THE REPUBLIC OF SUDAN

Federal Ministry of Health

Sudan Health Sector

2016 and 2017 Joint Annual Review Report

November 2017

TABLE OF CONTENTS

Abbreviations and Acronyms

AWD	Acute watery Diarrhoea
CHWs	Community Health Workers
CMAM	Community Management of Acute malnutrition
CPD	Continued Professional Development
CSOs	Civil Society Organizations
DPs	Development Partners
EDC	Effective Development Cooperation
FHCs	Family Health Centres
FHUs	Family Health Units
F/SMOH	Federal/State Ministry of Health
Gavi	Global Alliance for Vaccine and Immunization
HACT	Harmonized Approach for Cash Transfer
HRH	Human Resource for Health
I/NGOs	International/Non-government Organizations
JAR	Joint Annual Review
MIC	Ministry of International cooperation
F/SMOF	Federal/State Ministry of Finance
NHCC	National Health Coordination Council
NHIF	National Health Insurance Fund
NHSSP	National Health Sector Strategic Plan
NMSF	National Medical Supplies Fund
OPP	Out-of-pocket
PHI	Public Health Institute
PHUs	Primary Health Care Units
TWG	Technical Working Group
UHC	Universal Health Coverage

Acknowledgement

The Joint Annual Review team would like to thank the health sector oversight committee and the Joint Annual Review (JAR) Technical Working Group (TWG) for their leadership and guidance. They were able to mobilize three times as much JAR members as initially proposed. This has greatly helped to ensure the findings and recommendations of this JAR to be driven by large pool of experts drawn within the sector. They provided valuable comments during the development of the methodology as well as on the draft report that has improved the quality of the review process and as well as this report.

We are also grateful for the honest and critical responses we obtained from all our interviewees at national, state, locality and facility levels that helped us to outline the real successes and challenges as perceived by sector stakeholders. Without their high involvement and honest views, this report wouldn't have taken the shape and form it has now.

We would like to thank WHO not only for its active involvement in the all the teams but for its effort, unlike other countries, to follow up the quality of the process on daily basis and documenting the best practices and challenges by establishing an operation room. This had helped to follow the day-to-day activities of each team and share process challenges and successes and is expected to help improve the quality of the future JAR process and institutionalise it in the system.

We would also like to thank the Global Fund and WHO for financing the different aspects of this JAR process.

The 2016 and 17 Joint Annual Review Team

Summary of JAR findings and Recommendations

The main objectives of the JAR process were to: (i) institutionalize the JAR process; and (ii) undertake and produce the first JAR report, conduct the first JAR review meeting, and develop action plans to inform the development of the 2018 plan and budget. The JAR used a mixed method approach for data collection and analysis. The data collection methods include, among others, review of documents, quantitative data analysis, key informant interviews, direct observation of health facilities and focus group discussions. Khartoum, River Nile, Gedaref, Blue Nile, North Kordofan and North Darfur states were selected for JAR visits representing different contexts. In Addition, all the directorates, development partners, some implementing partners, different agencies and other government ministries were interviewed at the national level. The findings of the Joint Annual review will be presented as follows.

Main Achievements

Of 49 indicators with targets for 2016, 19 indicators achievement were at least 90% of their respective set targets and are considered a very good achievement. These include pentavalent, measles pneumococcal and rotavirus vaccines vaccination coverage; absence of any incidence caused by polio virus and Guinea worm; 94% districts having at least 80% of DPT 3 coverage, TB notification and treatment success rates. Another 10 indicators have achieved a performance ranging from 75-90 per-cent of their respective target and are considered 'acceptable 'performance. These include ANC coverage (first and fourth visits), births attended by skilled personnel, PHC facilities providing five elements of Integrated PHC, number of people with HIV/AIDS on treatment, detection and response to disease outbreaks. The performance of other 13 indicators was far too low as compared to the target as they have achieved below 75% of their respective targets. These include % of facilities providing family planning services; number of women using contraceptives for family planning and % of the contraceptive needs satisfied; eligible adults and children received ART treatment, including HIV positive pregnant women received ART treatment to reduce mother-to-child transmission; population served by improved sanitation; % of MOH facilities covered by integrated surveillance system and % of the targeted health facilities in high-risk areas having safety assessment and mass causality management plan. Seven of the indicators do not have any performance information. The success and challenges of these achievements are presented by each of health system block.

The first health system building block where major targets were set was on governance. There were good achievements in the area of policy development, strengthening the planning process, and improving coordination and partnership. In this regard, first, a number of policies have been developed and endorsed including National Health Policy 2017 – 2030, family health, health in all policies, health financing, global health, laboratories, blood safety, pharmacy in addition to sub strategies on different services. There were efforts to strengthen state and locality structures and capacities, especially in Eastern States. The FMOH developed a planning manual and all states have annual operational plans that is closely linked the national strategy. All states were able to develop and submit their 2017-2020 strategic plans, which informed the development of the national strategic plan 2017-2020. A set of indicators for monitoring the performance of states has been developed and endorsed for use. Sudan has a high-level policy and strategy approving structure led by the prime minster and involvement of other minsters in the form of the NHCC at the national level. The health sector is one of the few sectors with functioning partner's forum in Sudan and has revitalized the coordination structure by establishing

the partnership policy forum, its oversight committee and its sub committees. There is more engagement, cooperation and coordination with other Ministries as part of implementation of Health in all Policies as well as the implementation of strengthening humanitarian, peace and development nexus initiative. The effort to institutionalize the monitoring of effective development cooperation practices among the different sector partners (government, development partners CSOs and the private sector) was initiated by IHP+ 2016 monitoring round, which provided options for its institutionalization. Of the total DPs in the country, 73% of them signed the local compact. The Global Fund started to use government as principal recipient for health system support and has also plans to strengthen working through the government system. Ministry of International cooperation is about to start the mutual accountability framework between government and partners. Quarterly reports are produced and shared in the biannual review meetings with states. Many programs have own stronger M&E system.
Major reforms are taking place to ensure and improve the humanitarian development and peace nexus in health sector. Sudan is among the first countries to implement recommendations from World Humanitarian Summit and Grant bargain 2015. All stakeholders has shown commitments to the development of a single framework to reach collective outcomes built around shared strategy, analysis and accountability in support of the sustainable development agenda.

The second area of focus of the 2016 plan was strengthening service delivery. In these areas, a number of policies and strategies were developed among others RMNCHA 10 in 5 strategy, and criminalization of FGM practices. The free treatment for under-five initiative increased opportunities to improve access to and utilization of services. The government is also timely paying its co-financing commitments to immunization, which enables smooth implementation. The geographical coverage of PHC is reported to have increased from 87% in 2012 to 95% in 2017 but the data on health map show slightly lower achievement, which shows inconsistency of evidence. The increased PHC coverage was achieved through the production of community midwives, multifunctional health workers and community health workers. The training of medical assistance however is far short of the target with 32%. There is concerted action to strengthen community-based services as evidenced by increased production, distribution and deployment of community midwives in Kassala and River Nile. The implementation of the family health approach started in five states with the deployment of 170 family physicians.

Five regional public health laboratories were established and are expected to start functioning soon. The integration of the emergency and epidemiology departments were undertaken at the national level and 12 states. Efforts were made to expand radiotherapy (3 states), chemotherapy (8 states) and ICUs (18 states). The new borne care is reported to have become more effective than before. There is better availability and security of commodities, which is supported by improving referral system. Of the needed 600 ambulances, there were only about 110 functioning ones. In the aspect of emergency response, polio has not occurred for the last six years and meningitis and yellow fever outbreaks did not occur for some time. However, there is a continued outbreak of AWD for more than a year. Sudan has also initiated the humanitarian, peace and development nexus in 2017 and started implementing the action plan agreed by stakeholders. There are innovative practices being implemented like the EU funding of about 10,000 refugees to have access to health services through NHIF in Khartoum state.

HIS coordination mechanism was established but is yet to undertake its first meeting. An integrated Health Management Information System has been designed and is being implemented. A standard and integrated reported format was developed, adopted and rolled out to the facilities. The DHIS is rolled out in all states and localities except Khartoum state. But not all facilities data is being reported through DHIS2 in the 17 states. In North Kordofan for instance, the reports of all hospitals, and 42% of FHCs, and 50% of FHUs is through the electronic DHIS2 system. The HIS directorate produces annual statistical

report based on the routine information collected. About 300 indicators were identified and agreed upon by programs and departments for future use. A health system's observatory has been established. Efforts are being made to improve quality through supportive supervision. The research policy was endorsed and ethical and technical accreditation guidelines developed. Two dashboards for monitoring the implementation of the strategic plan and states' performance were produced while on the other hand the planned annual health sector performance report was not produced.

The National policies for human resources, migration policy, dual work policy, CPD policies are being developed. The integrated human resource information registry was established in 2016. A coordination mechanism for HRH partners is functional. There are a number of professional boards and councils that oversee the different aspects of human resource curriculum, training, practice and ethics. 1236 specialists are deployed to the states by developing a unified list for specialist and allocating 2% of the state's total budget transfers from the FMoF to provide incentives. In some states like north Kordofan, specialists are provided with better salaries, cars and residence to retain them within the state. 3522 (59% of target) allied health professionals graduated; the continued professional education was able to achieve 95% of its target of 48000 trainees. CPD was able to establish a database and also started e-learning and distance education. The ratio of health workforce per 100,000 was 1.927, which is lower than the planned target of more than 2.3. When disaggregated by different professional categories, it was 0.25, 0.45 and 0.38 per 1000 population for doctors, nurses and midwives respectively. Job descriptions that defines qualification & duties is in the process of development while standard operating procedures was developed; personnel policies (Ethics, Confidentiality, employee benefits; Employee handbook (policies, information about the LQ system, copy of job description, overview of Standard Operating Procedures (SOP) are under preparation.

The medicine regulatory framework is being strengthened by development and endorsement of a number of medicines and related polices and guidelines. The essential drugs list for different level health facilities and standard treatment guidelines has been developed and endorsed. Policies on rational use of antibiotics, generic use of medicines, and hospital pharmacy were developed and endorsed. National medicine and poisoning board is involved in planning and policy making for the pharmaceutical sector. It established a department for local industry of pharmaceutical products. The rational use of medicines is being communicated through the use of health promotion, school health programs, and radio programs. The effort to promote local production of medicines was initiative by the development of a list of 170 medicines for local production. It is reported that 95% of medicines passed sample post market surveillance tests. The 2015 National Medical Supplies Fund (NMSF) law has brought about positive changes to the availability of medicines and medical supplies. It was able to enrol 16 states and helped for the unification of prices and procurement systems. The number of items available in the stores increased from 640 to 1200 and amount of medicines at state levels increased from SDG 20 million (US$3.3million) to more than SDG270million (US$16.9million. It also provided opportunities for sector to get tax exemptions and improve the quality of products procured and strengthen distribution capacity.

NMSF reported to have achieved 83% of its 2016 plan targets and 81% of its 2017 plan at the end of the first six month plan targets. It has established well-equipped and managed stores in the 16 states. Availability of free under five programme, free TB, availability of free malaria and HIV medicines were more than that the target of 80% in 2016; while availability of free pregnancy related medicines fall short of the target set for 2016. Overall availability of affordable technologies and essential medicines reported to be 82% in 2016. Although 92% of essential medicines and 50% of technology services was targeted for public health facilities in 2016.

The performance of health financing was reviewed and a new heath financing policy options was developed and endorsed. The restructuring of the NHIF systems was carried out through the issuance of new law. The health account for 2015 will soon be completed while the account for 2016 has been initiated. Hospital costing exercise (of outpatient, inpatient and laboratory services) is ongoing.

According to this latest SHA 2015 report, the total per capital government health expenditure was estimated at $18.76. This is very much far below the estimates of the High Level Task Force (HLTF) for innovative financing of US$54 (expressed in 2005 dollar terms) to avail the more comprehensive services included in its estimates, which is re-estimated to be US$86 per capita in 2012 Prices (McIntyre and Meheus, 2014). The per capita government spending estimated for 2015 is translated into 7.2% of the total Government Expenditure at a country level. When this is disaggregated into states and federal government, the federal government allocated 5.76% of its government expenditure to health while the respective figure for states was 9.98%. The HIS reported that 8.8 % of government expenditures was spent on health in 2016. Sudan spends almost 5.3% of its GDP on health, the main sources of which are federal government (6.1%) and state (5.9%), private spending account for 83%; of which, out of pocket expenditure represents about 79.4%. It is also estimated 8% households face catastrophic expenditure as they sell their assets to seek care. Partners and donors contribution was 1.79% of THE, which translates to only US$2.18 per capita.

The new NHIF law of 2016 has introduced strategic shifts to strengthen its functioning. The NHIF national board is established and started its functioning in 2017 while the state boards have phased out. The premium and the benefit package are now standardized across all states with the exception of Khartoum. The process of becoming only a purchaser has been initiated in six state branches and only West Kordofan has completed the process. Under-five Free services have been financed through the NHIF; and list of drugs have been updated.

There was increase percentage of people covered through NHIF mainly due to the commitment and investment of GOS to protect the poor. The insurance coverage rate is reported to have increased from 37.5% in 2015 to 53.5% in June 2017. The main driver of this increase was the financing of the very poor of 750,000 HHs by government and 640,000 HHs by Zakkat, which increased the overage of the poor to 72%. The premiums paid by FMOH and Zakkat also increased. The coverage of university students reached 47%. Three models of enrolling the informal sector into the health insurance scheme is being perused by different states: the earmarked tax on agricultural and animal products in Gedaref state; making membership of insurance a requirement of renewing any types of licenses in three states (west and north Kordofan and partially in Khartoum); and community based insurance schemes in Kassala and Red Sea. There is limited moral hazard by insurance members as 85% of services being utilized at the PHC level. Only 15 % of services are currently being provided at secondary and tertiary service levels.

Gaps and challenges

Implementation of policies and guidelines is very week particularly at sub-national levels. Lack of clarity and overlaps in the roles and responsibilities between different tiers of the decentralized system, and weak ownership of stakeholders are among barriers for effective implementation. Despite the progress in overall coverage, there is evident inequality of access and uptake of services among and within states. While Gedaref, Sinnar, River Nile achieved full functionality of PHUs, states like Red Sea, South Kordofan, north Darfur and central Darfur) have less than 50% of functional FHCs or FHCs. Fragmentation of service delivery continued despite the push for integration. Training of health promoters at the community levels remains fragmented. In Khartoum state for instance, CSO run nearly 50% of the PHC facilities, but two-third of the PHC service utilizing population uses their services, which

shows the underutilization of public health facilities. It is also reported that the quality of service provision is restored with the support of the INGOs in conflict prone states, but its sustainability in uncertain since the human resources may not be retained when they withdraw. Hospital managers do not have knowledge in management, finance, human resources and engineering, which makes it difficult for them to properly manage hospitals.

There is lack of clarity on the roles and responsibilities between PHI and other FMOH departments. PHI is part of FMOH. PHI is leading health reform and the transformational shifts particularly, in the areas of health financing, Health in All Policies HiAPs, as part of its evidence generation and technical assistance role. However, PHI needs to enhance and improve the ownership by actively involving different technical departments. The capacity of the policy unit in the ministry of health is inadequate (staff numbers and capacity) to undertake its function and currently the process is being driven by PHI. This is challenge because the experiences of other countries show that ownership and commitment to implementation of policies are much more fostered when policy developments are coordinated and led by the MOH departments, with active leadership of the TWGs. The engagement of the private sector and health professional association in the policy and strategy development is reported to be weak. The effort to translate policies and strategies into action remains very limited: There is continued verticalization and fragmentations as the vertical programs continue to implement their interventions in a silo mode. There is lack of mechanism for accountability to the agreed results and plans of employees, and of performance of directorates.

Only 10 states had established effective locality health system teams, this increased to 12 in June 2017. Four states only established locality health management teams in less than 50% of their localities. The commitment to policies and strategies vary at different levels. Key informant interviews reported that there is more commitment and ownership at the communities and localities and that commitment declines as one goes up higher from locality to state and national levels.

The operational plan produced so far is not resource based as it isn't yet informed by resource mapping exercise and there is mismatch between the annual plan's resource requirement and the available budget. Programs and departments continue to develop and implement plans in parallel with the 'one' plan. The involvement of other sector ministries (Police and defence) in the one plan is very limited. The plan is not linking its targets with lowest level, as some facilities visited were not involved in the planning process. The planning department is weak not only in its technical capacity but also in its ability to influence and negotiate with departments, states and partners -inadequate authority. There are parallel seven planning directorates in each of the seven General Directorates. There is also one planning officer per each sub directorate in the same general directorate like PHC for instance. Coordination and accountability among these different planning directors is weak. The health - economics unit functions only as doing data analysis and surveys and has very little engagement in either annual budgeting or planning process or on policy development.

Regarding coordination**,** there is late communication of meetings and events and weak participation of partners. There is also limited cooperation and coordination among partners themselves. The NHCC structure is not replicated at the state levels to lead and coordinate issues related to inter-sectoral coordination. Partners continue to directly implement activities. There is no formal accountability mechanism at all levels between government and partners. Bilateral accountability between National MOH/SMOS with DPs/IPs is reported to be very weak.

There is no yet one report that goes with one plan and one budget. The structure of M&E at national, state and locality levels is very weak at best or non-existent and there are very limited M&Es structures

and there is limited evidence M&E is being implemented beyond data and report submission. The health information collection and reporting remained fragmented, as the parallel information generation and reporting continued-13-17 parallel information systems exist. The reporting rate through the DHIS2 remains very weak. The private sector and facilities managed by the army, police and other institutions operate independent information systems. There is inadequate and demotivated staff at facility, locality, state and national levels to oversee data entry processing, reporting and use. The HIS directorate is inadequately empowered to enforce integration and increase the reporting rate. Furthermore, lack or inadequate availability of the electricity and internet services in states compromise the functioning of the DHIS system. The priorities of health system research were not clearly articulated and mainly driven by request of development partners. The monitoring of researches products is very weak. JAR teams were not able to get all the indicators identified in the plan at the state level. In North Kordofan for instance, only 30 % of indicators were fully available.

Maintain job satisfaction among health professionals remain a challenge, which resulted in migration both internally towards big cities and abroad. The effectiveness of the current retention strategy has not been that good. There is high turnover of trained staff as well as CPD staff. The retention package being implemented does not include all health professions, especially those deployed at the PHC levels and it focused only on providing financial incentive and provision of residence. The composition of health and medical teams (skill mix) is not well balanced. There is no system for performance appraisal of health professionals and hence weak performance assessment. There is inadequate communication, coordination and weak commitment in implementing agreed plans among different HR stakeholders in general and CPD stakeholders in particular, which resulted in continued fragmentation at state and national level among Labour councils, recruitment, and human resource development as each of the stakeholders develops its own strategies. There is also a challenge of retained trained leaders within the system as only 3 out of ten trained ones are currently in the system. Only half of the states have a functional HRH management system. The quality & completeness of the human resource data remains a gap, including the HRH observatory, especially on migration.

The pharmacy department, delegated to enforcement of the pharmaceutical products registration, has inadequate capacity- human resources and logistics-to undertake regular M&E. There is high attrition rate among pharmacists in the public sector, as they prefer to work in the private sector. This is particularly the case in health facilities, which undermines the effort to accurately project demand, promote appropriate use of medicines and medical supplies.

Availability of medicines and medical technologies are one of the major challenges of providing accessible and quality care. This is mainly due to inadequate availability of foreign currency and limited access to global market due to US sanctions imposed on Sudan for the last 20 years. NMSF's distribution has been sourced out. The NMSF has equipped its branches in 16 states with 32 double cabinet cars for supervision and 32 temperature controlled vehicles for transportation of medicines from state warehouses to health facilities. However, there are a need for wheel drive temperature controlled vehicle for difficult roads in 8 states in Darfor and Kurdufan. It is reported that more than 50% of health facilities have less than the minimally required equipment and only 44% of health centres have sterilizing equipment. Health technology management capacity and system is weak and health technology assessment processes and procedures are not in place. Health facilities have to wait for more than three months to get their medical equipment maintained. There was overlapping in the procurement of certain items with some partner organizations.

The health financing policy development is largely driven by a technical government unit-PHI; the role of

the health economic department and policy department is marginal. The fiscal implication of Sudan's graduation from the GAVI immunization support will be significant, as much as 25 million USD up to 2025 has to be provided by government. This will have a negative effect on the financing of the sector and sustainability of immunization of services. Although the sustainability of the insurance system heavily depends on the ability of the premiums collected to cover the cost of care, there is no clear evidence based costing of health services at different levels. There is also limited evidence on the extent to which the payment made by NHIF is able to cover the costs of health providers. The claims of primary health facilities are paid through the localities, which opened the room for some of the localities to charge administrative costs. There are existing fragmented pools of NHIF, military, police etc., and private health insurance. The estimated increasing share of out-of-pocket spending from the total health expenditure casts doubts on the effectiveness of increasing insurance coverage. Given that 79% of the health expenditure is being paid out of OOPs, the main challenge of moving towards UHC is expanding the coverage of insurance to the informal sector and a comprehensive strategy of how to reduce OOPs and increase informal sector insurance is yet to be developed. There are so far no minimum criteria set for health providers to meet before being contracted by NHIF to ensure members get good quality of care.

The development of the annual budget in the Ministry of Health is largely driven by the finance and administration and other program departments and is delinked to the planning process, which compromised the capacity of the FMOH to negotiate with the MOF. The planning directorate is not directly involved in supporting states to increase mobilization of resources in their respective ministries of finance. The PFM review documented weaknesses in the system including the use of parallel systems by DPs, weak and fragmented donor coordination; significant amount of development funding remaining off-budget; weak linkage between sector strategic and operational plans to the national budget; and fragmented and inefficient procurement system. Despite the fact the sector is reported to face inadequate financing to move towards UHC, there is also a challenge in utilizing available resources due to inadequate absorption capacity. Our discussions with the global fund and Gavi confirmed the fact that there is slow implementation and often acceleration plans are developed to speed up the implementation. States identified that delayed disbursement by the FMOH and national MOF undermined their effort in timely implementation of their activities. The challenge timely liquidation of used funds undermined implementation and absorptive capacity further.

User fee generated resources have different ways of management in different states. According to SHA 2015, of the total health spending, 45.2 % was spent on hospitals and another 31.1% was spent on PHC health centres. Assuming that the OOPs estimates are correct, hospitals and health centres can mobilize about $3 billion per year in the form of user fees, which is a significant resource for the health sector. Development of health facility autonomy with clear financing strategy might help reduce some of the financing challenges in health facilities.

Main Recommendations

HSS Building blocks	No	Recommendations for 2018	Recommendations beyond 2018 plan
Governance	1	Review the structures of different planning directors within the MOH and revise to make it stronger planning directorate with more authority for planning and budgeting Strengthen the capacities of the directorate general of planning and international health including policy and planning departments and units through: hiring qualified and sufficient number of staff; clarify roles and responsibilities; improve working environment and avail adequate tools and equipment	Strengthen the leadership capacities of the national and state levels to enable them deliver the health agenda within the sector and have the ability to negotiate and push for implementation with other sectors
	2	Support the planning Directorate with embedded consultants for about a year to help them have a comprehensive plan, budget, monitoring mechanism and one report at national, state and locality and facility levels	Undertake the strength and gaps analysis of the decentralization health system and develop strategy to scale up better practices and reduce un-clarity of roles and processes
	3	Review the progress made in the integration process and develop a strategy to fast-track its implementation	Use the authority of the HSCC to bring more coordination in the one plan process with other sector Ministries
	4	Develop and implement a comprehensive plan to strengthen the decentralized health system using phasing approach that focus on: • establishing Locality Health Management Team in the localities without LHMT; • revising and clarifying roles and responsibilities of the three tiers of the decentralized system; • improving working environment and avail adequate tools and equipment to states and localities; • conducting an in depth assessment of the implementation of the decentralization in the health sector and develop road map for its strengthening including accountability framework	Scale up of the implementation of the plan to other states and localities
	5	Select few states and localities to implement all elements of health sector reform (health financing, HiAPs, family health, LHMT, health cities, ect…) as the first phase to draw lessons for the next phases	Scale up of the implementation in other states and localities
	6	NHCC to organize a meeting among governors, SMOHs and MOF to chart out mechanisms to enhance commitment, leadership and resourcing for health system strengthening using best practices like establishing locality management teams, coverage of insurance, high DHIS2 reporting rate, better human resource recruitment etc) in Gedarif state or best practices such as pooling of resources for treatment of children under 5 to NHIF in North Kordofan State	Scale up phased approach of the health in all policies implementation in other states
	7	By 2018 produce the one health sector report that can be compared with the JAR report in the next years annual review meeting	Develop the capacity and authority of the policy unit to lead an coordinate future policy developments
	8	Based on the evidences generated by the draft report on institutionalizing monitoring of Effective Development Cooperation (EDC) practices: (a) discuss and endorse the EDC monitoring indicators; (b) include these indicators in the 2018 'one plan' with baselines and targets; (c) integrate their monitoring as part of the 'one' monitoring system as part of the sector annual report	
	9	Replicate the national coordination structures and mechanisms at state and locality	Develop a public private partnership strategy and enhance the participation of the private sector
	10	Provide needed support to foster the implementation of International Health regulations IHR plan	

HSS Building blocks	No	Recommendations for 2018	Recommendations beyond 2018 plan
	11	Introduce phased approach to start implementing the health in all policies in the first phase by selecting few stated and localities (selection criteria and state's willingness) for future scale up	
	12	Institutionalise the Join Annual Review Process through defining its leadership, coordination mechanisms, setting clear timelines, expanding its scope beyond JAR (thematic areas, group works, field visit and experience sharing), enhancing participation, ownership especially by high officials and ensuring implementation of its recommendations. Encourage and support states to undertake their own review mechanisms based on nationally agreed but state specific targets and strategies	
Service delivery	1	Develop roadmap to reach out underserved areas and population groups to enhance equity among and within the states	MOHs (national and state levels) should work towards developing a roadmap to strengthen quality of care at PHC levels and thoroughly follow up its implementation
	2	Work closely with the medical council to ensure that family medicine graduates are registered by the medical council to provide services	
	3	Support continuous training of health workers to upgrade their skills and develop strategies to decentralise the management of the training programs;	
	4	Develop and implement standardized emergency response mechanisms; introduce incentives to retain human resources especially in emergency prone areas.	Implement hospital and PHU reforms to improve quality of care and include quality improvement targets in the 2019 annual plan at facility, locality, state and national levels;
	5	Include the major priorities of humanitarian peace and development nexus priorities in 2018 plan	Consider introducing Chief Executive Officers (CEOs), a public health professional trained on hospital management, who will oversee the management of the hospital while the medical directors leads the technical area
	6	Develop a costed strategy to help health facilities are equipped with the necessary readiness facilities including electricity, water and internet for communication (DHIS)	
	7	Develop and implement quality reforms in public health service provision-hospital and PHC HC reforms;	
	8	Review the current community based approaches and develop integrated community health approach linked with family health approach	
Health information system	1	Review the modality of recruiting statisticians as HIS personnel and develop alternative human resource base for HIS-explore possibility of task shifting	Gradually stop vertical reporting and move towards integrated reported mechanism
	2	Strengthen the capacity of the health information system directorate's capacity and authority to become the only source of government information for sector planning, performance monitoring and accountability;	Develop and implement the task shifting strategy for HIS personnel
	3	Enhance the functioning of the DHIS and its scaling up by strengthening required resources, capacities as well as its monitoring system	
	4	Invest and strengthen the data quality auditing process to ensure what is produced is credible and acceptable to programs and other stakeholders	
	5	Empowered and adequately capacitate HIS officers at all levels of the systems to become the drivers of not only integration and scaling up of DHIS reporting rate but also for sector monitoring and evaluation; and strengthen, the culture and capacity of interpreting and using data for decision-making at (particularly) locality levels.	

