

**Integrated District Health system based on Family Practice Approach
(IDHS-FPA)**



District Health System Profile for Madaba Governorate-Jordan

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ACRONYMS

ARI	Acute Respiratory Infection
ART	Antiretroviral Therapy
CBI	Community Based Initiatives
CIP	Civil Health Insurance
DH	Department Head
DHA	District Health Authority
DHM	District Health Manager
DHMT	District Health Management Team
DHS	District Health System
DOS	Department of Statistics
DOTS	Directly Observed Treatment Short course
EMR	Eastern Mediterranean Region
EMRO	Eastern Mediterranean Regional Office
EPI	Expanded Program of Immunization
IMR	Infant Mortality Rate
GDP	Gross Domestic Product
GP	General Practitioner
HDI	Human Development Index
HPC	Higher Population Council
HR	Human Resource
HSS	Health System Strengthening
IACH	Intersectoral Action Committee for Health
IDHS	Integrated District Health System
IMCI	Integrated Management of Childhood Illness
IT	Information Technology
JD	Jordanian Dinar
JFDA	Jordan Food and Drug Administration
MCH	Mother and Child Health
MG	Madaba Governorate
MMR	Measles, Mumps, and Rubella
MOH	Ministry of Health
NCD	Non-Communicable Disease
NGO	Non-Governmental Organization
PHC	Primary Health Care
PHS	Private Health Sector
RMS	Royal Medical Services

RUD	Rational Use of Drugs
SDH	Social Determinants of Health
TFR	Total Fertility Rate
U5MR	Under Five Mortality Rate
UNRWA	United Nations Relief and Work Agency
USAID	United States Aide for International Development
USD	United States Dollar
WHO	World Health Organization
WRA	Women of Reproductive Age

EXECUTIVE SUMMARY

I. INTRODUCTION

The District Health System (DHS) is responsible for providing primary health care, i.e. organizing a minimum package of curative and preventive services in line with national health policy to respond to the health problems and needs of the local population. Thus, DHS is the tier where health care delivery comes into direct contact with community. WHO/ EMRO has developed a six year strategic plan [2010-15] for technical assistance to its member states that would help revive PHC in the region. A flagship initiative of this strategic plan is to support member states to develop *Integrated District Health Systems Based on a Family Practice Approach (IDHS-FPA)*.

The initiative has four main features: 1) introduction of a family practice approach; 2) integration of health programs delivered through a defined essential service package with defined roles for each level of care; 3) employing different strategies to engage non-state providers in addressing district health needs; 4) adopting systems-approach that addresses all Health System building blocks in application and analysis of problems.

WHO Health System Strengthening Officer in Amman, with technical support from WHO/EMRO, and in collaboration with Jordan MOH has performed a comprehensive assessment for Madaba District Health System to identify its strengths and weaknesses, establish priorities, select interventions and set program objectives and targets in support of the IDHS-FPA Initiative.

II. PURPOSE AND OBJECTIVES

The primary purpose of this assessment is to select one pilot governorate in Jordan, and examine strengths and weaknesses in the system related to implementation of a family practice approach, develop a profile for PHC in Madaba Governorate (pilot area), identify policy and organizational barriers, set priorities and select interventions, to improve performance of the district health system based on a family practice approach. It also serves as a model for performing assessments for other health districts in Jordan.

III.METHODOLOGY

WHO Jordan and MOH formed a steering committee(SC) to guide the implementation of the IDHS-FPA including the assessment phase; the SC included the director of PHC, PHC Director Deputy, Governor of Madaba, Health Director in Madaba and WHO Health System Strengthening Officer.The team discussed the assessment tools prepared by WHO and translated into Arabic, carried out a number of preparatory visits to Madaba, and organized an introductory meeting at the PHD in Madaba headed by the governor and all related sectors state and non-state partners.

A training workshop was conducted in Madaba in June 2011, to finalize and adapt the modules to the country context, prepare a plan of action for data collection analysis, and reporting.

The modules in the assessment tools included 2 levels for assessment at the national level as well as at the district level. Modules at national level included a list of national indicators, policy commitment at national level, while the district level modules included indicators at district level, organization and support functions, hospitals and primary health care facilities, social determinants of health, and community participation assessment.

The data collection took around 2-3 weeks, all data was filled electronically at district level, and facility level modules data were entered to an SPSS program, for collective analysis, and interpretation. Preliminary reports in Arabic were prepared per module by MOH team leaders and submitted to WHO office to prepare the final report.

The facilities modules for hospitals and primary health care centers were 21; 18 were public facilities and 3 were NGO's owned facilities, including two public hospitals and one private hospital.

IV. FINDINGS

1. National Health Situation

Jordan's population is 6.1 million people (2010). The average annual population growth rate is 2.2%. 82% of the Jordanian population is below the age of 40.

Literacy rate for 2007 (15 years of age and older who are able to read and write) was 92.1. Life Expectancy rate in 2010 is 73 (71.6 years for men, 74.4 years for women). Infant mortality rate for 2010 was 23 per 1000 births.

The GDP of Jordan in 2010 was US\$ 26.50 billion. The per capita GDP of Jordan at current prices was US\$ 4335, in 2010. The real GDP declined from 8.2 in 2007 to 2.3 in 2010. The unemployment rate was 12.5% for the year 2010. The economy's capacity for growth remains vulnerable to external shocks, and the rate of growth is inadequate to resolve long-standing developmental challenges. The stock of external debt remains high. Poverty incidence is 13.3% (2008).

About 98 percent of the population has access to primary and secondary health care, 99% of women and deliveries are attended by trained personnel and more than 97% of infants are immunized with BCG, DPT3, Hepatitis B3 and measles. Jordan has 26.5 physicians, 38.5 nurses, 15 pharmacists and 9.3 dentists per ten thousand populations.

Jordan's health system is a complex amalgam of two major public programs, the Ministry of Health and Royal Medical Services, which both finance and deliver care, some smaller public programs including several university-based programs and a large private sector in terms of both the financing and delivery of care.

The healthcare system in Jordan is evolving and has to continuously respond to the changing demographic, epidemiologic and risk profile of the population; the rising expectations of a more educated population; the fast growing private health sector; the rapid changes taking place in medical technology; and the desire among the government to expand services and achieve universal health coverage.

2. Policy Commitment to DHS Initiative

The District health system based on family practice approach is not one of the priority areas for the MOH or other health sectors. MOH has developed an Essential Package of Health Services for PHC at district level that includes: environmental health, occupational health, mother and child health, family planning, health promotion, immunization, prevention, medical care /family medicine, general and school health.

Health services at district level are financed mainly through MOH budget. Some vertical programs as family planning, AIDS/HIV and TB programs are partially financed by international donors and NGOs. Although MOH has developed a strategy for district decentralization, but almost nothing of this strategy has been applied.

The MOH has a referral system that links PHC facilities with district

hospitals .Most policy makers stated that is system is not properly functioning. All decisions regarding human resources recruitment, placement, termination and compensation are centralized in MOH.The MOH has a plan for continuous training and capacity building for all HR especially physicians, nurses, pharmacists and allied health personnel.

