department in place, trained staff, manuals and guidelines available)	2	8 states have planning units with DGs and planning directors trained and manual made available
Product	Capacity of central HPD staff developed in health policy, planning and health economics	No of sections of central HPD with trained staff and equipped offices	2	-Skill based training on programme going on (supervised by STP) -5 unit directors received external training (2 long, 3 short) -Offices rehabilitated and equipped -Technical and steering committees for NHA are formed and proposal drafted
Product	By the end of 2005, planning and management capacities strengthened in 16 states	No of functioning states planning units (trained staff, available equipments, manuals and systems applied)	2	8 states have planning units (Khartoum, Gezira, river Nile, Sinnar, Northern, White Nile, Kassala, Gedarif) with DGs and planning directors trained on health planning and management and manual made available
ER	By the end of 2005, national policies, plans and management systems refined and developed on best available evidence	No of health policies, plans and management systems developed	Zero	12 documents developed (PRSP, JAM, CMH, information GAP, decentralization and private sector policies, office keeping and 5 systems)
Product	National policies and plans refined and developed	No of health policies endorsed	None	1st draft of decentralization policy and the policy towards the private sector completed
Product	Pro poor plan developed for increasing	Pro poor plan developed	Zero	National Committee of CMH formed by presidential decree, 2 meetings with

		Indicator	Baseline	Achievement
	investment in health in line with CMH recommendations			council of ministers
Product	Synergy was developed between health related sector	No of meetings held	Zero	None
Product	Overall monitoring system upgraded and updated	Upgraded system	None	System upgraded
ER	By the end of 2005, MoH will implement a comprehensive HIS including community level information	No of states implementing comprehensive health information system	Zero	Format and Question and Answers (QA) parameters developed, basic and refreshing training conducted according to targets
Product	Functional health information system implemented in all states	No of states with functional health information system	Zero	-Formats are revised and under the process of printing -QA parameters formulated.
Product	Capacity of health information centres built at federal and state levels	No of cadre trained (by states)	Zero	-Basic training and refreshing courses conducted (200 participants each)
Product	Monitoring and supervision of HIS	No of states submitting timely reports	16	16 (all states submit reports but its timing needs to be validated)
ER	Strengthened national health research system.	No of departments/institutes complying to the system (conduct priority research, exchange results)	Not available	-Grants are availed for priority research, -Database programme updated, -13 states units are in place (workshops on proposals writing, data analysis, research ethics conducted) -Coordination conference was held and Six institutes are currently collaborating with research directorate
Product	Updated national health priority list	Priority list endorsed	Zero	Zero
Product	Health research priorities conducted	No of priority researches conducted	Zero	-Grants availed for priority research -APW requested for decentralization and private sector study, Burden of disease study in collaboration with UK.
Product	National health research system strengthened	Number of functioning states health research units	Zero	-13 proposals writing workshops -National course on data analysis -National one day workshop for health research ethics -Proposal development course conducted -Coordination mechanism established through stakeholders conference

		Indicator	Baseline	Achievement
Product	Relations with national and international partners in health research strengthened	No. of stakeholders with a link to the research directorate (nat. and internat.)	6	6
ER	Management and administrative capacity of FMOH improved through integrated package of computer systems	Number of computer program developed - updated	4	9 programs are developed (5 new and 4 updated)
Product	An integrated package of computerized systems developed by 2005	Number of computer programme developed - updated	4	-4 new programmes developed (salaries, epidemiology, meetings follow up, computer centre program) -3 programmes updated (accounting, house officers management system, document organizer) -House officers system upgraded for internet use
Product	Computers and knowledge improved at FMOH and states	No. of departments (federal, states and hospitals) with trained staff	Zero	Five states
Product	Strengthen set-up of computer units at federal centre and 10 states units	No. of units fully equipped	Zero	Five states
Product	State hospitals connected to Khartoum Teaching Hospital (TH)	No of state hospitals connected to Khartoum TH	Zero	Five hospitals (equipments installed and 16 participants received training)
Product	GIS databases developed and continuously updated	No of states with complete data incorporated in the GIS	Zero	Central GIS unit formed in HPD

Constraints

- Weak capacity at all levels together with poor organization and lack of adequate motivation of staff has resulted in reduced implementation of activities.
- Slow administrative procedures for processing money release by WHO Office.
- NTA budget ceiling has proved to be a limiting factor in many occasions.
- Monitoring system is not yet operationalized and still underdeveloped.
- Unplanned emerging activities deviate efforts from conducting planned activities leading to lagging behind on implementation.
- The absence of the Director General of Planning outside the country for more than six months affected performance, and indicates the urgent need for capacity building to shift away from the centralized approach to management.

Lessons learned

For better quality of work and enhancement of implementation, it is evident that capacity building of staff at both federal and state levels is rewarding and is a vital tool for sustainable health system development. The efforts done thus far are still below what is needed and should be accelerated. The Health Information System (HIS) is an integral part of health system development and needs to be strengthened to become fully functioning and reliable. Another learned lesson is the need for more focusing on certain priority issues rather than opening so many files and leaving them pending and incomplete. Another important area, which is lacked now, is the need to establish a system on monitoring and evaluation, and developing a evidence-based system for monitoring. This will be an essential tool for effective management.

Future directions

- Strengthening decentralization and providing support to all states based on well-defined criteria to achieve equity in services.
- Focusing on capacity building in the area of health planning and management will continue as an essential objective.
- Completion and implementation of health policies and systems with evidence-based approaches. Information gathering and conduction of research in certain priority areas will be needed to feed into policy formulation and decision making.
- Role of the private sector, level and constituents of expenditure on health are among this research priority.

Support is needed to continue further developing the HIS by developing the database system, data analysis, GIS and tele-medicine. For health economics, work will be focusing on financial reform to increase resources for health and better use of available resources. This will be achieved through the development of a financial policy, setting a system for national health accounts, and capacity building in the area of programme budgeting and cost-effectiveness studies.

3. Human resources development

In the area of policies and systems progress, has been made through the development and endorsement of the Human Resources in Health (HRH) 10 years plan. Policies for HRH were revised and updated and are ready for endorsement in a workshop. Development of a HRH management system that will include, inter alia, systems for recruitment, distribution, forecast and on-going monitoring are underway. The computerization of the HRH systems started with development of a database system for distribution of house officers.

The capacity building continued in different areas in the year 2004. Specifically, the development of capacities of training institutes, physical rehabilitation of the building for Continuous Education and CPD. Moreover, supply and equipments were requested for the central units and 5 states' units. The central unit is planned to function fully and independently. Capacitating activities for the Sudan Medical Specialization Board include development of a library system that encompasses a security system, and assistance in development of 10 curricula. Both of them were requested. Cooperation also extended to the universities where supplies and equipments were requested for a number of medical schools' educational centres. In addition, the educational centres were supported to conduct four courses, two weeks each, on educational planning and evaluation.

In the area of professional capacity building, priority advanced training for health professionals and personnel were carried out throughout 2004. 21 doctors were sent abroad for general specialization, 9 for subspecialties in different disciplines, and 12 doctors for short courses. Internally, 60 nurses were enrolled to obtain master degrees in two universities.

		Indicator	Baseline	Achievement
ER	Policy plans and management capacity developed for HRH	A functioning HRH management system at national and states level according to strategic plan, policies, guidelines	Not existent	Endorsement of the HRH 10 years plan, 71% of the targeted policies and 67% of the targeted databases.
Product	HRH plan finalized and endorsed	HRH 10-years plan endorsed & disseminated	Not existent	Plan endorsed (100%)
Product	Policies for HRH revised and updated	No of endorsed human resources policies disseminated	Zero	5 policies were endorsed out of targeted 7 (71%)
Product	Functioning HRH management system at federal and 16 state units by 2005	No of states complying to the HRH management system	Zero	None
Product	Computerized database fully developed and functioning	Computerized database fully developed and functioning	Not existent	2 databases are functioning (out of targeted 3) (67%)
ER	Priority advanced training programmes for HRH supported.	- % of health personnel trained. - % of curricula developed.	Zero	-4 training programmes implemented/under implementation (out of 14 targeted programmes 29%) -80% of the targeted curricula were developed
Product	Health personnel trained according to the figures stated	% of health personnel trained " by category"	No info	-Specialization training of doctors: 200 trained (37%) -Intermediate diploma nursing science: 270 (6%) -Specialization abroad: 21(123%) -Nurses with MSC in nursing science: 60(100%) -Doctors obtained DPH: 20(100%)
Product	Postgraduate medical training curricula in Sudan Medical Specialization Board (SMSB) developed	No of postgraduate curricula developed	12	8 out of targeted 10 (80%)
ER	Capacities of training institutes developed	No of training institutes with a functioning EDC system	2	3 Educational Development Centres (EDCs) established (100%)
Product	EDCs established and maintained	No of established EDCs	2	3 (100%)
Product	Electronic library in SMSB developed	Electronic library established in SMSB (system installed, staff trained)	Zero	Library established

		Indicator	Baseline	Achievement
Product	Implementation of the accreditation system in 2 piloted medical schools	No of schools jointed accreditation system	Zero	Zero
Product	Specialists trained in different subspecialties	% of specialists trained (by subspecialty)	No info	21 (out of targeted 27- (78%)
ER	Strengthened continuing professional development	A functioning CPD programme at national and state level	Zero	Zero
Product	Well established C.P.D system by end of 2005	<ul style="list-style-type: none"> - Central unit functioning - No of states with a functioning CPD system. - % of health care receives CPD trained. 	Zero	Site selected and plan developed
Product	Wide scale leadership and ethics training and advocacy conducted	No of staff trained in leadership/ ethics	Zero	Zero

Constraints

The overall weak capacity at federal and state level is being acknowledged and needs remedy. Although the Directorate managed to develop many policies, the actual implementation of these policies is still weak and is affected by this fragile capacity. The implementation of the HRH programme was also affected by the delay in release of funds. This is due to many reasons, including internal obstacles within the Directorate delaying the requesting process, slow release of funds from WHO, and weak capacity as well as lack of skilled staff within the Directorate of HRH. On the other hand, implementation of the Sudan Declaration Plan is unsatisfactory due to the weak response from the Ministry of Higher Education. The continuing education programme was also suffered from lack of fully dedicated leadership and full time staff.

Lessons learned

It is clear that human resources development is an important priority for health system development. Without an effective human resources management, there will be no major improvements in the health system of Sudan; and without better understanding of the human resource component of the health system, health sector reform will not be as effective and as sustainable as it should be. It is also learnt that this component needs to be integrated more into the national health development strategies such as poverty reduction and macroeconomic reforms.

It is also clear that capacity building of the Federal Directorate of HRH and the states' units is the cornerstone for future work. New blood should be injected at both levels and current staff should be upgraded through intensive training.

Future directions

Capacity building in health services planning and management is among the requirements needed for health system and services development in Sudan. While the challenge of the post conflict situation in Sudan needs training for quite a large number of health professions to bridge the gaps in the newly accessible areas and the needs of the less developed areas. There is also a need to focus on certain priority areas such as training of managers at all levels, and to introduce innovative approaches in problem solving and community involvement. To effectively respond to the increasing need of skilled human resources in the post-conflict era, modern methods of training like tele-medicine and tele-conference shall be used widely.

Dialogue between Ministry of Health and other ministries (mainly Ministry of Higher Education) and the private sector needs to be strengthened through activation of the National Council for Human Resources for Health. The weak information system on HRH shall be strengthened and mechanisms for information gathering put in place.

Chapter Four:

Health System and Service Development

1. Situation analysis
2. Support to primary health care
3. Support to secondary and tertiary care
4. Laboratory technology support
5. Pharmaceutical programme and traditional medicine



1. Situation Analysis

The health system in Sudan, at this stage, is still evolving. Health care is in a transitory phase of social, economic and organizational transformation. Increase country income leading to increase social spending, the start of the epidemiological shift to Non-Communicable Diseases in some regions, and the imminent peace are all contributing to the need of health care reform. The public sector is the main health care provider, but the private for-profit sector is now flourishing. The contribution of the voluntary sector is increasing as well, and in some areas, especially the remote regions, it is the main actor for health services delivery.

Based on the available information, healthcare services in the secondary and tertiary levels are delivered through 309 public hospitals and specialized centres, 49 (16%) of which are found in Khartoum state. The total number of beds is estimated to be around 23,076 beds with a rate of 0.74 beds for every 1,000 persons. 21 of these hospitals in addition to 7 specialized centres are under the direct supervision of the FMoH, with 3,165 beds. As for the manpower, 391 consultants, 1,000 registrars, 680 medical officers, 114 pharmacists, and 6,671 paramedics are working within the federal hospitals and specialized centres. Available records about performance of the main hospitals in Sudan show that there are 732,172 patients being seen at the outpatients departments during the year 2003. Hospitals and specialized centres in Sudan have been suffering severe financial constraints. They are also suffering a severe shortage of manpower in different disciplines. The combination of the financial constraints and the shortage of manpower, inter alia, has resulted in deterioration of the infrastructure of the facilities and consequently, the quality of care delivered.

The public as well as policy makers are not satisfied with the quality of service and quite often, there is lack of trust in what is delivered in public hospitals. However, in the last few years and in response to the growing concern about health in general, the health arena has witnessed a new wind and a new vision was developed. Within this new vision, many changes have happened. First, it is envisaged that if the decentralized public health services in the country are to improve significantly, there is a need for an injection of substantial resources into the health sector from the Central Government Budget. Accordingly, two main initiatives were launched: One is the poverty alleviation programme, with an injection of a lot of money to purchase new advanced medical equipments. The second initiative is the resettling of curative services inside the country. The FMoH adapted another approach to improve hospital-wide performance, namely, the launching of a special programme for hospital autonomy through inclusion of a new organizational culture and enhancing the sense of ownership by the hospital staff.

In the area of health laboratory, the service is run by different sectors: public, private and NGOs. Around 450 labs have been identified as offering services. Most of the public sector laboratories belong to the MoH at federal or state levels; few labs are run by universities and research institutes. An ever-growing number of labs are run by the private sector and the NGOs. The National Health Laboratory, 4 regional labs and some of the labs in the teaching hospitals in Khartoum belong to the FMoH whereas most of the intermediate labs in hospitals and peripheral labs in rural hospitals and in PHC centres belong to the SMoH. Most of the labs in the private sector are small routine labs in private clinics. Shortage in trained staff, mainly due to brain drainage internally and externally, and shortage of lab supplies have resulted in lack of expansion of the services to many areas. The high cost of imported lab supplies have resulted in importation of low quality items from unreliable sources. Lack of effective quality control system in the lab services at all levels was always a matter of concern for both service providers as well as users. In the last years, efforts have been made to upgrade laboratory services at the federal and state levels. In a large project supported by the Federal Ministry of Finance, rehabilitation of central and intermediate labs is on the way. Provision of basic and advanced equipment with training on operation and maintenance was significant during the last two years.

In the area of pharmacy and medicine, the Directorate General of Pharmacy has the overall responsibility of regulation of the pharmaceutical sector in general and medicines in particular. To undertake its envisaged role, the Directorate General of Pharmacy needs to be greatly strengthened and the states' pharmacy units, which have the responsibility of overseeing the pharmacy affairs at the state level, need to be upgraded. During last year, access to essential medicines has improved and 40% of the population has now regular access to essential

medicines. Nonetheless, there is still a pressing need to improve access through better management of the public sector drug supply system and encouraging the private sector to expand its activities to remote areas. To achieve this, there is a need to train senior drug supply personnel in all aspects of drug supply management. The drug quality control laboratory needs to be given priority in capacity building to solve its chronic shortage of qualified experienced analyst, laboratory equipment and supplies. Another area needing improvement is the promotion of rational prescribing through training of prescribers in rational prescribing. Similarly, drug information activities need to be greatly developed to provide pharmacists and prescribers with up-to-date unbiased drug information. Public education activities should be promoted and extended to all states. Nevertheless, a new planning unit was established within the Directorate General of Pharmacy to undertake the role of policy development and to monitor the progress of implementation of the plans at the federal and state level.