HSS Building blocks	No	Recommendations for 2018	Recommendations beyond 2018 plan
	6	Develop reporting enforcement incentives and penalties for facility and locality managers and HIS/DHIS personnel	
Human resource for health	1	With the involvement stakeholders including states, review the production of HRH including the effectiveness of the allied health professionals; Work with the ministry of education to production of critical human resources and task-shifting strategies; develop a task-shifting strategy together with its accelerated production plan for human resources that are in short supply at PHC levels	Based on the review, revise the current HRH retention strategy in terms of its retentions mechanisms (beyond financial benefits) as well as its comprehensiveness capturing critical human resources required at the PHC levels and those working in the other health sector institutions
	2	Support and motivate all states to establish a functional HRH management structures and systems	Introduce performance appraisal system with putting clear job descriptions and other standard tools necessary and ensure its implementation on the ground
	3	Review the on-going national and state specific retention strategies including those that are being used by the other Ministry facilities (military and police) and document best practices and lessons learnt	Develop an integrated in-service training program instead of vertical program capacity building and enforce its implementation through the CPD, with clear agreed training content with the programs
	4	Strengthen the relationship and working modality between CPD and HRH management and directorate as well as vertical programs; work modalities to decentralise the administration of training to ensure it is implemented on time and as per needs of states and localities.	Review the functioning of the professional councils and work with them to develop unified human resource regulatory mechanism
	5	Work with medical council to ensure that family medicine graduates are recognised and registered as professionals	
Medicines and medical technologies	1	Strengthen the institutional capacity of the NMPB	Establishment of effective and autonomous regulatory departments at the states to work under direct supervision of the NMPB
	2	Strengthen the rational use of medicines especially antibiotics through strengthen good prescribing behaviours and reaching out to patients on rational use of medicine	Develop and implement more effective incentives and policies to promotion of national manufacturing of medical and pharmaceutical products
	3	Review the design of facilities to ensure that structures are fit well for the storages of medicine and medical technologies	Expand coverage of pharmaceutical facilities by good storage a practice i.e. means of refrigeration to ensure good quality and effectiveness of medicines particularly in the remote rural areas.
	4	Review the performance of medical technology services operations and develop strategies to strengthen and enhance efficiency in their deployment	Implement medical equipment maintenance strategy, with establishment of medical maintenance units at different levels
	5	Provide adequate support to address the financial, structural and capacity barriers for effective implementation of the regulatory functions	
	6	Improve staff retention policies for the whole pharmaceutical sector, including the pharmacy directorates, the NMPB and the personnel managing the public pharmaceutical facilities at hospitals, health centres and units	

HSS Building blocks	No	Recommendations for 2018	Recommendations beyond 2018 plan
	7	By working with the National Bank, Facilitate availability of adequate hard currency for importation of pharmaceutical products and inputs for local manufacturing	
	8	Develop clear map for coverage by both public and private pharmaceutical services	
	9	Strengthen the distribution capacity of NMSF by investing on wheel drive temperature controlled vehicle for difficult roads in 8 states	
	10	Develop a comprehensive management system for medical devices, including planning g,, budgeting and financing,, technology assessment, device selection, site preparation, logistics, installation and commissioning, inventory entry, user training operation, repair and maintenance, decommissioning, planned replacement, and safe disposal	Implement and consolidate the medical devices management system
	11	Develop strategy for medical equipment	Implement the strategy
Health financing	1	Strengthen the policy, planning and financing departments with technical leadership and monitoring capacity and enforcement mechanism to ensure commitments are realized	Engage their National and states MOFs and develop mechanisms and strategies to ensure more resources are channelled to PHC facilities
	2	Develop a disbursement plan for programs through FMOH to states and strengthen regular follow up and accountability to facilitate liquidation and reporting from states supported	Develop a strategy to make health facilities including PHCs autonomous in generating and using their resources, with setting clear management guidelines
	3	Negotiate with MOF to ensure universal coverage of the very poor (the remaining 28%) by health insurance	Together Ministry of Finance review the fiscal implication of Sudan's graduation from GAVI support and develop a financing strategy to replace the declining of funding
	4	Closely follow up the functionality, effectiveness and sustainability of the three types of different mechanisms of increasing coverage of informal sector household through insurance and develop roadmap on how this effort will be enhanced in the next four to five years	NHIF and MOHs need to establish a joint accreditation mechanism and set minimum quality criteria for health facilities at different levels to be engaged in the provision of services through the insurance scheme.
	5	Develop and implement transitional strategy that ensures the sustainability the uptake rate of immunization as Sudan is graduating from GAVI immunization support, including the ability to procure immunization vaccines using country procurement system	Undertake efficiency analysis of the health sector and develop strategies to enhance gains in allocation, operation and using effective interventions.
	6	MOH and NHIF to revise both the premium contribution rates and the prices paid out for services by NHIF based on evidence based costing and willingness to pay analysis	Develop strategies to strengthen public private partnership
	7	Explore the underlying reasons for high out pocket spending despite increasing insurance coverage and develop strategies to reduce OOP's share percentage of overall health spending; consider revising the insurance benefit package based on a thorough costing and willingness and ability to pay assessments if insurance members are still paying high out of pocket expenditures	

1. Introduction

1.1 Background

Sudan signed the International Health Partnership IHP+ Global Compact in 2011 and the singing of the local health compact by partners followed in 2014. It has also established the Health Partners Forum and its technical committees in December 2016. Sudan has also introduced one plan, one budget and one monitoring approach to ensure there is better alignment and harmonization by partners as well as to enhance efficiency and effectiveness of translating the policies and strategies into action. The annual one plan concept has been implemented for the last two years: since 2016.

The Federal Ministry of Health (FMOH) and its stakeholders initiated the first joint annual review (JAR) for the year 2016 and 2017 plans to assess the performance of the health sector at the federal and state levels, with active participation of FMOH, States Ministries of Health (SMOH) and health partners. The JAR complemented and used the information from the existing routine monitoring and evaluation systems by providing the opportunity for a harmonized and jointly-planned annual assessment process and to facilitate collaborative sector policy dialogue and review, with the ultimate aim of optimizing information-sharing, transparency and mutual accountability.

The objectives, the scope of the first Sudan JAR, and the proposed methodology have been identified and agreed upon based on extensive and successive discussions and consultations facilitated by the TWG and oversight committee, engaging the different stakeholders including MoH, public health sector partners, development and Implementing partners and consultants that culminated with discussion on the inception report by Health Sector Partners Forum, chaired by his Excellency the Federal minister of health, during its 3rd meeting on 9th of August 2017.

1.2 Objectives of the 2016 and 2017 JAR process

The purpose of the JAR was to review performance against planned activities of year 2016 and 2017 plan and to ensure that all stakeholders develop a shared understanding of progress made in the sector and identify the priority issues that needed to be addressed to improve performance. The main objectives of the JAR process were therefore to:

- To institutionalize the JAR process by developing the processes, procedures, timelines as well as its management arrangement to undertake JARs on annual basis
- Undertake the first JAR by developing the necessary tools, guidelines and forming an inclusive team to undertake it.
- Produce the first JAR report, conduct the first JAR review meeting, and develop action plans to inform the development of the 2018 plan and budget;
- Contribute to the revision and finalization of the new HSSP 2017-2020 objective and priority setting as well as refining strategies

1.3 Methodological Approach

The JAR used a mixed method approach for data collection and analysis. The data collection methods include, among others, review of documents, quantitative data analysis, key informant interviews, direct observation of health facilities and focus group discussions.

1.3.1 Document Review

Documents reviewed include all relevant Government of Sudan performance reports; review of different policy situation analysis and new directions, strategic and operational plans set. This included, but not limited to, among others, Sudan National Health Sector Strategic Plans (2012 – 2016; and 2017 -2020), annual plans, M&E plans, health sectoral and sub-sectoral plans and policies, standards and specifications of the health system in Sudan, updated health map, health in all policies and its implementation road map, health system policy, Sudan global health strategy, health financing system review and its policy options, the family health and family medicine policies. In addition the performance reports of directorates and states as well as systematic review and evaluation reports carried out on the sector were reviewed. The secondary document review and analysis was national in scope and was not limited to the sample states and localities. The review of these relevant documents was utilized to provide knowledge and understanding of the performance of the health sector in terms of meeting its outcome, output, process and input targets. Furthermore, the review of the documents highlighted some of the best practices and gaps.

1.3.2 Quantitative Data Analysis

The progress towards achieving the intended outcome, output, processes and input indicators that are set in 2016 and 2017 plans were collected through secondary data analysis from HIS and FMOH reports. The HIS and health finance directorates were the mains sources of quantitative data. Other secondary information was also used, when found necessary. The JAR team disaggregated the overall national performance by states and tried to verify some of the routine information sources during field visits using information collected from states, localities and health facility records.

1.3.3 Key informant Interviews

The detailed Key Informant Interview (KII) guides were developed covering the main issues that are targeted in the 2016 and 2017 annual plans. These included specific questions for the federal, state, locality, health facilities, and for development partners (See Table 1.1 for list of interviewed KII). The detailed interview questionnaires were used as discussion guides, a means to obtain qualitative information at the various levels of the health system that would complement quantitative findings. It also provided information to draw lessons on the successes and weaknesses in the performance of the health sector. The detailed key informant interview questionnaires used in this JAR is included as Annex 1 of this report.

Table 1.1: List of KII interviewed during data collection at different levels

Federal Level Interviews	
Government	**Stakeholders**
The Federal Minister of health	UN agencies (UNFPA, UNICEF and WHO)
Top management at the FMoH (undersecretary and DGs)	International CSOs
Planning and Policy	National CSOs
International health	Multilaterals (Gavi)
PHC	
Curative	Bilateral (EU, Italian cooperation, JICA, TikA etc.))
Pharmacy	Private sector
HRH	
Information system	
NHIF	
Uniformed forces	
MOF	
MIC	

Sub – National level				
States		**Locality**		**Health facilities**
SMOH Government		Locality government (Commissioner + health council)	Other stakeholders	Management committee
Governor				
State Legislative council	National/local CSOs	Locality Health Management Team	National/ local CSOs	Community committee
State minster of Health	Int'l partners	NHIF branch office	Private sector	Data manager
Director General of SMoH	Private sector			
Planning department at SMoH				
PHC department				
Curative medicine department				
Pharmacy department				
HRH department				
Information system department				
NHIF branch office				
Uniformed forces				

SMOF				
Private sector				

1.4 Sampling and Team Deployment

1.4.1 Sampling

The JAR team visited and carried out interviews in the national level and six states, including Khartoum State; the seat of the capital of the country. The JAR TWG selected the sample states that were visited by the JAR teams and are shown in table 1.2 which also illustrates criteria for selection. In each state, the JAR team in consultation with SMOHs also visited one strong and one weak performing locality. In each locality, one hospital, one health centre and one family health unit were visited.

Table 1.2: list of sample states visited

State	**Context**	**Zone**	**Status of performance**
Khartoum	Urban	Capital	Better
River Nile	Developing	Northern	Moderate
Gedaref	Border state	Eastern	Moderate
Blue Nile	Conflict affected	Central	Weak
North Kordofan	Special initiatives	Kordofan	Better
North Darfur	Conflict and humanitarian	Darfur Zone	Weak

Overall a total of 12 localities, 29 facilities were visited as part of this JAR. Table 1.3 shows the detailed lists of visited sites.

Table 1.3: visited localities, hospitals and PHUs per State

State	**Locality**		**Hospitals**	**PHCUs**
Khartoum	Strong	Khartoum	Gaffer Bin Auf	ALkalakla, Algreef west
	Weak	Om Bada	Om Bada hospital	Alrayan, alrakha, Dar Asalam
River Nile	Strong	Barber	Barber hospital	Alwankeel, alebaab
	Weak	Abu hammed	Abu hammed Hospital	Village 3,Ortashi
Gedaref	Strong	Alfaoo	Alfao General locality Hospital	Algaria18 Health Centre
	Weak	Central Gadaref	Um Shagara Rural Hospital	
	Weak	Alfashaga	Alshuak General locality Hospital+ Almadina1 Rural Hospital	

State	Locality		Hospitals	PHCUs
Blue Nile	Strong	Aldamazeen	Aldamazeen General locality Hospital	Abu Hashaim Health Centre
	Weak	Wadalmahi	Almadina4 Rural Hospital	
North Kordofan	Strong	Umdum Hajahmed	Umdum Hajahmed General locality Hospital	Elmajror FHC and Aleseidab FHU
	Weak	Bara	Bara General locality Hospital	Shiraim Karamsha FHC and Shraim mima FHU
	Strong	Elobeid	Elobeid Teaching Hospital	
North Darfur	Strong	Elfasher	Alfashir Hospital	Alzahra Family Health Centre
	Weak	Umkadada	Umkadada General locality hospital	Umkadada FHC

1.5 JAR Team formation and deployment

This JAR created an opportunity to brought and engaged 126 JAR members together from all stakeholders to review the performance of the sector and agree on the best practices for scaling up and the major actions for removing challenges to progress. But the actual people participated in the actual process is far lower than that. The composition of the team by stakeholders is shown in table 1.4.

Table 1.4: team composition and deployment.

JAR teams	Federal MOH and other government partners	State MOHs and other government partners	Participants from other states	DPs/UN	CSOs/INGOs	Total
Khartoum	9	1		1		11
River Nile	9	4		1		14
Gedaref	5	7	3	3		18
Blue Nile	5	5	3	3		16
North Kordofan	9	10		3		22
North Darfur	8	2		5		15
Federal A	12	1		2		15
Federal B	10	2	1	2		15
Total	67	32	6	20		126

1.6 Limitations

The mobilization of many JAR Team members covering more than the planned number of states, the leadership of the TWG and the oversight committee, and the establishment of 'operation room' to follow up the day to day activities of the field visits were exemplary and need to be replicated in future JAR processes. However, there are a number of limitations that has an impact on the quality of the JAR report and its recommendation. The major ones were the following:

- The JAR team members selection was not thorough most of those involved were generalists and do not have the required experience and skills in the proposed health system components. The resulting state level reports are mainly a consolidation of responses from interviewees with very little expert analysis.
- One of the objectives of the visit was also to verify the credibility of information generated at the national, state and locality levels. The tools and PPT presentation were prepared to this effect. However, this hasn't happened in this JAR process due to limited technical skill within the JAR team (lack of HIS members) and need to be corrected in the future JARS
- The State level JAR reports, ideally, are expected to inform and support the development the next state level plan with clear documentation of what works and what doesn't and provide relevant recommendations. Unfortunately, with one or two exceptions, the qualities of the state reports were below expectation and will not serve this purpose.

The JAR technical working group need to learn from this limitation and ensure proper selection of the JAR team members with clear responsibility assignment for each of the members in the future JAR processes.

2. Health service outcomes and outputs

2.1 Policy directions and targets

The NHSSP 2012-2016 set out three main sector strategic directions. Strengthening primary health care services improve and strengthen the referral system as well as enhancing social protection mechanisms and reducing reliance on out of pocket spending. The strategic interventions identified were establishment of new facilities, provision of adequate and qualified human resources for underserved states and PHC services; integrate systems of drug supply and information system and community services; and strengthening the information system and building state's capacity for planning, management and accountability. These strategic interventions are expected to bring shifts towards realizing the major outcome and output targets set for the national strategy. The extent to which these strategic directions are implemented will be reviewed in their own system areas.

With the above shifts the country planned to increase uptake of services that will deliver the desired health outcomes and impacts. As part of the implementation process, the sector has started developing one plan and set targets each year for the critical sector indicators.

2.2 Performance achievements and best practices

The outcome performance of the sector in terms of achieving both the NHSSP 2012-2016 targets and the target set for 2016 and 2017 is presented in table 2.1.

Table 2.1: Performance of outcome indicators

Serial number	Indicator	Strategic Target by 2016	Achievement	Rating
1	% infants who received Pentavalent vaccine (PVV) 3rd dose	Sustain at 95%	92.70%	
2	% infants who received Measles vaccination	Sustain at 95%	87%	
3	Incidence of measles cases	0/100,000 Pop.	0/100,000 Pop.	
4	Number of cases of paralysis due to any wild poliovirus or type-2 vaccine-related poliovirus in the preceding 12 months	0	0	
5	Number of wild or circulating vaccine derived polio cases in the preceding 12 months	0	0	
6	Number of Polio reported (Eradication achieved)	0	0	
7	Proportion of districts with at least 80% coverage of DTP3	100%	94%	
8	Coverage with 3rd of pneumococcal and rotavirus vaccines	95%	Pneum. 93%; Rota 88%	
9	Proportion of the cost of the vaccine covered from government budget	No strategic target	No available	
10	Coverage of population-at-risk of lymphatic filariasis, schistosomiasis and soil-transmitted helminthiasis through regular anthelminthic preventive chemotherapy	100 % (Schisto) 100% (STH)	77.8% (Schito.)	
11	Number of Guinea worm cases reported	0 cases	0 cases	
12	Road traffic death rate (per 100,000 population)	No strategic target	24.3	

Serial number	Indicator	Strategic Target by 2016	Achievement	Rating
13	Incidence of confirmed malaria cases	10%	16%	
14	Proportion of targeted population at risk with access to vector control preventive interventions	70%	68.00%	
15	Percentage of confirmed malaria cases in the public sector receiving first-line antimalarial treatment	80%	No data available	
16	% of pregnant women who received 1+ ANC visits prior to delivery	90%	79.10%	
17	Per cent of HF providing Family planning services	80%	62.70%	
18	Proportion of women of reproductive age (15-49 years) with anaemia	25%	34.00%	
19	Number of women using contraception for family planning	600,000	341,523	
20	percentage of live births attended by skilled health personnel	80%	72.5%	
21	percentage of mothers and babies who received postnatal care visit within two days of childbirth)	35%	27.00%	
22	percentage of children aged 0–59 months with suspected pneumonia receiving antibiotics)	No strategic target	59.00%	
23	Adolescent birth rates (per 1000 girls aged 15–19 years)	60	87	
24	Need for contraception satisfied among women	45.00%	33.40%	
25	Antenatal care coverage group (1+;4+)	90.00%	80,1%	
26	Number of TB smear positive cases who completed treatment and were cured	87.00%	83.70%	
27	TB Case notification	52.00%	63.00%	
28	Cumulative number of tuberculosis patients successfully treated in programmes that have adopted the WHO-recommended strategy	195,000	153,620	
29	Annual number of tuberculosis patients with confirmed or presumptive multidrug-resistant tuberculosis placed on multidrug-resistant tuberculosis treatment	300	118	
30	Percept population covered by functioning health services delivery points providing services according to the standards	all states meet at least national targets of PHC facility: 1/5500 p.	92.00%	
31	% of PHC facilities providing all 5 elements of the integrated PHC package (by state)	90.00%	77.00%	
32	% of PHC facilities providing the essential package for NCDs	25%	No data available	
33	Reported number of HIV case	4,142	2,805	
34	HIV testing in high risk groups	15,039	16,692	
35	Percentage group of eligible adults and children currently receiving ARV therapy among all adults and children living with HIV	80%	10.00%	
36	Percentage of HIV-positive pregnant women who receive antiretroviral medicine to reduce the risk of mother-to-child transmission	6.40%	4.00%	
37	Number of people living with HIV on antiretroviral treatment	5,257	4,374	

Serial number	Indicator	Strategic Target by 2016	Achievement	Rating
38	Number of women and men aged 15 and older who received HIV testing and counselling in the last 12 months and know their results	200,000	80,687	
39	% of population served by Improved sanitation	50.00%	32,9%	
40	% of population served by Improved water supply	87%	68.00%	
41	Proportion of the population relying primarily on solid fuels for cooking	No strategic target	58,3%	
42	Proportion of ministry of health facilities covered by the surveillance system	95%	25%	
43	National strategy that covers resilience and preparedness for major epidemics and pandemics developed and endorsed	100%	100%	
44	National epidemic and pandemic preparedness and response plan including business continuity plans available and functional	100%	75%	
45	Integrated disease surveillance including early warning systems established	100%	27.5%	
46	% of outbreaks that were detected and responded to in a timely manner	100%	75%	
47	Health facilities are prepared in high risk areas with safety assessment and mass casualty management plan	134	67 hospitals	
48	National strategy in place that covers resilience and preparedness for major epidemics and pandemics	100%	100%	
49	National epidemic and pandemic preparedness and response plan available and functional	100%	100%	

Notes: Green more than 90% of target; yellow, between 75-90 and Red Less than 75% of target. White is no rating. Discrepancy between information provided by HIS and PHC directorates.

As can be observed from Table 2.1, there were 49 indicators with targets for 2016. Of these, about 19 indicators achievement were at least 90% of their respective set targets and are considered a very good achievement. These include:

- 92.7% pentavalent vaccination rate
- 87% measles vaccination
- Absence of any incidence caused by polio virus and Guinea worm
- 94% of localities/districts with at least 80% coverage of DPT3
- 83 and 88% coverage of pneumococcal and rotavirus vaccines
- 84% of TB Smear positive treatment success rate
- 63% of TB notification rate
- 92% of the population were covered by functioning health services
- More that targeted HIV testing of high-risk population groups.

Another 10 indicators have achieved a performance ranging from 75-90 per-cent of their respective target and are considered 'acceptable 'performance. These include:

- 79% coverage of ANC 1 and ANC 4 visits by pregnant women.
- 79% of births attended by skilled personnel
- 70% of PHC facilities providing all five elements of the integrated PHC package
- Number of people with HIV/AIDS on treatment
- 68% of people served with clean water supply
- 75% of disease outbreaks were detected and responded to.

The performance of other 13 indicators is far too low as compared to the target as they have achieved below 75% of their respective targets. These include:

- Only 63% of the facilities were providing family planning services
- Only about 57% of the targeted women were using contraceptives for family planning and as a result only 33.4% of the contraceptive needs were satisfied
- Only 10% of eligible adults and children received ART treatment.
- Only 4% of HIV positive pregnant women received ART treatment to reduce mother-to0child transmission
- Only 33% of the population served by improved sanitation
- Only 25% of MOH facilities covered by integrated surveillance system
- Only 50% of the targeted health facilities (67 hospitals) in high-risk areas have safety assessment and mass causality management plan.

There is no information about the performance levels of the other 7 indicators. The major success and challenges as well as recommendations are presented in the six health systems building blocks.

3. Service delivery

3.1 Priorities and targets

As part of the service delivery component, four strategic areas were prioritized for 2016. First, the management capacity of the decentralized health services was planned to be strengthened through state and locality teams' capacity building and integrating vertical and support systems into PHC principles. The second major priority was improving equity in coverage and quality of PHC package through health facility infrastructure investment. This include increase the coverage of PHC packages in line with local health needs, improving health infrastructure according to national standards, including water supply, sanitation and equipment; increasing allocation of resources to under-serviced areas and population groups. The third area of priority was strengthening the quality, safety and efficiency of secondary and tertiary services. This was planned to be carried out through putting place the necessary service standards and accreditation processes as well as strengthening efficiency in resource use by establishing regional setting form specialized services. The last priority in service delivery was strengthening efficient ambulatory systems and emergency medical care through the development and implementation of referral systems and guidelines as well as strengthening emergency care and triage systems.

3.2 Performance achievements and best practices

Table 3.1: Achievements of service delivery targets

Serial number	Indicator	Strategic Target (2016)	Achievement
1	Coverage of routine EPI in PHC services	Sustain at 95%	92.7% EPI Report (63.9% MICS results)
2	Incidence of measles cases	0/100,000 Pop.	0/100,000 Pop.
3	Number of cases of paralysis due to any wild poliovirus or type-2 vaccine-related poliovirus in the preceding 12 months reported	0	0
4	Number of wild or circulating vaccine derived polio cases in the preceding 12 months	0	0
5	Number of Polio reported (Eradication achieved)	0	0
6	Low birth weight	No strategic target	No data available
7	Exclusive breastfeeding for six months (percentage of infants aged 0-5 months who are exclusively breastfed)	70.00%	14.00%
8	Children under 5 who are stunted	0.342	18.20%
9	Children under 5 who are wasting	0.063	4.50%
10	Children under 5 who are overweight	0.23	3.00%
11	Children under 5 who are obese	No strategic	No data

Serial number	Indicator	Strategic Target (2016)	Achievement
		target	available
12	Coverage of population-at-risk of lymphatic filariasis, schistosomiasis and soil-transmitted helminthiasis through regular anthelminthic preventive chemotherapy	100 % (Schisto) 100% (STH)	77.8% (Schito.)
13			19.6% (STH)
14	Number of Guinea worm cases reported (Eradication achieved)	0 cases	0 cases
15	Road traffic death rate (per 100,000 population)	No target	24.3
16	Availability of the affordable basic technologies and essential medicines, including generics, required to treat major non-communicable diseases in both public and private facilities	NA	76.60%
17	% of children in high risk areas sleeping under insecticide treated nets (by socio-economic group (SEG)	90%	No data available
18	Percentage group of suspected malaria cases that have had a diagnostic test	0.8	No data available
19	Incidence of confirmed malaria cases	10.00%	16.00%
20	Proportion of targeted population at risk with access to vector control preventive interventions	70.00%	68.00%
21	Percentage of confirmed malaria cases in the public sector receiving first-line antimalarial treatment according to national policy	80.00%	No data available
22	% of pregnant women who received 1+ antenatal visits prior to delivery	90%	79,1%
23	Percept of HF providing Family planning services	90%	62,7%
24	Proportion of women of reproductive age (15-49 years) with anaemia	25.00%	34.00%
25	Number of women using contraception for family planning	600,000	341,523
26	percentage of live births attended by skilled health personnel)	90.00%	79.10%
27	percentage of mothers and babies who received postnatal care visit within two days of childbirth)	35.00%	27.00%
28	Antibiotic treatment for pneumonia (percentage of children aged 0-59 months with suspected pneumonia receiving antibiotics)	No strategic target	59.00%
29	Adolescent birth rates (per 1000 girls aged 15-19 years)	60	87
30	Need for contraception satisfied among women	45.00%	33.40%
31	Antenatal care coverage group (1+;4+)	90.00%	80.1%
32	Number of TB smear positive cases who completed treatment and were cured)	87.00%	83.70%
33	TB Case notification	52%	63%
34	Cumulative number of tuberculosis patients successfully treated in programmes that have adopted the WHO-recommended strategy	195,000	153,620
35	Annual number of tuberculosis patients with confirmed or presumptive multidrug-resistant tuberculosis placed on multidrug-resistant tuberculosis treatment worldwide	300	118
36	Proportion of Localities meeting standards for functional management structure	90%	No data
37	Percept population covered by functioning health services delivery points providing services according to the standards	all states meet at least national targets of	92.00%

Serial number	Indicator	Strategic Target (2016)	Achievement
		PHC facility: 1/5500 p.	
38	% of PHC facilities providing all 5 elements of the integrated PHC package (by state)	90%	77.00%
39	Annual number of outpatient department visits, per capita (/10,000 population)	NA	2,991
40	% of PHC facilities providing the essential package for NCDs	25%	No data available

A number of policies and strategies were developed as part of improving service delivery. These include development of the hospital standards, National Laboratory policy, infection control, national Bio safety and bio security policy, RMNCHA 10 in 5 strategy, and criminalization of FGM practices. But in some states like Gedarif, FGM practice is being abandoned; 5 MISP Objectives are being implemented at the onset of emergency; resilience and early recovery components were strengthened.

Coverage of PHC is reported to have increased to 95% and full coverage is to be achieved in the next financing year. The data on health map however shows less progress as coverage of FHCs and FHUs that are functional by mid 2017 was 88 and 77 per cent respectively. This has been achieved with the training of:

- 12571 (93% of the 13552 target) community midwives.
- 2144 (42% of 5110 target) Medical Assistants.
- 4222 (82%of the target 5160) CHWs.
- 3,683 (87% of the target 4252) multifunctional Joint Cadre of Health Workers
- 2766 (98% of 2812 in service medical assistants.

However, the training of midwives and other community health workers is reported to have inadequate practice before engagement and there is need to explore mechanisms to ensure that adequate practice is considered as one of the training components; in addition to continuous in-service training and supportive supervision. There are also gaps in deploying and giving positions for trained midwives in some states.
There is concerted action to strengthen community-based services. For example there is increased production, distribution and deployment of community midwives. In Kassala, it is reported that 1000 community midwives were deployed and provided kits to provide services (see Box 1). The sector needs to document this best practice and take it to the next step by exploring mechanisms to shift to comprehensive community package of services for a defined number of households in the community. There is also a concerted effort to enhance behavioural change communication by training different health promoters. In River Nile, mobile clinics are introduced to reach and provide services to mining areas.