Intersectoral collaboration on district level is achieved through the Local District Committee which is headed by the Governor with members from all sectors (Health, Education, Finance, Public Works, Agriculture, Social Security, Public Security, etc.). On central level, intersectoral collaboration is achieved through the Ministerial Cabinet.

3. District level Indicators

This section provides an overview of the demographic characteristics; socioeconomic and health status of the population in Madaba Governorate. The area of Madaba governorate (MG) is 940 Km², and the population is 157,900(2010) with population density of 165.7/ Km² Madaba city boasts a young population: 48% of its inhabitants are below 19 years and as such are school, college or university students.

The average household annual income in Madaba Governorate is JD 4,948, still lower than the national one. The unemployment rate in MG for the year 2010 was higher than the national rate (12.9% compared to 12.5%).

Madaba District has 17.2 physicians, 11.9 nurses, 3.6 pharmacists and 4.08 dentists per ten thousand populations; while the national corresponding figures are: 26.5, 38.5, 15.0 and 9.3.

Madaba District, as the case of Jordan, is free from malaria, measles and poliomyelitis and witnessing an epidemiological transition, which is characterized by an increase of non-communicable diseases, particularly cardiovascular diseases, cancer, diabetes and chronic respiratory conditions.

4. Social Determinants of Health and Intersectoral Action for Health

This section presents the results of a focus group discussion that included different stakeholders at the Madaba District to identify the social determinants of health. All parts of the district are accessible from the center all around the year. All modern communication media (telephones, mobile telephones, internet, fax) are available. 60% of MG land is arable and suitable for agriculture use .The main income generating crops are: olive, grapes and irrigated crops.Wheet is the least income generating crop.

More than 70% of adult males and females in MG are literate. Free primary and secondary education is available for all. Girls usually marry at the age of 20 and above. Women can inherit property and hold title of land. The proportion of women in labor force is about 10%. The employment rate for women is 30% and 70% for men. There are many government NGO vocational centers for young people to learn skills or find work locally.

About 65% of Madaba District population relies mainly on the public health care delivery system for their perceived needs. The proportion of babies delivered by trained health personnel (government or private) is 99%.

The five most important disease problems in this district are: diabetic, cardiovascular diseases, cancer, osteoporosis and seasonal diseases (respiratory infections).

There is an Intersectoral Action Committee for Health (IACH) at district level. The members of this committee represent many sectors as health, education, agriculture, civil defense, municipality, private sector, NGOs and local community.

5. District Management and Support Systems

According to the Director of Madaba District Health Authority, there is shortage of space for the District health office and the building needs renovation. There is shortage of vehicles for Environment Health and School Health staff and the District needs vehicle maintenance shop.

Ministry of health is in charge of staff postings, while their transfer is District Health Authority responsibility. Only managerial/program heads have standard staffing pattern (sanctioned positions).

Supervisory visits by the district health management team to the health facilities are made on regular basis. Supervisors need special training programs to provide them with technical, managerial, and supervisory skills needed to effectively evaluate health facilities.

There is a standard list of medicines for PHC facilities and supply of medicines and supplies come from MOH drug store and local purchase.

Adequate space is available for stores in the District, but stores need maintenance and proper storage equipment. Simple repairs of medical and non-medical, equipment are done at the district level. Major equipment is either maintained by MOH staff or contracted out.

The District health office has an organogram, but there is no job description manual for the District. The District has its own health plan which is formed according to the MOH health strategy. The District has a Quality Assurance Unit that reports directly

to the District director. The most common management/ treatment protocols were reported as available at the district level.

Madaba District has a preset annual health budget .The District budget is prepared by MOH and the director of the Health District is not involved in developing this budget.

Limited budget, inappropriate maintenance systems, lack of computerized health information system and ineffective referral system are the most important challenges that director of the Madaba Health District encountered in his work.

6. Primary Health Care Facilities

Twenty one primary health care facilities were surveyed in Madaba district, 18 are owned by MOH and 3 are owned and run by NGOs. Catchment population per PHC facilities varies significantly between 1400 to 157000 with an average of 9000.The number of villages that are served by each facility varies between 1 to 10 villages with a mean of 3.The total area covered by facility also varies from 1 to 375 square kilo meters with an average of 20 km².

All facilities have a fees-for-services scheme where it collects fees for services as well as for drugs. Insured patients do not pay fees at point of consumption, while uninsured patients pay nominal fees.

A wide range of primary health care services are provided in the PHC centers. The services include general medical care, care of children, family planning, obstetric care, peri-natal care, first aid, dispensing of pharmaceutical prescriptions and dental care.

The total average of the available staff is less than 50% of the corresponding sanctioned figure. No single health facility knows the standard staffing pattern for its facility's type. None of the MOH health centers has its own budget and no single facility is keeping the revenue inside the facility and instead all send it to MOH.

There are variations in the availability of many medical supplies among health centers. Most of outpatient equipment and instruments are available and functional. There are shortage in laboratory, radiology, emergency room and minor surgery equipment. Around one quarter of health facilities' buildings are not in a good condition and 38% of facilities need major renovation, rehabilitation and maintenance.

About 50% of PHC facilities have patient/family folders and keep records on: referral of patients, out-patient diagnoses and out-reaches activities. Most of the health centers have clinical guidelines for diarrheal disease, acute respiratory tract infections, immunization, diabetes mellitus and hypertension; while none of them have clinical guidelines for malaria, tuberculosis and mental health.

Immunization services are provided by most health centers, while outreach services are provided by about 60% of the surveyed centers.

7. District Hospitals

Madaba district has three hospitals with total capacity of 188 beds, two are owned by MOH and one is owned and run by private sector. Besides inpatient services for general medical care, surgical care, obstetric/gynecologic care, pediatric care, ENT, ophthalmology, orthopedics and dentistry; the three hospitals have emergency and ambulatory services. Almost all hospitals do not have outreach activities.

Staff to bed ratio was ranging from 5.3 to 2.3; while nurse to bed ratio was ranging from 2.2 to less than one. None of the hospitals has its own budget. The three hospitals charge uninsured patients for services and drugs provided.

All hospitals stated that essential drugs and life-saving drugs are available and no shortage occurred during the last month. At all hospitals incoming and outgoing registers are available as well as the dispensing orders. The three hospitals reported the presence and functionality of essential equipments and instruments in various departments including operation theatre, laboratory and radiology. Electricity and water supply are good in the three hospitals. The three hospitals lack proper system and facilities for disposal of medical waste.

All hospitals have job descriptions for technical staff and the areas of responsibility are clearly defined within the health team. A formal link exists between the hospital management and the District health management team.

All hospitals keep registrations for outpatients, inpatients services, Laboratory, x-ray, and emergency; and have treatment protocols for diarrheal disease, acute respiratory tract infections, antenatal care, delivery care, emergency obstetric care and management of RTIs/STDs.

8. Community Organization, Mobilization and Action

This section assesses the level of community organization, mobilization, and participation in health and development activities and satisfaction of the community with health services available at nearest facility. For community assessment, focus group discussions have been completed with community representatives in the catchment area of the health facilities.

The results of the focus group discussions indicated that the community is not well-organized in assigning specific committees to be responsible for assessing the needs, prioritizing or planning to cover socioeconomic gaps including health

services. There is no health volunteers in the Madaba District area and there are no agreed upon criteria for selection of health volunteers.

