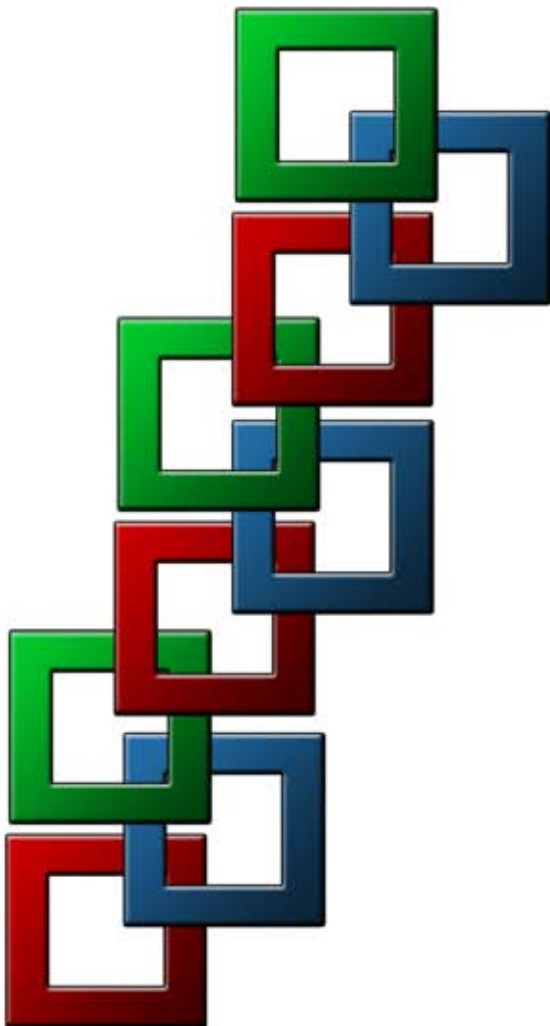**Republic of the Sudan**

Federal Ministry of Health

Directorate General of Pharmacy

Framework for the development of human resources in the pharmaceutical sector

Consultative meeting 2010

2 - 4 August 2010
Khartoum - Sudan

Federal Ministry of Health

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Contents

Acknowledgements/Disclaimer

This document has been produced with the financial assistance of the European Community and the technical support of the World Health Organization. The views expressed herein are those of the authors and can therefore in no way be taken to reflect the official opinion of the European Community or the World Health Organization

European Union

Acronyms

CMS   Central Medical Supplies

CPD   Continuing Professional Development

DGoHR   Directorate General of Human Resources

DGoP   Directorate General of Pharmacy

EC   European Community

EU   European Union

FIP   International Pharmaceutical Federation

HR   Human Resources

MoD   Ministry of Defence

MoF   Ministry of Finance

MoH   Ministry of Health

MoHE   Ministry of Higher Education

MoHRD   Ministry of Human Resources Development

MoI   Ministry of Interior

MoL   Ministry of Labour

MoST   Ministry of Science and Technology

NHIF   National Health Insurance Fund

FMoH   Federal Ministry of Health

NMPB   National Medicines and Poisons Board

SDoP   State Directorate of Pharmacy

SMC   Sudan Medical Council

SMSB   Sudan Medical Specialization Board

WHO   World Health Organization

Key messages

- The Pharmaceutical Human Resources Consultation was held by the Directorate General of Pharmacy - Federal Ministry of Health in August 2010 to discuss pharmaceutical human resource issues with key stakeholders and identify strategies to strengthen the capacity of the pharmaceutical sector to improve access to medicines.

- Twenty-seven representatives of key stakeholder groups actively participated throughout the consultation to formulate an evidence based strategic framework for pharmaceutical human resources development with the support of the World Health Organization (WHO) and European Commission (EC).

- The consultation utilised evidence from a comprehensive pharmaceutical human resources assessment conducted by DGoP - FMoH in July 2009 that determined the workforce providing pharmaceutical services in both the public and private sectors, the capacity of pharmacy education providers and issues affecting job satisfaction.

- Through interactive focus groups, participants developed and reached consensus on a national pharmaceutical human resources strategic framework. Focus groups reviewed and consolidated the findings of the assessment to identify and define key issues, propose policy objectives to address each issue, and recommend strategic processes required to achieve policy objectives. Participants also identified existing opportunities for implementation and barriers to human resources planning, management and plans that needed to be taken into account.

- The resultant strategic framework covers both pharmacists and pharmacy assistants, and is applicable to public and private sectors. It should be integrated into broader human resources for health and health sector strategic policies.

- Key issues agreed by stakeholders affecting pharmaceutical human resources planning included a lack of pharmacy profession representation at decision making levels, inadequate pharmacy practice policies and policy implementation, weak regulatory and professional development capacity, limited coordination for training of pharmaceutical human resources between key stakeholders, and unquantified pharmaceutical human resources needs.

- Whilst significant improvements have been achieved in the scaling up of pharmacist training and pharmacist workforce, the poor coverage of pharmaceutical human resources and pharmaceutical services in areas outside of Khartoum was a major issue highlighted in all discussions, with emphasis placed by participants on the need to address this imbalance.

- The high level of pharmaceutical human resources turnover was felt to be in part due to low levels of job satisfaction, limited opportunities for career and professional development and lack of job descriptions.

- Priority policy objectives identified by participants that should be actioned within the short term (<2 years) included strengthening the pharmaceutical human resources information system, pharmaceutical and pharmaceutical human resource policy development and implementation, pharmacy profession and

practice regulations, and developing a competency framework for pharmaceutical services.

- In order to operationalise the strategic framework, a costed and operational pharmaceutical human resources plan should be developed by December 2010 following the dissemination of consultation outcomes to all stakeholders, formal endorsement of the FMoH on the strategic framework, and formation of a standing committee responsible for pharmaceutical policy planning within Directorate General of Pharmacy.

- Stakeholders committed to support the DGoP - FMoH in developing the pharmaceutical human resources plan, mobilising support for its implementation and partnering to implement identified strategic processes required to address priority issues.

Participants reach consensus on pharmaceutical human resources strategic framework 2011 – 2020

Background

1.1 Introduction

Access to quality medicines and competent healthcare providers are fundamental aspects of the healthcare system. Pharmaceutical human resources are primarily responsible for the management, supply and use of medicines and are vital components of the architecture to improve access to medicines.

The Pharmaceutical Human Resources Consultation was held to discuss the pharmaceutical human resource shortage with key stakeholders and identify strategies to strengthen the capacity of the pharmaceutical sector to improve access to medicines. This report describes key pharmaceutical human resources issues, the proceedings of the consultation and steps leading to the development of the human resources strategy and the pharmaceutical human resources strategic framework which sets out a strategic agenda for action to address capacity issues in the pharmaceutical sector. This section provides a summary of the pharmaceutical human resources situation based on an assessment conducted by the DGoP - FMOH over the period May - June 2009.

1.2 Pharmaceutical human resources in Sudan

The human resources for health crisis affects 57 countries worldwide, including Sudan (1). Pharmacists are often the first point of contact for patients in the community and are important providers of medicines, medicines advice and counselling. Pharmaceutical human resources in Sudan are required to provide pharmaceutical services as diverse as

procurement, compounding, dispensing, medicines information and advice, therapeutic drug monitoring, pharmacovigilance, manufacturing, training and research.