With increased government commitment and financing, PHC coverage is expanding to reach the unreached population groups. There is increased coverage through fixed rather than mobile facilities. The free care for under-five initiative increased opportunities to increased utilization of services. Its scope of coverage has now even expanded to include some of the chronic conditions. The implementation of the family health approach started in five states with the deployment of 170 family physicians with master's degree. There is a need to work with the medical council to ensure these family physicians are registered as professionals to provide these services as this is currently the gap. There is an effort to develop one package for the community health training programs. There is also innovative financing for service delivery in some states through the private sector (see box 2).

Table 3.2: Per cent of functional PHCs by states

State	Total Numbers		Functional Health facilities		% of Functional health facilities	
	FHCs	**FHUs**	FHCs	FHUs	FHCs	FHUs
Gedaref	70	246	70	246	100%	100%
Sinnar	106	218	106	218	100%	100%
River Nile	269	73	269	73	100%	100%
Gezira	427	514	422	456	99%	89%
East Darfur	43	41	40	37	93%	90%
Blue Nile	74	89	72	77	97%	87%
White Nile	167	259	161	222	96%	86%
West Darfur	**56**	**51**	50	46	89%	90%
West Kordofan	**95**	**103**	81	85	85%	83%
Kassala	**148**	**197**	128	142	86%	72%
Northern State	**43**	**209**	43	151	100%	72%
North Kordofan	**172**	**427**	159	272	92%	64%
South Darfur	**154**	**271**	98	200	64%	74%
Red Sea	**146**	**102**	72	80	49%	78%
North Darfur	**158**	**201**	129	86	82%	43%
South Kordofan	**147**	**198**	67	138	46%	70%
Central Darfur	**48**	**118**	43	38	90%	32%
Khartoum	**451**	**129**	435	103	96%	80%
Total	**2774**	**3446**	2445	2670	88%	77%

Five regional public health laboratories were established and are expected to start functioning soon. The integration of the emergency and epidemiology departments were undertaken at the national level and 12 of 18 states established similar structures at the state levels.

The platform for optimization of cold chain is functioning. The government was also timely paying its co-financing commitments to immunization, which enables the smooth implementation of the system.

BOX 1: One midwife per village model

One of the major initiatives being pursued in many states is reaching the community through deploying one midwife per village. There are different approaches and successes, including:

- The deployment of 1000 state paid midwives in Kassalla state
- 100% coverage of villages by midwives in Blue Nile state
- Using teachers as midwives in North Kordofan

The success and best practices of the different approached needs to be reviewed for ensuring sustainability. More importantly, expanding though task shifting using contextual evidence may help develop strategies to expand its scope to include other PHC service providing human resources.

Nutrition services coverage has also expanded. The government has developed an investment case to mobilize domestic resources. The networks of CMAM service providers have expended, though they are not integrated into the health system yet.

Box 2: financing of health through the private sector social responsibility financing in River Nile

River Nile state started to mobilize the private sector to assist its effort to expand PHC services as part of meeting its social responsibility. It is reported that this additional financing is 'unconditional' and cover the priorities and the plan of SMOH-fully aligned to SMOH's one plan. So far, private actors engaged in mining and cement industries contributed to this initiative by contributing 24.9 million SDGs.

This is one form of innovative financing mechanisms for health. The experience of River Nile need to be reviewed and FMOH may consider sharing this experience to other states and developing strategies with incentives for the private sector where private sector is dominant.

There also progress in improvement of quality of care. Efforts were made to expand radiotherapy to states (3 states), chemotherapy (8 states) and ICUs (18 states). The new borne care in Sudan is reported to have become more effective than before. The quality and access to specialized care has improved. A three year program for excellence in Biomedical and health security focusing on providing training on risk management, data management and evidence based surveillance, detection and diagnostics etc is being implemented with the support of GIZ. National quality Standards for Health Laboratories were developed, disseminated to the Directors of the 18 state laboratory directorates of over 500 of the laboratory Cadres (Both at the federal and state levels have been trained on Total Laboratory Quality management System

There were efforts made to improve the utilization of services by mothers. A KAP survey documented the major reasons why mothers are not practicing services and informed the development key messages that addressed the identified barriers. EMOC and ANC/PNC protocols were developed to standardize service delivery by PHCs. There is better availability and security of commodities, which is supported by improving referral system.

In some states where direct financial and other types of support provided, there are observed improvement in community based service delivery modalities, increasing uptake of facility based services, there is a good beginning in improving environmental health and health promotion activities. In North Kordofan state, within the framework of safe motherhood project, implemented jointly between the SHoM and NHIF, 10 communities are selected from two localities to train community midwives on referral guidelines. The cost of referrals will be incurred by the Referral Fund, which is financed through financial contributions from different NGOs and CSOs. The referral fund is run under the supervision of the community midwife and head of the community committee. The NHIF is paying the cost of referral of under 5 children.

There are a number of efforts undertaken to strengthen the referral system. Of the needed 600 ambulances throughout the country, there are now about 110 functioning. Gedarif state reported that there is no ambulance to transfer patients for tertiary care to Khartoum. In north Kordofan for instance, a central management for ambulances based in the general state hospital at Obeid was established.

Emergency response: Polio has not occurred for the last six year and meningitis and yellow fever outbreaks did not occur for some time. However, there is a continued outbreak of AWD for more than a year now that necessitated the need for enhanced humanitarian response. As a result government and international NGOs are working towards controlling it. It is reported that there is now better uptake of emergency services by the population. However, it is reported that this was achieved by comprising the efforts made in normal service delivery activities. Sudan has also initiated the humanitarian, peace and development nexus in 2017 and it has started implementing the action plan agreed by stakeholders. There are

innovative best practices in this regard. For instance EU is funding about 10,000 refugees to have access to health services through NHIF in Khartoum state. This initiative is also being replicated in Darfur States. In Gedarif state for instance, there is good effort in enhancing the coverage and effectiveness of service delivery. There is effective implementation emergency response through the deployment of emergency rapid response teams at the state level following the standards. Community Based Surveillance is initiative in some communities. Full investigation of childhood diseases is being implemented. In order to increase the coverage of fixed centres, the state induced 18 in 2016 and one in 2017 new centres.

3.3 Challenges and constraints

It is reported that some states do not use national policies and guidelines of PHCUs. There is inequality of access and uptake of services among and within states. Three states (Gedarif, Sinnar, River Nile) achieved full functionality of PHUs, while on the other hand two states (Red Sea and South Kordofan) has less than 50% functional FHCs and another two states (north Darfur and central Darfur) has less than 50% of functional FHUs (see table 3.2).

Although the different health promoting units are now within one department, the training of health promoters at the community levels remains fragmented. There are different community health workers deployed to reach the community and improve utilization and uptake of services. These include health promoters, community midwives, community health workers and vaccinators. It may be essential to consider the development of a comprehensive community health package and training a single community health worker for a defined number of households. This will reduce the fragmented and parallel approach of training, motivating and providing incentives and could enhance value for money for the investment being made.

There is gap in having comparable health service standards between the government health providers on one hand and the private and NGO facilities on the other. Generally it is reported that the private and NGO facilities including facilities run by NHIF are perceived by the community to have better quality of services. Meeting PHC standards as stipulated in the guideline remain an issue, which affected quality of care provided by the public health facilities. This is further compromised by deficient referral system. In Khartoum state for instance, CSO run facilities account only for about one third, but two-third of the PHC service utilizing population uses their services, which shows the underutilization of public health facilities. It is also reported that for instance in North Darfur the quality of service provision is restored with the support of the INGOs, but its sustainability in uncertain since the human resources may not be retained when they withdraw. The service providers in NHIF facilities are not sure the quality and motivation of the staff will continue as it today when it is transferred to the MOH management. These all documents that the national and state SMOHs need to review the quality of service provided and develop a quality reform strategy in the medium term.

The locality law that provided responsibility and financing functions to states and localities lacks clarity and locality hospitals are challenged in mobilizing adequate financing for their functioning. They are being financed by national, state and locality allocations but the specificities are not clearly articulated. Although improved overtime, supportive supervision from the state and localities to health providers is reported to be weak mainly due to inadequate financing and capacity.

The managers for the hospitals need to have some knowledge in management, finance, human resources and engineering. Currently, the managers are not trained on these skills. Furthermore there is no department or unit in the hospitals specialized in management or finance. As a result managers find it difficult to properly manage hospitals. The manager of Soba teaching hospital for instance submitted her resignation three times, but it was declined.

It is always difficult to retain doctors in public hospitals as compared to other sector hospitals. It is reported that if they couldn't go abroad they will move for the military or the police hospital where the payment is better and the workload is lighter. It is also reported that the military hospitals receive their budget as a lump sum-not earmarked, which makes it easier for the manager to decide according to the priority. The public hospitals could learn from these two types of hospitals.

Emergency response: there is a large flow of IDPs which overburdens emergency response in Sudan. In some conflict prone states the effort to control the AWD is primarily financed and supported by the UN agencies and INGOs. The health facility personnel currently providing these services are primarily getting incentives from the INGOs. It is reported for instance that 70% of the health facilities in Darfur are being run with the support of the INGOs. The major issue is therefore sustainability of the deployed human resources if and when the INGOs support declined or withdrawn. The coordination and effort by the national government states to retain and motivate human resources are at best inadequate. There is also reported variation on how emergency response is being supported by INGOs due to lack of standardized guidelines and mechanisms.

3.4 Recommendation

3.4.1 In the next fiscal year

- Develop road map to identify and reach out underserved areas and population groups to enhance equity among and within the states, with focus on priority services including immunization
- Work closely with the medical council to ensure that family medicine graduates are registered by the medical council to provide services
- Support continuous training of health workers to upgrade their skills and develop strategies to decentralise the management of the training programs;
- Develop and implement standardized emergency response mechanisms and ensure also government introduced incentives to retain human resources especially in emergency prone areas.
- Include the major humanitarian peace and development nexus priorities in 2018 plan to ensure that it is properly reviewed in the next JAR.
- Advocate for increased resource allocation for ensuring that trained PHC workers are employed in the PHC facilities as being exercised by states in community midwives
- Review the current disease monitoring system and strengthen it through the effective implementation of the community based surveillance system in the hard-to-reach areas and filling the current gaps
- Develop a costed strategy for equipping health facilities with the necessary readiness facilities including electricity, water, hygiene, and internet for communication (DHIS).
- Review the quality of service provided by government facilities as compared with those run by CSOs and private and learn from their experiences;
- Develop and implement health service quality reforms in public health service provision-hospital and PHC HC reforms;
- Review the current community based approaches and develop an integrated community health approach per village which is linked with the family health approach;
- Develop sustainability strategy to ensure services that have improved as a result of INGO support to emergencies continue when INGOs reduce or withdraw their support;

3.4.2 In the medium term (3-5 years)

- Review the PHC road map and its targets and revise as necessary
- Implement hospital and PHU reforms to improve quality of care and include quality improvement targets in the 2019 annual plan at facility, locality, state and national levels;
- Review the experiences of the military and policy health facility retention strategies and develop, based on their best practice, appropriate retention strategy that can work for all the health cadres rather than the specific health professionals;
- Consider introducing Chief Executive Officers (CEOs), a public health professional trained on hospital management, who will oversee the management of the hospital while the medical directors lead the technical area. The CEO will also be an instrument to take the hospitals into autonomous units if proper strategies are introduced.

4. Governance

4.1 Priorities and targets

Strengthening governance is one of the major priorities of the 2016 plan. The first focus area was to ensure timey endorsement and implementation of existing and new policies. In this regard, it is planned to develop evidence based sectoral and sub-sectoral policies; strengthening the capacity of develop, implement and monitor policies at all levels of the system, and develop and strengthen the regulatory framework. The second major focus area was strengthening the planning process at all levels. This is planned to be achieved through involving all stakeholders in evidence- based planning process, establishing effective coordination structure/mechanism; and development and institutionalization of mechanisms of accountability for the participation of the private sector and international partners. The last focus areas were ensuring accountability for delivery of results, efficiency, and value for money and equity among the different levels of government structures. This was to be achieved through building effective management structures and capacities at state and locality levels and developing and implementing accountability frameworks.

4.2 Performance achievements and best practices

Table 4.1: Performance of governance indicators

number	tor	trategic Target 2016)	vement
1	**Proportion of partners who signed up the Local COMPACT**	100% (29/29)	73.0% (21/29)
2	**Proportion of sectors/partners plans in line with national health priorities, vision and goals**	80%	??
3	**Number of states (and localities) with annual operational plans linked to the strategy**	States: 80% (17/18)	100.0%
4	**A comprehensive national health sector strategy with goals and targets updated within the last five years**	Strategic Plan developed, and endorsed	Done in 2012 (2012-2016 strategy)
5	**Presence of an integrated HIS that provide needed information on health system performance**	System functional	System has been developed and is functioning
6	**Coordination mechanism and setup in place**	Mechanism functional and effective	Coordination mechanism has been established and functional with its sub committees

Policy Development:

Achievement on drafting and endorsing policies in 2016 and2017 was very good. The FMOH has issued a number of policies to address some of the strategic and policy challenges/gaps, that have been identified in each of the policy document situation assessments, including National Health Policy 2017 –

2030, family health, health in all policies, health financing, global health, laboratories, blood safety, pharmacy. Table 4.2 summarizes the recently approved policies. The policy initiatives and concept notes were drafted and endorsed by the undersecretary counsel. Stakeholders are involved in the development process but most of the main policy development were coordinated and driven by PHI.

Table 4.2: Policies and strategies Issued over the last 18 months

	Name of the Policy	Year of endorsement
1	Family health policy options	2016
2	Health Finance Policy Options	2016
3	Roadmap for implementing health in all policies	2016
4	Strengthening health policy systems in Sudan	2015
5	Global health strategy	2016
6	Road map for strengthening health policy systems	2015/2016
7	Quality policy on PHC (standards and guidelines)	2017
8	National school health strategy 2016-2020	2016
9	Humanitarian peace and development nexus	2017
10	MCH Ten in five strategy	2016
11	National RMNCH strategy	2015
12	Dental health and safety policy	2017
13	Bio safety policy	2017
14	Blood transfusion policy	2016
15	National policy for local industry of medicines	2015
16	Health diplomacy policy	2015
17	National Health policy	2017
18	National policy for rational use of antibiotics	2015
19	Policy for hospital pharmacy	2015
20	National health sector strategic plan 2017 - 2020	2017
21	Sudan National Laboratory Policy	2015
22	Rational use of medicines policy	2016
23	Herbal Medicine policy	2016
24	Medicines Prescribing and Dispensing policy	2016

Leadership

There are efforts in some states to strengthen state and locality structures and capacities. The locality health system strengthening in Eastern States and six localities has strengthened the processes and procedures of the health system. Gedarif state for instance is well ahead of many states on many of the health system components. There is a need to review the strength of the approach and develop a replication and sustaining strategy even with support from development partners.

Planning and budgeting process

With the support of GAVI, Global Fund and WHO, capacities of all states were strengthened through training with average participants of 80 per state. All states were able to develop and submit their 2017-2020 strategic plans, which informed the development of the national strategic plan 2017-2020. The FMOH developed a planning manual on annual planning process and all states have annual operational plans that is closely linked

the national strategy. The process of developing one plan has been initiated and is going to its third year. It is reported that the 2018 planning process has been started much earlier than previous years. There is interest by partners to show their intervention as part of one plan. There is indeed a good effort being made to even include the humanitarian, peace and development nexus initiatives as one of the priorities of the one plan as part of the 2018 plan. The project support signed documents are the main sources of the budget information for the one plan.

M&E and information system

A set of indicators for monitoring the performance of states has been developed and endorsed for use. The next review will use these indicators. The information system remains paper based. Programs remain the major sources of for performance information. There are efforts being made to update the indicators. In Blue Nile for instance, it is reported that state indicators are updated every six months.

Partnership and coordination

Sudan has a high-level policy and strategy approving structure, the National Health Sector Coordination Council (NHSCC), led by the prime minster and involvement of other minsters in the form of the NHCC at the national level. The health sector is one of the few sectors that have functioning partner's forum in Sudan. The health sector has revitalized the coordination structure by establishing that the partnership policy forum, its oversight committee and a health sector partnership forum. Although not across the board, some states like Gedarif and Khartoum have also established health coordination councils. There is more engagement and cooperation and coordination with other Ministries as part of implementation of Health in all Policies as well as the implementation of strengthening humanitarian, peace and development nexus initiative. The proper functioning of these structures if supported by good operational guidelines, commitment to change and accountability will help the Sudan health sector translate its good policies and strategies into action. The effort to institutionalize the monitoring of effective development cooperation practices among the different sector partners (government, development partners CSOs and the private sector) was initiated by IHP+ 2016 monitoring round, which provided options for its institutionalization.

Box 3: Effective governance producing results: the Gedarif Best Practice

- The Gedarif state has established a Health Coordination Council under the chairmanship of the Governor. The State minister delegated his supervision responsibilities on rural hospitals to localities executives. The implementation of 12 polices were allocated to their respective departments. Regulatory structures established in all localities
- All partners are involved in the development of the state plans and, except the military and police, have been obliged to work according to the plan of the Ministry of Health. All localities have an annual plan, periodic reports and a budget for supervision.
- A unified system for follow-up and evaluation has been implemented and reports are being prepared according to established indicators
- All localities have functional health systems and the human cadres of the Department of Health Services in the localities are qualified and suitable and stable
- The capacity of the local staff in the administration and leadership is periodically built through the training courses. A questionnaire to assess the performance of localities in the health sector is designed and implemented and its results are reviewed in the State Council of Ministers.
- The above concerted efforts have produced very good results: PHC and basic EMOC coverage 100%; insurance coverage 91%; hospital reporting rate 100%; PHC reporting rate78%; and 12% of state resources allocated to health.

FMOH need to review the drivers of success in the state and develop strategies to scale up the best practices in other states.

There is evidence generated from this JAR showing when there is commitment and leadership by governors and states MOHs like in Gedarif, most of the targeted outcomes come be realised and North Kordofan state to

translate some of polices into action (see Box 3 and 4). Some state governors like North Kordofan and Darfur clearly stated that health is their top priority; they are keen to align their plans and projects to the national plans and policies. They also expect this JAR process to correct some of the challenges they face. Some programs have also technical working groups that bring partners on the table including the RH, and HTH technical working groups for example.

Of the 31 DPs/IPs in the country, 21% of them have signed the local compact. There are encouraging developments on side of some of the development partners working through the health system. The Global Fund started to use government as principal recipient for Health system support and is working through the government system. It also plans to transfer malaria support by 2018, TB support by 2019 and its full portfolio by 2010 to government system. The UN agencies are using harmonized approach to cash transfer (HACT). PFM assessment was carried out in 2016 and if all the recommendations are implemented, it is likely to increase the confidence of partners on the country's PFM system, which interim will reduce transaction cost and motivate partners to work more through government systems.

Box 4: Turning policies into action: North Kordofan State

The State have tried to translate some polices and strategies into action. Some of the examples are the following:

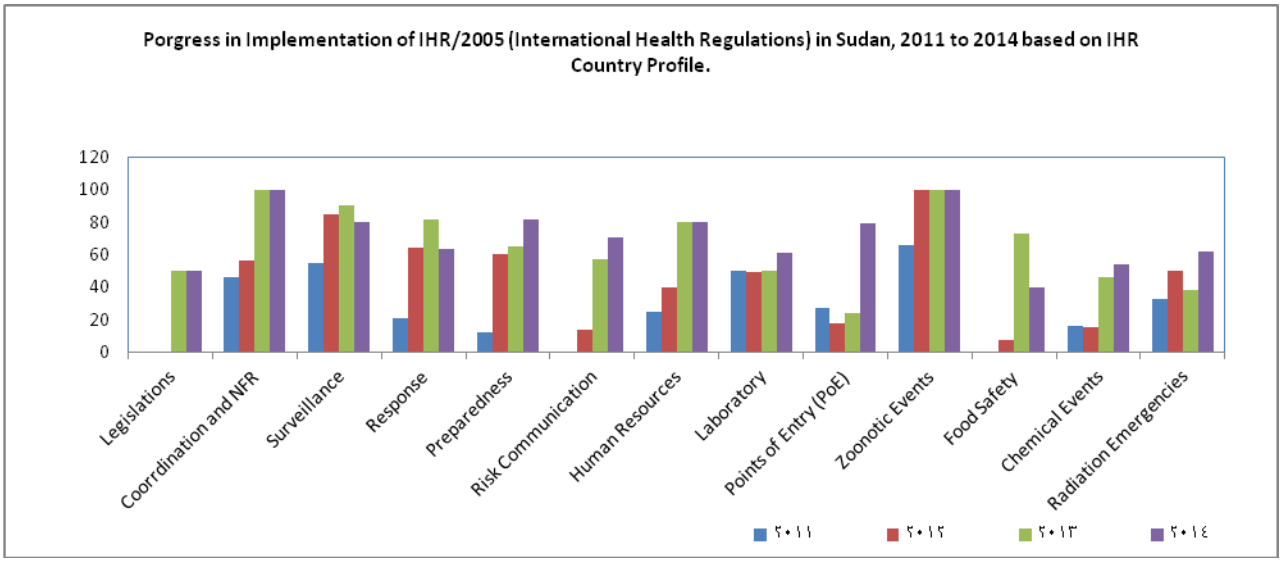
- Have a functional partnership and coordination mechanisms with TORs for each Minster and partner
- There is good effort to strengthen the locality health system through P4P, establishment of locality health council with delegation of responsibilities;
- Concerted effort to translate polices into action: Pilots in the implementation of health financing policy, developed quality policy on PHC; implementation of health in all polices; first state to implement school health policy;
- Provision of incentives to clinical pharmacies to translate the policy for hospital pharmacy into action
- Progress in the quality of information system (automation)

Review process with states

Quarterly reports are produced and shared in the biannual review meeting held to assess the compare the performance of states against each other and with the national targets. Many programs have stronger M&E system to follow up what has been implemented and not implemented in their respective programs. Ministry of International cooperation is going to start the mutual accountability framework between government and partners and the sector can learn from this experience to undertake a more detailed one with sector partners. There are quarterly meetings to review performance state as evidenced for instance in Blue Nile.

The International health Regulations

IHR are an international legal instrument, which is legally binding on all WHO States Parties for global health security. It is an international commitment for shared responsibilities and collective defence against disease spread. Sudan is one of the countries that were not able to achieve the needed core capacities under the International Health Regulations (IHR/2005) by the first deadlines of June 2012 and June 2014 and requested/obtained the final extension, of two years, to implement the IHR by June 2016. In 2014, World Health Organization assessment mission to Sudan concluded that a remarkable progress has been detected in implementing the IHR core capacities across the years in Sudan. Many requirements have been met, particularly those related to legislation, coordination and IHR NFP communication, surveillance, preparedness and IHR related zoonotic hazards, response, points of entry, laboratory, risk communication and IHR related chemical, food safety and nuclear and radiology hazards. In these capacities, few requirements are still to be implemented.



4.3 Challenges and constraints

Policy development: There is lack of clarity on the roles and responsibilities between PHI and other FMOH departments. PHI is part of FMOH. PHI is leading health reform and the transformational shifts particularly, in the areas of health financing, Health in All Policies HiAPs, as part of its evidence generation and technical assistance role. However, PHI needs to enhance and improve the ownership by actively involving different technical departments. The policy unit in the ministry of health's capacity is inadequate (staff numbers and capacity) and often face turnover. As a result, the technical assistance provider, PHI has become the driver of policy development. While using PHI as technical assistance mechanisms is the best practice, on the other hand, the experiences of other countries show that ownership and commitment to implementation of policies are much more fostered when policy developments are coordinated and led by the MOH departments, with active leadership of the TWGs. The role of TWGs and policy unit will be coordination and controlling the quality of the process and documentation by the technical assistance unit. The engagement of the private sector and health professional association in the policy and strategy development is reported to be weak and need to be enhanced.

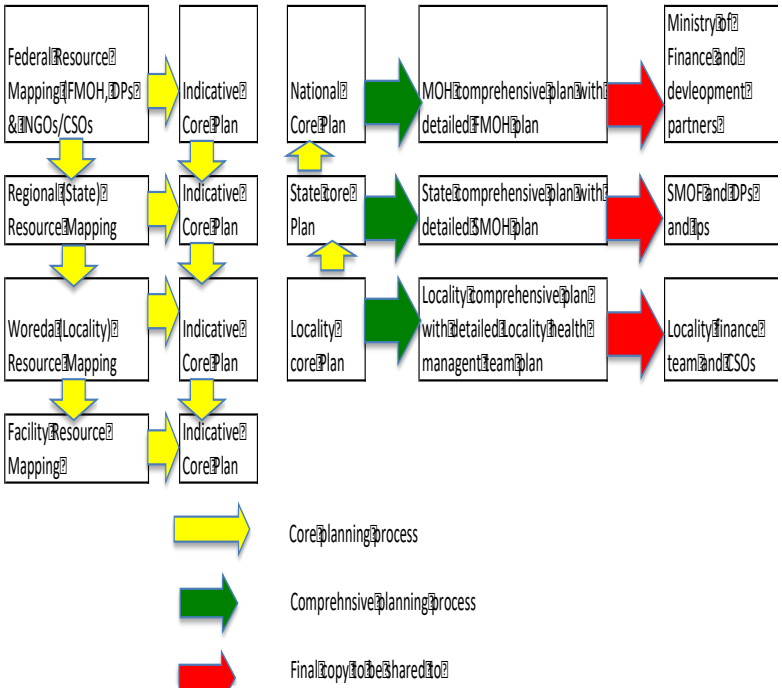
Leadership and commitment:
While leadership in the development of policies and strategies is very good, the effort to translate these into action however remains very limited. There is continued verticalization and fragmentation despite the policies of integration was adopted as part of the 2012-2016 strategy. While the vertical programs continue to more or less implement their interventions is a silo mode, there is also more than one planning directorate with the same general directorate. This can only change when commitment is shown at top leadership level to change the statuesque. Changes often achieved when there is enabling working environment, stronger horizontal coordination among different unit, which is reported to be inadequate. The major challenge is lack of mechanism for accountability of employees, performance of directorates to the agreed results and plans. Engagement and discussion with states on some of the very difficult health system strengthening efforts is carried out but reported to be inadequate. In some areas, there are reported clarity and confusion of the roles and responsibilities of states and the national level (the employment of a consultant at the secondary hospital levels, 1% earmarked transfers, etc.).

Effective health system structures are the major factors for success in implementing plans and strategies. According to the data generated from HIS, in 2016 only 10 states had established effective locality health system teams, this increased to 12 in June 2017. Four states only established locality health management teams in less than 50% of their localities. In Blue Nile, except Damazin and Rosairs localities all the others have incomplete structures and there is reported lack of lack of commitment of localities towards health sector priorities. In North Darfur for instance, one from 18 localities have locality management teams. From all states, only Gedaref and Red Sea were able to fill all positions in the organizational structures at the state levels. This is clearly reflects the variations in commitment of the states in strengthening health systems.