V. RECOMMENDATIONS

To enhance the performance of Madaba District Health System, specific recommendations and interventions for each assessment module were proposed.

I. INTRODUCTION

WHO's support for Primary Health Care (PHC) revival was announced at the 61st World Health Assembly in May 2008 on the occasion of the 30th Anniversary of Alma Ata and a commitment of PHC revival was sought from all member states. The international conference on PHC held in Doha in November 2008 renewed commitment of 22 Member States in the EMR by signing a regional declaration on revitalization of primary health care [1].

The District Health System (DHS) is responsible for providing primary health care, i.e. organizing a minimum package of curative and preventive services in line with national health policy to respond to the health problems and needs of the local population. Thus, DHS is the tier where health care delivery comes into direct contact with community. The district health system in many ways also mirrors the status of the national health system and any attempt to improve it should eventually encompass the health system as a whole if sustainable outcomes are to be achieved [2].

Family practice is the professional discipline that trains and sustains the doctors who practice the evolving arts and sciences of family medicine. It shares historical roots and a worldwide movement with general practice. The family physician is the treating doctor who takes professional responsibility for the comprehensive care of unselected patients with undifferentiated problems. He is committed to the person regardless of age, gender, illness or organ system. The clinical specialty of family practice is patient-centered, evidence-based, family-focused and problem-oriented [3].

Family practice has a distinct clinical approach that requires special skills to identify concerns, focus issues, negotiate plans and help solve problems. The recognition, integration and prioritization of multiple concerns and the synthesis of solutions are critical clinical competencies. The variety of human needs require the targeting of the clinical process, sharing responsibility and managing uncertainty. Focus on the person requires refined abilities to observe,

communicate, understand and care. Commitment to patients and populations involves activism and advocacy. Family medicine can lead in redefining what it means to be a professional, a physician and a generalist [4].

Family physicians acquire and maintain a broad array of competencies that depend on the needs of the patients and communities they serve. The scope of their practice is not defined by diagnoses or procedures but by human needs. Family physicians do not treat diseases; they take care of people. Family physicians are expert at managing common complaints, recognizing important diseases, uncovering hidden conditions, and managing most acute and chronic illnesses. They emphasize health promotion and disease prevention. Their knowledge, skills and attitudes target community practice, current science and continuous quality improvement [4], [5].

WHO/ EMRO has developed a six year strategic plan [2010-15] for technical assistance to its member states that would help revive PHC in the region. A flagship initiative of this strategic plan is to support member states to develop ***integrated district health systems based on a family practice approach (IDHS-FPA)***. The primary objective of the initiative is to improve performance of the district health system based on a family practice approach, guided by the primary health care reforms, while contributing to improved population health [1].

WHO office in Amman, with technical support from WHO/EMRO, and in collaboration with Jordan MOH has performed a comprehensive assessment for Madaba District Health System to identify its strengths and weaknesses, establish priorities, select interventions and set program objectives and targets in support of the IDHS-FPA Initiative. This effort also serves as a model for performing assessments for other health districts in Jordan.

II. PURPOSE AND OBJECTIVES

The primary purpose of this assessment is to identify strengths and weaknesses of Madaba district health system, establish priorities, and select interventions and set program objectives and targets to improve performance of the district health system based on a family practice approach. It also serves as a model for performing assessments for other health districts in Jordan.

Information collected through this assessment will also help establish a baseline for monitoring the progress and evaluation of the performance of Madaba Health District as well as allowing for follow-up of the impact of interventions on the District Health system.

Specific objectives of the assessment are;

- To understand the health status of Madaba Districts population and the level of political commitment.
- To systematically review various components of the health system in Madaba district including: leadership and governance, health financing, health care delivery, workforce, infrastructure, technology, and health information system and to identify health problems, needs and key social determinants of health.
- To assess the appropriateness and effectiveness of existing set of health programs and interventions.
- Use the collected information to prioritize interventions and plan for improvements in the performance of Madaba district health system.

III. METHODOLOGY

Health system assessments are intended to help in developing evidence based plans and programs addressing key gaps to improve health outcomes. Usefulness of assessment depends on its practicality, reliability, time and efforts saving, and mostly its programmatic implications and use in decision-making.

As part of the normative work of the preparatory phase, guidelines and tools for assessment has developed to achieve a shared understanding of the current situation of the district health system and the level of political commitment to IDHS-FPA initiative; to prepare a pre-intervention situation analysis as a basis for future comparisons; and to identify priority areas for future intervention in order to strengthen district health system. The tools proposed in this document are intended for use by district health management teams with the objective of generating information that will serve as a basis for improving the performance of district health systems.

What are the Assessment Modules and which of them are for the national level and for the district level?

There are eight separate modules. Assessment module and 1 and 2 are designed for the national level, while the rest of modules (6 modules) are implemented at district level.

- **Module 1: National level indicators;** include a set of national level indicators related to demographics, socioeconomic status, health care financing, human and physical resources, PHC coverage, morbidity and health status.
- **Module 2: National commitment to IDHS-FPA initiative:** assesses the policy commitment to the IDHS-FPA initiative and availability and status of various interventions
- **Module 3: District level indicators;** include a set of district level indicators related to demographics, socioeconomic status, health care

financing, human and physical resources, PHC coverage, morbidity and health status.

- **Module 4: Social determinants of health and Intersectoral action for health;** provides the context, key determinants of health including education, gender, employment, economic status of the population. It also assesses what structures and mechanisms are in place to address these determinants.
- **Module 5: District health management and support systems;** reviews available infrastructure, human and financial resources and examines management, organization and support systems at the district level.
- **Module 6: Primary health facility information;** looks at the PHC facility, reviewing the availability and functioning of specific health services and programs, health facility management and activities, a physical inventory, outputs and selected morbidity statistics.
- **Module 7: District hospital information;** assesses the district hospital in terms of available, infrastructure, human resources, services, financing, essential drugs and supplies and other support system, selected outputs and morbidity statistics.
- **Module 8: Community assessment;** aims to assess how the community is organized, the mode and level of community involvement and participation in the health services.

Source of information and areas of assessment

The assessment relied on information from available documents (published and unpublished), use of existing databases, survey reports, interviews with key informants, focus group discussions and where necessary assessment of a small sample of health facilities. The assessment covers the following aspects:

- Commitment of the national level to the IDHS-FPA initiative
- Health status of population in the district – intermediate and final outcomes

- Priority public health problems – Diseases, risks, determinants
- District health system performance
 - District health governance, organization and management, including support systems
 - Access, quality, equity, efficiency of health services [public and private; primary and secondary]
 - Effectiveness of priority public health programs
 - Availability, skills, distribution, motivation and retention etc. of workforce
 - Access to medicines and vaccines and functionality of equipment and technologies
 - Status and of the health infrastructure
 - Financing of health services in the district
 - Functionality of the district health information system
- Community ownership and participation
- Social and environmental determinants of health and intersectoral action for health

Framework of assessment

The assessment conducted at four levels (national, district, health facility and community). For each level, separate modules were used to assess the system as a whole. Table M1 shows areas of assessment, the tools and assessment methodology used at different levels.