2. Support to primary health care

At the local level, the health system in Sudan is built around the local health system. The local health system is developed in line with the Federal Government Act of 2003 to replace the Health Area System (HAS). The implementation of the HAS policy was faced with many obstacles, due to low capacity at both federal and state levels and due to frequent changes in the federal system in relation to the administrative level and the geographical boundaries of the local system. However, some recent developments were initiated by integrating Community-Based Initiative (CBI). The local health system being an integrated socio-economic development approach aims at achieving "Health for All" through improving quality of life and reducing poverty. CBI is being implemented under the umbrella of FMoH in 1997 starting with Basic Development Needs (BDN) after revision of the past trials of BDN implementation, which failed to sustain due to absence of tools & guidelines for implementation. Two years has passed since the establishment of PHC support directorate within the directorate general of PHC to achieve the following objectives:

- Integrating activities of BDN, Healthy Cities, Women in Health, Development, Local Health System and Bamako Initiative and create strong links between them.
- Implementing essential package of health interventions in each BDN site.
- Developing a national strategic plan for CBIs as part of the poverty reduction.
- Developing a productive partnership between different government sectors, UN agencies, NGOs that are involved in the field of community development.

The implementation phase started by developing two model areas in two functioning locality in two states, and then expanded to 35 areas in 8 States by the end of 2003.

Achievements

The federal-wide activities have witnessed a pause period since early 2004 till November due to the PHC reform and revitalization procedures. Despite all limitations encountered regarding change of government act and the turn over of PHC and CBI managers it was remarkably notable that commitment of ministers on developing the local health system including CBI as a strategy to link communities with the formal health system, was repeatedly triggered during this period, until finally announced during a national meeting which was attended by 4 federal ministers, 16 state health ministers, and 32 locality governors (mayors) in addition to the Directors General of FMoH.

- Eight orientation workshops in 7 States: (Khartoum, Kassala, Gadarif, Sinnar, B. Nile, Northern Kordofan states) were conducted to state, local councils and communities. Communities living in surrounding areas have inspired the CBI concept and have started many activities without the financial support from MoH/WHO, using the concept of technical assistance between developing villages. Now the CBI is implemented in 60 villages in 17 localities in 9 states.
- To build capacities of communities and health related sectors under the CBI, seven Technical Support Teams (TSTs), including 49 members, were trained on programme

- management. 125 members of Village Development Committees (VDCs) and Cluster Representatives (CRs) were trained on programme management in expansion areas.
- In addition five baseline needs assessment and two follow-up surveys were also conducted including squares from Shendi City being selected as a first implementation phase for the WHO Healthy Cities Project. A joint developmental project between MoH, UNIDO and WHO is under process within the Shendi Healthy City Project
 - Strong collaboration with NGOs namely Development Action Now was established to bridge the poverty gap in post-conflict areas like Nuba Mountain and to share experiences.
 - In addition to recruitment of monitoring officers, local cost support to strengthen supervision in the field, where six supervisory visits to the North and South Kordofan, River Nile, Northern, White Nile and Gezira States were carried by the national team. WHO has availed its vehicles to facilitate national travel and field presence as much as UN regulations permit.

		Indicator	Baseline	Achievement
ER	Pro-poor national strategy for sustainable development based on CBI approach and inline with the recommendations of the CMH developed	National strategic of investment plan/ developed	Zero	Under process (60%)
Product	A national strategic and investment plan for health developed	National strategic of investment plan/ developed	Zero	Under process (60%)
ER	Decentralized PHC system strengthened at national, state, district and local levels	PHC system strengthened at national 16 states & 32 localities	Zero (readjustment of localities)	Varies by states and localities
Product 1	Integrated management, planning and implementation guidelines and policies available to all states	% of states having integrated management, planning & implementation PHC guidelines	Integrated implementation including planning guidelines available for CBI and HAS	Management & planning guidelines improved and developed for CBI & L HS)
Product 2	Health structures completed and trained in all localities in all states (32 localities of 16 states)	- % of HMT structure completed - % of staff trained	Old health structure was there. No new teams were formed	Defining new role for MoH at local level is under process
Product	Integrated planning process strengthened at national and district levels	% of localities developed integrated informed plan.	0%	0%
Product	Integrated supervisory system strengthened in 80 areas	% of states & localities developed & implementing integrated supervisory system	Integrated supervisory system available at national, state and local level with different level of functioning	Integrated supervisory system available at federal level only

		Indicator	Baseline	Achievement
ER	Comprehensive BDN approach sustained and expanded in 30 new areas within the targeted 80 administrative units (health areas)	Number of new villages with functioning BDN projects	31 villages	CBI is implemented with different pace in 60 villages
Product	The managerial capacities supported and maintained at all levels within the PHC	- % of localities which developed HAMT & Technical support learn - % of village with trained VDCs & adopted CBI supportive programme	- 16 health areas in 7 states. - 6 TSTs were trained in 31 villages	- 25 local teams (all) in 9 states. - 9 TSTs. - 46 villages
Product	Partnership built within and outside the MoH	No. of new partners (include old partners) continued participation in activities & amount of inputs at each level	3 NGOs 2 UN agencies	4 NGOs 3 UN
Product	CBI implemented in 30 new areas.	% of new villages implementing CBI projects	31 villages	60 villages at different pace
Product	Documentation of programme's activities and Evidence-based results produced and disseminated	No. of operational research conducted & reviewer reports produced & disseminated	- Programme review in 2001 - 2 nd reviews proposed end 05 - Follow up surveys	Results of follow up surveys are used at limited scale for promotion
ER	Accessibility to essential integrated PHC package of service increased in 80 areas in 8 states from 5% to at least 80%.	% of health units & basic health units providing integrated PHC package of service	Information not available	Information not available
Product	Essential integrated health package delivered in 80% of health facilities with in 80 areas	% of health units & basic health units providing integrated PHC package of service	Information not available	Information not available
ER	Healthy City Project (HCP) implemented in a systematic manner for environment, social protection, promotion and health, in 2 urban settings.	No of cities which developed & implementing healthy city plan	One	One (Shandi – River Nile State)
Product	Impact of health and environmental hazards measured and analyzed in selected areas	No of cities which developed & implementing healthy city plan	None	Plan developed Implementation not started

Constraints

The implementation of the programme in the year 2004 was faced with many difficulties:

- Repeated changes in the structure of the federal system in the last years, especially those related to the geographical boundaries of the local system, have its direct impact on the programme.
- Poor capacity of the federal and state programmes and lack of adequate number of skilled staff at both level have led to poor absorption capacity and slow implementation of the programmes.
- Rapid turnover of staff, especially at the federal level (the programme was led by different directors during 2004), jeopardized the programme and affected its credibility.

Lessons learned

- The development of the local health system is an exhausting process which extracts a lot of resources, and needs a lot of effort and time to be accomplished. There is a need of committed and highly qualified, skilful staff with plenty of experience within the programme, if any results are to be achieved. Concerted efforts are needed to retain staff at all levels and to furnish them with adequate training and skills.
- CBI is a multi-sectoral approach in which efforts from many sectors need to be directed for local development. For the programme to expedite its implementation speed, more effort should be directed towards expanding the partnership.
- There is a need for more integration of the programme funded by WHO to that sponsored by UNICEF and to include the UNICEF's Child Friendly Cities Initiative (CFCIs) as an integral component of the programme.
- It is important to include the CBI as a micro-economic strategy for sustainable health and development.

Future directions

- Efforts will be continued to better orient the health system in Sudan to the need of the poor by adequate response to their needs.
- In order to accelerate progress towards achieving the Millennium Development Goals many efforts need to be exerted.
- Strategic planning for local health development is needed to set out the strategic directions of the programme and to illustrate the best modalities and approaches to be adopted.
- The Poverty Reduction Strategy Paper –which is about to be finished- can be used as a guidance to reduce inequalities in access and utilization of health services.
- The New Commission for Macro-Economy and Health which was formulated by ministerial decree needs to be activated to increase macro allocation for health and to gain support and commitments to develop the health system.
- Other tools and approaches for increasing the political commitment, which is the cornerstone for local health development, needs to be explored.
- Guidelines for implementation strategies need to be reviewed after completion of the strategic plan to insure its consistency with the strategic plan.
- Issues like criteria for selection of new areas for implementation of CBI, and ways and means of staff retention and motivation are needed.
- The problem of transportation should be discussed and solved with WHO to foster implementation and to enhance monitoring of the programme.

3. Support to secondary and tertiary care

A number of activities have been accomplished in the year 2004. In the area of policies, the national policy for free medication of emergency cases was developed. The policy clearly defines

the package of services to be included in the free medication envelop, and it develops the formula for allocation of resources between states. Hospital infection control policy has been also developed, and awaiting for final endorsement. Another major leap was the development of policy for hospital accreditation, which was endorsed by different stakeholders. Policy on blood safety is still under development.

In an effort to build the capacity of the Federal Curative Medicine Directorate, two staff members from the Directorate have completed a two-week training out of the country, on management and planning. The rest of the staff will be trained locally through six-day training workshops funded by WHO. At the state level efforts were made with WHO support to retain staff through financial support to the State Curative Medicine Coordinators but was blocked due to some constraints. This issue needs further discussion and clarification for possible solution.

In the area of hospital infection control, national policy for hospital infection control was developed and a special manual with guidelines of infection control were also developed and endorsed in five major areas, including nosocomial infection, injection safety, blood safety, medical waste management and occupational safety. Training workshops were conducted in theatre sterilization and in nosocomial infection.

For blood safety, the national policy for blood safety is currently in the process of development while the blood transfusion protocols, guidelines and SOPs have been printed and disseminated. Blood bank technicians from the states have been trained on these guidelines and protocols and training workshops were implemented for doctors and nurses on efficient use of blood.

The hospital information system was reviewed, standardized, and is now ready for dissemination and implementation. Supply and equipment for information units in 8 main hospitals in the states were requested.

		Indicator	Baseline	Achievement
ER	Better equity in distribution of curative health care services at the secondary and tertiary levels achieved.	% of hospitals satisfying minimal standards of hospital care	No info available	Information not available
Product	Development of a master map about the distribution of hospital and specialized centres throughout the country (secondary & tertiary care)	No. of localities with clear map of secondary and tertiary care	Zero	Data collected from 15 states through surveys 70%
Product	15 main state hospitals and 25 locality hospitals and 17 federal hospitals and specialized centres are rehabilitated and upgraded	No. of hospitals rehabilitated " building & equipment "	Zero	Rehabilitation of A& E departments in 15 State's main hospital started (30%) 10 federal hospitals and 15 state hospitals and 37 rural hospitals received equipment through nationalization programme (70%)
Product	Central Medical Equipments maintenance and rehabilitation department is established and functioning	Central maintenance unit established & functioning	Zero	Zero
Product	Basic essential emergency drugs availed to all A & E departments	-Percentage of EFD availed versus the	- 100% No base	Budget availed 100%

		Indicator	Baseline	Achievement
	according to the EFD policy	approved budget. -Percentage of emergency cases who received free treatment.	line available	
Product	Medical professionals and paramedics are Equitably deployed to hospitals and specialized centres	No. of targeted states with improved rates of professional by category	Zero	- 1575 medical officers and 72 specialists distributed to the states - 7 external medical teams in different specialties (as part of visiting consultant program) visited 8 states.
ER	Administrative, Management and Technical capacity is strengthened/established at the federal and state levels.	-DGCM with at least 20 well trained staff with clear job description & necessary equipment. -No of states with curative medicine unit with at least one well trained coordinator and necessary equipment	Zero	Zero
Product	Capacity of the DGCM at the FMoH is strengthened and the directorate is carrying out its stewardship function	DGCM with at least 20 well trained staff with clear job description and necessary equipment	Zero	4 doctors and 2 biomedical engineers trained (2 doctors trained a broad) (30%)
Product	10 Curative Medicine Directorate in 10 states are established and functioning	No of states with curative medicine unit with at least one well trained coordinator and necessary equipment	6	Zero
Product	The research department carry out the 6 of the needed researches	No. of researches reports completed & disseminated	Zero	Zero
ER	Improved quality and safety of services provided at secondary and tertiary care facilities at the federal and state levels	-% of hospitals implementing QA program -% of hospital made significant reduction in hospital infection -No of hospitals	No info available	Information not available

		Indicator	Baseline	Achievement
		joined accreditation program		
Product	Defined standards and classification for hospitals at different levels	% of Hospitals classified according to developed standards.	Zero	Standards developed Classification not done
Product	Training and Orientation courses for workers in secondary and tertiary care levels about TQM conducted	-% of hospital workers oriented/ trained about TQM -No. of training courses conducted. -No. of curricula developed	Zero	2 basic and 1 advance course conducted 37% No curriculum developed
Product	Quality tools are developed and used in 17 federal hospitals	No. of hospitals implementing TQM program	5	5 new hospitals (100%)
Product	National infection control programme is established and functioning.	No of hospital implementing infection control programme according to standards	Zero	Standards developed (100%) 6 hospitals introduced the infection control programme (60%)
Product	Accreditation and certification system developed and implemented	No of hospital joined the accreditation programme	Zero	Manual developed, orientation workshop conducted, and supplies availed
Product	Patient rights and medical ethics being respected and valued	% of hospital staff attended patient rights & medical ethics sessions	Zero	Zero
ER	Strengthened organization, management and functions in secondary and tertiary care levels.	No. of hospitals with trained top management staff & implementing the new policy and systems (17 hospitals)	Zero	Target policies developed and disseminated to 17 federal hospitals (50%) 8 DGs received intensive training course (one week) in Egypt
Product	Referral system is developed and implemented at the federal level and 6 selected states	No. of states implementing referral system	Zero	Zero
Product	Managerial and Administrative capacity at the 17 federal hospitals is empowered	No. of hospitals	Zero	17 hospitals adopting the new system policy package (100%) 8 DGS trained in management & TQM (47%)
Product	Endorsement and completion of the supervision, administrative, financial,	No. of policy and systems developed & endorsed	Zero	8 policies developed, endorsed and disseminated (50%) Enforcement of the

		Indicator	Baseline	Achievement
	manpower an services policies and systems			hospital supervision policy in 17 hospitals (100%)
Product	Decision supporting information about curative services is provided on timeliness manner	% of well function health information units in federal hospitals submitting adequate regular monthly reports	17	Staff trained, Equipment not availed (30%) 17 hospitals submitting monthly reports according to the revised formats
ER	Improved critical and emergency care services at the secondary and tertiary care levels	-% of population has access to ambulatory medical services. -% of states with central blood bank services	Zero	Policy and guidelines developed
Product	Central ambulance system and network is established and functioning	Central ambulance system developed established	Zero	Zero
Product	Safe blood transfusion made available all over the country	% of blood banks providing safe blood transfusion	98	Guidelines and policy developed (100%) 174 blood banks provide safe blood transfusion, and introduced VDRL & HBC Ag testing (100%) 174 blood banks regularly report to the central unit
Product	Efficient utilization of blood and blood products in the federal hospitals and the 16 states main hospitals	No. of states with central blood bank	Zero	Guidelines and policy developed
Product	Comprehensive approach for management of haemophilic patients is adopted	National haemophilia centre established	Zero	Zero
ER	A clear vision and policy for the role of the private sector in secondary and tertiary services developed	Policy developed	Zero	Zero
Product	Clear vision and policy about the role of the private sector in curative service is developed	Policy on the role of private sector in 2 & 3 care developed	Zero	Zero
Product	The DGCM and CMD	Policy on the role of DGCM in maintaining the quality and standards of the secondary and tertiary care	Zero	Zero

		Indicator	Baseline	Achievement
		private sector is developed		

Constraints

The weak capacity of the Federal Directorate affects the work significantly. The directorate could not expand its activities beyond the federal hospitals in Khartoum, which consume most of the efforts. While some of the main policies were developed, the implementation of these policies has been far below expectations. The structures and system on which these policies have to rely on are not yet well developed. Political tension in the hospital, which was one of the eminent features of the year 2004, has distracted the efforts away from the real work and rendered an environment not receptive to required changes. On the other hand, and particularly in the states, requests for WHO support have been constantly delayed and rejected by WHO due to the inexperienced state-wide staff to process those requests which have led to constant delay in releasing funds and subsequent slow implementation of programmes.