The Directorate General of Pharmacy - Federal Ministry of Health in collaboration with the World Health Organization (WHO), conducted an assessment of pharmaceutical human resources between June-July 2009 in Sudan. This assessment sought to determine the total workforce providing pharmaceutical services in both the public and private sectors. Six States in the country were surveyed with a total of 196 private and public facilities included in the assessment. Human Resource Managers and other senior officials at the Federal Ministry of Health, Sudan Medical Council, hospitals and health facilities, pharmaceutical companies, manufacturing companies and Pharmacy Schools were interviewed on the data of their personnel using various questionnaires.

This assessment identified a total of 7,119 registered pharmacists (1 per 5534 population) and 842 pharmacy assistants (1 per 46,793). The public and private sectors were found to employ 19% and 74% of pharmacists respectively. Tables 1 and 2 describe the pharmaceutical human resources levels and breakdown by employment sector. Table 3 summarizes the total number of premises providing pharmaceutical services in Sudan. From this table it can be seen that public sector pharmacies comprise 41% of the total number of premises where medicines can be accessed.

Table 1: Pharmaceutical human resources 2006 – 2009

Cadre	2006	2007	2008	2009
Pharmacists	5203	5904	6792	7119
Pharmacy assistants	759	842	-	-

Data source: FMOH

Table 2: Number of pharmacists per employment sector

Sector	Number of pharmacists (N=4720)*	%
Public sector	928	19
Private for profit facilities	0	0
Private retail pharmacies	3129	66
Private wholesalers	350	7
Pharmaceutical manufacturers	60	1
Academia/teaching	250	5
Faith based health facilities	0	0
Multilaterial/bilaterial/NGOs	3	0

Data source: FMoH

Table 3: Total number of pharmacies (premises providing pharmaceutical services)

Premise type	Number	%
Public pharmacies	1775	41
Private facilities	229	5
Private retail pharmacies	2306	54
Total	**4310**	**100**

Data source: FMoH

Table 4: Total number of filled and vacant positions, and vacancy rate by facility type and cadre

Facility type	Pharmacist			Technician			Assistant		
	Filled	Vacant	Vacancy rate (%)	Filled	Vacant	Vacancy rate (%)	Filled	Vacant	Vacancy rate (%)
Public (N=86)	231	46	17	0	0	0	241	74	24

Private facility (N=13)	85	9	10	0	2	100	0	1	100
Private retail (N= 88)	124	3	1	0	1	1	82	2	2
Manufacturer (N= 9)	49	11	18	2	0	0	0	0	0
Total	489	69	12	2	3	60	323	77	20

The findings of the 2009 Assessment of Pharmaceutical Human Resources provided an evidence base that informed the development of a pharmaceutical human resource strategy with key stakeholders to be integrated into broader human resources for health planning.

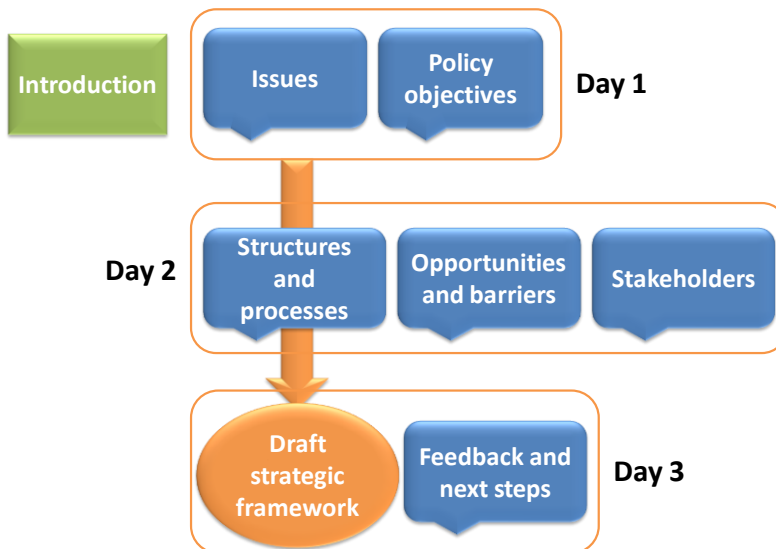## 2. Summary of Consultation Proceedings

The consultation was held over three days from 2-4 August 2010 in Khartoum, Sudan at the CPD Centre of the FMOH. The consultation was convened by the FMOH with the financial support of the European Commission and the technical and financial support of the World Health Organization (WHO). This interactive consultation brought together 27 participants representing stakeholders such as FMoH, SMC, Pharmacist Union, academic and research institutions, public and private sector employers and pharmacists. This section provides a summary of the consultation and stakeholder inputs which lead to the formulation of the strategic framework as described in Figure 1. Participants were split into small groups and guided by a facilitator to develop the strategic framework through seven stages (highlighted in blue in Figure 1).

Consultation aim: To draft a framework for the development of human resources for the pharmaceutical sector in Sudan with all key stakeholders.

Consultation objectives:

1. To build consensus on the key pharmaceutical human resource issues and policy objectives

2. To identify processes, structures and stakeholders required to achieve policy objectives

3. To examine opportunities and barriers for human resources development in the pharmaceutical sector

4. To recommend next steps for human resources development for the pharmaceutical sector

Figure 1.   Consultation process

Chairs:

- Dr Isam Eldin M. Abdallah – Director - Directorate of Human Resources , FMoH
- Dr Suad Alkarib, Military Services
- Dr Humida Alobeid, Dean of Pharmacy Faculty- University of Medical Sciences and Technology.

Facilitators:

- Dr Fatima Mokhtar, Senior Pharmacist – Khartoum Teaching Hospital
- Dr Yassir Suleman, Director- Directorate of Pharmacy – Red Sea State
- Dr Abuubakar Taha, Director- Directorate of Pharmacy – White Nile State
- Dr YassirAbu- Elrish, CPD Coordinator – Sudanese Pharmacist Union
- Hiba Yassin, Head of HR Department - DGoP
- Sara Karem, Head of Planning Department - DGoP
- Siham Abdoun, National Programme Officer, WHO office - Sudan
- Mrs Helen Tata, Technical Officer, Essential Medicines and Pharmaceutical Policies, WHO Headquarters
- Dr Tana Wuliji, WHO Consultant

Consultation rapporteurs:

- Dr Hania Ali, Representative of NMPB
- Dr Ismail Salim, Representative of NHIF

Group rappporteurs:

- Dr. Hiba Yassin Abuturkey, Head of HR Department - DGoP

- Sara Karem, Head of Planning Department - DGoP

- Dr Hania Ali, Representative of NMPB

- Dr Ismail Salim, Representative of NHIF

- Dr Sara Hayder, HR coordinator - SMSB

2.1 Day 1

Chair: Dr Isam Eldin M. Abdallah, Human Resources Director, FMoH

2.1.1 Opening and plenary

Dr. Sara Karem welcomed all participants and the meeting started with a round of introductions. The welcome address was delivered by the Dr Thon Mangok Koj, Director, DGoP, who thanked WHO for their ongoing support and FMoH for their work leading to this consultation.

Dr Tarin, Health Systems Strenthening, WHO Sudan, described human resources as the backbone of the health system and emphasized the importance of pharmaceutical human resources given their role to ensure access to and rational use of medicines and health technologies. He stated that the current deficiency of pharmacists in the public sector as documented in the Human Resources Development Plan of the FMoH 2004-2013 is around 60% and thus pharmacist needs continue to be great at present and in the future. Workforce distribution, regulation of professional practice and pharmaceutical sector remain important issues in Sudan.

Dr Tarin urged participants to consider a broad range of issues in human resources planning, management and training including Continuing Professional Development (CPD), specialist areas, career structure, and recruitment and retention. Dr Tarin hoped that the resulting Framework would be comprehensive in covering these areas in order to set a strategic direction for pharmaceutical human resources development. Dr Tarin concluded his remarks by stating the importance of pharmacists to ensure

rational use of medicines given that pharmaceuticals constituted at least half of the health budget.