Table M1: IDHS-FPA Assessment Areas, Tools, Methodology and Levels.

Area of assessment	Level of assessment	Assessment tool	Assessment methodology		
			Review of documents	Interview/focus group discussion	Field visit & observation
National commitment of DHS initiative	National	Open questionnaire		In-depth interview with policymakers, senior managers	
Health status of population	National	National indicators Matrix	Existing data from surveys, HMIS, reports,		

Area of assessment	Level of assessment	Assessment tool	Assessment methodology		
			Review of documents	Interview/focus group discussion	Field visit & observation
			researches		
	District	District indicators Matrix	Existing district data from surveys, HMIS, reports, researches		
Priority health problems	District	District health management and support system questionnaire	List of the top 10 public health problems [disease, risk, determinants or service related]	Interview with district managers/DHMT	
	District	Social Determinants of Health and Intersectoral Action for Health questionnaire		FGD with District administrators and managers from various sectors, community leaders, representatives of NGOs, and private sector	
	Hospital/PHC Facility	Hospital/PHC Facility questionnaire			Interview with hospital/facility in charge, review of records
Organization and management, governance	District	District health management and support questionnaire		Interview with district managers/DHMT	
Financing of health care	District	District indicators Matrix			
	District	District	Financial	Interview with	

Area of assessment	Level of assessment	Assessment tool	Assessment methodology		
			Review of documents	Interview/focus group discussion	Field visit & observation
		health management & support questionnaire	records of district health office	district managers/DHMT	
Health infra structure and services	District	District health management and support questionnaire	Records of district health office	Interview with district managers/DHMT	
	Hospital/PHC Facility	Hospital/PHC Facility questionnaire			Interview with hospital/facility in charge
Health workforce	District	District health management and support questionnaire	Records of district health office	Interview with district managers/Director personnel	
	Hospital/PHC Facility	Hospital/PHC Facility questionnaire			Interview with hospital/facility in charge
Medicines, vaccines and supplies	District	District health management and support questionnaire	Records of district health office	Interview with district managers/DHMT	
	Hospital/PHC Facility				Interview with hospital/facility in charge
Health information system	District	District health management and support questionnaire	Records of district health office	Interview with district managers/DHMT	
	Hospital/PHC Facility				Interview with hospital/facility in charge
Community participation	Community	Community assessment tool		FGD with selected community members	

Area of assessment	Level of assessment	Assessment tool	Assessment methodology		
			Review of documents	Interview/focus group discussion	Field visit & observation
Social determinants of health and inter-sectoral action for health	District	SDH and ISA-health questionnaire		FGD with District administrators and managers (health, education, population, agriculture, community leaders, representatives of NGOs, and private sector	

What are steps followed for implementing IDHS-FPA assessment tools?

Step 1: A National Steering Committee was nominated to guide the process including the governor of Madaba and the Director of Health in Madaba, followed by 2 preparatory visits to Madaba governorate

Step 2: Adaptation of the Arabic version of the assessment tool to Jordan terminology and context;

Step 3: An introductory workshop for training and finalizing modules was conducted in Madaba 14-16 June, 2011; objectives were: 1) to reach consensus on IDHS-FPA as a model for improvement of PHC; 2) to discuss mechanisms, financial and human resources needed for the implementation; 3) to finalize and agree on the contents of the eight assessment tools, adapt to Jordan; 4) and to agree on time outline and action plan for the assessment phase.

Step 4: Data Collection phase: the eight modules were finalized and adapted to Jordan context, 8 team leaders were selected, the period was agreed upon for 2 weeks during July, 2011. National level indicators and community participation and Policy commitment were conducted by Ministry of health team, while facilities were distributed in a fair unbiased voluntary approach to 25 facilities in Madaba, including 2 hospitals and 3 NGOs and private sector facilities.

Step 5: Data entry, verifications, cleaning and analysis; Including designing of automated data entry for modules 6 and 7 based on suggested modifications made by the Jordan team, data was entered on SPSS program.

Step 6: preliminary reports in Arabic by MOH team leaders

Step 7: Report writing; "District Health System Profile".

Outlines of the Assessment Modules

National Level

At the National level, information collected on selected indicators and on policy commitment of the MOH to IDHS-FPA initiative

- Indicators: Module one provides a format for collecting information on various health system indicators, desegregated by rural/urban and by gender. In order to fill in the matrix, a member of the core survey team, recruited in the Field Epidemiology Training Program was assigned.
- Policy commitment: The head of the assessment team/coordinator take the responsibility to conduct in-depth interviews with selected policymakers and senior managers. The questionnaire designed for assessment of policy commitment is open ended and the respondents allowed to talk at length about various issues. Probes used to prompt the respondent to speak further when an initial question fails to elicit the desired information. The role of the interviewer was to keep the discussion going by asking useful questions until he or she gets the appropriate response.

District level:

- Indicators: district level indicators collected using same method as the indicators from National level. Sources of information included national surveys, HMIS reports, research studies and others.
- SDH and ISA-H: for collecting information on social determinants of health and inter sectoral action, a focus group discussion hold with key stakeholders at the district level. The respondents included district administrators and managers including departments of health, education, charitable organizations, water and agriculture, community leaders, representatives of NGOs, and private sector. The questionnaire designed for SDH-ISA has both structured and semi-structured questions.

The number of respondents was around twenty and the session took about two hours. Prior invitations sent to the members with objectives of the meeting, venue, proposed agenda, and list of questions to be discussed.

- District health management and support: The survey team conducted assessment at district health office consisted of two senior surveyors including the head of pharmacy in Madaba. The questionnaire was filled electronically at district level.

Facility level:

- Hospital and PHC facility: Both hospital and PHC facilities questionnaires are structured and require interviews with the hospital/facility in charge, observation and review of records. Data collection started during the week following the surveyor training. Each survey team for the facility included three individuals; a supervisor and two surveyors. Each team visited one health facility per day. It was important, therefore, to assign each team to facilities that were relatively accessible to each other.

Community level

- Community assessment: In order to assess the level of community ownership and participation in health and development activities, focus group discussions accomplished in the catchment area of sampled facilities with community representatives. The rules and guidelines for focus group discussions are given in Annex II of IDHS-FPA assessment guidelines.

IV. FINDINGS AND DISCUSSION

1 .National Health Situation

1.1 Socio-cultural, Political and Economic Factors

Jordan is a small lower-middle income country with limited natural resources and scarce fresh water supplies (one of the world's 10 most water stressed countries). Jordan has a total land territorial area of 89,300 square kilometers, of which only 7.8% is arable land. Administratively, Jordan is divided into 12 governorates, each headed by a governor [6, 7].

The real GDP grew by 6.0 % in 2007 compared with 4.1% in 2000. However, this rate has declined to 2.3 in 2010. The GDP of Jordan in 2010 was US\$ 26.50 billion. The per capita GDP of Jordan at current prices was US\$ 4335, in 2010. Rate of price inflation was 5.5% in 2010, and the currency has been stable with an exchange rate fixed to the U.S. dollar since 1995. The unemployment rate was 12.5% for the year 2010. Poverty incidence is 13.3% (2008). The stock of external debt remains high [8, 9].

