The Federal Ministry of Health
Secretariat of Planning, Policy and Research

Monitoring and Evaluation Directorate

The National Monitoring and Evaluation Framework

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ACRONYMS

ACT	Artemisinin combination therapy (for malaria)
AFP	Acute flaccid paralysis
AIDS	Acquired immune deficiency syndrome
ANC	Antenatal care
ARV	Anti-retroviral (drug)
BCC	Behavior change communication
CFR	Case fatality rate
CVD	Cardiovascular disease
DHSDP	Decentralized Health Sector Development Project
DOTS	Directly observed treatment (of TB)
DTP	Diphtheria, tetanus and pertussis vaccine
EmOC	Emergency obstetric care
EPI	Expanded program for immunization
FMoH	Federal Ministry of Health
FP	Family planning
HBC	Home based care (for AIDS)
HepB	Hepatitis B
Hib	*Hemophilus influenza type*
HIS	Health information system
HIV	Human immunodeficiency virus
HMM	Home malaria management
LLITN	Long-lasting insecticide treated mosquito net
M&E	Monitoring and evaluation
MDG	Millennium development goals
MNH	Maternal and neonatal health
NCD	Non-communicable disease program
NHIC	National health information center
NHIS	National health information system
NGO	Non-governmental organization
OI	Opportunistic infection
OVC	Orphans and vulnerable children
PER	Public expenditure review
PHC	Primary Health Care
PMTCT	Prevention of mother to child transmission (of HIV)
SFC	Supplementary feeding center
SHHS	Sudan household health survey
SHIC	State health information center
SMoH	State Ministry of Health
TB	Tuberculosis
TFC	Therapeutic feeding center
UNICEF	United Nations Childrens Fund
VCT	Voluntary testing and counseling (for HIV)
VVF	Vesico-vaginal fistula
WHO	World Health Organization

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Introduction

1. Mandate and rationale for the Federal Ministry of Health M&E Framework and Plan

Although it is a unusual to develop an M&E framework only one year before the expiration of the current Five-year Strategy, it was felt that the development of the framework should not wait until the revision of the Five-year strategy in 2011. This is due to the following factors:

- A significant amount of financial support will be available in the coming months for strengthening M&E, but this investment will be targeted primarily at the health information system and decentralized M&E, and not at developing an overall M&E framework.
- Although the existing policy and strategy documents such as the Five-year Strategy and the Health Policy documents provide indicators for monitoring, many of these indicators are not strategic. In addition, the documents do not deal with data products and dissemination or management of M&E, and do not define the responsibilities of the various stakeholders in M&E.
- Many large surveys are either being planned or are underway.

Yet, in spite of the above factors, there is no single definitive M&E framework to guide the strengthening work, unify the various policies and strategies or guide the design and reporting of the various surveys. Therefore, the FMoH considers it important to proceed with the elaboration of a FMoH M&E Framework at this time.

2. Objectives of the FMoH M&E Framework and Plan

The specific objectives of the Sudan FMoH M&E Framework and Plan are:

- To define a list of core indicators that will enable tracking of progress in the most critical areas of Federal and State health programs, based on the priorities outlined in the Health Five-year Sector Strategy 2007-2011.
- To develop a data collection strategy that will enable the measurement of the core indicators.
- To provide a harmonized tool for the monitoring of all key health interventions by all stakeholders.
- To establish clear data flow channels between the different entities and levels within the Ministry of Health and among other non-MoH stakeholders.
- To develop a strategy and mechanisms to ensure a the broadest possible dissemination of all key information among all relevant entities and beneficiaries.
- To clearly describe the role of each of the entities in the monitoring and evaluation of health programs.
- The principal objective of the M&E Costed Work plan is to guarantee that the M&E Framework and Plan are fully implemented, including by strengthening the

capacity of all stakeholders in the monitoring and evaluation of health programmes.

3. Components of an M&E Framework and Plan

A National M&E Framework and Plan typically consists of the following components.

- A description of the principals, vision and structure of the M&E framework and plan, including the process of development of the framework.
- A list of indicators corresponding to the various strategic objectives in the national strategy document. These include the indicator, the source of information, periodicity and a definition of the indicator.
- A description of each data source, including the indicators for which each data source is responsible and how the data flows from collection to reporting, and how it is used. In some cases, especially for surveys, the cost and source of funding for the data source is also described.
- Data products, including structure and contents of reports, audience, periodicity and how the information is disseminated and used.
- Management structure for M&E, including the interrelationships and responsibilities of the various entities responsible for providing M&E information. This section often includes the terms of reference for any working groups or committees as well as job descriptions for key M&E positions.

Each of the above components is addressed in the Sudan National M&E Framework.

4. Principles on which the FMoH M&E Framework and Plan were developed

In designing the indicators for this framework, many sources of information and previous work were taken into account. The body of national work that was most important to selecting the indicators includes the following:

- Sudan National Health policy,
- Sudan 25-year Health Strategy
- Sudan 5-year Health Strategy

In addition to these, the technical assistance provided through he DHSDP project developed an M&E strategy paper and compiled a table of all indicators in the previously mentioned documents. This compilation greatly facilitated the development of this M&E framework.

Finally, current best practices for M&E were taken into account, including materials provided by WHO[1] and others. For each area, indicators were selected that best provide

[1] WHO *Measuring Health System Strengthening and Trends: A Toolkit for Countries*. June 2008.
WHO *Achievement of Universal Access to Reproductive Health. Conceptual and Practical Considerations and Related Indicators.* 2008

an overall picture of the state of the component of the health system. Impact and outcome indicators were stressed, and only a few output indicators were selected. As this framework is aimed at monitoring at the highest level, process and input indicators were not included, as these are more relevant to day-to-day management, especially at lower levels. An attempt was made to keep the total number of indicators manageable, that is, no more than a total of about 150 indicators. Finally, as with all frameworks, it was important to select indicators that are reasonable and well understood, and that can be collected using systems that are already in existence or being planned. As with all M&E frameworks, this one is a compromise between being comprehensive yet succinct, and being methodologically rigorous but practical.

5. Process used to develop the FMoH M&E Framework and Work Plan

The current M&E Framework was based on previous work, most prominently, the 5-year heath strategy. The development of the M&E Framework was a collaborative effort carried out during the months of February through June 2010. A taskforce was established to provide guidance and input into the process of development of the Framework. This taskforce met over a period of one month during February-March 2010 to review drafts and discuss content. The taskforce was chaired by Dr. Mustafa Salih, Undersecretary for Planning, Policy and Research with technical guidance provided by Abeer Yahia, M&E officer and Donald Whitson, the technical consultant engaged to provide technical assistance for the elaboration of the framework. All members of the taskforce were drawn from the Ministry of Health. Final adjustments were made to the draft via e-mail during the period of April-June 2010.

6. Conceptual structure of the FMoH M&E Framework and Plan

There was consensus within the M&E Framework taskforce team that the framework should strike a balance between a health systems approach and the structure of the 5-year strategy that is still in effect. Therefore, a hybrid approach was used. The framework is organized using the "Six building blocks" of health systems taken from WHO: governance, information, human resources, health financing, medical technology and health services. This is roughly similar to the outline of the 5-year strategy, though in a different order. Therefore, the M&E Framework follows the "building block" approach, though reordering the strategic objectives from the 5-year strategy to match the building block structure. This is why, for example, the 5-year strategy strategic objective 3 ("Improved accessibility to the essential PHC package") is found after strategic objective 5, essential medicines.

B. Indicators, information flow and dissemination

1. Strategic Objectives and M&E Framework Indicators

1.1. Governance

1.1.1. SO1: Strengthening the governance and institutional capacity of the decentralized health system at all levels

Targets:

- Strengthen the institutional capacity of the FMOH in policy development, management, planning and implementation
- Improve leadership and governance function of the FMOH particularly in health legislation, standards setting and coordination;
- Reorganize and strengthen the decentralized health system structures, systems and capacities at SMOHs and local health authorities

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
1	Existence of up-to-date national and state health strategy linked to national and state needs and priorities	F, S	Planning Department	M&E department	N/A	WHO governance 1
2	Key public sector health policies, laws and strategies prepared and approved that have a significant impact on health (qualitative indicator--list and description)	F,S	Planning Department	Planning Department	By department and level	N/A
3	SMoH with output-based annual plans with logframes and budgets linked to the strategy	F,S	Planning Department	FMoH / Planning	N/A	Draft M&E Framework 5-A 1.0
4	% of localities with functioning health teams	F,S	Local Health Systems Strengthening	Local health systems support department	N/A	Draft M&E Framework 5-A 2 GF and GAVI indicators as well

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
5	Percent of government funds expended by level (federal, state and locality levels)	F,S,L	Public expenditure review	Health economics and research department	N/A (disaggregate by category of funds)	WHO governance outcome 2
6	Number and % of states and localities with functioning managerial units or health teams	F,S	Local Health Systems Strengthening	Local health systems support department	N/A	Draft M&E Framework 5-A 2 GF and GAVI indicators as well
7	Percent of days absent by health workers	F,S,L	Health facility assessment (supervision)	PHC Directorate	By category of worker and level of health facility	WHO governance outcome 1
8	Essential medicines list updated in past 5 years and disseminated annually	F,S	Pharmacy department	Pharmacy department	N/A	WHO governance policy 2
9	National and state malaria strategy that includes drug efficacy monitoring, vector control and insecticide resistance monitoring	F,S	Malaria program	Malaria program	N/A	WHO governance policy 5
10	Policies on drug procurement that specify i) most cost-effective and ii) competitive bidding	F,S	Planning Department	Policy department	N/A	WHO governance policy 3
11	Existence of an updated comprehensive multi-year plan for child immunization	F,S	EPI program	Preventive Medicine and Primary Health Care Directorate (Planning department in States)	N/A	WHO governance policy 8
12	Completion of the HIV/AIDS Composite Policy Index questionnaire	F	HIV/AIDS program	Preventive Medicine and Primary Health Care Directorate	N/A	WHO governance policy 6

1.2. M&E and research

1.2.1. SO2: Promote the culture of research and provide evidence for policy and decision making

Targets:

- Develop the national research priority agenda
- Dedicate at least 2% of the health budget to conduct priority researches
- Build a critical mass of health researchers
- Make health research findings accessible and available
- Assure compliance to research ethics

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
13	Percent of federal and state health budgets expended for research [includes all studies and surveys]	F,S	National health accounts survey	Health economics and research department	N/A	5-B-2 HP-J-51
14	National and state research strategies exist and up-to-date	F,S	Research department	Research department	N/A	New
15	Number of research proposals reviewed by ethics committees per year	F,S	Research department	Research department	N/A	New
16	Number of research proposals submitted to ethics committees each year that address priority research areas (from list of priority research areas defined by the FMoH)	F,S	Research department	Research department	N/A	New
17	Number of research proposals submitted to the various ethics committees that are approved in the first round each year.	F,S	Research department	Research department	N/A	New
18	Number of functioning ethics committees (all levels and institutions)	F,S	Research department	Research department	N/A	New
19	Number of searches on the National Research Database per year	F	Research department	Research department	N/A	New

M&E: Note: there are no Strategic Objectives in the 5-year Strategy for M&E

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
20	Number and % of indicators in the M&E framework that are reported each year in the annual report	F,S	M&E department	M&E department (State and Federal)	N/A	New
21	% of births and deaths registered	F,S	CRO	CRO	Urban / rural	None
22	10-year costed survey plan updated	F	M&E department	Preventive medicine and primary health are directorate	None	WHO information core indicator 1
23	Two or more data points for child mortality in the past 5 years	F,S	SHHS	Preventive medicine and primary health are directorate		WHO information core indicator 2
24	Two or more population-based data points for maternal mortality in the past 5 years	F	SHHS	Preventive medicine and primary health are directorate		WHO information core indicator 3
25	Two or more data points for coverage of key heath interventions in the past 5 years	F,S	SHHS	Preventive medicine and primary health are directorate		WHO information core indicator 4
26	One or more data point on smoking and adult nutrition status in the past 5 years	F,S	Risk-factor survey	Non-communicable disease department		WHO information core indicator 5
27	Number of institutional deliveries available for federal, state and locality levels and published within 12 months of the preceding year	F,S,L	NHIC (HIS)	NHIC (HIS)	By level of facility (hospital, health center) and type of facility (public, private, NGO)	WHO information core indicator 11
28	Country website for health statistics with latest report and data available for the general public	F,S	M&E department	M&E department (State and Federal)	None	WHO information core indicator 13
29	Percentage of localities/facilities that submit timely and complete reports to the state and national levels (public sector only).	F,S.L, facility	NHIC (HIS)	NHIC (HIS)	Level of facility	WHO information core indicator 15

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
30	Percentage of states that submit timely, accurate and complete reports on health facilities from the private sector annually.	F	NHIC (HIS)	SHIC and licensing body (varies by state)	None	WHO information core indicator 15 modified.
31	Percentage of states that have NGOs that submit timely and complete reports on health facilities from the NGO sector annually.	F	Humanitarian Aid Commission	Directorate of International Health	None	WHO information core indicator 15 modified.
32	Data quality assessment done in the past 3 years (including all data sources, including vital statistics, HMIS, medicines, HR, etc.)	F,S	M&E department	M&E department (State and Federal)		WHO information core indicator 16
33	National health accounts done in the past 3 years	F	National health accounts survey	Health economics and research department		WHO information core indicator 18
34	National database with public and private sector health facilities and geocoding available and updated in the last 5 years.	S	Health facility assessment (mapping)	Health economics and research department (states)	By level of facility (hospital, health center) and type of facility (public, private, NGO)	WHO information core indicator 19
35	National database of HR by categories and location updated annually	F,S,L	Health workforce survey (2006, led to HRH Observatory)	HRH observatory	By category of worker, gender, urban/rural, level of facility.	WHO information core indicator 20
36	Annual data on essential medicines available and complete	F,S,L	State revolving drug fund	State revolving drug fund	By medicine	WHO information core indicator 21
37	There is a national microdata archive for health surveys, census data, HIS and M&E indicators that is functional and accessible.	F,S	M&E department	Policy, planning and research Directorate		WHO information core indicator 24
38	National and state M&E reports	F,S	M&E	M&E department		WHO information core

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
	published and available within 12 months of the preceding year.		department	(State and Federal)		indicator 29
20	Number and % of indicators in the M&E framework that are reported each year in the annual report	F,S	M&E department	M&E department (State and Federal)	N/A	New
21	% of births and deaths registered	F,S	CRO	CRO	Urban / rural	None

1.3. Human Resources

1.3.1. SO4: Ensure adequate production, equitable distribution and retention of skilled human health personnel based on the health system needs

Targets:

- Increasing the training capacity of the allied health Academy and its branches in the states by 120% (from 3,090 to 7,000).
- Production of 22,500 nurses 5,000 MAs/technicians and 7,500 midwives
- Enroll 3,000 doctors locally and 750 abroad in general medical specialties
- Enroll 550 doctors abroad and 15 locally in sub-specialties
- Enroll 250 and 125 nurses/Allied health personnel locally and abroad for post basic degrees respectively

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
39	Updated HR strategy in the past 5 years	F,S	Human Resources Observatory	Human Resources Observatory	N/A	New
40	Number of health workers per 10,000 population by category	F,S	Health workforce survey (2006, led to HRH Observatory)	Human Resources Observatory	Category, sex, location, level of facility, sector (public, private, NGO), urban/rural	WHO HR 1 and 2
41	Ratio of doctors to nurses	F,S	Health workforce	Human Resources Observatory	N/A	WHO HR 1 and 2

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
			survey (2006, led to HRH Observatory)			
42	Number and percent of outside workers (non-Sudanese) by cadre	F,S	Health workforce survey (2006, led to HRH Observatory)	Human Resources Observatory	Category of worker, level of facility	None
43	Number of people who have ever been trained in management systems and leadership and who are still at work.	F,S,L	Health workforce survey (2006, led to HRH Observatory)	Human Resources Observatory	Category of worker, level of facility	None
44	Number of graduates by category per year (and rate per 100,000 population)	F,S	National training institutes	Human Resources Observatory	Category, sex, age	WHO HR 3
45	Percent of public sector health facilities fullly staffed (by level of facility and cadre of worker)	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of facility, cadre of worker	New
46	Percent of newly hired professional entrants to the public sector workforce that are hired within the first year after graduation or completion of internship	F,S,L	Curative medicine department	Curative medicine department	Cadre of worker, sex	New
47	Percent of professionals (nurses, doctors, dentists, pharmacists, midwives) that received continuing education in the past year	F,S,L	Health facility assessment (supervision)	Curative medicine department	Cadre of health worker, level of facility	New
48	Percent of total public sector spending that is spent on human resources (salaries)	F,S	National health accounts survey	Health Economics Section	Cadre of health worker	New
49	Percent of professionals (nurses, doctors, dentists, pharmacists, midwives) that received a structured supervision visit in the past six months.	F,S,L	Health facility assessment (supervision)	Curative medicine department	Cadre of health worker, level of facility	WHO human resources supplementary indicator
50	Percent professionals that leave public	F,S,L	Human	Human Resources	Cadre of	WHO human resources

