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# **BUILDING AN EQUITABLE HEALTH SYSTEM FOR SOUTHERN SUDAN: OPTIONS FOR GAVI HEALTH SYSTEMS STRENGTHENING FUNDING**



July 2007

This publication was produced for review by the United States Agency for International Development. It was prepared by Stephanie Boulenger, Abt Associates Inc., Yogesh Rajkotia, USAID, and Willa Pressman, USAID for Health Systems 20/20 Project.



## Mission

The **Health Systems 20/20** cooperative agreement, funded by the U.S. Agency for International Development (USAID) for the period 2006-2011, helps USAID-supported countries address health system barriers to the use of life-saving priority health services. HS 20/20 works to strengthen health systems through **integrated approaches to improving financing, governance, and operations, and building sustainable capacity** of local institutions.

## July 2007

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**Cooperative Agreement No.:** GHS-A-00-06-00010-00

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**Recommended Citation:** Boulenger, Stephanie, Abt Associates Inc., Yogesh Rajkotia, USAID, and Willa Pressman, USAID. July 2007. *Building an equitable health system for Southern Sudan: Options for GAVI Health Systems Strengthening Funding*. Bethesda, MD: Health Systems 20/20 project, Abt Associates Inc.



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## **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.



# CONTENTS

<b>Acronyms</b> .....	<b>ix</b>
<b>Executive Summary</b> .....	<b>xi</b>
<b>1. Introduction and Background</b> .....	<b>1</b>
<b>2. Methodology</b> .....	<b>3</b>
<b>3. Overview of Southern Sudan’s Health Sector and Health Sector Policies</b> .....	<b>5</b>
<b>4. Immunization in Southern Sudan</b> .....	<b>9</b>
<b>5. Key Findings</b> .....	<b>13</b>
5.1 Governance.....	13
5.1.1 Overview .....	13
5.1.2 Management Capacity.....	15
5.1.3 Strategic Planning.....	17
5.1.4 Communication and Coordination.....	17
5.2 Health Financing.....	19
5.2.1 Overview .....	19
5.2.2 Revenue Sources.....	20
5.2.3 Budgeting and Flow of Funds .....	20
5.2.4 Multi-Donor Trust Fund .....	21
5.2.5 Out-of-pocket Expenditures .....	21
5.3 Human Resources .....	22
5.3.1 Overview .....	22
5.3.2 Availability and Deployment.....	23
5.3.3 Remuneration and Retention.....	23
5.3.4 Skills Profile .....	24
5.3.5 Training Institutions, Curricula, and Quality .....	24
5.3.6 Management and Planning of Human Resources.....	26
5.4 Service Delivery .....	27
5.4.1 Overview .....	27
5.4.2 Availability and Access.....	27
5.4.3 Equity .....	28
5.4.4 Quality .....	28
5.4.5 Health Promotion.....	29
5.4.6 Management and Leadership.....	29

5.5 Health Information System.....	30
5.5.1 Overview .....	30
5.5.2 Data collection .....	30
5.5.3 Role of NGOs .....	31
5.5.4 HIS at county level.....	31
5.5.5 Use of data for decision-making.....	31
5.5.6 MoH policies regarding HIS.....	31
5.5.7 Main constraints of the HIS.....	32
5.6 Pharmaceutical and Health Commodity Management.....	33
5.6.1 Overview .....	33
5.6.2 MoH National Strategy for Pharmaceutical Management.....	34
5.6.3 Finance.....	34
5.6.4 Selection.....	35
5.6.5 Procurement .....	35
5.6.6 Distribution .....	36
5.6.7 Summary of Key Findings .....	37
<b>6. Recommendations .....</b>	<b>39</b>
6.1 Strengthen Human Resources .....	41
6.2 Strengthen Management and Coordination Systems .....	42
6.3 Increase Community Participation .....	43
6.4 Summary of Key Recommendations .....	44
<b>Annex A: List of stakeholders interviewed .....</b>	<b>47</b>
<b>Annex B: Draft Donor Map of Health Systems Activities.....</b>	<b>49</b>
<b>Annex C: Bibliography .....</b>	<b>53</b>

## LIST OF TABLES

Table 1: Key Health Indicators for Southern Sudan and Sub-Saharan Africa .....	5
Table 2: State communication infrastructures.....	18
Table 3: Financing Sources and Timeframe for Southern Sudan Umbrella Program for Health Systems Development [7] .....	21
Table 4: Existing Training Institutions and the Number of Courses Offered [16].....	25
Table 5: Type of Course [16] .....	26
Table 6: Key recommended Interventions for GAVI Support and their Impact on Maternal Health, Child Health, and Immunization Services.....	45

## LIST OF FIGURES

Figure 1: Structure of Southern Sudan’s Health Care System.....	13
Figure 2: Organizational Structure of the MoH in Southern Sudan .....	15
Figure 3: Health Spending per Capita in 2006 (US\$) .....	19
Figure 4: Key Recommended Interventions, by Level of Government .....	40



# ACRONYMS

<b>ANC</b>	Antenatal Care
<b>BPHS</b>	Basic Package of Health Services
<b>CPA</b>	Comprehensive Peace Agreement
<b>CPR</b>	Contraceptive Prevalence Rate
<b>DPT</b>	Diphtheria, pertussis, and tetanus
<b>EPI</b>	Expanded Program on Immunization
<b>EWARN</b>	Early Warning and response Network
<b>FBO</b>	Faith-Based Organization
<b>GoS</b>	Government of Sudan
<b>GoSS</b>	Government of Southern Sudan
<b>HHP</b>	Home Health Promoters
<b>HIS</b>	Health Information System
<b>HSS</b>	Health Systems Strengthening
<b>IDA</b>	International Development Association
<b>IDP</b>	Internally Displaced People
<b>IMCI</b>	Integrated Management of Childhood Illnesses
<b>MCH</b>	Maternal and Child Health
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MDTF</b>	Multi-Donor Trust Fund
<b>MoH</b>	Ministry of Health
<b>MOF</b>	Ministry of Finance
<b>NGO</b>	Nongovernmental Organization
<b>NID</b>	National Immunization Day
<b>OFDA</b>	Office for Foreign Development Assistance
<b>PHC</b>	Primary Health Care
<b>PHCC</b>	Primary Health Care Center
<b>PHCU</b>	Primary Health Care Unit
<b>RED</b>	Reaching Every District
<b>RIEP</b>	Rapid Impact Emergency Project
<b>SIA</b>	Supplementary Immunization Activities

<b>SMoH</b>	State Ministry of Health
<b>SPLM/A</b>	Sudan People's Liberation Movement/Army
<b>TB</b>	Tuberculosis
<b>UNFPA</b>	United Nation's Fund for Population Activities
<b>UNICEF</b>	United Nation's Children's Fund
<b>USAID</b>	United States Agency for International Development
<b>WHO</b>	World Health Organization

# EXECUTIVE SUMMARY

After 20 years of civil war that was concluded by the Comprehensive Peace Agreement (CPA) in 2005, Southern Sudan faces the challenge of building its health care system: policies, infrastructure, human resources. Although the road to achieving nationwide health care coverage is long, great progress has been achieved in a very short period of time. The Government of Southern Sudan (GoSS) with the help of external funding has been acting and pushing the health agenda forward by developing several key health policies, building infrastructure, attracting human resources back to Southern Sudan, involving private sector actors, implementing mechanisms to strengthen coordination between health system levels and with partners, and building national consensus and demonstrating transparency by convening the National Health Assembly in June 2007, to name a few.

The Ministry of Health now has the opportunity to obtain funds from GAVI (formerly the Global Alliance for Vaccines and Immunization) Health Systems Strengthening (HSS) window of funds to help build Southern Sudan's health care system and address its critical weaknesses and funding gaps. GAVI HSS application guidelines recommend that if a health systems assessment does not exist one should be undertaken before applying for HSS support. In the case of Southern Sudan, a health sector assessment is particularly needed due to the early stage of health systems development. This health systems assessment has assisted to identify the key health system strengths, weaknesses, and barriers that have an impact on maternal and child health services (particularly immunization services) and has prioritized "gaps" in current health system development efforts. The results of this assessment are intended to feed into the process of developing a strong GAVI HSS application to help Southern Sudan successfully transition away from relief efforts and toward sustainable systems to improve the health of children, women, and families.

This assessment reveals a great number of gaps that must be addressed to build a strong and equitable health system for Southern Sudan. It also reveals the strong role that nongovernmental organizations (NGO) play in delivering health services in Southern Sudan and the importance of building HSS activities on NGO experience and presence.

The assessment analysis identified three broad areas of HSS to which GAVI support could contribute:

- Strengthening of human resources
  - a. Increase and improve strategic planning workforce by (1) recruiting and financing one strategic planner in each state, (2) providing training at the state level in a range of strategic planning functions,
  - b. Increase monitoring and evaluation (M&E) workforce by financing one M&E focal person in select pilot county administrations
  - c. Train and retain primary health care workers by developing quality improvement collaboratives for these workers
- Strengthening of management and coordination systems

- d. Develop and strengthen management by providing technical assistance to form state-level management committees in every state and county-level management committees in several pilot counties.
  - e. Provide the central Ministry of Health with procurement and project design support
  - f. Strengthen coordination across decentralized levels by establishing processes and procedures for regular communication
- Increased community participation
    - g. Develop community (*Payam* and *Boma*) health committees in pilot counties
    - h. Develop scalable community outreach model by developing a cadre of community health promoters in pilot counties

Strengthening these three areas will help achieve four concrete outcomes:

1. Improved governance and management
2. Improved planning and budgeting
3. Strengthened service delivery
4. Increased demand for primary health care through community outreach

# I. INTRODUCTION AND BACKGROUND

Since independence in 1956, Southern Sudan has suffered from civil war with only a decade of troubled peace from 1972 to 1983. The civil war period, characterized by devastation of the health system, has left the health status of the Southern Sudanese people among the poorest globally. Since the mid-1990s, nongovernmental organizations (NGO), faith-based organizations (FBO), and multilateral/bilateral agencies offering humanitarian relief became the prime providers of health services.

In January 2005, a Comprehensive Peace Agreement (CPA) was signed between the Government of Sudan and the Sudan People's Liberation Movement/Army (SPLM/A). Since then, the Government of Southern Sudan (GoSS) has worked hard to build institutions and offer services to its people.

As a result, refugees and internally displaced people (IDPs) are increasingly returning. The onset of peace has created expectations for a return to normality, including the provision of health services. Southern Sudan is undergoing a major transition from relief to development. This transition involves building strong government capacity to manage and deliver services. The GoSS is under significant pressure to make rapid and visible progress toward this goal in order to establish its legitimacy with the people of Southern Sudan. It also is under moral pressure to help people rise from the abysmal health status that has characterized Southern Sudan for decades. [1]

The GoSS and its development partners agree that a successful, sustainable transition will require the rapid development of strong health systems. This will involve everything from investments in infrastructure to investments in management processes. While financing such as the Multi-Donor Trust Fund (MDTF) exists, gaps in health services and systems are numerous and significant.

The GAVI<sup>1</sup> Health Systems Strengthening (HSS) window represents an important opportunity to help transition the Southern Sudanese health system away from relief and improve the health status of the people. The HSS funding opportunity will help fill critical gaps, while focusing on provision of immunization, child health, and maternal health.

Recognizing the importance of this activity, the GoSS requested technical assistance from the United States Agency for International Development (USAID) in developing its application to GAVI. The World Health Organization (WHO), UNICEF, and other partners also will play a critical role in assisting the Ministry of Health (MoH) in this process.

GAVI HSS application guidelines recommend that if a health systems assessment does not exist one should be undertaken before applying for HSS support. In the case of Southern Sudan, a health sector assessment is particularly needed due to the early stage of health system development. If the critical weaknesses that hamper Southern Sudan's absorptive capacity and service delivery are targeted early on, success in steering toward a successful outcome is much more likely. This health systems assessment has assisted to identify the key health system strengths, weaknesses, and barriers that impact on maternal and child health (MCH) services (particularly immunization services) and has prioritized "gaps" in

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<sup>1</sup> Formerly the Global Alliance for Vaccines and Immunization.

current health system development efforts. The results of this assessment are intended to feed into the process of developing a strong GAVI HSS application to help Southern Sudan successfully transition away from relief efforts and toward sustainable systems to improve the health of children, women, and families.

## 2. METHODOLOGY

The data and information sources for this assessment were obtained from (1) a review of all existing health systems assessments conducted in Southern Sudan<sup>2</sup>; (2) a review of other Southern Sudan health sector documents; (3) participation in the National Health Assembly; and (4) interviews with key stakeholders.<sup>3</sup>

Data were analyzed using USAID's Health System Assessment Approach [2], an indicator-based approach for rapid assessment of the health system. It allows diagnosis of health system performance by identifying system strengths and weaknesses and guiding development of strategies and recommendations based on an understanding of priorities and programming gaps in the country.

The information reviewed and analyzed resulted in the identification of key health systems barriers to the delivery of MCH, and immunization services within the areas of governance, finance, health information systems (HIS), pharmaceutical and commodities management, human resources, and service delivery.

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<sup>2</sup> The documents consulted are listed the Bibliography.

<sup>3</sup> The list of people interviewed is available in Annex I.