Planning and budgeting process

There is no one plan yet. The planning format is reported to be not user friendly and often produce bulky documents. The operational plan is not resource based as it isn't yet informed by resource mapping exercise and as a result there is mismatch between the annual plan's resource requirement and the available budgeting. Programs and departments continue to develop and implement plans in parallel with the 'one' plan and some partners refereed this one plan as "MOH Plan'. The involvement of other sector ministries (Police and defence) in the one process is very limited. The time allocated for planning process seems inadequate and the sector could revisit the planning calendar. While the planning directorate clearly stated the one budget reflected in the plan captures both domestic and external resources, partners perception on the other hand is that the focus of the one plan is mainly the resources likely to be mobilized from partners rather than the full resource envelope including domestic resources which account for more than 95% of health financing in Sudan. There are also differences of opinion on how the budget funds the plan. On the one hand the planning general directorate reported about 60% at federal and 70% of the state plans are funded, program respondents clearly stated the inability to access funding limit their implementation capacity. This is so critical given the fact the availability of external financing in uncertain with some of the major financing sources is likely to decline-graduation from GAVI support. There is confusion between result based and project based planning processes. One partner clearly spelt out that 'there is some planning for planning but no planning for results'. The 2016 and 2017 planning formats used different formats. The planning process should start from facilities, to localities, to states and national level (see the Ethiopian experience in Box 5). However, some facilities visited are not involved in the planning process. The facility management staff in north Kordofan is not participating in planning and they reported that plans developed by SMoH do not well address their priorities. They didn't receive guidelines to assist them in planning.

Box 5: The process of planning and budgeting in the federal context: the Experience of Ethiopia



The planning department is weak not only in its technical capacity but also in its ability to influence and negotiate with departments, states and partners moving towards One plan and one budget-inadequate authority. There are parallel seven planning directorates in each of the seven General Directorates. Coordination and accountability among these different planning directors is weak. As result, other directors and programs are carrying out some of the planning functions. The available retention mechanism including financial incentives is reported not comparable with other directorates. This in turn created a high turnover of planning directorates 6 directors over the period of 2012 - 2016. The turnover of staff is frustrating the efforts being made to strengthen the planning, budgeting and monitoring process as there are new faces every time during these critical process both at federal and state levels, with inadequate institutional memory. The health -financing department is only doing data analysis and surveys and has very little engagement in either annual budgeting or planning process or on policy development.

The commitment to policies and strategies vary at different levels. Key informant interviews reported that there is more commitment and ownership at the communities and localities and that commitment declines as one goes up higher in the decision-making structures.

M&E and information system

Although the JAR is as one of the monitoring mechanisms in the compact, this is first JAR and there was no strong follow up and monitoring systems that ensures translation of polices, strategies and plans into action. There is no yet one report and M&E plan that goes with one plan and one budget both at national and state levels. Some partners reflected that they were expecting request for submission of progress report that goes with plan submitted, but such process is yet to be initiated. The structure of M&E at national, state and locality levels is very weak at best or non-existent and there is very limited structures M&Es being implemented beyond data and report submission. Follow up of implementation to fast-track delayed activities and accountability for not performing plans is yet to be exercised. In Khartoum state for instance, it is reported that there is strategic planning board that reviews monthly performance and quarterly reviews are submitted to legalisation council. However, lack of accountability policy undermines its effectiveness of the performance review.

Partnership and coordination

The establishment of the new structure of partnership forums has improved coordination as compared to the past, but is still far from desired. The CSO and private sector participation in the move towards one plan, one budget and one report, including their engagement in this JAR is limited. There is late communication of meetings and events and there is weak participation of partners. There is limited cooperation and coordination among partners themselves. The JAR team has met partners that do not know much on what is going on the sector outside of their project activities. The NHCC structure is not replicated at the state levels to lead and coordinate issues related to intersectional actions. Partners continue to directly implement activities due to the weak capacity of the MOH on implementation as well liquidation of fund utilization. There is no formal accountability mechanism at all levels. Although efforts are made to coordinate the submission of annual plans and budgets in some states, systematic efforts will be visible only when there is a high level visit, mission, or submission of reports for funding programs is needed by FMOH. Bilateral accountability between National MOH/SMOS with DPs/IPs is reported to be very week. Although there is good effort to avoid duplication and overlaps of implementation at state levels, there is no formal system in place to implement harmonization and alignment. The relationship between development partners sometimes appears to be competitive. Although there is effort to strengthen the CSO consortium, the effort to bring them on board at state levels remains inadequate.

Given that the international environment that Sudan is currently under-sanctions-there are few international partners investing on health-Gavi, Global Fund, EU and UN agencies. EU for instance is constrained also in enhancing its engagement to work through government system by the fact that Sudan isn't a signatory of Cottonuou agreement. Because of limiting external environment, there is no clear resource mobilization strategy and guidelines developed by the government so far. Most of the partners are also working using additional safeguard policy. The global fund and Gavi are used as a catalytic fund to strengthen the health system. They are found to be flexible and willing to support the country requirements including capacity building and embedded technical assistance if it is a priority and agreed by sector stakeholders.

Monitoring and Review process

The targets being used to compare performance are the average national targets rather than states own targets that are based on context but reflecting national interest. Although these biannual meetings are carried out, there are some concerns as they can improve their usefulness. The states are not using one reporting template and often do not submit their reports on time. These reviews could benefit more if some experts are included to explain the drivers of success and challenges of thematic areas chosen to be reviewed.

4.4 Recommendation

4.4.1 In the next fiscal year

- Review the structures of the Planning Directorates in all FMOH units and restructure it by providing more authority for planning and budgeting General Directorate; by refocus the core functions of technical departments at the federal level to be able to plan, provide technical support, supportive supervision and monitoring and not service delivery, which should be the primary responsibility of the states;
- Strengthen the capacities of the directorate general of planning and international health including policy and planning departments and units through: hiring qualified and sufficient number of staff; clarify roles and responsibilities; improve working environment and avail adequate tools and equipment
- Support the planning Directorate with embedded consultants for about a year to help them have a comprehensive plan, budget, monitoring mechanism and one report at national, state and locality levels. Support the development and linkage of facility annual plans with the locality and state plans.
- Strengthen the capacity of the planning, policy and financing General Directorate to technically guide and have a negotiating capacity with departments, states and partners in moving forward
- Conduct an in depth assessment of the implementation of the decentralization in the health sector; develop the accountability framework;
- Develop and implement a comprehensive plan to strengthen the decentralized health system using phasing approach that focus on:
    - establishing Locality Health Management Team in the localities without LHMT;
    - revising and clarify roles and responsibilities of the three tiers of the decentralized system;
    - improving working environment and avail adequate tools and equipment to states and localities;
    - Selecting few states and localities to implement all elements of health sector reform (health financing, HiAPs, family health, LHMT, health cities, ect…) as the first phase to draw lessons for the next phases.
- Inspire other states to learn from best practices: Assist the best performing states to document their successes and their drivers to be presented by the governor of the state to the NHCC. It is recommended that NHCC to organize a meeting among governors, SMOHs and MOF to chart out mechanisms to enhance commitment, leadership and resourcing for health system strengthening. As part of the outcomes of this meeting, chart out high level actions that needs to be carried out by Governors, national and state MOF as well as the national MOH to put in place minimum structures and systems at locality and facility levels, get it endorsed by the NHCC and reach out to them to translate this into action. This will enhance credibility of the JAR process and will help institutionalize it.
- By 2018, one report that can be compared with the JAR report in the annual review meeting should be prepared and the practice of producing one report should be institutionalized.

- Based on the evidences generated by the draft report on institutionalizing monitoring of Effective Development Cooperation (EDC) practices: (a) discuss and endorse the EDC revised monitoring indicators; (b) include these indicators in the 2018 'one plan' with baselines and targets; (c) integrate their monitoring as part of the 'one' monitoring system and the sector annual report.
- Provide needed support to foster the implementation of International Health regulations (IHR) plan
- Institutionalise the Join Annual Review Process through defining its leadership, coordination mechanisms, setting clear timelines, expanding its scope beyond JAR (thematic areas, group works, field visit and experience sharing), enhancing participation, ownership especially by high officials and ensuring implementation of its recommendations.
- Encourage and support states to undertake their own review mechanisms based on nationally agreed but state specific targets and strategies
- Given Sudan is a federal state, there is a need to replicate the national coordination structures at state and locality levels like to ensure implementation of plans and programs are aligned and harmonized at state levels;
- Strengthen the participation of CSOs and the private sector in all the sector forums including future JARs and sector evaluations;
- Introduce phased approach to start implementing the health in all policies in the first phase by selecting few states and localities (selection criteria and state's willingness) for future scale up

4.4.2 In the medium term (3-5 years)

- Strengthen the leadership capacities of the national and state levels to enable them deliver the health agenda within the sector and have the ability to negotiate and push for implementation with other sectors.
- Undertake the strength and gaps of the decentralization health system and develop strategy to scale up better practices and reduce un-clarity of roles and processes
- Review the progress made in the integration process to identify barriers to progress and develop a strategy to fast-track its implementation
- Use the authority of the HSCC to bring more coordination in the one plan process with other sector Ministries;
- Scale up phased approach of the decentralised health strengthening and health in all policies in other states based on the best practices and lessons from the piloted states;
- Develop the capacity and authority of the policy unit to lead an coordinate future policy developments
- Start the planning process early enough to give time for adequate consultation and implementation of top-down and bottom up planning; support the planning process with resource mapping exercise and ensure that it is resource based rather than wish list. The MOF, MIC and MOH should work towards ensuring that DPs and IPs provide resource mapping to the sector for better planning and budgeting and align their support to the country systems and procedures
- Harmonize the different planning formats project and result based and ensure all states and localities use the same format for outcome and output targets setting and planning
- Ensure the FMOH introduces strategies to ensure that they fast track implementation of activities and on time reporting and liquidation of resource use to ensure partners' buy in to strengthening government systems.
- Strengthen the accountability for results and targets by directorates, states, partners and overall government through mutual rating and recognising best performers

5. Health information system

5.1 Priorities and targets

The major targets in health information system over the last two years were the establishment of an effective HIS coordination mechanism with different partners; the development and implementation of HIS policy and legal framework and procedures; designing and implementation of systems, tools and procedures for integrated data reporting; establishment of HIS integrated data repository/warehouse; increasing reporting rate of different services providers from the public and private sectors especially PHC level; strengthening of efficient health surveillance system; establishment of community health information system; strengthening vital registration system; building capacity on data management, analysis and use including through increased access to ICT; functional health System Observatory; strengthening and institutionalization of the M&E capacity and system and institutionalized; and strengthening Health Research system.

5.2 Performance achievements and best practices

Table 5.1: Performance of HIS indicators

no	ıtor	Strategic Target (2016)	vement
1	**Presence of an integrated HIS that provide needed information on health system performance**	System functional	System has been developed and is functioning
2	**Coordination mechanism and setup in place**	Mechanism functional and effective	Coordination mechanism has been established. One meeting took place on 2016
3	**% of health facilities submitting monthly reports every month (by PHC, MOH, NHIF, police, private)**	Not less than 80%	52.0% (Programme report)
4	**% of births registered**	80%	67.0% (MICS 2014)
5	**% of deaths registered**	50%	~ 10% (2010 mini research finding)
6	**% of periodic and annual statistical reports produced and disseminated according to the standards**	not less than 50% of periodic & annual statistical reports	100% (1 Annual statistical report is produced every year for the previous year, and 4 periodic M&E Quarterly reports is produced each year to reflect MOH performance compared with the plan and targets
7	**Data quality assurance system in place**	System functional	System is to be updated and improved according to new implementation and standard implemented. Yet update is not in place. HIS is using old way for validation and improving quality of data.
8	**% HF, Localities and States produce, analyse and use periodic reports**	Not less than 50%	HF and locality (data not complete). The strategic target for the last strategic plan was changed to focus as a first step on states. When DHIS is build and become well functioning with data coming in, then lower levels should be included, but not the HFs.
9	**Number of dashboards, summaries and briefs produced and disseminated to relevant decision makers and stakeholders**	Annual analytical report on health sector performance produced by June	Annual analytical report on health sector performance was not produced. Dashboards on monitoring the national Strategic plan and another one to monitor states' performance were developed
10	**Number of dashboards, summaries and briefs produced and disseminated to relevant decision makers and**	Briefs produced according to needs	2 Human Trends Analysis of Diseases in Sudan (2003 - 2012), Trends Analysis of Human Recourses in Sudan (1990-2012)]

	stakeholders		

HIS coordination mechanism was established and undertook its first meeting on 2016.

An integrated Health Management Information System model has been designed and is being implemented. A standard, integrated, aggregated one health facility reported format was developed, adopted and rolled out to facilities. The target of the number of facilities submitting monthly reports and number of births registered for 2016 and 2017 was 80%, and the achievement was 52% and 67% respectively.

The DHIS is rolled out in all states and localities except Khartoum state (see box 6). JAR visited states with the exception of Khartoum are implementing the DHIS 2 system. At state levels, there is variation in the implementation of the DHIS2. In Khartoum state, DHIS is not implemented but they are planning to use other electronic system- Enterprise electronic system (ERP). But it is not reaching all facilities in the 17 states. In North Kordofan for instance, the electronic DHIS2 system is implemented in all hospitals, and 42% of FHCs, and 50% of FHUs.

Box 6: DHIS2 Implementation in Blue Nile and Gadarif States

There is a comparatively different story about the successes in DHIS 2 between the two states there is a comparatively different story about the successes in DHIS 2 between the two states. In Blue Nile, as part of the implementation of the DHIS2 in the state, statisticians at the state, localities and from programmes were trained, and computers; printers; and internet modem devices and All services were provided to states and all localities. However due inadequate resourcing and capacity, the state isn't providing adequate support. Medical assistants and nurses, who are primarily responsible for preparation of reports, are not trained. The major challenge was Lack of statistical staff to deploy to centres and units. The sector needs to explore alternative strategies for training health information officers.

On the other hand, In Gedarif, reporting rate through the DHIS2 was the highest. All the hospitals and localities were covered by information system and all the cadres were trained (141 at federal level and 111 local levels). The reports are regular and complete, except for insurance, organizations and statutory institutions, which are considered challenge. There are systems for auditing as well as for analysis and data management. However, there are also challenges in movement within localities, non-reporting of insurance, NGOs as well as the private sector.

The HIS directorate produces annual statistical report based on the routine information collected. About 400 indicators were identified and agreed by programs and departments for future use with its meta data (definition, preferred and alternate data source, numerator/denominator, frequency, indictor domain, etc.,). Seventy-one indicators were selected and are being used as a means for reviewing the performance of states in bi-annual frequency.

The data quality assessment system was not put in place as planned, but only using old techniques and tools for validation and assuring the quality of data. Efforts are being made to improve quality through supportive supervision, but that is not consistently carried out. A health observatory (WWW.SHO.GOV.SD) was launched online on 2014 to function as a platform to disseminate and share information, documents and evidence about health and the health system.

The planning directorate at the national level and M&E departments at the state levels are the major drivers of M&E functions. It is reported that there is variation among states in using the information generated through the HIS system. A dashboard for monitoring the implementation of the strategic plan and another one for states' performance monitoring were produced; while on the other hand the planned annual health sector performance report was not produced. Any JAR meeting, in the future, should be accompanied with the

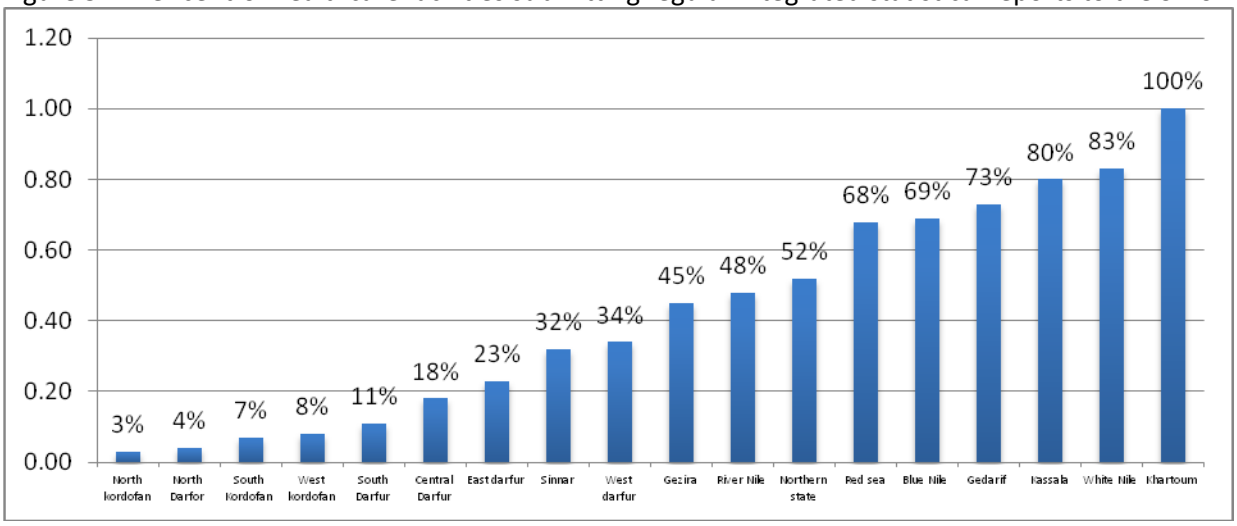
presentation and launching of annual health sector performance report.

The main achievement reported in areas of research is the endorsement of the research policy, and the development of ethical and technical accreditation guidelines. The electronic system for ethical and technical clearance for researchers is developed and functioning. There were also efforts to strengthen the research capacity as well as strengthening partnership between academia and researchers.

5.3 Challenges and constraints

The health information collection and reporting remained fragmented as the parallel information generation and reporting by vertical programs continued. It is reported that there are about 13-17 parallel information systems at the moment that increases the transaction burden of collection and reporting at the facility and locality levels on human resources and the system. Overall, reporting through HIS remains very weak (hospitals 63 per cent and PHCs 18 per cent) while the reporting rates like immunization and other programs are reported to be higher due to better financing and motivation. Only five states achieved rate of 70% or more (see figure 5.1). In Blue Nile state for instance, regular reports are received from 5 of the seven localities. Due to low reporting rates, some states are making payment of salaries conditional on submission of reports. Furthermore, while the private sector hardly reports, the army, police and other institutions operate independent information systems and are not included in the HIS reports as the culture of information sharing is not good enough. The comprehensiveness of information collected through the HIS systems do require a lot of strengthening. The reporting rate through the DHIS2 remains very weak.

Figure 5.1: Per cent of healthcare facilities submitting regular integrated statistical reports to the SMoH



The other major challenge related to strengthening HIS is that there is inadequate and motivated staff at facility, locality, state and national levels to oversee data entry processing, reporting, sharing and use. The HIS directorate is inadequately empowered to enforce integration and increase the reporting rate. Furthermore, lack or inadequate availability of the electricity and internet services compromise the functioning of the DHISs system. As a result, not all the reports are loaded to the system. Health facilities did run out of registers last year, which greatly affect the information at all levels. It is reported that Gedarif's PHC reporting rate is considerably high and the sector needs to explore the best practices and scale it up to other states. The FMOH and states should try to explore incentive and penalty mechanisms to enforce reporting from facilities.
The utilization of the information especially at facility level through its own planning and monitoring process is

weak. The experience of other countries clearly show that quality and responsiveness of the facility managers and statisticians will improve when they use it for their planning and when monitored about the target set during reviews and discussions with localities. Independent and fragmented surveys often being carried out and the need to undertake integrated surveys were emphasised by key informant interviews.

The priorities of health system research were not updated. There is inadequate financing for research in general and to strengthen the research function of the directorate in particular. The monitoring of researches products after they received technical and ethical clearances is very weak. There is no structure that follows up research at the state levels. As part of research a number of surveys are carried as per the request and financing of the development partners.

JAR teams were not able to get all the indicators identified in the plan at the state. Overall, the total availability information for the targets set in their plan is at best 47 per cent in Gedarif and at worst 0 per cent in North Darfur (see table 5.2).. Even when available information are cross checked there is contradictions and difference between what is obtained from HIS and vertical programs. This clearly shows that the country is far off from having one information source.

Table 5.2: Availability of performance information on the indicators planned by states

State	Total # of indicators in the plan	Fully Available	Partially available	Total available	% of available from total # of indicators planned
Blue Nile	58	8	7	17	29.3
North Kordofan	**58**	**10**	**30**	**40**	**69**
North Darfur	**58**	**No data**	**No data**	**No data**	**0**
Khartoum	**58**	**0**	**27**	**27**	**46**
River Nile	**58**	**0**	**25**	**25**	**43**
Gedarif	58	20	7	27	47
Total	348	38	89	136	39

.

5.4 Recommendation

5.4.1 In the next fiscal year

- As part of the development of 2018 plan, the sector need to identify limited number of prioritised outcome and output targets for each of the health system building blocks to be set for the next year's review process;
- Review the modality of recruiting statisticians as HIS personnel and develop alternative human resource base for HIS and DHIS scaling up and stronger monitoring system;[1]

[1] In Kenya for instance the sector trains Health information system (HIS) officers that have become the drivers of sector M&E processes and helped to fast-track the DHIS2

- Develop and implement strategy to increase the reporting rate through the DHIS system and ensure it becomes the major if not the only source of information for health sector planning, performance monitoring and accountability; and strengthen, the culture and capacity of interpreting and using data for decision-making at all (particularly) Locality levels.
- Develop reporting enforcement incentives and penalties for facility and locality managers and HIS personnel.
- There is an urgent need to strengthen the capacity of HMIS departments and units at all levels of the health system, including employment of adequate number and skilled personnel, training, provision of equipment, incentives, and monitoring and supportive supervision.
- Invest and strengthen the data quality auditing process to ensure what is produced is credible and acceptable to programs and other stakeholders;
- The HIS officers at all levels of the systems should be empowered and adequately capacitated and become the drivers of not only integration and scaling up of DHIS reporting rate but sector monitoring and evaluation by linking information to planning, resource allocation and utilization and accountability.

5.4.2 In the medium term (3-5 years)

- Gradually stop vertical reporting and move towards integrated reporting mechanism at different levels.
- Develop and implement the task shifting strategy for HIS personnel.

implementation. The major advantage is that the turnover of these officers is limited to movements within the sector rather than to other sectors.

6. Human resources for health

6.1 Priorities and targets

There were a number of targets for strengthening human resource for health as part of the 2016 plan. Strengthening the planning process of HRH through basing it on projections and evidence and strengthen the involvement of stakeholders in HRH policy, planning and M&E process was the first. The second focused more on ensuring equity of HRH distribution especially doctors and nurses. This was to be achieved through institutionalizing retention strategies in remote and rural areas as well as improving the skill mix imbalance among health professionals at facility level. The above two major core areas were also highlighted as part of its 2016 global health strategy, which prioritized two major strategic interventions on human resources for health; (i) development of comprehensive approach to multi-sectoral HRH information and planning systems; (ii) develop and implement a migration policy that captures clear retention policy, supported by bilateral agreements with destination countries and recognizing the diaspora as part of national health workforce. The third major priority of the 2016 plan was improving human resource management system including individual performance through strengthening performance management, and improving productivity. The fourth area of focus was enhancing production of human resources in line with health service needs. This was to be achieved through increased HRH production including allied health professionals, improve the skill and responsiveness of health workers through continuous professional development, strengthening the inter- and intra-sectoral coordination to ensure quality of production. The last focus area was strengthening HRH management at decentralized level. This was to be achieved through building the leadership and HR management capacity of the decentralized levels and developing appropriate organizational structures for HRH functions.

6.2 Performance achievements and best practices

Table 6.1: Performance of HRH indicators

N0	Indicator	Strategic Target (2016)	Achievement
1	Ratio of health workforce per 100,000 population (disaggregated by doctors, nurses and midwives, public/private, Rural/urban level and state	More than 2.3	1.927 per 1,000 population (total health work force number: 68,383) Doctors: 0.25 Per 1,000 population Nurses: 0.45 Per 1,000 population Midwives: 0.38 Per 1,000 population
2	Presence of an Updated HRH plan based on HRH projections	Workforce projections used to inform stakeholders yearly plans	Projection not done waiting for HRH survey findings
3	The ratio of doctors to nurse	1:4	1:1.14 (10,683: 12,229)
4	Proportion of HRH in urban Vs. rural	Stabilize 50/50	60/40
5	Percentage of Public health facilities applying the updated HRH performance systems	35% of the public health facilities applied the updated HRH performance systems	NA

6	Percentage of HRH who received certified CPD	61%	80% (Total No.: 67,734)
7	Number of allied health professionals graduating from the Academy of health sciences and its branches per year and category	6,000	3,522
8	Number of States having a functioning HRH management system	17	9 States
9	Density of health workers: a-Physicians, b-Nurses, c-Midwives, d-Pharmacists, e-Dentists, f-Community Health Workers		
10	Density of graduates of registered health profession educational institutions	NA	NA

The National strategy for human resources, migration policy, dual work policy, CPD policies were developed. The integrated human resource information registry was established in 2016 with about 20 the partners with stakeholders both from inside & outside ministry of health (HR information users, producers, processors or funders) involvement. There is a quarterly forum serving as a coordination mechanism for health sector partners based on the framework for HRH Agreement at the Ministries Council. But it is not yet effective as it operation is yet to be kicked off yet.

There are a number of professional boards and councils that oversee the different aspects of human resource curriculum, training, practice and ethics. These include national council of training, medical council, medical specialization board, doctors' union, pharmacists' union. These councils and unions contributed to:

- Conduct of the a comprehensive survey of training institutions;
- Establishment of training units at the federal and state levels;
- Work closely with the MOH in the development of HRH plan and regulations; linking curriculum to the needs of the service delivery levels
- Establishment of educational development carrier in six states
- Establishment of new subspecialty councils (cardiology and neurology) and other councils like midwifery.

Box 7: Covering cost of training and longer commitment by graduates in North Kordofan

The successful students are contracted for at least 5 years in the state after graduation, and the cost of their education is paid by the state. The contract is done between the student and the government of the state. The graduate doctors do not get their certificates until they fulfil the 5 years of work. This program is managed by a committee, which is given adequate power to execute the provisions of the contracts.

There was an effort to send more specialists to the states by developing a unified list for specialist and allocating 1% in the initial phase then increased to 2% in 2016 to provide more incentives for certain skilled health professions. The money is subtracted at the Federal Ministry of Finance from the state's budgets transfers. This has enabled by 2016 to deploy about 1236 specialists to the states. Although the retention policy resulted in retaining the specified number of specialists in rural and remote areas, it isn't fully effective as external factors like security; social relationships, working and living environments at states affect the decision of specialists to stay. Some states have also established their own motivation mechanism. For instance, in north Kordofan state specialists are provided with better salaries, cars and residence to retain them within the state. The distribution of consultants is centrally managed to ensure equity of deployment among states, but states are not sure whether they are receiving as much consultants as the deducted transfers of resources from the state to MOH.

3522 allied health professionals graduated, which shows a performance rate of 59%. Some programs have also reported to train and recruit staff deployed as part of the emergency response like rapid response teams. However, lack of positions and resourcing to recruit some of the aligned professionals and community workers like midwives in some states is reported to be still a challenge. The continued professional education was able to achieve 95% of its target trainees (48000) in 2016, which is much higher than the previous trends. CPD was able to establish a database and also started e-learning and distance education. This was achieved through the expansion of training infrastructure like videoconferences in all states, but there should be more effort and investment to structure and strengthen online training. There is also increased interest and partnership between CPD and partners. The impact of CPD training in terms of enhancing efficiency and effectiveness to the operation of trainees use yet to be carried out. CPD is institutionalized in states, as it is a sub-structure of the planning directors of the states.

The ratio of health workforce per 100,000 was 1.927, which is lower than the planned target of more than 2.3. When disaggregated by different professional categories, it was 0.25, 0.45 and 0.38 per 1000 population for doctors, nurses and midwives respectively. The imbalance between doctors and nurses remained, as it was 1:1.14 instead of the planned 1:4.

Job descriptions that defines qualification & duties is in the process of development while Standard Operating Procedures is being updated; personnel policies (Ethics, Confidentiality, employee benefits; Employee handbook (policies, information about the LQ system, copy of job description, overview of Standard Operating Procedures (SOPs) are under preparation. When implemented, it could enhance accountability among health professionals and manager in the system.

6.3 Challenges and constraints

One of the key challenges facing HRH departments is inadequate coordination at federal and continued fragmentation at state and national level among Labour, councils, recruitment, and human resource development. Each of the stakeholders develops own strategies. There is fragmentation of the regulation of human resources as many professional councils are involved in the registration and standard setting. Not all councils are also effective in their activities. As a result some of the HRH polices are not translated into action.