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
	sector employment each year by category		resources department	Observatory	worker, level of facility	supplementary indicator

1.4. Financing

Targets:

- Increase public spending on health to 7% of the total central government budget (2.5 % of the GDP).
- Increase the intra-sectoral allocation of government health spending on primary and first-referral services to 50%.
- Develop and implement interventions (subsidies and prepayment schemes) to substantially reduce financial barriers specially for service package targeting mothers and children

1.4.1. SO6: Reform and develop a pro-poor health care financing policies

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
51	Public national (and state) health expenditure as a percent of national (and state) expenditure	F,S	National health accounts survey	Health economics and research department	By level of government	WHO finance 2
52	Public health expenditure as a percent of GDP	F	National health accounts survey	Health economics and research department	None	WHO finance C1a
53	Per capita health expenditure (international dollars, PPP)	F,S	National health accounts survey	Health economics and research department	Federal and state	WHO finance C1
54	Government expenditure as a % of total expenditure on health	F	National health accounts survey	Health economics and research department	None	None
55	Actual expenditure on health as a % of planned expenditure	F,S	National health accounts survey	Health economics and research department	None	None

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
56	The budget for free medical treatment as a proportion of total health budget	F,S	Planning Department	Planning Department	None	None
57	The number and % of all patients receiving free treatment	F,S,L	Sentinel sites (HIS)	NHIC (HIS)	Service, level of facility, age and sex of beneficiary	None
58	The ratio of out of pocket expenditures for health to total household income	F,S	National health accounts survey	Health economics and research department	Federal and state	WHO finance C3
59	Percent of population covered by health insurance (including National Health Insurance and private insurance).	F,S	National health accounts survey	Health economics and research department	Federal and state, NHIF and others	HP-C-9
60	Percent of public health expenditures expended on PHC services	F,S	National health accounts survey	Health economics and research department	Federal and state	5-SO6-3

1.5. Medicines and medical products

1.5.1. SO7: To improve the availability to affordable, safe and effective essential medicines

Targets:

- Assure the maintenance of quality and safety of all medicines through out the supply chain
- Increase access to medicines by 80% in public health facilities
- Promote rational use of essential medicines in public facilities

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
61	Percent of health facilities that have 90% of essential medicines available at time of survey	F,S,L	Health facility assessment (supervision)	PHC	Level of facility	Similar to WHO medicines indicator 1 25-M-85 Similar to MDG indicator % of

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
						population with access to medicines
62	% of facilities with 90% of essential medicines (see indicator) X % of population living within 5km of a health facility (see indicator)	F,S,L	Health facility assessment (supervision)	PHC	None	None
63	Monetary value of medicines manufactured locally	F	Pharmacy Department	Pharmacy Department (M&E unit)	None	Similar to 5-SO7-4
64	Number of batches of drugs tested for quality and % passing evaluation.	F	National drug laboratory	National drug laboratory	None	Similar to HP-G-42
65	Number of states conducting post marketing surveillance quarterly	S	Pharmacy Department	Pharmacy department	None	5-SO7-1
66	Median consumer price ratio of 30 selected essential medicines in public and private health facilities compared to world market reference price.	F	National medicine pricing survey	Pharmacy department	Public vs. private pharmacies	WHO medicines process indicator 4

1.6. Health services

1.6.1. SO3: Ensure equitable coverage and accessibility to the essential PHC package

Targets:

- Increase coverage with PHC health facilities from 1/14,000 population to 1/11,000 population
- Improve the delivery of the PHC essential package in the existing health facilities from 22% to 63%
- Increase access to community/family level health services through strengthening community development committees; building the capacity and remuneration of community level workers; provision of appropriate supplies, support to monitoring

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
67	Number of people who were treated abroad, by disease and state	F,S	Free medical trreatment program	Curative medicine department	Disease	None
68	Distribution of health facilities per 10,000	F,S,L	Health facility	Preventive	Level of facility,	See targets for SO3

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
	people		assessment (mapping)	Medicine and Primary Health Care Directorate	level of care	
69	Percent of facilities providing the full essential PHC package	F,S,L	Health facility assessment (supervision)	Preventive Medicine and Primary Health Care Directorate	Level of facility	Adapted from WHO services indicator, general
70	Distribution of facilities providing the full essential PHC package per 10,000 population	F,S,L	Health facility assessment (mapping)	Preventive Medicine and Primary Health Care Directorate	Level of facility	WHO services indicator, general
71	Percent of eligible PHC staff that have been trained in the essential PHC package	F,S,L	Health facility assessment (supervision)	Preventive Medicine and Primary Health Care Directorate	Level of facility	25 year strategy L-80
72	Mean number of remunerated community health workers per health facility	F,S,L	Health facility assessment (supervision)	Preventive Medicine and Primary Health Care Directorate	Level of facility	
73	Number of outpatient visits per 10,000 population	F,S,L	NHIC (HIS)	NHIC	Age of patient (under 5, over 5, sex), Level of facility	WHO services utilization indicator

1.6.2. SO5: Ensure equitable coverage and accessibility to quality referral secondary and tertiary health care services at all levels of health care

Targets:

- Ensure 50% of district hospitals are providing at least one of the basic specialties (internal medicine, pediatrics, obstetrics and gynecology and general surgery)
- Ensure all district hospitals are providing emergency services and essential diagnostic services.
- Ensure all states' hospitals are providing basic specialties (internal medicine, pediatrics, obstetrics and gynecology and general surgery) and priority sub specialties and related referral diagnostic services.

- Reform major federal hospitals aiming at bridging the gap in tertiary services and establishing autonomous sub-specialized centers of excellence (see annex 2)
- Establish efficient and effective referral system and ambulance network at the state level.
- Expand triage system to cover all federal, state and district hospitals.

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
75	Number of new health units established	F,S,L	Local Health Systems Strengthening	Local health systems support department	Level of facility	None
76	Number of health facilities completing physical rehabilitation per year.	F,S,L	Local Health Systems Strengthening	Local health systems support department	Level of facility	None
84	Number of states that have regular established and functioning communication and transportation for patient referral between 90% of localities and state referral facilities.	F	Local Health Systems Strengthening	Local health systems support department	None	None
74	Distribution of in-patient beds per 10,000 people	F,S,L	Health facility assessment (mapping)	Curative medicine department	Level of facility	
77	Proportion of the population that live 5 km or less from a health facility	F,S,L	Health facility assessment (mapping)	Health economics and research department (states)	None	None
78	Percent of health centers, rural hospitals and referral hospitals that are fully functional at their level	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of facility, Sector of evaluation (infrastructure, HR, medicine, etc.)	Adapted from WHO services indicator, general
79	Percent of hospitals with basic medical specialties (internal medicine, pediatrics, OB/gyn, surgery)	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of facility and specialty	5-year strategy target
80	Number of hospitals with 4 basic medical specialties and equipped to function per 10,000 population	F,S,L	Health facility assessment (mapping)	Curative medicine department	Level of facility and specialty	Adapted from WHO services indicator, general

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
81	Percent of hospitals and health centers with referral system (transportation, communication, etc.)	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of facility	5-year strategy target
82	Percent of hospitals with functioning emergency services	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of facility	5-year strategy target
83	Percent of federal hospitals with adequate tertiary care facilities by type of care.	F,S,L	Health facility assessment (supervision)	Curative medicine department	Type of tertiary care (according to pre-defined criteria)	5-year strategy target
85	Number and percent of health facilities with access to blood transfusion facilities that can perform all mandated tests.	F,S	Health facility assessment (supervision)	Curative medicine department	By level of facility	New
87	Number and percent of health faciliities with access to minimum package of laboratory tests for basic level care.	F,S	Health facility assessment (supervision)	Curative medicine department	By level of facility and type of test	New

1.6.3. SO8: Introduction and adoption of quality management systems in all health facilities

Targets:

- Establish quality improvement programmes in all tertiary care centres, 50% of secondary care hospitals and 10% of PHC units.
- Establish patient safety programmes in all tertiary and secondary care hospitals
- Establish infection control programmes in all tertiary and secondary care hospitals
- Enroll at least 80% of tertiary and secondary care hospitals and 20% of private hospitals in a voluntary accreditation programme
- Recruit at least one professional quality manager at each state.

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
88	Number of states with a functioning hospital accreditation program	S	Local Health Systems Support	Local Health Systems Support	None	Adapted from 5-year strategy
89	Percent of hospitals accredited	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of facility	Adapted from 5-year strategy

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
90	Percent of hospitals with a quality improvement program	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of hospital	Adapted from 5-year strategy
91	Percent of hospitals with an infection control program	F,S,L	Health facility assessment (supervision)	Curative medicine department	Level of hospital	Adapted from 5-year strategy
92	Percent of health centers and hospitals performing maternal death audits	F,S,L	Health facility assessment (supervision)	Reproductive health	Level of facility	WHO health service quality indicator
93	Case fatality rate for in-patient malaria	F,S,L	Malaria program	Malaria program	Level of facility, age (over 5, under 5)	WHO heallth service quality indicator; Standard malaria program quality indicator
94	Percent of health facilities with quality IMCI services	F,S,L	Health facility assessment (supervision)	IMCI	Level of facility	IMCI quality indicator

1.6.4. SO9: Reduce child morbidity and mortality

Targets:

- Reduce under-five mortality rate to 70 per 1,000 live births by 2011 (compared to the estimated average of 122 in 2006)
- At least 90% of children > 5 years nationwide receive an integrated package of interventions (measles vaccination, LLITN, deworming, Vitamin A) provided through the EPI infrastructure as part of the Accelerated Child Survival Initiative.
- Reduce malnutrition among under-five children by at least 30% of 2006 level.
- Attain 85% national coverage with DPT3, HepB3 & Hib3 with at least 80% coverage in each Locality.
- Maintain the country polio-free.
- Achieve measles elimination by the end of 2010.
- Achieve neonatal tetanus elimination by the end of 2010 (<1 case per 1,000 live births).
- Attain 90% coverage of children under 5 years of age with Vitamin A supplementation.

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
95	Under five mortality rate	F,S	SHHS	Preventive medicine and primary health care	Gender	MDG indicator; 5-year strategy
96	Infant mortality rate	F,S	SHHS	Preventive medicine and primary health care	Gender	MDG indicator; 5-year strategy
97	Prevalence of moderate and severe underweight (children 6-59 months)	F,S	SHHS	Preventive medicine and primary health care	6-11-months infants, 12-23months, 24-59 months, ,	MDG indicator (underweight). 5-year strategy
98	Prevalence of severe underweight (children 6-59 months)	F,S	SHHS	Preventive medicine and primary health care	6-11-months infants, 12-23months, 24-59 months, ,	MDG indicator (underweight). 5-year strategy
99	Prevalence of moderate and severe stunting (children 6-59 months)	F,S	SHHS	Preventive medicine and primary health care	6-11-months infants, 12-23months, 24-59 months, ,	MDG indicator (stunting). 5-year strategy
100	Prevalence of severe stunting (children 6-59 months)	F,S	SHHS	Preventive medicine and primary health care	6-11-months infants, 12-23months, 24-59 months, ,	MDG indicator (stunting). 5-year strategy
101	Prevalence of moderate and severe wasting(children 6-59 months) GAM	F,S	SHHS	Preventive medicine and primary health care	6-11-months infants, 12-23months, 24-59 months, ,	MDG indicator (wasting). 5-year strategy
102	Prevalence of severe wasting (SAM)(children 6-59 months)	F,S	SHHS	Preventive medicine and primary health care	6-11-months infants, 12-23months, 24-59 months, ,	MDG indicator (wasting). 5-year strategy
103	Prevalence of children 6-59 months who are overweight (WAZ > 2).	F,S	SHHS	Preventive medicine and primary health care	Gender	None
104	% of children 0-59 months of age	F,S,L	SHHS	Preventive	Gender	None

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
	receiving the full nutrition package			medicine and primary health care		
105	Urinary iodine excretion rate for children 6- 12 years of age	F,S	Micronutrients survey	Preventive medicine and primary health care		MDG indicator (underweight). 5-year strategy
106	% of HH consumption of Iodized salt	F,S	SHHS	Preventive medicine and primary health care		
107	% of low birth	F,S	Sentinel sites (HIS)	NHIC (HIS)		
108	% of iron deficiency anemia among women in child bearing age (Non pregnant)	F,S	Micronutrients survey	Preventive medicine and primary health care	pregnant women	
109	% of night blindness among children 24 - 71 months of age	F,S	SHHS	Preventive medicine and primary health care	Gender	
110	% of vit A coverage among children 6 - 59 months within the last 6 months	F,S	SHHS	Preventive medicine and primary health care	6-59months	
111	% of vit A coverage for mothers in post partum period	F,S	SHHS	Preventive medicine and primary health care	lactating mothers	
112	TFC/OTP mortality rate (%)	F,S	facility reports	Preventive medicine and primary health care	6-59months	
113	SFC mortality rate (%)	F,S	facility reports	Preventive medicine and primary health care	6-59months	
114	Proportion of children immunized against measles	F,S,L	EPI survey	EPI	Gender	MDG indicator, 5-year strategy
115	Proportion of children under 12 months of age immunized with DTP3, HepB3, and Hib3 and fully immunized.	F,S,L	EPI survey	EPI	Gender	5-year strategy
116	Number of cases of measles per year	F,S,L	Surveillance	Surveillance	Under 5, over 5	5-year strategy
117	Number of cases of AFP and confirmed	F,S	Surveillance	Surveillance	Under 5, over 5	Standard EPI indicator.

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
	polio reported					
118	Number of cases of neonatal tetanus reported	F,S,L	Surveillance	Surveillance	None	Standard EPI indicator.
119	Percent of children 0-6 months of age exclusively breastfed	F,S	Rapid household survey	Preventive medicine and primary health care	0-4 months, 5-6 months	25- year strategy. Standard infant nutrition indicator.
120	Percent of children under five who received integrated package of interventions	F,S,L	Rapid household survey	Preventive medicine and primary health care	0-23 months, 24-59 months, by intervention	5-year strategy

1.6.5. SO10: Reduce maternal and neonatal mortality and morbidity

Targets:

- Reduce maternal mortality to 260 per 100,000 live births by the end of 2011
- Reduce neonatal mortality to 20 per 1000 live births
- Increase institutional delivery from 14 % to 25%
- Increase postnatal care to 40%
- Ensure that 70% of referred maternal cases have timely and quality EmOC services
- Reduce major obstetric morbidities especially vesico-vaginal Fistula (VVF) and provide needed health care for those affected
- Increase villages (> 1000 population) covered by skilled personnel to 90%.
- Increase percent of Service Delivery Points (SDP) providing more than 3 FP methods to 90%
- Increase percent of Service Delivery Points (SDP) providing ANC from 16% to 90%
- Strengthen communities involvement to support maternal and neonatal health (MNH) and overcome harmful traditional practices at least in the catchment's areas of health facilities providing midwifery services
- Strengthen and sustain the knowledge and capacity of youth (Secondary Schools graduates) in understanding MNH needs and risks

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
121	Maternal mortality ratio	F	SHHS	Preventive medicine and primary health care	None	5-year strategy MDG
122	Neonatal mortality rate	F	SHHS		None	5-year strategy
123	Proportion of deliveries performed by a trained health professional	F,S,L	Rapid household survey	Reproductive health	By level of professional	MDG
124	Proportion of institutional deliveries	F,S,L	Rapid household survey	Reproductive health	By level of facility	5-year strategy
125	Proportion of pregnant women receiving the full pregnancy package.	F,S,L	SHHS	Preventive medicine and primary health care	None	None
126	% of deliveries occuring in facilities with basic emergency services	F,S,L	Sentinel sites (HIS)	NHIC (HIS)	None	None
127	% pregnant women with anemia	F,S	SHHS	Preventive medicine and primary health care	None	None
128	% Pregnant women received tetanus vaccination	F,S,L	SHHS	Preventive medicine and primary health care	No	WHO/ EMRO &SCO
129	% villages with at least one trained midwife per "X" population	F,S,L	Health facility assessment (mapping)	Health economics and research department (states)	None	None
130	Antenatal care coverage (1 visit and 4 visits)	F,S,L	Rapid household survey	Reproductive health	None	5-year strategy, MDG
131	Percent of deliveries performed by C-section	F,S	Sentinel sites (HIS)	Reproductive health	None	5-year strategy, Reproductive Heallth strategy
132	Percent of young girls who have undergone FGM	F,S	SHHS	Preventive medicine and primary health care		RH strategy 2006-2010
133	Contraceptive prevalence rate	F,S,L	Rapid household	Preventive medicine and	Type of method	MDG and 5-year strategy