### 3. OVERVIEW OF SOUTHERN SUDAN'S HEALTH SECTOR AND HEALTH SECTOR POLICIES

Health services in Southern Sudan remained extremely weak during and after the war, causing the health status of the population to plummet to one of the poorest globally (see Table 1): the maternal mortality ratio is estimated at 2,037/100,000, the infant mortality rate at 150/1,000, the child mortality rate at 250/1,000, and the fertility rate ranges from 5.9 to 6.7. Diseases that are controlled elsewhere in the world and malnutrition are endemic in Southern Sudan. Health service coverage is estimated at 30%, with routine immunization coverage at 12%; vitamin A distribution at 5%; family planning use at 1%; and births assisted by a skilled attendant reported at 6%.

**TABLE 1: KEY HEALTH INDICATORS FOR SOUTHERN SUDAN AND SUB-SAHARAN AFRICA**

	<b>Southern Sudan</b>	<b>Sub-Sahara Africa</b>
Total population	Estimations range between 8 and 12 million	
Government expenditure on health as % of total government expenditure	8%	9.07%
DPT3 coverage	12%	67% (WHO Africa Region)
Child mortality (per 1,000)	250	151
Infant mortality (per 1,000)	150	93
Maternal mortality ratio (per 100,000 live births)	2,037	855
Births assisted by skilled attendant	6%	51.7%

Sources: [10, 13-15] and National Health Assembly presentations

Both UNICEF and WHO classify malaria as the number one cause of under-five mortality. Several studies suggest that resistance in Southern Sudan is emerging to both chloroquine and sulphadoxine-pyrimethamine (SP). Use of insecticide-treated bed nets and intermittent presumptive treatment for pregnant women is very low. The MoH reports that “[t]he prevalence of diarrhea in under-fives is 45%, [the] ...acute respiratory infection figure is 30% and for fever is 61%.” [3]

The nutritional status of children and adults is extremely poor. North and West Bahr El Ghazal States suffers from recurrent drought and under-five wasting rates are at emergency levels. Low birth weight is reported at 30–40% of babies born and exclusive breastfeeding rates are low. Subclinical vitamin A deficiency affects one of seven children and goiter is common. Only about 30% of the population use water from a protected source and only about 20% reported having received any hygiene/sanitation information.

In the area of maternal and reproductive health, antenatal care (ANC) coverage is at 16%, the contraceptive prevalence rate (CPR) is less than 1% and the percentage of births attended by skilled

birth attendants is less than 5%. [4] There is a near absence of family planning and child spacing information and services.

Early on, FBOs supplemented poor or non-existent public health services. During the past 20 years of civil conflict, multilateral/bilateral donors and NGOs joined FBOs to fill the gap in service delivery. NGOs and FBOs continue to play the lead role in health service delivery; of the 30% of the population covered by health services, 68% health services are provided by NGOs or FBOs. At this stage, building the health care system and strengthening existing services is fundamental for the future of Southern Sudan and to ensure economic, cultural, and socio-economic development and stability.

Currently, four main financing channels support the health sector: (1) MoH public budget for health; (2) the GoSS/MDTF Umbrella Program for Health; (3) multilateral donors; and (4) bilateral donor mechanisms.

Among the UN agencies, WHO has been active in supporting disease surveillance and technical assistance on health policy and systems development, while UNICEF and the UN Fund for Population Activities (UNFPA) support child and reproductive health programs in focus areas. The other UN agencies focus predominantly on humanitarian interventions.

Among bilateral agencies, USAID, since 1998, has funded humanitarian health activities through the Office of Foreign Disaster Assistance (OFDA), supporting NGOs to provide primary health care (PHC) services, the training of health care workers, the rehabilitation of health care clinics, guinea worm initiatives, and emergency feeding programs; providing basic water and sanitation services; and piloting an HIV/AIDS prevention activity. OFDA provides relief food commodities for feeding programs (supplementary and therapeutic feeding programs) that are provided through the Food for Peace Office to the World Food Program or through NGOs. USAID began supporting an integrated health sector development project to reach a total of 20 (of a reported 90) counties to improve access to high-impact services; develop capacity to deliver and manage health services; increase demand for PHC services and practices; improve access to safe water and sanitation; increase access to HIV/AIDS service; and develop monitoring and evaluation (M&E) systems. See Annex 2 for a map of donor activities in the health sector.

Other multilateral donors, including the European Union, WHO, and UNICEF, were also on the front line of humanitarian assistance in the past decade. Italian Cooperation is supporting decentralization activities, rehabilitation of health facilities, emergency support to Rumbek hospital, and financial support to the MDTF. The United Kingdom's Department for International Development (DFID) has also committed US\$ 30 million over two years through the DFID Basic Services Fund, which supports basic services to improve access to: water and sanitation, primary education, and PHC services in Southern Sudan. [5] Humanitarian programs, implemented by international and Southern Sudanese NGOs, continue to account for the largest proportion of resources in the health sector in Southern Sudan.

The World Bank is the administrator for MDTF-South (for Southern Sudan) and MDTF-North (for Northern Sudan). These two trust funds were established in 2005 following the CPA, which established the Government of National Unity and the GoSS. The MDTF-South and the GoSS are co-financing a health sector development program which totals US\$ 60 million in Phase I and US\$ 225 million over the three phases of the project. This three-year program focuses on development of core capacities and components of the health system (Track 1), while at the same time supporting rapid expansion of service delivery and selected high-impact preventive health interventions (Track 2). [6, 7]

To build a single unified health system instead of continuing to operate as multiple individual projects, the MoH-GoSS advocates for integration of existing vertical programs into the resource pool and management structures of the mainstream health system.

The MoH has moved ahead quickly in developing its health policy and strategy, and a Basic Package of Health Services for Southern Sudan (BPHS).

As stated in the Southern Sudan National Health Policy [8], the objective is to reduce mortality and morbidity through a strategic approach under the overall stewardship of the MoH that ensures:

- Improving the delivery of accessible, acceptable, affordable, sustainable, and cost-effective MCH interventions and nutrition programs;
- Enhancing and accelerating disease prevention and control programs;
- Strengthening the health system at all levels through adequate and fair financing, good governance, and accessible health services;
- Developing a comprehensive approach to human resource development including planning, training and continuous education, and management of personnel; and
- Institutionalizing effective partnerships with other stakeholders through coordination and other collaborative mechanisms.

The BPHS profiles the services, infrastructure, equipment, essential drug supply, and human resources at five levels in the health system – community, primary health care unit (PHCU), primary health care center (PHCC), county hospital, county health department. The development of the BPHS was guided by the values defined in the MoH Policy Paper, namely: the right to health, equity, pro-poor, community ownership, and good governance. The existence of the BPHS is assisting NGOs to standardize services, staffing, and functions.

Although the goal is decentralizing authority to the states, the central MoH was constituted this year and state ministers of health were appointed only eight months ago. At this time, only Western Bahr El Gazal has a five-year health plan, which includes infrastructure development, organization capacity building, HIS, and a public health and hygiene program. The National Health Assembly held in Juba (June 2007) brought together state and county officials, NGOs, and civil society members from each of the 10 states. At the Assembly, state ministers of health voiced their enthusiasm for managing health services once financing and human resources problem are resolved.

All levels of the MoH are determined to make health services work in Southern Sudan. They recognize there is only a small window of opportunity to gain the confidence of the Southern Sudanese people.



## 4. IMMUNIZATION IN SOUTHERN SUDAN

According to the BPHS, the concept of Integrated Management of Childhood Illnesses (IMCI) is to be implemented as widely as possible. Integrated routine Expanded Program on Immunization (EPI) has to be strengthened, made more efficient and sustainable. Box 1 lists key activities per level for EPI as defined in the BPHS. Because EPI is carried out on the county level, it implies how critical the strengthening of that level is in delivering immunization services.

### Box 1: Key Activities for EPI per Level of the Health Care System [9]

1. Home health promoters (HHP)
  - a. Promoting EPI services among the population and mobilizing for planned campaigns
2. PHCU
  - a. Vaccinating on the fixed days with vaccines made available from PHCCs (in cold boxes and/or vaccine carriers)
  - b. Promoting EPI services among the population and mobilization for campaigns
  - c. Organizing/participating in outreach services: outreach EPI, pulse campaigns, returnees/IDPs where applicable, National Immunization Days (NID)
  - d. Providing supportive supervision to HHPs
  - e. Reporting
3. PHHC
  - a. Daily vaccination
  - b. Promoting EPI services among the population and mobilizing it for campaigns
  - c. Organizing/participating in outreach services: outreach EPI, pulse campaigns (e.g. for nomadic populations passing through), NID
  - d. Providing supportive supervision to PHCU staff
  - e. Maintain a mini-cold chain store through a kerosene/solar/gas-powered refrigerator to support PHCUs and routine outreach services
  - f. Reporting
4. County Hospital Outpatient Department
  - a. Same as in PHCCs
5. County Health Department
  - a. Identification and registration of target population
  - b. Development of county-level micro plan for EPI activities
  - c. Training on Reach Every District (RED) strategy for health workers
  - d. Maintaining cold chain store with equipment and vaccines
  - e. Requesting, storing, and distributing vaccines and other material
  - f. Promoting EPI services among the population and mobilizing it for planned campaigns
  - g. Providing training support for staff at PHCC and PHCU levels
  - h. Supportive supervision for staff at PHCC, PHCU, and HHP levels
  - i. M&E
  - j. Reporting

Funding for EPI in Southern Sudan is reliant upon donors, including Australia, United Kingdom/Northern Ireland, USAID/OFDA, and Canadian International Development Agency. A total of US\$ 6,246,477 was available for EPI in 2006. Thirty-six agencies implemented routine EPI in 43 counties in addition to the services provided by the 10 states and a few county health departments.

A total of 1,233,441 children between 6 months and 15 years of age were vaccinated against measles in 2006 through a mass measles campaign that started in December 2005. The number of children receiving three doses of DPT increased from 39,171 in 2005 to 52,019 in 2006. [10]

The immunization services are provided through three strategies:

1. Fixed sites (facilities that have a cold chain, mostly hospitals and health centers)
2. Outreach
3. Mobile (mainly through accelerated campaigns)

To boost routine immunization, supplementary immunization activities (SIAs) that adopt the RED strategy are implemented in selected counties. Three types of SIAs are implemented, namely, polio, measles, and maternal and neo-natal tetanus campaigns. Results of the SIAs range from 68% to 100% coverage.

Routine immunization services are absent in about 60% of Southern Sudan, and of the routine immunization services available, most are provided by NGOs. According to interviews and review of documents, the low immunization coverage in Southern Sudan can be attributed to several factors that reflect underlying health system weaknesses [10]:

- Absence of functioning health facilities
- Absence of a policy document and a comprehensive five-year operational plan for EPI in Southern Sudan, which slows the implementation of routine immunization at the national level.
- Absence of or difficulty maintaining cold chain
- High wastage
- Unreliability of population data used for computing coverage figures
- Inadequate quality and quantity of administrative personnel and health staff at all levels due to limited supply of qualified people, poor working conditions, and inadequate remuneration
- Inadequate logistics and transport to implement routine EPI activities in all 10 states
- Inadequate funding at all levels
- Security (land mines in particular, e.g. outskirts of Juba, Malakal, and Wau) still limits access to many locations.

Barriers that are being addressed by UNICEF include capacity building, through training for state EPI officials from all 10 states, mid-level management training, cold chain and vaccine management training, and training of social mobilization officers for EPI. Advocacy efforts for EPI were stepped up mainly with

state-level ministers of health. In 2006, a central cold chain store was established in Juba. The store has a capacity of more than 7.0m doses of all types of vaccines.

Among other initiatives is the autumn Polio National Immunization Days, which reached coverage of 100%. Surveillance for polio continued and the zero case status was maintained.

But much more needs to be done to develop routine immunization. This cannot be achieved without building a strong health care system and strengthening the levels and structures that manage, operate, and deliver immunization services. In the areas of HSS, the priorities for improving immunization services in Southern Sudan are to better utilize financial and human resources, to increase coordination and planning so the interventions take better account of the environment (geography, culture) for more efficient interventions and use of resources, and reinforce health policies and regulations so that NGOs and FBOs provide immunizations as well.



# 5. KEY FINDINGS

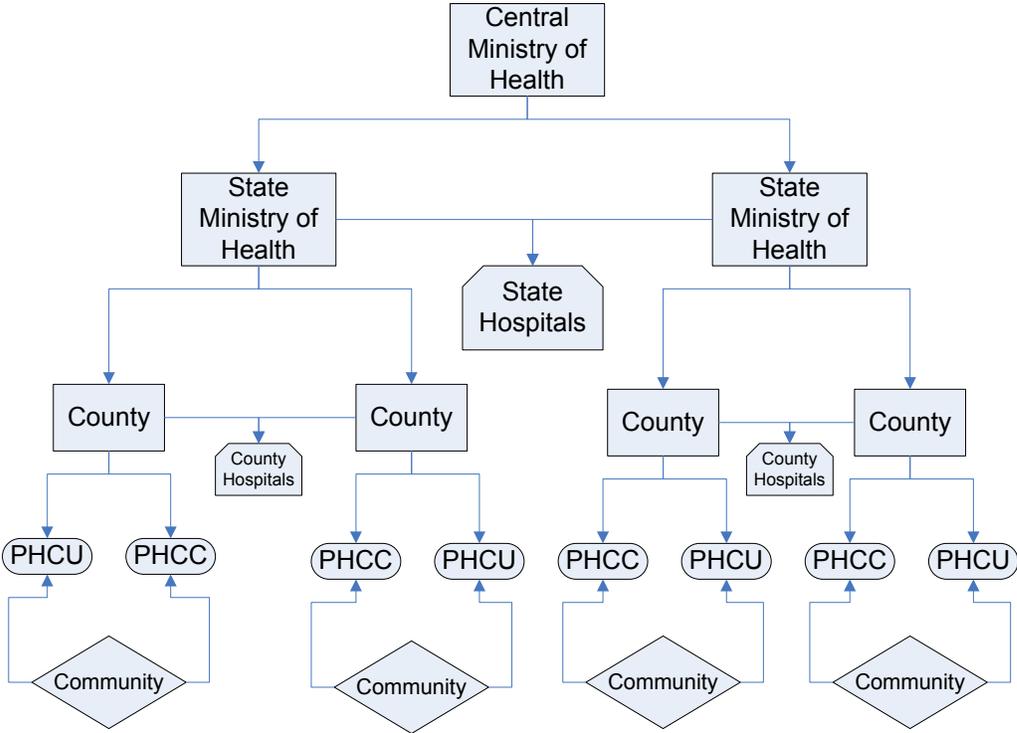
## 5.1 GOVERNANCE

Key findings areas are governance, health financing, human resources, service delivery, HIS, and pharmaceuticals and health commodity management.