Overall there is weak management of human resources at locality levels, especially in those localities without the human resource management teams there is also a challenge of retained trained leaders within the system as only 3 out of ten trained ones are currently in the system. Only half of the states have a functional HRH management system. In some states like Blue Nile, there is no structure responsible for human resource management. These all affect the capacity to recruit and retain at different levels. It is also reported that the authority of managers are very limited to management of human resources.

Maintain job satisfaction among health professionals remain a challenge, which resulted in migration both internally towards big cities and abroad. Although different initiatives are ongoing; the effectiveness has not been that good. There is high turnover of trained staff as well as CPD staff. Human resource retention has been a major challenge in Sudan for years. The retention policy being implemented does not include all health professions and it focused only on financial incentive and provision of residence. In Blue Nile for instance state retention is exclusive to doctors and pharmacists. As a result, this has led to shortage in other health professions; nurses, radiologists, lab. Staff) at different levels of the health system. Migration of the health

cadres is believed to be their right and so far the isolated efforts and policies of retention have limited effect in curbing the trend.

The composition of health and medical teams (skill mix) is not well balanced. There is no system for performance appraisal of health professionals and hence performance assessment is not yet well practiced as there is no functional standardized and unified tool. In some state reports, it is reported that promotion of the health personnel is driven only by attendance. It is reported that SOP is complete and ready but job description and performance appraisal system are not ready yet. It is reported that there are many factors affect implementation of individual performance assessment including but not limited to commitment from HR personnel, lack of job description 'even our culture' to be committed is not good. There is no system (procedure, methodology) for measuring and documenting personnel competency to identify and correct performance problems before they affect patient care. So it is not known to what extent these systems contribute to improved productivity of HRH.

. There is inadequate communication and coordination among different HR stakeholders in general and CPD stakeholders in particular. Although the participation of stakeholders in planning and in policy development was satisfactory; still their commitment towards policies and implementation of plans is weak. The management of training is centralised and there is a need to explore mechanisms for instituting decentralised management of in-service trainings.
Vertical programs do training to build capacities but there is no systematic data compilation and working arrangement with CPD to reduce duplication of training and skills; there is wide difference on training between vertical programs and the database from the CPD.

The quality & completeness of the human resource data remains a challenge due to a number of factors including: the program design, lack of electronic information system of some of the partners, issue around confidentiality. The HRH observatory has incomplete data on HRH, especially on migration at the HRH observatory; Some of the professional councils like the SMSB, doctors' union, and union pharmacists reported to have not involved in MOH strategic plan and policy making and have limited financing to undertake their functions; all the professional associations raised the limited coordination on setting priorities and undertaking researches. On the other hand despite the participation partners in different HRH forums, their commitment to implementation agreed priorities and strategies are reported to remain inadequate.

6.4 Recommendation

6.4.1 In the next fiscal year

- With the involvement stakeholders including states, review the production of HRH including the effectiveness of the allied health professionals and the rate of attrition of each of the HRH categories;
- Work with the ministry of education to production of critical human resources and task-shifting strategies; develop a task-shifting strategy together with its accelerated production plan for human resources that are in short supply at PHC levels (anaesthetists, nurses, radiologists, lab technicians, HIS personnel, among others).
- Support and motivate all states to establish a functional HRH management structures and systems at state and locality levels
- Review the on-going national and state specific retention strategies including those that are being used by the other Ministry facilities (military and police) and document best practices and lessons learnt

- Strengthen the relationship and working modality between CPD and HRH management and directorate as well as vertical programs; work modalities to decentralise the administration of training to ensure it is implemented on time and as per needs of states and localities.
- Work with medical council to ensure that family medicine graduates are recognised and registered as professionals

6.4.2 In the medium term (3-5 years)

- Review the functioning of the professional councils and work with them to develop unified human resource regulatory mechanism
- Based on the review, revise the current HRH retention strategy in terms of its retentions mechanisms (beyond financial benefits) as well as its comprehensiveness in terms of capturing human resources required especially at the PHC levels;
- Introduce performance appraisal system with putting clear job descriptions and other standard tools necessary using it as a precondition for any future promotions and salary increments, which should be linked with performance results of directorates, staffs and professionals.
- Develop an integrated in-service training program instead of vertical program capacity building and enforce its implementation through the CPD, with clear agreed training content with the programs.

7. Medicines and health Technology

7.1 Priorities and targets

The first priority of the 2016 plan on medicines and health technology was to ensure the quality and safety of the pharmaceuticals and health technologies as well as making them affordable and rationally used. This was to be achieved through strengthening regulatory frameworks, development and implementation of national and state health technology policies and management systems, updating and endorsement of national essential medicine program and technology protocols; improving the rational use of drugs and especially encouraging the use of generics and reduce over use of antibiotics; and development and implementation of regulatory systems for herbal prescription. The second priority focused on ensuring availability of pharmaceuticals and commodities in service providing facilities. This was to be achieved through integrating multiple supply chain and procurement systems, encouraging and promoting local production of generic pharmaceuticals and diagnostics; and strengthening the quality control measures on pharmaceuticals and diagnostics.

7.2 Performance achievements and best practices

Table 7.1: Performance of medicine and technology indicators

Serial No	Indicator	Target by 2016	Achievement	Status of implementation
1	Availability of the affordable basic technologies and essential medicines, including generics, required to treat major non-communicable diseases in both public and private facilities	NA	82%	
2	% Public health facilities provided appropriate drugs and technology services for the level	92% for medicine 50% for TS	66.3% for medicine No data for TS	
3	% of health facilities that have no stock out of essential medicines during past 3 months (by state, level of facility)	80%	?	
4	Availability of free Malaria medicines	80%	84%	
5	Availability of free TB medicines	80%	83.40%	
6	Availability of free HIV medicines	80%	86.70%	
7	Availability of free Under 5years medicines	80%	89%	
8	Availability of free Pregnancy related medicines	80%	64%	

The data provided by HIS and NMSF is different

The regulatory framework is being strengthened by the development, and endorsement of a number of medicines and related polices and guidelines. In this regard, an essential drugs list for different level health facilities and standard treatment guidelines has been developed and endorsed. Policies on rational use of antibiotics, generic use of medicines, and hospital pharmacy were developed and endorsed. The only one waiting for its endorsement is the policy on herbal medicine. However, their implementation and their institutionalization are yet to fully start. There is good communication strategy on the rational use of medicines through the use of health promotion, school health programs, radio etc. The impact of the new policy is being assessed through the survey, which is currently being carried out. There is also an effort being made to promote local production of medicines with a list of 170 medicines selected for local production.
It is reported that 95% of medicines passed sample post market surveillance tests.

The 2015 National Medical Supplies Fund (NMSF) law has brought about positive changes to the availability of medicines and medical supplies. It was able to enrol 16 states (with the exception of Khartoum and Gezira states), which has helped for the unification of prices and procurement systems. This intern led to reduction of procurement costs for the country. It increased the number of items to be available in the stores from 640 to 1200 and also reported to enhance availability medicines and medical supplies and/or reduce stock out rates. It also provided opportunities for sector to get tax exemptions and improve the quality of products procured and strengthen distribution capacity.

NMSF reported to have achieved 83% of its 2016 plan targets and 81% of its 2017 plan at the end of the first six month plan targets. It has established well-equipped and managed stores in the 16 states. The other two states (Khartoum and Gezira) have own stores operating independently from the NMSF.

Availability of free under five programme , free TB , availability of free malaria and HIV medicines were more than that the target of 80% in 2016; while availability of free pregnancy related medicines fall short of the target set for 2016 (see table 7.1).. Some states like river Nile reported that there is excellent coverage of HIV/AIDS/TB/Malaria/Under five free medicines without reports of stock out. Overall availability of affordable technologies and essential medicines reported to be 82 in 2016. Although 92% of essential medicines and 50% of technology services was targeted for public health facilities in 2016, the performance recorded was 66% availability of medicines and no data on technology services. In addition to the provision of reproductive health commodities through the regular parallel reproductive health supply chain, MISP provided 2.5 million commodities in 2016, which might have reduced the availability of such commodities. The NMIS and LMIS played a key role in ensuring availability of commodities, including national reproductive health supplies.

The national medicine and poisoning board is involved planning and policy making for the pharmaceutical sector. It established a department for local industry of pharmaceutical products in Sudan; extending its scope of work to include the hospitals and establishment of the pharmaceutical safety centre to detect drug reactions; and introduction of computerized system to regulate drug entry to the country.

7.3 Challenges and constraints

The enforcement of the pharmaceutical products regulation at state level is delegated to the pharmacy department, which has inadequate capacity to undertake regular M&E to enforce regulations. The pharmacy department is ill equipped with the necessary human resources and logistics. There is high attrition rate among pharmacists in the public sector as they prefer to work in the private sector. This is particularly the case in health facilities, which undermines the effort to accurately project demand, promote appropriate use of

medicines and medical supplies.

Some of the secondary information clearly documented that medicines and medical technologies are one of the major challenges of providing accessible and quality care. It is reported that more than 50% of health facilities have less than the minimally required equipment; only 44% of health centres have sterilizing equipment; availability of functional infrastructure (water and electricity) ranges from 100% in Khartoum to only 20% in peripheral states; and health technology management system is weak, while health technology assessment processes and procedures are not in place.

The availability of medicines and medical supplies is constrained by in adequate availability of foreign currency in the country and limited access to global market due to US sanctions imposed on Sudan for the last 20 years, resulting in shortage of some essential medicine public sector health facilities.

The separation of the three core wings of the system (the poison board, the supply fund and the pharmacy) seems a good direction but their functionality and coordination is less that desired. The regulatory function at state level which is guided by the pharmacy department is underfunded and whenever there is limited financing, it is fully external resource dependent. There is high turnover of staff, limited availability of financing for training as well as week coordination with CPD and HRH on training.

The functioning of the medical technology services is faced with a lot of challenges. There are many machines distributed to the facilities and they are stored without functioning and the reasons for their malfunctioning are not known. There is also misdistribution of machines as they are stored in one while highly needed in the other facility. There is no standard placement of medical technologies in the health facilities and some machines are sent out from the MOH without looking whether the environment for their operation is available in health facilities-e.g electricity. The old and out-dated machines working at primary health care units are not replaced. The current medical maintenance capacity is very weak. Although there are engineers, they are not capacitated enough to provide adequate services. Some health facilities reported that they have to wait for more than three months to get the medical equipment maintained. Although that NMSF started to establish workshop for maintenance at central and state levels to provide maintenance services to public sector and acquire them with adequate capacity in term of human resources, equipment and infrastructure, the inadequate availability of medical equipment maintenance unit (with adequate maintenance equipment and biomedical engineers) remains one of the challenges that need urgent actions.

There was overlapping in the procurement of certain items and building of infrastructure with UNICEF.
The national medicine and poisoning board reported the existence of limited information exchange with national health observatory and limited involvement during planning and policy making in human resources for health.

7.4 Recommendation

7.4.1 In the next fiscal year

- Ensure the inclusion of rational prescription in the undergraduate medical curricula to ensure promote rational use of medicines
- Strengthen the rational use of medicines especially antibiotics through strengthen good prescribing behaviours and reaching out to patients on rational use of medicines
- Review the design of facilities to ensure that structures are fit well for the storages of medicine and medical technologies

- Review the performance of medical technology services operations and develop strategies to strengthen and enhance efficiency in their deployment
- Provide adequate support to address the financial, structural and capacity barriers for effective implementation of the regulatory functions to ensure that stands and regulations are enforced and strengthen the institutional capacity of the NMPB
- Improve staff retention policies for the whole pharmaceutical sector, including the pharmacy directorates, the NMPB, and the personnel managing the public pharmaceutical facilities at hospitals, health centres and units;
- By working with the National Bank, Facilitate availability of adequate hard currency for importation of pharmaceutical products and inputs for local manufacturing;
- Develop clear map for coverage by both public and private pharmaceutical services;
- Strengthen the distribution capacity of NMSF by investing on wheel drive temperature controlled vehicle for difficult roads in 8 states;
- Develop medical equipment maintenance strategy and
- Enhance the production and use of generic medicine.

7.4.2 In the medium term (3-5 years)

- Establishment of effective and autonomous regulatory departments at the states to work under direct supervision of the NMPB;
- Develop and implement more effective incentives and policies to promotion of national manufacturing of medical and pharmaceutical products;
- Expand coverage of pharmaceutical facilities by good storage a practice i.e. means of refrigeration to ensure good quality and effectiveness of medicines particularly in the remote rural areas; and
- Implement medical equipment maintenance strategy, with establishment of medical maintenance units at different levels.

8. Health financing

8.1 Priorities and targets

There were three major priorities in health financing for 2016 plan. The first was to mobilize adequate financing and allocate it equitably. This was to be achieved through increase public sector allocation at the levels of the system and allocating resources equitably among states and health services and programs. The second major priority was to reduce the inefficiencies in resource utilization through more alignment of allocation of resources to national priorities; establishment of unified health financing that reduce its dependency on out-of-pocket spending and on fee-for-service payment; and reduce inefficiencies in receiving, disbursing utilizing and tracking of resources. The last priority was enhancing social protection mechanism and moving towards UHC through health insurance that promotes risk sharing and cross subsidization.

8.2 Performance achievements and best practices

Table 8.1: performance of financing indicators

Serial number	Indicator	Strategic Target (2016)	Achievement
1	% of government expenditure on health as percentage of total government expenditure	15%	8.8%
2	% of health sector aid disbursement released according to agreed schedules in an annual or Multiyear frameworks	50%	No data
3	Ratio between top 3 and bottom 3 states for per capita public sector health expenditure	1	No data
4	% of public health expenditures used for PHC services	40%	31.1 (SHA 2015)
5	% of the population covered by health insurance	52%	53.5
6	Out of pocket expenditure as % of total health expenditure	50.0%	79.4%
7	Per capita total expenditure on health (US$)	No strategic target	$133
8	Population with catastrophic health expenditure	No strategic target	7.9%
9	Population that gets impoverished due to out-of-pocket health expenditure	No strategic target	No data

The performance of health financing in Sudan and its future options were reviewed and a new heath financing policy options was developed and endorsed. The restructuring of the NHIF systems was carried out through the issuance of new law, which clearly stipulated among others, the separation of provision and purchasing functions. The health account for 2015 will soon be completed while the accounts for 2016 have been initiated. According to this latest SHA 2015 report, the total per capital health expenditure was estimated at $18.76. This is very much far below the estimates of the High Level Task Force (HLTF) for innovative financing of US$54 (expressed in 2005 dollar terms) to avail the more comprehensive services included in its estimates, which is re-estimated to be US$86 per capita in 2012 Prices (McIntyre and Meheus, 2014). The per capita government spending estimated for 2015 is translated into 7.2% of the total Government Expenditure at a country level. When this is disaggregated into states and federal government, States were investing more of

their resources (9.98%) on health than the federal government (5.76%). The HIS reported that 8.8 % of government expenditures was spent on health in 2016.

OOPs are estimated using inflation trends to project current levels from the 2012 household survey as there is no latest household survey on OOPs. Hospital costing exercise (of outpatient, inpatient and laboratory services) is ongoing and its final draft report will be released by end of the year. The health economics department has 15 professionals if properly trained and led, can be the drivers of health financing reforms in the country.

Sudan spends almost 5.3% of its GDP on health, the main sources of which are federal government (6.1%) and state (5.9%), private spending account for 83%; of which, out of pocket expenditure represents about 79.4% of total health expenditure. It is also estimated 8% households face catastrophic expenditure as they sell their assets to seek care. Partners and donors contribution was 1.79% of THE, which translates to only US$2.18 per capita.

The new NHIF law of 2016 has introduced strategic shifts to strengthen its functioning. These shifts include moving from fragmented state level into national scheme with only one national board; from voluntary to compulsory enrolment; that clearly splits the provider and purchaser functions between NHIF and MOH, introduced mechanisms to follow up quality of care of providers; and allowed the scheme to finance PHC facilities that might not have doctors as providers. The NHIF national board is established and started its functioning in 2107 while the state boards have phased out. The premium and the benefit package is now standardized in all states with the exception of Khartoum; the process of becoming only a purchaser have been initiated in six state branches and only west Kordofan state has completed the process. In Umdum Hajahmed locality in north Kordofan, all healthcare facilities are directly run by MoH and this is the only locality where the NHIF has completely withdrew from direct provision of services since 18 months ago, as a pilot towards shifting from dual role to pure purchaser**.** Free services have been financed through the NHIF; and list of drugs have been updated. In Kordofan state, the KII confirmed that the law positively impacted the availability of medicines by increasing the items from 640 to 1200 reaching 85% of the need; and also unifying of prices for the whole country; integration and expansion of coverage by different medical supplies including revolving and

Box 8: Best practices in increasing coverage of health insurance: Near UHC in Gadaref and significant effort in North Darfur

Gadaref state is the most successful state in increasing the health insurance coverage and moving towards UHC. The percentage of the population covered increased from 15% at the beginning of 2016 to 91.5% in the half of 2017. There is now universal coverage of the formal sector employees. 12,000 families were enrolled into the insurance sector (state financing 10,000; federal financing 2000). It is also reported that 49000 famers were beneficiaries of free services during the last 18 months. The number of health insurance centres increased from 145 to 250 during the same period. Public health centres with a medical assistant and a community health worker in areas where there are no doctors are providing services. All prices of services provided by health facilities are enacted and approved by the state legislature. It is reported that payment made by households is symbolic and affordable to society while the Ministry of Finance and Zakat pay the cost to the poor. What remains to achieve universal coverage is enrolling the private sector and senior traders as well as medical associations to health insurance.

The total number of insured in North Kordfan state was 1,550,000 persons and the coverage increased from 30% in 2015 to 42.5% in 2016 and up to 60.1% in end of June 2017. The coverage of the formal sector, the poor, community midwives, university students, and under-five was 90%, 68%, 100%, 95% and 100% respectively. The health insurance coverage by healthcare delivery outlets has now included Medical Assistants (MAs) and Community Health Workers (CHWs) as providers in addition to doctors.

free programmes' medicines and supplies.

There was increase percentage of people covered through NHIF mainly due to the commitment and investment of GOS to protect the poor. The insurance coverage rate is reported to have increased from 37.5% in 2015 to 53.5% in June 2017. The main driver of this increase in coverage rate is the financing of government to finance the very poor. In 2017, the government has financed the premium of 750,000 households and Zakat was able to finance 640,000 households. It is also reported that the coverage of university students through their own contribution has reached 47%. Overall all it is reported that the premium of the 72% of the poor has now been paid and covered through the NHIF. There is also a plan by the NHIF to try and cover the remaining poor (see box 8 for good practice in Gedarif and North Kordofan state).

The premium payment for each individual household by MOF and Zakat is reported to have increased. In eight states the Zakat contribution increased from SDP 15-40/month to 60 per month, the other states need to increase also if the scheme is to equitable risk sharing mechanism. The Ministry of finance increased from 50 per month to 91 per month. Although the cost of services is not known, this is the first step in the right direction for ensuring financial sustainability. But there is a need to clearly define the cost of the services as well as the prices paid out and mechanisms of payment to health providers.

The major challenge of moving towards UHC in financial protection is ensuring the enrolment of the non-poor informal sector workers to the scheme. In this regard there are three types of initiatives being tried in different states: the earmarked tax on agricultural and animal products in Gedarif state, where coverage is reported to have reached to more than 91% with enrolment of 55000 families; making membership of insurance as requirement of renewing any types of licenses in three states (West and North Kordofan and partially in Khartoum); and community based insurance schemes in Kassala and Red Sea states.

There are limited moral hazards by insurance members as 85% of services being utilized at the PHC level. Only 15 % of services are currently being provided at secondary and tertiary service providers. This is achieved due to existence of clear referral guidelines for members of the insurance. On the other hand, there are instances of over prescription of laboratory and x-ray diagnosis by providers, which as significantly reduced when global payment mechanisms is introduced.

The recent PFM assessment documented both the strength and weaknesses of the public financial management system. The major strengths identified include existence of robust statutory and regulatory framework for PFM, with well documented guidelines, procedures and rules for budget formulation, execution and fiscal oversight; high level of interest in harmonization and alignment of PFM through the IHP+; the implementation of Treasury Single Account (TSA) supported by the use of GRP/ERP; well observed budgeted calendar; functioning external audit system.

8.3 Challenges and constraints

The overall health spending is mainly financed through out pocket spending which is the main challenge for Sudan in moving towards universal health coverage. The health sector share from the total health spending remains lower than the Abuja declaration and its per capita spending is much lower that what is recommended internationally. There is also big question whether Sudan is generating the necessary results in terms impacts and outcomes it is generating from the investments made as compared to other countries in the region.

The health financing policy development is largely driven by a technical government unit, PHI, the role of the

health economic department and policy department is reported to be weak. The involvement and leadership of policy and strategy development will heavily influence ownership and commitment to them. It is necessary to distinguish technical support and drivers of policy and strategy development.

When we look at the progress towards UHC, the first element will be coverage population with essential services defined by the country. There are many factors that will negatively affect financing and its sustainability. First, the fiscal implication of Sudan's graduation from the GAVI immunization support will be significant, as much as 25 million USD up to 2025.

Although the law clearly stipulated that membership to insurance is compulsory, there is still no clear enforcement mechanisms of law regarding in all public organizations. As a result, the main challenge remains to be expanding the coverage of insurance to the informal sector.

The sustainability of the insurance system heavily depends on the ability of the premiums collected from different sources to cover the cost of care. So far, there is no clear evidence based costing of health services at different levels. There is also no evidence the extent to which the payment made by NHIF is able to cover the costs. Currently, mixed payment mechanisms being implemented: the fee-for-service and global budget based on historical trends. The claims of primary health providing health facilities paid is through the localities as health facilities do not have their own accounts and there is a tendency some of the localities are taking some administrative cost which reduces the resources available to health facilities to improve quality of care. The pilot being carried out in North Kordofan to pay facilities according to their performance is something that the NHIF need to closely follow and share the experiences to other states if its found successful. It is reported that households pay very low premiums, which makes NHIF sustainability to rely heavily on continued commitment of the government to finance the poor. There is exists a fragmented pools of NHIF, military, police Para- statal, and private health insurance.

Although one of the shifts of the new law is to ensure the quality of the services provided by facilities are acceptable, there is so far no minimum criteria set for health providers to meet before being contracted by NHIF.

There are complaint boxes and call centres in some states to obtain the complaints and recommendation of members. The major complaint of NHIF members is availability of drugs in the health facilities. Overall its is reported that only about 76% of the drugs are available in the health facilities, and 3.5% of the drugs are not in the drug list of which 1.5% are not at the lower level. NHIF is currently revising the drug list to accommodate the missing ones. Given that patients are co- paying 25% of the drug cost as a co-payment and given that availability of drugs will be the critical factor to attracting and retaining non-poor informal sector household in the insurance scheme, investment and closer monitoring should be carried out on the availability, affordability and distribution of drugs and medical supplies.

The development of the annual budget to ministry of finance is reported to be driven by the accounts and other program departments and is reported to be delinked to the planning process. The capacity of the FMOH to negotiate with the MOF could be enhanced if the leadership and management of the planning and budgeting process are integrated with the technical assistance from the accounts department. The planning directorate is not directly involved in supporting states to increase mobilization in their respective ministries of finance.

The PFM review also documented identified weaknesses including the use of parallel systems by DPs; weak and fragmented donor coordination; significant amount of development partners funding remains off-budget.;

weak linkage between sector strategic and operational plans to the national budget; and fragmented and inefficient procurement system

Despite the fact the sector is reported to face inadequate financing to move towards UHC, there is also a challenge in utilizing available resources due inadequate absorption capacity. Our discussions with the global fund and GAVI confirmed the fact that there is slow implementation and often acceleration plans are developed to speed up the implementation. States (example N Kordofan) clearly identified that delayed disbursement by the FMOH and national MOF undermined their effort in timely implementation of their activities. The challenge timely liquidation of used funds undermined implementation and absorptive capacity further. There is a need to review and explore the main causes of weak absorptive capacity and take appropriate actions.

User fee generated resourced have different ways of management in different states. According to SHA 2015, of the total health spending, 45.2 % was spent on hospitals and another 31.1% was spent on PHC health centres. Assuming that the OOPs estimates are correct, hospitals and health centres are mobilizing about $3 billion per year in the form of user fees, which is a significant resource for the health sector. Development of health facility autonomy with clear financing strategy might help reduce some of the financing challenges in health facilities.

8.4 Recommendation

8.4.1 In the next fiscal year

- Strengthen the policy, planning and health economics departments to play their leading roles in their respective areas in the sector. They need to have technical leadership and monitoring capacity and enforcement mechanism to ensure commitments are realized. They should be strengthened to ensure that they become the drivers of policy and strategic, annual plan and budgeting process and financing of the sector.
- As part of the work plan, develop a disbursement plan for each of DP supported programs financed through FMOH to states and liquidation and reporting mechanisms from states supported by regular follow up and accountability to fast-track of implementation and increase abortive capacity.
- Sustain the government's commitment to provide free services to mothers and under-five children; enhance its effort towards universal coverage by covering fully the very poor through the insurance coverage - the remaining 28%;
- Closely follow up the functionality, effectiveness and sustainability of the three types of different mechanisms of increasing coverage of informal sector household through insurance. Develop a clear roadmap on how this effort will be enhanced in the next four to five years.
- Develop and implement transitional strategy that ensures the sustainability the uptake rate of immunization as Sudan is graduating from GAVI immunization support, including the ability to procure immunization vaccines using country procurement system;
- Explore the underlying reasons for high out OF pocket spending despite increasing insurance coverage and develop strategies to reduce OOP's share percentage of overall health spending; consider revising the insurance benefit package based on a thorough costing and willingness and ability to pay assessments if insurance members are still paying high out of pocket expenditures.
- MOH and NHIF to revise both the premium contribution rates and the prices paid out for services by NHIF based on evidence based costing and willingness to pay analysis.
- Strengthen donor coordination mechanisms, and actively solicit support from MoF and DPs to both address the weaknesses identified PFM assessment and help improve control environment and minimize off-budget financing of the sector;
- Strengthen planning and resources allocation processes across the MoH, including state levels;

- Consider adopting a system that releases GoS funds on quarterly basis according to proper cash forecasts; MoH could be a pilot for this[2].

8.4.2 In the medium term (3-5 years)

- Undertake efficiency analysis of the health sector and develop strategies to enhance gains in allocation, operation and using effective interventions.
- Develop strategies to strengthen public private partnership.
- Explore mechanisms to make health facilities including PHCs to become autonomous in deciding on the resources they generate to improve quality of care with clear management guidelines that sets where they can spend what they should spend on and on what activities they are not allowed to spend on.
- Together Ministry of Finance review the fiscal implication of Sudan's graduation from GAVI support and develop a financing strategy to replace the future declining of funding;
- With the move towards UHC becoming a policy agenda and priority, it IS necessary to strengthen the quality and responsiveness of health service provision at PHC levels through the availability of drugs and medical supplies, human resources and infrastructure. In this regard
    - MOHs (national and state levels) should work towards developing a roadmap to strengthen quality of care at PHC levels and thoroughly follow up its implementation
    - National and state MOHs should engage their respective MOFs and develop mechanisms and strategies to ensure more resources are channelled to PHC facilities.
- NHIF and MOHs need to establish a joint accreditation mechanism and set minimum quality criteria to be engaged in the provision of services through the insurance scheme. This will encourage states to invest more on health facilities, although it may bring some dissatisfaction in the beginning.