Jordan's performance is among the better Arab states in terms of life expectancy, adult literacy, school enrolment, female literacy, and according to other basic indicators. Human Development Index (HDI) rose by 1.0% annually from 0.509 to 0.769 today, which gives the country a rank of 82 out of 169 countries [10, 11].

Jordan's main development challenges can be summarized in three cross-sectoral objectives: (i) achieving higher growth to reduce unemployment and avoid poverty; (ii) improving the quality and efficiency of public services; and (iii) addressing severe resource constraints, beginning with water.

Table 1: Socio- cultural indicators

Indicators	Total	Male	Female	Year
Human Development Index (HDI):	0.769	-	-	2009
HDI rank	82/169	-	-	2009
Literacy Total % (15 Years Age or more)	92.80	96.30	89.20	2008
Gross Primary School enrollment %	100.0	100.0	100.0	2008
Net Primary School enrollment %	98.84	98.12	99.60	2008
Gross Secondary School enrollment %	76.00	70.00	82.56	2008
Net Secondary School enrollment %	72.00	66.50	78.50	2008

Source: Department of Statistics (DOS), Ministry of Education

Table 2: Economic Indicators,2010

GDP at current Market Prices (US bn)	26.50
GDP per capita (PPP) Current International(\$)	5100
Real GDP Growth (%)	2.3
Real GDP per Capita at current market prices(JD)	3194.5
Price Inflation Rate	5.0%
Unemployment (Males10.4%, Females 21.7%)	12.5%
Poverty Incidence(2008)	13.3%

Sources: DOS, Central bank of Jordan

1.2 Demographic Indicators

Table 3 below indicates that Jordan's population is 6.1 million people (2010). The average annual population growth rate is 2.2%. More than third of the population is under the age of 15 and 3.2% of the Jordanian population is over age of 65 .The population density is 68.8 persons per one Km². The total fertility rate (TFR) is relatively high, though it has declined steadily in recent years to 3.8 in 2010.

The country's population is growing rapidly, doubling over the last 20 years and likely to almost double again by 2040. Over the next 40 years Jordan will see the relative size of its working age population more than double [12]. It can also expect demand for quality education and health care to rise .Policies will be needed to continue to reduce fertility rates, anticipate future retirement needs, and address issues that might impede efficient use of the anticipated new labor, national savings and human capital.

1.3 Physical and Human Resources

Jordan has one of the most modern health care infrastructures in the Middle East. The hospital bed ratio per 10000 population is 18. The Ministry of Health (MOH) provides primary, secondary and tertiary health care services. Primary Health Care services are mainly delivered through an extensive primary health care network, consisting of 84 comprehensive health centers, 368 primary health care centers, 227 Village Clinics 422 MCH Centers and 369 oral health clinics. The MOH owns and operates 31 hospitals in 10 governorates, with 4372 hospital beds accounting for 37.1 percent of total hospital beds in Jordan. The Royal Medical Services (RMS) mainly provides secondary and tertiary care services. It has 11 hospitals (7 general and 4 specialist), 2131 beds representing 18.8 % of hospital beds in Jordan. The two public university hospitals operate 1169 hospital beds and the private sector has 60 hospitals with 3888 beds. UNRWA operates 25 health centers.

Regarding human resources for health, Jordan has 26.5 physicians, 38.5 nurses, 15 pharmacists and 9.3 dentists per ten thousand populations (Table 5.5). During the last four years the number of all health professions and their percentages to

population has been increasing. Physician to population ratio is higher than most of MENA region and other lower middle income countries [13].

Table 3: Demographic indicators, 2010

Total population (Urban 82.6%, Rural 17.4%)	6113000
%population <15 years	37.3
%population >65 years	3.2
Average Household Size (persons)	5.4
Population Density (per one km ²)	68.8
Crude Birth Rate (per 1000 population)	30.1
Crude Death Rate(per 1000 population)	7.0
Population Growth Rate	2.2
Dependency Ratio	68.2
Total Fertility Rate (Urban 3.8%, Rural 4.0%)	3.8
Population with Access to Domestic Water Supply (%)	98
Population with Access to Public Sewage System (%)	59.9

Sources: DOS, <http://www.dos.gov.jo>, Jordan Population and Family Health Survey 2009.

Table 4: Jordan Health Infrastructure, 2010

Infrastructure	Number			
	Public	UNRWA	Private	Total
Hospitals	45	-	60	106
Number of beds	7891	-	3888	11779
Beds per 10000 population	-	-	-	18
Comprehensive Health Centers	84	25	-	109
Primary Health centers	368	30	-	398
Village Health Clinics	227	-	-	227
Maternity and Child Health Care Centers	432	23	-	455
Private Clinics	-	-	4000	4000
Dental Clinics	369	21	1650	2040
Pharmacies	-	-	2397	2397

Sources: -MOH Annual Report, 2010

Table 5: Health Care Personnel Ratios

Personnel (per 10,000 pop)	2010
Physicians	26.5
Dentists	9.3
Pharmacists	15
Nurses(Registered and Assistant Nurses)	38.5
Midwives	3.4

Sources- MOH Annual Report, 2010

1.4 Health Finance Indicators

As indicated in Table 6, the total health expenditures –both public and private was estimated at 1381 million JD or 236 JD per capita (333 US dollars). This is equivalent to 8.6% of GDP. Health spending in Jordan is high when compared to other MENA and middle-income countries [13]. Overall spending has increased in nominal terms over the past six years and has grown slightly more rapidly than GDP. While the government remains a large provider of health services, its share in the financing of health expenditures is less than the private sector and has been ranging between 43 to 47 percent between 1998 to 2008. This indicates the rising importance of private sources of health care in Jordan.

As reported by government, about 87% of the population in Jordan is covered by formal health insurance (Table 6). Of those with insurance, around 11 percent have multiple insurance [14]. The two major public health insurance programs are civil health insurance administered by the MOH and military health insurance, administered by RMS. Under public law, the Ministry is required to provide subsidized health care to all Jordanian citizens. Thus the MOH provides a safety net for Jordanians who require health services and have no insurance coverage.

Table 6: National Health Finance Indicators, 2009

Indicators		Year
Total Health Expenditure (JD)	1,381,460,034	2009
Total health expenditure/capita(JD)	236	2009
Total health expenditure as % of GDP	8.585	2009
Public sector expenditure as % of GDP	4.6%	2009
Public sector expenditure as % of total health expenditure	61.0%	2009
Public sector expenditure on health/capita(JD)	118	2009
MOH budget as percentage of Government budget	7.4%	2010
Population covered by formal health insurance%	87%	2010

1.5 Health Care Indicators

About 98 percent of the population has access to primary and secondary health care, 99% of women and deliveries are attended by trained personnel and more than 97% of infants are immunized with BCG, DPT3, Hepatitis B3 and measles (Table 7).

Table 7: Primary Health Care Indicators

Indicator	percentage	Year
Population with access to local health services	98	2010
Pregnant women attended by trained personnel	99	2009
Deliveries attended by trained personnel	99	2009
Married women (15-49) using contraceptives	59	2009
Infants immunized with BCG	97	2010
Infants immunized with DPT3	98	2010
Infants immunized with Hepatitis B3	98	2010
Infants fully immunized (measles)	97	2010

Sources: - WHO. World Health Statistics,2011.