### 5.1.1 OVERVIEW

The Southern Sudanese health system is decentralized into four major levels – the central, state, county, and community – as illustrated in Figure 1.

**FIGURE 1: STRUCTURE OF SOUTHERN SUDAN’S HEALTH CARE SYSTEM**



The Southern Sudan National Health Policy broadly lays out the roles and responsibilities at each level, as described in Box 2.

According to interviews and document reviews conducted by the Joint Assessment Mission [11]:

The SPLM has a strong commitment to establish a vibrant climate of local governance, with communities and traditional structures having a positive involvement in local decisions and in the oversight, management, and support of an appropriate range of social and public services.

**Box 2: Roles and Responsibilities of Each Health System Level, as described in Southern Sudan National Health Policy [8]**

**Central Level, Juba**

- Leadership, governance, stewardship sector-wide
- Development of a strategic, regulated, accountable, transparent organization
- Selective decentralization and effective delegation
- National health and disease policies, strategies and plans
- Human resources capacity development
- Planning, monitoring, evaluation and information systems and research
- Regulation and legislation
- Setting national-level priorities, standards and guidelines
- Sector-wide and interministerial coordination
- Health financing and management of financial resources
- Contracting services

**State Level**

- Leadership
- Joint assessments, planning, M&E, and operational research
- Sectoral and intersectoral coordination
- Annual management work plans
- Implementation of government health care and services
- Supervision and guidance including of contracted-out services
- Referral system
- Epidemiological surveillance

**County and municipality levels**

- Health coordination
- Assessment and analysis of local health and managerial needs
- Joint strategic planning based on local needs and problems
- Monthly management work plans
- Implementation of health care and services
- Supervision, guidance and monitoring including of contracted out services
- Referral system
- Epidemiological surveillance

**Community level (PHCC, PHCU, and communities)**

- Implementation of BPHS
- Community participation
- Referral system
- Weekly work plans by health centers and units
- Outreach

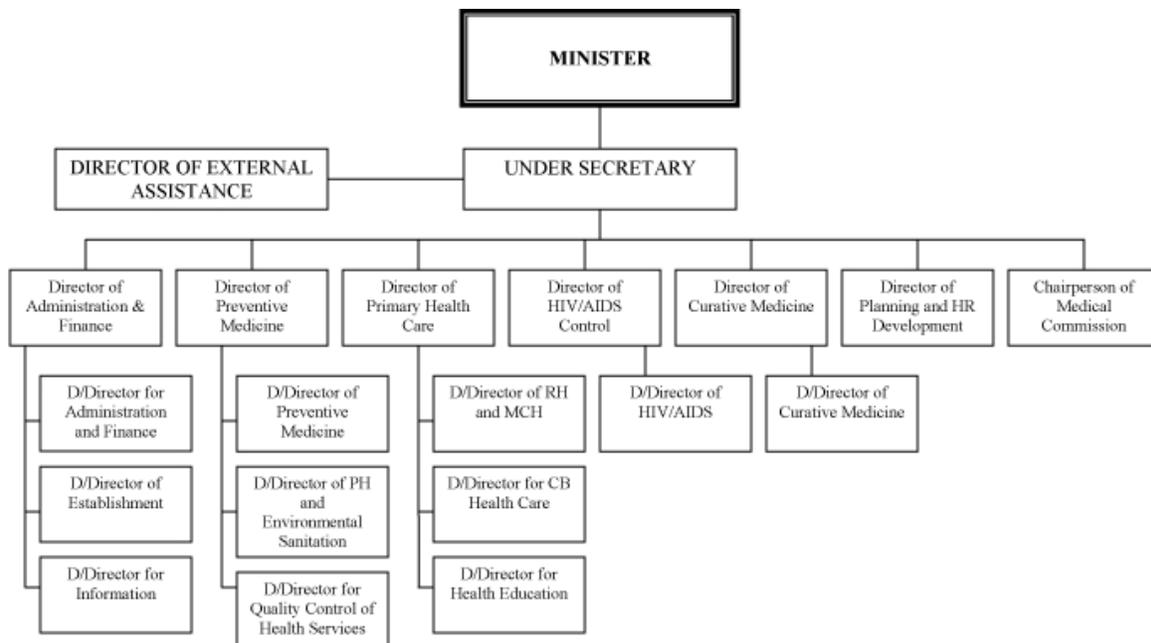
This will include helping counties to establish relatively simple, basic management and financial systems to perform their functions, handle and account for block grants and local revenue, and oversee contracting of selected local services).

## 5.1.2 MANAGEMENT CAPACITY

### Central level

The central MoH has made impressive progress in the short time since its formation. The organizational structure is delineated (Figure 2), nine directors generals are appointed, and positions within each directorate are rapidly being staffed. Additionally, seven major policy documents have been produced, as well as the Southern Sudan National Health Policy and the BPHS strategy. Working groups to tackle major issues such as M&E and human resources have also been formed, as well as committees such as the Country Coordinating Mechanism of the Global Fund to Fight AIDS, Tuberculosis (TB) and Malaria, and the Nutrition and Health Committee. Thus, the MoH is rapidly developing a strong capacity to provide national leadership of the health system.

**FIGURE 2: ORGANIZATIONAL STRUCTURE OF THE MOH IN SOUTHERN SUDAN**



Note: HRD=human resource development, RH=reproductive health, PH= public health, CB=community based

That said, a majority of positions in the MoH, especially lower-level staff, remain vacant and, while the organizational structure is in place, the associated roles, responsibilities, and lines of authority are still not clearly established or documented. Processes and procedures have become more developed since the MoH's inception, but much still remains ad hoc. The combination of these issues has had impact on the MoH's ability to operationalize its Health Plan. Lack of staff and expertise in project design and procurement has resulted in slow disbursement of finances. Though a Directorate of External Assistance is established, the demands of partner organizations are many, and with a skeletal staff the MoH's ability to coordinate partner initiatives is weak. Finally, communication between the central and state levels is weak. Decisions made by the MoH are not always conveyed to the state level, according to state-level officials interviewed at the National Health Assembly.

## **State level**

As described in the National Health Policy, the state level is responsible for the overall management of county health services, including routine immunization. Specifically, this task includes monitoring, evaluating, and auditing contracts with NGO health providers; management of public providers; resource allocation; strategic planning; and coordination among different actors within the health system. These activities represent the fundamental management capacity needed to transition from donor-led EPI campaigns to managed, routine immunization.

Interviews with state-level officials reveals that there is considerable confusion as to the degree of authority the state has vis-à-vis the central level. All states interviewed were familiar with the roles and responsibilities set out in Box 2; however, they also commented that they were unclear on how to operationalize those roles, and that there was significant overlap between certain state-, county-, and central-level duties. States also commented that they lack the critical resources needed to accomplish their roles, including basic skills in financial management and bookkeeping, auditing and accounting, and planning and administration. In our interviews, the dearth of skilled staff was due to limited and irregular finances flowing from the central level for salary support. Thus, all but one state (Central Equatoria) has a functional director of planning. State health management committees are intended to form the backbone of planning, monitoring, and evaluation of state health activities; however, most states do not have functional committees that meet on a regular basis. In those states where committees do exist, the committee members are unclear of their roles, responsibilities, and mandate, and lack the critical management tools such as supervisory checklists to carry out their functions.

During the war and its immediate aftermath, the weak capacity at the state level was mitigated by the fact that most health care was financed, managed, and delivered by independent NGOs. However, Southern Sudan is now in the process of transition, and development of the state-level management function is critical. The process of implementing the MDTF Umbrella Program for Health has recently begun to move rapidly, and a key part of the program involves contracting with NGOs and faith-based organizations to provide services. States will be responsible for managing these contracts to ensure appropriate delivery of PHC, including immunization; therefore the development of management capacity is essential.

## **County level**

One of the conclusions that emerged from Sudan's first National Health Assembly was the critical role of the counties in implementing the BPHS strategy. Counties, being the closest unit to the health facilities and to the communities, are responsible for the vital role of supervising, monitoring, and guiding health service delivery. They also serve as the main vehicle to identify local needs, both at the facility and community level, to feed into the strategic planning process at the state level. Counties are to serve as the main implementing arm of the states, and will be critical in the day-to-day management of service delivery contracts at the facility level. The organizational chart for county health administrations is described in Figure 1.

Our interviews with state officials revealed that very little financial support, including salary support, has been budgeted for the county level. As a result, most counties are not yet functional. Exceptions to this are counties that receive support from NGOs and, in some cases, from communities.

## **Community level**

Community ownership of health care has been a part of the traditional structure of the Southern Sudanese health system, even during times of war. At the community (*Payam* and *Boma*) level, community health teams, usually made up of community members, health facility representatives, and other stakeholders, often exist to provide voice and input into the functioning of PHHUs and PHHCs. These teams can serve as a critical force in ensuring that health facilities are providing high-quality services that serve the needs of the local community. They can serve as a powerful voice against corrupt practices, inappropriate resource allocation, lack of commodities, poor treatment by health workers, and overall poor quality of care. For example, if health facilities are routinely stocking out of immunization, are not regularly immunizing children, or are charging informal fees for immunization and other PHC services, community health teams can directly address these issues as well as inform the county level.

Our interviews with NGOs and state officials reveal that community health teams are not operating in a consistent manner across Southern Sudan. In some areas, they are strong and active, particularly where NGOs are supportive of the committees. In other areas, they meet on an ad hoc basis. And in still other areas, they are non-existent. Though the development and strengthening of these teams is an important part of the BPHS strategy, there is no national strategy to address this issue.

### **5.1.3 STRATEGIC PLANNING**

Strategic planning is a core function at all levels of the government. At the central level, a Director General for Planning and Human Resource Development has been established, with several supporting staff. The Director General is engaged in most key strategic activities. While the demands on the directorate are many, it is well placed within the organizational structure and capable of carrying out its duties.

There is far less capacity for strategic planning at the state level. Most state-level administrations do not have a designated office for strategic planning, and often staff with limited strategic planning experience and technical know-how are tasked with these duties. This situation is attributable to the lack of salary support in the financial transfers from the central level, as well as difficulty in finding qualified staff to fill planning roles. The lack of good health management information is also an important factor limiting states' ability to develop strong strategic plans, as will be discussed in Section c.5. The Sudan National Health Policy designates states as the main stewards of the health sector; thus the development of strategic planning capacity is essential.

County levels, being the closest administrative level to the communities, must be able to feed information from community health teams to the state level and participate in joint planning exercises with the state. However, strategic planning capacity at the county level is even more limited than at the state level. Again, the lack of capacity is due to the limited-to-non-existent budget for salary staff, as well as the difficulty in recruiting qualified staff.

### **5.1.4 COMMUNICATION AND COORDINATION**

One of the fundamental ingredients to achieving successful management and strategic planning capacity at the county and state levels is strong coordination and communication capacity. States must be able to coordinate the activities of all of its counties, its service providers (public, NGO, and FBO), and other actors in the health system. Without adequate communication, state and county health management

teams cannot fulfill their role oversight role. Finally, it is important that officials within county and state administrations are adequately organized to ensure coherent policy development and implementation.

Similar to state and county health management teams, community health teams also need to coordinate within their team as well as with the county level. Our interviews with NGO and state officials suggest that the degree of coordination within the teams varies with how active the teams are. However, most community teams do not coordinate with the county teams.

Development of coordination and communication capacity involves processes and procedures, as well as basic infrastructure. According to presentations given by the state ministers of health at the National Health Assembly, basic communications infrastructure is lacking (see Table 2). Most states do not have Internet connections and few have telephone connections. In terms of organizational development, our interviews find that most state governments are still nascent, and thus many procedures and processes for coordination have not yet been well established or developed. The dearth of staff at the decentralized levels has also made the establishment of state and county coordination units difficult.