Dr. Isam Eldin M Abdallah, the Director of Human Resources Directorate, FMoH, described the purpose and objectives of the workshop which centred on the aim of utilising the results of the 2009 Assessment of Pharmaceutical Human Resources and obtaining the input of all key stakeholders to draft a framework for the development of human resources for the pharmaceutical sector in Sudan. Dr Abdallah thanked WHO for its support to Sudan in conducting the assessment and facilitating the consultation and highlighted that the pharmaceutical human resource situation had improved dramatically in the past twenty years due to the increase in the production of pharmacists. Dr Abdullah expressed that the FMoH valued this consultation to develop a framework as large human resource gaps still persisted in both public and private sectors and a clear vision was needed on how pharmaceutical human resources should be developed and managed. Also, Dr. Isam mentioned that the DGoP was the first FMoH directorates to set such a framework for the development of its HR.

Dr. Hiba Yassin Abuturkey provided an overview of the key findings and recommendations of the 2009 Assessment of Pharmaceutical Human Resources. The increase in the levels of pharmacy workforce over time was described, for example, workforce levels in 2004 were around 4000 compared to over 7000 in 2009. However, significant imbalance in state level distribution of pharmacists was observed with some states having less

than 1 per 100,000 compared to Khartoum which had over 4 per 10,000. Recommendations arising from this assessment included:

- To develop a mechanism by which the MoH can calculate the active pharmaceutical workforce
- To develop a policy to attract and retain pharmacists at public sector
- To coordinate pharmaceutical HR supply requirements between FMoH and the Ministry of Higher Education
- To develop a policy to improve distribution of pharmaceutical human resources between urban centres and states
- Set a clear and stated policy for CPD, post-graduate education and training and career pathways
- Encourage the presence of clear job description for pharmacists and pharmacy assistants at each facility in both public and private sectors
- To strength statistical units responsible for providing pharmaceutical human resource data
- To develop a system for regular pharmacist registration renewal

Participants commented on the pharmaceutical human resources assessment and offered suggestions for improvement such as separating the analysis of public and private sector universities as there are great differences between them in terms of resources and fees (Dr Hassan M. Ali, Dean, Faculty of Pharmacy, National College).

Dr Fatime Mukhtar, Khartoum Teaching Hospital stated that one of the key issues in the public sector was the lack of creation of new positions which are required. Dr Hassan further suggested that this issue could be

addressed if all government stakeholders such as the Ministry of Finance, Ministry of Health and other responsible bodies came together to set a five year pharmaceutical human resources plan. Dr Hassan also raised the increasing trend of pharmacists taking up multiple positions simultaneously which may affect their quality of work.

Dr Tana Wuliji, WHO Consultant described strategies and country case examples of strengthening pharmaceutical human resources along three dimensions (the "cube" model) of pharmaceutical service and workforce development – service level/workforce competency, service coverage/workforce size and distribution, and service scope/workforce capacity.

Dr Wuliji emphasized the need for country specific pharmaceutical human resources planning relevant to the local context and realities. Global and regional trends on pharmaceutical human resources densities per 10,000 population, distribution by sector and education capacity were briefly highlighted. Further detail was provided in the 2009 FIP Global Pharmacy Workforce Report which served as a background reference document during the consultation (2).

An outline of the consultation process leading to the development of the draft framework was explained by Mrs Helen Tata, WHO Headquarters. She encouraged participants to consider follow up steps which need to be taken after the consultation in order to develop needs-based pharmaceutical human resources plans.

Figure 2:   Opening of the 2010 Pharmaceutical Human Resources Consultation

2.1.2   Consultation theme 1: Key pharmaceutical human resource issues

Discussion agenda:

1. To identify key pharmaceutical human resource issues in Sudan

The working groups identified the following pharmaceutical human resource issues in Sudan under the themes of HR planning, management and development:

- **HR planning**
    – Lack of pharmacy profession representation at decision making levels
    – Inadequate policies and policy implementation on pharmacy practice

- Weak capacity of SMC to regulate and lead pharmacy profession
- Weak capacity of DGoP to lead pharmaceutical developments
- Unquantified workforce needs and projected requirements
- Inadequate pharmaceutical human resources information system
- Coordination for pharmacist training between FMOH, NMHE and training institutions

- **HR management**
  - Weak regulation of pharmacy profession – need for regular renewal of licenses
  - High turnover
  - No job descriptions
  - Low job satisfaction
  - Poor coverage of services outside of Khartoum (rural/urban imbalance)
  - Inadequate career structure and no implementation of career structure policy
  - Recruitment and retention

- **HR development**
  - Need to ensure competent pharmacist workforce
  - Pharmacy education reform (needs-based)
  - CPD reform (introduce mandatory CPD requirement and needs-based development)

- Inadequate access to current health and pharmaceutical information and resources
- Shortage of academics in training institutions

2.1.3 Consultation theme 2: Pharmaceutical human resources policy objectives

Discussion agenda:

1. To identify policy objectives for each pharmaceutical human resource issue
2. To prioritise pharmaceutical human resource issues

Each working group was assigned specific pharmaceutical human resource issues for which to develop policy objectives. Table 5 summarises the policy objectives identified under the categories of human resources planning, management and development.

Figure 3. Working group

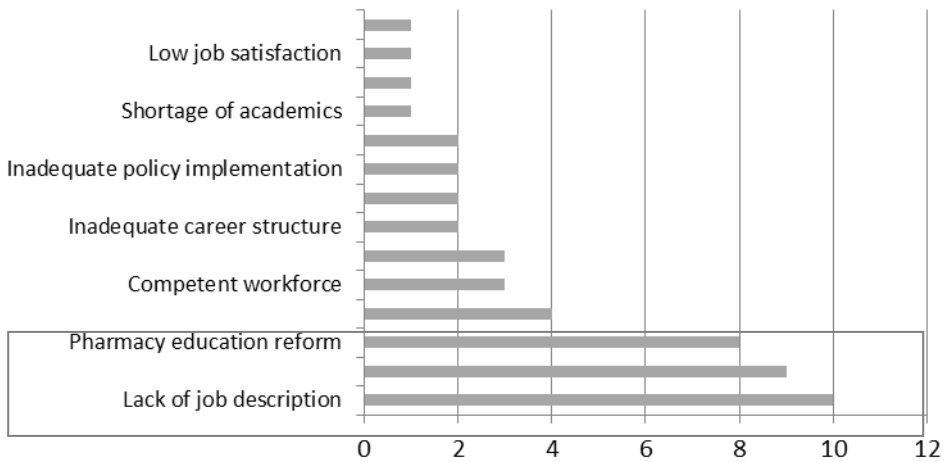**Table 5. Human resource issues and policy objectives**