-Second National Millennium Development Goals Report Jordan 2010.

- MOH Annual Report, 2010

Table 8: Health Status Indicators, 2009

Indicator	
Life Expectancy Rate (71.6 years for men, 74.4 years for women)(2010)	73
Newborns under- weight%	1.1
Children under weight%	1.9
Perinatal mortality rate (Per 1000 total births)	19
Neonatal mortality rate(per 1000 deliveries)	15
Infant Mortality Rate(per 1000 deliveries)	23
Under five mortality rate(per 1000 deliveries)	28
Maternal Mortality Ratio(per 100000 live deliveries)	19

Sources: -Second National Millennium Development Goals Report Jordan 2010.
 - MOH Annual Report, 2010

As indicated in Table 8 life expectancy rate in 2010 is 73 (71.6 years for men, 74.4 years for women). The results of the Demographic and Health surveys show that under- five mortality rates have declined steadily between 1990 and 2002 when the mortality rates reach 27 per 1,000. The rates then continued its decline to 21 per 1,000 in 2007 and 2008 only to increase again to 28 per 1,000 in 2009. Along the same trend, infant mortality rate (death before the first birthday) declined from 37 deaths per 1000 live births in 1990 to 23 per 1000 in 2009 [15].

Jordan has achieved remarkable progress in lowering the infant and child mortality rates, as well as the maternal mortality rates. Presently, Jordan is one of the countries with the lowest infant and maternal mortality rates in the region [16].

Table 9: Selected Morbidity Indicators, 2010

Indicator		Male	Female
Malaria cases (expatriates non Jordanians)	73	58	3
Malaria incidence rate	Zero	-	-
Measles incidence rate	Zero	-	-
Polio incidence rate	Zero	-	-
Meningitis cases	16	13	3
Diphtheria incidence rate	Zero	-	-
Pertussis incidence rate	Zero	-	-
Cholera incidence rate	Zero	-	-
Hepatitis "B" cases	4	3	1
Cancer incidence rate per 100000(Jordanians),2008	78.7	75.4	82.3
Cumulative AIDS/HIV Jordanian persons living with the disease	240	193	47
High blood pressure prevalence rate(25 years and over)	26%	NA*	NA
Diabetic prevalence rate (25 years and over)	16%	NA	NA

Sources: -MOH Annual Report, 2010

* NA: not available

As shown in Table 9 above, Jordan achieved universal child immunization in and has made considerable progress in reducing the major health risks to infants, children and mothers. The Country is free from polio, cholera, diphtheria, and pertussis.

Jordan, like other middle income countries, is witnessing an epidemiological transition, which is characterized by an increase of non-communicable diseases, particularly cardiovascular diseases, cancer, diabetes and chronic respiratory conditions. The major cardiovascular diseases are hypertension, coronary heart disease and stroke. These health problems are now becoming the leading causes of mortality in Jordan with cardiovascular diseases and cancer alone responsible for more than half of all deaths. Among the factors contributing to a high prevalence of non-communicable diseases are the increasing elderly in the population as well as the lifestyle changes including unhealthy food consumption pattern, smoking and residential life lacking manual work and physical exercise [8].

Conclusion:

Jordan's performance is among the better Arab states in terms of life expectancy, adult literacy, school enrolment, female literacy, and according to other health indicators as infant mortality rate, maternal mortality rate, immunization coverage rates, etc.

The Government of Jordan has identified poverty, unemployment and high population growth its most important challenges. Jordan, like other middle income countries, is witnessing an epidemiological transition, which is characterized by an increase of non-communicable diseases, particularly cardiovascular diseases, cancer, diabetes and chronic respiratory conditions.

However; the healthcare system in Jordan has many challenges and problems that should be addressed by health policy makers as: duplication of services, poor coordination among major providers, unregulated private sector, limited quality improvement programs, inefficient use of available resources, increase of non-communicable diseases and inappropriate health information system.

2. Policy Commitment to DHS Initiative

This Module is designed to assess the policy commitment to the IDHS-FPA initiative and availability and status of various interventions. Seven senior managers and policymakers from the central MOH answered the questions of the data collection sheet (Annex1). Those managers are:

- Secretary General
- Director of Primary Health Care Administration
- Director of Hospital Administration
- Director of Administrative Affairs Administration
- Director of Health Directorates Administration
- Director of Planning Administration
- Director of Control and Internal Audit

The following is a summary of the answers of the MOH policymakers grouped according to the main themes of the policy commitment data collecting sheet.

2.1 District Health System Based On Family Practice Approach

The answers of the health policy makers regarding integrating family practice into District health system showed that:

1. The District health system based on family practice approach is not one of the priority areas for the MOH or other health sectors.
2. MOH does not have a policy or strategy document on strengthening district health system based on family practice approach.
3. Five of the policy makers responded that MOH has no programs/interventions especially designed for strengthening District health system based on family practice approach. However, two policy makers stated that the MOH has a medical residency program for family medicine headed by the chief of family medicine specialty at central MOH. They stated that this unit is responsible for selecting family medicine residents, assigning their posts and monitoring their training.

4. The family practice approach was not followed because of the following constraints :
 - The approach is not adopted officially by MOH.
 - It is not part of the National Health Strategy.
 - Lack of trained human resources.
 - Lack of budget allocations for this initiative.

2.2 Essential Package of Health Services

The health policy makers stated that MOH has developed an Essential Package of Health Services for PHC at district level .This Package includes the following main components: environmental health, occupational health, mother and child health, family planning, health promotion, immunization, prevention, medical care /family medicine, general and school health.

2.3 Financing Modalities

Health services at district level are financed mainly through MOH budget. Some vertical programs as family planning, AIDS/HIV and TB programs are partially financed by international donors and NGOs.

2.4 Private Health Sector

The private health sector (PHS) has 60 hospitals (3712 beds) that account for 33 percent of hospital beds in Jordan. The private sector is accounting for nearly 40% of all initial patient contacts. Private practice is mainly confined to urban areas and caters to better – off Jordanians who can afford private sector fees. The private sector is active in curative primary care.

The main actors of the PHS are: Private Hospital Association, Jordan Hospital Association, Jordan Medical Association, Nursing Association, Pharmacists Association, Dental Association, Medical Stores Association and health insurance companies.

There is no specific policy on private health sector. However, the High Health Council sets health policy for all sectors including the private sector. The MOH is mandated by the Public Health Law and other legislations to license monitor and

regulate all health professions and institutions in the country. The professional associations, other health councils and independent public organizations (Jordan Medical Council, High Nursing Council, Jordan Food and Drug Administration, private hospital associations etc...) participate with the MOH in regulating and monitoring functions.

There are many examples for public private partnership. The private health sector participates in the development of national health polices and strategic plans. The private sector is represented in all public independent health organizations as the Jordan Medical Council, the High Health Council, the High Nursing Council, the Jordan Food and Drug Administration (JFDA) and Councils of Health Professions Faculties, etc... The MOH has an agreement with most private hospitals where by government employees and their families can seek treatment in private hospitals especially for emergency cases. The MOH has recently adopted plans to attract private physicians and other health professions to work at the new MOH Prince Hamzeh hospital.