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
			survey	primary health care		
134	Percent of primary care health facilities offering 3 or more contraceptive methods	F,S,L	Health facility assessment (supervision)	Reproductive health	Level of facility, Aspect of checklist	5-year strategy
135	% of all obstetric and gynecological admissions that are due to abortion	F,S	Health facility assessment (supervision) and/or HIS (sentinel sites)	PHC	None	New
136	Percent of post-partum women who received post-partum care at a health facility.	F,S,L	Sentinel sites (HIS)	Reproductive health	Level of facility	5-year strategy
137	Percent of health facilities (of appropriate level) that offer quality EmOC	F,S,L	Health facility assessment (supervision)	Reproductive health	Level of facility, Aspect of checklist	5-year strategy
138	Number of health facilities per 10,000 people offering quality EmOC services	F,S,L	Health facility assessment (mapping)	Reproductive health	Aspect of checklist	New
139	Number and percent of health facilities providing youth-friendly services	F,S,L	Health facility assessment (supervision)	Reproductive health	Level of facility	5-year strategy

1.6.6. SO11: Ensure early preparedness and response to emergencies and epidemics

Targets:

- Build the institutional capacity of the health systems for effective emergences and epidemic preparedness and response (guidelines, training of teams, buffer stocks, logistic support, risk mapping, contingency planning and rehearsals and Emergency information system)
- Promptly detect and abort within the acceptable standards > 90% of emergencies and epidemics
- Strengthen/ establish Comprehensive Integrated Surveillance and Response System

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
140	Percent of states/ localities with a functioning units for emergency/epidemics preparedness and response	F,S	Emergency and Humanitarian Action (EHA) directorate	Emergency and Humanitarian Action (EHA) directorate	Aspect of checklist	5-year strategy
141	% of epidemics detected and contained within he standard limit	F,S	Surveillance	Emergency and Humanitarian Action (EHA) directorate and Surveillance	Each outbreak or emergency	5-year strategy
142	Number and percent of sentinel sites that submit regular reports	F,S	Surveillance	Surveillance	None	5-year strategy

1.6.7. SO12: Reduce HIV/AIDS transmission

Targets:

- Maintain the level of HIV/AIDS prevalence at less than 2% among the general population
- Increase awareness and knowledge about HIVAIDS from 11 to 70 percent by 2011
- Increase percentage of health facilities providing syndromic management of sexually transmitted infections from less than 25% to 70%
- Ensure 100% safe blood transfusion in all health facilities
- Scale up of equitably distributed PMTCT services from 5 sites to 45 sites
- Increase the number of equitably distributed VCT centers from 45 centers to more than 270.
- Increase the number of patients on AIDS treatment including ARVs and OIs from less than 1000 to 20,000 by the end of 2011
- Apply second generation surveillance including improved AIDS Cases reporting, behavioral surveillance and sentinel surveillance
- Build the capacity of the different partners including State AIDS program for effective and efficient program implementation
- Mobilize stakeholders and communities through activation of National and State AIDS Multisectoral Council
- Provide sustainable BCC and advocacy programs including different partners to ensure involvement of policymakers, communities, family and individuals in the AIDS prevention and to Support people living with AIDS including combating stigma and discrimination

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
86	Number and percent of blood banks (public and private) that test all blood for HIV according to national protocols	F,S	HIV/AIDS program	HIV program	Public, private	None
143	HIV prevalence among pregnant women attending ANC clinics	F	HIV sero-surveillance survey	HIV program	Age group	HIV program, Global Fund indicator
144	Percentage of women and men aged 15 - 49 who both correctly identify ways of preventing the transmission of HIV and who reject major misconceptions of about HIV/AIDS (By rural and urban) 11% 2006	F,S	SHHS	Preventive medicine and primary health care	Rural/urban,sex	5-year strategy, Global Fund indicator, UNGASS indicator
145	Percent of youth 15-25 years with more than one sexual partner in the past year who say they used a condom during the last sexual encounter.	F,S	SHHS	HIV program	Sex	HIV program, Global Fund indicator
146	Total number of condoms imported in the previous year (all sources)	F	HIV/AIDS program	HIV program	Source	HIV program, Global Fund indicator
147	Number of condoms distributed through free distribution	F,S,L	HIV/AIDS program	HIV program	General population and risk groups	HIV program, Global Fund indicator
148	Number of clients (By age & sex) received HIV test results and post test counseling	F,S,L	HIV/AIDS program	HIV program	Sex, age	Global fund indicator, 5-year strategy indicator
149	Number of testing sites of all types (number and per 10,000 population)	F,S	HIV/AIDS program	HIV program	By type of site (VCT, PMTCT or diagnostic testing)	New
150	Number and percent of pregnant women who received HIV test results and post-test counseling	F,S	HIV/AIDS program	HIV program	None	Global fund indicator, 5-year strategy indicator
151	Number of HIV-infected pregnant women who received a complete course of antiretroviral prophylaxis.	F,S	HIV/AIDS program	HIV program	None	Global fund indicator, 5-year strategy indicator, UNGASS indicator

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
152	Number of people with advanced HIV infection receiving ACT therapy	F,S	HIV/AIDS program	HIV program	Sex	Global fund indicator, 5-year strategy indicator, UNGASS indicator
153	Number of people among most-at-risk target populations reached through BCC/counseling session(s) (By target population)	F,S	HIV/AIDS program	HIV program	Target population	5-year strategy
154	Number (and percent) of women and men with sexually transmitted infections at health care facilities who are appropriately diagnosed, treated and counseled	F,S	Health facility assessment (supervision)	HIV program	Sex, level of facility	5-year strategy
155	Number of OVCs whose household received free basic external support in caring for the child.	F,S	HIV/AIDS program	HIV program	None	5-year strategy, Global Fund indicator
156	Number of PLWHIV receiving home-based and community based care	F,S	HIV/AIDS program	HIV program	Gender, age group	5-year strategy, Global Fund indicator
157	Number of government sector(s) and private sector with a functional HIV/AIDS unit and has strategic plan with a budget for HIV/AIDS	F,S	HIV/AIDS program	HIV program	Sector (public, private)	5-year strategy
158	Amount of public and external funds disbursed and utilized by all the other partners for the HIV/AIDS programmes and activities (Disaggregated by disbursed & utilized in US Dollars	F	HIV/AIDS program	HIV program	By sector (public sector, multi-lateral, NGO, etc.)	5-year strategy

1.6.8. SO13: Reduce Malaria related morbidity and mortality

Targets:

- Reduce the morbidity and mortality of malaria by 50 % (of 2000 figures)
- Avail access to effective treatment (according to the new national treatment guidelines) for 90% of population living in high risk areas
- Ensure that 80% of pregnant mothers and children < 5 years of age in high transmission areas have access to and use effective preventive measures including ownership of LLITNs (80%), IPT (80%) in pregnancy and other vector control measures targeted at the general population (e.g. larviciding)
- Promptly detect and abort within two weeks > 90% of malaria epidemics
- Improve quality of laboratory diagnosis of malaria in > 90% of health facilities with microscopy and deploy RDTs in >90% of dispensaries in all states with low/moderate malaria transmission
- Provide early diagnosis and treatment with ACT to 1.8 million malaria patients in remote rural areas with poor access to health facilities, through HMM strategies
- Progressively provide access to rectal Artesunate in 682 dispensaries in the 10 states with the higher malaria burden
- Upgrade the RBM capacity at federal and state levels

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
159	Hospital deaths per 10,000 population due to malaria	F,S,L	Sentinel sites (HIS)	NHIC (HIS)	None	5-year strategy (adapted)
160	Incidence of malaria per 100,000 population	F,S	Malaria program sentinel sites	Malaria program	Age	None
161	Fatality rate due to malaria per 100,000 population	F,S	Malaria program sentinel sites	Malaria program	Age	None
162	Proportion of homes with at least one insecticide-treated bed net	F,S	SHHS	Preventive medicine and primary health care	None	Standardized malaria indicator
163	Proportion of children under 5 who slept under a treated bed-net the night before	F,S	Rapid household survey	Preventive medicine and primary health care	None	5-year strategy and standard malaria indicator
164	Proportion of pregnant women who receive 2 or more doses of IPT during	F,S	Rapid household	Preventive medicine and	None	5-year strategy and standard malaria

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
	pregnancy		survey	primary health care		indicator
165	Proportion of children receiving prompt effective antimalarials as needed.	F,S	Rapid household survey	Preventive medicine and primary health care	None	5-year strategy (modified) and standard malaria indicator
166	Proportion of health facilities' laboratories with improved malaria microscopy or availability of rapid diagnostic tests RDTs.	F,S,L	Health facility assessment (supervision)	Malaria program	Microscopy vs. RDT and level of facility	5-year strategy
168	Percent of states with a well functioning Malaria control Department	S	Malaria program	Malaria program	Area of functioning	5-year strategy
169	Proportion of malaria epidemics detected that are contained within 2 weeks.	S	Surveillance	Surveillance program	None	5-year strategy
170	Number of long-lasting insecticide treated mosquito nets imported and distributed	F,S	Malaria program	Malaria program	By source	New
167	Number of health facilities providing free malaria treatment continuously	F,S	Health facility assessment (supervision)	Malaria program	Type of health facility	None

1.6.9. SO14: Reduce Tuberculosis related morbidity and mortality

Targets:

- Reduce the incidence and death rate from tuberculosis by 50%
- Detect at least 70% of estimated new infectious TB cases.
- Cure at least 85% of the detected infectious TB cases

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
171	Case detection rate for TB (per 100,000 and % of estimated)	F,S	Tuberculosis program	Tuberculosis program	Sex, age group	WHO global TB control indicator
172	The proportion of people screened for TB that are slide-positive	F,S	TB program	TB program	Gender	None
173	Proportion of people beginning TB treatment that complete treatment.	F,S	TB program	TB program	Gender	None

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
174	Cure rate	F,S	Tuberculosis program	Tuberculosis program	Sex, age group, type of treatment (DOTS, other)	5-year strategy, WHO global TB control indicator
175	Percent of TB patients with HIV testing	F,S	Tuberculosis program	Tuberculosis program	Sex, age	New, WHO global TB control indicator
176	Population covered by DOTS	F,S	Tuberculosis program	Tuberculosis program	None	New, WHO global TB control indicator
177	TB microscopy units per 10,000 population and TB management units per 50,000 -100,000 population.	F,S,L	Health facility assessment (supervision)	Tuberculosis program	Level of facility, aspect of checklist	New, WHO global TB control indicator (microscopy indicator). No reference for "management unit" indicator.

1.6.10. SO15: Reduce Schistosomiasis related morbidity and mortality

Targets:

- Reduce the prevalence of Schistosomiasis to less than 10% in all endemic localities

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
178	Schistosomiasis prevalence among school children	F,S,L	Schistosomiasis survey	Schistosomiasis program	By age group	5-year strategy

1.6.11. SO16: Control, Erradicate, Eliminate other communicable diseases

Targets:

- Reduce the no. of new leishmania cases by 30% in endemic states
- Eradicate guinea worm by 2009
- Elimination of lymphatic filariasis by 2015
- Elimination of leprosy by 2011

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
179	Number of new leishmania cases detected and treated	F,S,L	Leishmaniasis surveillance	Leishmaniasis program	By age group and sex	5-year strategy
180	Number of new guinea worm cases reported	F,S,L	Guinea worm surveillance	Guinea worm program	By age group and sex	5-year strategy
181	Percent of population with lymphatic filariasis.	F,S,L	Filariasis survey	Lymphatic filariasis program	By age group and sex	5-year strategy
182	Number of localities with a prevalence of filariasis of less than 1%	F,S,L	Filariasis survey	Filariasis program	None	None
183	Number of new cases of leprosy detected (and per 10,000 population)	F,S,L	Leprosy program	Leprosy program	By locality and stage at diagnosis	5-year strategy
184	Number of localities which report less than one case of Leprosy/10.000 of population	F,S,L	Leprosy program	Leprosy program	None	None

1.6.12. SO17: To reduce morbidity and mortality related to major non communicable diseases

Targets:

- To increase early detection of targeted non-communicable diseases (CVD, hypertension, diabetes mellitus, cancer, accidents and injuries) by 30%.
- To raise community awareness towards healthy life styles by 30%, and promotes behavior & practice change by 30%.
- Support policies addressing the health needs of special groups (adolescence, elderly), special settings (school health, health promotion, workplace) and mental health

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
185	Prevalence of symptomatic non communicable diseases: diabetes, cataract, asthma,	F	NCD survey	NCD program		5-year strategy
186	Prevalence of NCD risk factors: Tobacco use, snuffing, alcohol use, obesity, hypertension	F,S	Risk-factor survey	NCD program	By sex, age	5-year strategy
187	Proportion of schools enrolled in school health programme	F,S,L	Non-communicabl	NCD program	By level of school	5-year strategy

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
			e disease program			
188	Essential package of mental health services developed	F	Mental health program	Mental health program	None	New
189	Number of facilities with mental health services	F,S	Mental health program	Mental health program	Level of facility	New
190	Number of health facilities offering essential package of dental health services	S	Dental health program	Dental health program	Level of facility	New

1.6.13. SO18: Encourage private sector (for profit & not for profit) in contributing in health care provision and promote its collaboration with the public sectors

Targets:

- Increase the complementary contribution of the private sector in care provision,
- Promote public private partnership

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
191	Percent of all outpatient consults performed by private and non-profit facilities.	F,S	International Health	International Health + SHIC from licensing bodies	Sector (private, NGO)	5-year strategy
192	Percent of hospital beds provided by private and NGO sectors.	F,S	International Health	International Health + SHIC from licensing bodies	Sector (private, NGO)	5-year strategy

1.6.14. SO19: Support development of environmental health and community-based approaches for achieving health goals in partnership with other sectors

Targets:

- Support policies and develop strategies and services that ensure all people have access to save water supply and effective sanitation
- Reduce adverse health effects of environmental hazards
- Develop and implement systems to ensure food safety, chemical safety, solid waste and industrial waste management
- Work in partnership with related sectors to combat pollution and control communicable disease vectors

No.	Indicator	Level	Source	Dept	Disagg.	Ref.
193	Percent of the population with access to an improved water source	F,S	Rapid household survey	Preventive medicine and primary health care	Type of water source	MDG
194	Percent of the population with access to improved sanitation	F,S	Rapid household survey	Preventive medicine and primary health care	Type of sanitation	MDG
195	Number of states with environmental health program and policies	S	Planning Department	Policy department	None	New

2. Data sources and flow of information

This section describes each major source of information, how information flows within the source of information to the M&E Department, and then provides a list of the indicators or which that data source is responsible in the M&E Framework.

2.1. National Health Information Center and Sentinel Site Information System, Central Registration Office

The NHIS is the unit that manages the Health Information System, the backbone of information collection for the Federal Ministry of Health. It is administratively located in the Directorate of Planning; it regularly collects information on a large number of indicators ranging from infrastructure, human resources, supplies and stock of medicines as well as output indicators for almost all health-related activities. The system is comprehensive in that it strives to collect information from all health facilities in the country on a quarterly basis. Each health facility has a statistical technical charged with consolidating reports to be sent to the respective State Health Information System which consolidates information and reports it to the NHIS quarterly. The NHIS produces a "Statistical Report" annually which is widely disseminated. Unfortunately, due to logistical challenges and inconsistent supervision, the NHIS states that only about half of health facilities reports regularly and there are problems with the quality of data from some facilities. This greatly diminishes the ability to utilize the data from the NHIS for M&E purposes at this time. Therefore, few indicators in the current framework are drawn from the NHIS. The current M&E Framework therefore focuses most prominently on monitoring the quality, timeliness and completeness of the NHIS itself, rather than on the content of the data produced.

The NHIS plays another significant role as the primary repository for information in the Ministry of Health. The NHIS has the most advanced computer hardware and technical capacity for handling data, and therefore, will play an important role in holding information from the M&E Framework indicators and making them available to relevant stakeholders.