**TABLE 2: STATE COMMUNICATION INFRASTRUCTURES**

	Telephones	Internet	Computers	Number of PHC facilities
Warap	1	0	1	?
Central Equatoria	2	0	11	192
Jonglei	0	0	3	220
Upper Nile	5	?	4	185
Western Equatoria	0	?	6	211
Western Bahr el Ghazal	0	0	0	81
Northern Bahr el Ghazal	0	0	0	83
Unity	?	?	?	35

**How does improved governance and management at various levels affect the delivery of MCH and immunization services?**

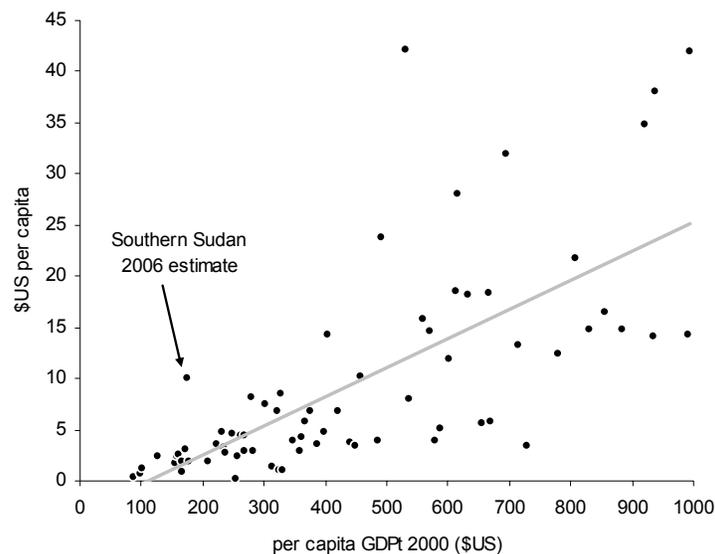
- Strong state and county management capacity is essential to transition from campaigns to routine immunization
- Strong strategic planning can allow for more rational and focused efforts on improving MCH and immunization coverage, especially in poorly performing regions
- Communities with strong management teams can serve as first responders when health facilities do not appropriately deliver MCH and immunization services
- Communities with strong management teams can serve as a critical liaison between civil society, health facilities, and county governments to ensure prioritization of MCH and immunizations services.

## 5.2 HEALTH FINANCING

### 5.2.1 OVERVIEW

Though no accurate resource tracking system exists, a review of documents suggests that total health spending in Southern Sudan was approximately US\$ 130 million in 2006. [7,12] Of this, it is estimated that US\$ 60 million is from relief and development partners, US\$ 62 million in direct spending from the MoH, and US\$ 8 million from MDTF-GoSS [12]. Taking these figures into account and using a population base of 10 million, it is estimated that US\$ 13 per capita was budgeted (though not necessarily disbursed) for health in 2006 (see Figure 3). If these funds were all disbursed, this level of funding would be significantly more than many countries with similar per capita gross domestic product, especially among post-conflict countries.

**FIGURE 3: HEALTH SPENDING PER CAPITA IN 2006 (US\$)**



The same World Bank note on health financing estimates that government expenditure on health as a percentage of total public spending is approximately 8%, which is on par with other sub-Saharan countries [12]. As Southern Sudan is emerging from a long history of civil war, health indicators are still markedly worse than the sub-Saharan region, despite the level of health spending (Table 1).

Many officials interviewed attributed Southern Sudan's poor performance relative to sub-Saharan Africa as follows:

1. Slow disbursements of MoH and MDTF funds: According to the World Bank, \$40 million of MoH allocation to the MDTF was unspent and returned to the GoSS general account in 2006.
2. The NGO sector is providing care inefficiently, in an ad hoc and often vertical manner.
3. Unit costs in Southern Sudan are much higher than most neighboring countries.
4. MoH resources have not been strategically allocated to strengthen PHC: "specialized materials and supplies" absorbed two-thirds of non-salary recurrent costs, and "scholarships" and "training" accounting for half of the remainder [12].

5. Initial spending has been on infrastructure and development (54% of MoH budget in 2006), which will demonstrate long-term, but not immediate-term impact.

### **5.2.2 REVENUE SOURCES**

The GoSS has two major sources of revenue for public expenditure. The first source is oil revenue transfers from Khartoum. Under the CPA, Khartoum has agreed to transfer 48% of all oil revenues to the GoSS. Our interviews with the Ministry of Finance (MOF) and MoH officials indicate that amount of these transfers have been unpredictable and slow, causing significant difficulties for MOF strategic planning. The second major source of revenue is through the MDTF, which will be described in greater detail in subsection *iv*. At the time of this assessment, the GoSS did not have the capacity to generate revenues through taxation.

At the state level, the majority of revenues are received through central MoH transfers. Under the CPA, oil-producing states also receive a direct transfer from Khartoum amounting to 2% of total oil revenues. At the time of this assessment, no state-level administrations had taxing ability.

### **5.2.3 BUDGETING AND FLOW OF FUNDS**

The budgeting process for health is intended to be a bottom-up system, in which counties feed their budgetary needs to states, and states in turn feed their aggregate needs to the MoH. The MoH is then to advise the MOF on total health sector needs and negotiate a final budget. Once the budget is finalized, the MoH sends a request to the MOF to transfer budget allocations to each state. Payments are to be made on a monthly basis, but the timing is directly dependent on oil revenue transfers from Khartoum.

In practice, much of the financial system is not functional yet, since state ministers were selected less than one year ago. In terms of bottom-up budgeting, our interviews reveal that states assess their needs without consulting their counties. Moreover, it is unclear as to how exactly states determined their budgetary needs. During the National Health Assembly, several states, such as Warrap, reported that they never submitted their budgets to the MoH. Those states that did submit budgets received considerably less than what they asked for. For instance, Central Equatoria asked for approximately US\$ 6 million and received US\$ 285,000 in 2006. State ministers interviewed reported that more than half of the budget was for salaries, the rest for operating and capital expenditures. Interestingly, the draft 2006 budget shows that the entire sum of the salary transfer to the state level is intended for the state officials only, with zero allocated to county-level salaries.

The most prominent complaint by states during the National Health Assembly was the slow disbursement of funds from the MoH. Many states complained that they had been unable to pay health workers for several months, the result of delayed disbursements. The assessment team was unable to conduct an in-depth analysis into the root causes of these delays, but most MoH officials interviewed traced the problem to slow transfers from Khartoum to the MOF, lack of disbursement capacity at the MOF, and delays by the MoH in notifying the MOF on disbursements.

So far, all budgeting is input-based. Though there has been talk at the MoH of moving toward output-based or performance-based financing, there has not been significant progress to this end, mostly due to the lack of capacity to operationalize more complex forms of financing.

## 5.2.4 MULTI-DONOR TRUST FUND

The MDTF was established upon the signing of the CPA in January 2005. Development partners pledged US\$ 252 million for the MDTF of Southern Sudan, and tasked the World Bank to serve as the fund's implementation arm. The MDTF is to function as a matching grants fund: development partners will contribute US\$ 1 for every US\$ 2 contributed by the GoSS. According to the World Bank, 12 major projects across the GoSS have been financed as of June 2007, with one for health (the Umbrella Program for Health). This three-year, US\$ 225 million project (see Table 3 for financial breakdown) serves as the MoH's overarching strategy for strengthening the core components of the Southern Sudanese health system. The functional arrangements of the MDTF are described in great detail elsewhere (Sudan Multi-Donor Trust Fund Operations Manual 2006). Interestingly, our interviews reveal that the MoH had limited involvement in deciding MOF allocations to the MDTF for the health sector.

**TABLE 3: FINANCING SOURCES AND TIMEFRAME FOR SOUTHERN SUDAN UMBRELLA PROGRAM FOR HEALTH SYSTEMS DEVELOPMENT [7]**

	<b>MDTF</b>	<b>GoSS</b>	<b>Total</b>
Year 1	20	40	60
Year 2	25	50	75
Year 3	30	60	90
Total	75	150	225

## 5.2.5 OUT-OF-POCKET EXPENDITURES

The GoSS has declared that basic health and emergency services should be provided free of charge to all Southern Sudanese citizens. [8] This declaration applies to all public facilities as well as NGO providers. However, our interviews with state officials and NGO representatives indicate that out-of-pocket expenses are commonplace.

At public facilities, the lack of funding for recurrent costs forces providers to charge for commodities and pharmaceutical products. Often, patients are given a list of products to purchase in the private sector. Informal fees are also prevalent, though the extent to which they are prevalent is unknown.

There is no consistent policy for user fees at NGOs. Interviews with NGO representatives indicate that most NGOs, but not all, do not charge fees. Unfortunately, our findings are all anecdotal – there is no survey-based data to corroborate the findings.

### **How does improving health financing impact the delivery of MCH and immunization services?**

- Strategic budgeting systems are needed to ensure that immunization systems are financed and prioritized
- Bottom-up budgeting is needed to ensure that health facilities accurately forecast their needs and receive appropriate financing for MCH and routine immunization
- Timely disbursements of funds are needed to ensure continuity of immunization services and of PHC services generally to promote utilization and thus the opportunity to provide routine immunization
- Recurrent costs must be financed in order to ensure basic MCH and immunization system needs are met (such as fuel for generators to run cold chain equipment)
- Recurrent costs and salaries must be paid regularly to ensure facilities do not charge out-of-pocket fees for services

## 5.3 HUMAN RESOURCES

### 5.3.1 OVERVIEW

Human resources constitute a critical element of a well functioning and performing health system. Improvement in the quality of services and achievement of health outcomes depends on available, competent, and motivated workers.

Human resources actions, if well managed and implemented, lead to workforce objectives including coverage, motivation, and competence. Good coverage of health personnel influences equitable access; motivation influences efficiency and effectiveness; competence influences quality and responsiveness. Equity, efficiency, and quality, which are all determinants of health system performance, lead in turn to positive health outcomes for the population.

Looking at the Southern Sudan human resource picture, it is no surprise that this is a top priority for the MoH. Throughout the National Health Assembly, during in-depth MoH discussions and interviews, human resources were consistently raised as the most critical issue currently facing Southern Sudan. Health staff availability, training, quality, distribution, and remuneration are issues that the MoH has given (and is continuing to give) significant consideration.

By the time the civil war ended (2003), most health professionals had left the country or had been absorbed into the military. Thousands of physicians, nurses, and other health professionals found their way to Northern Sudan, Europe, the United States, and Canada and established lives there. In a brief review of the senior MoH staff, directors general, and state ministers of health all have either returned from overseas after a 15–20-year absence or were officers and physicians fighting in the bush during the war. These senior health professionals are a highly motivated and gifted group; however, they are at high risk of burnout if the human resource base is not expanded quickly.

The lack of qualified human resources creates the greatest limitations for the expansion of health services across the health sector. With the current estimates of population at 10 million (2005), there is less than one health worker per thousand people, with most health staff concentrated in the three largest cities – Juba, Malakal, and Wau. The first-level PHC levels – PHCU and PHCC – are sorely understaffed, while tertiary hospitals and training institutions are overstaffed.

Health workers continue to migrate out of the health sector into the military, UN agencies, private sector, and government posts in search of better pay and working conditions. This situation is so severe that the MoH has made a dramatic policy shift from the insistence that partners recruit only Sudanese to work in the health sector to now encouraging the recruitment of staff from other countries in the region, principally Kenya, Ethiopia, and Uganda.

The three-year objective of the MDTF Umbrella Program for Health is to rapidly develop the human resources required for basic service delivery expansion. This component will also support post-basic training for specialized health personnel as well as for county health officers. The plan also includes testing innovative initiatives, including the provision of attractive remuneration or benefit packages to enable deployment of doctors and other qualified personnel to hardship areas, and incentives for qualified staff from the Diaspora to return.

Presently, under the MoH Directorate of Planning and Human Resource Development, consultants and NGOs are formulating a Human Resources Development Plan. This plan will define the organizational

structure, roles and functions of the MoH central, state, county, and service provider levels, establishing realistic targets; developing and harmonizing training to upgrade skills; and allocating new and (reallocating) existing personnel to the appropriate positions.

### **5.3.2 AVAILABILITY AND DEPLOYMENT**

There is a critical lack of trained health personnel at every level of the health care system. The estimated 11,800 personnel in the health sector are deployed unevenly between or within states. For instance, 25% of health personnel work in three towns (Juba, Malakal, and Wau), PHCU/PHCC levels have half the staff required, and tertiary hospitals and training institutions have three times the needed staff. Managers and planners – essential for an evolving health system – exist in only limited numbers. [16]

In the former garrison towns, many staff on the payrolls are either inappropriate for the job, not working, or non-existent. There are approximately 1,355 nurses and 225 doctors with a ratio of doctors to nurses of 1:5. The 50–75 NGOs scattered throughout the country (with 1–550 employees) employ a range of health cadres; however, job descriptions, recruitment, deployment, and personnel policies/procedures vary widely.

At the central MoH level, half of the available positions remain vacant. At the state level, ministers of health are appointed, but staffing below this level is scant. Management and planning units do not exist or are barely staffed (including M&E staff). On a positive note, there is an EPI officer in each state.

Besides the overall shortage of health care workers, the unequal distribution across the country is due primarily to the difficulty of deploying health worker to remote areas, where living conditions are harsh and opportunities for advancement limited. This is a challenge many countries face and it will require creative measures to persuade workers to work in these areas. An unmotivated rural workforce results in high turnover rates, absenteeism, low job performance, professional negligence, and often corrupt practices.

The Human Resource Development Plan will assist greatly to outline the MoH's recruitment/retention/deployment policy and guidelines, aligning and standardizing positions descriptions, cadres, and functions of health staff whether working for the MoH or partner programs throughout the country. A human resource information system is under discussion and would greatly assist in human resource planning. Knowing who is working where in the health system, will provide the MoH with a road map for future planning.

The team found that a targeted effort to place management and planning health staff is critically needed to quickly evolving health care system. This function is essential at each level – central, state, and county – to move health services out rapidly and ensure a strong health system. Planners and managers are particularly crucial at the state and county levels to move health services out quickly and respond to local health needs.