[2] FMOH, 2016, Joint Financial Management Assessment

9. Annexes

9.1 List of Key Informant InterviewsNo

No	Name	Responsibility/position
Federal Level Team "A" interviewees		
At the FMoH		
1	H.E Bahar Idris Abugarda	The Federal Minister of Health
2	Dr. Isamedin Mohammed Abdalal	The Undersecretary of the FMoH
	The Directorate General of Planning and International Health	
1	Dr. Elfatih Mohammed Malik	The DG of the directorate
	The Directorate General of HRH	
1	Dr. Igbal Ahmed Bashir	The DG of the directorate
2	Dr. Mohammed Osman Digno	The director of CPD
3	Dr. Suha Mohammed Abdin	Department of scholarships
4	Dr. Sondus Aydrous Elmasellami	Policy and planning department
5	Dr. Hagir Yehya	Policy and planning department
6	Mr. Eltayeb Elmasellami	Policy and planning department
7	Dr. Doha Omar Elfarogh	Academy of Health Sciences
8	Miss. Safa Biomi Abadi	Department of Nursing and Midwifery
9	Miss. Alawia Ahmed Fadlelmawla	Department of Nursing and Midwifery
10	Dr. Amal Abdu	HRH observatory
11	Dr. Sawsan Etahir Suleiman	Quality department
12	Dr. Zeinab Eraiah	Department of Housmanship
	The Directorate General of PHC	
1	Dr. Elmoez Etayeb Ahmed	The DG of the directorate
2	Dr. Nada Gafar Osman	Director of MCH
3	Dr. Mutaz Abdalla Elhadi	Director of PHC expansion
4	Dr. Salahedin Elmubarak Khalifa	Director of health emergencies
5	Dr. Tarig Abdalla	Director of communicable and non communicable diseases
6	Dr. Mohammed Zakaria	Director of health promotion
7	Mr. Ismaeil Elkamish	Director of environmental haalth
8	Dr. Sara Tijani Saeed	Director of M&E Department
9	Dr. Abdalla Abdelkarim	Director of the National Public Health Laboratory
10	Miss. Amal Mahmoud Mohammed	MCP planning section
11	Eiman Hassan Elsheikh	M&E officer at the directorate of Environmental health
12	Doaa Adil Abdelrahim	M&E section at the Directorate of Expansion
13	Alia Abulgasim	M&E officer for PHC

14	Ayman Mohammed Salih	M&E officer for PHC
15	Miss. Rihab Fathelrahman	Head of Planning and M&E at The National Public Health Laboratory
16	Mwahib Elfadil	
17	Ejlal Ahmed Salih Etahir	M&E officer at the directorate of health emergencies
18	Hind Mohammed Hamad Jeyd	Health emergencies officer
19		
	The Directorate General of Curative Medicine	
1	Dr. Mohammed Ali	
	The Directorate General of Quality	
1	Dr. Haytham Mohammed Ibrahim Awadallah	The DG of the directorate
2	Dr. Nadia Ahmed Elhassein	Head of accreditation section
3	Dr. Alia Gheys Ibrahim	Head of planning and policy section
4	Dr. Abdeazim Ali Abdelazim	Planning and policy officer
5	Dr. Waleed Ibrahim Mohammed	Head of infection control section
	The Directorate General of Pharmacy	
1	Pharmacist. Hassan Abdelrahman Ataeseid	The DG of the directorate
2	Pharmacist. Bedredin Saeed	
3	Pharmacist. Asma Hashim Elhassan Eltohami	Department of planning and policy
4	Pharmacist. Eltayeb Ezedin Ahmed	Head of department for pharmaceutical improvement
5	Pharmacist. Fatima Elzahra Ismail	Head of department of community pharmacies
6	Pharmacist. Mei Abdalla Humeida Elamin	Head of hospital pharmacy department
7	Pharmacist. Waheba Hassan Eltom	Head of department for national manufacturing of medicines
8	Pharmacist. Hamda Osman Babiker Mohammed	Head of advisory office for national manufacturing department
9	Pharmacist. Zaria Alim Abas	Head of pharmaceutical statistics department
10	Pharmacist. Sara Ezedin Rashid	Department of medicines information
11	Pharmacist. Rayan Mohammed Nageeb	Department national manufacturing of medicines
	The Directorate of Planning and Policy	
1	Dr. Ali Sayed Mohamed Elhassan	The director of planning and policy directorate
2	Dr. Mahmouda	Head of planning section
3	Dr. Mai Abdelrahman	Head of M$E section
4	Dr. Abda Abdelrahman	Head of policy section
5	Dr. Mohammed Elhassan	Head of health economic section
6		
	The Directorate of Information	
1	Dr. Khalid Abdelmutalab Elmurdi	Director of information directorate
2	Dr. Amal Mohammed Osman Abbas	Head of of HIS observatory

3	Dr. Amal Elamin Mohammed Nor	Head of vital registration unit
4	Miss. Aza Mustafa	Reporting unit
5	Dr. Amal Abdelrahim Osman	Community medicines registrar
National Medical Supplies Fund		
1	Pharmacist. Ikhlas Abdelrahman Mohammed Kher	Director of planning and monitoring department
2	Pharmacist. Nagwa Farough Elagib	
3	Pharmacist. Jameila Badr	Head of planning section
4	Pharmacist. Ayat	Procurement section
5	Tarik Hyder Eltigani	IT section
Federal Ministry of Finance		
1	Dr. Wail Fahmi Badawi	Deputy director of planning and policy department
2	Dr. Zakia Bashir Hassan	Policy section
3	Miss. Sadia Elkhidir Bella	
4		
Ministry of International Cooperation		
1	Miss. Someia Idris Okud	The State Minister of International Cooperation
2	Ambassador. Mohammed Yousif	Director of Organization and International Funds
3	Mr. Ahmed Elsharif	Director of EU department
4	Miss. Mhasin Abdelghani	Planning department
5	Miss. Nadia Ahmed Elamin	UN agencies department
6	Miss. Eitidal Mohammed Elhassan	NGOs department
7	Miss. Sulafa Sirrelkhatim Geily	Uropean Cooperation department
8	Mr. Abdelati	Director of Bilateral Copperation department
9	Mr. Ahmed Yasin	Media department
WHO Sudan Country Office		
1	Dr.Naeema Alqaseer	WHO Representative in Sudan
2	Dr. Hanan Mukhtar	EPI section
3	Mr. Yousif	EHA section
4	Dr. Emadedin Ahmed Ismail	HSS section
UNICEF Sudan Country Office		
1	Miss. Ghada Kataty	Deputy Unicef representative
2	Mr. Pierre Sign	Health Specialist
3	Miss. Dorothy	Health Sector Director
4	Kanan	Head of WASH section
UNFPA		
1	Mr. Mohammed Elamin Salim	Deputy Representative
2	Dr. Abeer Abdelsalamn	Humanitarian Program Specialist
3	Miss. Yosra Hassan Abdgabbar	RH program Associate
4	Mr. Faisal Abdalla	PD Program Specialist
5	Mr. Sufian Fadul	RHCS Analyst

6	Miss. Einas Yehya Mubarak	HIV/AIDS Specialist
7	Rohayem Elzobair	RHCS logistic Specialist
European Union		
1	Dr.Med Christopher Knauth	Team leader Cooperation of Europian Union Delegation to Sudan
2	Miss. Mashair Omer	
3	Miss. Yan	
Italian Cooperation		
1	Vincenzo Racalbuto, Khartoum;	Head of AICS
2	Paolo Giambelli,	Programme Manager
Central Hospital of police		
1	Police Brigadier General Doctor :Adil Abu Almaali	Director of Quality Management
2	Birgadier Doctor : Alnoor	Director of State Hospitals
3	Brigadier Doctor : Afaf Mohamed Elhassan	Quality Management
4	Doctor General : Hisham Abd Elrahim	Director
5	Dean : Tawheeda	General Metron
6	Major doctor :Dalia Muawia	Pioneer doctor
7	Colonel Doctor :Yousif Mukhtar	Sawi Complex Manager
8	Pioneer : Khalid Fadl Almawla	Administrative Institutional Information
Soba University Hospital		
1	Dr.Duria Mustafa Elrays	The Director General
Fedail Private Hospital		
1	Dr.Alkhansaa Sulieman Salih Fedail	Director General
No	**Name**	**Responsibility/position**
Federal level Team "B" interviewees		
Sudan national council for training		
1	Prof. Awatif Elegeimai	Director of the Council
Sudan Medical Council (SMC)		
1	Prof. Alzain Karrar	President of the Council
The National Council for strategic planning		
1	Dr. Abass Koreena	Secretary general of the council
2	Dr. Altegany Edris Salih	Deputy secretary general of the council
3	Abdelraheem Mahmoud	Translator
Sudan Medical Specialization Board (SMSB)		
1	Prof. Eltayeb Abdelrahman	President of the SMSB
2	Dr. Nazik Babiker	
3	Dr.Ahmed Abdelrahman	
4	Dr. Amel Abdelraheem	
5	Dr. Sara Hamed	
Doctor's Union		

1	Prof.Abdaleteef Ashmeek	President of the Union
2	Dr.Abdalla Abdulkareem	Secretary General
3	Dr.Ahmed Mohamed Zakaria	
4	Dr. Mohamed Osman	
The Association of Women working at the MOH		
1	Thoraya Ibrahim	President of the association
2	Sitana Ali Ahmed	Member of the association
3	Suad Mohamed Osman	Member of the association
4	Wafa Alamin Ahmed	Member of the association
Pharmacist's union		
1	Dr. Salah Aldeen Ibrahim	President of the union
2	Dr. Mohamed Kamal	Member of the union
National Medicines and Poisons Board (NMPB)		
1	Mohamed Basher Hassan	Director of the directorate general of registration of pharmaceutical products
2	Sara Abdelkareem	
3	Elham Abu Algasim Omer	
4	Hiba Ahmed Albasher	
5	Wigdan Khalid Alfeel	
6	Dr.Maha Mohamed Ali	
The Sudanese Standards and Metrology Organization (SSMO)		
1	Dr. Osman Ahmed Osman	Director of research and scientific centers
2	Mr. Mahdi Ismail	
3	Miss. Nawal	
The National Drinking Water and Sanitation Unit (NDWSU)		
1	Eng. Amar Mohammed Hassan Mahmoud	Director general of the unit
2	Eng. Mudawi Ibrahim Mohammed Ahmed	Deputy director and the national coordinator of WES
3	Mr. Abdelrahman	Director of WES procurement section
Public Health Officer's Union		
1	Mr. Ahmed Idris	Chair of the Union of PHOs
2	Musa Ibrahim Abboh	The financial trustee of the union
Health, population, environment and humanitarian committee at the National Assembly		
1	Dr. Emtithal Elriah	Chair of the committee
2	Mr. Salih Jumaa	Deputy chair
3	Dr. Salah hashim Swaredahab	Head of the health division of the committee
4	Mr. Shekh Abubaker	member
5	Miss. Samira Rahmtalla Mahmoud	member
6	Mr. Ahmed Sabahelkheir	member
7	Miss. Mhasin	member
8	Mr. Ahmed Eisa	member
9	Dr. Elbeily	member

10	Mr. Abukassawi	member
11	Major General. Elhadi Adam Hamid Yagoub	Chair of defense and security committee
Higher Council for Environment and Natural Resources		
1	Dr. Noredin Ahmed Abdalla	The secretary general of HCENR
National Council for Medical and Health Proffessions		
1	Prof. Awadia Ibrahim	Deputy secretary general of the NCMHP
2	Dr. Omar	Director of training department
General A association of Medical and Health Professions		
1	Dr. Yasir Abdelrahman	The Chair
2	Dr. Mustafa	The secretary general
3	Dr. Ahmed Zakaria	member
The National Population Council		
1	Dr. Limia Abdeghafar Khalafalla	The secretary general of NPC
2	Miss. Elham	The director of planning- NPC
National Council for Child Welfare		
1	Dr. Ghada Abdelwadod	Consultant of child development
2	Mr. Mohammed Ahmed Musa	Deputy secretary general of the NCCW
3	Miss. Eiman Ahmed Mohammed	Focal point of child care section
No	**Name**	**Responsibility/position**
North Darfur State		
1	Mr. Abdelwahid Yousif Ibrahim	The Wali of the State (governor)
State Ministry of Health		
	Directorate of planning and policy	
1	Mr.Hashim Abdalla	Health economics department
2	Mr.Tamadur Musa	Planning department
3	Mrs.Um Alhussien	Monitering and Evaluation Section
The State Legislative Council		
1	Mr.Ahmed Ademo	Chair of the State Legislative Council
2	Mrs.safia Badawi	chairman of the services committee
3	Mr.Yousif Ahmed Hassan	Chairman of the social affairs committee
4	Mr.Abd Elwahab Mohamed	Chairman of the Committee of Agriculture and Animal Wealth
5	Mr.Ismail Omer Hassan	Secretary generalof the legislative counsil
The Ministry of Construction Planning		
1	Police Brigade . Mohamed Kamal Aldein	Minister of Urban Planning
2	Mr. Nasr Aldein	Director General of North Darfur Water Commission
3	Mr. Abu Bakr	Director of General Administration of Utilities
4	Mr . Alam Aldein	Construction Director
Ministry of Finance		
1	Mr. Yahia Ishaq Bakheit	Director of General Administration for Planning and Development
2	Mr. Abd Elmawla Adam	Director of Revenue
3	Mr. Sulieman Abbashar Ahmed	Expense Manager

North Kordofan		
No	**Name**	**Responsibility/position**
1	His Excellency Mr. Ahmed Haroun	The Wali (governor of NK state)
The State MoH		
1	His Excellency Dr. Abdalla Hussein Faki	The State Minister of Health
2	Dr. Elfatih Abdelrahaman Mohammed Nor	The DG of the State Ministry of Health
3	Dr. Hiba Elshekh Humeida	Head of NGOs Unit
4	Dr. Hala Esmail Hessin	The focal point of health initiatives at the SMoH
	The Directorate General of Planning	
1	Dr. Amal Khalil yousif	The Director of the Directorate General of Planning at the SMoH
2	Mr. Rashid Abdelgadir Abdalla	Head of information unit
3	Miss. Norelgolob Mohammed Elmardi	Health statistics officer
4	Miss. Rashida Habiballah Abushaya	Health statistics officer
5	Miss. Shadia Younis Mohammed	Deputy head of Health statistics unit
6	Miss. Riham Zeinelabdin	Health statistics officer
7	Miss. Samer Abdella Abdelhadi	Health statistics officer
	The Directorate General of PHC	
1	Dr. Eiman Malik Abdelrahman	The Director of the Directorate General of PHC at the SMoH
2	Mr. Yasin Abdelrahim Abderahman	Head of EHA department
3	Miss. Muha Abdelbagi Salih	EHA officer
4	Miss. Sumeia Mohammed Temsah	Focal point of the PHC map
5	Miss. Manal Osman	M&E officer
6	Miss. Hiba Ahmed Ebeid	Head of local health system department
7	Miss. Rehab gumaa yousif	M&E officer for HIV/AIDS department
8	Mr. Khidir Ahmed Jagdol	Head of department of family health units and centers
9	Amira Mutwakil Abdellah	Head of MCH department
10	Sister. Aesha Sharafedin Abdella	Head of RH department
11	Mr. Mohammed Elamin Mohammed Hasssan	Head of EPI department
12	Miss. Nagla Siddeg Jumma	M&E officer
13	Miss. Manal Ahmed Dafalla	Health promotion officer
14	Mr. Naseredin Osman Suliman	Head of nutrition department
15	Mr. Emad Abdellah Ahmed	Head of environmental health department
16	Mr. Abdelkhalig Adam Mohmdany	M&E officer in malaria program
17	Miss. Safa Altaye Hamed	Head of Bilharzias' eradication program
18	Miss.muna Ibrahim Bilal	Head of malaria eradication program
	The Directorate General of HRH	
1	Dr. Yousif Mohammed Yousif	The Director of the Directorate General of HRH at the SMoH
2	Dr. Gasim Sefedin Ibrahim	Head of CPD
3	Miss. Ihsan Ahmed Daffalla	M&E officer

4	Miss. Ibtihaj Mohammed Ali	Research and policy focal point
	The Directorate General of Curative Medicine	
1	Dr. Mshair Mohammed Ali	The Director of the Directorate General of Curative Medicine at the SMoH
2	Dr. Mohammed Banaga	Head of dental care department
	Mr. Sabredin Abdalla	Head of ambulance unit
	The Directorate of Pharmacy	
1	Dr. Hamid Dawelbeit Hamid	The Director of the Directorate pharmacy at the SMoH
2	Dr. Mahir Mohammed Salih Kortikeila	Super vision of pharmaceutical services
3	Dr. Muna Fadalla Ismaeil	pharmaceutical services
4	Dr. NaglaAbdellabasit	pharmacy department in kordofan university
5	Dr. Adam Ali Adam	The Director of North Kordofan State Branch of NMSF
	The Directorate of administration and financial affairs	
1	Mr. Mohammed Hussein Zariba	The director of administration and financial affairs
	Elobeid Teaching Hospital	
1	Dr. Loai Sabir Mohammed Ali	The Director General of the hospital
2	Dr. Tala Elhaj Hamid	The medical director of the hospital
3	Miss. Entisar Adam Ahmed	Head of health statistics unit
4	Mr. Rami Mohammed Khalifa	Head of administrative and financial affairs
The Legislative Council of the state		
1	His Ex. Mr. Tijani	The chair of health committee at the legislative council of the state
2	Mr. Mohammed Salih	Member of the health committee of the legislative council of the state
3	Mr. Mohammed Hassan Husein	Member of the health committee of the legislative council of the state
4	Mr. Ahmed Mohammed saleh Khidewe	Member of the health committee of the legislative council of the state
5	Mr. Omar Abdalla Jumaa	Member of the health committee of the legislative council of the state
6	Mr. Eltilib Mohammed Eltilib	Member of the health committee of the legislative council of the state
7	Miss. Ikhlas Yagoob Abdelraheem	Member of the health committee of the legislative council of the state
8	Mr. chief Elrashid	Member of the health committee of the legislative council of the state
9	Mr. Hussein Hamadelnil	Member of the health committee of the legislative council of the state
10	Mr. Ibrahim Ahmed Bilal	Member of the health committee of the legislative council of the state
11	Dr. Manal Makee Sulaman	Member of the health committee of the legislative council of the state
12	Elteganni Abdelwahab	Member of the health committee of the legislative council of the state

North Kordofan State Branch of the NHIF		
1	Dr. Wail Ahmed	The Executive Director of NKS branch of NHIF
2	Dr. Mawia Hassan Shiber	Head of service delivery department
3	Mr. Ahmed Abdelrahim	Head of administration and financial affairs
4	Mr. Abdalla Yasin	Head of expansion department
5	Mr. Hassan Adam Fadul	Head of informal sector department
6	Mr. Mutaz Hamid Ibrahem	Logistic officer
7	Miss .Setalbanat Hassin	Public relation officer
Government Partners		
1	Police Brigadier Mr. Hamid Mohammed	Director of civil defense
2	Police Colonel Dr. Adam Musa/ pediatrician	Director of police hospital
3	Police Major Mr. Mutaz Abdelhadi	Head of drug combat unit
4	Police Major Mr. Nasir Mohammed Timsah	Civil registration department
5	Mr. Ahmed Babiker Elhassan	Commissioner of Humanitarian Action
6	Mr. Ibrahim Osman	Representative of Sheikan Locality Health Management Team
7	Miss. Jameila Mohammed Rajab	The Secretary general of child welfare council
Representatives of Nongovernmental partners		
1	Mr. Hassan fadul	Kordofan sector office of Islamic Welfare Organization
2	Miss. Muna Abulgasim Karamedin	Plan Sudan Organization
3	Mr. Ebed Ali Mohammed	Secretary general of medical assistant's association
4	Mr. Anas Eltigani Babiker	Swaed civil society organization
5	Mr. Hawa Hassan	Tuberculosis control organization
6	Mr. Omar	Swedish Child Welfare Organization
7	Miss. Sara Abdelrazig	Swedish Child Welfare Organization
8	Dr. Ahmed Babiker	Head of Unicef Kordofan Sector office
9	Mr. Diaadin Elniel Jibreel	UNFPA
10	Mr. Mohammed Ahmed Mohammed Abdelrahman	UNFPA
11	Mr. Moamar Elgazafi	Bishesh eye care center
12	Miss. Awatif Ahmed Jebril	Union of persons with disabilities
13	Mr. Mohammed Idris Brema	Saido Organization
14	Miss. Maha Ibrahim Ismail	Kordofan development Organization
15	Miss. Zolfa Fadul Mohammed	Tawasol for helping patients with renal failure
16	Mr. Mohammed Abbas	The association of People Living With AIDS (PLWA)
17	Mr. Kabashi Elnor Musa	Elsalam Organization
18	Mr. Mohammed Omar	Ahlam Elsighar Organization
19	Mr. Mohammed Elamin	Union of Public Health Officers
20	Mr. Nasedin	Union of Nutrition Officers
Bara Locality		
1	Mr. Abdelrhman Ail Elmahe	The commissioner of Bara locality
2	Mr . Abdellha Krdkala	The director of the locality

	Bara General Locality Hospital	
1	Dr. Mohammed Siddig	The medical director
2	Dr. Nora Abulgasim	Obstetric and Gynecology doctor
3	Mr. Elagab Ibrahim	Head of administration affairs
	Shiraim Karamsha Health Center	
1	Mr. Abdalla Amin Abdalla	Pharmacy technician
2	Miss. Tahani Nor eldin Ibrahim	Community health worker
3	Miss. Amal Mohammed Elzain	Multifunction health worker (Vaccinator + Nutrition instructor + health promoter)
4	Miss. Hawa Abdalla Adam	Community midwife
	Shiraim Mima Health Unit	
1	Mr. Murtada Awad Elkareem Musa	Nurse technician
2	Mr. Ahdab Elnour Humaida	Community Health Worker
3	Miss. Khadija Abdeljabar (	Midwife
4	Mr. Muhanad Mohammed Adam	Laboratory technician
Umdam Hajahmed Locality		
1	Mr. Mahmoud Eleasir	The deputy executive director of the locality
2	Mr. Elsheikh Eid	Member of the legislative council of the state
3	Mr. Ahmed Elsadg	Director of accountancy Department
4	Mr. Bashir Ail	Director of agriculture department
5	Mr. Hafiz Elmardy	Director of locality health department
6	Mr. Omar Hamza	RH coordinator
7	Noredin Abdalla Idris	Director of the administrative unit
	Umdum Hajahmed General Locality Hospital	
1	Dr. Hassan Hussein	The medical director
2	Dr. Khalid	Obstetric and Gynecology doctor
3	Mr. Mohammed Khiralla Hassan	Head of administration affairs
4	Mr. Siddeg Ali Ahmed	Chair the hospital board of trustees
5	Mr. Annor Abasher	Member of the hospital board of trustees
	Elmajror Family Health Center	
1	Miss. Amira Wada Abdalla	Medical Assistant
2	Miss. Aesha Fadulalla Eltahir	Nurse midwife
3	Mr. Eltahir Fadulalla Eltahir	Laboratory technician
4	Miss. Amna Elfaradi	Multifunction health worker (Vaccinator + Nutrition instructor + health promoter)
5	Mr. Imam Brer	Health Insurance Officer
6	Mr. Eltahir Hassaballa Elzein Ahmed	Chief of the community committee
7	Mr. Mohammed Khalil Eltahir	Member of the community committee
8	Mr. Awadalla Fadulalla Eltahir	Member of the community committee
9	Elnor Mohammed Salih	Member of the community committee
10	Eltahir Brer Eltahir	Member of the community committee
	Aleseidab Family Health Unit	

1	Miss. Mshaer Hajahmed, the	Medical assistant
2	Miss. Nuha Fadlallah Hamid	Community midwife
3	Miss. Nagat Elnaem	Nutrition instructor
4	Mr. Bilal Adlan Abdalla,	Chief of community committee
No	Name	Position
Gedarif State JAR 2016 interviewees		
1	H.E Mirghani Salih Sidahmed	Governor of Gedarif State
2	Abdelmoneim Ahmed Balla	The secretary general of the government
ALGedarif State Minsitry of Health		
1	H.E Dr. Elsadig Gismalla Elwakil	The State Minister of Health
2	Dr Ahmed Al-Amin	DG of the State Ministry of Health
3	Marym Moutazim Mohamed	Head of NGOs Unit
4	Mohamed Ali Mohammed	Local Health System
Directorate of Planning &policy		
1	Yassir Osman Mohammed	The Director of the Directorate General of planning
2	Fayez Mohammed Abdelrahman	Head of statistics and Information department
3	Abdeleazim Abdelrahim Ahmed	Head of information
Directorate General of Curative Care		
1	Mohamed EL-Montasir Salah eldin	The Director of the Directorate General of Curative Medicine
2	Alsorra Mohamed Ahmed	Head of Biomedical Engineering
3	Om Alhassan Ali Mohamed Salih	Head of Higher Nursing
Directorate General of Pharmacy		
1	Modathir Mustaf ALbadawi	The Director of the Directorate General of Pharmacy
2	Abdelhakam Mohamed ahmed	Head of Control Department
3	Dr Siddig Ahmed Altayeb	The Director of Gedarif State Branch of NMSF
4	Dr Haider Babiker	Head of Supply section
General Directorate of PHC		
1	Dr Somaia Mohamed Abdallah	The Director of the Directorate General of PHC
2	Nada Awadelkareem Abdallah	Head of Immunization program
3	Khadija Mohamed Mergani	Head of Health Education
4	Dr Amira Hashim	Head of Reproductive Health
5	Hameeda Ali Qourashi	Head of Preventive Medicine
6	Dr Rami Sheikh Alseed	Head of AIDs Program
7	Atika Abdelaziz	Head of Bilharzia Program
8	Anwar Osman Banaga	Head of Malaria Program
9	Asim Abdallah	Nutrition section
10	Nahid Salah	EPI officer
11	Motwakil Abdallah	Environmental health officer
12	Alzaki Mohamed Abdelhalim	
Directorate General of Human Resouces Development		
1	Yasmin Altom Abubakr	The Director of the Directorate General of HR and Head of CPD
2	Thowayba Ezzeldin Osman	Internship department
3	Hajir Ahmed Abdeldin	Planning & Policy Department
4	Hikma Osman Nasir	Administrative Director

5	Najlaa Hassan Mohamed	HR Observatory Department
6	Salma SidAhmed	focal point of scholarships
7	Mohamed Ibrahim Alrafas	Registrar of Health Science Academy
8	Fatima Yousif Alnor	HR Secretary
The Directorate General of Epidemics and Emergencies		
1	Hamouda Ali Hamouda	The Director of The DG Epidemics and Emergencies
2	Motwakil Adam Abdallah	Head of Environmental Health
3	Hajir Omer Mohamed	Head of water Safety
The directorate General of administration and financial affairs		
1	Alrisala ALsasyed Hamed	Head of Financial Administration
2	Mohamed Ali Idris	Head of personnel department
Legislative Council of the state		
1	Mohamed Abdallah ALmardi	Chair of the Legislative Council
2	Gasm Alseed Hassan Karrar	The secretary general of the legislative Council
3	Abdallah Hasab Allah	Deputy chair of the legislative council
4	Albadri Ibrahim Abdallah	Head of public issues
5	Hassan AlMahi	Chair of inspection committee
6	Amaal Khalil Omer	Chair of services committee
7	Abdallatif Sid Ahmed	Media officer
8	Imtinan Abdallatif Mohamed	Chair of education and technology committee
ALGedarif State Branch of the NHIF		
1	Ibrahim Abdelrahman Mohamed	The Executive Director of GS branch of NHIF
2	Imad Alasha Hassan	Head of Supply Department
3	Salah Mustafa Mahmoud	Head of Curative Services Department
4	Fath ALrahman Aldao	Head of planning and Information Department
5	Waleed Ibrahim	Focal point of insurance card
6	Mohamed Hayder	IT officer
7	Dafa Allah Alaraki	Media Department
8	Hassan Khalaf Allah Alkhazeen	Financial Administrator
Ministry of Finance		
1	Murtada Suliman Mohamed	DG Minsitry of Finance
2	Asma Abdelgadir	Head of development and projects Department
3	Insaf Babiker Mohamed	Head of Finance Directorate
4	Nawadi Bushra Ibrahim	Head of disbursement department
5	Yassir Mohamed-Ahmed Abbas	Bureau of accounts
6	Shadia Mohamed Ahmed	Chapter one
7	Kammal Abdallah Idris	Head of GD office
Representatives of Nongovernmental partners		
1	Mohamed Bashier Musa	International Health Organization
2	Qorashi Musa Ali	UNFPA
3	Daw Albeet Alzein	WHO
4	Samiya Ahmed Alhaseen	Italian Cooperation
5	Sharaf Aldeen Ahmed	Red Crescent
6	Abdelazim Mohamed Hamed	Doctors without Borders (MSF)
7	Abbas Ali Bala	Islamic Medical Organization