Lessons learned

Quality improvement is a major strategic dimension for improving the performance of health care system in Sudan. The implementation of this programme in the last years is progressing tremendously. Nevertheless, the experience shows that to have real impact, the programme should be implemented more comprehensively and should cover all the dimensions of the process of health care provision.

Future directions

Quality care improvement activities in hospitals, including monitoring of patients satisfaction and monitoring of process indicators are planned to be implemented comprehensively in 2005. 23 SOPs were developed in different aspects of health care. Implementation of these SOPs is a key element in the work contributing to evidence-based health care services. Moreover, further steps concerning hospital accreditation need to be conducted after the recent approval of the system. On the other side, managerial capacity in the hospitals, especially for senior managers is planned. Mass training is needed in this area starting with Directors General and their assistants of the main hospitals. Mapping of hospitals will be one of the priorities to develop baseline data in relation to hospital physical infrastructure, equipment and human resources.

4. Laboratory technology support

The achievement in the field of laboratory technology support thus far is below expectation. Out of the US\$ 94,000 allotted for the programme, only 54% was requested. The requested activities are mainly supplies and equipment as well as fellowships. Activities directed towards capacity building at the federal and state levels, improving quality of service and enhancing safety measures, and improving laboratory-based surveillance and information system need acceleration and rapid implementation.

		Indicator	Baseline	Achievement
ER	Systems and management of Health Lab services Improved	-function federal lab -% of functioning states lab -% of functioning public health lab.	Info not available	Information not available

		Indicator	Baseline	Achievement
Product	Functioning lab directorates at the federal level and in 10 States established	-function federal lab -% of state with Lab. Directorate established and functioning	2	4 new department established (Red Sea, N. Kordofan, R. Nile, Gedarif) 60%
Product	Quality control system for lab services established.	-% of lab implementing QA system. -% of lab joined accreditation	Zero	- SOPs developed - Personnel trained in the central unit
Product	Laboratory safety and biohazard containment in all labs strengthened	% of lab. with trained staff in biohazards and having the guidelines	Guidelines developed One person from each state trained	No progress
Product	A Centralized supply system for lab equipment and supplies established.	-Central supply system in place. -% of states with centralized supply system	Khartoum state	No progress
Product	Local capacity for production of lab reagents & consumables strengthened.	policy on national production developed endorsed & disseminated	Zero	Not achieved
Product	Local capacity for laboratory equipment maintenance strengthened.	unit for medical equipment maintenance established and functioning	Zero	- Workshop established at federal level - 3 biomedical engineers trained 80%
Product	Laboratory-based disease surveillance systems and the laboratory information system strengthened.	-Surveillance and reporting system in place. -% of diseases outbreak confirmed on timely manner	Zero	- Plan developed jointly with the epidemiology department - Prompt response to 5 suspected epidemics with the epidemiology department: 1. Hepatitis E outbreak 2. Diphtheria outbreak 3. Sheigella dysentery type 1 outbreak 4. Measles outbreak 5. Meningitis outbreak
ER	Advanced technology in selected areas of lab diagnostic services introduced	1 new tests introduced	Zero	Serological testing ELISA for viral Hepatitis E
Product	Histopathology services improved.	Immunohistochemistry, cytology and tele-pathology introduced	Zero	- Training in immunohistochemistry done - 30 pathologists trained in Cytological diagnosis (60%) - Reagents requested (30%)

		Indicator	Baseline	Achievement
Product	Clinical immunology services established.	Clinical immunology services established.	Zero	Not achieved
Product	Clinical toxicology services established.	Clinical toxicology services established.	Zero	Not achieved
ER	Expanded and improved lab services at state level.	-%of labs in state hospitals rehabilitated -Central PH lab established -% of PH labs in states rehabilitated and functioning	Zero	Zero
Product	National project for rehabilitation and upgrading of PHC centres' lab developed / implemented	Project proposal for the rehabilitation of primary health care centres drafted and endorsed	Zero	Not achieved
Product	Labs in 20% of states' hospitals rehabilitated.	% of labs in state hospitals rehabilitated.	Zero	Not achieved
Product	The central public health lab established.	The central public health lab established.	Zero	Not achieved
Product	Public health labs in 6 states established.	% of public health labs in states rehabilitated and functioning	Zero	Not achieved
ER	The national capacity for applied biomedical research and information strengthened	A national poison information and control centre established	Zero	Not achieved
Product	A national centre for applied biomedical research established.	Development of the project proposal for the medical research centre	Zero	Not achieved
Product	National poison information and control centre established	National poison information and control centre established	Zero	Not achieved

Constraints

- Limited lab related capacity at the MoH.
- Severe shortage of pathologists, who usually play the leading role in this sector.
- Lack of skilled technologists on whom the bulk of the work depends is slowing down the machinery of work in this sector.
- Moreover, lack of trust of results of public laboratories from clinicians led to more turmoil and frustrated those working in this sector. However, the endeavour of

decreasing the gap in the number of pathologists by sending students to be trained in Malaysia has been encouraging. Nevertheless, the number needs to be increased dramatically to bridge the gap. Finally, rapid improvement has to be made with regard to the slow procedures to process fellowship applications.

Lessons learned

The training of three pathologists in laboratory-based communicable disease surveillance and outbreak response through collaborative programme with the WHO office in Lyon was quite successful, and has triggered an alarming attention to this neglected area. This method of long-term training with students having short periods of training outside followed by in-country application gives the student an opportunity for implementing the knowledge and skills acquired. In the mean time, it helps building a more sustainable system in the country. This model can be adapted and used for other disciplines of laboratory. Collaboration with other well-established institutes outside the country (i.e., NAMRU 3 in Cairo) is proved to be effective in rapidly building national capacity. The collaborative experience with this institute in Khartoum and Darfur is a model to be used for the future.

Future directions

Capacity building, particularly in human resources and systems development is a vital priority. The collaborative model with Lyon and NAMRU 3 can be further strengthened and expanded to include other priority areas and other states. Sending medical doctors to specialize in pathology and laboratory technologists to obtain further training in certain disciplines outside the country will be one of the future strategies. This will be accompanied with efforts with local training institutes to start training in this field (i.e., SMSB) or to increase their intake and improve the quality of their training programmes.

5. Pharmaceutical programme and traditional medicine

The WHO collaborative plan in the field of pharmacy and traditional medicine allotted US\$ 94,000 for the biennium 2004-2005. The plan targeted enhancement of the governance of the Drug Regulatory Authority by development of policies and systems upgrading to increase access to essential medicines, to improve the quality of medicines, and to promote rational use of drugs. The plan was complemented by activities in the same areas supported by fund from the European Community through WHO amounted to US\$ 179,000.

Concerning development of policies and the strategic directions, the national 25 year strategy of pharmacy was developed as part of the national strategic plan. The first draft of the national drug policy was developed and ready for final endorsement by stakeholders. The Essential Drug List (EDL) was revised and is ready for printing and dissemination. In the area of curriculum, a master degree for national drug policy was introduced for the first time in the country, and its curriculum was developed. For undergraduate students, development of curriculum for rational drug use is underway and workshop for sensitization of schools of nursing, medicine, and pharmacy was conducted.

Capacity building in the states has been one of the major concerns of the Directorate General of Pharmacy in the year 2004. Two state coordinators were sent to Uganda for Training for Trainers (TOT) workshop in hospital drug and therapeutic committee. Two workshops for strategic planning and setting of priorities were conducted for the states coordinators. Another four workshops for the states coordinators were implemented in rational use of drugs and hospital drugs and therapeutics committees. To strengthen the states' information centres, a national workshop was also conducted. The outcomes of these endeavours are that the states now have a critical capacity for training. So far, training workshops were conducted by the states' pharmacy units for junior staff in Gezira, Gadarif and North Kordufan States. On the other hand, and to furnish the state units with necessary equipment, computers and printers were distributed to 10 states' pharmacy inspection units.

The activities were also extended into hospitals where two pharmacists were trained abroad on handling of cytotoxic drugs. Three seminars in three teaching hospitals to advocate for adverse drug reaction (ADR) reporting were held. Activities for post marketing surveillance have recently started.

		Indicator	Baseline	Achievement
ER	National Drug Policy (NDP) will be revised and updated by the year 2004 in accordance to 25-years National Pharmaceutical Strategy (NPS 2004-2028)	<ul style="list-style-type: none"> - Updated NDP endorsed and in place - Implementation plan for the NDP policy developed 	<ul style="list-style-type: none"> - NDP last updated in 1997 - 25 years strategy drafted 	<ul style="list-style-type: none"> - NDP is updated - 25 years strategy endorsed
Product	Technical assistance from WHO staff to South Sudan; formulate 5-year plan of operation for essential drug programme for donor funding	Changed	*	*
Product	NDP updated and adopted by end 2004	NDP updated, endorsed and adopted		NDP updated
ER	Access to essential drugs in 8 states improved by the end of 2005	% of people with Access to essential drugs	Not known (estimated at 50%)	<ul style="list-style-type: none"> - Access indicators developed - Survey developed and planned to be conducted
Product	Drug supply system established in 8 targeted states by 2005 (Blue Nile, North, South and West Darfur, Darfur, North, South and West Kordofan, Bahr Elgabal)	<ul style="list-style-type: none"> - No. of states with established drug storage and supply system - Number of newly recruited staff - Number of vehicles availed 	unknown	<ul style="list-style-type: none"> 7 states with functioning storage and supply system (RDF) - No data - 7 vehicles availed
ER	Quality of medicines and pharmaceutical services in Sudan improved	<ul style="list-style-type: none"> - No. of drug manufacturers using and complying with Good Manufacturing Practice (GMP) - % of medicine failing the quality test from total tested 	<ul style="list-style-type: none"> - 2 manufacturers using the local GMP - No data 	<ul style="list-style-type: none"> - 2 manufacturers using the local GMP - No data
Product	Quality of locally manufactured medicines improved	<ul style="list-style-type: none"> - Local GMP developed, endorsed and disseminated - No. of drug manufacturers using/complying with GMP 	<ul style="list-style-type: none"> - No. local GMP - 2 manufacturers using the local GMP 	<ul style="list-style-type: none"> - No local GMP - 2 manufactures using the local GMP
Product	Drug Regulation system improved	- No of trained staff in different specialties of medicine regulations	<ul style="list-style-type: none"> - No system - None computeriz 	- Drug regulation system developed and in place

		Indicator	Baseline	Achievement
		<ul style="list-style-type: none"> - Drug regulation system developed; updated system working - No of application files processed - Days needed to process a new drug application 	<ul style="list-style-type: none"> ed old system - 350 files per year - One file takes 360 days 	<ul style="list-style-type: none"> - Registration system updated, computerized and functioning - 3000 file / year - 30 days are need to process a file
Product	Manpower development in all aspects of drug policy, regulation, access and rational use	No of trained staff in different specialties of medicine regulations	Number of trained staff	5 pharmacists are trained
Product	Drug inspection system strengthened	Number of trained staff in different disciplines of inspection	Number trained staff	5 pharmacists are trained
Product	Pre and post marketing analysis system of registered medicines strengthened	<ul style="list-style-type: none"> - Number of post-marketing tested drugs items - Number of trained staff 	<ul style="list-style-type: none"> - 0 test per year - 60% of items can be tested - 30% of types can be performed - 47% of the staff are trained 	<ul style="list-style-type: none"> - 171 items tested - 70 % - 80 % - 47 of the staff are trained
Product	Special training activities in pharmacy practice supported	<ul style="list-style-type: none"> - No. of pre registered pharmacist trained - Pre registration training programme for pharmacist started - CPD Centre established 	<ul style="list-style-type: none"> - 100 pharmacists enrolled in preregistration training program - No program - No CPD centre 	<ul style="list-style-type: none"> - 400 pharmacists are enrolled in pre registration training - Training programme initiated - 50 of the infrastructure completed
ER	Rational Use of Drugs (RUD) promoted and implemented at all levels (prescribers, dispensers and users)	<ul style="list-style-type: none"> - National essential drug list revised - Number of states with trained pharmacist trained in RDU - Number of health facilities with RDU 	Not revised and updated	<ul style="list-style-type: none"> - NEDL revised - 10 states hospitals - No data
Product	Rational prescribing and dispensing by prescribers and dispensers promoted	<ul style="list-style-type: none"> - Number of hospitals and health facilities with essential drug list - Number of hospitals with drug formulary - Number of state hospitals pharmacists 	Zero	<ul style="list-style-type: none"> - 150staff trained in RDU (in 10 states) - 3 hospitals

		Indicator	Baseline	Achievement
		trained in RDU - - Number of hospitals with DTC		
Product	National Drug Information Centre (NDIC) and ADR monitoring unit consolidated	- NDIC centre established and functioning - ADR units established - No. of health facilities reporting to the centre - No. of new staff recruited	- No centre - No ADR unit - No facility	- 1 centre is established - ADR unit established - 3 hospitals - 1 pharmacist is trained
ER	By 2005 Sudan will develop and adopted a national policy for herbal medicines as part of National Drug Policy	- Policy on herbal medicine developed, endorsed - Policy instruments and action plan developed	No traditional and herbal medicine policy	- Herbal and traditional medicine policy developed - National traditional and herbal policy integrated in NDP
Product	National policy for traditional medicine document developed and adopted	- Policy on herbal medicine developed, endorsed - Guidelines for herbal medicine registration developed and disseminated - Action plan developed	- No policy - No guidelines - No action plan	- Herbal and traditional medicine policy developed - Guidelines developed - No action plan
Activity	National policy for traditional medicine developed and adopted	Policy on herbal medicine developed, endorsed	No policy	Policy developed
Product	Plan of action developed for implementation of priority areas (national list of herbal medicines, control and appropriate use)	Action plan developed	No action plan	No action plan

Constraints

The overall implementation of the pharmaceutical programme in 2004 can be considered as a model, but some constraints impeded the process of implementation and can be summarized in the following points:

- Concerning the capacity, the programme was not an exception from the other programmes. The capacity of the pharmaceutical sector, both public and private at both federal and state level, is weak. There is an urgent need to direct resources to fill the gaps in this area.
- The private sector is very attractive to pharmacists, and most of the pharmacists are not willing to work in the public sector. Unless attractive measures for pharmacists are made from the public sector, the balance between the public and private sectors in manpower will not be attained.
- National drug laboratory is still the major bottleneck for drug registration and drug quality control. The efforts done so far to rehabilitate and upgrade it are below the huge needs and additional support is needed to complete it.

Lessons learned

Although it seems that rational use, quality and safety as well as commercial interests can conflict with public health priorities, recent experience shows that private sector can be of added value if its capacity is properly utilized. The private sector played a major role in most of the activities implemented in 2004 and we can say that true partnership between the public and private sector in the field of pharmacy is now shaping. It is also clear that it is essential to strengthen the cooperation with other law-enforcement agencies to invigorate the drug regulatory mechanism.

Future directions

Capacity building of the pharmaceutical sector at federal and state level is the first priority. Attraction of more pharmacists from the private sector to work in the public sector should be stimulated. Mass training programmes in priority areas need to be conducted for pharmacists and other related health professions. More attention is to be given to ensure drug quality of both locally produced and imported medicines. Post marketing surveillance is important strategy and should be fostered. Coverage with essential drugs needs to be increased from the current level and private sector should be encouraged to expand its activities to areas that have not been reached.

Chapter Five: Integrated Control of Communicable Diseases

1. Situation analysis
2. Surveillance system
3. HIV/AIDS
4. Malaria
5. Children's vaccine-preventable diseases control and elimination
6. Leprosy elimination
7. Tuberculosis
8. Schistosomiasis and Soil Transmitted Helminths
9. Leishmaniasis
10. Other tropical diseases in Sudan



1. Situation Analysis

Communicable diseases are the leading cause of morbidity and mortality in Sudan. Malaria, Meningococcal Meningitis, Acute Watery Diarrhoea, Measles, Acute Respiratory Infection (ARIs), Tuberculosis (TB), Typhoid Fever and Bloody Diarrhoea have a huge burden. Sudan, being one of the African Meningitis belt countries, used to suffer widespread epidemics that recur every 8-12 years. Moreover, other emerging and re-emerging diseases continue to constitute a real threat in many parts of Sudan. Yellow Fever, which was not recorded since 1957, has erupted in Southern Sudan in 2003. Ebola, which was first discovered in Southern Sudan and frequently flares up in the Sub-Saharan Africa, constitutes another threat.