HR Planning		Policy objectives
1	HR information systems	1.1 To strengthen the HR information system in DGoP
		1.2 To create linkages between the HR information systems in DGoP, SMC and observatory of human resources
2	HR plans	2.1 To regularly assess and determine pharmacy workforce requirements every 5 years
		2.2 To review and determine minimum public sector pharmacist density requirements per 10,000 population at state level
		2.3 To determine pharmacy workforce production requirements based on current needs
		2.4 To develop a regularly updated pharmaceutical human resources plan
3	HR policy	3.1 Establish a standing committee with all stakeholders to regularly monitor, review and evaluate policies and guide implemented
4	Policy development and implementation capacity	4.1 Negotiate for the contribution of pharmacists in relevant government departments for pharmaceutical policy development
		4.2 To strengthen the capacity and representation of the Pharmacy Board within SMC
		4.3 To strengthen the capacity of DGoP to lead pharmaceutical policy development
HR Management		**Policy objectives**
5	Job descriptions	5.1 To set clear standard job descriptions for pharmacists and assistant pharmacist for each aspect of pharmacy practice
6	Pharmaceutical HR and practice regulation	6.1 To review and update existing pharmacy practice regulations and guidelines
		6.2 To implement and enforce pharmacy practice regulations
		6.3 To establish a system of mandatory regular renewal of pharmacist licenses linked to minimum CPD requirements
7	Pharmaceutical HR in	7.1 To increase the density of pharmacists per 10,000 population in underserved states

	underserved areas	7.2 To increase the density of assistant pharmacists working in rural areas
		7.3 To introduce supervision system to assistant pharmacists working in rural areas
		7.4 To improve the working environment
		7.5 To improve the package of financial and non-financial incentives for pharmacists working in underserved areas
8	Career pathways	8.1 To implement the approved career pathway
HR Development		**Policy objectives**
9	Competency framework	9.1 To develop a competency framework for pharmaceutical services
10	Competency based pharmacy education	10.1 To develop competency based curriculums in schools of pharmacy
		10.2 To review and update a set of educational outcome standards for schools of pharmacy
		10.3 To activate the existing system of regular curriculum reform to meet current and future needs
11	Competency based CPD	11.1 To develop a strategy for CPD based on current and future needs
		11.2 To develop CPD programs that support pharmacists to develop and maintain adequate knowledge and skills to provide pharmaceutical services to meet current and future needs
12	Academic staff	12.1 To promote training of teaching and research skills
		12.2 To set a policy to promote post graduate research training of academic staff

A prioritisation exercise identified the following as the most important issues (figure 2).

1. Lack of job description
2. Pharmacy representation at decision making levels
3. Pharmacy education reform

Figure 2: Prioritisation exercise results for pharmaceutical human resources issues.

The consultation concluded with plenary discussions on each consultation theme before reaching consensus on the policy objectives.

2.2 Day 2

Chair: Suad Alkarib, Wafra Pharma Pharmaceutical Manufacture Director

A review of the first day was presented by Hania Ali Ahmed, Representative of NMPB. Three small group discussions and consensus building plenary sessions were conducted to form the remaining aspects of the draft framework.

2.2.1: Consultation theme 3: Structures and processes required to achieve objectives

Discussion agenda:

1. To identify structures required to achieve policy objectives
2. To identify short term and long term processes required to achieve objectives

Working groups were allocated specific themes to identify specific structures (eg - institutions, councils, professional bodies, working groups, agencies, etc) and processes in the short and long term (eg – decisions, consultations, activities, strategies, systems etc). These were further developed through plenary discussions and integrated into the draft framework.

2.2.2 Consultation theme 4: Opportunities for and barriers to pharmaceutical human resources development

Discussion agenda:

1. To identify opportunities in the short term for pharmaceutical human resources development

2. To identify major barriers to pharmaceutical human resources development in the short term

Working groups brainstormed and reported on opportunities for and barriers to human resources development. These were incorporated into the draft strategic framework and refined through plenary discussions and consensus building.

2.2.4: Consultation theme 5: Key stakeholders and their roles

Discussion agenda:

1. To identify key stakeholders for pharmaceutical human resources development

2. To identify the potential roles of key stakeholders

Key stakeholders for human resources planning, management and development were identified and their roles defined by working groups. These formed the stakeholder framework.

2.3 Day 3

Consensus on the strategic framework and stakeholders' framework was achieved. Table 6 summarises the commitments made by each participant to undertake specific follow up action after the consultation.

Table 6: Commitments made by stakeholders

Stakeholder group	Commitment statement
DGoP	Will convey message to Sudanese pharmacists through social media (eg – Facebook)
DGoP	Will dedicate efforts towards implementation of next steps by the end of the year
DGoP	Will ensure development of HR plan from Strategic Framework
DGoP	Will direct those responsible to carry out next steps
Hospital	Will be ready to Implement HR strategies relating to hospital settings
Hospital	Will advocate to FMoH to help implement recommendations of workshop
Medical and Aromatic Research Institute	Will recruit pharmacists in MoST, report to MoHRD on workshop
MoD	Will tell all colleagues in military force about workshop
MoD	Will inform management of the outcome of the workshop
NHIF	Will Inform colleagues about workshop outcomes and commit with other stakeholders to achieve goals
NHIF	Will do best promote the Strategic Framework and support its implementation
NMPB	Will activate HR department, coordinate with other structures for HR development, and disseminate outcomes of workshop
Pharmacists Union	Will communicate outcomes from the consultation and implement CPD strategies,

Stakeholder group	Commitment statement
SDoP	Will do best to launch framework and will be ready to implement relevant strategies at state level
SDoP	Will create an HR department in the Red Sea State DoP to implement recommended strategies
Sudan Medical Specialization Board	Will advocate for acceptance of the Strategic Framework and action to reform the fellowship program
Sudan Medical Specialization Board	Will disseminate outcomes of workshop to higher committees, seek support pharmacists and recent graduates to meet their competency development needs
University	Will inform all faculty of pharmacy staff and the Dean's committee about outcomes of workshop
University	Will support implementation of recommendations arising of workshop and promote support for the strategic framework
University	Will convey outcomes to students, colleagues and all stakeholders, and encourage others to contribute to achieve recommendations
University	Will be ready to provide support for implementation whenever needed
WHO	Will support implementation and planning
WHO	Will facilitate dissemination of report to WHO and provide further technical support

The consultation concluded with closing remarks from the Chair, Dr Humida Alobeid,; Mrs Helen Tata, WHO; and Dr Thon, Director General, DGoP, FMoH.

Dr Humida Alobeid declared the consultation to be successful in accurately diagnosing pharmaceutical human resources problems and putting forward proper remedies to treat these ailments. He congratulated participants for

their hard work over the course of the consultation and affirmed that the recommendations stated in the Strategic Framework would contribute towards serving the health needs of people in Sudan. Dr Alobeid expressed hope that the necessary actions would be taken to implement the recommended strategies and urged all stakeholders to perform their roles to make sure the vision would be brought to fruition.

Figure 4. Discussion group

Mrs Helen Tata, WHO, expressed her great satisfaction with the outcomes of the consultation and the efforts of the participants to provide quality inputs to develop the Strategic Framework. The consultation was an opportunity for all stakeholders in the pharmaceutical sector to reach an agreement on required strategies for pharmaceutical human resources development, a health systems issue that affects all facets of pharmaceutical services, practice, manufacturing, education, regulation

and planning. Mrs Tata emphasised the importance of stakeholders to further develop a pharmaceutical human resources plan integrated into broader human reosurces for health planning based on priority areas of the strategic framework. She pledged the ongoing support of WHO to facilitate this important process.

Dr Thon, Director General DgoP, FMoH, officially closed the consultation with a statement of his committment to report the outcomes of the consultation to the Undersecretary of the FMoH and called upon all stakeholders to support the DgoP in a collective approach to acheive the required next steps.

Details of the discussion groups are further detailed below.

2.3.1 Consultation theme 6: Feedback on framework

Discussion agenda:
1. To provide initial feedback on the draft strategic framework

The working groups focused on providing detailed feedback on the draft framework before reporting to all participants. Groups felt that the draft framework was comprehensive and captured the inputs which had been developed over the course of the consultation. Participants added further detail to the Stakeholders Framework, refined the stated strategic objectives and processes, and identified additional opportunities and barriers in the draft Strategic Framework.