8	Haram Ali Karboos	Peace and Development Friends
9	Isaam ALdin ALnaeem	Green Peace
10	Gofran Yahiya ALfadil	Sudan Baladna
Central Gedarif Locality		
1	AlShareef Albaqir	Executive Director of the locality
2	Khalid Basheer Ibrahi,	Head of Health Issues
3	Khalid Abdelwahab Abdelhai	Head of Immunization
4	Nada Alamin Alshareef	Head of Health care and Head of Environmental Health
5	Amona Mohamed Tahir	Midwifery Supervisor
6	Abdelrahman Hossain	Financial Administrator
7	Albushra Alawad	Managerial Administrator
8	Sara Mohamed	Inspector of the headquarters
AL Fao Locality		
1	H.E Mohamed Altayeb Al-Bashier	The commissioner of Alfao Locality
2	Omer Alkidir Suleiman	Executive Director of the Locality
3	Dafaallah Mohamed Dafaallah	Director of health locality health services
4	Ali Adam Sheeb	PHC+ Immunization
5	Mawada Abdelrazig	Environmental Health
6	Nimmat Faraj	Midwifery Supervisor
7	Jibreel Bakheet	Financial Administrator
8	Alzain Ahmed Mohamed	Engineer
9	Abdallah Ahmed	Biomedical Engineer
10	ImadAldin Mohamed Alhasssan	Biomedical Engineer
AL Fao Locality Hospital		
1	Ehab Mohamed	The General Director of Alfao Hospital
2	ALyassa Mohamed	Medical Director of Alfao Hospital
Al-Fagasha Locality		
1	H.E Mohamed Adam Mohamed	The commissioner of Al-fashaga Locality
2	Abdallah Mohamed Jodo	Executive Director of the Locality
3	Najlaa Ahmed Albasheer	Head of Health Issues
4	Awatif Mohamed Dafallah	PHC
5	Nihad Altaj Ahmed	Environmental Health
6	Ahmed Osman ALjabry	Immunization
7	Haleema Eisa	Midwifery Supervisor
8	Mohamed Hussein Ahmed AL-Ata	Financial Administrator
9	Fayrooz Alamin Haroon	Engineer
Al-Showak Hospital		
1	Awad Babiker	DG of Alshowak Hospital
2	Moaamer Ibrahim ALi	Pediatrician- Alshowak Hospital

No	**Name**	**Responsibility/position**
River Nile State Interviewees		
Secretariat of the Government		
1	Dr.Hatim Alwaseela Alsamani	Governor of the state
Parliment		
1	Salah Eldin Awad Alkareem	Chairman of the committee on Education and Health
2	Abdalla Adam Hamid	Member

3	Osman Alfadil Ibrahim	Member
4	Sumia Abdalla Atia	Member
Ministry of Health		
GeneralDirectorate of Planning and International Health		
1	Ibrahim Osman Abd Elrahman	Monitering and Planning
2	Badr Eldin Abdelgader	Development
3	Samia Mahgoub	Statistics
4	Tagreed Alawad Hag Elnoor	Health Economics
Localities		
Barber Locality		
1	Abd Elmonim Mohamed Ahmed Elsiam	Local Accredited
Abu Hamad Locality		
1	Abd Elaal Qurasani	Local Accredited
Blue Nile State Interviewees		
1	Abdrhman bilal bleid	State Minister of Health and deputy Governor
Legislative Council		
1	Ageeb Nassir	Chairman of Health committee at Blue Nile State Legislative council
2	Abdallah Mohammed Atta Araki	Member of health Committee
3	Dr Widad ALramili	" " " "
4	Hajir Abdelrazig	" " " "
5	Kazam Hamad Altayb	" " " "
6	Ola Abbas Jouda	" " " "
7	Basheer Suliman	" " " "
	SMoH	
1	Dr Altayeb Alhassan	DG SMoH
General Directorate of Planning		
1	Khalid Yousif elawed	DG of Planning
2	Zein Alabdin Osman	Deputy Statistics director
Direcortae General of PHC		
1	Dr Ibrahim Saad	DG of PHC
2	Rania Mohamed Abdulrahman	Deputy of Immunization Program
3	Yassir Babiker	Head of Nutrition Program
4	Abdallgfar Mohamed ateem	Head of TB Program
5	Fayza Mergani	Reproductive Health Department
6	Abdelrahim adam essa	Deputy of Malaria Program
7		
Directoate General of Human Resouce Development		
1	Abdelgadir Mohamed ahmed	DG HR
2	Ahlam Nassir Yassin	CPD
General Directorate of Curative Medicine		
1	Abdelhalim elshikh husin	DG of Curative Medicine
General Directorate of Pharmacy		
1	Dr Mustafa gubralla	DG of pharmacy and Director of Drug control
2	Dr. Anas alnoor	Director of State branch of NMSF

3		
4		
Health financing		
1	Mohammed yahya	Head of accounting
2	Amir ahmed adam	Financial administration team
Ministry of Finance		
1	Dr adam Mohamed alameen	Minister of Finance
2	Abdelraheem Mohamed elhaj	GD of ministry of Finance
3	Mohamed abdalla kmbal	Accounting Director
4	Mohamed saaeed	Development director
5	Elhameem elshikh husin	Budgeting director
National Health Insurance Fund		
1	Dr Nasr Aldin Seed Ahmed	Executive Director of Blue Nile Branch NHIF
2	Dr muhi eldeen hamadok	Deputy NHIF
Wad Almahi Locality		
1	Musrafa Fajoo	Deputy Excutive
2	Alwasila Abdallah Ahmed	Head of Health Services
3	Alfadil Jomaa	Head of Statistics department
Aldamazin Hospital		
1	Dr Yousif Mohamed Mohamed adam	Medical Director
Abu Hasheem Health Centre		
		MedicalDirector

9.2 List of JAR Team members

Federal team (A):			
No	Name	Affiliation	Area of work
1	Mr. Abebe Alebachew Asfaw's	The international consultant	Governance + Health financing + others
2	Miss. Mahasin Abdelgani Faragalla	Ministry of International Cooperation (MIC)	Governance
3	Dr. Abda Hakim Abdelrahman	FMoH policy department	Governance
4	Miss. Esra Etayeb Ahmed	FMoH planning department	Information/ team coordinator
5	Mr. Kamaran Mashahed	WHO	
6	Miss. Sara Babiker Mustafa	FMoH – PHC department	Service delivery
7	Dr. Abdulazim Ali Abdulazim	FMoH – Quality department	Service delivery
8	Dr. Suha Mohamed Aabdeen Saeed	FMoH- HRH department	HRH
9	Dr. Rehab Fathel Rahman Mohamed	FMoH- PHC department	Service delivery
10	Miss. Wafaa Badawi Abdalla	FMoH- Nutrition department	Service delivery
11	Miss. Huda Hamid Nasr	FMoH planning department	Service delivery
12	Dr. Shahla Abdalla Hassan	FMoH international health	Service delivery

		department	
13	Miss. Zakia Elghali Yaji	FMoH- EHA department	Service delivery
14	Dr. Nadia Mahmoud	FMoH - CPD	
15	Dr. Suleiman Abdgabbar Abdullah	FMoH – the national consultant	Governance + medicines and health technologies
16	Dr. Ali Sayed Mohammed	FMoH- director of policies and planning	Governance + medicines and health technologies
Federal team (B):			
1	Dr. Naeema Alqasser	WHO	Governance
2	Dr. Salah Oman	FMOH	Governance
3	Dr.Faihaa Ahmed Abdalla	PMU-GAVI(HSS)	Governance
4	Miss. Nadia Ahmed Alamin	Ministry of international cooperation (MIC)	Governance
5	Dr. Salwa Abdu Ganawi	Kartoum State	Governance
6	Dr. Mahmooda Mohamed khalil	FMOH – planning and policy	Information
7	Dr. Khamis Mohamed Eltoum	FMOH	Human resources
8	Dr. Israa Muzmil	WHO	Governance
9	Dr. Khalid Hamid	National counsel for drugs and poisons	Drugs and Medical Technologies
10	Dr. Dalia Muawia	Police Hospital	Service provider
11	Miss. Asia Azrag	Directorate of environmental health	Service provider
12	Dr. Nadia Ahmed Alhussein	FMOH – Quality department	Service provider
13	Dr. Islam Abdelhameed mohamed	FMOH – General directorate of pharmacy	FMOH- General directorate for drugs and medical technologies
14	Mr. Mohamed Elsayed Bukhari	FMOH –National Health	Governance
15	Dr. Eilaf Ali Mohamed	FMOH – planning and policy	Service provider
16	Dr. Suleiman Abdgabbar	FMoH – the national consultant	Governance + medicines and health technologies
North Darfur State JAR team			
1	Dr. Emadedin Ahmed Ismail	WHO	Team leader + Governance
2	Dr. Nisreen Abukashawa	HAC	Governance
3	Mr. Piere	UNICEF	Information
4	Mr. Sabit Suleiman	FMoH planning department	Information
5	Miss. Khadiga Adam Mohammed Ibrahim	FMoH information department	Team coordinator
6	Mr. Prgader Hyder Elhaj Hamad	Omdurman Military Hospital	HRH
7	Nawal Musa Adam	FMoH planning department	Health financing
8	Pharmacist Miss. Rim Abdelhafiz	FMoH pharmacy department	Medical supplies and technologies
9	Mr. Bashir Ibrahim Abaker	Federal ministry of finance	Health financing
10	Dr. Muneer Mutar	The DG of the SMoH	
11	Dr. Omar Silek	SMoH - PHC department	Service delivery
12	Dr. Abdelrahman Shareef	WHO	
13	Dr. Nageeb Hamad	UNICEF	
14	Dr. Ahmed	UNFPA	
North Kordofan State JAR team			

NO	Name	Affiliation	Area of work
1	Dr. Igbal Ahmed Bashir	FMoH	Team Supervisor + health financing
2	Dr. Suleiman Abdelgabar Abdallah	MOH; National JAR consultant	Team leader + PHC service delivery + pharmaceutical services
3	Dr. Mohammed Sidahmed Abdelrahim	WHO/ Sudan country office	Co leader of the team + Governance
4	Miss. Sana Osman Elebeid	FMoH/ PHI	Governance
5	Dr. Raga Osman	FMoH/ curative department	Curative services
6	Dr. Yousra Emad Mirgani	FMoH/ PHI	HRH
7	Miss. Manal Osman Abdelrahim	FMoH/ Planning department	HRH
8	Miss. Samira Yousif Bakheit	FMoH/ HISM department	Information
9	Miss. Manal Hussein Elnr o	FMoH/ Planning department	Health financing
10	Miss. Yousra Hamid Haron	FMoH/ Planning department	Coordinator of the team
11	Dr. Elfatih Abdelrahman Mohammed Nor	SMoH	The DG of the SMoH
12	Dr. Amal Khalil	SMoH	Director of planning
13	Dr. Eiman Malik	SMoH	Director of PHC
14	Dr. Mshaer Mohammed Ali	SMoH	Director of curative medicine
15	Dr. Mohammed Banaga	SMoH	Director of dental services
16	Dr. Mawia Hassan Shiber	North Kordofan office of the NHIF	Director of services delivery
17	Miss. Hiba Ebed	SMoH	Director of local health system support section
18	Miss. Nagat Osman	SMoH	Director of M&E section
19	Dr. Abdelaziz Hamza	Bara locality	Director of locality health services
20	Mr. Hafiz Elmurdi	Umdum Hajahmedlocality	Director of locality health services
21	Dr. Ahmed Babiker	UNICEF North Kordofan office	Director of the office
22	Mr. Diaadin Elniel Jibreel	UNFPA/ White Nile office	M&E focal point

Gedarif State JAR team

NO	Name	Affiliation	Area of work
1	Dr. Mohammed Eltom	FMoH	Team leader + Governance
2	Mr. Adam Ibrahim Abdalla	HAC	Governance
3	Dr. Abubakr Khidir	Gazera MOH	pharmaceutical services
4	Mr. Awees Mohammed Elhassan	FMoH/ Planning department	Health financing
5	Miss. Manhal Ata Daffaallah	FMoH CPD	HRH
6	Miss. Sawsan Abdallaha Ahmed	FMoH/ Planning department	Coordinator of the team + PHC service delivery
7	Miss. Malak Elbushra Mohammed	Khartoum MOH	Service delivery -Curative services
8	Miss. Somaia Mohammed Hamed	Khartoum MOH	Information

9	Dr. Mahgoub	WHO Sudan country office	PHC service delivery
10	Dr. Ahmed	SMoH	The DG of the SMoH
11	Mr. Yasser Osman	SMoH	Director of planning
12	Dr. Somaia Obaeed	SMoH	Director of PHC
13	Mr. Mohamed Ali	SMoH	Director of local health system support section
14	Mr. Khaled Basheer	Central Gedaref locality	Director of locality health services
15	Mr. Dafaallaha Mohamed Ali	Alfaoo locality	Director of locality health services
16	Miss. Nagla	Alfashaga locality	Director of locality health services
17	Dr. Wafeeg Babeker Abualnour	WHO Kassala office	PHC service delivery
18	Dr. Zuhair Sulaiman	UNICEF Kassala office	PHC service delivery
Blue Nile State JAR team			
NO	Name	Affiliation	Area of work
1	Dr. Mohammed Eltom	FMoH	Team leader + Governance
2	Mr. Adam Ibrahim Abdalla	HAC	Governance
3	Dr. Abubakr Khidir	Gazera MOH	pharmaceutical services
4	Mr. Awees Mohammed Elhassan	FMoH/ Planning department	Health financing
5	Miss. Manhal Ata Daffaallah	FMoH CPD	HRH
6	Miss. Sawsan Abdallaha Ahmed	FMoH/ Planning department	Coordinator of the team + PHC service delivery
7	Miss. Malak Elbushra Mohammed	Khartoum MOH	service delivery -Curative services
8	Miss. Somaia Mohammed Hamed	Khartoum MOH	Information
9	Dr. Elshaikh	WHO Sudan country office	+ PHC service delivery
10	Khatab Mustafa Obaied	UNICEF country office	+ PHC service delivery
11	Dr. Altaib Elhassan Mohammed	SMoH	The DG of the SMoH
12	Khaled Youssef	SMoH	Director of planning
13	Dr. Hashim Dalil	WHO Blue Nile Office	
14	Miss. Safaa Mohammed Badawi	SMoH	M&E
15	Dr. Ebraheem saad Ahmed	SMoH	Director of PHC
16	Miss. Rania Mohammed Abdalrahman	SMoH	PHC
Khartoum State JAR team			
NO	Name	Affiliation	Area of work
1	Brigadier General. Adam suleiman Abakr	Army medical hospital	Team leader PHC service delivery
2	Dr. Zeinb alrayah	FMOH/DGHR	Human resource
3	Dr. Nahid Salih	WHO	Pharmaceutical services
4	Dr. Hana Abdelrahim	FMOH/DGHR	Human resource
5	Mahmood elamin mohamed	SMOH/planning	Governance
6	Ard alsham eshag	Finance ministry	Finance
7	Inaam Mohamed balal	FMOH/Information	Information
8	Sara Abdallah	FMOH/state	Pharmaceutical
9	Omnia Elfatih	FMOH/Planning	Governance

10	Nagham Abdelaziz	FMOH/Planning	Governance
11	Dr. Reem Galal Ahmed	FMOH/DGPI/Zone coordinator	Co leader of the team and coordinator
12	Ashwag Ahmed	State ministry of health	M&E officer at strategic planning directorate
River Nile State JAR team			
NO	Name	Affiliation	Area of work
1	Dr. Isameddin Mohammed Abdalla	The Undersecretary of the FMoH	General Supervisor
2	Brigadier General . Adam Suleiman Abkar	Army medical hospital	Team leader service delivery
3	Dr. Zeinab alrayah	FMOH/DGHR	Human resource
4	Dr. Attia Abdallah	WHO	service delivery
5	Dr. Hana Abdallrahim	FMOH/DGHR	Human resource
6	Mahmood Elamin Mohamed	SMOH/planning	Governance
7	Ard alsham eshag	Finance ministry	Finance
8	Inaam Mohamed	FMOH/H.information	Information
9	Sara Abdallah	FMOH/state	Pharmaceutical
10	Dr. Reem Galal Ahmed	FMOH/DGPI/Zone coordinator	Co leader of the team and coordinator
11	Nawal Adam Ahmed	FMOH/Planning	Governance
12	Samia Adam Yahya	FMOH/Health finance	Finance
13	Osama Mohammed Ahmed Mohammed Kher	SMoH director of planning	Governance + coordination
14	Elhadi Awad Algeed	SMOH	Service delivery
15	Emad Elsayed Ahmed	SMOH	Service delivery
Supplementary federal team for complentary review of the NHSSP 2012 - 2016			
No	Name	Affiliation	Area of work
1	Dr. Suleiman Abdgabbar Abdullah	The National consultant	
2	Mr. Yassir Osman	Gedarif State MoH	
3	Dr. Amal Abdelrahim Osman	FMoH Health information department	
4	Dr. Eilaf Ali	FMoH/ community medicine registrar	

9.3 JAR Oversight Committee

Ser. No	Name	Affiliation	Position	Comment
1	Dr. Isameddin Mohammed Abdalla	FMoH	The Undersecretary	Co-Chair
2	Dr. Naema Algaseer	WHO	WR	Co chair

3	Dr. Ammar Mohammed	UNDP	Health and development program specialist	Member
4	Dr. Mohamed Osman Hamid	World Bank		Member
5	Ibrahim Hussein	Sudanese Network of Organization Working on Health	Secretary General	Member
6	Dr. Sumaia Elsayed	Sudanese Environmental Conservation Society	Secretary General	Member
7	Dr. Khalid Ibrahim	Union of Pharmaceutical Manufacturers	Representative of the federation,Vice president of Tabuk Medical Company	Member
8	Dr. Christopher Knauth	European Union	Team leader, cooperation	Member
9	Nadia Mariam haidar	Ministry of International Cooperation	Head of aid management and coordination unit	Member
10	Jennifer Williams	Goal Sudan	Country director	Member
11	Dr. Salih Gomaa	Parliament of Sudan – Health, Environment, Humanitarian Affairs and Population Committee	Deputy head of the committee	Member
12	Prof. Elzein Karrar	Sudan Medical Council	president	Member
13	[Dr. Elsheikh Hamouda	NHIF – Ministry of Social Welfare	Director of International Relations	Member

9.4 JAR Technical Working Group

No	Name	Affiliation	Position	Comment
1.	Dr.Ali Sayed Mohamed	FMOH	Director of planning and policy	Chair man
2.	Dr.Mai Abdulrahman Ahmed	FMOH	Head of M&E-	Secretariat

			planning and policy department	
3.	Dr.Khalid Elmardi	FMOH	Director of health information and Researches	Member
4.	Dr Mohamed Eltom	FMOH	Director of projects and development	Member
5.	Dr Mohamed Hassan Awad	FMOH	Head of Health economics department- planning and policy department	Member
6.	Mahmouda Mohammed	FMOH .	Head of planning department - planning & policy directorate	Member
7.	Seemaa Abu ayaide Karoum	FMOH	Head of M&E-HIRE	Member
8.	Amal Mohamed Osman Abass	FMOH	Head of Obsevrvatory-HIRE	Member
9.	Amar Hassan Omer	FMOH	P. health institute	Member
10.	Sara Eltigani Said	FMOH	Planning directorate General directorate of.PHC	Member
11.	Amel Abdu	FMOH	Planning directorate - General directorate of Human Resources	Member
12.	Aliaa Ghies Ibrahim Ahamed	FMOH	Planning directorate - General directorate of Quality Dir	Member
13.	Abdelazim Ali Abdelazim Awadalla	FMOH	Quality Dir-	Member

14.	Wafa Muzammil Babker	FMOH	Expansion PHC	Member
15.	Islam Ghalfan	FMOH	Planning directorate - General directorate of Curative Medicine	Member
16.	Raja osman	FMOH	Planning directorate Curative Medicine	Member
17.	Dr. Einas	FMOH	Planning directorate - General Directorate of Pharmacy	Member
18.	Faihaa Ahmed Abdalla Dfala	FMOH.GAVI. HSS		Member
19.	Elsheikh Hamouda	NHIF		Member
20.	Sadia Elkhidir	Ministry of Finance and economic planning		Member
21.	Adam Ibrahim Abdalla	HAC		Member
22.	Hafez Mohgoub Abdallah	M.I.D .NISS		Member
23.	Ali Babikir Seid Ahmed	Sudanese mang		Member
24.	Mohamed Hamed	R/E		Member
25.	Omer Mustafa -Abdalla Nour	Sudan Army-General Directorate of Medical service		Member
26.	Dr Zein A Karrar	Sudan Medical council		Member
27.	Dr Mohamed Ali Elabassi	Police Health Care		Member
28.	Dr Mahmoud Elgayem Abdalla	MOH.KH .State		Member
29.	Dr Widad Yousif Mohamed	Gazira /MOH		Member
30.	Dr Imadeldin Ahamed Ismail	WHO		Member
31.	Dr.Christopher Knauth	EU		Member
32.	Mashair Omer	EU		Member
33.	Pierre Signe	UNICEF	Representative of UNICEF	Member
34.	Dr. Ammar Mohammed	UNDP	Health and development program specialist	Member
35.	Paolo Giambelli	AICS		Member
36.	Vincenzo Racalbuto	AICS		Member
37.	Dr Mohamed Seid Ahmed	UNFPA		Member

9.5 JAR secretariat

No	Name	Qualifications	Position	Affiliation
1	Dr. Mai Abdelrahman Ahmed Elshekh	MB.BS; MD community medicine	Head of the committee	FMoH – planning department
2	Mr. Faza Abdala Abdesyd	MPH	Logistic focal point	FMoH – planning department
3	Sabit Suleiman Bura Flati	MPH	Member	FMoH – planning department
4	Esra Eltayeb Ahmed Abdalla	MPH	Member	FMoH – planning department
5	Amal Abdelrahim Osman	MB.BS	Deputy head of the committee	FMoH HIS department
6	Eithar Awadalla	Masters of management	Member	FMoH – planning department
7	Amna Babiker Adam Suleiman	Postgraduate diploma in health system management	Member	FMoH – planning department
8	Mr. Simon Van Woededen			WHO /SCO
9	Isra Ahmed Osman Eltayeb			WHO/SCO
10	Dr. Isra Muzamil Ahmed			WHO/SCO
11	Tarig Osman Sir Akhatim			WHO/SCO
12	Tarig Mohammed			WHO/SCO

9.6 JAR Tools

Name/s of the respondents_____

Responsibility/ position_____

9.6.1 Targets and Achievements in 2016; and the first six months of 2017

	INDICATORS	2016 ANNUAL PLAN		2017 target	Achievement 2016	Achievement in 2017 six months	COMMENT
		BASLELINE	TARGET				
INPUTS AND PROCESSES	Expenditure on health as a per cent of total government expenditure						
	% of public health expenditures used for PHC service						
	Ratio between top 3 and bottom 3 states for per capita public sector health expenditure						
	Ratio of health workforce per 1000 population (disaggregated by doctors, nurses and midwives, public/private, level and state						
	Proportion of state health resources that reach facility level according to facility record						
	Proportion of locality health resources that reach facility level according to facility record						
	Number of states (and localities) with annual operational plans linked to the strategy						
	% of localities with functioning health management teams						
OUTPUTS	% of PHC facilities providing all 5 elements of the integrated PHC package (by state)						
	% of PHCs providing basic EmONC						
	% of PHC facilities providing comprehensive EmONC						
	% of PHC facilities providing the essential package for NCDs						
	% of health facilities that have no stock out of essential medicines and technology services during past 12 months (by state, level of facility)						
	% of health facilities submitting monthly reports every month (PHC)						
	% of health facilities submitting monthly reports every month (Hospitals)						
	% of diseases outbreaks responded to within 72 hours						
	Bed Occupancy rate (national, by state and level of hospital)						
	Percentage of Public health facilities applying the updated HRH performance systems						
OUTCOME	TB treatment success rate						
	Percentage of hospitals accredited (private and public)						
	Percentage of PHCs accredited (private and public)						
	% of the population covered by health insurance						
	% infants who received Pentavalent vaccine (PVV) 3rd dose						

	INDICATORS	2016 ANNUAL PLAN		2017 target	Achievement 2016	Achievement in 2017 six months	COMMENT
		BASLELINE	TARGET				
	Measles vaccination						
	% of adults and children with advanced HIV infection receiving antiretroviral therapy (by state)						
	Number of MARPS who received counselling and testing services for HIV and received their results						
	% of targeted population in high risk areas sleeping under bed nets						
	% of children in high risk areas sleeping under insecticide treated nets (by socio-economic group						
	% pregnant women in high risk areas sleeping under insecticide treated nets (by socio-economic group						
	% of patients with malaria/fever who have access to ACTs						
	% of pregnant women who received 1+ antenatal visits prior to delivery						
	% deliveries attended by skilled personnel						
	% population with access to essential medicines						
	Out of pocket expenditure as % of total health expenditure						
	Contraceptive prevalence rate (CPR)						
	Unmet needs for family planning						
	% of people living within five Km of PHC facility						
	% of facilities providing full package of essential PHC services						
	Percept of population with access to improved water supply						
	Percept of population with access to improved sanitation						
	Prevalence of current tobacco use among adults						
	Prevalence of overweight or obesity in persons aged 18+						
	Prevalence of raised blood pressure among persons aged 18+ years						
	Prevalence of raised blood glucose/diabetes among adults aged 18+ years						
	Prevalence of raised total cholesterol and mean total cholesterol in persons aged 18+ years						

1. In all cases where progress is made in 2016 against the target and/or last year, what are the factors that contributed to such a success?
2. Are there any best practices and lessons that the state would like to share with other states?
3. In cases where progress was not achieved either against targets/and or baseline, what are the main constraints and challenges that hindered achievement?
4. In case where results are not available, could you explain why?
5. Nationally many policies, strategies and interventions are defined to enhance health outcomes in the last two years. Do you think they are included as part of the annual plan and translated

into action? If not what do you think are the major barriers and what needs to be done to ensure their implementation by states, FMOH and partners?

6. Are there certain areas that need improvement? Probe for
    a. Linkage between strategic plan and annual operational plan?
    b. Linkage between federal and state level activities/initiatives?
7. What is your recommendation for
    a. 2018 plan
    b. The medium term (3-5 years)

9.6.2 Planning and M&E (federal, state and locality levels)

Note: the questions below are inclusive, some are applicable to all levels, and some are applicable to certain level/levels according to division of roles and responsibilities of the health system defining the scope of work for each level. This will be fully explained in the training, which will precede the deployment of the teams to the field.

Introduction...thanks for finding time, early in this JAR process to see us. We are currently undertaking 2016 and 2017 Joint Annual Review (JAR). We would like also to hear from you about the successes, challenges and the way forward.

1. Please describe to us how (the mechanisms by which) the strategic plan and various policies and strategies drafted by FMOH are translated into action annually at the state and locality levels?
2. What do you think are the major successes and challenges around alignment of planning and budgeting at all levels (one plan, one budget and one M&E)?
    - Existence of agreed guidelines and manuals and accountability mechanisms for States/ localities, DPs, CSOs to use for planning, budgeting and M&E process?
    - Alignment of strategic and annual plans with program and State/Locality plans?
    - Alignment of strategic and annual plans with other government agency plans
    - Processes and systems of setting agreed national and state targets?
    - Linking the planning process with resource mapping and budgeting process?
    - One monitoring and review processes?
3. Please describe for us the major success and challenges of strengthening decentralized health system: planning, budgeting, M&E, coordination, accountability as well as level of implementation of state and locality endorsed organizational structure? What do you think needs to done to strengthen it further?
4. What are the major successes and challenges on health sector coordination: (a) between FMOH and states; (b) FMOH and DPs and IPs (c) SMoH and DPs and Ips? What are the successes and challenges of this coordination processes and what needs to be done to strengthen it in the short and medium term?
5. How do you assess the performance of partners on the key issues of alignment and harmonization and mutual accountability and transparency? How far are they meeting the 7 behaviors of development effectiveness?
    - Alignment to national priorities, strategic plan priorities?
    - Being on budget *and alignment to the planning and budgeting calendar; information sharing on commitment*?
    - Using country Public Financial Management (PFM) systems?
    - Using country procurement and supply chain management systems?
    - Undertake joint monitoring and review process?
    - Providing coordinated technical assistance
    - Mutual accountability and transparency?