Efforts to face and control these diseases cannot be undermined. However, much morbidity and mortality could be averted with more vigilance, watchfulness, proper disease surveillance and early warning, epidemic preparedness and rapid response to the outbreaks.

HIV/AIDS is considered as a generalized epidemic, Sudan being the most affected country in the Eastern Mediterranean region (UNAIDS, 2004). By the end of 2002, the cumulative number of reported cases in Sudan reached 9,791. Based on recent epidemiological surveys, HIV prevalence is now reported to be 1.6% with an estimated 500,000 to 600,000 persons living with HIV/AIDS (2002). The actual registered number of both HIV and AIDS cases is 11,511 (September 2004). Transmission is predominantly through unprotected sexual contacts (97%), but blood safety, infection control in health settings and mother-to-child transmission, are also important concerns. Higher prevalence is reported among specific vulnerable populations, such as among sex workers (4.4%) and refugees (4%), with a considerable variation existing in prevalence rates across different regions of the country.

While Malaria is a leading cause of morbidity and mortality in Sudan, the annual estimated number is 7.5 million cases and 35,000 deaths, accounting for 20-40% of the total outpatient attendance and around 40% of admission. *Plasmodium Falciparum* is the predominant species and the dominating Malaria vectors include *A. Arabiensis*, *A. Gambiae* and *A. Funestus*. Five strata can be identified: Riverine Malaria, Seasonal Malaria, High Perineal Transmission Malaria, Urban Malaria and Irrigated Areas Malaria.

Schistosomiasis is now endemic in all states of the Sudan except Red Sea. The World Bank in 1997 estimated that the minimum population at risk in the Sudan is 24 million, while 5 million are infected. During the last two years, parasitological surveys were carried out in some irrigation schemes (Kinana 80%, Gunaid 60%, Assalya 50% and Sennar 37%).

Leishmaniasis is a vector borne disease, which is transmitted by a sand-fly bite. It is endemic in Sudan, affecting 6 states so far. The Visceral Leishmaniasis (VL) accounts for high mortality in those areas. The yearly disease burden is 6,000-9,000 in North and 2,000-5,000 in South Sudan. There have been waves of VL epidemic in the past years. In the year 2002-2003, the number of cases was triple-fold of what it was in the previous 3 years, thus a huge effort is needed to deal with the increasing load all over Sudan. The lack of knowledge on the vector-character and transmission pattern has made it difficult to plan a concrete method to decrease the transmission rate. However, efforts should be made to understand better and develop an appropriate strategy for vector control. The drug of choice is still Sodium Stibogluconate (Pentostam), but increase emergence of drug resistance has been documented in Sudan (Malakal). Seasonal peak is in November-February.

As for Tuberculosis, an estimated annual risk of TB of 1.8%, which gives an incidence of 90/100,000 smear positive cases, puts Sudan among the high prevalence countries for TB in the Eastern Mediterranean region. Since 1995 the National TB Program (NTP) is gradually implementing the TB programme at all levels of administration within the health sector in accordance with the International Union Against Tuberculosis and Lung Disease (IUATLD). Of course, WHO-approved protocol is being widely used: the effective 8 month TB treatment SCC-DOTS and managed to achieve DOTS ALL OVER by the end of the year 2002. In 1993, the programme pilot project was able to detect only 897 new smear positive cases. As the programme expanded, it could cover 7,737 new smear positive cases in the third quarter of 2002. These figures will rise to 16,900 in the year 2003. All new smear positive cases treated from 1993

to 3rd quarter of 2002 are 89,407 cases. All cases of Tuberculosis treated from 1993 -3rd quarter 2002 are 188,838 cases notified in the country. Age-specific rates were highest among the age groups 25-34. Rates were higher among men. Pulmonary cases represented 80.6% of TB. Among pulmonary cases, 55.4% were new smear positive, 36.8% smear negative and extra pulmonary disease constituted 19.4% of total cases. Case detection rate is 56% and success rate has reached 75.5%. Reliable data on drug resistance are not available. Reference laboratory conforming WHO and IUATLD has been installed by NTP/LHL (the Norwegian Heart & Lung Association) at the national health lab. Increase of TB case notification between 1995 and 1999 indicates improved completeness of notification as well as increased performance of TB programme in all aspects, rather than the incidence increment. Nevertheless, despite the programme expansion and decentralization of services to the peripheries by establishment of 297 diagnostic centres and over 900 DOTS centres, it has been noticed that the number of cases is static, at 27,000 cases per annum from 1999 to 2002.

The Leprosy control programme covers a population of 30 million distributed over 26 states. The prevalence of Leprosy has dramatically reduced in the last 4 years from 0.9 per 10,000 in 1997 to 0.4 per 10,000 in the year 2002. The number of new cases detected annually has been reduced but not significantly. This means that there is still an active transmission of the disease in many states despite of the full coverage by Multi-Drug Therapy (MDT) and good performance of the Leprosy services.

Sudan is known to be endemic for Sleeping Sickness (SS) as well as Lymphatic Filariasis (LF), mainly in the southern part of the country; however the extent and the magnitude of the problems are not detected yet. Recent surveys of SS were conducted in Equatorial Area confirmed a sero-positive rate of 40% for SS by using the CATT method. A study of LF distribution was performed in Gondokro, Loi, Farajak and Rajaf in Equatoria zone by using the Immunochromatographic Card Test (ICT), revealed a positive rate of up to 50%. Moreover, Bahr Elgazal and Blue Nile were confirmed to be endemic applying the same methods.

Guinea-worm Disease is a debilitating disease caused by a large nematode (roundworm), *Dracunculus Medinensis*. At the beginning of the 20th century, Guinea-worm Disease was widespread in many countries in Africa and Asia. In 2000, only 75,223 cases (provisional) were reported, all from Sub-Saharan Africa. This should be compared with an estimated 3.6 million cases in 1986 and a cumulative number of 1.2 million cases reported after all countries made their first national search. However, the burden of disease has dramatically reduced over the past 16 years with 54,638 cases reported in 2002. This reduction in cases is largely due to the effort of national eradication programmes, supported by a coalition of international organizations. Sudan accounted for 76% (41,493) of the worldwide reported cases in 2002, the vast majority of which were reported from Southern Sudan.

2. Surveillance system

One of the vital steps needed and planned for was the establishment of the Integrated Communicable Disease Surveillance System (ICCD), initiated in 2004. Moreover, ICCD surveillance was strengthened, especially in the Darfur states, benefiting from the availed fund and resources for the crisis situation. National guidelines and standard case definitions for the priority diseases have been also developed.

The ICCD system is newly established, thus the need for training has been urgent. In this regard, 30 health personnel from the states were trained on software, data management and electronic reporting of surveillance data, while another 30 were trained during a national workshop to develop epidemic preparedness and response measures guidelines, as well as on GIS for disease mapping. Another 30 health personnel were trained on outbreak investigation and control and 20 Directors of Ports in port health. These cadres with such training will push forward the activities of communicable disease surveillance. Moreover, the capacity of surveillance system was further strengthened by availing supplies (mainly computers) to the states units.

		Indicator	Baseline	Achievement
ER	By the end of 2005 ICCD management system will be implemented in 10 states	% of states with functioning integrated system	Zero	Zero
Product	ICCD management system in place	Report document of management system and output reports of ICCD system	Zero	ICCD system at national and states levels developed & partially endorsed
Product	Integrated Surveillance system strengthened	% of states with functioning system	15 states	19 states
ER	By end 2005, Integrated Communicable Disease Surveillance (CDS) and Response System will be extended to 5 additional states to reach full coverage (19 states)	% of states with ICCD Surveillance system	15 states	19 states
Product	National communicable diseases surveillance guidelines and reporting forms made available and used at all levels	% of states with guidelines & reporting forms	79% (15 states)	100% (19 states)
Product	Strengthening capacities of health personnel ICCD surveillance system	% of states with trained staff on integrated surveillance system	79%	100%
Product	Surveillance and response included in the curricula of under graduate and post graduate medical training	% of medical schools incorporated the Surveillance and response in the curricula	Zero	Zero
Product	The coordination between the national CDS and the EWARN South Sudan increased	No. of meetings between two sides and level of inclusion of United National Front (UNF) people in national training	Zero	Zero
Product	Suitable computer application developed and personnel trained on IT	- % of personnel trained - functioning computer applications developed	Zero	100% of computer application developed but not downloaded at states.
ER	By end 2005 diseases outbreaks are timely detected and controlled	% of outbreaks detected in time	N/A	N/A
Product	Epidemic preparedness and response plan in place	% of states developed localities endorsed plan	N/A	- 100% states - 0% localities
Product	Improved community awareness for emergencies and preventive measures	% of positive shift in Knowledge Attitudes and Practice (KAP) related to Information, Education and Communication (IEC)	No info	No. KAP done

		Indicator	Baseline	Achievement
ER	By end 2005, pilot project for involvement of the private sector and other non MoH organization in the national communicable disease surveillance system conducted in 3 states.	% of states with project to involve private sector	Zero	Zero
Product	Private sector NGOs and other partners involved in the disease surveillance system in the pilot states.	% of states with project to involve private sector	Zero	Zero
ER	By the end 2005 port and quarantine health in 7 main port and entry points strengthened.	% of functioning points of entry out of target	29%	71%
Product	Port health and quarantine units functioning in 7 main ports	% of functioning points of entry out of target	29%	71%

Constraints

- Shortage and rapid turnover of trained personnel in surveillance and epidemic management at all levels.
- Non-involvement of the private sector institutions in communicable disease surveillance.
- Weak public health laboratories and inability of timely confirmation of outbreaks.
- Weak communication between different levels of the surveillance system.

Lessons learned

Integration of the activities of communicable disease programmes was not an easy task. Development of the general framework of integration that delineates the areas of integration between different programmes and demarcates the role of each in the integrated activities is the initial step in launching an integrated programme for ICCD. It is clear that the ICCD programme can serve as a national resource for all programmes but the disease surveillance is the one that will benefit the most. Commitment from programme directors is the safeguard for the success of the ICCD. Leadership of the epidemiology department, which is supposed to lead the integrated programme, should be fostered.

Future directions

Strengthening performance of ICCD is the main focus for the future. Capacity building for the disease surveillance programme at both federal and state level will be on the top of the priority list. Field epidemiology training for federal and state staff is the best strategy to incrementally upgrade capability, increase efficiency of the surveillance system and enhance responsiveness to outbreaks. Strengthening the laboratory part of the surveillance system is also a priority. The cooperation initiated with the WHO Collaborating Centre in Lyon, in this regard, shall continue and the system developed with their collaboration should be implemented in Khartoum and extended to priority states. Meanwhile, effort should be made to the best use of the collaborative activities with NAMRU-3. Laboratory-based surveillance activities started in Khartoum and more recently in the Darfur states have to be scaled up to include other states. Possibility of extending the cooperation with NAMRU-3 in areas other than Meningitis is highly recommended.

3. HIV/AIDS

The effort has been directed to streamline activities as to improve the capacity of the states to effectively respond to the epidemic: comprising series of training courses and workshops organized at the state level, including training in STIs syndromic management, blood safety, care and treatment as well as surveillance. The adoption of the Integrated Management of Adulthood Illness (IMAI) module and training of providers on it, as part of the 3 x 5 initiative, was initiated during the year 2004. More than 200 providers from high burden states were trained. Moreover, the development of the national policy document and the revision of the national multi-sectoral strategic plan were accomplished successfully.

The provision of safe blood transfusion has substantially improved from less than 80% in 2003 up to more than 95% by the end of 2004. This was achieved through continuous monitoring and supervision of blood banks, training of staff and creation of a system for distribution supplies to guard against any stock out crises, particularly in the remote areas.

The programme has made good progresses in the implementation of the syndromic management of STIs, whereas more than 300 facilities started to apply the approach at PHC level in different states, increasing the national coverage to more than 25%. It is worth mentioning here that, only Khartoum state was adopting the approach before 2004.

The training of programme focal points from states and NGOs on programme management as part of the knowledge hub initiative was recently initiated and should be implemented. As an acknowledged step, the first pilot project on Prevention of Mother to Child Transmission (PMTCT) in Sudan was initiated during 2004 covering 3 high burden states.

Regarding absorption capacity, overall improvement in the utilization of the allocated resources was gained, and National HIV/AIDS Control Programme (or: Seroconversion Narratives in AIDS Prevention (SNAP)) capacity was improved through training of focal points on programme management, advocacy and monitoring and evaluation. As a result, remarkable improvement has been made in monitoring, coordination and supervision by the central programme for plans and activities implemented at the state level.

Improved Voluntary Counselling and Testing (VCT) services through training of counsellors and provision of supplies to the VCT centres, has been achieved. Currently, more than 55 VCT centres are established in different states. The adoption of the second generation surveillance through the establishment of 14 sentinel sites and behavioural surveillance surveys was also initiated in 2004 aiming at improving national capacity to monitor the trend of the epidemic. In 2004 the programme has also contributed to the provision of essential supplies and drugs, including drug for blood safety, STIs and HIV diagnostics. Innovatively, working with special groups including jail inmates has been also implemented.

		Indicator	Baseline	Achievement
ER	HIV/AIDS: Reinforcing HIV/AIDS prevention education through increased awareness and promotion of safer sexual behaviour	- % of population who know about HIV/AIDS - Consumption rate of condom	- 80% of the population know about HIV/AIDS - < 5 % use condoms in their last sexual intercourse	Not verified yet
Product	Sustain HIV/AIDS awareness campaigns through TV and Radio broadcasts at national and state level	Number of hours broadcasted	No base line available	At least 10 functions targeting specific groups (Uniformed services, youth) were conducted per state
ER	HIV/AIDS transmission through blood	% of hospitals providing safe	81% of blood banks were	> 95% of blood currently

		Indicator	Baseline	Achievement
	transfusion prevented	blood services	providing safe blood services	providing safe transfusion service
Product	Establish HIV/AIDS screening of blood transfusion and donated blood at targeted hospital services	% of hospital providing safe blood services	81% of blood banks were providing safe blood services	> 95% of blood currently providing safe transfusion service
ER	Availability and accessibility to HIV voluntary counselling and testing services, as well as support for persons living with HIV/AIDS ensured	- No. of PLWA who were selected for treatment - No. of person who visited VCT	- 100 were on Antiretroviral (ARV) treatment before 2004 - < 400 visited VCT centres before 2004.	- 500 are currently on treatment - 1959 persons visited VCT centres in 2004
Product	New HIV/AIDS voluntary counselling and testing (VCT) services established	No. of new functioning VCT	2 VCT centres were available before 2004	13 VCT and 50 counselling centres established during 2004
ER	Strengthening capacity and resources for the implementation, management and monitoring-evaluation of programmes at central and state level	% of well functioning AIDS cell at all levels	6 focus states were having well functioning AIDS Cells before 2004	19 State AIDS cells out of 20 cells were properly functioning during 2004
Product	Undertake comprehensive training for national and state AIDS cell staff in programme development, implementation, monitoring and evaluation	% of states completed trained of AIDS cell staff	6 focus states were having well functioning AIDS Cells before 2004	95% (19 State AIDS cells out of 20 cells were properly functioning during 2004)
Product	Develop and link national and state-level actors in a common information system on the HIV/AIDS response, including focal points of non-health sectors	% of sector at national & state level included in to information system	No sectors were reporting	6 (Education , Guidance, Interior, Defence, Youth and Higher Education) sectors are regularly reporting and coordinating with SNAP
ER	AIDS/HIV surveillance system in Sudan strengthened	% of coverage with functioning HIV/AIDS surveillance system	No sentinel sites were functioning before 2004	14 sentinel sites were established in six states during 2004
Product	National AIDS/HIV surveillance re-established	No. of sentinel sites with trained personnel	No sentinel sites were functioning before 2004	14 sentinel sites were established in six states during 2004
Product	Enhance STI clinical management and HIV/AIDS care	- % of patients treated from STIs - No. health	- No information available - 491 of health facilities (only in	- >20,000 received Syndromic management for

		Indicator	Baseline	Achievement
		facilities adopting syndromic approach and equipped essential equipments drugs	Khartoum states)	STIs - 735 (25% of PHC facilities are now adopting the syndromic approach nationwide

Constraints

- Weak implementation capacity of states and sectors. As most of the planned implementation at state level, the most crucial constraint has been the weak capacity. Variability in capacity is related to such factors as staff turnover in some states and the variability of commitment by state leaders.
- Inadequate capacity on monitoring and evaluation.
- Poor coordination and integration with other WHO supported programmes.
- Shortage in support to the 3 x 5 initiative. The national goal being put at 20,000 patients, achieving such a national goal necessitates a comprehensive response that include scaling of VCT services, training of care providers and provision of ARVs and drug for opportunistic infections.