2.5 Decentralization

Although MOH has developed a strategy for district decentralization, but almost nothing of this strategy has been applied.

2.6 Monitoring the Performance of Districts

The performance of districts is monitored through different mechanisms as:

- The Directorate of Internal Auditing in MOH
- The Central Audit Bureau
- Periodic performance reports
- Field visits
- Ad hoc committees
- Civil Service Bureau
- Healthcare accreditation programs

2.7 Referral System

The MOH has a referral system that links PHC facilities with district hospitals. Most policy makers stated that this system is not properly functioning. The MOH has recently developed a plan to activate this system in all health districts.

2.8 Human Resource Management

There are two departments/directorates for Human Resource (HR) in MOH responsible for developing, implementing and monitoring HR strategies and plans: one for Personnel Administration and the second for Human Resources Development. All decisions regarding HR recruitment, placement, termination and compensation are centralized in MOH. The MOH has a plan for continuous training and capacity building for all HR especially physicians, nurses, pharmacists and allied health personnel.

2.9 Financial, Administrative, Logistic and Maintenance Management Systems

The health policy makers stated that MOH has very well financial, administrative, logistic and maintenance management systems in place.

2.10 Health Information System

The Directorate of Information and Research at MOH collects basic health information from MOH health facilities and other public and private hospitals. It also runs the National Cancer Registry and the National Death Registry. The Directorate produces the MOH Annual Report which is considered the main source of information about health services in Jordan.

Health data are collected in hospitals and at all levels of the primary care system. They include both qualitative and quantitative information, which is usually processed at the local level. An emergency reporting system exists, allowing the fast mobilization of resources in the event of epidemics.

2.11 Level of Community Ownership in Local Health Development

Community involvement in local health development is very limited and almost not existing.

2.12 Intersectoral Collaboration

Intersectoral collaboration on district level is achieved through the Local District Committee which is headed by the Governor with members from all sectors (Health, Education, Finance, Public Works, Agriculture, Social Security, Public Security, etc.). On central level, intersectoral collaboration is achieved through the Ministerial Cabinet.

The following recommendations are necessary to enhance policy commitment to DHS initiative:

- More decentralization and autonomy should be given to district and local authorities. This autonomy should not only cover decisions on the range of health services rendered to the public but also on the administration of local funds, the involvement of the communities and decisions ,on the recruitment of staff .
- Give more authority and involvement to DHM for decisions regarding HR recruitment, placement, termination and compensation.
- The District health system based on family practice approach should be adopted and considered as priority area for the MOH. Therefore, a policy or strategy document on strengthening district health system based on family practice approach should be adopted.
- Strengthening the district health information system.
- The district referral system should be activated and properly functioning.

3. District Level Indicators

This module provides an overview of the health status of the population in terms of morbidity and mortality; its demographic characteristics; socioeconomic status; availability of human resources and infrastructure; health care financing and selected PHC coverage indicators. Information from this tool can be used while describing the health situation in the district and identifying health problems and their determinants. The data can also be used for comparison with national indicators, in order to place the health status in the district in the broader context of the country health situation.

FINDINGS AND DISCUSSION

3.1 Demographic Indicators

Madaba governorate (MG) is located south west of Amman, capital of Jordan. Its capital is Madaba. It is ranked eighth (from 12 governorates) by population and by area in Jordan. The area of MG is 940 Km², and the population is 157,900(2010) with population density of 165.7/ Km²; higher more than two times of the national figure (68.8 persons per one Km²). The Qasabat Madaba District forms around 42% of the whole Governorate and its population is currently around 130 thousand persons, constituting around 22,700 households. The demographic trend in MG is a bit less dynamic than the national one: in the last ten years Madaba experienced a growth of around 21%, compared to the national one of 23% [7]. Madaba city boasts a young population: 48% of its inhabitants are below 19 years and as such are school, college or university students. Table 9 shows Madaba District demographic indicators for the year 2010.

3.2 Socioeconomic Indicators

The average household annual income in Madaba Governorate is JD 4,948, still lower than the national one [7]. The total fertility rate is 3.6, less by 0.2 than the national figure. The Population growth rate in MG is 2.1% while the

corresponding national rate is 2.2%.The unemployment rate in MG for the year 2010 was higher than the national rate (12.9% compared to 12.5%). Adult literacy rate is 90% while the national rate is 92.80%.Table 10 below summarizes the main socioeconomic indicators in Madaba District.

3.3 Human and Physical Resources Indicators

Regarding human resources for health, Madaba District has 17.2 physicians, 11.9 nurses, 3.6 pharmacists and 4.08 dentists per ten thousand populations (Table 11); while the national corresponding figures are: 26.5, 38.5, 15.0 and 9.3(Table 5).This reflects serious geographical inequity with regard to distribution of human resources for health in Jordan. This also applies to hospital beds ratio which is 11.6 beds per 10000 population in Madaba District, while the national figure is 18.

Figure 1: Jordan Map Highlighting the 12 Governorates/Districts



Source: forums.bnatloz.com

3.4 Primary Health Care Coverage Indicators

Madaba District primary health care coverage indicators (Table 13) reflect high availability, coverage and access of basic health services. 98% of population has access to local health services, 99% of births are attended by skilled health personnel, and more than 97% of children are immunized. These indicators compare well with the national figures. On the other hand, the antenatal care coverage is very low (51.54%) compared to the national percentage of 94.1 for four visits and 98.8 for one visit. Therefore, Madaba District health authorities should design and implement a plan to increase antenatal and postnatal care services as they have direct impact on the health of mothers and their babies. The infant mortality, neonatal mortality and under 5 mortality rates are almost the same as the national rates [15].

Table 10: Madaba District Demographic Indicators, 2010

Indicator	Value
Geographic area (Sq. km)	940
Population density(per Sq. km)	165.7
Total population (thousands)	157
Children: 0-11 months	4490
Children: 12 – 23 months (%)	not available
Children: 0 - less than 5 year	20065
Crude Birth Rate (per 1000)	3.1
Crude Death Rate (per 1000)	7.0
Population growth rate (%)	2.1
Women of Reproductive Age (WRA) (15-49) (%)	25
Married WRA (15-49) (%)	56
Total Fertility Rate	3.6

Sources: - DOS, MOH

Table 11: Madaba District Socioeconomic Indicators

Indicator	Value	Year	Source
Adult literacy rate 15 + years	90%	2010	DOS
Gross school enrolment ratio (Primary)	38231	2010	DOS
Net school enrolment ration (Primary)%	99%	2011	MOE
Gross school enrolment ratio (Secondary)	5905	2011	MOE
Net school enrolment ration (Secondary)	99%	2011	MOE
Population with sustainable access to improved water source (%)	91.8%	2011	Water Authority
Population with sustainable access to improved Sanitation (%)	25%	2011	Water Authority
Unemployment (%)	12.9%	2010	DOS