What are the successes and challenges in this regard?

    - Challenges within DP own structures and systems
    - Challenges and gaps in government systems to fully align and harmonize?
6. How do you assess the commitment (increasing allocation) and ability (depth of fiscal space) of the government in increasing the availability of resources?
    - Any new initiative during the last one year and half?
    - Any challenges and recommendation in this regard?
7. Please advise us where the JAR team could focus and help in getting thorough look to assist in the fast-track implementation of the annual and strategic plans?

On Health Information system

1. How do you assess the production and use of the information generated through routine systems? Any strengths and gaps observed? Could you comment on the timeliness and quality of data and reports?
2. Please describe for us major efforts made and investment to strengthen the HIS system, any progress or achievement, the successes and challenges over the last year and half in terms of:
   - Tools and systems development (tools, legal framework, coordination, plans & strategies, procedures, integration, integrated HIS system)?
   - Improving reporting rate by PHCs, hospitals and private sector
   - Development and implementation of community HIS
   - Implementation of the electronic health information system (DHIS2) performance, efforts, achievements, and challenges
   - Improving data quality (auditing and verification system, data management and analysis)
   - Promote data use, publication, sharing and evidence generation including the health observatory performance, efforts, achievements, and challenges
   - Monitoring and evaluation frame, plan, activates and progress; including efforts, achievements, and challenges
   - Health system researches? Health research system, institutionalization, efforts, performance, achievements, and challenges
   - Progress, achievements and gaps in the area of the information and communication technology (ICT)
   - Efforts in the area of the civil registration and vital statistics (CRVS) including coordination and collaboration
   - Progress and achievements in other data and health information sources
   - HIS resources of the HIS, investment, and capacity building development efforts at national and local (state/locality/health facility, …etc) levels
3. What are the major challenges at the federal, state, locality and facility levels?
4. What needs to be done urgently to improve some of the major challenges by government of Sudan (federal, state) and partners?

9.6.3 Service delivery, curative MEDICINE (FMOH and state levels)

Introduction...thanks for finding time, early in this JAR process to see us. We are currently undertaking 2016 and 2017 Joint Annual Review (JAR). We would like also to hear from you about the successes, challenges and the way forward.

1. What have been the major achievements during 2016 and over the first six (6) months of 2017 in the areas of:
   - Strengthening the referral system: development of referral guidelines
   - Implementation of accreditation and standardization system at primary secondary and tertiary public and private facilities; development of referral guidelines
   - Efficient utilization of specialists services through regional coordination and arrangements
   - Strengthen triage and emergency at secondary and tertiary care systems
   - Encouraging the private sector in investing in tertiary care?
1. Are the any best practices in the provision of quality, and responsive care among hospitals that other can learn from? If there are, please describe to us interventions and reasons of success
2. What do you think to be the priority for upcoming year/s for the secondary and tertiary hospitals?

9.6.4 Service delivery PHC directorate (FMOH and state levels)

Introduction...thanks for finding time, early in this JAR process to see us. We are currently undertaking 2016 and 2017 Joint Annual Review (JAR). We would like also to hear from you about the successes, challenges and the way forward.

1. What have been the major successes/best practices, and challenges in the implementation of the PHC expansion (Coverage of PCH basic package; efforts towards reaching the community in health promotion messages; PHC infrastructure improved based on standards, including supply of clean water, sanitation and equipment, etc)?
2. Please describe for us the success stories and your effort to scale up best practices?
3. What is the progress and challenges in other PHC services including improvement of solid and liquid waste disposal; reduce prevalence of diseases transmitted by insect/vector; increase access to clean and safe drinking water; sanitation and hygiene, improve food safety?
4. What is the achievement and challenges of moving away from vertical programming and support the integrated systems (diseases control programmes, supply system, training, supervision, laboratory services, case management, integrated surveillance, financing …etc.) into integrated service management and delivery in line with PHC principles?
5. Progress, achievements and challenges in the areas of NCDs and NTDs
6. Are there any efforts and special interventions charted out to under served areas and population groups? Please describe to us successes and challenges?
7. What are the efforts and successes in the area of emergency preparedness and response: level and status of policies and strategies development and implementation? what are the successes and challenges?
8. Please provide us your priority recommendation for 2018 plan that need to be carried out by
    a. Federal MOH?
    b. SMOHs?
    c. DPs?
    d. CSOs?

9.6.5 Pharmaceutical sector, including policy, supply and regulation(FMOH and state levels)

Introduction...thanks for finding time, early in this JAR process to see us. We are currently undertaking 2016 and 2017 Joint Annual Review (JAR). We would like also to hear from you about the successes, challenges and the way forward.

1. What are the major achievements in the area of strengthening the regulatory system (the regulatory authorities; development and implementation of policies for management of medicines and health technologies; tools and prescription regulation tools and mechanism for herbal medicines)? Any challenges and constraints?
2. What is the impact of the new law of NMSF in increasing availability of medicines and medical supplies? Please illustrate by providing concrete examples.
3. How do you assess availability of essential pharmaceuticals at facility level? Was there any update on the essential medicines and protocols? How do you assess the progress in strengthening supply management and procurement? Systems? Any best practices and challenges?
4. What are the efforts made over the last 18 months to improve rational utilization of medicines, including promotion of generics and decrease over usage of antibiotics and what has been the achievements? Any successes and challenges?
5. Are efforts made to promote and organize local production of generic pharmaceuticals and diagnostic materials? If yes, please describe to us the successes and challenges?
6. Please provide us your priority recommendation for 2018 plan that need to be carried out by
    a. Federal MOH?
    b. SMOHs?
    c. DPs?
    d. CSOs?
7. How does health facilities access health technologies to improve quality of care? What are the major successes and challenges in this regard?

9.6.6 HRH directorate general (FMOH and state levels)

Introduction...thanks for finding time, early in this JAR process to see us. We are currently undertaking 2016 and 2017 Joint Annual Review (JAR). We would like also to hear from you about the successes, challenges and the way forward.

1. What are the major achievements in planning for HRH and development of policies? Any challenges and constraints?
2. Could you explain the scope and degree of participation of stakeholders in planning and policy development?
3. Is there any coordination mechanism for health sector partners on HRH issues? And if yes; is it effective?
4. Do you have retention policies for the different health professions and for rural and remote areas? If yes; how effective are these policies? What are the major outcomes of implementing these policies? What are the gaps and challenges? Do you think that there is a need for additional HRH retention policies?
5. Please comment on the composition of health and medical teams (skill mix) at different levels of the health system; showing strengths, weaknesses and challenges.
6. Do you have performance management systems and tools (job descriptions, SOPs, individual performance assessment, etc.,)? And to what extent these systems contribute to improved productivity of HRH?
7. Are you producing adequate number of different health professions? How is the employment capacity of healthcare institutions?
8. How do you assess the CPD programs in terms of curricula, training methods, and their contribution to improvement of work performance and in in developing the capacity of health professionals in terms of numbers and type of health professionals?
9. What are the key successes and challenges facing HRH departments/leaders and managers at different levels of the health system? What do you recommend to improve management and leadership capacities?
10. Performance, achievements and challenges of the HRH observatory in providing the health system with adequate information and evidence for HRH management?
11. How do you assess the ongoing organizational structures for management of HRH?

9.6.7 Questions for MOF/SMOF

Introduction...thanks for finding time. We are currently Undertaking the JAR of 2016 and 2017 . We would like also to hear from you about the successes, challenges and the way forward.

1. How do you see the performance of health sector in meeting its targets? Please highlight the major achievements and gaps?
2. How do you assess the capacity of the health sector (at national and Locality levels) to develop resource constrained and evidence-based feasible plans and budgets and negotiate for additional resources as compared to other sectors? Any challenges and best practices they can learn from?
3. Can you describe for us the trend of government resources allocation and expenditures to health (both to the national and Locality levels) over the last eighteen months? What is the trend in terms of share from the total government budget allocation and expenditures?

Federal level Financing data collection sheet

		Allocation		Disbursement to SMOHs		Expenditure		Likely sources
		2016	2017	2016	2017 six months	2016	2017 six months	
1	Total estimated cost of the annual plan (Billion SDGs)							Planning and policy
2	Sudan's total budget (billion SDGs)							FMOF
	Allocated to health sector (Billion SDGs)							FMOF
	Of which							
	Recurrent budget (billion SDGs)							FMOF
	Development Budget (billion SDGs)							FMOF
3	Support from DPs							FMOF/FMOH/MIC
4	Support from CSOs							SMOH
	Total							

State level Financing data collection Sheet

		Allocation		Disbursement to SMOHs		Expenditure		Likely sources
		2016	2017	2016	2017 six months	2016	2017 six months	
1	Total SMOH annual plan cost							SMOH
2	States total budget (million SDGs)							SMOF
	SMOH's annual budget allocated from the state Million SDGs							SMOF/SMOH
	Of which							
	Recurrent budget (million SDGs)							SMOF/SMOH
	Development Budget (million SDGs)							SMOF/SMOH
3	Transferred to SMOHs fro FMOH							SMOH
4	Support from DPs and CSOs							SMOH
	Total							

5. Is there a strategy and/or road map to capture all the government expenditures at all levels and report on consolidated manner?
6. What are gains made and challenges associated with decentralization in resource mobilization, allocation, and utilization, especially in sectors like health? Are there an efficiency gains/losses derived from this process?
7. Sudan is low middle-income country with limited external funding. In this regard,
   - How do you forecast the growth of overall government fiscal space in the country?
   - What do you think should be the strategies to be employed to ensure sector like health mobilize adequate resources to meet the UHC agenda by 2030?
   - Any efficiency enhancing strategies that comes into your mind?

8. How do you assess the capacity of the health sector in using and spending the allocated resources, as compared to other sectors, both at the national and Locality levels? What do you think are the major reasons for low/high absorptive capacity? How do you assess the financial management capacity at different levels?
9. The health sector partners are committed to improve alignment and harmonization and using the country systems. What do you think are the progress made and the challenges of DPs in:
    - Alignment to national priorities?
    - Being on budget and alignment to the planning and budgeting calendar; information sharing on commitment?
    - Using country PFM systems?
    - Using country procurement and supply chain management systems?
    - Undertake joint monitoring and review process?
    - Providing coordinated technical assistance
10. Any other recommendations that you would like to add for the JAR team to look into?

9.6.8 Questions for NHIF (DG and His Team at national, STATE and locality levels)

Introduction...thanks for finding time to see us. We are currently undertaking JAR 2016 and 2017. We would like also to hear from you about the successes, challenges and the way forward.

1. What is the main success in implementing the new NHIF law in the last 18 months?
2. Please describe for us the progress made in health insurance during the last eighteen months in terms of:
    - Increasing coverage of the population? Successes, best practices and challenges
        - For the formal sector?
        - For the informal sector?
        - For the poor and indigent?
        - For students?
        - For refugees and IDPs?
        - For other groups?
    - Comprehensiveness of the Benefit package?
    - Bringing the services near to needy communities/ increasing coverage of facilities providing the services
    - Implementation of the buying the services policy rather than providing the services
    - Availability of services in service providers and mechanisms for refund those that are referred out?
    - Capacity to enforce quality assurance of providers?
    - Risk pooling and reducing fragmentation among different schemes?
    - Working with country governments to ensure that facilities are reimbursed on time for services delivered?
    - Affordability of pre-payments and co-payments?
    - Ability of the prepayments/co-payments in covering providers' costs? Have there been any actuarial analysis made?
    - Financial sustainability of NHIF and strategies used to ensure it?
3. What are the major challenges and future strategies of the health insurance in general and informal sector in particular in the coming few years?
    - Moving towards UHC by enrolling the informal sector?
    - Scaling up the initiatives aimed at providing coverage to the poor and vulnerable groups
    - Financial sustainability
    - Covering the unreached segment of the population?
    - Scheme management capacity?

- External review and M&E process?

4. What do you think should be done in the short and medium term period and beyond to strengthen the gains made so far and enhance the enrolment in general and the of the informal sector in particular?

9.6.9 Development Partners /Implementing Partners

Introduction...thanks for finding time to see us. We are currently undertaking JAR of 2016. We would like also to hear from you about the successes, challenges and the way forward.

1. From your review of the performance of the sector over the year and half what do you see as the top 3-4 programmes that delivered health systems transformation:
    - Service delivery (MCH, infectious diseases and NCDs)
    - Health systems strengthening especially on (HRH, infrastructure, HTP, health financing, medicines and technology, HIS etc) and working with partners?
    - Resource mobilization, utilization and financial risk protection?
2. What are the major policies and capacity building measures developed and implemented to strengthen regulatory frameworks, accountability among stakeholders, including the private sector and to strengthen decentralized institutional and accountability structures and their accountability structures? What needs to be done to further strengthen it in the short and medium term?
3. How do you assess the performance of partners on the key issues of alignment and harmonization and mutual accountability and transparency? How far are you meeting the 8 behaviors of development assistance? How much have you implemented the principles and targets of the compact signed in 2014? What are the successes and challenges in this regard?
    a) Challenges within DP/IP own structures and systems?
    b) Challenges and gaps in government systems to fully align and harmonization?
    c) Challenges and opportunities of devolution for harmonization and Alignment
        - Alignment to national priorities, strategic plan priorities?
        - Being on budget *and alignment to the planning and budgeting calendar; information sharing on commitment*?
        - Using country PFM systems?
        - Using country procurement and supply chain management systems?
        - Undertake joint monitoring and review process? How satisfactory is the monitoring and evaluation system of the sector? To what level is the implementation of one report principle is practiced? Is there any parallel system to get information/reporting?
        - Providing coordinated technical assistance
        - Mutual accountability and transparency?

4. How do you assess the commitment (increasing allocation) and ability (depth of fiscal space) of the government in increasing the availability of resources to the sector?
5. Please advise us where the JAR team could focus and help in getting thorough look to assist in fast-tracking the implementation of the annual plan?

9.6.10 Facilities Questionnaire (health centres and hospitals)

Introduction...thanks for finding time, to see us. We are currently undertaking 2016 and 2017 Joint Annual Review (JAR). We would like also to hear from you about the successes, challenges and the way forward.

1. How much are you involved in development and implementation of the strategic and annual plans? And how far are your plans aligned to these plans? Are there any other plans that you are forced to prepare outside your plan, please give examples?
2. Are there any guidelines and capacity building measures to assist you in planning and budgeting process?
    - Are plans linked to resource frameworks?
    - Do you have any information of resources that are going to finance from government, partners and other implementing partners?
    - How efficient are the disbursement of the different sources of funding? Please elaborate the challenges of disbursement?
3. How do you access medicines and medical supply systems? How good is the commodity supply system and what is your role in this process? Can you elaborate the trend in terms of availability and on time supply of medicines and equipment?
4. What are the successes and challenges in improving access and quality of care within the facility?
    - Which of the standards your facility has met and which ones the facility didn't meet? What are the major issues for not meeting the national standards?
    - Existence of and adherence to up-to-date clinical guidelines, SOPs, protocols
    - Effectiveness of the system of referrals, including ambulance services
    - Effectively organized emergency management
    - Implementation outreach services for underserved population groups and reaching out to the community
    - Implementing quality assurance/ quality management measures and or accreditation programmes
    - Timely submitting standard completed HIS reports to the higher levels and challenges
    -
5. How do you evaluate vertical programmes in terms of managing, integrating and and the way they are dealing/communicating with your facility?
6. What systems do you have in place to ensure accountability?
    a. The extent of public participation
    b. Existence of incentives to motivate performance
    c. States and localities responsiveness to your needs and priorities?
7. Do you know the national minimum standards staff for your level of HF? If yes, is your facility staffed as per the national minimum standards? If no, what is the gap? Tell us the strengths and weakness in relation to HR availability, attrition, motivation? Best experiences and challenges in handling your employees?
8. Is the facility well equipped and furnished? How is the functionality of equipment? Do you have timely access for maintenance of equipment?
9. Information system: what challenges do you have in information collection, organizing, analysis, reporting and data use for decision making? How are you using the DHIS data? Does your HF regularly submit the monthly integrated health statistical report? What is the level of completeness of your statistical report?
10. Is there committee supporting the facility? What are its successes/best practices and challenges?

9.6.11 Checklist for facility standards

The JAR Team used the facility standards presented in table below to assess whether the visited facilities are equipped and furnished with the necessary inputs and provide the minimum services

Health facility Standards

Level of health care	Catchment population	Main services provided	Minimum staff requirements	Minimum lab services need to be available	Minimum X-ray services that needs to be available	Types of emergency services
Community Based Services	<5000	Community services package which include family, mother and child health, disease control and health promotion	Community health worker and midwife Village midwife	None	None	First aid and referral of cases
Family Health Unit (FHU)	5000-10,000	Provide preventive, basic curative common diseases. These services include maternal and child health, treatment of diseases like malaria, TB, STI and health promotion	Medical assistant Nurse Village midwife	RDT for malaria	None	First aid and referral of cases
Family Health Centre (FHC)	10,000-20,000	▪ Provide preventive, curative and promotive services. These services include maternal and child health, prevention of diseases and health promotion ▪ Provide services related to advance technologies such as laboratories and other diagnostic services ▪ Hub for PHC and referral to the next level	A team with a minimum of 12 staff headed by family physician or general practitioner	RDT for Malaria, general routine tests, blood grouping and cross matching,	None	First aid and referral of cases, Basic Emergency Obstetric and Neonatal Care (EMONC)
Rural Hospital	100, 000 to 250,000 population, according to population density	▪ Provide emergency services, Outpatient clinic, Laboratory, X-ray, Pharmacy, Blood bank, Nutrition, Dentistry, Operating theatre, physiotherapy. ▪ Second referral level within the PHC and the link between the PHC and secondary level of health cares ▪ Hub for PHC and referral to the next level	Family medicine specialist, general practitioners, technologists, technicians (lab, X ray, pharmacy), medical assistants, nurses and administrative staff	RDT for Malaria, general routine tests, blood grouping and cross matching, screening for hepatitis, syphilis and HIV,	Plain X ray, Ultrasound	Basic and Comprehensive Emergency Obstetric and Neonatal Care (EMONC), Surgical and accidental emergencies, admission, referral of cases to the secondary level
General Locality Hospital services	One hospital at the capital of the locality	▪ Provide emergency services, Outpatient clinic, Laboratory, X-ray, Pharmacy, Blood bank, Nutrition, Dentistry, Operating theatre, physiotherapy. ▪ General specialists services in at least 4 general specialties (Internal medicine, general surgery, paediatrics, obstetrics and gynaecology) ▪ General secondary referral level for the PHC network and link between the PHC and tertiary level of health care	At least 4 general specialists (Internal medicine, general surgery, paediatrics, obstetrics and gynaecology) family medicine specialist, general practitioners, technologists, technicians (lab, X ray, pharmacy), medical assistants, nurses and administrative staff	General routine tests, blood grouping and cross matching, screening for hepatitis, syphilis and HIV, Complete Blood Count (CBC), rapid serological tests using ICT, Renal Function Test, culture and sensitivity,	Plain X ray, Ultrasound	Basic and Comprehensive Emergency Obstetric and Neonatal Care (EMONC), Surgical and accidental emergencies, medical and paediatric emergencies, long admission, referral of cases to the tertiary level

State general hospital (usually teaching hospital)	One hospital at the capital of the state	▪ Provide comprehensive emergency services, Outpatient clinic, Laboratory, diagnostic radiology, Endoscopy, Pharmacy, Blood bank, Nutrition, Dentistry, Operating theatre, physiotherapy. ▪ General and special specialists services in all general specialties and subspecialties ▪ General and tertiary referral level for the PHC network and secondary hospitals	General and sub specialists in the different specialties family medicine specialist, general practitioners, technologists, technicians (lab, radiology,, pharmacy), medical assistants, nurses and administrative staff	General routine tests, blood grouping and cross matching, screening for hepatitis, syphilis and HIV, Complete Blood Count (CBC), rapid serological tests using ICT, Renal Function Test, culture and sensitivity, diagnostic radiology, Endoscopy,	Plain X ray, Ultrasound, CT scan, MRI, diagnostic endoscopies	Basic and Comprehensive Emergency Obstetric and Neonatal Care (EMONC), Surgical and accidental emergencies in the different specialties, admission, referral of cases to the Specialized hospitals
Specialized Hospitals/ Centres	Provide care for special medical problems or patient categories, such as cardiac, chest, renal, enterology, oncology, ophthalmology, ENT,..etc.	▪ Provide comprehensive referral services according to the area of specialty, including consultation, diagnostic, Pharmacy, Blood bank, Nutrition,..etc.	Specialists according to area oh specialty general practitioners, technologists, technicians (lab, radiology,, pharmacy), nurses and administrative staff	General routine tests, Complete Blood Count (CBC), rapid serological tests using ICT, Renal Function Test, culture and sensitivity, diagnostic and curative radiology, Endoscopy, and others according to specialty of the hospital or the center	According to area of specialty	Reception and management of referred cases according to specialty, admission,

9.7 JAR Terms of Reference

Background

Given the background that Sudan has signed the International Health Partnership IHP+ Global Compact in 2011 and in July 2014 health partners developed and signed the local health compact in a comprehensive and participatory approach. The objectives of the local health compact reflect the scope of the above mentioned international agreement by focusing on ownership, alignment, harmonization, management for results and mutual accountability. The compact aimed to promote stronger, more effective partnerships that can enhance Sudan's progress towards global health goals such as the Sustainable Development Goals (SDGs). As a reflection to this Federal Ministry of Health is adopting the integrated planning approach using the one plan one budget one report methodology to improve the efficiency and ensure alignment and harmonization between different partners in the health sector.

To this end Federal ministry of Health (FMOH) is planning to organize the first joint annual planning meeting (JAR) for the year 2016 plans, the federal and state level, with the participation of FMOH, States Ministries of Health (SMOH) and health partners to assess the performance of Sudan's health sector. The JAR is expected to complement the existing routine monitoring and evaluation systems by providing the opportunity for a harmonised and jointly-planned annual assessment process and to facilitate collaborative sector policy dialogue and review, with the ultimate aim of optimizing information-sharing, transparency and mutual accountability.

The JAR is an opportunity to have a holistic review of the performance of the health sector instead of fragmented routine reports and reviews from departments of Federal Ministry of health and states, and separate reviews done by other health sectors and each partners.

Key lessons and recommendations of the JAR process can provide a platform to improve planning and implementation for subsequent years' programming and promote stronger, more effective partnerships that can enhance Sudan's progress towards (SDGs).Since 2007, Sudan has developed the 25 year strategic health sector plans 2007-2031 and from this started the first health sector five year plan 2007-2011 and the second 5 year strategic health sector plan 2012-2016. From the 5 year HSSP the annual health sector strategic plans are developed at the federal and state levels.

Currently the Federal Ministry of Health has various processes for progress review and feedback to monitor implementation of the annual plans, including integrated programme monitoring and planned quarterly meetings chaired by the undersecretary to review progress and performance of all the directorates at the federal level. Quarterly performance reports are received from all the 18 ministries of health at the state level and are used to monitor progress against state annual operational plans and strategic objectives. Both the federal and states ministries of health present their quarter report to the cabinets of ministers at their respective level. Annually a review meeting is conducted at the federal level with the participation of representative from the states and relevant partners. Performance reports by federal Ministry of Health and individual states ministries of health are presented at this annual meeting and reasons for Progress & constraints in implementing annual work plan, results achieved remedial actions to improve performance are identified. How well next work plan & budget addresses strategy & priorities is discussed and harmonized. On the other hand different health partners conduct their quarterly and/or biannual or annual meetings separately to assess the performance of the planned against implemented activities.

Purpose

The purpose of the JAR is to review the strategic health sector plan 2012-2016, performance against planned activities with focus on the year 2016 and to ensure that all stakeholders develop a shared understanding of progress in the sector and identify the highest priority issues that need to be addressed to improve performance. To organize this JAR an international consultant is required as independent body to conduct this review with the assistance of national consultant and a technical committee.

Objectives

- To institutionalize the JAR process by developing the tools and guidelines that help in the expected institutionalization.
- To conduct the first JAR review meeting, verify and document other needed sources.
- To identify the extent to which the targets set for the National health sector strategic plan 2012-2016 were achieved with more focus on the achievement of the year 2016.

METHODOLOGY

An **international** consultant will be assigned as independent reviewer. There will be a national consultant also and a technical committee. Members of the technical committee will be from FMOH and the other health sectors partners.

The JAR process is expected to include both quantitative and qualitative approachs, using the methods below to collect and analyse information and data:

- ✓ Literature review of key documents describing progress made during the strategic plan 2012-2016, relevant policy documents, routine reports from the national and/or sub-national performance review processes for the year 2016 and annual plans that have been designed to augment implementation and coordination.
- ✓ Interviews with key stakeholders, including Government partners, Development partners, representatives of civil society, community and facility service providers, training institutions, and the beneficiaries of health services.
- ✓ Field visits to two States – Khartoum and Sinnar (or any other State) with focus on best performing and weak performing localities, and facilities and health system components
- ✓ Surveys may be needed to collect or to check the data quality.
- ✓ Meetings

The international consultant mission includes:

- Identification and application of appropriate theoretical frameworks and the proper methodology and set suitable tools and guidelines for the JAR
- To review performance achieved from National health sector strategic plan 2012-2016 against the strategic plan activities, with the more focus on year 2016
- To work with the JAR Organizing Committee in data collection and analysis
- To assess the performance, progress, difficulties and shortcomings with relation to the health system goals of equity and efficiency, and specifically of the tasks that have been set out in health sector plans and strategies.
- To Identify and document achievements, constraints and challenges from the analyzed data of the performance over the last year and identify findings and recommendations.
- To develop mechanism to implement and follow up of JAR the recommendation through action plans and/or in policy dialogue to improve future governance, management and planning.
- Prepare the JAR report and its findings which will be presented at the JAR meeting
- Present a summary of the key issues identified and the proposed actions for follow up, with an action plan at the JAR meeting (a multi-stakeholder meeting lasts 2 days)
- Draw best lessons learned and experiences gained, and forward recommendations to improve future governance

- Write the final report of the work.

The required competencies and experience for the International consultant include the following characteristics:

- Higher educational degree in Public health
- Past experiences with Health sector reviews or evaluations
- Knowledge of the health sector
- The ability to act independently
- The ability to function well in a team.
- The ability to read and write in Arabic is an asset

The international consultant will be recruited through the WHO Sudan office.

TOR For the JAR Organizing Committee

1. To guide and lead the preparation and organization of the JAR process
2. To participate in the field visits and contribute towards state level reports
3. To participate in the selection of the proper methodology and tools and guidelines suggested by the international consultant
4. To help in collecting the data needed according to JAR objectives
5. To help the consultants to present the result of the analyzed data and the recommendations
6. Help the international consultant to identify the mechanism for following up the implementation of JAR recommendations and agreed actions.

Deliverables

- Appropriate guidelines and tools to conduct the JAR
- The report of review of the National health sector strategic plan 2016-2020, with more focus on 2016. The review report should highlight the key issues including barriers to implementation and emerging threats and opportunities that might require a response, and how to address.
- The final JAR report and the findings that will be presented at the JAR meeting.

Management

The review will be managed by a steering committee chaired by the Undersecretary of the Federal Ministry of health with representatives from health partners.

Timeline

The timeline for carrying out the whole review is expected to be 12 weeks including 2-3 days of the JAR meeting. The suggested period is April-June 2016. June-august