Lessons learned

Challenges facing the programme are still lying ahead. Implementation of the global fund project and 3 x 5 initiative requires rapid improvement of the programme-wide absorptive capacity. The post-conflict era will pose more strain on the programme with increasing needs due to improved accessibility to new areas and increase population mobility. More efforts are needed to build the federal and states' capacity to pave the way for effective implementation.

Mechanism should be created to strengthen the integration of HIV/AIDS activities within FMOH programmes. Experience from other countries show that more efforts and inputs are needed to achieve the MDGs, and huge resources are needed if any change in the disease prevalence is to be made. Decentralization and delegation of implementation to the states programmes are an essential prerequisite for an effective response.

Future directions

With the promising peace, a lot of challenges will emerge that necessitate the inclusion of HIV/AIDS in the post-conflict response, as well as in the long run, especially regarding demobilized uniformed forces, returnees, refugees, IDPs and stayers, including vulnerable children and women. Comprehensive planning and resource mobilization are needed to address priority areas for immediate interventions in the peace era, including provision of essential HIV/AIDS services such as VCT, STIs management, Blood Safety and HIV/AIDS awareness for the vulnerable. Capacity building is among the priority areas for future strategic direction. Allocation of more resources to build the state and local community-based capacity to implement activities is highly needed. More resources and partnership building are also needed to achieve the national target of the 3 x 5 initiative. For effective use of resources, creation of a mechanism to ensure integration within the MoH-supported programmes, especially at the PHC level is proved to be an effective strategy. On the other side, creation of an effective mechanism to improve monitoring and evaluation to measure the results against the implementation is needed.

4. Malaria

Remarkable work has been done in the control of Malaria in the country. One of the main achievements is the implementation of the new Malaria treatment protocol. Chloroquine, which was the first line of treatment of simple Malaria cases, has been replaced by new Anti-Malarial Combination Therapy (ACT) in which AS plus SP is the first line drug and Coartem being the second line treatment option. Plan for the introduction of the new protocol in the country is now under implementation. Many seminars and awareness raising sessions about the new treatment regimen were conducted for medical doctors, medical assistants, and pharmacists (over 4000 were trained in ACT) in different states. In Darfur states, 138 medical doctors and 516 medical assistants were trained on the New Malaria Drug Policy (ACT) through the Darfur Emergency Initiative. Rapid Diagnostic Test (RDT) training was also conducted in Darfur where 88 participants completed the course. Both ACT and RDTs were made available in Greater Darfur through WHO support.

Capacity building was also the main concern for the National Malaria Control Programme (NMCP). Seven national focal points were recruited to support RBM implementation in the states. Training of medical doctors and public health officers on management aspects of the Malaria programme and public health issues in relation to Malaria was one of the priorities. In this relation, the diploma course of Gazira Blue Nile Institute continued and 25 medical offices and public health officers were recruited to the course. Expenditure of the course is shared by UNICEF (60%) and WHO (30%), and 10% by GoS. Two candidates from the NMCP staff were sent to the Bander Abbas diploma course through WHO support. In the area of social marketing, WHO supported the COMBI team leader to attend Integrated Marketing Communication for Behavioural Impact in Health in the United States.

Some activities were implemented in the area of monitoring and evaluation. A six-day workshop in Monitoring and Evaluation (M&E) for staff members from the centre and the states was conducted. A system for monitoring and evaluation was also put as an integral part of the Malaria Free Initiative. One review meeting for state Malaria coordinators was conducted at River Nile State, in Atbara. A technical support mission from WHO together with four national teams visited Khartoum, Gezira, N. Kordofan and S. Kordofan states to monitor RBM control interventions. Three staff members from NMCP monitored Malaria control interventions in Great Darfur and carried out Malaria control activities. Review visits to Kassala, West Nile, Sinnar, and Khartoum were done by teams from NMCP. During the visits, designing and programming of epidemic threshold aspects were carried out and 10 statisticians (5 from West Nile and 5 from North Kordofan) were trained on data entry and analysis of epidemic threshold data. Malaria coordinators from the states were also trained on epidemic threshold.

In the area of personal protection 25,000 pieces LITNs, from the 2003 WHO budget, were received in 2004 and distributed according to COMBI methodology. A total of 125,000 LITNs from UNICEF were distributed. 75 public health officers and sanitary overseers were trained in vector control and mosquito net impregnation. To expand the availability and to promote the usage of ITNs, networks for distribution of ITNs were established in partnership with the Financial and Investment Bank (for procurement) and the commercial and private sectors (for distribution). So far, 370,000 nets were procured through this initiative.

For vector control the following strategies were implemented:

- Construction and rehabilitation of fish raring ponds;
- Distribution of Larvivorous fish;
- Provision of protective clothes;
- Monitoring of insecticide resistance; and
- Mapping vector distribution and resistance.

		Indicator	Baseline	Achievement
ER	Malaria mortality and morbidity will be decreases by 20% by the end of 2005	- <5 mortality from all cases - Malaria prevalence rate - No. of Malaria cases from sentinel sites	- 180/100 000 in 2000 - No baseline - No baseline - 91.7/100.00	Information not available

		Indicator	Baseline	Achievement
		- No. Malaria cases from annual statistical reports - No. of Malaria deaths - Case fatality rate from hospital cases	0 population UN-Malaria -9/1000 from population -1-5.2%	
Product	60% of patients received appropriate treatment within 24 hrs of initiation of fever	% of febrile patients received appropriate treatment with 24 hrs of initiation of fever	No baseline	Information not available
Activity	Strengthening of Malaria Microscopy Network in 20 districts incl. public, private and NGOs labs (ICCD)	% of laboratories working according to national guidelines in 20 localities	No baseline	Information not available
Product	Severe Malaria cases managed appropriately at 75 referral hospitals so that CFR reduced by 50%	- % of Malaria cases managed appropriately at targeted hospitals - % of hospitals in which Malaria, Malaria death determinants identified	- No baseline - 7% "5 hospital out of 75"	- Information not available - 7%
Product	Malaria related data regularly updated and appropriately analyzed for planning and evaluation	- % of Malaria epidemic detected - % of targeted states with functioning surveillance system	- Not relevant - 19% " 5 out of 26 states	19%
Product	RBM partnership consolidated and extended and Programmes effectively managed at all levels	- % of functioning partnership at state level - % of state Malaria control programmes led by trained person - % of Malaria control programmes with at least 3 persons with minimal training	- No baseline - 20% - No baseline	- Information not available - 46% - 34.6%
Product	Malaria be eliminated from certain areas	- % of states starting moving towards elimination - % of states with standard action plans	- 25% (2 out of 8 states) - 10% (2 out of 19 states)	- 25% - 63% (12 out of 19 states)
ER	Prevention of Malaria, Leishmaniasis, L.F and other vector borne diseases through use of integrated vector control measures in priority areas	% of states with well function IVM	Zero	Zero
Product	ITNs made available and affordable for the High Risk Groups in known distribution outlets.	- % of children slept under ITNs last night - % of pregnant mothers slept under ITNs last night - % of households with ITNs	- 0.4% national baseline - No baseline - No baseline	- information not available - information not available - 32.5% in targeted states
Product	Mosquito population to be reduced to <1 mosquito per room in priority states	- Mosquito density - % of targeted areas using Larvivorous fish - % of targeted houses covered with IRHS	- No baseline - 33% (one area out of 3) - No base line	- Information not available - 100% - 92.7% in targeted states

		Indicator	Baseline	Achievement
		- % of breeding sites treated	- No baseline	- 96% in targeted states
Product	Insecticide resistance continuously monitored	- No. of states with regular insecticides resistance reports - % of states with capacity to continually monitor insecticides resistance	- No baseline - 11% (2 out of 26 states)	- No information available - 11%
Product	Capacity for integrated vector control management developed at all level to sustain any success	- % of localities with capacity for IVM - % of states with at least one person trained in vector control	- No baseline - No baseline	- 16% (3 out of 19 states) - 100%

Constraints

- Weak and inadequate number of transportation facilities affected the work especially supervision and federal support to states.
- Communication tools between the federal level and the states and inside the states were real jeopardizing factors.
- Delay in cash assistance release from WHO.
- Rapid staff turnover mainly in the states.
- Extra budgetary funds do not cover the gap in the regular budget.

Lessons learned

The experience of Gazira diploma course in promotion and retention of the states' Malaria staff proved to be effective and there is a need to continue and to promote it. The exercise of micro-planning at the local level done in 2003 and 2004 helped a lot in making more realistic plans and improved the monitoring process. There is now solid evidence that the Malaria Free Initiative reduced Malaria mortality and morbidity markedly in Khartoum and Gazira States.

Future directions

Support to enhance the implementation of ACT-based new treatment protocol is needed. Collaboration with partners in UN agencies, the Global Fund to Fight Malaria, HIV/AIDS and TB, the industry and private sector is needed in order to ensure the availability of new drugs. Partnership with the private sector shall be continued and strengthened for availing adequate numbers of ITNs. The Malaria Free Initiative (especially in Khartoum and Gazira) should be revitalized and funds should be availed for the required sustainability.

5. Children's vaccine-preventable diseases control and elimination

Significant progress has been made towards interruption of transmission of Wild Poliovirus in the country. The country was free from cases for more than three years till emergence of new imported cases from outside the country (124 cases). Mop-up activities and National Immunization Days (NIDs) were implemented to stop the transmission. Acute Flaccid Paralysis (AFP) surveillance continues working with high quality. On the other hand, Measles mortality and morbidity are significantly reduced by conducting Measles catch-up campaigns in some states and mop-up campaigns in certain areas. Concerning routine immunization, 79% Diphtheria, Tetanus Toxoids, and Pertussis (DTP) vaccine nationwide coverage has been achieved and verified by Documentation Quality Assurance (DQA). Steps were taken for introduction of Hepatitis B vaccine as a new vaccine in the country.

Indicators	Baseline	Achievements
Non-polio AFP rate	2.6	3.13
Percentage of adequate stool samples	90%	87%
SIA coverage (Nov. 04)	No Campaign	99.3%
Measles out-break lab. confirmed	NA	1
Vaccination coverage rate DTP3/ OPV3	74%	79%
TT2+ pregnant women	35%	37%
% of districts achieving > 80% TT2+ coverage	0	0
BCG coverage rate	73%	71.2%
Hep B coverage rate	NA	0

Constraints

- Security (the Lord's Resistance Army (LRA) and uncontrolled militia).
- Turnover of the qualified staff.
- Competing activities (Polio crisis & public health emergencies).
- Financial sustainability (Governmental contribution).
- Population movement and/or denominator issues.

Lessons learned

The micro-planning approach adopted by the programme is proved to be effective and realistic in achieving the planned targets. Database of the programme, which has been built overtime assists in planning and directing the work and improving the monitoring system. The activities of the programme are closely monitored through a clear system for monitoring and evaluation with a feedback communication and supportive supervision. The experience of Global Alliances for Vaccines and Immunization (GAVI) was effective in developing a performance-based budgeting system in the programme.

Future directions

The work will accelerate in 2005 to reach the target set for GAVI (85% DTP) and for tracing of defaulted cases. Measles catch-up campaigns will continue to cover the rest of the states. Documentation of the work and enhancing use of data at the lower levels will be another priority area for 2004. Integrated surveillance for EPI targeted diseases will be pushed forwards making use of the infrastructure and skills built for AFP surveillance. The work will also include strengthening social mobilization activities for involving more partners in the work. Rehabilitation of programmes in war-affected areas and the issue of financial sustainability are other burning areas that should be addressed in 2005.

6. Leprosy elimination

As Leprosy elimination programme has achieved a state of prevalence of <1 case/10,000 at local level and a coverage rate of 100%, efforts has been directed towards ensuring sustainability of such optimal situation through supervision. In this regard, four field supervisory visits to the states were completed and one workshop for state coordinators has been conducted.

		Indicator	Baseline	Achievement
ER	To detect 95% of expected new Leprosy cases (1500/year) by 2005	Detection rate	75%	48%
Product	Strengthen and capacity building of health workers to detect all cases	- % of districts with capacity to diagnose Leprosy - % of personnel trained	- 100% - Not relevant	- 100% - 100% (160 persons)
Product	Surveillance system strengthened	% of states with functioning surveillance	100%	100%

Constraints

Civil war and insecurity in West and South of Sudan is the main barrier for accessibility and service coverage and sustainable interventions.

Lessons learned

MDT is proved to be an effective strategy in elimination of the disease and effort is needed to prevent development of drug resistance through promotion of patient adherence to treatment. The policy of reducing number of health facilities by applying the master clinic policy proved to be effective in reducing the cost, improve the quality of service, decrease the burden on the programme and ensure sustainability.

Future directions

Integration of the programme into PHC will continue to be challenging, and needs more effort to ensure the sustainability of the programme. The forces will also be directed towards rehabilitation of disabled patients and to reduce the social stigmatization. The focus will also be directed to implementing Leprosy elimination strategies in pockets of high endemicity and in areas with weak surveillance system, especially in the war-affected areas.

7. Tuberculosis

The programme requested about 98% of the allotted budget for its activities early at the first third of 2004. The country achieved the target of DOTS ALL OVER where the targeted coverage with the WHO recommended strategy of direct observed short course therapy DOTS was achieved and moved to the QUALITY OF DOTS with its four components quality of drugs, quality of microscopic network, strengthen the partnership and addressing the TB control challenges. One of the major activities initiated in 2004 was conduction of quality assurance of microscopic network by blind rechecking system, integration of TB drug distribution within Revolving Drug Funds (RDF), strengthening of partnership with other sectors including schools, universities, workplaces and NGOs to increase their capacity and input in TB control "SUDAN STOP TB INITIATIVE" and the national tuberculin survey which is expected to update the disease prevalence rate in the country and will end within the first half of 2005. Formulation of agreement protocol and expansion in other sectors for providing high quality of TB management and follow up to the people of limited access to FMoH health facilities such as police, military and prisons sectors. To increase the capacity of the states' TB units, a training workshop to increase the managerial capacity of the states' coordinators was conducted. Another training workshop for surveillance officers in TB surveillance was also carried out. To enhance the role of other sectors, coordination meetings and training of other health providers were held, to promote their adherence to the TB treatment protocol, and the states' coordinators, deputy coordinators from other sectors and SMOH officials were trained. Launch of coordination with HIV/AIDS programme and encourage state teams to implement at state level, start of training about TB/HIV epidemiology and addition of training on challenges to the TB control such as prevention and management of Multi Drug-Resistant (MDR) cases and suspect of HIV and dual infected patients counselling to the package of NTP training activities. Supplies were availed to support the states' implementation where computers and patients' cards and records were made available.

		Indicator	Baseline	Achievement
ER	Established high-quality sustainable and comprehensive DOTS programme to achieve Global Targets for TB control	- % of TB case cured - detection rate	62.2 (2002)	Not complete

		Indicator	Baseline	Achievement
Product	National Tuberculosis Program achieved global targets	- % of TB case cured - detection rate	- 82.2 % success rate (2002) - 56 % detection rate	- 19 states with well-functioning TB logistic system (100%) - 19 states with well-functioning surveillance system. - 19 states with 100% of population covered with diagnostic & treatment centres (100%). - 100% of drugs purchased
ER	End 2005, prevalence of Schistosomiasis, Soil-Transmitted Helminthes reduced by 20% in 8 states (Khartoum, Gezira, Sinnar, Gadarif, Kassala, North Kordofan, Blue and White Nile)	- Reduction in the prevalence rates of the disease - Number of states with functioning Schistosomiasis control units	Information not available. - 13% (one out of 8 states).	- Information not available. - 63%
Product	Situation analysis of Schistosomiasis and STH conducted	% of localities with disease control & measures conducted	13% (one out of 8 states)	- 63% of states report on situational analysis. - 5 states out of 8 partially covered with mass treatment for de-worming.