National Health Information Centre:

No.	Indicator	Source	Department	Notes
27	Number of institutional deliveries available for federal, state and locality levels and published within 12 months of the preceding year	NHIC (HIS)	NHIC (HIS)	This may initially be substituted by sentinel site information. In that case, data would be a projection and available for Federal and State levels only.
29	Percentage of localities/facilities that submit timely and complete reports to the state and national levels (public sector only).	NHIC (HIS)	NHIC (HIS)	Public sector only
30	Percentage of states that submit timely, accurate and complete	NHIC (HIS)	SHIC and licensing	Provided by licensing body to SHIC in states (medical

No.	Indicator	Source	Department	Notes
	reports on health facilities from the private sector annually.		body (varies by state)	and dental only). Collection may vary by state. Khartoum State is collecitng data via routine HIS forms.
73	Number of outpatient visits per 10,000 population	NHIC (HIS)	NHIC	This indicator is not useful once it reaches a high level. It can be used to identify areas of low availability or access. It is good for comparison between geographic areas.
112	TFC/OTP mortality rate (%)	NHIC (HIS)	Preventive medicine and primary health care	
113	SFC mortality rate (%)	NHIC (HIS)	Preventive medicine and primary health care	

Sentinel Sites:

This data source is new and has not yet been implemented. This system is proposed by the M&E Directorate as a means to use the existing NHIS to extract useful information for analysis. This will be done through the selection of a representative sample of health facilities nationwide to serve as sentinel sites. These sites will receive intensified training, supervision and material resources that will enable them to provide timely, accurate and complete information through the routine HIS. The M&E Directorate together with the NHIS and SHIS will design the system and guarantee that the sentinel sites receive priority resources. The data will be reported through routine NHIS channels, although the sentinel site data will be extracted for analysis and extrapolation to provide national estimates. This system will not only provide these national estimates, but can also serve as a means to verify the accuracy and completeness of the full NHIS.

No.	Indicator	Source	Department	Notes
57	The number and % of all patients receiving free treatment	Sentinel sites (HIS)	NHIC (HIS)	
107	% of low birth	Sentinel sites (HIS)	NHIC (HIS)	
126	% of deliveries occuring in facilities with basic emergency services	Sentinel sites (HIS)	NHIC (HIS)	The designation of facilities offering full services will be done at the time of the establishment of sentinel sites through supervision. Requires a strict definition of "basic emergency coverage".

No.	Indicator	Source	Department	Notes
131	Percent of deliveries performed by C-section	Sentinel sites (HIS)	Reproductive health	This may be measured in various ways: HIS, sentinel sites, and confirmed by SHHS and rapid household surveys.
136	Percent of post-partum women who received post-partum care at a health facility.	Sentinel sites (HIS)	Reproductive health	
159	Hospital deaths per 10,000 population due to malaria	Sentinel sites (HIS)	NHIC (HIS)	This will probably have to be extracted from sentinel sites by malaria program

Central Registration Office:

Although the CRO is outside the Ministry of Health, it is the MOH that is responsible for much of the registration, as birth and death events are most often attended by health personnel. The NCIS will be responsible for liaison with the CRO in order to collect and report this indicator to M&E.

No.	Indicator	Source	Department	Notes
21	% of births and deaths registered	CRO	CRO	Depends on denominator estimate (which is derived from the new census information).

2.2. Health Facility Assessment (Mapping Survey) and Rapid HFA Using Supervision System

Health Facility Assessment (Mapping Survey):

A Health Facility Assessment, or mapping survey, is to be carried out periodically, approximately every five years by the Ministry of Health. The first mapping survey was carried out in 2008. The survey assessed coverage with health facilities (including an estimate of the population with access), access to the essential health package, rehabilitation requirements, availability of water and electricity supply and waste disposal means, and availability of drugs and logistic support. The availability of human resources, including administrative capabilities, was also assessed. It is not known whether this information on HRH was compared with the data from the health workforce survey and/or whether the Human Resource Observatory used the data to update their database.

The survey was funded by the FMoH, with assistance from the Global Alliance for Vaccines and Immunization, UNICEF and WHO. The survey relied primarily on secondary sources of information (principally facility reports and supervision reports), with gaps filled through telephone interviews and some site visits where necessary. A centralized database for the information is being developed by the FMoH.

No.	Indicator	Source	Department	Notes
34	National database with public and private sector health facilities and geocoding available and updated in the last 5 years.	Health facility assessment (mapping)	Health economics and research department (states)	Updating may be done continuously rather than via survey. Note that this is a STATE function. Not Federal.
68	Distribution of health facilities per 10,000 people	Health facility assessment (mapping)	Preventive Medicine and Primary Health Care Directorate	
70	Distribution of facilities providing the full essential PHC package per 10,000 population	Health facility assessment (mapping)	Preventive Medicine and Primary Health Care Directorate	This is different from the previous indicator, as it is population based rather than system based.
74	Distribution of in-patient beds per 10,000 people	Health facility assessment (mapping)	Curative medicine department	
77	Proportion of the population that live 5 km or less from a health facility	Health facility assessment (mapping)	Health economics and research department (states)	
80	Number of hospitals with 4 basic medical specialties and equipped to function per 10,000 population	Health facility assessment (mapping)	Curative medicine department	This is different from the previous indicator, as it is population based rather than system based.
129	% villages with at least one trained midwife per "X" population	Health facility assessment (mapping)	Health economics and research department (states)	This presumes that the health facilities will have access to the information at the time of the mapping survey (the mapping survey does not map villages--it maps facilities). Each facilitiy would need to know how many villages are in its area, and which have a

No.	Indicator	Source	Department	Notes
				trained midwife. The survey must also ask the question. Requires a definition of minimum "coverage" for trained midwives, that is, trained midwives per "X" population.
138	Number of health facilities per 10,000 people offering quality EmOC services	Health facility assessment (mapping)	Reproductive health	Requires strict definition of "quality EmOC services" and standardized checklist to be employed. This is similar but not the same as the previous indicator.

Rapid HFA Using Supervision System:

This is another new system that will be implemented. The routine supervision system for health facilities utilizes standardized checklists which include an assessment of infrastructure, human resources, stock of essential supplies, record review and in some cases, observation of the quality of care (for IMCI, for example). A number of different forms and standards are in current use by various vertical programs as well as by the State Ministries of Health in general. The M&E Directorate will coordinate with various vertical programs and the State Ministries of Health to develop a coordinated mechanism to systematically collect and report this information. It is expected that initially sentinel sites will be chosen for this information system which will be gradually expanded to include all health facilities.

No.	Indicator	Source	Department	Notes
7	Percent of days absent by health workers	Health facility assessment (supervision)	PHC Directorate	Measures leadership, policies, supervision; can get this from HRO or HR department? At the federal level, this can be collected from either 1) only federal level facilities and entities or 2) from the entire country
45	Percent of public sector health facilities fullly staffed (by level of facility and cadre of worker)	Health facility assessment (supervision)	Curative medicine department	

No.	Indicator	Source	Department	Notes
47	Percent of professionals (nurses, doctors, dentists, pharmacists, midwives) that received continuing education in the past year	Health facility assessment (supervision)	Curative medicine department	Note that this data source is new. Not certain who will be responsible.
49	Percent of professionals (nurses, doctors, dentists, pharmacists, midwives) that received a structured supervision visit in the past six months.	Health facility assessment (supervision)	Curative medicine department	Note that this data source is new. Not certain who will be responsible.
61	Percent of health facilities that have 90% of essential medicines available at time of survey	Health facility assessment (supervision)	PHC	Requires introducing this into mapping survey and supervision system. Need to standardize list of medicines to be sampled (30?)
62	% of facilities with 90% of essential medicines (see indicator) X % of population living within 5km of a health facility (see indicator)	Health facility assessment (supervision)	PHC	Note that this is just a calculation based on two other indicators.
69	Percent of facilities providing the full essential PHC package	Health facility assessment (supervision)	Preventive Medicine and Primary Health Care Directorate	This indicator requires explicit detailed definition of what is "providing full essential PHC package". Elements and how to evaluate. It should include minimum infrastructure, equipment, medicines, human resources (and trainning), guidelines, laboratory. Baseline and targets from 5-year strategy
71	Percent of eligible PHC staff that have been trained in the essential PHC package	Health facility assessment (supervision)	Preventive Medicine and Primary Health Care Directorate	
72	Mean number of remunerated community health workers per health facility	Health facility assessment (supervision)	Preventive Medicine and Primary Health Care	

No.	Indicator	Source	Department	Notes
			Directorate	
78	Percent of health centers, rural hospitals and referral hospitals that are fully functional at their level	Health facility assessment (supervision)	Curative medicine department	This indicator requires explicit detailed definition of what is "providing full essential service appropriate to the level of facility". Elements and how to evaluate. It should include minimum infrastructure, equipment, medicines, human resources (and trainning), guidelines, laboratory.
79	Percent of hospitals with basic medical specialties (internal medicine, pediatrics, OB/gyn, surgery)	Health facility assessment (supervision)	Curative medicine department	
81	Percent of hospitals and health centers with referral system (transportation, communication, etc.)	Health facility assessment (supervision)	Curative medicine department	Requires strict definition of "adequate referral system". This needs to be defined in the supervision system.
82	Percent of hospitals with functioning emergency services	Health facility assessment (supervision)	Curative medicine department	Requires strict definition of "adequate emergency services". This needs to be defined in the supervision system. NOTE: effective emergency services must include triage system.
83	Percent of federal hospitals with adequate tertiary care facilities by type of care.	Health facility assessment (supervision)	Curative medicine department	Requires strict definition of "adequate tertiary care" for each type of care. This needs to be defined in the supervision system.
85	Number and percent of health facilities with access to blood transfusion facilities that can	Health facility assessment (supervision)	Curative medicine department	Requires definition of "adequately tested blood".

No.	Indicator	Source	Department	Notes
	perform all mandated tests.			
87	Number and percent of health faciliities with access to minimum package of laboratory tests for basic level care.	Health facility assessment (supervision)	Curative medicine department	Requires definition of "minimum package of laboratory tests" for basic care (e.g. urine, white count, differential, HIV rapid test, malaria, TB, bacterial culture, blood sugar, …)
89	Percent of hospitals accredited	Health facility assessment (supervision)	Curative medicine department	
90	Percent of hospitals with a quality improvement program	Health facility assessment (supervision)	Curative medicine department	
91	Percent of hospitals with an infection control program	Health facility assessment (supervision)	Curative medicine department	
92	Percent of health centers and hospitals performing maternal death audits	Health facility assessment (supervision)	Reproductive health	
94	Percent of health facilities with quality IMCI services	Health facility assessment (supervision)	IMCI	This requires strict definition of "passing" on IMCI checklist.
134	Percent of primary care health facilities offering 3 or more contraceptive methods	Health facility assessment (supervision)	Reproductive health	
137	Percent of health facilities (of appropriate level) that offer quality EmOC	Health facility assessment (supervision)	Reproductive health	Requires strict definition of "quality EmOC services" and standardized checklist to be employed. This can be also collected through Health Facility Mapping Survey
139	Number and percent of health facilities providing youth-friendly services	Health facility assessment (supervision)	Reproductive health	
154	Number (and percent) of women and men with sexually transmitted infections at health care facilities who are appropriately diagnosed, treated and counseled	Health facility assessment (supervision)	HIV program	This indicator requires observation of consults---which is done through a health facility assessment.
166	Proportion of health facilities' laboratories with improved malaria microscopy or	Health facility assessment (supervision)	Malaria program	Strict definition for "improved microscopy" needs

No.	Indicator	Source	Department	Notes
	availability of rapid diagnostic tests RDTs.			to be included.
167	Number of health facilities providing free malaria treatment continuously	Health facility assessment (supervision)	Malaria program	This indicator may have to be inserted into the general health facility assessment supervision form.
177	TB microscopy units per 10,000 population and TB management units per 50,000 -100,000 population.	Health facility assessment (supervision)	Tuberculosis program	Requires strict definition of "functioning TB microscopy unit" and checklist. "Aspect of checklist" refers to, for example, human resources, supplies, training, equipment.
135	% of all obstetric and gynecological admissions that are due to abortion	Health facility assessment (supervision) and/or HIS (sentinel sites)	PHC	This will have to be added to the HFA (supervision) system, or to the HIS sentinel site system.

2.3. Planning Department

This is not an information system per se, but rather, represents information that results from annual planning activities under the coordination of the Planning Department. This information will be reported systematically to the M&E Directorate on an annual basis.

No.	Indicator	Source	Department	Notes
1	Existence of up-to-date national and state health strategy linked to national and state needs and priorities	Planning Department	M&E department	
2	Key public sector health policies, laws and strategies prepared and approved that have a significant impact on health (qualitative indicator--list and description)	Planning Department	Planning Department	This is a qualitative list to be reported to cabinet annually. Inclusion or exclusion of any policy, strategy or law is at the discretion of the head of Planning.
3	SMoH with output-based annual plans with logframes and budgets linked to the strategy	Planning Department	FMoH / Planning	
10	Policies on drug procurement that specify i) most cost-effective and ii) competitive	Planning Department	Policy department	

No.	Indicator	Source	Department	Notes
	bidding			
56	The budget for free medical treatment as a proportion of total health budget	Planning Department	Planning Department	NOTE: the indicator was defined as "budget" and not "expenditure", and therefore, may reflect intention more than actual fact.
195	Number of states with environmental health program and policies	Planning Department	Policy department	

2.4. Local Health Systems Support

As with the previous data source, the information being reported by Local Health Systems Support results from routine activities of that department. It will be systematically reported to the M&E Directorate on an annual basis.

No.	Indicator	Source	Department	Notes
4	% of localities with functioning health teams	Local Health Systems Strengthening	Local health systems support department	Get standardized definitions of composition and functioning of locallity health team
6	Number and % of states and localities with functioning managerial units or health teams	Local Health Systems Strengthening	Local health systems support department	Get standardized definitions of composition and functioning of locallity health team and appropriate state directorates and managerial units.
75	Number of new health units established	Local Health Systems Strengthening	Local health systems support department	
76	Number of health facilities completing physical rehabilitation per year.	Local Health Systems Strengthening	Local health systems support department	The definition "completed this year" is used to avoid double counting of facilities whose works begin one year and end the next.
84	Number of states that have regular established and functioning communication and transportation for patient referral between 90% of localities and state referral facilities.	Local Health Systems Strengthening	Local health systems support department	This definition is improvised and may need to be adapted.

No.	Indicator	Source	Department	Notes
88	Number of states with a functioning hospital accreditation program	Local Health Systems Support	Local Health Systems Support	This requires a strict definition of "functionong" accreditation program

2.5. M&E Directorate

The data for these indicators will be collected directly by the M&E Directorate at the federal level and included in the various reports produced. Most relate to the performance of the M&E system and will be readily available to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
20	Number and % of indicators in the M&E framework that are reported each year in the annual report	M&E directorate	M&E directorate (State and Federal)	
22	10-year costed survey plan updated	M&E directorate	Preventive medicine and primary health are directorate	This is often a responsibility of the M&E unit, but as PHC is already coordinating many of the surveys, it is logical that they simply assume the rest.
28	Country website for health statistics with latest report and data available for the general public	M&E directorate	M&E directorate (State and Federal)	Make certain that all surveys are available as well.
32	Data quality assessment done in the past 3 years (including all data sources, including vital statistics, HMIS, medicines, HR, etc.)	M&E directorate	M&E directorate (State and Federal)	
37	There is a national microdata archive for health surveys, census data, HIS and M&E indicators that is functional and accessible.	M&E directorate	Policy, planning and research Directorate	This may be more than one database.
38	National and state M&E reports published and available within 12 months of the preceding year.	M&E directorate	M&E directorate (State and Federal)	
37	There is a national microdata archive for health surveys, census data, HIS and M&E indicators that is functional and accessible.	M&E directorate	Policy, planning and research Directorate	This may be more than one database.
38	National and state M&E reports published and available within 12 months of the preceding year.	M&E directorate	M&E directorate (State and Federal)	

2.6. Humanitarian Aid Commission

The Humanitarian Aid Commission is responsible for coordination of NGO activities in the states where these operate. The national office coordinates these state offices. The national office will contact the state offices annually to assess the quality, completeness and timeliness of NGO reporting and report the results to the M&E Directorate directly.

No.	Indicator	Source	Directorate	Notes
31	Percentage of states that have NGOs that submit timely and complete reports on health facilities from the NGO sector annually.	Humanitarian Aid Commission	Directorate of International Health	Khartoum state reports through the SHIS.

2.7. Pharmacy Directorate, National Medicine Pricing Survey, State Revolving Drug Fund, and National Drug Laboratory

Pharmacy Directorate and National Medicine Pricing Survey:

The Pharmacy Directorate is responsible for managing drug policy, including the elaboration of the national essential medicine list, as well as for carrying out specific surveys and studies and supervising state drug systems. The information for the indicators below will be collected by the directorate and reported directly to the M&E Directorate. The National Medicine Pricing Survey is a special survey planned for every three years under the supervision of the Pharmacy Directorate.
Note that for all three sub-sections below, the data will flow to the Pharmacy Directorate who will be responsible for reporting on ALL of the indicators to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
8	Essential medicines list updated in past 5 years and disseminated annually	Pharmacy directorate	Pharmacy directorate	
63	Monetary value of medicines manufactured locally	Pharmacy Directorate	Pharmacy Directorate (M&E unit)	It is not clear how this will be interpreted--is a positive trend over time good? Needs new data collection system.
65	Number of states conducting post marketing surveillance quarterly	Pharmacy Directorate	Pharmacy directorate	This will require new reporting system
66	Median consumer price ratio of 30 selected essential medicines in public and private health facilities compared to world market reference price.	National medicine pricing survey	Pharmacy directorate	Is this being done regularly?