### **5.3.3 REMUNERATION AND RETENTION**

Implementing policies regarding compensation, benefits, recruitment, hiring, transfer, and promotion for all types of health workers promote fairness and equity in the workplace. Failure to implement such policies has a negative effect on staff morale and performance, resulting ultimately in a detrimental impact on the quality of health services.

Within the human resource arena, remunerating health staff is a primary concern of the MoH. The overall compensation package is weak, and in some areas, staff payment is irregular and unpredictable. Salary structures are on par with those in Northern Sudan; however, the lack of housing and other amenities (easily obtained in the North) has made it difficult to recruit and retain qualified staff.

With the primary employers of health staff being a range of NGOs, compensation packages are very diverse. Although health worker compensation is low at some NGOs, for the most part, NGOs compensate workers at a level unaffordable to the MoH or multi- and bilateral donors. As humanitarian relief funds gradually dry up and donors/NGOs respond to more immediate humanitarian crises in other countries, the MoH and donors will need to take on these existing programs. However, at this time, neither the MoH nor donors are positioned to assume the NGO health care programs at the levels they are currently funded.<sup>4</sup>

Additionally, NGOs provide a range of non-financial incentives – professional development (e.g., training), housing, team building – to retain workers. These non-financial incentives have a very powerful influence, often stronger than increasing monetary compensation. The MoH is looking at various non-financial incentives for workers. However, beyond the GAVI HSS scope of support, taking on the current level of NGO compensation for health workers and programs generally – either through contracting directly or assuming them as MoH programs – will prove fiscally challenging.

#### **5.3.4 SKILLS PROFILE**

Approximately 40% of the health workforce has none or less than one year of training, a quarter has 1-2 years of training and another quarter has 3–5 years of training. Though limited information exists on education levels and training certification, it is estimated that only 7% of the health personnel have a junior and high secondary school education level, and only 3% have university-level education. At present, in Southern Sudan, there are approximately 225 doctors and approximately 220 medical officers and specialists who have been trained in Khartoum or abroad. Interestingly, no staff has been trained in management and planning, which are essential skills for operationalizing health services delivery. [16]

#### **5.3.5 TRAINING INSTITUTIONS, CURRICULA, AND QUALITY**

Training needs span the full health workforce from high-skilled PHC cadres (medical officers, clinical officers, nurses, certified midwives, laboratory technicians) to nursing aids, community health workers, and community health committees. The MoH has recognized training as a prime focal area and provided solid attention and substantial resources for pre- and in-service training. [17]

Before the civil war, although Juba had nursing and medical schools, many Southern Sudanese were trained in Khartoum; approximately 220 Southern Sudanese medical officers and specialists currently in Southern Sudan were trained in Khartoum and elsewhere.

Specialized continuing professional education and long-term training are usually managed at the central level, but since there was limited central authority during the war, NGOs took the lead in providing training to health staff. Although many NGOs have excellent training capacity, the range of quality and types of training is large.

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<sup>4</sup> This relief to development phenomena is an issue worldwide. Relief organizations typically compensate workers at a higher level (and overall program funding is greater) than host governments or other donors can afford.

The human resource situational analysis [16] indicates that 15 training institutions are distributed throughout the country – in every state except Jonglei and Eastern Equatoria – offering 33 courses (Table 4).

**TABLE 4: EXISTING TRAINING INSTITUTIONS AND THE NUMBER OF COURSES OFFERED [16]**

State	Location	Number of Sites	Number of Courses
Upper Nile	1 Malakal (former Govt. of Sudan [GoS])	3	3
	2 Renk (former GoS)	1	1
	3 Keew	1	1
	4 Nyal	1	1
Central Equatoria/ Bahr E Jabal	5 Yei	1	2
	6 Juba (former GoS)	5	7
Jonglei	-	0	0
Eastern Equatoria	-	0	0
Warrap	7 Marial Lou	1	2
North Bahr El Ghazal	8 Aweil (former GoS)	1	1
Western Equatoria	9 Lui	1	1
	10 Maridi	3	3
Unity	11 Bentiu (former GoS)	3	3
Lakes	12 Rumbek	1	1
	13 Billing	1	2
	14 Adol	1	2
West Bahr El Ghazal	15 Wau (former GoS)	3	3
Total		22	33

Within training institutions, training focuses primarily on theoretical, disease-based knowledge rather than prevention and aspects of health promotion. Table 5 outlines the course offered. It is noteworthy that, in the past and currently, there are no management and leadership training programs for the development of future health leaders and managers.

Programs use traditional teaching and learning methods instead of practicum/experiential learning. There is no national accreditation mechanism in place for training institutions and hence no system to measure or impact training quality. According to the human resource situation analysis, which assessed six indicators (infrastructural design; average annual intake/output; availability of qualified teaching staff; availability of library facilities; management practices; and field practicum), trainee performance assessments are weak, and training objectives poor, and only 14% of surveyed institutions had adequate training capacity.

Because most training institutions are in a state of disrepair, the MoH will contract for architectural assessments in preparation for rehabilitating and equipping existing training facilities, particularly three nursing schools, three midwifery schools, and two laboratory technician schools.

**TABLE 5: TYPE OF COURSE [16]**

1. General Medical Assistant (former GoS)
2. Clinical Officer
3. Nurse Midwife
4. Certificated Nurse
5. Registered Nurse (former GoS)
6. Community Midwife
7. Trained Village Midwife (former GoS)
8. Laboratory Technician
9. Laboratory Assistants
10. Auxiliary Laboratory Assistant
11. Community Health Workers
12. Maternal & Child Health Workers
13. Public Health Officer
14. Theatre Attendant

### **5.3.6 MANAGEMENT AND PLANNING OF HUMAN RESOURCES**

Human resources/human resources management refers to the people who provide the organizational function that effectively manages and utilizes the people who work in the organization.

Currently, the central MoH has two professional staff that focus on human resource management and planning under the direction of the Director of Planning and Human Resource Development. At the state level, there is limited or no human resource management staff in place. Although the MoH is moving quickly as possible on human resource issues, their capacity is weak due to the lack of human resource professionals and support staff. The development of a human resource information system is currently under discussion, and is envisioned to dramatically help the MoH in personnel planning, accounting, classification, distribution, skill level management, and other critical workforce management functions.

Historically, management and planning of human resources (e.g. for training, recruitment, job descriptions, career development) has received limited attention. But this situation has changed and the Umbrella Program document outlines the need and plans for strong management and planning capability. This has translated into the development, although not yet completed, of a Human Resources Development Plan. This assessment team agrees that this is the lynchpin of human resources.

#### **How do human resources affect MCH and immunization services?**

- Poorly selected and trained health staff cannot provide quality MCH and immunization services.
- Poorly deployed staff cannot cover underserved populations in need of MCH and immunization services.
- Poorly remunerated health staff are not motivated to provide quality MCH and immunization services.

## **5.4 SERVICE DELIVERY**

### **5.4.1 OVERVIEW**

As discussed throughout this document, more than 20 years of war and decades of scarce resources have left the health care system extremely deteriorated. Even in former garrison towns, which were less affected by the civil war (and supported by the North), hospitals, clinics, and health care generally is in very poor condition. The major hospitals in Juba, Malakal, and Wau, total only an estimated 1,200 beds and require financing, staffing, and management reforms as well as refurbishing and improvements in the quality of services. Every level of the health system suffers severe limitations (inadequacy, lack of clarity, non-existence, etc.) in every aspect of the service delivery system:

- Health personnel availability, quality, and distribution
- Infrastructure – facilities, electricity, water, roads, communications
- Drugs, supplies, and equipment
- Consistent funding for recurrent costs – salaries, drugs, supplies
- Range of service providers, policies, and procedures
- Service guidelines
- Human resource policies and procedures

As a result, only 30% of the population in Southern Sudan is covered by health services – 70% of the population has limited or no access to any type of health care facility, services, or information.

The MoH is addressing problems in service delivery as effectively as possible given the current constraints. Because current health service provision in Southern Sudan is primarily an NGO and donor response to an emergency situation, there has not been a national plan for long-term service delivery. This section focuses on MoH plans for improving health service delivery.

### **5.4.2 AVAILABILITY AND ACCESS**

At present, of the 30% of the population covered by formal health services in Southern Sudan, the NGO/FBO sector provides 68% of the health services. Although many health staff technically are government workers, they are not on the government payroll but rather are paid by NGOs. The majority of the NGOs are funded by bilateral and multilateral emergency assistance (funded on a yearly basis). The focus is on providing first-level health services, not building the capacity of the government to provide services.

Because the need for service delivery is acute, the GoSS has no other choice than to rely on NGOs for service delivery. However, although NGOs now work more in concert with the government/MoH policies and procedures to coordinate and standardize service delivery than they in the past, the provision of health services by the many organizations (estimates range from 50 to 75 NGOs), each with its own policies and procedures, creates a fragmented, inefficient health system. In addition, more donor resources (primarily technical assistance) are coming into the country. Therefore, the MoH's focus is to

fill the health services gap while developing the structures necessarily to establish a rational health care system for the country.

Currently underway is (an MoH-contracted) mapping of health facility infrastructure, including assessing staffing, financing/management, and health services type. This will provide a much-needed picture of the distribution of current health care services to determine where underserved populations are and who is served in which areas.

### **5.4.3 EQUITY**

Equity of access to care – for geographically isolated, ethnic, and other underserved groups – is a primary concern for the MoH. Because most of the country is without services, the MoH is focused on expanding geographic access to formal health services. Although procurements have been slow, the plan is to rapidly provide formal health care services to the estimated 70% of the Southern Sudan population who now lack them by introducing high-impact interventions delivered through community and household channels. High-impact services reduce child mortality and morbidity rapidly and include: immunization; vitamin A supplementation; bed nets for malaria prevention; oral rehydration therapy/zinc and point-of-use water treatment to avoid diarrheal and other water-borne diseases; community-based treatment of malaria with pre-packed ACT (artemisinin combination therapy) drugs; treatment of acute respiratory infection with antibiotics; and mass-treatment of hyper-endemic communities infected with bilharziasis. Delivery of these interventions will be done through existing governmental, non-governmental, and community networks and through social marketing.

### **5.4.4 QUALITY**

Because a great number of organizations have implemented health services over the years in Southern Sudan, there is no standard measure of service delivery quality. Quality (and standardization of services) should improve once the recently developed BPHS is rolled out and the procurements to expand services in each state are implemented. This BPHS is a PHC-oriented approach to service delivery – moving from the community level to first-referral hospitals to county health departments is an integral part of the system.

An assessment of the three major hospitals – Juba, Malakal, and Wau – was recently completed in preparation for strengthening and reforming hospital service delivery. The MoH will contract on a pilot basis one or more hospitals to a management firm to support the reform process and rapidly improve hospital services. Significant quality improvements should result from the implementation of the Human Resource Development Plan, including rationalizing, reallocation, and retraining staff.

The assessment team understands that the upcoming MoH state-based service delivery contracts with NGOs are performance-based. Because the contracts are still being negotiated, details are not yet known, but the team envisions that a performance-based system of service delivery will set the correct incentives for improving health outcomes by improving the quality and access to services. Performance-based service delivery, as implemented in other countries such as Afghanistan, Haiti, and Rwanda, could stimulate productive competition among NGOs to provide high-impact, quality services. If the indicators for performance are set right (at the health-impact level: child mortality/morbidity reduced, maternal health improved, maternal mortality decreased), this could revolutionize health services and dramatically change health status in Southern Sudan.

In the medium term, as government resources increase, the MoH may choose to continue contracting service delivery to non-governmental partners or may absorb services into the public sector system. The choice will be informed by the Ministry's experience with these contracting arrangements over the next years.

#### **5.4.5 HEALTH PROMOTION**

According to MoH and NGO officials, geographically isolated communities in Southern Sudan lack accurate health information, and traditional practices are widespread. As in other countries, NGOs in Southern Sudan have had significant successes in training and deploying HHPs or other type of community health workers to delivery information and high-impact health services to hard-to-reach populations. NGOs have also been successful in organizing community health committees to identify individuals for HHP positions and continue to work with the HHPs to ensure that their communities have the appropriate health information. In many cases, HHPs and community health committees are given basic training to raise community/individual awareness of basic, high-impact services including the use of EPI services, bed nets, diarrheal disease prevention, nutrition, water and sanitation practices, and skilled delivery. However, because these community-based initiatives are implemented by scattered NGOs, no systematic, national process has been established for recruiting, training, deploying, and supervising HHPs or organizing/training community health committees.

#### **5.4.6 MANAGEMENT AND LEADERSHIP**

The central MoH is increasingly taking charge of the planning and management of health service delivery. It has contracted with African Medical and Research Foundation, Population Services International, and Church Ecumenical Action in Sudan for training, social marketing, and survey services, respectively. Additionally, it is negotiating with NGOs 10 contracts to directly provide services and capacity building in each state. It also will contract out the improvements in hospital services. Through these agreements and other direct service contracts, the MoH is pro-actively taking authority over the current service provision picture.

Furthermore, the MoH is increasingly taking a leadership role with NGOs and donors, working closely with all partners, but enunciating clear expectations. This was demonstrated during the National Health Assembly, where senior MoH officials chaired the full assemblage and the majority of participants were Southern Sudanese health professionals. The Assembly presentations outlined the MoH structure, policies, expectations, and roles vis-à-vis their partners.