Constraints

- Due to the Darfur crisis where the work of the programme has been widely affected, the DOTS strategy was disrupted due to the rapid patient movement.
- RDF system is not yet expanded to cover all the 22 states where NTP is present.
- Lack of funds for NTP and also to the real response from HIV/AIDS programme to the NTP/SNAP collaborative activities.
- Lack of support for the programme supervision activities at both national and state levels to sustain the results in quality assurance or even to maintain the expansion.

Lessons learned

- Partnership with other sectors provides a key role for community motivators in TB control.
- Addition of challenges to TB control such as HIV or MDR is of great benefit in prevention or detection of affected patients.
- Integration with RDF chains in both covered states assists in terms of timely drug distribution and regular inventory list reports.
- Involvement of other health providers in TB control has its great input in improvement in QUALITY OF DOTS.

Future directions

The programme will be supported to sustain the achievements of the first phase, and to move to the QUALITY OF DOTS. This will be achieved by DOTS comprehensiveness through promotion of involvement of the private sector and other government sectors. Moreover, more efforts are needed to start activities in the newly accessible areas in the war-affected zones. More effort is also needed to upgrade the quality of the TB

microscopy network and the referral central diagnostic services. Special work needs to be directed towards the area of drug resistance through conduction of operational researches. Defaulters-tracing will be among those priority areas that need special attention.

8. Schistosomiasis and Soil-Transmitted Helminths

More than 75% of the allotted budget for this programme is directed to purchasing supplies and equipments, to strengthen the diagnostic capabilities of the programme. By the end of 2004, all plan items were requested. To upgrade and update the database of the programme, surveys were conducted among school pupils to detect the prevalence rate of the disease in Khartoum, Gazira, Sennar, and Blue Nile States. The surveys were followed by mass treatment of the school pupils or treatment of infected pupils according to the results. In the mean time, a training workshop was conducted for statisticians from Ubu-Oshar National Centre for Schistosomiasis on data base systems. To improve the diagnosis, standards and procedures for laboratory were developed. Posters were developed and distributed to enhance community awareness.

		Indicator	Baseline	Achievement
ER	Prevention of Malaria, L.F Leishmaniasis, and other vector borne diseases through use of integrated vector control measures in priority areas	% of states with well-functioning IVM	Zero	Zero
Product	ITNs made available and affordable for high risk groups in known distribution outlets.	-% of children slept under ITNs previous night -% of pregnant mothers slept under ITNs previous night -% of households with ITNs	- 0.4% national baseline - No baseline	- information not available - information not available - 32.5% in targeted states
Product	Mosquito population to be reduced to <1 mosquito per room in priority states	-Mosquito density -% of targeted areas using Larvivorous fish -% of targeted houses covered with IRHS -% of breeding sites treated	- No baseline - 33% (one area out of 3) - No baseline	- Information not available - 100% - 92.7% in targeted states - 96% in targeted states
Product	Insecticide resistance continuously monitored	-No. of states regular report on insecticides resistance -% of states with capacity to continually monitoring insecticides resistance	- No baseline - 11% (2 out of 26 states)	- No information available - 11%
Product	Capacity for integrated vector control developed at all levels to sustain any success	-% of localities with capacity for IVM -% of states with at least one person trained in vector control	No baseline	- 16% (3 out of 19 states) - 100%

Constraints

- Weak capacity of the programme at national and state levels.
- Weak epidemiological surveillance of the disease.
- Weak basic services in the endemic areas, especially safe drinking water.
- Proper surveys on Soil-Transmitted Helminths are lacking.
- Lack of transportation facilities for field supervision, particularly at the state level.

Lessons learned

Lessons learned from the region and in Sudan show significant reduction in the overall prevalence and in the intensity of infection following introduction of mass chemotherapy. Access to safe water and sanitation and improved hygiene are also important to control Schistosomiasis and Soil-Transmitted Helminths. Steps taken so far, in integration of the epidemiological surveillance of the disease within the integrated package of communicable diseases, are, although still weak, expected to yield good results in the near future.

Future directions

The common package for the control of both Schistosomiasis and Soil-Transmitted Helminths with regular treatment of high risk groups, particularly school children, will continue in 2005. More funding is needed to secure the purchase of praziquantel. Active surveillance needs to be strengthened as part of the integrated approach and diagnostic capabilities will be upgraded.

9. Leishmaniasis

The work in this programme in 2004 has been below expectations. The only requested item was Supplies and Equipments, which constitutes 22% of the programme budget.

		Indicator	Baseline	Achievement
ER	Proper diagnosis and appropriate treatment for Visceral Leishmaniasis (VL) and Post Kala azar Dermal Leishmaniasis (PKDL) patients in place in 80% of treatment centres in 6 targeted states (Gedaref, Sennar, Blue and Upper Nile, Unity and South Kordofan).	% of targeted health facilities providing appropriate diagnostic and treatment services	Info not available	Information not available
Product	85% of patients in each centre received appropriate treatment by trained personnel.	% of patients received appropriate treatment by trained personnel	Info not available	Information not available
Product	A proper lab diagnosis for VL patients in place in 6 states (in coordination with ICCD)	No. of centres with proper lab diagnosis	Info not available	Information not available
Product	Epidemiological situation of Leishmaniasis in Gedaref, Sennar, Blue and Upper Nile updated	% of states with epidemiological of developed VL situation disseminated	Info not available	Information not available
Product	An active IEC programme is running by Village Health Volunteers (VHVs)	% of states with functioning IEC program	Info not available	Information not available

Constraints

The main problem of the programme has been the rapid turnover of the senior staff. Poor capacity of the programme was an additional impediment for the work.

Lessons learned

Due to displacement of non-immune populations to endemic areas, foci of disease outbreak started to appear. Most of the VL control activities have been carried out by NGOs. The partnership developed with NGOs at state and federal level proved to be effective in fostering efforts for disease control.

Future directions

Implementation of VL prevention and control measures to cover all the affected areas is a real challenge, given the prevailing situation and the weakness and low coverage of the health system, especially in the transmission areas. Integration of the disease preventive and control measures into the already available health services in these areas will be a cost-effective strategy.

10. Other tropical diseases in Sudan

The Lymphatic Filariasis (LF) and Sleeping Sickness (SS) programmes are receiving extra-budgetary funding from WHO. No regular budget is available for the above programmes. Most of the extra-budgetary funds are allocated for mapping surveys. Drugs, laboratory reagents and rapid check kits for SS & LF are provided by WHO out of the extra-budgetary money.

All LF surveys conducted in southern and some northern states reveal high endemicity rates: in East Equatoria 5 Administrative Units (AU) out of 24, 16 AU out of 17 AU in Sennar, 9 AU out of 12 AU. In Blue Nile 9 AU out of 11 AU were found LF endemic. For SS It was found to be endemic in East Equatoria and Bahar Eljabal states and other areas still not accessible (West Equatoria, South Darfur and Blue Nile).

A diagnostic and treatment centre was established in Juba, but needs further enforcement. One general practitioner and laboratory technicians were trained and are responsible for the SS work in Equatoria zone.

For Guinea Worm (GW) disease in 2004, the programme had 14 endemic states reported 1,015 new cases of which 540 cases were contained with a containment rate of 53%. Total number of endemic villages was 600, and the coverage by village volunteers is at 96%. The coverage rate by health education sessions in the 600 villages was at 79%. Availability of safe drinking water is at 28% of the endemic villages. Vector control is at 10% during dry season only.

		Indicator	Baseline	Achievement
ER	Sleeping Sickness and Lymphatic Filariasis: Improved Epidemiological knowledge and decrease the prevalence of SS&LF	<ul style="list-style-type: none"> - SS & LF epidemiological map developed - % of states with functioning SS&LF surveillance system. 	25%	50%
Product	Situation analysis in highly endemic accessible completed and strengthening the surveillance system.	<ul style="list-style-type: none"> - Detection rate of SS&LF. - Treatment rate of SS & LF. - % of states with functioning surveillance system 	<ul style="list-style-type: none"> - Zero - 50% of states with functioning surveillance system 	<ul style="list-style-type: none"> 100% - Zero% of states with functioning surveillance system
Product	Building Technical capacities at the federal & Local levels to enable them to provide services.	<ul style="list-style-type: none"> - % of target states with required technical capacity - % of TOT trained - SOPs developed & disseminated 	<ul style="list-style-type: none"> - 16 states - 16 - 2 	10

		Indicator	Baseline	Achievement
Product	50% of means of diagnosis of SS and treatment of SS and LF provided	No. of diagnosed cases which received treatment	50%	50%
Product	To develop the strategic plan for the SS control and LF elimination program	Strategic plan made available & disseminated	Zero	50% (only SS)
ER	By 2005 Guinea Worm will be eliminated in the northern states	Number of new cases reported	No. of endogenous cases reported	Zero endogenous cases
Product	Strengthen the technical capacity at the state, and locality level to enable them to provide services.	- % of target states/VVs & supervisions with technical capacity - % of target TOT trained - SOPs developed & distributed	- 100% - 100% - Zero	- 100% - 100% - Zero
Product	Awareness of population is raised	Positive changes in KAP indicators of the population IEC material available & distributed	- Not available - Not relevant	- Baseline KAP was entreated 50% - 100% (funded by Global 2000)
Product	Supervision on GW activities	- % of states developed supervisory system. - % of visits out of target	- 100% - Not relevant	- 100% - 100%
Product	Disease surveillance.	% of states/localities with functioning surveillance system	100%	100%

Constraints

- Lack of administrative stability.
- Lack of federal and state financial support.
- Lack of sufficient transportation and communication means.
- Climatic and topographic difficulties.
- Land mines, tribal conflicts and social instability.

Lessons learned

Integration and coordination at federal, state and local levels with all concerned partners is a key factor in achieving the GW elimination goal.

Future directions

Capacity building will be the main undertaking of the programme in the near future. Strengthening surveillance system is another priority area with establishing surveillance system in formally GW endemic villages. Supportive supervision is a core strategy for sustaining capacities. Political commitment is also needed for the final push of elimination of the disease. The programme starts preparation for a national GW day to be held in one of the southern states under the auspice of President Basher and Dr. John Garang with the presence of the former U.S. President Carter. For Sleeping Sickness extension of the service coverage will be the priority especially after the peace agreement. WHO/AVENTIS partnership needs to be consolidated to avail more drugs to newly discovered cases. For LF the priority is to complete the mapping and to achieve high coverage with mass drug administration in endemic areas.

Chapter Six: Health Promotion

1. Health Promotion Directorate
2. Supportive environment for health
3. Integrated Management of Childhood Diseases
4. Reproductive Health and family planning
5. Nutrition
6. Control of Non-Communicable Diseases



1. Health Promotion Directorate

The health education department was established in 1967, with as its main function the production of health education material and training of health personnel for the states and voluntary organizations. Since 2001, this Directorate was renamed to the Health Promotion Directorate as an umbrella for seven programmes, namely mental health, school health, oral health, cancer prevention, the Sudan Initiative for Tobacco Control, National Diabetes Programme and health of the elderly. However, integration has not yet been fully achieved. Lack of coordination, lack of awareness on health promotion, gaps in proper analysis and use of baseline data for planning and implementing interventions are among the most important issues of concern. It should be noted that lifestyle problems and Non-Communicable Diseases such as hypertension, diabetes and cardio-vascular diseases, which are stated among the major health issues in Sudan National Strategic Plan for Health for 2003-2027, are yet not addressed or articulated within the health education priorities. Moreover, absence of guidelines and protocols for developing health messages are still a major challenge for the programme.

Most schools in Sudan lack basic elements of healthy environment, water and sanitation services and periodic medical check-ups of students. The existing data show a high prevalence of dental and periodontal diseases, with underlying risk behaviours such as increase in sugary diets and poor oral hygiene. In addition, the utilization of dental services is very low (5% of total population in the year 2000). Lack of awareness about the importance of oral health measures and prevention as well as early treatment, combined with the low socio-economic status of the majority of the population and high prices of dental care are among most important underlying factors for poor oral health status and low utilization of dental services.

According to a recent assessment, 25% of Sudanese men, 2% of women and 20% of school students are currently using different types of tobacco products. The consumption level in Sudan is alarming and rising, particularly among women and youth. The tobacco industry's promotional activities are making the situation worse by availing their products at low prices to the young people. Support to occupational health has been dwindling gradually over the years to reach less than 10% in the last biennium 2002-2003. Absence of a local component plus the reduction of the external support led to an obvious drawback in the provision of occupational health services in Sudan.

In the area of prevention of blindness, the country has a good history in prevention of blindness especially in trachoma and onchocerciasis control. However, the prevalence of blindness in Sudan is estimated to be at 1.5% with cataracts being responsible for 60% of blindness. Onchocerciasis still is a major health problem in certain areas in Sudan with a quite high prevalence of blindness in Bahr Alghazal and Equatoria.

An epidemiological shift has been witnessed over the last decades with a changing disease pattern from communicable to non-communicable diseases. Today, people of almost all age groups are relatively more obese and inactive. Based on current trends, it is estimated that non-communicable diseases, mental health disorders and injuries are expected to account for 73% of deaths and 60% of the global disease burden in the coming 20 years. Diabetes Mellitus (DM type 2) in Sudan has a prevalence rate of 3.4% among people of 25 years old. In 2002, cancer was rated as the second cause of death in Sudan. The problem seems to be increasing rapidly since the case load increased to 20-fold in the last 30 years.

In 1973, the Food Control Act was issued, followed by four regulations. The new proposed Food Control Act 2003 was drafted and reviewed and the final version was sent to the Council of Ministers for final review. Various efforts have been made and laws issued at the state level to improve food safety. Even though the supply of water is the responsibility of the National Water Corporation, the surveillance of drinking water quality is carried out by the Ministry of Health through the environmental health personnel in the SMoH and the localities. During the biennium 2002-2003, a number of field water test kits were provided by WHO and are now intensively used in water tests. A study tour in water analysis and water surveillance has been conducted in Jordan and the Sultanate of Oman. Collaboration with the Water and Sanitation project (WES) continues with a great amount of cooperation. There is a lack of data regarding solid waste management (quality and quantity), storage, collection, transportation and final disposal. The

open air burning and dumping, which are the main methods of final disposal all over the country, have been creating many hazards. Pesticides, which are the largest group of chemicals imported and used in the country, are used extensively in the field of agriculture, and in public health for the control of disease vectors. Therefore, their sound management to protect human health and the environment is crucial.

Despite the early attention to maternal and neonatal health related services in Sudan, maternal and neonatal disadvantage indicators are still quite high. Reduction of maternal mortality was incorporated as a national priority in all strategic long and short-term plans since 1992. The Making Pregnancy Safer (MPR) National Plan sets a national target to maximize the proportion of deliveries attended by skilled persons and to avail comprehensive and basic emergency obstetric care in all hospitals. In Sudan, all hospitals provide both comprehensive basic and emergency care; no emergency services are delivered at health centres. The Sudan Declaration for Safe Motherhood signed by his Excellency the FMoH and the States Ministers of Health on the 18th of August 2001, calls for a reduction of maternal and neonatal morbidity and mortality through increasing percentage of delivery, attended by skilled persons and availing emergency obstetric care. In a situation analysis study, conducted in 2002 with a sample of 175 health facilities, normal delivery services was available in about 87% of studied hospitals and 33% in health centres.