2.4.1 Consultation theme 7: Identification of next steps

Discussion agenda:

1. To identify next steps and appropriate timeframes

The following next steps were recommended:

Table 7.   Next steps

	Actions	Stakeholders	Deadline
1	Disseminate consultation outcomes to all stakeholders	DGoP	**15 August 2010**
2	Seek endorsement of Strategic Framework by FMoH and FMoHR	DGoP	**15 September 2010**
3	Establish a standing committee under DGoP including representatives of all key stakeholders	DGoP	**15 October 2010**
4	Develop costed pharmaceutical HR plan 2011 – 2015 based on priorities identified in the endorsed Strategic Framework	Standing committee	**15 November 2010**
5	Submit budget request to support implementation of pharmaceutical HR plan 2011 – 2015 to FMoH	DDGoP	**1 December 2010**
6	Seek funds from development partners to support implementation of pharmaceutical HR plan 2011 – 2015	Standing committee	**1 December 2010**
7	Launch pharmaceutical HR plan at stakeholders workshop	Standing committee	**15 December 2010**

3. Pharmaceutical Human Resources Strategic Framework 2011 - 2020

3.1 Introduction

This strategic framework was developed with full consensus of represented stakeholders at the 2-4 August 2010 consultation held in Khartoum, Sudan. The consultation was held with the support of the Federal Ministry of Health, World Health Organization and the European Commission. In synthesizing the findings of the Assessment of Pharmaceutical Human Resources in Sudan 2009, participants sought to utilize evidence based approach to the development of the framework.

This framework describes the policy objectives grouped under the themes of human resources planning, management and development. The policy objectives are listed within each theme according to its priority level as determined by the participants with the highest priority policy objectives listed first. The structures which should be involved in processes relating to each policy objective are stated as well as the short term (< 2 years) and long term processes (2 – 10 years) that would support the achievement of each policy objective. General opportunities and barriers are also described for each theme.

3.2 Purpose of strategic framework

This framework seeks to inform the strategic development of pharmaceutical human resources in Sudan, guiding policy development and planning. In particular, it will serve as a reference document for the

development of a costed pharmaceutical human resources plan for 2011 –
2020 for the Federal Ministry of Health.

Draft Strategic Framework for Pharmaceutical Human Resources Development 2011 – 2020

Table 8: Pharmaceutical human resources themes and policy objectives

Policy objectives	Structures	Processes	Opportunities and barriers
HUMAN RESOURCES PLANNING			
1.3 To strengthen the pharmaceutical HR information system in DGoP	DGoP, SDoP, Ministry of HR Development, Sudanese Pharmacists Union, Academic and research institutions, SMC, Military Medical Services (MoD), MoI, Observatory of Human Resources, HRH Directorate (MoH), NHIF and private insurance	Short term (<2 years): 1.3.1 Review existing pharmaceutical HR information systems, HR databases and HR data collection activities 1.3.2 Create linkages between existing HR information systems and databases Long term (>2 years): 1.3.3 Develop and maintain an updated web-based pharmaceutical HR information system that receives input from other existing databases and HR information systems and produces regular reports	Opportunities: • Existence of web-based system to link and enable exchange of information between all stakeholders • Existence of IT and internet capacity for information sharing Barriers: • Financial constraints • Weak response and feedback to update HR information system • Unwillingness of stakeholders to complete surveys and provide information • No mechanism for data sharing between SMC, DGoP, SDoP, and academic and research institutions • Lack of awareness of

Policy objectives	Structures	Processes	Opportunities and barriers
	companies, CMS, NMPB, Pharmaceutical Manufacturer Chamber, MoHE		importance of HR information and use of HR information for planning
1.4 To regularly assess and determine pharmaceutical human resource requirements	DGoP, SDoP, Ministry of HR Development, Sudanese Pharmacists Union, Academic and research institutions, SMC, Military Medical Services (MoD), MoI, Observatory of Human Resources, HRH Directorate (MoH), NHIF and private insurance	Short term (<2 years): 1.4.1 Coordinate the inputs of key stakeholders to assess and identify current and future pharmaceutical human resource needs 1.4.2 Review and share international experiences on developing pharmaceutical human resource requirements 1.4.3 Quantify current and five year projections of national pharmacist and pharmacy assistants workforce requirements in each area of practice 1.4.4 Review and determine minimum public sector pharmacist and pharmacy assistant density requirements per 10,000 population at national and state	Opportunities: • Availability of references, methodologies and case studies from WHO and FIP on determining HR requirements • Availability of strategic framework for pharmaceutical HR development • Establishment of new MoHRD • Willingness of HRHD (MoH) to improve HR situation Barriers: • Financial constraints • Lack of appropriate assessment method • Lack of technical capacity to determine HR requirements and make projections

Policy objectives	Structures	Processes	Opportunities and barriers
	companies, CMS, NMPB, Pharmaceutical Manufacturer Chamber, MoHE	level 1.4.5 Determine annual pharmaceutical human resource production requirements based on current and future needs Long term (>2 years): 1.4.6 Review and update pharmaceutical human resource requirements and projections every five years	
1.3 To develop a regularly updated pharmaceutical human resources plan	DGoP, SDoP, MoHRD, Sudanese Pharmacists Union, Academic and research institutions, SMC, Military Medical Services (MoD), MoI, Observatory of Human Resources, HRH Directorate	Short term (<2 years): 1.3.1 Coordinate the inputs of key stakeholders to develop a costed 10 year national pharmaceutical human resources strategic plan based on the strategic framework 1.3.2 Integrate the pharmaceutical human resources plan into broader health sector human resources plans Long term (>2 years): 1.3.3 Review and update pharmaceutical human resources plans every 5 years	Opportunities: • New MoH strategic plan for development of HR for health which pharmaceutical HR can be integrated in • Consensus of all key stakeholders of need for HR planning • Development of a new HR Strategy after 2013 (current HR strategy is 2004 – 2013) Barriers: • Financial constraints • Lack of feedback from

Policy objectives	Structures	Processes	Opportunities and barriers
	(MoH), NHIF and private insurance companies, CMS, NMPB, Pharmaceutical Manufacturer Chamber, MoHE		stakeholders • No positions available to recruit required staff for HR planning
1.4 To strengthen pharmaceutical and pharmaceutical human resources policy development and implementation	DGoP, SDoP, Ministry of HR Development, Sudanese Pharmacists Union, Academic and research institutions, SMC, Military Medical Services (MoD), MoI, Observatory of Human Resources, HRH Directorate	Short term (<2 years): 1.4.1 Establish a standing committee with all stakeholders to regularly monitor, review and evaluate pharmaceutical HR and general pharmaceutical policies and guide implementation 1.4.2 Advocate for DGoP contribution in relevant government bodies on pharmaceutical policy issues 1.4.3 Establish priorities for pharmaceutical HR and general pharmaceutical policy development, review and implementation Long term (>2 years):	Opportunities: • Interest of different stakeholders to contribute to policy development • Development of new National Medicines Policy to replace National Drug Policy (ended 2009) Barriers: • Financial constraints • Weak response from different stakeholders on policy issues • Weak implementation, monitoring, and evaluation of policies