State Revolving Drug Fund:

Each state is responsible for managing its own revolving drug fund for essential medicines. Each state will report annually on their program to the Pharmacy Directorate which will in turn report to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
36	Annual data on essential medicines available and complete	State revolving drug fund	State revolving drug fund	Note that this is a state function. Can be verified by Health Facility Assessment and/or supervision system.

National Drug Laboratory:

The National Drug Laboratory is responsible for quality control of medicines at the Federal level. It will report to the Pharmacy Directorate annually, which will then report to the results to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
64	Number of batches of drugs tested for quality and % passing evaluation.	National drug laboratory	National drug laboratory	This will require new reporting system

2.8. Surveillance System and Emergency and Humanitarian Aid Directorate

Surveillance System

The National Surveillance System of communicable diseases in Sudan was reorganized in 2003. It included 22 health events or infectious diseases, 7 of which are reported within 24 hours and the rest on a weekly basis. The repot includes gender and two age groups (under five and over five) from sentinel sites. The Surveillance System is the backbone of the epidemiology program and covers 15 northern states with a network of electronic and cell phone reporting which facilitates the flow of information.

Information flow: The sentinel sites report on a weekly basis using a standardized surveillance form. The sites report all new cases and deaths. Most health workers received training on the notifiable diseases including case definitions and the reporting mechanism. In addition, there is a standard protocol for case management for most o the epidemic diseases. The system also includes a rumor verification process to increase the sensitivity and timeliness.

The data come from patients attended in 848 sentinel health facilities (hospitals and health centers). The data are sent to the locality level (136 localities) and then on to the state level.

Data management: Facility data are tabulated at the state level, analyzed and then sent to the federal level. The final report is done weekly and disseminated to all stakeholders in the FMoH and WHO. A feedback report is produced that discusses timelines and completeness of the reporting, morbidity and mortality indicators (incidence rate, attack rate and case fatality rate). There is an annual monitoring and evaluation meeting that includes representatives from all states to improve the quality and outcomes of the system.

How surveillance guides epidemiology in Sudan: Practically, the surveillance system succeeds in doing the following:

- Early detection of outbreaks (Rift Valley Fever, AWD, meningitis and other health events)
- Detect changes in endemicity of infectious diseases in certain areas (e.g. malaria)
- The surveillance system has guided the redistribution of resources and medical supplies as early preparedness to the risk areas.
- Mobilization of human resources to areas needed for intervention during outbreaks.
- Collection of information about mortality and morbidity data due to infectious diseases.

The Early Warning System (EWARS) is an additional system to the national surveillance system established in 2004 due to an emergency in the Darfur region. It is used to detect 12 infectious and non-infectious diseases using a syndromic approach to the diseases appropriate to the situation of scarce resources. The EWARS was established with the objective of ensuring early detection of outbreaks among the affected population in the greater Darfur region, a timely response, and control of outbreaks; to estimate the workload of health units attending to the affected population, and to improve resource allocation.

No.	Indicator	Source	Directorate	Notes
116	Number of cases of measles per year	Surveillance	Surveillance	Needs definition of age groups for reporting. EPI may also have a system for reporting this.
117	Number of cases of AFP and confirmed polio reported	Surveillance	Surveillance	The source for the confirmation of polio needs to be defined. EPI program?
118	Number of cases of neonatal tetanus reported	Surveillance	Surveillance	Is this collected by surveillance?
141	% of epidemics detected and contained within he standard limit	Surveillance	Emergency and Humanitarian Action (EHA) directorate and Surveillance	Requires definition of epidemic and standard time for control of each disease (available)
142	Number and percent of sentinel sites that submit regular reports	Surveillance	Surveillance	

No.	Indicator	Source	Directorate	Notes
169	Proportion of malaria epidemics detected that are contained within 2 weeks.	Surveillance	Surveillance program	This is similar to the indicator above for emergency services. It will be qualitatively reported in the emergency services section of the M&E report.

Emergency Aid Directorate:

The Emergency and Humanitarian Action Directorate is responsible for coordinating national and local responses to emergencies and epidemics. Each year they will contact the various states and report to the M&E Directorate about the level of emergency preparedness and functioning of the units at the state and local levels.

No.	Indicator	Source	Directorate	Notes
140	Percent of states/ localities with a functioning units for emergency/epidemics preparedness and response	Emergency and Humanitarian Action (EHA) directorate	Emergency and Humanitarian Action (EHA) directorate	Requires strict definition and checklist of "functioning unit for emergency/epidemic preparedness and response".

Free medical treatment program

This program oversees the free medical care initiative. They will be responsible for tracking this indicator.

No.	Indicator	Source	Directorate	Notes
67	Number of people who were treated abroad, by disease and state	Free medical treatment program	Curative medicine directorate	

2.9. Heath Workforce Survey, Human Resource for Health Observatory, Human Resource Directorate, and National Training Institutes, Curative Medicine Directorate

The HRHO was established in 2007 with support from WHO. The goal of the observatory is to monitor trends in patterns of the health workforce to generate reliable and instant data, information and evidence needed for human resource development. It follows a national health workforce survey that was carried out in 2006, which led to the creation of a HRH database. Its objectives include the establishment of an effective human resource information system (HRIS) based on the functioning health information system of the country. Among its intended outcomes are a detailed country-wide HRH profile with dynamic database, research studies on HRH and health system functions and performance and an interactive e-network accessible via the web. They have published a

quarterly newsletter, *The Observatory Eye*, since 2007. The health workforce survey is to be repeated every five years, but the database is supposed to be kept current through the incorporation of records from the HIS. See section below on Limitations for a discussion of this system.

Human resources: The national HRHO has six permanent staff, two of which are dedicated staff and four are seconded from other departments. The HRHO currently has five State Observatory offices each with two staff.

Funding: Recurrent costs are covered by the FMoH, with costs for specific activities such as training and infrastructure coming from WHO and the Global Health Workforce Alliance.

Information flow: The database includes information on the number of human resources, distribution, age, sex, qualification, and in-service training. It includes all public sector and many private sector workers, and includes names of individual workers. The system is updated through information provided through routine health information system reports from health facilities. As part of monthly routine reporting, health facility workers (either dedicated statistical clerks in health centers or health workers in basic health units) complete a form that includes human resources, including current staff, qualification, gender, continuing education, transfers/new hires and leaving and others. This is sent monthly to the Locality Health Department where it is summarized and all data sent to the State Planning Directorate (including raw data). Here, it is sent quarterly to the Human Resources department where it is summarized and entered into a database by State observatory staff (5 states) and sent electronically to the National HRH observatory. In the other states, paper summaries are done by HR staff and sent quarterly to the HRH observatory to be entered into the national database. To date, seven states have updated their data since the original 2006 survey.

Products: Besides the quarterly newsletter, the NHRH Observatory produces an annual report of core indicators. Beginning in 2010, five states will also produce annual reports (due the end of March 2010).

Limitations: As the HRH Observatory relies on the monthly health facility HIS reports, it suffers from the same weaknesses as the HIS, that is, incomplete reporting and poor quality. In addition, there is no systematic mechanism to update information from the private sector. Much of the information in the database has not been updated since 2006.

Health Workforce Survey:

No.	Indicator	Source	Directorate	Notes
35	National database of HR by categories and location updated annually	Health workforce survey (2006, led to HRH Observatory)	HRH observatory	Updating may be continuous rather than by survey. M&E to assist in develdoping supervsion-based

No.	Indicator	Source	Directorate	Notes
				system to collect data.
40	Number of health workers per 10,000 population by category	Health workforce survey (2006, led to HRH Observatory)	Human Resources Observatory	This combines WHO indicators 1 and 2, Use ISCO classification for worker categories
41	Ratio of doctors to nurses	Health workforce survey (2006, led to HRH Observatory)	Human Resources Observatory	This combines WHO indicators 1 and 2, Use ISCO classification for worker categories
42	Number and percent of outside workers (non-Sudanese) by cadre	Health workforce survey (2006, led to HRH Observatory)	Human Resources Observatory	
43	Number of people who have ever been trained in management systems and leadership and who are still at work.	Health workforce survey (2006, led to HRH Observatory)	Human Resources Observatory	

Human Resources for Health Observatory:

No.	Indicator	Source	Directorate	Notes
39	Updated HR strategy in the past 5 years	Human Resources Observatory	Human Resources Observatory	

Human Resources Directorate:

The Human Resources Directorate maintains employment records, and is able to track hiring and firing of all public sector personnel. The Directorate will report annually directly to the M&E Directorate on the percent of professionals that leave public sector employment each year by category.

No.	Indicator	Source	Directorate	Notes
50	Percent professionals that leave public sector employment each year by category	Human resources directorate	Human Resources Observatory	It will be important to verify that this indicator can be collected by the HR directorate.

National Training Institutes:

The National Training Institutes will report directly the M&E Directorate annually on the number of health sector graduates per year by category. The M&E Directorate will make the calculation of converting this to "per 100,000 population" for the annual report.

No.	Indicator	Source	Directorate	Notes
44	Number of graduates by category per year (and rate per 100,000 population)	National training institutes	Human Resources Observatory	Use ISCED categories of worker for education. Include all cadres, including CHWs and birth attendants.

Curative Medicine Directorate:

The Curative Medicine Directorate oversees the entry of all new health professionals into public sector employment, and therefore, is able to track the number who is hired shortly after completing graduation or internship. This is currently not being gathered, but should be available using currently existing systems and records. The Curative Medicine Directorate will report on this indicator annually directly to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
46	Percent of newly hired professional entrants to the public sector workforce that are hired within the first year after graduation or completion of internship	Curative medicine directorate	Curative medicine directorate	Note that this will require a new data collection system. This information is currently not being collected.

2.10. Sudan Household Health Survey and Rapid Household Survey, and Micronutrients Survey

Sudan Household Health Survey (SHHS):

The national and state-level data generated by the SHHS are expected to help in assessing the current status in relation to some of the key indicators relating to the Millennium Development Goals (MDGs), the World Fit For Children (WFFC) goals, Programme of Action adopted at the International Conference on Population and Development (ICPD), and other internationally and nationally agreed upon goals, as a basis for action. The was first conducted in 2006, and was the first household survey covering the whole of Sudan in two decades. A second survey will be done in 2010. The SHHS is proposed to be repeated every five years.

The SHHS is implemented by the Federal Ministry of Health (FMoH) and the Central Bureau of Statistics (CBS) representing the Government of National Unity (GoNU), and the Ministry of Health (MoH) together with the Southern Sudan Commission for Census, Statistics and Evaluation (SSCCSE), both representing the Government of Southern Sudan (GoSS)

Financial and technical support were provided by the United Nations Children's Fund (UNICEF), Pan Arab Project for Family Health (PAPFAM), the World Food Programme (WFP), the United Nations Population Fund (UNFPA), the World Health Organization

(WHO), the United States Agency for International Development (USAID) and the League of Arab States (AL).

Earlier data on key social development indicators for North Sudan were drawn primarily from the Safe Motherhood Survey (SMS) conducted in 1999 and the Multiple Indicator Cluster Survey (MICS) conducted in 2000

Data entry and editing began simultaneously with data collection. Data entry took place in two locations: in Khartoum from March to May 2006, and in Rumbek from June to August 2006. Using CSPro software, the Khartoum team was comprised of 40 data entry operators, six data entry supervisors, ten data editors and six programmers who entered the data for the fifteen northern states into 40 microcomputers.

The national and state-level data generated by the SHHS are expected to help in assessing the current status in relation to some of the key indicators relating to the Millennium Development Goals (MDGs), the World Fit For Children (WFFC) goals, Programme of Action adopted at the International Conference on Population and Development (ICPD), and other internationally and nationally agreed upon goals, as a basis for action. A consolidated report is prepared, which is available to the M&E Directorate to be incorporated into annual reports.

It should be noted that questions to derive data for some of the indicators that follow may not have been included in the previous SHHS. It will be important in future rounds to guarantee that questions are included that will allow reporting on all of the following indicators. Note also that all of the indicators from the Rapid Household Survey should also be included in the SHHS.

No.	Indicator	Source	Directorate	Notes
23	Two or more data points for child mortality in the past 5 years	SHHS	Preventive medicine and primary health are directorate	I would recommend ONE data point, or use 7 year definition
24	Two or more population-based data points for maternal mortality in the past 5 years	SHHS	Preventive medicine and primary health are directorate	
25	Two or more data points for coverage of key heath interventions in the past 5 years	SHHS	Preventive medicine and primary health are directorate	
95	Under five mortality rate	SHHS	Preventive medicine and primary health care	
96	Infant mortality rate	SHHS	Preventive medicine and primary health care	
97	Prevalence of moderate and severe underweight (children 6-	SHHS	Preventive medicine and	

No.	Indicator	Source	Directorate	Notes
	59 months)		primary health care	
98	Prevalence of severe underweight (children 6-59 months)	SHHS	Preventive medicine and primary health care	
99	Prevalence of moderate and severe stunting (children 6-59 months)	SHHS	Preventive medicine and primary health care	
100	Prevalence of severe stunting (children 6-59 months)	SHHS	Preventive medicine and primary health care	
101	Prevalence of moderate and severe wasting(children 6-59 months) GAM	SHHS	Preventive medicine and primary health care	
102	Prevalence of severe wasting (SAM)(children 6-59 months)	SHHS	Preventive medicine and primary health care	
103	Prevalence of children 6-59 months who are overweight (WAZ > 2).	SHHS	Preventive medicine and primary health care	Suggest increasing the age range, but this would require a broader nutrition survey than is currently undertaken by the SHHS.
104	% of children 0-59 months of age receiving the full nutrition package	SHHS	Preventive medicine and primary health care	Requires a definition of the "nutrition package" and the insertion of appropriate questions into the SHHS. It could be covered by a specific nutrition survey.
106	% of HH consumption of Iodized salt	SHHS	Preventive medicine and primary health care	
109	% of night blindness among children 24 - 71 months of age	SHHS	Preventive medicine and primary health care	
110	% of vit A coverage among children 6 - 59 months within the last 6 months	SHHS	Preventive medicine and primary health care	Also collected by the SHHS
111	% of vit A coverage for mothers in post partum period	SHHS	Preventive medicine and	Can be estimated by HIS if estimated

No.	Indicator	Source	Directorate	Notes
			primary health care	number of deliveries in catchment area is known
121	Maternal mortality ratio	SHHS	Preventive medicine and primary health care	ONLY measured by SHHS due to large sample size needed
122	Neonatal mortality rate	SHHS		WHO definition of perinatal mortality
125	Proportion of pregnant women receiving the full pregnancy package.	SHHS	Preventive medicine and primary health care	Requires a definition of the "pregnancy package" and the insertion of appriate questions into the SHHS.
127	% pregnant women with anemia	SHHS	Preventive medicine and primary health care	This assumes the SHHS will include anemia testing.
128	% Pregnant women received tetanus vaccination	SHHS	HIS	
132	Percent of young girls who have undergone FGM	SHHS	Preventive medicine and primary health care	The indicator comes from the RH strategy 2006-2010, however, appears to be difficult to measure and would be retrospective. Perhaps "intention to cut" would be more acceptable and current, measured by survey.
144	Percentage of women and men aged 15 - 49 who both correctly identify ways of preventing the transmission of HIV and who reject major misconceptions of about HIV/AIDS (By rural and urban) 11% 2006	SHHS	Preventive medicine and primary health care	
145	Percent of youth 15-25 years with more than one sexual partner in the past year who say they used a condom during the last sexual encounter.	SHHS	HIV program	
162	Proportion of homes with at least one insecticide-treated bed net	SHHS	Preventive medicine and primary health care	

Rapid Household Survey:

All of the indicators in the Rapid Household Survey are to also be included in the SHHS. This survey has never been performed, but will be piloted in 2010 in two states. The survey uses Lot Quality Assurance Monitoring, which allows data to be collected and processed rapidly at low cost from a small sample size. The survey will later be decentralized to the States, who will each be responsible for subsequent rounds of data collection annually. Data collection can be integrated into the annual supervision cycle so as to minimize logistics costs. Once each state is able to carry out the survey without FMoH assistance, they will be responsible for reporting the results to the FMoH M&E Directorate directly each year.