Of the country's total population of over 31 million, children less than five years comprise about 16%. According to the Safe Motherhood Survey (SMS), infant mortality is 68/1000 live births while under-five mortality is 104/1000 live births. According to the Multiple Indicators Cluster Survey (MICS), Diarrhoea prevalence is 28.2% and Oral Rehydration Therapy (ORT) use 27.6. ARI prevalence among under-five years old is 16.7%; Malaria prevalence for the same age is 22.8 while routine coverage by immunization is 51-65%. Seventy percent of out-patient caseload among children under five years old is due to only five conditions which are addressed by IMCI (1998). The level of malnutrition differs from one state to another, although the Global Acute Malnutrition rate was 18.3% with severe malnutrition of 7.2%. Some critical underserved states suffer fluctuation in malnutrition rate due to instable food security and other factors such as drought and civil war. The practice of breastfeeding in Sudan is universal (less than 2% of children were never breastfed). Nevertheless; exclusive breastfeeding for less than 4 months was 17% while 41% receive breast milk and plain water. The household consumption of iodized salt comprises 0.6 % and 0.5% in northern and southern states respectively (MICS 2000). The national magnitude of iron deficiency anaemia is not known due to lack of documentation. The programme should be revitalized and strengthened in partnership with WHO and UNICEF. In order to achieve the MDGs, the PHC programme adopted a new service delivery strategy focusing on PHC package services at health area level. This strategy will strengthen the integration aspect and to direct all efforts towards a fruitful impact on the health status of the child. Therefore, nutrition, reproductive health, immunization, IMCI and basic developmental needs programmes reached a consensus to implement PHC package services in eight targeted states.

Efforts are presently underway to develop a health promotion strategic plan. Capacity building activities were directed at both federal and state levels. Six senior staff members from health promotion, HIV/AIDS and Malaria departments participated in a two week COMBI course in New York, and one participated in a social marketing workshop in Lebanon. A training course for states' staff on health promotion approaches is currently being planned.

In the field of school health, the programme was affected by the absence of the programme coordinator who was seconded to work in Darfur. None of the US\$ 21,000 allocated for activities on school health was requested. The only activities performed in this regard have been the participation on the Global School Based Health Survey (GSHS) workshop held in Cairo to conduct the survey scheduled for 2005 in 50 schools in Sudan, and the selection of certain schools in Khartoum and Gezira to start the Health Promoting Schools (HPS) programme. Another third activity was the development of material needed for school health programme (Towards HPS in Sudan).

Concerning occupational health, occupational health standards for workplaces were developed and endorsed by an occupational health expert. Supplies and equipment to furnish the unit with necessary tools were requested.

In the area of tobacco control, the government signed the FCTC. To ratify the new convention, a workshop with the Ministries of Foreign Affairs, Justice and the National Assembly were held. The programme participated in an Intergovernmental Meeting on FCTC in Geneva and in the Global Tobacco Youth Survey in Cairo, to conduct the survey next year (13-15 years old students). To advocate for the FCTC, the programme conducted a national advocacy meeting on FCTC, and launched a public awareness campaign through the Tobacco World Day, which was on the 31st of May, 2004. An orientation session was also conducted for the state governments on FCTC recommendations.

		Indicator	Baseline	Achievement
ER	National Health Promotion (HP) Strategic Plan in action by 2005	% of medical schools & targeted states implementing HP activities in accordance with national strategic plan.	Zero	30%
Product	National health promotion strategic document developed	Strategic plan document developed & disseminated.	Strategic plan available	Policy 1 st draft developed (in process)
Product	Detailed work plan on health promotion developed	Detailed work plan developed.	Zero	Zero
Product	Establishment of IEC centre in the HPD by the end of 2005	IEC centre with at least 3 well trained staff & necessary equipment present.	Zero	Zero
Product	Strengthened central directorate and established health promotion units in 8 states	<ul style="list-style-type: none"> - Fully functioning HP Federal Directorate. - % of states with at least two well trained staff & agreed upon HP plan available in each state. 	Zero	50% (for states)
Product	Incorporation of HP in medical education curricula (Doctors, dentists, nurses, pharmacist) with Gezira University (Community-oriented Medical Education Centre) developed and started for last-year students by 2005	% of medical schools incorporating health promotion in their medical education curricula & have adequate number of trained staff	Zero	Curricula developed but not endorsed
ER	By the end of 2005 all modules and materials for health promoting schools including oral health are ready and tested in CBI areas	<ul style="list-style-type: none"> - Changes in knowledge & behaviour in relation to targeted issues - Change in school environment in relation to targeted issues & prevalence of dental caries. 	Information not available	Information not available
Product	Produced modules and materials	<ul style="list-style-type: none"> - Advocacy & training module developed - No of teachers trained in the module. - No of schools properly implementing the module 	Zero	Advocacy training module developed
ER	Standards for health workplaces developed by 2005	Standards for occupation health department is available	Zero	100%
Product	Standards available for health workplaces	Standards for occupation health department is available	Zero	100%

		Indicator	Baseline	Achievement
ER	A plan of action built for FCTC developed and endorsed by 2005	Coordinated plan of action for FCTC developed & disseminated	Zero	Zero
Product	Developed and endorsed action plan built on FCTC	Coordinated plan of action for FCTC developed & disseminated	Zero	Zero

Constraints

- Rapid staff-turnover and absence of coordinators of some key programmes for extended period without replacement.
- Weak staff capacity.
- Lack of a comprehensive vision for health promotion strategy.
- Delay in releasing funds due to slow processing of WHO office in Sudan.
- Lack of transportation and communication.

Lessons Learned

Coordination and cooperation between health promotion and other related programmes is crucial and have positive outcomes. Raising community awareness is proved to be a successful strategy in behavioural change. Mass media can be an effective tool. School health is a second promising area for behavioural change. Cooperation between health and education sectors is important to enhance this strategy.

Future directions

Capacity building and stability of staff is highly needed in the future. The programme vision should be further build up through completion of a HP Strategic Plan for the whole programme. There is an urgent need to orient the health system more towards health promotion and to build the capacity to promote health. Advocacy and social mobilization for policy in support for health promotion is also vital. The need is also for evidence-validated and effective health promotion strategies and interventions to tackle communicable and non-communicable diseases.

2. Supportive environment for health

The overall work in this programme has been quite weak in 2004, primarily due to the rapid staff-turnover. Only about 33% of the activities were requested and most of them are in the area of water safety and solid waste management. Regarding implementation, the only activities implemented from the WHO collaborative plan are three workshops in water surveillance, water contaminants and solid waste management. 65 health inspectors from the states attended the workshops in addition to participants from the private sector. However, the work in food inspection, water surveillance and water quality improved significantly, especially in Khartoum state as a result of the equipment provided in these areas from the previous biennium's budget.

		Indicator	Baseline	Achievement
ER	End 2005, food control infrastructure strengthened	% of states with at least 3 well-trained staff with necessary equipment & SOPs	Zero	4 new units functioning & established 50%
Product	Strengthened infrastructure in 10 states	% of states with at least 3 well-trained staff with necessary equipment & SOPs	Zero	4 new units established & functioning 50%

		Indicator	Baseline	Achievement
ER	End 2005, drinking water quality surveillance fully functioning	No. of states with active surveillance system	Zero	3 new states 50%
Product	National plan of drinking water quality operationalized	No. of states with active surveillance system	Zero	3 new states 50%
ER	End 2005, capacity building on environment sanitation strengthened	No. of state units with trained personnel & presence of guidelines	Zero	5 new states 100%
Product	National policy of solid waste management implemented in 10 states	No. of state units with trained personnel & presence of guidelines	Zero	5 new states 100%
ER	End 2005, national strategy of chemical safety implemented in 10 states	National strategy developed	Zero	Zero
Product	National strategy on chemical safety	No of state with trained personnel presence of guidelines in chemical safety	Zero	Zero
ER	End 2005, public awareness raised on food and water hygiene issues	% of positive shift in knowledge in relation to food & nutrition hygiene issue	Info not available	Information not available
Product	Raised public awareness	% of IEC materials developed & disseminated	Not relevant	Not relevant
ER	End 2005, environment information management system improved	Presence of well function management information system	Info not available	Information not available
Product	Improved environmental information management system	No. of functioning units with installed management information software, trained personnel	Info not available	Information not available

Constrains

- Turnover and lack of staff stability.
- Short time given for deadline of the requests and implementation.

Lessons Learned

Production of manuals, training of staff and provision of equipment are proved to produce excellent results, as one of the key lessons learned from the experience of last biennium.

Future directions

Capacity building, like other programmes is needed at all levels. For food safety, short and mid-term training courses are needed both in country and abroad. The experience of Khartoum state in food and water surveillance needs to be strengthened and scaled up to other states. This should be reinforced by updating and endorsing water and food legislations.

3. Integrated Management of Child Diseases

The development of the Child Health Policy (CHP), which is the first of its kind in the country, is under process. The process is driven by the Integrated Management of Child Diseases (IMCI) programme in close collaboration with WHO regional and country offices and is about to be finalized. It is expected to provide guidance for different concerned parties in the new context of Sudan. The capacity of the IMCI programme was augmented by supporting two federal operational officers and four zonal coordinators to give technical backup to the states. Core teams for IMCI were formulated and trained in 7 states. Preparation for another 5 states was completed and ready for implementation in early 2005. IMCI training module was adapted for emergency situations and will be tested in Darfur soon. On the other hand, and to foster implementation of IMCI, preparatory steps were finished to include IMCI in the basic training of medical assistants' schools. Moreover, five of the states' training centres were rehabilitated.

		Indicator	Baseline	Achievement
ER	End 2005, a document on national policy developed and 5-year plan of action formulated based on the MDGs	National policy and 5-year plans developed, endorsed and disseminated	- No national CHP - No 5-year plan	Situation analysis on CHP document formulated and policy issues identified
Product	National IMCI and Nutrition policies revised and 5-year plans developed	National policies and 5 year plans developed & endorsed	- No National CHP - No 5-year plan	Situation analysis on CHP document formulated and policy issues identified
ER	End 2005, national and local management capacities in IMCI and nutrition developed and sustained	% of states with functioning IMCI units (trained staff, & guidelines means of transportation)	4 states	7 states
Product	IMCI and Nutrition effectively managed at national level and in 15 States	% of states with functioning IMCI units (trained staff, & guidelines means of transportation)	Introduced in 15 states	Still in 15 states. 7 of them are effectively managing the programme
ER	End 2005, IMCI/nutrition implementation expanded and scaled up	No. of localities fully implementing IMCI & nutrition programme	Indicators difficult to measure	Indicator is difficult to measure with changing localities
Product	Partnership consolidated and extended at national level and in 15 states	<ul style="list-style-type: none"> - No. states celebrated child health & breastfeeding weeks - No. competition activities conducted - No. TV & radio programmes implemented at federal & state levels - No. seminars 	Not relevant	<ul style="list-style-type: none"> - National celebration conducted (one activity) - 4 at national - 2 at state - 2 seminars

		Indicator	Baseline	Achievement
Product	IMCI and nutrition implementation coverage reached 100% in 4 states, 50% in 6 states, 25% in 5 states: Kassala (4 districts), West (4 districts) and South Darfur (10 districts), south Kordofan (5 districts) (183 districts)	<ul style="list-style-type: none"> - No. localities fully implementing IMCI & nutrition programme - No. hospitals with trained staff on management of severe malnutrition. - No. hospitals with trained staff on breastfeeding counselling. - No. medical & medical with basic IMCI training - No. medical & medical assistant schools with orientation activities for IMCI basic training - No. states conducted promotion of growth monitoring & Vitamin A supplementation training - No. training sites up graded. - No. health facilities fully equipped IMCI standard equipments & drugs - No. localities implementing IMCI community component 	<ul style="list-style-type: none"> - 15 localities - No information - No information - 4 medical schools, and zero medical assistants - 6 medical schools, and zero medical assistants - Zero - 33% (4 training sites) - Information not available - 8 localities 	<ul style="list-style-type: none"> - 20 localities - 80 trainees - 600 staff in 30 hospital at national level - 6 medical schools, and zero medical assistants - 23 medical schools, 9 medical assistants - 7 states - 67% - Information not available - 17 localities - Community based manuals per IYCF finalized and printed.
ER	By 2005, strategic communication plan on promotion of iodized salt consumption in action	Salt communication strategic plan developed & endorsed	Non existent	Zero
Product	Communication strategic plan on iodized salt consumption developed	Salt communication strategic plan developed & endorsed	On process in 4 states	<ul style="list-style-type: none"> - Comm. strategic plan (mass media) developed - No. states implemented social marketing and advocacy seminars
ER	Evidence-based policy related to Bloody Diarrhoea treatment formulated.	Policy formulated & endorsed	Zero	Under process
Product	End 2005 information on the sensitivity and specificity of IMCI syndromic approach of management of Bloody Diarrhoea availed	Policy formulated & endorsed	Zero	Under process

Constraints

- Weak commitment at the state level with limited financial resources.
- High turnover of professionals at all levels.
- Weak systems in the states.
- Poor and insufficient logistics for child health programme, particularly at state level.
- Insufficient coordination between programmes related to child health.
- Slow submission of financial reports by SMOH, which usually exceeds the WHO ceiling for outstanding obligations.

Lessons Learned

It is now recognized that the health policy for the child can play a vital role in providing long-term directions and commitment. Recruitment of zonal coordinators highly support the implementation at states' level, while the continued supervision from the federal level to the states strengthens the planning and monitoring capacity of states' coordinators. It is also clear that drugs, supplies and equipment need to be supported, especially since most of the states are unable to provide enough supplies. Political commitments from states' authority proved to be essential for the sustainability of the work.

Future directions

Advocacy for the child policy is highly needed to move the child health high at the agenda in term of country priorities. Programs related to child health need to coordinate and integrate their efforts. There is also need to widen the scope of IMCI, both geographically and technically and to give additional attention to the community component through emphasizing on community-based interventions and the role of the communities in improving child health.

4. Reproductive Health and family planning

The WHO supported plan in the area of Reproductive Health (RH) is complementing other plans supported by other UN agencies (UNFPA/UNICEF) and the government under poverty reduction strategy. The WHO supported plan is focusing in such areas as coverage-increase by village midwives through midwifery training and provision of midwifery kits, reduction of maternal mortality by improving emergency obstetric care, and communities' awareness-rising about dangerous signs of pregnancy and best referral-seeking behaviour.

Total intake in village midwifery school was 631 against 500 planned. The total graduated in 2004 was 1,034 village midwives while 120 assistant health visitors graduated in the same year. To better plan for improving emergency of obstetric care, a situation analysis for emergency of obstetric care was conducted in 65 localities in 7 states looking for distribution of facilities, utilization rate and quality of service. Accordingly, training of medical doctors on emergency of obstetric care was conducted in Blue Nile and South Kordufan states, and four in-service training sessions of village midwives were conducted in four states (Kassal, River Nile, Sinnar and South Kordufan). For more in-depth review of the situation and to set baseline for the future, family and population study was planed in collaboration with the League of Arab States and UN agencies. Study framework was set and ready for implementation. On the other side, guidelines for referral of emergencies cases were set.

WHO supported the development of an outline to a five years strategic plan of action which focuses on strengthening midwifery services and competencies with focus on Making Pregnancy Safer. Guiding manuals were provided to the national team.

A regional course on gender and rights in RH was supported by WHO in collaboration with Ahfad University using extra-budgetary funds. The aim of this course is to transform health systems to respond to gender needs including men and women. National staff from FMOH and Khartoum

State MoH participated in the course, in addition to regional participants from Afghanistan and nationals from different sectors. Technical support was also extended to the research centre at Khartoum University on reproduction. Coordination meetings were held between FMoH, Ahfad and Khartoum Universities. The meetings aimed at strengthening linkages between the different institutes to target priority researches necessary for MoH to plan for effective interventions.

		Indicator	Baseline	Achievement
ER	Maternal and neonatal mortality reduction accelerated to achieve 15% from 1999 levels	- Maternal mortality - Neonatal mortality	No base line available	No information
Product	By 2005, access to basic midwifery services increased to reach ration of 1 skilled attendant per 2,350 population (2003: 1 per 2,900)	Ratio of skill birth attendant per population	No base line available	No information
Product	By 2005, maternal and neonatal services in 50 hospitals established	- % of health facilities providing minimal maternity care package - % of birth attended by skill birth attendant - % of pregnant ladies complete at least 4 attended care visits - % of complicated pregnancy cases referred.	No base line available	- Survey for availability of emergency obstetric care (EmOC) services done in 60 health facilities - 2 training workshops for medical doctors on EmOC - 3 training workshop for midwives on EmOC
Product	By 2005, community in 50 target hospitals sensitized and turned active in early referral of pregnant women with expected or occurred complications	% of population in the targeted communities who knows about danger signs of pregnancy	No base line available	No activity implemented under this product

Constraints

- Delay in receiving some of RH commodities.
- Scarcity and turnover of qualified human resources at all levels.
- Weak implementation capacity in the states.