Policy objectives	Structures	Processes	Opportunities and barriers
	(MoH), NHIF and private insurance companies, CMS, NMPB, Pharmaceutical Manufacturer Chamber, MoHE	1.4.4 Strengthen the capacity of DGoP to lead pharmaceutical policy development 1.4.5 Strengthen the capacity and representation of the Pharmacy Board within SMC 1.4.6 Develop a strategic plan for pharmaceutical HR and general pharmaceutical policy development, review and implementation based on established priorities 1.4.7 Review, develop, implement and monitor pharmaceutical HR and general pharmaceutical policies based on established priorities	
HUMAN RESOURCES MANAGEMENT			
2.1 To set clear standard job descriptions for pharmacists and pharmacy assistant for each aspect of	MoH, DGoP, Sudanese Pharmacists Union	Short term (<2 years): 2.1.1 Gather and review existing job descriptions across all sectors 2.1.2 Revise, develop and disseminate job descriptions with the input of key stakeholders	Opportunities: • Existence of job descriptions in some settings Barriers: • Weakness of top managers to clarify and implement job

Policy objectives	Structures	Processes	Opportunities and barriers
pharmacy practice		Long term (>2 years): 2.1.3 Monitor and evaluate the application of job descriptions 2.1.4 Review and revise job descriptions every 5 years	descriptions • Employees increasingly hold multiple positions • Weak awareness of top managers on HR issues • No creation of required positions in states • Lack of united and strong advocacy from pharmacy profession • Poor link between structures dealing with job descriptions
2.2 To strengthen pharmacy profession and practice regulation	SMC Pharmacy Board, DGoP, Sudanese Pharmacists Union	Short term (<2 years): 2.2.1 To establish a separate regulatory body for pharmaceutical human resources that is responsible for registration, regular license renewal, regulation, education and training 2.2.2 Review and update existing pharmacy practice regulations and guidelines 2.2.3 Implement and enforce pharmacy	Opportunities: • Existence of CPD program • Existence of Pharmacy Act Barriers: • Poor utilization of CPD program • Weak SMC Pharmacy Board • Frequent turnover of pharmacy leadership in key positions • Weak pharmacy profession representation at decision making levels

Policy objectives	Structures	Processes	Opportunities and barriers
		practice regulations Long term (>2 years): 2.2.4 Monitor and evaluate the implementation and effectiveness of regulations and guidelines	• Lack of awareness of pharmacy leadership on HR issues • Lack of profession of pharmacists in industry due to lack of coordination between industries and academia
2.3 To establish a system of mandatory regular renewal of pharmacist and pharmacy assistant licenses linked to minimum CPD requirements	SMC Pharmacy Board, Pharmacists Union, CPD Centre in MoH, DGoP Council for Allied Health Professionals	Short term (<2 years): 2.3.1 Coordinate the input of key stakeholders to support the establishment a new separate regulatory body for pharmaceutical human resources (refer to 2.2.1) 2.3.2 Build on existing CPD systems and programs of the MoH CPD and Sudanese Pharmacists Union to establish a system of mandatory CPD and CPD certification 2.3.3 Provide financial and technical support to existing institutes to provide CPD programs Long term (>2 years): 2.3.4 Monitor and evaluate the implementation	Opportunities: • Existence of CPD program • Consensus of key stakeholders on need for mandatory regular renewal linked to CPD • Existence of post-graduate studies and academic and research institutions • Existence of specialization board Barriers: • Weak SMC Pharmacy Board • Weakness of CPD program • Lack of incentives to do CPD • Shortage of professional trainers • Poor utilisation of available resources in government for

Policy objectives	Structures	Processes	Opportunities and barriers
			CPD
2.4 To increase the density of pharmacists and pharmacy assistants working in rural areas	State Health Authorities, SDoP, MoH, MoF, MoL at state level, NHIF, Military Medical Service (MoD), MoI	Short term (<2 years): 2.4.1 Review existing incentives for pharmacists and pharmacy assistants in rural areas 2.4.2 Conduct situational analysis of working environments in rural areas to identify priority improvement needs 2.4.3 Develop a recruitment policy and incentive package to attract and retain pharmacists and pharmacy assistants in rural areas 2.4.4 Upgrade working environments in rural areas Long term (>2 years): 2.4.5 Implement, monitor and evaluate impact of recruitment policy and working environment improvements on density of pharmacists and pharmacy	Opportunities: • Existence of SDoP in all states • Increased number of specialist pharmacists, pharmacists and pharmacy assistants Barriers: • HR shortages • Weak SDoP in states • Inadequate basic infrastructure at state level • No creation of required positions in states • Lack of qualified and experienced staff in SDoP

Policy objectives	Structures	Processes	Opportunities and barriers
		assistants in rural areas	
2.5 To introduce supervision system to pharmacy assistants working in rural areas	DGoP, SDoP	Short term (<2 years): 2.5.1 Develop and implement a supervision system for pharmacy assistants 2.5.2 Train supervisors at SDoP on supervision strategies 2.5.3 Develop supervision guidelines and checklists	Opportunities: • Existence of SDoP in all states • Existing mandate of SDoP to supervise Barriers: • Lack of qualified and experienced staff in SDoP • Weak implementation of supervision by SDoP
2.6 To implement the approved career pathway	SMC, MoH, MoL, MoF, Sudanese Pharmacists Union, Sudanese	Short term (<2 years): 2.6.1 Coordinate the input of key stakeholders to support the establishment of a new separate	Opportunities: • Existence of scholarships from MoH, EU and WHO and other partners

Policy objectives	Structures	Processes	Opportunities and barriers
policy	Pharmacists Union Specialist Groups, CPD Centre for MoH Sudan Medical Specialisation Board (Pharmacy Specialisation Board)	regulatory body for pharmaceutical human resources (refer to 2.2.1) 2.6.2 Coordinate the input of key stakeholders to implement the career pathway policy 2.6.3 Increase linkages between MoH and academic and research institutions providing post-graduate and specialization programs Long term (>2 years): 2.6.4 Review, monitor and evaluate implementation of career pathway policy	• Existence of CPD and DGoP coordination • Existence of SMC Pharmacy Board Barriers: • Lack of funding for scholarships • Poor utilisation of CPD program • Lack of implementation of Pharmacy Act
HUMAN RESOURCES DEVELOPMENT			
3.1 To develop a competency framework for pharmaceutical services	DGoP, SMC, Academic institutions, Council for Allied Health Professionals	Short term (<2 years): 3.1.1 To define core pharmaceutical services required across all areas of practice including community pharmacy, hospital pharmacy and clinical pharmacy, industrial pharmacy, drug supply management, and drug regulation 3.1.2 To identify specific functions or	Opportunities: • Existence of FIP Competency Framework which can be adapted and adopted Barriers: • Financial constraints

Policy objectives	Structures	Processes	Opportunities and barriers
		tasks for each service, and required competencies (knowledge, skills, behaviours/actions) 3.1.3 To review the FIP Competency Framework for Pharmaceutical Services for possible adaptation Long term (>2 years): 3.1.4 To review and revise the competency framework every five years	
3.2 To develop competency based and needs-based curriculums in academic and research institutions	MoHE, MoH, SMC, Academic and research institutions, Council for Allied Health Professionals	Short term (<2 years): 3.2.1 Include stakeholder representation of pharmacy practice areas in curriculum development committees in academic and research institutions 3.2.2 Strengthen the joint MoHE, SMC Pharmacy Board, and MoH committee/accreditation organ to assess and evaluate curriculum and curricular outcomes 3.2.3 Review and update model curricular outcomes for schools of pharmacy	Opportunities: • Adopt MoHE guidelines for standard measures for model pharmacy faculties • Existence of SMC and MoHE accreditation standards and guidelines • Existence of post-graduate training programs Barriers: • Financial constraints • Academic and research staff shortages