No.	Indicator	Source	Directorate	Notes
119	Percent of chidlren 0-6 months of age exclusively breastfed	Rapid household survey	Preventive medicine and primary health care	Also collected by the SHHS
120	Percent of children under five who received integrated package of interventions	Rapid household survey	Preventive medicine and primary health care	Package is: 1) slept under LLITN last night, 2) measles immunization 3) dewormed I the past 6 monthss and 4) vitamin A in the past 6 months.
123	Proportion of deliveries performed by a trained health professional	Rapid household survey	Reproductive health	Trained health professional includes trained midwives. SHHS will also provide this number for triangulation.
124	Proportion of institutional deliveries	Rapid household survey	Reproductive health	In theory, HIS and sentinel sites can provide the numerator. SHHS will also provide this number for triangulation.
130	Antenatal care coverage (1 visit and 4 visits)	Rapid household survey	Reproductive health	Is 1 and 4 visits appropriate. This indicator will also be gathered by the SHHS. Alternative indicator is number of 1st and 4th antenatal care consults per year divided by estimated number of pregnancies through sentinel

No.	Indicator	Source	Directorate	Notes
				sites and HIS.
133	Contraceptive prevalence rate	Rapid household survey	Preventive medicine and primary health care	This definition needs to be ratified by Reproductive Heath program. The definition of "modern method" needs to be clarified, as does the sampling.
163	Proportion of children under 5 who slept under a treated bed-net the night before	Rapid household survey	Preventive medicine and primary health care	
164	Proportion of pregnant women who receive 2 or more doses of IPT during pregnancy	Rapid household survey	Preventive medicine and primary health care	Can also be estimated from sentinel sites and from HIS (numerator). Will also be collected by SHHS for triangulation. Reproductive health may also collect the numerator for this indicator from tne information system.
165	Proportion of children receiving prompt effective antimalarials as needed.	Rapid household survey	Preventive medicine and primary health care	This will also be collected by the SHHS for triangulation.
193	Percent of the population with access to an improved water source	Rapid household survey	Preventive medicine and primary health care	Requires strict definition of "improved water source". Can also be collected by SHHS.
194	Percent of the population with access to improved sanitation	Rapid household survey	Preventive medicine and primary health care	Requires strict definition of "improved sanitation". Can also be collected by SHHS.

Micronutrients survey:

This is a specialized survey undertaken annually by the Nutrition Program under the Preventive Medicine and Primary Health Care Directorate. The information will be reported directly to the M&E Directorate at the national level.

No.	Indicator	Source	Directorate	Notes
105	Urinary iodine excretion rate for	Micronutrients	Preventive	

No.	Indicator	Source	Directorate	Notes
	children 6- 12 years of age	survey	medicine and primary health care	
108	% of iron deficiency anemia among women in child bearing age (Non pregnant)	Micronutrients survey	Preventive medicine and primary health care	Also collected by the SHHS

2.11. National Health Accounts Survey, Public Expenditure Review, and Research Directorate

National Health Accounts Survey:

This survey was done for the first time in 2009 and describes the flow of all funds, public and private, in the health system, and defines channels (agents) through which funds are disbursed and flow. The survey is undertaken by the Health Economics and Research Directorate, which will send its report directly to the M&E Directorate. The survey is scheduled to be repeated every three years.

No.	Indicator	Source	Directorate	Notes
13	Percent of federal and state health budgets expended for research [includes all studies and surveys]	National health accounts survey	Health economics and research directorate	Expenditures of each directorate on research and studies (e.g. NHA, SHHS, etc.) individually collected by research directorate and reported to M&E.
33	National health accounts done in the past 3 years	National health accounts survey	Health economics and research directorate	
48	Percent of total public sector spending that is spent on human resources (salaries)	National health accounts survey	Health Economics Section	
51	Public national (and state) health expenditure as a percent of national (and state) expenditure	National health accounts survey	Health economics and research directorate	
52	Public health expenditure as a percent of GDP	National health accounts survey	Health economics and research directorate	
53	Per capita health expenditure (international dollars, PPP)	National health accounts survey	Health economics and research directorate	Will it be possible to dissagregate this by State?
54	Government expenditure as a % of total expenditure on health	National health accounts survey	Health economics and	NOTE: no household

No.	Indicator	Source	Directorate	Notes
			research directorate	expenditure survey has been done, so denominator may not be available.
55	Actual expenditure on health as a % of planned expenditure	National health accounts survey	Health economics and research directorate	
58	The ratio of out of pocket expenditures for health to total household income	National health accounts survey	Health economics and research directorate	If it Will it be possible to disaggregate this by State
59	Percent of population covered by health insurance (including National Health Insurance and private insurance).	National health accounts survey	Health economics and research directorate	Note: this requires a new effort on the part of the Health Economics Unit-- they have said they can do it.
60	Percent of public health expenditures expended on PHC services	National health accounts survey	Health economics and research directorate	

Public Expenditure Review Survey (PER):

The first every Public Expenditure Review is being undertaken in 2010. It will provide an analysis of the allocation and management of public expenditures for health in general. It is carried out by the Health Economics and Research Directorate, and the report will be available directly to the M&E Directorate which will extract this indicator for reporting. The PER is scheduled to be repeated every two years.

No.	Indicator	Source	Directorate	Notes
5	Percent of government funds expended by level (federal, state and locality levels)	Public expenditure review	Health economics and research directorate	

Research Directorate:

The Research Directorate is responsible for developing the national health research strategy, providing technical input into research proposals and surveys, and for ethical review of national health research. Each ethics committee maintains a database of submissions and results. In addition, the Research Directorate oversees state research departments, including research strategies, ethics committees and database. Finally, the Research Directorate maintains an annotated bibliographic database of all health research carried out in the country. The Research Directorate will collect the following information from states, ethics committees and their own database to report annually to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
14	National and state research strategies exist and up-to-date	Research directorate	Research directorate	Indicators come from interview with Research Directorate about functions and activities
15	Number of research proposals reviewed by ethics committees per year	Research directorate	Research directorate	Indicators come from interview with Research Directorate about functions and activities
16	Number of research proposals submitted to ethics committees each year that address priority research areas (from list of priority research areas defined by the FMoH)	Research directorate	Research directorate	Indicators come from interview with Research Directorate about functions and activities
17	Number of research proposals submitted to the various ethics committees that are approved in the first round each year.	Research directorate	Research directorate	Indicators come from interview with Research Directorate about functions and activities
18	Number of functioning ethics committees (all levels and institutions)	Research directorate	Research directorate	Indicators come from interview with Research Directorate about functions and activities
19	Number of searches on the National Research Database per year	Research directorate	Research directorate	Indicators come from interview with Research Directorate about functions and activities

2.12. EPI Program and EPI survey

EPI Program:

The EPI Program is within the Preventive Medicine and primary Health Care Directorate at the national level, and within the Planning Directorate at the state level. The EPI program has its own vertical information system that reports on doses of vaccine administered and which can be used to calculate coverage for immunization.

HIS registers are filled in on weekly bases at facility level by a vaccinator or an operation officer. Each locality submits a monthly report to the locality operation officer. All monthly reports from the localities are compiled into one report that is submitted monthly to the state assistant officer who then sends a report to the surveillance officers at the

Expanded Program on Immunization sections at the national level. Local data are recorded on paper forms. Information is computerized either at the locality or state level. A system for feedback exists in the form of meetings from the state to locality and centers, but through written feedback from the higher levels to the lower levels. The data are not collected by health workers dedicated to the program. A system of data auditing and supervision for completeness and accuracy assures data quality. The National EPI program produces a summary report at the end of each year.

The relatively high quality of the information from the routine dedicated EPI reporting system is compromised somewhat by inaccurate population information to be used as denominators, and is therefore of limited utility in calculating coverage. This may change once the new census data become available.

The EPI program undertakes regular EPI surveys (annually) to verify coverage from a sample of households. In addition, the SHHS includes indicators for EPI, which provides verification from an even larger sample. For the purpose of annual FMoH reporting, the EPI survey will serve as the primary source of information, with confirmation using the SHHS at 5-year intervals. Annual reporting to the M&E Directorate is the responsibility of the national EPI Program.

No.	Indicator	Source	Directorate	Notes
11	Existence of an updated comprehensive multi-year plan for child immunization	EPI program	Preventive Medicine and Primary Health Care Directorate (Planning directorate in States)	

EPI Survey:

No.	Indicator	Source	Directorate	Notes
114	Proportion of children immunized against measles	EPI survey	EPI	This indicator is also measured through HIS, EPI routine data and SHHS and the rapid household survey. These can be used to triangulate the data.
115	Proportion of children under 12 months of age immunized with DTP3, HepB3, and Hib3 and fully immunized.	EPI survey	EPI	This indicator is also measured through HIS, EPI routine data and SHHS and the rapid household survey. These can be used to triangulate the data. Requires definition of "fully immunized".

2.13. Tuberculosis Program

Like many other vertical programs, the TB program has its own specific vertical information system. Data are collected on specific forms at the health facility level (and during screening sessions). These are consolidated at the locality and again at the State level. In some areas, data are entered into computerized form at the locality level, and at the state level in the remaining areas. The TB program also has supervision and data regular auditing procedures to guarantee quality. The TB program will report the following indicators annually directly to the M&E Directorate after approval of the Preventive Medicine and Primary Health Care Directorate.

No.	Indicator	Source	Directorate	Notes
172	The proportion of people screened for TB that are slide-positive	TB program	TB program	
173	Proportion of people beginning TB treatment that complete treatment.	TB program	TB program	
171	Case detection rate for TB (per 100,000 and % of estimated)	Tuberculosis program	Tuberculosis program	
174	Cure rate	Tuberculosis program	Tuberculosis program	Requires strict definition of cure (there is international definition)
175	Percent of TB patients with HIV testing	Tuberculosis program	Tuberculosis program	This indicator is a percent. The absolute number is not so useful.
176	Population covered by DOTS	Tuberculosis program	Tuberculosis program	

2.14. Malaria Program

The malaria program also has its own vertical information system that is parallel to the HIS. The program has its own M&E framework and designated M&E staff at federal and state levels. In addition, the malaria program employs a sentinel site system for routine data collection of key indicators in order to maintain quality and completeness of data. In addition, the program relies on routine national surveys as well as special surveys for some indicators (such as bed-net use). The malaria program will report annually on the following indicators directly to the M&E Directorate after approval by the Preventive Medicine and Primary Health Care Directorate.

No.	Indicator	Source	Directorate	Notes
9	National and state malaria strategy that includes drug efficacy monitoring, vector control and insecticide resistance monitoring	Malaria program	Malaria program	
93	Case fatality rate for in-patient	Malaria program	Malaria	This may be

No.	Indicator	Source	Directorate	Notes
	malaria		program	collected from sentinel sites or HIS if these are functioning properly. Until then, the malaria program should collect this indicator from patient registries in facilities.
168	Percent of states with a well functioning Malaria control Directorate	Malaria program	Malaria program	Strict definition and criteria for "functioning malaria control directorate" must be developed, and checklist applied. [malaria program has criteria]
170	Number of long-lasting insecticide treated mosquito nets imported and distributed	Malaria program	Malaria program	This measures an expensive imported input that is essential to the program.
160	Incidence of malaria per 100,000 population	Malaria program sentinel sites	Malaria program	Requires that access to facilities be excellent and that ALL presumptive cases are tested.
161	Fatality rate due to malaria per 100,000 population	Malaria program sentinel sites	Malaria program	Requires that access to facilities be excellent and that ALL presumptive cases are tested.

2.15. Sudan National HIV/AIDS Program (including routine data and sero-prevalence survey)

As with the malaria program, the National HIV/AIDS Program has its own M&E framework and M&E staff at the federal and state levels. It also uses a vertical information system to collect routine service data. In addition, the HIV/AIDS program relies on national surveys (SHHS, for example) as well as special surveys (sero-prevalence surveys, for example) to collect information for the HIV/AIDS indicators. Finally, the HIV/AIDS Program consolidates information from other sources, including blood banks and social programs (e.g. OVC support) to complete the data for its M&E framework. The indicator set that follows represents a subset of the national M&E framework, and therefore, is already being collected by the program.

The HIV sero-prevalence survey is carried out annually in selected sites nationwide on a sample of otherwise healthy women seeking antenatal care. Testing is anonymous. The results are then used in modeling programs, such as Spectrum, to estimate HIV prevalence in pregnant women as well as the population in general. The HIV/AIDS Program will report annually directly to the M&E Directorate on the following indicators after approval by the Preventive Medicine and Primary Health Care Directorate.

No.	Indicator	Source	Directorate	Notes
143	HIV prevalence among pregnant women attending ANC clinics	HIV sero-surveillance survey	HIV program	
12	Completion of the HIV/AIDS Composite Policy Index questionnaire	HIV/AIDS program	Preventive Medicine and Primary Health Care Directorate	
86	Number and percent of blood banks (public and private) that test all blood for HIV according to national protocols	HIV/AIDS program	HIV program	Requires strict definition of "national protocol", as well as a schedule (and budget) for supervision of blood banks.
146	Total number of condoms imported in the previous year (all sources)	HIV/AIDS program	HIV program	
147	Number of condoms distributed through free distribution	HIV/AIDS program	HIV program	
148	Number of clients (By age & sex) received HIV test results and post test counseling	HIV/AIDS program	HIV program	
149	Number of testing sites of all types (number and per 10,000 population)	HIV/AIDS program	HIV program	This will help measure workload and distribution. Should include VCT, PMTCT and diagnostic testing sites.
150	Number and percent of pregnant women who received HIV test results and post-test counseling	HIV/AIDS program	HIV program	The rate estimates coverage, the number estimates workload.
151	Number of HIV-infected pregnant women who received a complete course of antiretroviral prophylaxis.	HIV/AIDS program	HIV program	This indicator should be analyzed with the previous two indicators to arrive at an estimate of the proportion of infant HIV infections averted per year.
152	Number of people with advanced HIV infection	HIV/AIDS program	HIV program	

No.	Indicator	Source	Directorate	Notes
	receiving ACT therapy			
153	Number of people among most-at-risk target populations reached through BCC/counseling session(s) (By target population)	HIV/AIDS program	HIV program	New indicator being proposed by HIV program for 2010
155	Number of OVCs whose household received free basic external support in caring for the child.	HIV/AIDS program	HIV program	New indicator being proposed by HIV program.
156	Number of PLWHIV receiving home-based and community based care	HIV/AIDS program	HIV program	This number should be analyzed together with the total number of people receiving treatment with ARVs
157	Number of government sector(s) and private sector with a functional HIV/AIDS unit and has strategic plan with a budget for HIV/AIDS	HIV/AIDS program	HIV program	
158	Amount of public and external funds disbursed and utilized by all the other partners for the HIV/AIDS programmes and activities (Disaggregated by disbursed & utilized in US Dollars	HIV/AIDS program	HIV program	Requires a NASA study (National AIDS Spending Assessment)

2.16. Non-communicable disease program and Risk Factor Survey

NCD Program:

Most information for the NCD program comes from specific periodic surveys. M&E for the program is the responsibility of the Head of the NCD Program Division at the national level, and the state NCD coordinator at the state level. Although the department is supposed to work with 15 diseases, recourses limit it to seven at the present time (diabetes, hypertension, cancers, asthma, cardiovascular disease, mental health, and injuries). Data for the program is derived from the SHHS, periodic knowledge, attitude and practices survey, and a specific Risk Factor Survey. The Risk Factor Survey has been performed only in Khartoum state once in 2006, but is scheduled to be repeated every five years. This survey is a household survey using a cluster sampling design. Data were computerized at the state level and transmitted to the federal level for analysis and reporting.

In addition to the survey-based information, 25 health centers in North Kordufan, White Nile, Blue Nile and Sinnar are implementing a diabetes care and prevention program and

provide some routine program data through a parallel vertical information system that first goes to the state NCD coordinator and then to the Federal NCD Division office.

The NCD Division will collect information on the indicators below and report annually directly to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
185	Prevalence of symptomatic non communicable diseases: diabetes, cataract, asthma	NCD survey	NCD program	Note that this alters the previous indicator slightly to only include symptomatic prevalence. Many NCD cannot be detected without testing. Added cataract and asthma.
187	Proportion of schools enrolled in school health programme	Non-communicable disease program	NCD program	This indicator may best come from the Ministry of Education?

Risk Factor Survey

No.	Indicator	Source	Directorate	Notes
26	One or more data point on smoking and adult nutrition status in the past 5 years	Risk-factor survey	Non-communicable disease directorate	Get baseline and target from non-communicable disease directorate. Last risk-factor survey was 2005.
186	Prevalence of NCD risk factors: Tobacco use, snuffing, alcohol use, obesity, hypertension	Risk-factor survey	NCD program	This must be included either in the NCD survey or the SHHS. Note that it requires measurement of blood pressure to identify hypertension.