Lessons Learned

It is clear the effort and progress achieved so far towards reducing maternal mortality are insufficient. And if the current pace of progress is not accelerated, the ambitious goal set by the Millennium Declaration to reduce the maternal mortality by 75% by 2015 will not be achieved. Lessons drawn from Sudan and elsewhere confirm the necessity of working in priority areas using evidence-based strategies to respond to the needs of women and children in pregnancy and child births. Continued supervision from the federal level to the states proved to be a strong factor to strengthen the planning and monitoring capacity of the state coordinators. Improved coordination in the activities supported by the different UN agencies is a priority as well.

Future directions

A holistic approach to Reproductive Health needs to be advocated to further strengthen the national programme. In order to accelerate the pace towards reaching the MDGs, integrated interventions by trained health providers, functional referral systems, as well as supportive legal and regulatory environment are required. Experience thus far shows that midwifery training is the best strategy for maternal mortality reduction. Slogans like "One midwife for each village" were raised, and a good selection of candidates from villages, in close consultation with community leaders, is mandatory to foster this strategy. The programme will continue working with states' authorities on this approach and will strengthen the states' capacity for better selection of future midwives. The planned Pan Arab Project for Family Health (PAPFAM) survey is an opportunity to start evidence-based planning and reviewing programme priorities. The post-conflict challenges will direct the efforts towards provision of Reproductive Health services to the more needy and repatriation areas.

5. Nutrition

The child nutrition policy, which will be part of the national child policy, will be finalized very soon. To improve the data system, a short-term consultant was requested from WHO to assist in developing a nutritional data system. The Infant and Young Child Feeding (IYCF) training package is at the last step of finalization. To increase the states' capacity, a TOT on nutritional surveillance system was conducted at the national level and states' staffs were trained on growth monitoring promotion and Vitamin A supplementation. In an effort to responding to the Darfur crisis, three assessment supervisory visits were done and emergency plans of action were developed for each state. Later, another three supportive supervisory visits were done. Four courses on basic nutrition training and four on therapeutic feeding centres and supplementary feeding centres and reporting system for four localities in West Darfur will be conducted soon. Two training courses on Community-Based Therapeutic Care (CTC) were conducted in South and North Darfur. An international consultant from UNICEF worked on iron fortification and formulation. A workshop to strengthen alliance was held and attended by major stakeholders.

Constraints

- Difficulty in integrating activities with IMCI and child health initiatives due to unclear vision.
- Flare-up of Darfur crisis stretched the weak capacity of the programme and shifted the efforts from the planned to emergency related work.
- Long chain for requesting activities, and slow release of requested activity from WHO.

Lessons Learned

Civil conflict continues to exacerbate the nutritional status in the country, especially for children. The situation was complicated with the lack of nutritional policy that directs the work and sets priorities. Shortage of nutrition staff created gaps in the management of severe acute malnutrition, especially during emergencies. Investment in human resources, especially nutritional officers, proved to be a key priority area. The experience of dealing with the Darfur crisis also indicates the importance of developing an agreed upon nutritional standards and protocols, particularly for management of malnutrition.

Future directions

Nutrition policy directions shall be developed in the areas not tackled by the child policy. While efforts shall continue focusing on under-nutrition, the other end of the nutrition spectrum should not be ignored. Overweight and obesity will become one of the health problems in the near future and attention has to be directed to this area. Efforts in the

area of micronutrients disorders are weak and need to be strengthened. Communication strategies for prevention and control of micronutrient malnutrition should be developed and strongly implemented. Capacity building, at all levels including increasing number of nutritional officers is a must. Establishment of a concrete nutrition surveillance system should also be one of the priority areas.

6. Control of Non-Communicable Diseases

Efforts have been directed to build capacity of Non-Communicable Diseases (NCDs) programme, and to develop surveillance systems on NCDs in Khartoum State. SOPs on diabetes, cardiovascular disease, hypertension and mental health have been developed. A study tour to the Sultanate of Oman was made and three staff members of the NCDs were exposed to the experience of the Sultanate regarding integration of NCDs at the PHC level. A questionnaire of a stepwise survey on prevalence of NCDs risk factors was revised.

In the area of prevention of blindness most of the activities in this area are funded from extra-budgetary sources through WHO. The National Programme for Control of Blindness (NPCB) participated quite effectively in the 8th meeting of the WHO Alliance for the Global Elimination of Blinding Trachoma in Geneva, Switzerland (29-31 March 2004) and in the Regional Planning Meeting on Childhood Blindness in Islamabad, Pakistan (28 April-1 May 2003). WHO trained 2 professionals on low vision techniques in Hong Kong for 1 month.

As part of refractive errors and low vision, NPCB trained 1,200 basic school teachers in Khartoum to learn how to screen school children for refractive errors, supported by WHO.

The NPCB and WHO in collaboration with Control of Blindness (CB) stakeholders conducted in Nyala a first eye-camp from 11-17 July 2004, treating more than 1,000 IDPs in Kalma camp and operating on 250 patients. NPCB and WHO in collaboration with the Rotary International Egypt conducted 1,000 cataract operations in Sudan in December 2004. The total number of patients screened in 15 camps in the year 2004 exceeded 25,000 patients and more than 4,000 Inter-Ocular Lens (IOL) operations and 100 without IOL were performed.

In 2004, WHO provided support for 7 ophthalmic units in the form of equipment and consumables to enhance outpatient-based cataract surgery. WHO also supported NPCB to conduct supervisory visits to five eye surgery camps and workshops for ophthalmology medical assistants, using the SAFE strategy for prevention of blindness.

		Indicator	Baseline	Achievement
ER	NCD programmes integrated within the PHC system in 4 states by the end of 2005	% of states with integrated NCD programme in PHC	Zero	Zero
Product	Capacity built regarding the NCDs at federal and state level by the end of 2004	% of states with fully functioning NCDs programme (trained staff, presence state of coordinator, trained health workers at facilities, presence of SOPs)	Zero	State coordinators nominated
Product	Developed surveillance system on NCDs in one states by 2005	1 st step in NCD surveillance systems developed	Zero	Reviewing & adaptation of the survey EMRO questionnaire.
Product	Program for control of blindness will be active in 5 targeted states by the end of 2005	- % of decrease in cataract backlog. - % of decrease in trachoma prevalence in targeted states.	Info not available	Zero

		Indicator	Baseline	Achievement
	Cataract backlog reduced by 10% from the existing situation	% of decrease in cataract backlog	Info not available	Zero
	Active trachoma reduction by 15%.from the existing situation in 5 targeted states	% of decrease in trachoma prevalence	Info not available	Zero

Constraints

- Difficulties of transportation (Directorate has no vehicles).
- Lack of supportive equipment at the Federal Directorate like computers, photocopy and fax machines.

Lessons Learned

- Coordination between community physicians and other specialists is essential.
- Learning from experiences of other countries has been helpful and important.

Future directions

- Conduction of a baseline survey of NCDs in Khartoum within 2005 shall be planned. Immediate expansion to other states is very important, in order to develop a sustained surveillance system for NCDs in Sudan.
- Training of health workers at the PHC concerning NCDs and prevention of its complications at the national and state level is also important, and shall start right away. Political commitment is a cornerstone in recognition of the burden of NCDs and more effort is needed.
- More effort is required in the area of coordination and partnership with other sectors.

Chapter Seven: Emergency preparedness and humanitarian action



1. Emergency preparedness and humanitarian action

Activities undertaken in 2004 were focused mainly on responding to the Darfur crisis, which is outside of the regular plan with WHO. Within the regular programme of WHO the efforts were directed mainly to establishing a functioning structure of health emergencies management at federal level. The unit which was established in 2003 was further strengthened in 2004 by recruiting new staff. For the states, an emergency unit was established in one of the ten priority high risk states and work is going on in the other states.

A draft of a national policy for disaster management was formulated. It is pending at this point, awaiting endorsement. Funds allocated to improve the capacity of health related sectors, other stakeholders and the community in disaster management and Emergency Preparedness and Response (EPR) are requested from WHO.

Activities implemented by WHO in Darfur: A great deal of money has been spent in Darfur (Millions of USD) from extra-budgetary sources which are not reflected in this report. Encouraging effort, however, is being initiated to enhance coordination as well as cooperation for the Emergency Health in Action (EHA) operations in Darfur. Subsequently, a similar joint report between FMOH and WHO is being drafted for Darfur operations.

		Indicator	Baseline	Achievement
ER	Functioning disaster and health emergencies management structures at federal and state levels	None	Zero	Zero
Product	National policy for disaster management and health emergencies in place	Policy document developed & dissemination	Zero	First draft policy developed
Product	Functional department of EHA established under the DG International Health; EHA units in ten priority states (Gezira, Sennar, White Nile, Red Sea, River Nile, Blue Nile, Northern, North Kordofan, South Kordofan, Kassala)	Fully functioning EHA unit at national & 10 state	-Zero at national level -Zero at state level	-EHA unit federal level with one trained staff -Zero
Product	Capacity of personnel at federal and state level is built in management for disasters and EPR	% of disasters where health authority (federal/state) gave adequate response within 72 hours	No info available	No information available
Product	Adequate health services available and accessible to disaster/emergency affected people	% of disasters where health services were provided within 72 hrs	No info available	No information available
Product	Good communication system secured with affected areas	No. of affected areas with good communication system is secured within 120 hours	No info available	No information available
ER	Improved capacity of health related sector, other stakeholders and the community in disaster management and EPR	% of states with full involvement of non-health sector and communities in disaster preparedness and response	No info available	No information available
Product	Availing health personnel from all sectors, CBOs and	% of states with coordination	No info available	No information available

		Indicator	Baseline	Achievement
	volunteers for improved disaster management and EPR	mechanism encompasses all related sectors with clear labour division between all stakeholders		
Product	Public education programmes developed for increased community awareness	Change in knowledge about disasters in the targeted local communities	No info available	No information available

Constraints

The newly formed unit for EHA is still young and not yet fully functioning. Therefore, the main constraint is its inability to face the present and anticipated challenges. This is due mainly to:

- Inadequate capacity at all levels to proactively deal with humanitarian emergencies.
- Lack of sufficient funds, and the long period required of getting funding.
- Weak infrastructure in high risk areas due to limited health facilities, lack of human resources, and deficient supplies and equipment.
- Provision of services in areas of emergency is a challenge due to poor transport facilities, lack of good communication networks, and insecurity in some areas.
- Poor coordination and cooperation with WHO and other international agencies involved in the Darfur.

Lessons learned

- Formulate a national policy of emergency where clear roles are defined.
- Improve readiness and effectiveness to face disasters and emergencies.
- Build up capacity, especially at the state and local levels, as an important tool for effective response to emergencies, together with strengthening the infrastructure.
- Better coordination and communication at all levels and with all sectors involved is necessary for implementation of better interventions during emergency situations.

Future directions

- Efforts will continue for the endorsement and dissemination of the national policy for emergency preparedness and humanitarian action, and to complete the establishment of EHA units at the remaining 10 risky states.
- Capacity building of health personnel at both federal and state levels is a major priority.
- Increase stewardship of the programme through development of systems, including disaster information, monitoring, and early warning systems.
- The programme will focus on mitigation and early preparedness. To accomplish this, vulnerability maps of the country need to be developed to identify priority geographical areas for mitigation and preparedness activities.
- The anticipated post peace rehabilitation of war-affected areas demands finding alternative sources for funding to meet the demand and strengthen emergency preparedness.

Chapter Eight:

Recommendations

Adherence to the Country Cooperation Strategy

The CCS constitutes the main pillar for the future direction of the WHO-FMoH plans. The main directions, goals, strategic objectives and recommended strategic shift will be used to adjust the expected results from the biennial plans. It may well be used as a reference for monitoring the plans. The suggested evaluation and monitoring system will watch the process towards strategic direction, as well as the achievements in the expected results of the plan.

This integrated monitoring and evaluation approach can only work if the overall goals and strategic objectives are clearly set. CCS needs to be reviewed to ensure that it satisfies monitoring and evaluation purposes. Monitoring indicators need to be added and milestones for the technical and financial shift need to be figured out.

Adjustment of the plan for 2005

The Country Collaborative Program is the main platform for drawing lessons from the previous experience, and make the necessary adjustment, to ensure expected results are reached. While some programmes are suggesting changes in certain activities, it is clear that some issues emerge as cross-cutting obstacles. The plan needs to be reoriented to address these obstacles. Weak capacity at all levels is a real impediment for progress. Certain capacitating issues need to be addressed urgently to face the anticipated challenges. Moreover, innovative strategies and strategies having multiplication effects shall be used. TOT and mass training strategies are the best strategies to be used in the case of Sudan. Mass training for senior staff at both the national and states level is urgently needed in disaster management, hospital management, leadership, field epidemiology and general management. Distance learning and tools like tele-conferencing and tele-medicine can be cost-effective and also increase the number of beneficiaries.

Utilization of decentralized policy tools

Tools for policy development are highly needed. Policies should be evidence-based and information on policy development available. Filling the information gap is a priority. Research, surveys and other information collection tools like NHA shall be given special attention in 2005.

Focus on urgent pressing challenges

Like the issue of post-peace, rehabilitation of the health sector needs to be urgently addressed. Decentralization of the health system is another urgent priority. Technical input from WHO is needed in these two areas as well as on how to tackle these two issues in the long-term planning.

Optimize WHO capacity in Sudan

Readjustment is needed to respond to the pressing needs and expectations of the Sudanese partners. More involvement of the technical staff in WHO with the MoH programmes can help in upgrading the capacity of the federal programmes and improving the work.

Focus on the plan

The plan needs to be focused on certain priority issues. In addition, attention should be given also to the absorption capacity of the programmes: More money can be directed from programmes with poor implementation to the programmes proved to have high absorptive capacity to ensure more efficient use of all funds before the end of the year.

Annex 1: 2004-2005 rate of implementation

Program	Allotment	Request	%	Release	%	Imp.	%	Liq.	%
Laboratory Technology Support	94000	57219	60.9	41979	44.7	32788	34.9	24788	26.4
PHC system support &CBI/IMCI/Nutrition	887860	496501	55.9	403650	45.5	32858	3.7	13218	1.5
Pharmaceutical Program	94000	89000	94.7	52728	56.1	44623	47.5	19000	20.2
Emergency Preparedness and Humanitarian Action	144000	26000	18.1	3350	2.3	3350	2.3	0	0.0
Health Promotion	155000	135880	87.7	60088	38.8	26221	16.9	2221	1.4
Epidemiology	382936	285793	74.6	153087	40.0	37000	9.7	21000	5.5
Malaria	382000	297614	77.9	312054	81.7	142943	37.4	140943	36.9
TB & Leprosy	77810	76310	98.1	75575	97.1	33061	42.5	7926	10.2
AIDS	172000	164000	95.3	181532	105.5	0	0.0	0	0.0
EPI	83000	28185	34.0	28185	34.0	28185	34.0	28185	34.0
Reproductive Health & Family Planning	93750	38118	40.7	36434	38.9	36434	38.9	12000	12.8
Health Policy, Planning & Management Biomedical Information	525000	438556	83.5	312527	59.5	104006	19.8	46600	8.9
Secondary and Tertiary Care & Quality Assurance & Blood Safety	269400	133094	49.4	97404	36.2	35494	13.2	22016	8.2
Human Resources Development	658400	512100	77.8	238976	36.3	47784	7.3	18000	2.7
Supportive Environmental for Health	94000	42690	45.4	21677	23.1	16367	17.4	3367	3.6
Total	4113156	2821060	68.6	2019246	49.1	621114	15.10	359264	8.73