Policy objectives	Structures	Processes	Opportunities and barriers
		3.2.4 Strengthen the existing system of curriculum review and reform to meet current and future needs	• Shortage of curriculum development experts
3.3 To develop CPD and post-graduate programs that support pharmacists to develop and maintain competencies to meet current and future needs	DGoP, Sudan Medical Specialisation Board. Academic institutions, MoHE, Sudanese Pharmacists Union, SMC	Short term (<2 years): 3.3.1 Coordinate the input of key stakeholders to support the establishment a new separate regulatory body for pharmaceutical human resources (refer to 2.2.1) 3.3.2 Regularly assess CPD needs through situational analysis of pharmacists and pharmacy assistants in all areas of practice and academia 3.3.3 Develop an annual CPD strategic plan based on situational analysis findings with the input of all key stakeholders 3.3.4 Review existing CPD and specialization fellowship programs and develop CPD programs in accordance to strategic plan	Opportunities: • Existing CPD program • Existence of CPD program committee in MoH • Existence of online international CPD programs • Awareness of importance of CPD and benefits • Interest of pharmacists to engage in CPD • Employer demand for CPD for staff • Action plan developed by SMC for professional registration renewal Barriers: • Delay in implementation of CPD program

Policy objectives	Structures	Processes	Opportunities and barriers
		3.3.5 Conduct train the trainers programs to build up capacity to implement CPD programs	• Lack of incentives and recognition to do CPD • Financial constraints
3.6 To address academic staff shortages and build academic and research capacity	Academic and research institutions, MoHE, MoH	Short term (<2 years): 3.6.1 Promote post graduate research training of academic and research staff 3.6.2 Ensure effective supervision of post-graduate students and new academic and research staff 3.6.3 Encourage undergraduate students to develop research skills through research projects 3.6.4 Form collaborative arrangements between academic and research institutions within Sudan to develop research and teaching skills 3.6.5 Encourage academic and research staff to undertake CPD to develop and maintain research and teaching skills	Opportunities: • Availability of faculties and staff to lead research and post-graduate studies and train new academics • Existence of post-graduate training opportunities Barriers: • Inadequate financial support • High academic and research staff workload • Lack of links to external academic and research institutions • Migration of academics abroad • Lack of available opportunities to study abroad

Table 9: Draft Stakeholders Framework

Stakeholder	HR planning roles	HR management roles	HR development roles
Academic and research institutions	• Data on students and staff	• Develop post-graduate studies • Facilitate training and skills for their staff	• Review and upgrade curriculum • Decide on enrolment according to needs
CMS	• HR data on training	• Set job descriptions for employees	• Drug management and supply training
Council for allied health professionals	• Maintain registration data on pharmacy assistants	• Register and regulate pharmacy assistants	• Develop and evaluate professional standards
CPD centre (MoH)	• Set budget for CPD	• N/A	• Develop and implement CPD programs • Coordinate CPD activities of different stakeholders • Provide facilities and trainers for CPD programs
DGoP	• Coordinate national pharmaceutical HR data	• Set qualification requirements for positions	• Training

Stakeholder	HR planning roles	HR management roles	HR development roles
	• Determine staff distribution	• Implement regulation, guidelines and policies	
Federal and state hospitals	• HR data	• Training • Job descriptions	• Training
HR observatory, MoH	• Coordination with all stakeholders on HR data	• N/A	• N/A
Manufacturers	• Provide HR data	• Set job descriptions • Define qualifications required for positions • Recruit pharmacists	• Provide scholarships for staff • Training of staff • Train undergraduate and post-graduate students
MoD	• Provide HR data • Fund training and CPD	• Job description	• Training • Provide scholarships to employees for post-graduate studies
MoF	• Financial support • Fund new positions in public sector	• Fund for training and scholarships and infrastructure	• Fund post graduate studies
MoH	• Assess pharmaceutical HR situation • Allocate resources to	• Review job descriptions and required qualifications	• Provide scholarships to employees for post-graduate studies

Stakeholder	HR planning roles	HR management roles	HR development roles
	DGoP	for positions	
MoHE	• Determine intake of students for each academic and research institution	• Set and maintain standards for academic staff	• Ensure review of curriculum • Fund post-graduate studies
MoHRD	• Coordination with MoH to implement pharmaceutical HR plan • Technical support for HR planning • Provide budget for training	• Set and maintain standards for HR at different sectors	• Provide resources for training • Offer scholarships for training for public sector employees
MoI	• Provide HR data	• Job descriptions for employees	• Provide training of staff • Fund post graduate studies of staff • Train undergraduate students
MoL	• Creation of positions based on needs	• Set salaries and incentives for public sector staff	• N/A
MoST	• N/A	• Job descriptions for	• Enable access of

Stakeholder	HR planning roles	HR management roles	HR development roles
		employees	pharmacy academic and research institutions to equipped labs for research purposes • Fund R&D in pharmaceutical sciences
National Health Insurance Fund (NHIF)	• Provide HR data	• Set job descriptions for employees	• Training
NMPB	• Provide HR data	• Job descriptions for employees • monitor standards of practice	• Training
Private CPD centers	• Provide input into HR plans	• N/A	• Develop and offer CPD programs
Public/consumers	• Provide feedback on pharmaceutical HR plan	• Evaluate services and provide feedback to NMPB and SMC	• Input into case studies for clinical pharmacy undergraduate and postgraduate programs?
SDoP	• Provide HR data	• Set qualification	• Training

Stakeholder	HR planning roles	HR management roles	HR development roles
	• Determine staff distribution at state levels	requirements for positions at state level • Implement regulation, guidelines and policies at state level	
SMC	• Maintain registration data on pharmacists	• Review and implement of Pharmaceutical Act • Register graduates	• Develop and evaluate professional standards
Sudan Medical Specialisation Board (Pharmacy Specialisation Board)	• Provide data on intake of pharmacists into specialization programs	• Set job descriptions for employees	• Offer fellowship program for pharmacists
Sudanese Pharmacists Union	• Advocate for creation of new jobs in public sector • Advocate for pharmaceutical issues	• Support different professional specialist groups • Set contracts, salaries and incentives in private sector • Ensure implementation and adherence to practice standards	• Provide international links • Organise professional conferences

Stakeholder	HR planning roles	HR management roles	HR development roles
WHO, FIP and other international partners	• Technical support	• Technical support	• Technical support

References

(1) World Health Organization. The world health report 2006: working together for health.

(2) 2009 FIP Global Pharmacy Workforce Report. The Hague: International Pharmaceutical Federation (FIP). Edited by Wuliji, T.