2.17. Filariasis, Guinea worm, Schistosomiasis, Leishmaniasis, and Leprosy Programs

Monitoring and evaluation for the Lymphatic Filariasis Elimination Program is done through surveys of antigenemia as well as the collection of qualitative data for determination of adequate prevention and control measures. The program functions under the supervision of a federal level Program Manager. A unique sampling method is used for the survey data collection. Data is collected from each locality, from which two villages are selected. From each village 50 persons are selected for testing. If the prevalence is found to be 20% or more the whole locality is considered as endemic. If the prevalence is less than 20%, another 50 people are selected for testing using the same

method. If the prevalence is less than 10% a check village is selected and the prevalence is recorded.

The program prepares an annual report which is submitted to WHO and other donor as well as feedback to lower levels. The program has donor-specific funding, and the future of the program depends on this external funding. An annual report on the indicators below will be submitted directly to them M&E Directorate.

The Guinea Worm Program is active in seven states. It uses active surveillance by survey methodology using dedicated staff that visits villages in areas that are suspected to have cases of Guinea worm. The results of the Guinea worm surveillance will be reported to the M&E Directorate annually by the program.

The Schistosomiasis Program is primarily a surveillance and treatment program. M&E is carried out through surveys of school children, and the results of the surveys are summarized in the program's annual report. The Schistosomiasis Program will report on their single indicator annually directly to the M&E Directorate.

The Leprosy Program also carries out surveillance, using both the national surveillance system described above as well as trained program officers that do case-finding. The results of the surveillance are reported annually to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
181	Percent of population with lymphatic filariasis.	Filariasis survey	Lymphatic filariasis program	Communities are classified by % of infected (<10%, 10-20%, >20%, etc.)
182	Number of localities with a prevalence of filariasis of less than 1%	Filariasis survey	Filariasis program	
180	Number of new guinea worm cases reported	Guinea worm surveillance	Guinea worm program	
183	Number of new cases of leprosy detected (and per 10,000 population)	Leprosy program	Leprosy program	
184	Number of localities which report less than one case of Leprosy/10.000 of population	Leprosy program	Leprosy program	
179	Number of new leishmania cases detected and treated	Leishmaniasis surveillance	Leishmaniasis program	
178	Schistosomiasis prevalence among school children	Schistosomiasis survey	Schistosomiasis program	

2.18. Mental Health and Dental Health

Both the Mental Health and Dental Health programs function in a limited number of facilities. The Mental Health Program has recently carried out a situation assessment using the Assessment Instrument for Mental Health System (AIMS), and is able to report

the results to M&E. As the indicators here refer only to number of facilities offering the full essential package for each program, the Federal level programs will report annually directly to the M&E Directorate.

No.	Indicator	Source	Directorate	Notes
188	Essential package of mental health services developed	Mental health program	Mental health program	
189	Number of facilities with mental health services	Mental health program	Mental health program	
190	Number of health facilities offering essential package of dental health services	Dental health program	Dental health program	This indicator presumes that a "mimimum package of dental health services". If there is not, one should be developed. If not, suggest measuring those facilities that can perform at least fillings and extractions.

2.19. International Health Directorate together with State Health Information Center

The International Health Directorate at the federal level and the State Health Information Center at the state level are responsible for monitoring the activities of NGOs in their respective areas. There is currently no systematic M&E system for monitoring the activities of the private sector, but this is in the development stages. These will attempt to capture data from private sector through licensing and accreditation bodies. At this time, these are functional only in Khartoum State.

Indicator number 30, "Percentage of states that submit timely, accurate and complete reports on health facilities from the private sector annually" and indicator number 34, "National database with public and private sector health facilities and geocoding available and updated in the last 5 years will also track private sector data completeness. Data will be reported directly from the International Health Diretorate to the M&E Directorate annually.

No.	Indicator	Source	Directorate	Notes
191	Percent of all outpatient consults performed by private and non-profit facilities.	International Health	International Health + SHIC from licensing bodies	This indicator presumes that private sector facilities report. See section on information on indicator for completeness of reporting and mapping.
192	Percent of hospital beds provided by private and NGO	International Health	International Health + SHIC	This indicator presumes that

No.	Indicator	Source	Directorate	Notes
	sectors.		from licensing bodies	private sector facilities report. See section on information on indicator for completeness of reporting and mapping.

3. Information products

3.1. Annual M&E report

The principal product of the M&E Directorate is the Annual M&E Report. This will be produced by the M&E Directorate at the end of each year, within the first 90 days of the following year based on data reported by each of the data systems described above. The report will have the following format:

1. **Introduction and acknowledgements**
2. **Executive summary**
   It is brief summary of the most important conclusions and recommendations from the report, no more than two pages.
3. **Map**
4. **New Policies and briefs**
   This section will address qualitative indicator number No. 2: "Key public sector health policies, laws and strategies prepared and approved that have a significant impact on health". It will also include a comment on how these policies are expected to impact health services.
5. **Strategies endorsed**
   This is similar to the previous section, but for strategies. It will also include commentary on the expected impact on the health sector and health services.
6. **Surveys briefs**
   This section will include a description of important surveys carried out during the year, and a summary of the results and implications for each of them.
7. **Surveillance (outbreak containment briefs)**
   This section will describe significant disease outbreaks reported by the Surveillance System and describe efforts and results of containment. This addresses indicator No. 141: "% of epidemics detected and contained within he standard limit".
8. **Indictors (tables and graphs)**
   This section will be the largest section of the report, and will contain information for all indicators that can be reported. This section will also include analysis and conclusions in each sub-section. It will follow the format of the 5-Year Plan. A second section will list those indicators for which data are not available and

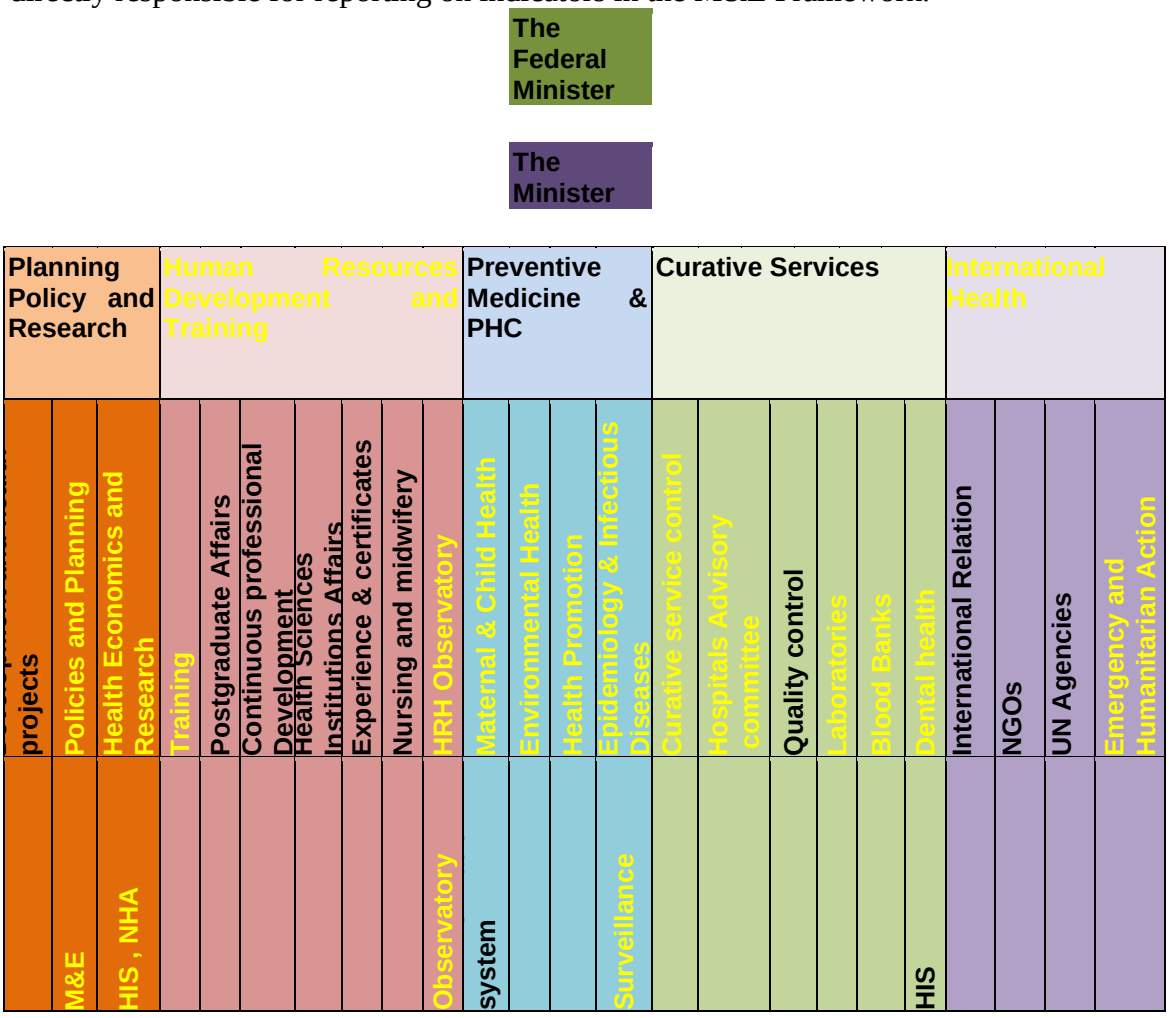
describe the strategies that will be used to attempt to collect the information for the next annual report.

9. **Budget balance (general categories with government and donors)**
   This section will be prepared by the finance department and will be added to the annual report.
10. **Research done(major 1or 2)**
    This section will be prepared by the Research Department and will summarize the results of several of the most important research projects completed during the previous year, including comment on their implications for the health sector.
11. **States (1-or 2 briefs)**
    This section will include a brief on activities and significant results in one or two states, with a focus on health systems development and improvements in coverage, and unique or significant new initiatives or results.

Other reports and special publications will be produced on an *ad hoc* basis.

C. Management

As is clear from the earlier sections, the M&E Directorate and the M&E system will depend on a large variety of data sources from almost all directorates in the Federal Ministry of Health, plus some state level entities as well as organizations and entities outside the FMoH. The following diagram illustrates the organizational structure of the FMoH and highlights (in yellow) those directorates, programs and directorates that are directly responsible for reporting on indicators in the M&E Framework.



1. *Data flow*

1.1. Between directorates and directorates

Data flow between the various entities responsible for reporting to the M&E Directorate on the National FMoH M&E Framework indicators will be assured by two mechanisms:

1. For data sources within the Ministry of Health at all levels, a directive will be issued by the Undersecretary Council endorsing the M&E Framework and obligating all relevant directorates and directorates to report according to their responsibilities under the Framework.
2. For entities outside the Ministry of Health, the M&E Directorate will negotiate memoranda of understanding with the various data sources in order to guarantee timely and accurate reporting.

The M&E Directorate will develop reporting tools and formats to be used by each data source, and will be responsible for instructing them on how to complete these forms, report timing and the procedure for submitting reports.

Each directorate will determine the appropriate data flow pattern for its respective directorates and data sources. While it is recognized that data would ideally flow through channels of authority, that is, upward to the head of each respective directorate and then back down through the Directorate of Policy, Planning and Research to the M&E Directorate (green option in the illustration below), it is also recognized that, due to weaknesses in M&E capacity at some levels within directorates, the simplest and most efficient means of communication will be directly from the source of data to the M&E Directorate (red option in the illustration below). As M&E capacity grows within each directorate, it is expected that these direct paths will gradually shift to transmit reports via the heads of the respective directorates.

Different paths for information flow within the Federal Ministry of Health

- Green Path: follows defined channels of authority
- Red Path: direct communication from data source to M&E Directorate

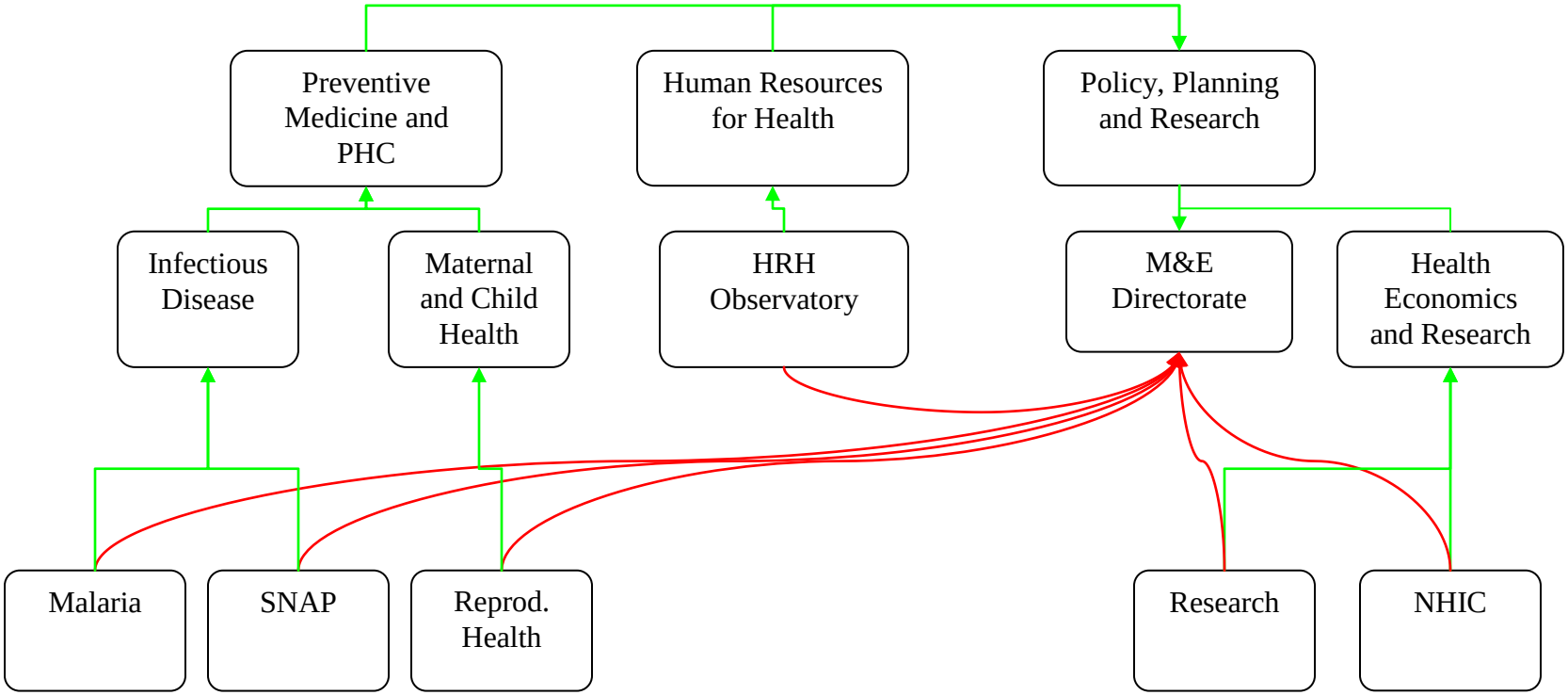


Figure 1: Information flow within the FMoH

1.2. Between State and Federal levels

The vast majority of the information needed to monitor the health system comes from lower levels in the health system (facilities, localities and states), and it is essential to define how information will make its way from the lower levels up to the FMoH M&E Directorate. Each state will have an M&E Directorate mirroring that at the federal level, staffed with two trained M&E officers who will have responsibilities analogous to those at the federal level. Ideally, each state's M&E Directorate will be responsible for collecting, analyzing and reporting on their respective M&E frameworks, and should, therefore, be able to provide quality state level data for relevant federal M&E indicators. However, as with the data flow within the FMoH described in the previous section, it is recognized that it may take some time to develop the capacity of state M&E Directorates to be able to collect, analyze and report in an accurate, complete and timely manner. Therefore, much of the information will continue to flow vertically through the various state health programs to their counterparts at the federal level, where the information will then be reported to the Federal M&E Directorate. As with the information flow within the FMoH, it is expected that with the gradually increasing capability of state M&E directorates to report, vertical information flow will become less important. Meanwhile, the dual system will serve as a means to evaluate the capacity of state M&E directorates. The following diagram illustrates the two different paths for information.