From the National Health Assembly and other forums attended during this assessment, it is evident that the MoH is taking authority on another front. MoH policies in each technical health area are developed (seven, so far) or currently under development. Guidelines, protocols, and procedures, technical and programmatic, are planned or developed. Although each of these steps is undertaken in conjunction with partners, the MoH is clearly in the lead as the planners and managers of the health care system.

##### **How does service delivery affect MCH including immunization services?**

- Poor access to service delivery could result in lack of sufficient maternal and child health service.
- Poor quality of service delivery could result in families rejecting maternal and child health services.
- Poor equity in service delivery could result in underserved populations not receiving maternal and child health services.

## 5.5 HEALTH INFORMATION SYSTEM

### 5.5.1 OVERVIEW

Southern Sudan's National Health Policy states,

The Ministry of Health, Government of Southern Sudan is committed to develop a monitoring and evaluation program and a health information system that provides information support to the decision-making process at each level of the health system. Thus a system that integrates data collection, processing, and use of the information necessary for improving health service effectiveness and efficiency through better management at all levels of health services. [8]

As in most post-conflict countries devastated by years of war, the information system of Southern Sudan is almost non-existent. This holds true for data on health determinants (socioeconomic, environmental, and behavioral factors and the contextual environments in which the health system operates), health system inputs (policies, facilities, human resources, financial resources), health system outputs (quality, use, and availability of health information and services), and health outcomes (mortality, morbidity, diseases, health status). Today, there is no physical structure (equipment), human resources, or policies for such a system.

### 5.5.2 DATA COLLECTION

The existing system is characterized by its verticality and fragmentation; several parallel systems operate. The data collected by NGOs, implementing partners, UNICEF, or WHO, is not centralized, and aggregated at the state or central levels. The main HIS-related activities recorded in recent policy documents [15, 18, 19], through interviews, and during the National Health Assembly were:

- Disease surveillance and outbreak notification done through UNICEF and WHO's Early Warning and Response Network (EWARN)
- Recent household survey completed
- Stand-alone assessments and studies conducted (e.g. human resource assessment, health facility mapping)
- Registration of vital events and censuses (birth, death, causes of death) taking place in very few facilities or level of governments
- Program-specific M&E (TB, HIV/AIDS, EPI) done by UNICEF
- Data collected by NGOs in their own facilities
- Health statistics in 2006 transmitted from the county to the state level in Central Equatoria (cholera only), Upper Nile, Warrap, Western bahr El Gazal and Western Equatoria
- Ongoing discussions on the possibility of creating a human resource information system
- To answer a critical informational gap, a census will start in the fourth quarter of 2007

### **5.5.3 ROLE OF NGOS**

As NGOs provide most health care services, they are an important source of data regarding health determinants, and health system inputs, outputs, and outcomes. Presently, NGOs collect data through their own health facilities, using their own forms, and are not required to transmit their data to the central or state levels.

To strengthen Southern Sudan's HIS in the medium-term, and because NGOs play such a predominant role in the delivery of PHC services, policies could be developed, implemented, and enforced to, first, have the NGOs use standardized forms, and second, have NGOs transmit their information and data to the relevant government structures (central, state, county, community).

At different levels of the health care system, capacity also needs to be built through management teams in order to audit and supervise data collection; incentives could be put into place for the production of quality data.

### **5.5.4 HIS AT COUNTY LEVEL**

Whereas policy, planning, and financial decisions about health services takes place largely at the national level, actual service provision and delivery of interventions occurs at the county level and below. As such, the county level in Southern Sudan is a key structure and actor for the delivery of health care and the strengthening of its HIS should be as much of a focus as strengthening the central level. County health teams are the key source of information and are used to assessing the existence and coverage of specific resources and interventions.

Counties need to have the appropriate resources to build and maintain a HIS in order to generate information on service availability and quality; patient satisfaction; operational failure issues such as drug stock-outs, cold chain functionality, and staff absenteeism; system performance, including demand and utilization (e.g. specific clinic attendance per capita), coverage and equity (e.g., attended delivery, TB case detection, and completed immunization; all by income quintiles), and outcomes and impacts (e.g. health status indicators and age-specific mortality). These will serve as a critical tool for monitoring and management purposes, and enhancing county-level decision-making. For example, the analysis of the county-level data on burden of disease and resource allocation can lead to a redirection of available resources.

### **5.5.5 USE OF DATA FOR DECISION-MAKING**

Producing data is useless if health care actors, such as doctors, hospital managers, nurses, financial administrators, and program managers, do not use the data. The rationale for producing data is to use it for programming, budgeting, and forecasting, which in turn impact the efficiency of the use of funds and helps inform decisions, whether they concern the health of the patients or the human resource force. Southern Sudan not only lacks the capacity to produce data, but also to analyze and use data for decision-making.

### **5.5.6 MOH POLICIES REGARDING HIS**

Recognizing the need for implementing an HIS, the MoH-GoSS plans to [19]:

- Develop a national M&E framework and implementation guidelines/manual, including development of

a comprehensive national M&E database, and strengthened capacity and institutional infrastructure at the MoH/GoSS to enhance management of M&E program in Southern Sudan.

- Establish a functional, effective, and efficient health management information system including review and standardization of indicators and reporting formats/tools, and transfer all existing health database to the MoH-GoSS.
- Enhance effective coordination and partnership.

However, it is not clear at present if there will be any links between the M&E and HIS systems.

The M&E/Health System Directorate has initiated the development of an M&E strategy. A workshop facilitated by the directorate was held in January 2007. It engaged the state MoH representatives and all partner agencies in the process of defining priorities and mechanisms for implementing an M&E system framework.

The MoH is in the process of developing an M&E system in collaboration with USAID's Sudan Health Transformation Project. The medium-term objectives of this work are to build a national framework for M&E, conduct a rapid assessment of the M&E system at the state level, and develop a one-year action plan for implementation. The M&E system will focus on five interventions: reproductive health, HIV/AIDS, IMCI, malaria, and TB. Among other activities is the development of a uniform reporting format and procedures for routine HIS:

- Data collection tools developed: daily patient register, monthly morbidity summary form, ANC register, maternal delivery register, monthly ANC summary register, immunization form (UNICEF), staffing report, personnel training register, inventory register, water and sanitation form.
- Training manuals developed: trainee manual, trainers' manual, M&E supervision tools, and baseline assessment tools.

Among the existing plans is the Integrated Disease Surveillance and Response (IDSR) Plan of Action for Southern Sudan, which is being revised and updated. The IDSR will build on the existing EWARN. IDSR priorities will be cholera, bloody diarrhea, measles, yellow fever, meningococcal meningitis, viral hemorrhagic fevers, guinea worm, acute flaccid paralysis (AFP), neonatal tetanus, leprosy, diarrhea in children under five years, acute respiratory illness for children under five, HIV/AIDS, sexually transmitted infections, malaria, trypanosomiasis, TB, onchocerciasis, rabies, lymphatic filariasis, Kala-azar, schistosomiasis, acute jaundice syndrome, and avian influenza.

Otherwise, the WHO is supporting strengthening surveillance and response for epidemic-prone and vaccine-preventable diseases through recruitment of staff. Currently, in addition to AFP/poliomyelitis and EWARN, programs for malaria control, onchocerciasis control, TB, and HIV/AIDS are being supported. The integration of EWARN and surveillance activities for AFP/poliomyelitis is taking place gradually. [20]

### **5.5.7 MAIN CONSTRAINTS OF THE HIS**

The major constraints for the functioning and implementation of the HIS that were identified were the following [20, 21]:

- Low staffing and equipment

- Poor communication network and weak logistic support
- Lack of formal data collection procedures and protocols
- Low education level among primary data collectors
- Lack of knowledge of collectors on data analysis or use
- High rate of staff turnover due to lack of salary or incentives
- Poor data quality: unreliable and inconsistent data
- Lack of timely analysis and interpretation at the health facility
- Need to train staff at state level on HIS, special studies and general management

**How does the quality of the HIS affect MCH and immunization services and the implementation of routine immunization?**

Lack of data impedes or prevents the following:

- Forecasting medical supply and vaccine needs (quantity of vaccines to order, number of people to vaccinate) and equipment and transportation needs related to providing MCH and immunization services
- Implementing routine immunization
- Identifying outbreaks and doing risk analysis
- Planning and managing provision of MCH and immunization services: financing, staffing
- Translating knowledge into appropriate and adapted monitoring and prevention strategies
- Identifying barriers to increasing coverage

## **5.6 PHARMACEUTICAL AND HEALTH COMMODITY MANAGEMENT**

### **5.6.1 OVERVIEW**

Until recently, the Southern Sudanese pharmaceutical sector has been largely unregulated. During the years of conflict, pharmaceutical products mostly entered the country through black market channels and relief agencies. Southern Sudanese paid out-of-pocket for the drugs, other than those subsidized by the NGO sector.

In forming the MoH, pharmaceutical management became a priority of the GoSS. The MoH completed a National Pharmaceutical Policy in 2005. Many components of this policy have yet to be implemented, and thus it is estimated that a majority of the population still lack access to basic pharmaceuticals.

At present, the pharmaceutical management cycle is characterized by a lack of staff (for storekeeping, forecasting, procuring, stock and inventory management, distribution, pharmacists), infrastructure, and training on existing policies [4].

Currently, pharmaceutical products enter Southern Sudan through five primary mechanisms:

- UNICEF, ECHO (European Commission's Humanitarian Aid Office), and Rapid Impact Emergency Project (RIEP) procurements
- Direct MoH procurements of essential drugs
- Direct NGO and private facility procurements
- Direct state procurements for their revolving drug funds (RDF)
- Private sector (both formal and informal) procurements by drug vendors

This section looks at five key components of the pharmaceutical management system: finance, selection, procurement, distribution, and use.

### **5.6.2 MOH NATIONAL STRATEGY FOR PHARMACEUTICAL MANAGEMENT**

The key components of the National Pharmaceutical Policy, developed in 2005, are described in component 3 of MDTF Umbrella Program for Health. During the first year of implementation, the focus of the program will be on [22]:

- Supporting technical assistance and training activities focused on further development of the policy and regulations;
- Improving MoH capacity to manage the pharmaceutical system and implementing a program for rational drug use;
- Rehabilitating and constructing central and regional warehouses;
- Implementing the RIEP to finance a 10-month supply of pharmaceuticals for existing health services; and
- Contracting out management and distribution functions and the renovation of the central warehouse in Juba.

In addition, the 2005 strategy outlines a medium-term vision of centrally based procurement and distribution system, managed by an outsourced partner.

### **5.6.3 FINANCE**

Essential drugs provided by the central MoH are intended to be free for patients. However, slow procurements have led to major stock shortages in the public system throughout the country.

To complement central MoH procurements, some states have established RDFs to purchase pharmaceuticals and medical supplies.<sup>5</sup> The RDFs, which are intended to be managed by state ministries of health (SMoH), are functional in only four states: Unity, Western Bahr El Gazal, Upper Nile, and Central Equatoria. Our interviews and document reviews suggest that the RDF system is not functional as a result of (1) failure to replenish financing for RDFs; (2) lack of management and accounting capacity; and (3) lack of procurement capacity.

The RDFs operate differently in each state. For instance, in Western Bahr El Gazal, the SMoH reported that the federal government provided an initial investment of funds but requested that 85% of the funds from drugs sold be returned to the federal coffers, thus depleting the fund. The Upper Nile, on the other hand, has developed a private RDF, independent from the MoH. In Central Equatoria, the SMoH manages the RDF, and purchases drugs predominantly on the private market in Khartoum with some minor items through the 'Public Cooperation' in Juba. [23, 24]

Though no survey-based data exist, our interviews with MoH officials and NGO representatives suggest that patients still rely on NGO networks and informal drug vendors as their prime source of pharmaceuticals. As stated earlier, other than drugs subsidized by NGO providers, most Southern Sudanese pay for pharmaceuticals out-of-pocket.

#### **5.6.4 SELECTION**

Until recently, no formularies or selection guidelines were in place other than those that exist in NGO-led facilities. Recently, the GoSS finalized an essential drug list based largely on WHO essential medicine guidelines.

The system of provision of medical supplies to the public health care facilities and providers is moving from a *push* system to a *pull* system, i.e. from a system in which the central level decides the types, timing, and quantity of drugs allocated to facilities to a system where the facilities place orders and control the flow of products. But the implementation of this system is compromised by the limited capacity of states and counties to forecast needs, the weak or absent distribution system, the lack of qualified staff in pharmaceutical management, and the lack of management systems and of information technology.

Private facilities, run mainly by NGOs, order their medical supplies on an ad hoc basis.

#### **5.6.5 PROCUREMENT**

To date, the MoH has completed two emergency drug procurements, financed through the MDTF. However, even these procurements have been slow, due to lack of procurement staff and skills, as well as cumbersome procedures. [4] The first emergency order of US\$ 2.2 million was signed on November 24, 2005. The first shipment of the consignment arrived in March 2006, with final delivery in April/May 2006 through a contract with International Development Association (IDA). With RIEP funding and at the request of the MoH, UNICEF was contracted to assist in the distribution of this shipment to facilities. The MoH requested another emergency procurement through RIEP in June 2006 (20% increase in quantities of original consignment). The MoH amended IDA's contract to 15% of the original

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<sup>5</sup> The RDF is a mechanism by which after an initial capital investment drug supplies are replenished with monies collected from the sales of drugs. The RDF places the orders from the Central Medical Store in Khartoum.

consignment, directed to 50 PHCC and 150 PHCUs to cover areas experiencing acute watery diarrhea outbreaks.