Annex 1: Program

Time	Monday 02 August	Tuesday 03 August	Wednesday 04 August
Chair	Dr. Isam Eldin M. Abdallah – HR Director - FMoH	Suad Alkarib - Military services	Humida Alobeid – Dean of pharmacy UMST
08:30 – 0:900	Participant registration		
0900 - 1030	• **Welcome**, Sara Kareem • **Introductions**, Participants • **Brief Statement** , Dr Tarin, Health Systems, WHO Sudan • **Opening of workshop**, Thon Mangok Koj, DGoP • **Consultation objectives**, Dr. Isam Eldin M. Abdallah, HR Director, FMoH • **Consultation overview**, Helen Tata, WHO	• **Recap of Day 1**, Rapporteur (10 min) • **Group work introduction**, Tana (5 min) • **Group discussion 3**: Structures and processes required to achieve policy goals (1 hr 15 min)	• **Recap of Day 2**, Rapporteur (10 min) • **Key elements of the strategic framework for pharmaceutical human resources**, Tana (15 min) • **Group discussion introduction**, Tana (5 min) • **Group discussion 6**: Feedback on framework (60 min)
10:30 – 11:00	*Breakfast*		

11:00 – 13:00	• **Pharmaceutical human resources – key issues and recommendations**, Hiba Yassin Aburtukey (15 min) • **Strategies for pharmaceutical human resources development**, Tana Wuliji, Consultant (10 min) • **Group discussion introduction**, Tana (5 min) • **Group discussion 1**: Key pharmaceutical human resource issues (60 min) • **Group reports and plenary discussion** (30 min)	• **Group discussion 3:** continued (30 min) • **Group reports and plenary discussion** (30 min) • **Group discussion introduction**, Tana Wuliji (5 min) • **Group discussion 4**: Opportunities for and barriers to pharmaceutical human resources development (55 min)	• **Group discussion 6**: continued (30 min) • **Group reports and plenary discussion** (45 min) • **Consensus building on strategic framework** (45 min)
13:00- 13:30	*Coffee*		
13:30– 16:00	• **Group discussion introduction**, Tana Wuliji (5 min) • **Group discussion 2:** Priority pharmaceutical human resources policy objectives (1 hr 25min • **Group reports and plenary discussion (30min)** • **Consensus building (30**	• **Group discussion 4:** continued (30 min) • **Group reports and plenary discussion** (30 min) • **Group discussion introduction**, Tana (5min) • **Group discussion 5:** Key stakeholders and	• **Group discussion introduction**, Tana (5 min) • **Group discussion 7**:Next steps (30 min) • **Group reports and plenary discussion** (30 min) • **Conclusions and commitments**, Tana (15

		their roles (55 min)	min)
min)		• **Group reports and plenary discussion** (30 min)	• **Closing remarks**, Dr Humida Alobeid, UMST; Helen Tata, WHO; Thon Mangok Koj, DGoP
16:00	*Lunch*		

Annex 2: Participants

No.	First Name	Last Name	Title	Organization/Address	Position
1	Abubakr	Taha	Dr	State MoH, Pharmacy Directorate, White Nile	Director, Manager
2	Amani Al Hamed	Nouri	Dr	Ibn Ouf pediatric-hospital	Senior Pharmacist
3	Asim	Sirelkhatim	Dr	Amipharma Labs	HR Director
4	Elhadi	Mohammed	Prof	Faculty of Pharmacy, Univ. of Gezira	Dean
5	Fatima	El Mobarak	Dr	International Univ. Africa, Faculty of Pharmacy	Dean
6	Fatima	Mukhtar	Dr	Khartoum Teaching Hospital	Consultant Pharmacist
7	Hiba Yassin	Yousif Aburturkey	Dr	DGoP-FMoH	Head of HR Department
8	Hania Ali	Ahmed	Dr	National Medicines & Poisons Board, Training & coordination	Human Medicines Dossier Reviewer
9	Hassan	Elsubki	Dr	Medical & Aromatic Research Institute	Director
10	Hassan M.	Ali	Dr	National College	Professor

11	Hatim A.	Wahab	Dr	Police Hospital	
12	Helen	Tata	Dr	WHO-EMP/MPC	Technical Officer
13	Humeida	El-Obeid		Faculty of Pharmacy, Univ. of Medical Services & Technology	Dean
14	Igbal Hussien	Abuzied	Dr	N.H.I.H	Training Manager
14	Kamal Eldin Eltayeb	Ibrahim	Prof	Faculty of Pharmacy, Univ Khartoum	Professor
16	Ismail Salim	Haron	Dr	National Health Insurance	Supply Manager
17	Mai Abdalla	Humaida	Dr	Pharmacy SMSB	Coordinator
18	Mohammed	Dafalla	Dr	Military Medical Services, Dafalla Centre	Medical Supply Manager
19	Mohamed	Ibrahim	Prof	Faculty of pharmacy, Khartoum Medical college	Dean
20	Sara Hayder	Eltigami	Dr	Pharmaceutical Specialization Board, Sudan Medical Specialization Board	SMSB coordinator
21	Sara A. Karem	Hassan	Dr	Planning, Directorate of Pharmacy, FMoH	Head of Planning
22	Siham	Abdoun	Dr	WHO, Sudan	Technical Officer
23	Suad	Alkarib	Dr	Wfra Pharma Lab	Director

24	Tana	Wuliji	Dr	WHO -EMP/MPC	Consultant
25	Thon	Mangok	Dr	FMoH, Pharmacy Directorate	Director General
26	Yassir	Abureesh	Dr	Pharmacist Union, CPD	CPD Coordiantor
27	Yassir Suliman	Bagdadia	Dr	Red Sea State, Pharmacy Directorate	Director

Annex 3: Glossary

Academic and research institutions: Higher education institutions responsible for delivering pre-service education and training for pharmaceutical cadres. May also administer post-graduate programs and continuing education.

Cadre: Professionally distinct group of the workforce defined by their roles and level of responsibility and competency.

Career structure: Planned set of differentiated steps, posts or jobs through which one can progress professionally within a specific position or across positions over time.

Competencies: Knowledge, skills, behaviours and attitudes that an individual accumulates, develops, and acquires through education, training, and work experience.

Competency framework: a complete collection of competencies that are thought to be essential to performance.

Continuing Professional Development (CPD): The responsibility of individual pharmacists for systematic maintenance, development and broadening of knowledge, skills and attitudes, to ensure continuing competence as a professional throughout their careers.

Performance management: Process of optimizing productivity and quality of work of the workforce.

Pharmaceutical services: All service rendered by pharmaceutical staff to support the provision of pharmaceutical care. Beyond the supply of pharmaceutical products, pharmaceutical services include information, education, and communication to promote public health, the provision of

medicines information and counselling, regulatory services, education and training of staff.

Pharmacy assistants: Pharmacy assistants perform a variety of tasks associated with dispensing of medicinal products under the guidance of a pharmacist. They first graduate as nurses. Then after two years of experience as nurses, they are allowed to enrol at the Pharmacy assistant school from which they graduate after three years with a diploma certificate.

Pharmaceutical wholesaler: Buys goods from a manufacturer or importer and sells it to retailers, institutional or professional users or to other wholesalers.

Pharmacists: Pharmacists store, preserve, compound, test and dispense medicinal products and counsel on the proper use and adverse effects of drugs and medicines following prescriptions issued by medical doctors and other health professionals. They also do researching, preparing, prescribing and monitoring medicinal therapies for optimizing human health. Occupations included in this category normally require completion of university-level training in theoretical and practical pharmacy, pharmaceutical chemistry and related fields. Examples of national occupation titles classified here are: hospital pharmacist, industrial pharmacist, community pharmacist.

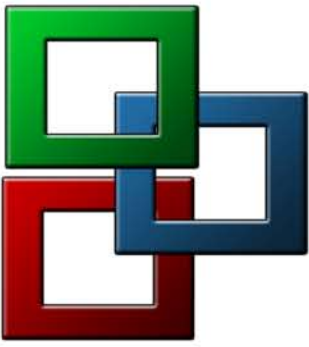**Private health facilities:** Including hospitals and clinics.

Private retail pharmacies: Privately owned pharmacies that provide pharmaceutical services including dispensing, advising on and sales of prescription and non-prescription medicines and medical products.

Salary structure: Hierarchy of job types and grades and the associated compensation and benefits.

Scope of practice: the range of professional tasks and functions that a practitioner can perform as specified by legislation, rules, or regulations; the boundaries within which a practitioner may practice.

Stakeholder: Any individual, group, or organization that has an interest or involvement in a particular activity, set of activities or outcome.

Workforce supply/production: The entry of new workforce into the labour market.