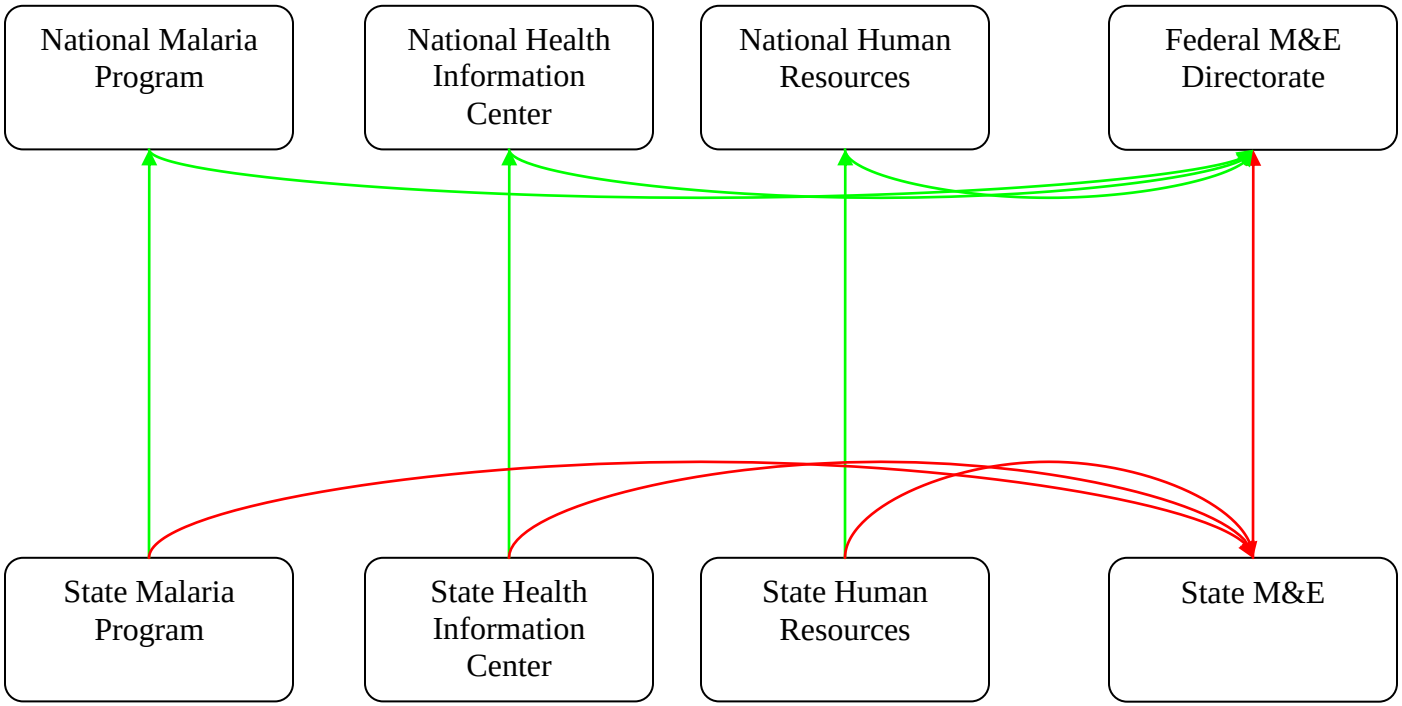
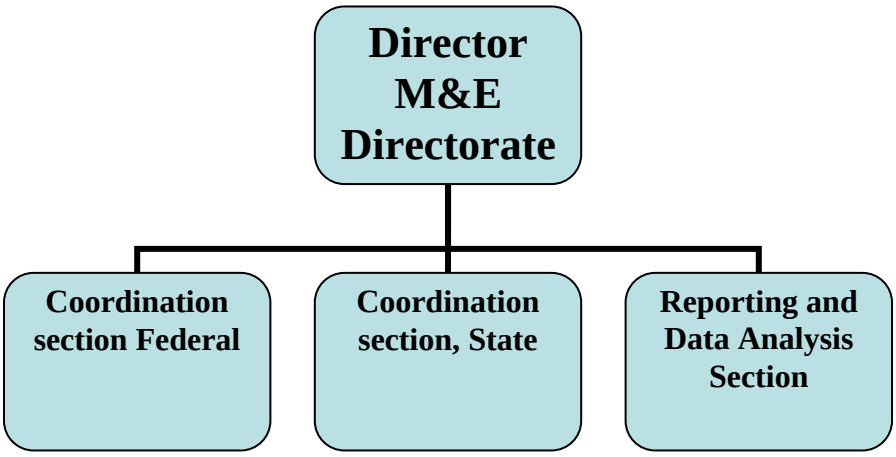


Figure 2 Information flow from state to federal levels

2. Structure and Human Resources for the Federal and State M&E directorates

The Federal M&E Directorate is in the process of being upgraded from a Section to a Directorate. This will elevate its profile and increase its authority and mandate to collect, analyze and report information for the M&E Framework. The M&E Directorate will necessarily work very closely with the National Center for Health Information, which should be responsible for providing a large proportion of the indicators in the M&E Framework (it is providing information for few indicators at the present time due to the proliferation of vertical programs and vertical information systems).

It is proposed that the Federal M&E Directorate should have four full-time positions with the following structure and functions:



Director of M&E functions:

- Supervise the overall functioning of the M&E Department and staff
- Oversee revision of national M&E Framework and Work plan annually
- Coordinate the revision of 5-year policy (together with the Information Council and other stakeholders)
- Prepare terms of reference for technical assistance and other procurement
- Serve as the lead contact with other departments and represent the M&E Directorate in ministry and other meetings
- Oversee financial resources and budget for M&E

Coordination Section:
Federal:

- Maintain regular contact with entities, departments and directorates that are responsible for reporting
- Lead the design of the new sentinel sites information system
- Lead the design and implementation of the new Rapid Health Facility Assessment (Health System Observatory)

- Lead and oversee the pilot of Rapid Survey Techniques
- Advocate for the importance of M&E to all managers and decision makers
- Oversee the design of training curricula for M&E for other data sources and states
- Oversee the development of the M&E course for state and federal M&E officers
- Provide training for other data sources in M&E and reporting
- Develop the data use manuals for training state and local M&E officers

State:

- Maintain regular contact with entities, departments and directorates that are responsible for reporting
- Develop supportive supervision and data audit manuals
- Train state M&E officers together with the HR Assistant officer
- Provide training of trainers for State and Locality M&E officers
- Train and oversee implementation of new M&E systems (rapid survey, supervision / rapid HFA, sentinel sites)
- Provide regular supportive supervision to state M&E officers and develop supervision systems for state M&E officers to supervise locality and facility M&E
- Support state M&E officers in data collection, analysis and reporting
- Provide data auditing and supportive supervision
- Support development and regular revision of State M&E Frameworks and M&E Work Plans
- Oversee annual reviews at State level
- Provide training and feedback to State M&E officers about results of national surveys and M&E results, policy, guidelines, etc. as needed.

Reporting and Data Analyses section:

- Develop and feed the electronic data base for the health system with other partners
- Develop reporting guidelines
- Process the data entry and analyses using suitable programs
- Report to Information Council quarterly
- Prepare the annual report and other reports
- Design the reporting formats for the various data sources
- Train and orient other departments and entities to reporting requirements
- Provide data to M&E Department Head for reporting

The three M&E officers in the department need necessarily be filled by new staff. Additional staff, for example, an M&E Training Officer could be seconded from the Continuous Professional Development Department or Training Department in human resources.

State M&E Departments will consist of two M&E officers, a head of M&E, who combines the functions of the Federal Head of M&E. The other officer has the functions of the M&E coordinating officers and data analysis ane reporting. As the FMoH will be responsible for developing the training and supervision materials, reporting formats, and

will assist with organizing training courses, state level M&E officers will spend more time on direct M&E functions and less on systems development and training than their federal counterparts.

3. Management of M&E: The M&E Federal Coordination Group and the Information Council

The development and management of the national M&E system will require a collaborative effort; it cannot be accomplished by the M&E Directorate alone. In addition, considerable resources are available to support M&E outside the M&E Directorate. The NCIS has long experience in data collection and management and oversees a large number of human resources and physical infrastructure in addition to the IT department capacity. In addition, considerable technical resources exist between the various partners, most notably the NCIS, vertical programs (especially the HIV/AIDS program, malaria, tuberculosis and reproductive health programs), and development partners including WHO.

The M&E Federal Coordination Group will serve as the mechanism to coordinate these resources to support the development and functioning of the M&E System. It will include technical M&E staff from key vertical programs, departments and directorates and development partners as well as other key M&E resources outside the FMoH. The primary task of the group is to oversee the implementation of the M&E workplan that was prepared at the same time as this framework. The group reports quarterly to the Information Council, which serves as the policy and decision-making body for the group.

The Information Council's primary functions are to set policy and oversee the work of the coordination group. It is formed by key managers and decision-makers in the FMoH and receives regular reports from the M&E coordination group. The relationship between the two bodies and their key responsibilities are outlined in the following figure. Full terms of reference for both bodies are found in the annex.

ANNEX: Terms of reference for Information Council and Federal Coordination Group

Terms of Reference for the Sudan FMoH Information Council

Background
During the year 2010, the FMoH has been working to improve capacity in monitoring and evaluation for its programs. In addition, a significant increase in resources available for strengthening Monitoring and Evaluation systems will become available in the coming months, including funds from the GFATM, GAVI, WHO/Health Metrics Network and World Bank/DHSDP. Toward that end, the FMoH has solicited technical assistance to draft a FMoH M&E Framework and Work Plan to guide these efforts. The Information Council has been overseeing M&E activities in the FMoH for several years.

A federal Coordination Group for Monitoring and Evaluation under the coordination of the FMoH M&E Directorate, General Directorate of Policy, Planning and Research will be established under these Terms of Reference to oversee the implementation of the M&E Work Plan. The FMoH Information Council will assume the primary oversight and policy guidance for the M&E Federal Coordination Group.

Mandate
The primary mandate of the FMoH Information Council to provide policy and planning oversight for the M&E TWG, who, in turn, will oversee the day-to-day implementation of the M&E Work Plan. The Chair of the M&E Federal Coordination Group will report quarterly to the Information Council on progress toward the implementation of the M&E Work Plan, constraints and conflict.

Responsibilities
- Review progress made toward the implementation of FMoH rolling annual M&E Work Plan according to quarterly reports from the M&E Federal Coordination Group.
- Provide oversight for the implementation, ensuring that the plan is implemented in accordance with the National Health Policy and Strategy.
- Provide guidance on prioritization of activities to be implemented, including guidance on direction and alternatives when resources are limited.
- Mediate and coordinate in those situations when conflicts arise between entities agencies with regard to M&E.
- Identify and mobilize resources for M&E
- Provide regular reporting on the progress of M&E implementation and the state of the health system.
- Review all procurement requests for M&E including terms of reference for technical assistance.
- Oversee and ensure all national and international reporting commitments
- Ensure that the FMoH and other relevant agencies are in compliance with International Heath Regulations.

- Provide general oversight for the planning of the annual Joint Review and 5-yearly reviews of the 5-year Strategy.
- Oversee the revision of the 5-year Health Strategy.
- Develop effective mechanisms to ensure evidence-informed policy-making.
- Advocate for the relevance and common understanding of M&E at all levels
- Provide policy and implementation input into the relative roles and responsibilities of the decentralization process with respect to M&E, planning and policy.

Responsibilities of the Members of the Information Council

Members:

- Will provide regular feedback to their respective directorates and agencies on matters discussed at the Council meetings.
- Will serve on taskforces and sub-committees for the Information Council as needed.

Meetings

- The Information Council meets quarterly with meetings being booked no less than 2 months in advance.
- Extraordinary and *ad hoc* meetings may be called by the chair, may be requested by any member of the Information Council or at the request of the M&E TWG as the need arises. Members are requested to schedule these meetings with at least two weeks advance notice if possible.
- The venue of the meeting will be at the discretion of the members.

Sub-committees and taskforces

- The Information Council may establish sub-committees and/or taskforces as needed according to its mandate.
- Sub-committees and/or taskforces may include regular Information Council members, but may also include other members with special skills or expertise as appropriate.

Membership

The membership of the Information Council

Depending on the objectives of a particular meeting or subject matter to be discussed, outside experts may be invited. The Information Council will be comprised of the following members.

Name	Position and entity/directorate	Contact

Name	Position and entity/directorate	Contact

Terms of Reference for the Sudan FMoH Monitoring and Evaluation Federal Coordination Group

Background

During the year 2010, the FMoH has been working to improve capacity in monitoring and evaluation for its programs. In addition, a significant increase in resources available for strengthening Monitoring and Evaluation systems will become available in the coming months, including funds from the GFATM, GAVI, WHO/Health Metrics Network and World Bank/DHSDP. Toward that end, the FMoH has solicited technical assistance to draft a FMoH M&E Framework and Work Plan to guide these efforts. A Technical Working Group for Monitoring and Evaluation (M&E TWG) under the coordination of the FMoH M&E Directorate General Directorate of Policy, Planning and Research will be established under these Terms of Reference to oversee the implementation of the M&E Work Plan.

Mandate

The primary mandate of the M&E FCG is to provide oversight, coordination and regular reporting on the timely implementation of the FMoH M&E Work Plan. The M&E FCG will be chaired by the head of the FMoH M&E Department. The FCG will conduct the following activities to fulfill its mandate:

Responsibilities

- Review progress made toward the implementation of FMoH rolling annual M&E Work Plan
- Regularly report progress on implementation of the M&E Work Plan to the Information Council.
- Ensure national and international reporting commitments.
- Work to harmonize indicators and procedures between the various entities and departments.

- Review and update the M&E Framework and Work Plan as appropriate.
- Prepare terms of reference for national and international technical assistance as stipulated in the M&E Work Plan
- Designate sub-committees and taskforces as needed to complete discreet tasks, such as planning the Joint FMoH annual review.
- Facilitate the provision of and provide guidance in terms of collection of data from all data sources
- Provide input into the format and contents of FMoH M&E system information products
- Review the dissemination channels and stakeholders for FMoH information products
- Provide technical input to improve the functioning of the routine HIS and sentinel surveillance system for routine data collection.
- Coordinate and provide input into the planning process for the Joint Annual Review
- Provide updates and coordination for M&E activities of other departments and entities.
- Provide guidance on human resources and M&E training needs of the various departments and entities that provide input into the M&E framework.
- Provide technical support about new developments and best practices in M&E, including
- Coordinate technical assistance resources for M&E so as to take maximum advantage of these resources for all programs in the FMoH, states and localities.
- Identify and mobilize financial and other resources to support M&E
- Refer relevant information to the Research TWG for discussion and prioritization.
- Advise on the maintenance of the M&E database, research database, and websites.
- Advocate for the relevance and common understanding of M&E at all levels

Responsibilities of the Members of the M&E FCG

Members:

- Will provide regular feedback to their respective departments and agencies on matters discussed at the TWG meetings.
- Will serve on taskforces and sub-committees for the M&E TWG as needed.
- Will attend regular and extraordinary meetings.
- Will assist in coordinating the M&E activities of their own departments and entities with those of the FMoH M&E Framework and Work Plan.

Meetings

- The M&E FCG will meet monthly with meetings being booked no less than 2 months in advance.
- Extraordinary and *ad hoc* meetings may be called by either the chair or may be requested by any member of the M&E TWG as the need arises. Members are requested to schedule these meetings with at least two weeks advance notice if possible.
- The venue of the meeting will be at the discretion of the members.

Sub-committees and taskforces

- The M&E FCG may establish sub-committees and/or taskforces as needed in order to advance the implementation of the M&E Work Plan.
- Sub-committees and/or taskforces may include regular M&E FCG members, but may also include other members with special skills or expertise as appropriate.

Membership

The membership of the FMoH M&E FCG will be drawn from a variety of departments and entities and will represent a broad range of disciplines necessary for informing the M&E process. Depending on the objectives of a particular meeting or subject matter to be discussed, outside experts may be invited. The M&E FCG will be comprised of the following members.

Number	Position and entity/department	Contact
1.	Head of FMoH M&E Directorate	
2.	Federal Coordination Officer M&E Directorate	
3.	National Health Information Center	
4.	M&E focal person International health	
5.	M&E malaria	
6.	M&E HIV/AIDS	
7.	M&E Reproductive Health	
8.	M&E TB	
9.	Information Officer EPI	
10.	Non-communicable disaeases	
11.	Curative medicine (M&E focal point)	
12.	Research section	
13.	Planning department, GDPPR	
14.	M&E officer Khartoum State	
15.	Surveillance	
16.	WHO	
17.	Human resources observatory	
18.	Pharmacy department	
19.	M&E focal person military health	
20.	M&E focal person police health	

Number	Position and entity/department	Contact
21.	M&E officer for DHSDP	
22.	Health Education Department	
23.	Large NGOs	
24.	UNICEF	
25.	UNFPA	

ANNEX: Indicators and definitions

See master Excel spreadsheet with indicators for this section. It is too wide to include in an MS-Word document.