At the same time, the MoH has been working on developing its first regular procurement, drawing on the strategy outlined in the MTEF Umbrella Program for Health. Initial bids for an 18-month supply of drugs have been submitted to the World Bank. It was decided to fill the gaps during the international competitive bidding process by bringing an additional three-month supply of Medical Kits through RIEP. The Bank's no-objection was given in October 2006 to issue a contract to IDA to supply most of the items (tablets, lotions, injectables, etc.), while the balance would be ordered from the selected firms for the 18-month supply of heavy items (infusions, disinfectants, syringes, bandages, and the items IDA could not supply). This procurement arrived between December 22, 2006 and February 2007 and is now in the Central Medical Store.

### 5.6.6 DISTRIBUTION

The distribution system of pharmaceuticals in Southern Sudan is weak. In addition to the lack of overall pharmaceutical management described above, this is due to the lack of basic infrastructure, such as roads, warehouses, depots, and trucks. Where warehouses do exist, they are often not adapted to the requirements of pharmaceuticals. For example, most lack ventilation, air conditioning, security, proper storage equipment, stock cards, and storage compartments for drugs.

There is only one central warehouse in Juba and Central Equatoria, two small ones in Upper Nile, and no warehouses in Western Equatoria or Warrap. In Western Equatoria, Jonglei and Warrap, UNICEF, NGOs, and the private sector rely on their own systems to bring in pharmaceuticals.

According to MoH officials, the costs and logistics of all drug distribution, from the state to the health facility level, is the responsibility of the central level. However, this system is not yet in place. Our interviews have revealed that the lack of resources from the MoH has forced state governments to pay for and manage the distribution to the facilities. In most cases, public health facilities procure drugs and other supplies themselves or rely on NGO networks.

Not surprisingly, there is an acute shortage of drugs and other medical materials supplies throughout Southern Sudan. For instance, Jonglei State last received a government-procured shipment of pharmaceuticals in May 2006 and relied on UNICEF to provide vaccines.

#### **How does pharmaceutical management affect MCH and immunization services and the implementation of routine immunization?**

- Poor forecasting ability and distribution networks lead to medical supplies and vaccine stock-outs.
- Poor infrastructure can lead to damaged products and high wastage.
- Chronic stock-outs of essential medicines means poor-quality services, so families do not seek MCH care including routine immunization.
- Mechanisms for appropriate selection and use of products, and quality assurance systems are needed so that the population obtains quality products (adequate cold chain, checks for removing damaged/expired products, etc.).

### 5.6.7 SUMMARY OF KEY FINDINGS

This assessment has revealed numerous strengths, opportunities, weaknesses, and threats to the delivery of health care services in general, and to MCH services in particular. The paragraphs below attempt to summarize them in terms of the six areas of the health care system, namely, governance, health financing, human resources, service delivery, HIS, and pharmaceutical and health commodity management.

Among the strengths upon which the GoSS can build to improve its health systems are strong political will and commitment, the presence of donor funding for health, the wide range of partners, the early development of health care policies, the significant Diaspora and potential returnees with material resources and skills, the anticipated decentralization of the government and of health services, the strong community ownership of health care, the significant presence and active involvement of NGOs and FBOs in delivering services, the results of the recent household survey and the upcoming census. On immunization specifically, we can mention the relative success of the recent mass measles campaign, the functioning EWARN system, and the presence of UNICEF and WHO to cover immunization services.

But Southern Sudan's health care system is fragile and several issues need to be addressed: low absorptive capacity of the MoH, low capacity (funding, human resources, training) of states to manage health care services, lack of regulation, lack of coordination (between central, state, and county levels, NGO and partners), poor and non-existent infrastructures, few trained health personnel, absence of human resource policy, poor quality of health care, lack of baseline and follow-up data, poor endemic disease control programs, funds not forthcoming from or slowly disbursed by national and international sources that make it impossible to cover recurrent health system costs, unhealthy life style practices, dependency on external resources, low levels of literacy especially among women, corruption, large population movements e.g. returnees and the displaced.

Several of these weaknesses are being addressed by donors, government, or other partners. The table in Annex 2 attempts to summarize this: column 1 lists the weaknesses of the health care sector; columns 2 to 5 identify which entity(ies) is addressing each weakness (GoSS, USAID, WHO, and/or UNICEF); column 6 identifies the weaknesses that are not currently being funded and could be addressed using GAVI HSS funds.

The next section, Recommendations, provides a detailed description of areas and activities that could be funded by GAVI HSS and that can have quick and sustainable impact on PHC and immunization coverage.



## 6. RECOMMENDATIONS

The results of this assessment have revealed many shortcomings that must be addressed to build a strong and equitable health system for Southern Sudan. The assessment team was tasked to identify key interventions by which GAVI HSS support could help fill these gaps. Six criteria were used to identify the interventions:

1. *Assessment based:* The options first need to address weaknesses identified in the health care sector and in immunization services via a review of the literature and interviews.
2. *Consistent with GoSS health strategy:* The options need to be consistent with the MoH health strategies, direction, and implementation arrangements.
3. *Based on GAVI HSS requirements and criteria:* The options need to be consistent with the GAVI HSS guidelines and application form.
4. *Synergy with other donor investments:* The options, in addition to addressing system barriers to improving immunization, must complement current funding (public or partners/donors). See Annex 2.1 for a full donor map.
5. *MoH owned and led:* The MoH must design the GAVI HSS activities proposed and be the owner of the ideas and activities put forward.
6. *Feasible to accomplish with GAVI HSS financing (estimated to be US\$ 1.7-2 million per year for five years)*

Based on this analysis, the team identified three broad HSS objectives that can have quick and sustainable impact on PHC and immunization coverage:

1. Strengthen human resources
2. Strengthen management and coordination systems
3. Increase community participation

Working on these three areas will help achieve four concrete outcomes<sup>6</sup>:

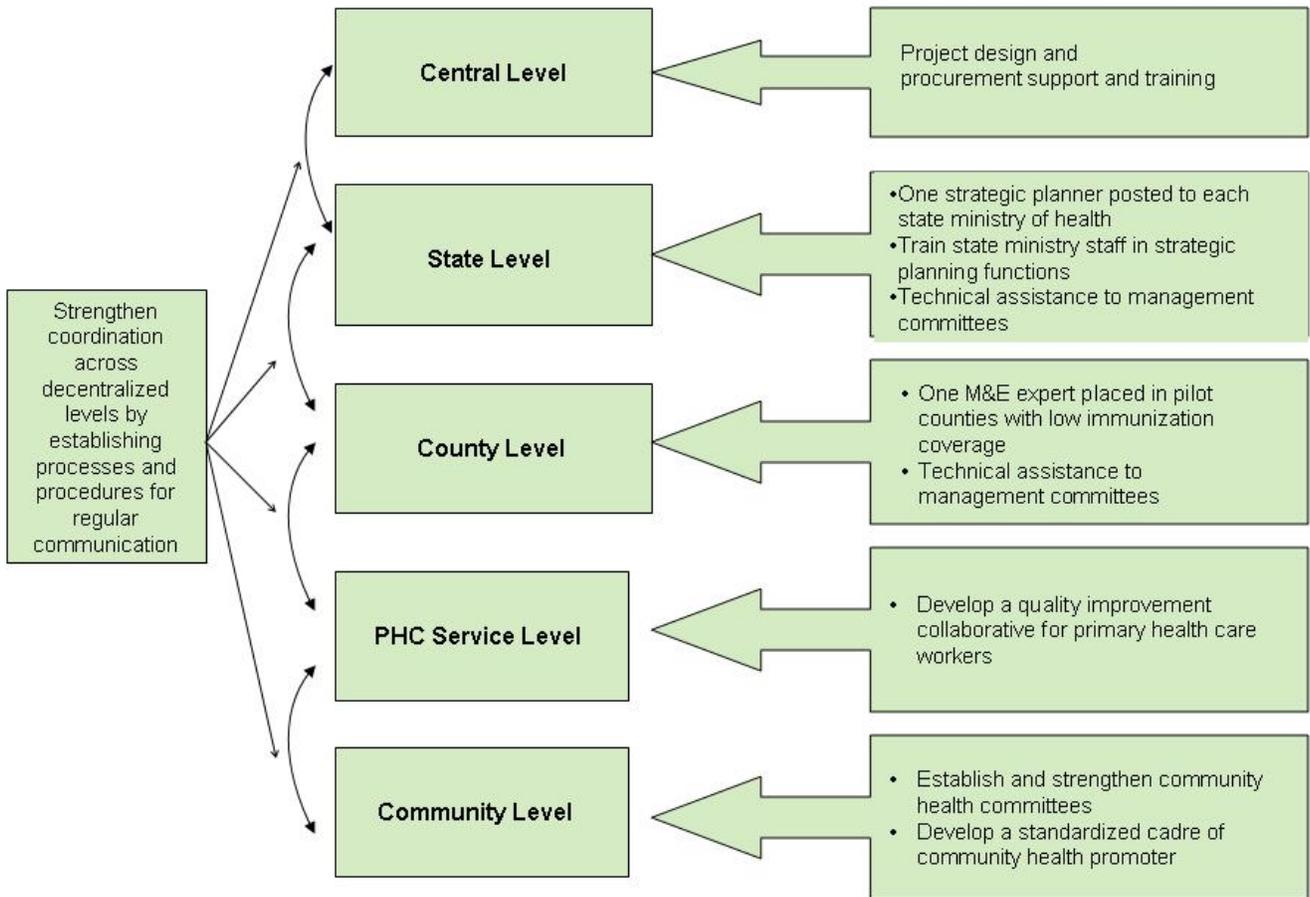
1. Improved governance and management
2. Improved planning and budgeting
3. Strengthened service delivery
4. Increased demand for PHC through community outreach

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<sup>6</sup> As noted above, Southern Sudan has a shortage of human resources; a short-term solution could be to recruit short-term professionals from other countries.

Figure 4 summarizes and groups the key interventions by level of government.

**FIGURE 4: KEY RECOMMENDED INTERVENTIONS, BY LEVEL OF GOVERNMENT**



## 6.1 STRENGTHEN HUMAN RESOURCES

**Increase and improve strategic planning workforce:** Most state-level administrations do not have a designated office for strategic planning; often staff with limited strategic planning experience and technical know-how are tasked with these duties. As a result, states are unable to engage counties in bottom-up budgeting, to adequately assess and forecast their resource needs, and to engage in other critical planning exercises.

The two main reasons for weak strategic planning capacity at the state level are lack of salary support from the central level and difficulty in finding qualified staff to fill planning roles. Because the Southern Sudan National Health Policy designates states as the main stewards of the health sector, the development of strategic planning capacity is essential.

The assessment team recommends that GAVI HSS funds be used to improve strategic planning capacity at the state level, first, to **recruit and finance one strategic planner in each state**, and second, to **provide training at the state level in a range of strategic planning functions**, including the use of data for decision-making, needs assessment, operational planning, and bottom-up budgeting for health services, including immunization. This activity should be linked to the NGO contracting system that is currently under procurement.

Strategic planning staff can develop the currently missing operational plans for EPI at the state level. In addition, this capacity will lead to improved budgeting for maternal health, child health and immunization services, decreased wastage of drugs and vaccines, and increased efficiency of the logistics and transport systems for routine EPI activities.

**Increase M&E workforce:** Most counties have not staffed an M&E focal person, mostly due to the lack of salary support and difficulty in recruiting qualified staff. The county level represents the closest level of the government health administration to the health facilities, and is best placed to manage, monitor, audit, and ensure quality of the health information from facilities. The county's role in supervising the M&E process at the facility level will become even more important as states begin contracting with NGO-run facilities and as routine immunization is implemented nationwide.

Therefore, the assessment team recommends that GAVI funds be used to **finance one M&E focal person** in selected pilot counties. Priority should be given to counties that have low immunization coverage, have a basic administration in place, and are located in a state that is implementing an NGO service delivery contract and managing public facilities. Following these criteria will allow for a scalable model to be quickly developed and applied to less-advanced counties.

Having M&E personnel will help (1) increase surveillance, (2) decrease wastage through better monitoring and forecasting of needs, demand, and supply, and (3) increase the quality and availability of population data necessary for computing coverage figures and forecasting.

**Train and retain PHC workers through clinical collaboratives:** Training and retaining health workers remains one of the most serious challenges in Southern Sudan. PHC workers, often based in difficult areas, need skills development as well as incentives to remain in their jobs. The GoSS has begun to implement in-service training programs, but national roll-out of these programs is slow. While there has been much talk of salary structure to retain workers, little attention has been given to non-financial incentives such as managerial quality and sense of belonging to a broader professional purpose. Finally,

many health workers feel isolated, lack camaraderie and the ability to share experiences with their peers, and feel as if they have limited opportunities to provide upward feedback.

Therefore, the assessment team recommends that GAVI funds be used to **develop quality improvement collaboratives for PHC workers**. This could also be done in partnerships with NGOs. Collaboratives have been highly successful in the developed world for enhancing skills, improving motivation, and ultimately improving quality of care; they are now seen as a cutting-edge method for resource-poor settings. Essentially, health workers are brought together around the topic of PHC delivery, learn from technical experts on different models of care, share their own experiences and innovations with each other, discuss grievances, and develop action plans for the way forward. Collaborative members should remain in regular communication with each other; given Southern Sudan's limited communication infrastructure, this would likely involve several face-to-face meetings annually.

Ultimately, this approach, combined with the in-service training provided by GoSS and partners, will lead to more motivated health workers with improved skills to deliver higher-quality PHC. By fostering exchange of ideas, motivating workers, updating skills, and transferring state-of-the-art practices, collaboratives will directly improve the quality of MCH and immunization services, which will in turn increase the demand for these types of services.

**Provide the central MoH with procurement and project design support:** The central MoH is understaffed and overstretched. While the organizational structure is in place, roles, responsibilities, and lines of authority are not yet clearly defined and implemented. Processes and procedures have become more standard since the MoH's inception, but much remains ad hoc. At the same time, the central MoH has worked with its development partners to develop a series of critical and well-designed strategies to improve PHC. Though it is fundamental that these strategies are transformed into implementable programs, the combination of the capacity constraints has impacted the MoH's ability to design and procure projects.

Therefore, the assessment team recommends that GAVI funds be used to **provide project design and procurement support to the central MoH**. This activity will provide the MoH with short-term assistance in designing key projects, and help to develop long-term MoH capacity on project design and procurement.

Strengthening procurement and project design capacity at the central level will allow for the quick implementation of the critical interventions discussed in the Umbrella Program for Health program to strengthen PHC and immunization at the state, county, and community (Payam and Boma) levels.

## **6.2 STRENGTHEN MANAGEMENT AND COORDINATION SYSTEMS**

**Develop and strengthen management teams:** Both the state and county levels have a significant role in the management of the health system. State and county management teams are the backbone of this responsibility. However, these teams, for the most part, are dysfunctional or non-existent, especially at the community level. Where committees do exist, few meet on a regular basis; members are unclear of their roles, responsibilities, and mandate; and they lack critical management tools such as supervisory checklists to carry out their functions. Because states and counties will soon be responsible for monitoring service delivery contracts with NGOs, the strength of the management teams is even more crucial to ensuring PHC services are delivered appropriately and are of high quality.

Therefore, the assessment team recommends **providing technical assistance to form state-level management committees in every state, and county-level management committees in several pilot counties**. Technical assistance should focus on developing roles and responsibilities, empowering teams with the appropriate tools, and training teams on the appropriate procedures and processes needed for functional teams. As in the previous recommendation on county M&E, priority should be given to counties that have a basic administration in place and exist in a state that is implementing an NGO service delivery contract and managing public facilities. Following these criteria will allow for a scalable model to be quickly developed and applied to more nascent counties.

Strengthening management capacity will lead to improvements in all aspects of MCH, including immunization: implementation of routine immunization, increased capacity to manage contracts with NGOs that provide health services, and improved quality and availability of services. This, in turn, will lead to decreased wastage through better monitoring and forecasting of medical needs, demand, and supply.

**Strengthen coordination across decentralized levels:** Communication across decentralized levels of the Southern Sudanese health system is weak. For the states to fulfill their responsibility for improving health status, they must be able to communicate with the county level. Moreover, community teams must be able to communicate and feed back information to county teams. Our previous recommendations on establishing and strengthening of management teams must be coupled with developing procedures that allow teams to communicate and coordinate with each other in order for these teams to be effective. While other donors have begun to purchase core communications infrastructure such as telephones and Internet services, processes and channels of communication have not yet been focused on.

Therefore, the assessment team recommends that GAVI funds be used to **establish processes and procedures for regular communication** from the community level to the county level, the county level to the state level, and vice-versa. Doing so will help ensure management teams can quickly and in a coordinated manner address issues in health and immunization services delivery, including drug, vaccine, and commodity stock-outs, HIS quality, disease and measles outbreak surveillance, and personnel issues. Improving communication is absolutely essential for building strong immunization services and IDSR systems that can quickly respond to emergencies and outbreaks. Moreover, strong communication is critically needed to foster continuous and rapid flow of information.

### **6.3 INCREASE COMMUNITY PARTICIPATION**

**Develop community (Payam and Boma) health committees:** Community involvement can serve as a powerful voice against corrupt practices, inappropriate resource allocation, lack of commodities, poor treatment by health workers, and overall poor quality of care. While community involvement in the health system is stated as an important objective in the Southern Sudan Health Policy, community health committees are not functioning in a consistent manner across the country. In some areas they are strong and active, particularly where NGOs are supportive of the committees. In other areas, they meet on an ad hoc basis. In still other areas, they are non-existent.

Therefore, the assessment team recommends that GAVI funds be used to **establish and strengthen community health teams** in several pilot counties. Preferably, the counties selected would be the same as those selected for previous recommendations. They should be given technical assistance, operational training, and tools to help form committees, and then to function, define processes and procedures, and develop communication systems with county-level administrations. The focus of this

activity should be to develop a strong, cost-effective and scalable model that can be expanded to other counties in Southern Sudan. Doing so can help ensure that the delivery of immunization and other important PHC services is of high quality and acceptable to the end users. This activity could be done in partnerships with NGOs.

This activity will give communities a formal means to manage their health facilities. Their voice can apply pressure to health facilities to ensure immunization and other PHC services are available, patients are treated with dignity, and resources are allocated appropriately.

**Develop scalable community outreach model:** Geographic coverage by health facilities in Southern Sudan is low, and poor quality of care has resulted in reduced demand for services even among those with geographic access. The majority of the population continues to obtain care through informal health providers and many basic prevention messages are not communicated. The GoSS has recognized that, to improve health outcomes, the focus cannot simply be on improving clinical quality and must focus on community outreach. However, outreach activities to date are run by interested NGOs, and as a result are ad hoc.

Therefore, the assessment team recommends that GAVI funds be used to **develop a cadre of community health promoters in select pilot counties**. Promoters are selected from the community, offered training on basic health messages, supervised by PHC units or centers, and given the stature of health promoter in their village. The community promoter system has been highly successful in communicating basic prevention messages on immunization and skilled delivery in other resource-poor settings such as Ethiopia, Madagascar, and DR Congo. Thus proven training curricula, supervisory procedures, and other tools have already been developed. GAVI funds should be used to import these tools and to develop a scalable model of community promoters throughout Southern Sudan. It is recommended that this be done in partnerships with NGOs.

Health promoters will increase demand for child health, maternal health, and routine immunization by delivering key health prevention messages to their communities. As community members, they can target messages to pregnant mothers, newborn babies, and sick children. Promoters can also serve as an additional source of information for any disease outbreaks and be helpful in designing programs tailored to the cultural and socio-economic context of the community.

## 6.4 SUMMARY OF KEY RECOMMENDATIONS

Table 6 summarizes the key recommendations of the assessment team.

**TABLE 6: KEY RECOMMENDED INTERVENTIONS FOR GAVI SUPPORT AND THEIR IMPACT ON MATERNAL HEALTH, CHILD HEALTH, AND IMMUNIZATION SERVICES**

GAVI HSS interventions	Results/Impact
<p>1. Strengthening human resources</p> <ul style="list-style-type: none"> <li>• Increase and improve strategic planning workforce by (1) recruiting and financing one strategic planner in each state, (2) providing training at the state level in a range of strategic planning functions</li> <li>• Increase M&amp;E workforce by financing one M&amp;E focal person in select pilot county administrations</li> <li>• Train and retain PHC workers by developing quality improvement collaborative for PHC workers</li> <li>• Provide central MoH with procurement and project design support</li> </ul>	<ul style="list-style-type: none"> <li>• Develop operational plans for EPI to strengthen the implementation of routine immunization</li> <li>• Improve planning and budgeting for maternal health, child health and immunization services which will improve the functioning of health facilities, increase the availability of health workers, decrease wastage of vaccines and drugs, and improve the efficiency and functioning of logistics and transport to implement routine EPI activities.</li> <li>• Improve surveillance</li> <li>• Decrease wastage through better monitoring and forecasting of needs, demand, and supply</li> <li>• Increase the quality and availability of population data necessary for computing coverage figures and forecasting</li> <li>• Increase the quality of services and help motivate workers to provide better services</li> <li>• Create demand for health services</li> </ul>
<p>2. Strengthening Management and Coordination Systems</p> <ul style="list-style-type: none"> <li>• Develop and strengthen management teams by providing technical assistance to form state-level management committees in every state, and county-level management committees in several pilot counties</li> <li>• Strengthen coordination across decentralized levels by establishing processes and procedures for regular communication</li> </ul>	<ul style="list-style-type: none"> <li>• Improve all aspects of PHC services through better planning for the provision and implementation of activities, policies, and regulations</li> <li>• Improve surveillance</li> <li>• Decrease wastage through better monitoring and forecasting of needs, demand, and supply</li> <li>• Increase the quality and availability of population data necessary for computing coverage figures and forecasting</li> <li>• Increase the timeliness and efficiency of emergency and outbreaks response</li> <li>• Foster a continuous and rapid flow of information</li> </ul>
<p>3. Increase community participation</p> <ul style="list-style-type: none"> <li>• Develop community (Payam and Boma) health committees in select pilot counties</li> <li>• Develop scalable community outreach model by developing a cadre of community health promoters in select pilot counties</li> </ul>	<ul style="list-style-type: none"> <li>• Communities have voice in the management of their health facilities, thus can provide civil society pressure to improve and make health services regularly available</li> <li>• Communities are empowered to act as first-responders during emergencies or poor performance of health facilities</li> <li>• Community-level promotion increases use of routine immunization</li> </ul>



# ANNEX A: LIST OF STAKEHOLDERS INTERVIEWED

Organization	Name – Title	Email
ADRA	Florence Lukhumwa –	florencelukhumwa@yahoo.com
AMREF	Dr Margaret Itto – Country Director for Sudan	ittomargaret@yahoo.co.uk margareti@amrefhq.org
Capacity Project	Agnes Comfort – Project Director	
CARE Sudan	Steve McDowell	
Church Ecumenical Action in Sudan (CEAS)	Gerbrand Alkema – Health Director	gerbrand.alkema@gmail.com
Government of Southern Sudan	Dr. Majok Yak – Under-Secretary, MoH	majokyak@yahoo.com
	Dr Monywiir Arop – Director General, Planning and Human Resource Development	monywiir@nshpc.com
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	Mr Lasu Lawiya Joja – Director, PHC	lasujoja@yahoo.com lasu.joja@mohgoss.sd
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WHO	Dr. Abdullahi	ahmeda@nbo.emro.who.int



# ANNEX B: DRAFT DONOR MAP OF HEALTH SYSTEMS ACTIVITIES

	GOSS-MDTF	USAID	WHO	UNICEF	Italian Cooperation	DFID	Areas for GAVI HSS funds
<b>Budget Process</b>							
Improving speed of financial disbursements to states	X						
Making available funds for salary support and other recurrent costs at state & county level	X						
Increasing allocation to PHC							X
Clarifying budget process to states and counties at central level							X
<b>Multi-Donor Trust Fund</b>							
Increasing capacity to design mechanisms for implementation of Umbrella program	X						X
Increasing capacity and providing TA for procurement process	X			X			X
<b>State-level management capacity</b>							
Increasing number of dedicated planning staff in states							X
Providing funds for salary support	X	X	X				X
Improving recruitment of qualified staff	X	X					
Increasing functionality of state health management teams							
Creating and providing tools & processes	X						X
Delineating roles/responsibilities	X				X		X
Building communication & coordination infrastructure (internet, phone)	X	X	X	X	X	X	X
Clarifying role of state vis-à-vis prime contractor on planning	X						
<b>County-level management capacity</b>							
Creation of county administrations; many non-existent							
Increasing salary support for county staff	X						X
Building skills at county level	X						X
Increasing functionality of county health management teams							

	<b>GOSS-MDTF</b>	<b>USAID</b>	<b>WHO</b>	<b>UNICEF</b>	<b>Italian Cooperation</b>	<b>DFID</b>	<b>Areas for GAVI HSS funds</b>
Clarifying role of county vis-à-vis NGOs					X		X
Increasing coordination with state level					X		X
Increasing interaction between teams and village/community health teams							X
<b>Service Delivery</b>							
Coordinating service delivery:	X					X	X
Implementing standardized quality assurance processes	X	X					
Implementing mechanism for health promotion at community level							X
<b>Human Resources</b>							
Drafting National Human Resource policy	X						
Discussing implementation of database on payroll (HR-MIS) with MOH	X						
Determining classification of clinical cadres	X						
Developing pre- and in- service training programs	X	X					
Clinical management mostly performed by NGOs							X
Implementing a rational and regular salary system							X
Clarifying system of promotion to retain workers	X						
Formulating strategies for recruitment by MOH and partners	X						
<b>Information Systems</b>							
Increasing gathering and transmittal of information to central or state levels	X	X	X	X			X
Improving communication network	X			X		X	X
Creating formal data collection procedures and protocols	X	X					
Increasing use and analysis of data by states and counties for decision-making							X
Improving data quality, i.e. improving reliability and consistency of data	X	X					X
<b>Pharmaceutical Management</b>							
Developing pharmaceutical management policy	X	X					
Improving speed of MDTF-supported procurements							X
Moving from “push” system to “pull” system							

	<b>GOSS-MDTF</b>	<b>USAID</b>	<b>WHO</b>	<b>UNICEF</b>	<b>Italian Cooperation</b>	<b>DFID</b>	<b>Areas for GAVI HSS funds</b>
Increasing capacity of states and counties to forecast needs							<b>X</b>
Improving and creating distribution system	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>			<b>X</b>
Improving capacity of existing staff in pharmaceutical management	<b>X</b>		<b>X</b>				



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