Notes: DOS: Department of Statistics; MOE: Ministry of Education

Table 12 Madaba District Human and Physical Resources Indicators, 2011

Indicator	Value
Number of physicians per 10,000 population	17.2
Number of nursing and midwifery staff per 10,000 population	11.9
Number of dentists per 10,000 population	4.08
Number of pharmacists per 10,000 population	3.6
Number of assistant pharmacists per 10,000 population	6.2
Number of dental technicians per 10,000 population	1.3
Number of midwives per 10,000 population	4.5

Number of other allied health personnel(x-ray technician, optician, social worker, dietician, health worker,...)per10,000 population	1.7
Number of hospitals (Total)	3
Number of public hospitals	2
Number of private hospitals	1
Number of PHC units and centers (public)	31
Number of private clinics	47
Number of private dental clinics	35
Number of private pharmacies	37
Number of private medical labs	6
Number of hospital beds per 10,000 population	11.6
Number of beds in Public hospitals	158
Number of beds in private hospitals	25

Sources: MOH; Jordan Medical Association; Madaba Health Directorate

Table 13 Madaba District Primary Health Care Coverage Indicators, 2010

Indicator	Value
Population with access to local health services	98%
Contraceptive prevalence rate (%)	61.04%
Births attended by skilled health personnel (%)	99%
Antenatal care coverage (%)	51.54%
One year old immunized against BCG (%)	NA
One year old immunized against DPT3 (%)	97%
One year old immunized against OPV3 (%)	98%

One year old immunized against Measles (%)	98%
One year old immunized against HBV3 (%)	97%
Pregnant women immunized with 2 or more doses of Tetanus Toxoid	205
Maternal mortality ratio (per 100,000 live births)	NA
Newborns with Low birth weight (%)	NA
Children underweight (%)	4.6
Perinatal mortality rate (Per 1000 total births)	14
Neonatal mortality rate (Per 1000 total births)	12
Infant mortality rate (Per 1000 total births)	23
Under 5 mortality rate (Per 1000 total births)	28

Sources: Madaba Health Directorate

3.5 Selected Morbidity Indicators

Madaba District, as the case of Jordan, is free from Malaria, Measles and Poliomyelitis (Table 14). The general morbidity picture in Jordan including Madaba is witnessing an epidemiological transition, which is characterized by an increase of non-communicable diseases, particularly cardiovascular diseases, cancer, diabetes and chronic respiratory conditions [7].

Table 14: Madaba District Selected Morbidity Indicators, 2010

Indicator	Value
No. of reported cases of Malaria (Non-Jordanian)	1
Incidence rate of Malaria per 1000	0
No. of reported cases of Measles	0
Incidence rate of Measles per 1,000,000	0
Reported cases of Poliomyelitis	0
No. of reported cases of Tuberculosis	13
Notification rate of Tuberculosis per 100,0000	6
No. of children under 5 years who had Acute Respiratory infection	237
No. of children under 5 years who had Acute Intestinal Infection with Diarrhea	2641
No. of reported cases of Brucella	34
No. of reported cases of Meningococcal Meningitis	1
Estimated number of Patients Living with HIV	3
Reported number of people receiving ART	3

Sources: MOH, Disease Control Directorate

4. Social Determinants of Health and Intersectoral Action for Health

The social determinants of health are identified as the circumstances in which people are born, live, work and age and the systems which are put in place to deal with illness. These social settings in which people live are closely linked to their health outcomes. Major social determinants include; gender, opportunities for early child development, income levels or assets, occupation, employment, education, and environmental and housing conditions that affect health outcomes; and differentials that characterize people living in particular geographical areas (e.g. rural or urban, or particular provinces, or districts); and processes by which these determinants affect health, especially those determinants that result in poor health [1].

Tackling these underlying causes of poor health can contribute to improving health and health equity: their neglect will make inequities more marked. As the majority of these social determinants originate beyond the health sector, they cannot be addressed by the health sector alone, therefore the need to extend the dialogue beyond health sector and to involve other partners in intersectoral action for health.

In order to have real impact on the quality of life of the people and to achieve substantial and sustainable health gains, it has been considered necessary to address all social determinants of health. Many community- based initiatives (CBI) have been promoted during the last three decades by WHO in most EMR countries including Jordan. Examples on CBI include: Basic Development Needs, Healthy Cities Program, Healthy Villages Program, Women in Health and Development and Macro-economics and Health [15].

This module provides a tool to assess the context in which the health system operates, including various aspects of the social, cultural, economic and ecological environment. This is important for understanding the pattern of health needs and the organization of health care in a district. It also indicates opportunities for, and challenges in leading a flourishing life and improving health. The questionnaire is divided into three sections. The first section looks at

the conditions in the district in which the people live including geographical/ecological characteristics; population size and distribution; communications; economic status; education; gender and employment. The second section deals with disease priorities and existing health services.

The third section assesses the availability and mechanisms for intersectoral collaboration in the district, using a qualitative strategy, the focus group discussion. This form of structured discussion aims to capture a range of ideas and, if possible a consensus from each group,

A focus group discussion was held with key stakeholders at the district level. The respondents include District administrators and managers including representatives from departments of health, education, population welfare, agriculture, community leaders, representatives of NGOs, and private sector.

The findings presented in this section are the results of the discussions of the focus group members of Madaba District administrators and managers including health, education, population welfare, agriculture, community leaders, representatives of NGOs, and private sector.

FINDINGS AND DISCUSSION

4.1 Health Context

4.1.1 Geographical/ Ecological Characteristics

Madaba governorate (MG) is located 35 Km south west of Amman the Capital. It is bordered by Balqa Governorate from the north, the Capital Governorate from the east, and Kerak Governorate from the south, and the Dead Sea from the west. The area of MG is 940 Km². The climate in MG is semi-dry in summer with average temperature in the mid 30 °C and relatively cold in winter averaging around 13 °C.

In Madaba urban core there are many scattered archaeological sites representing different eras from the Iron Age up to the establishment of modern Jordan. The main tourist sites that attract tourists to MG area: the Church of the Map, Siyagha-Mount Nebo, Mukawer, and Mae'en hot springs.

The political situation, like other parts of Jordan, is stable and people can freely express their views and elect their representatives to the Parliament and to the municipality.

4.1.2 Population Size and Distribution

The population of MG is 157,900(2010) with population density of 165.7/ Km². The Qasabat Madaba District forms around 42% of the whole Governorate and its population is currently around 130 thousand persons, constituting around 22,700 households. The demographic trend in MG is a bit less dynamic than the national one: in the last ten years Madaba experienced a growth of around 21%, compared to the national one of 23%. Madaba city boasts a young population: 48% of its inhabitants are below 19 years and as such are school, college or university students.

4.1.3 Communications

All parts of the district are accessible from the center all around the year. All modern communication media (telephones, mobile telephones, internet, and fax) are available.

4.1.4 Economic Status

60% of MG land is arable and suitable for agriculture use .The main income generating crops are: olive, grapes and irrigated crops. Wheat is the least income generating crop.

4.1.5 Education

More than 70% of adult males and females in MG are literate. Free primary and secondary education is available for all. The dropout rates for males and females are less than 1 %(0.6% for males and 0.4% for females). There are classes for girls who have dropped out of school and literacy classes for women.

4.1.6 Gender

Gender –specific policies/programs exist in the district. Gender disaggregated data is generated and used in the national and district planning process. Staff of the health facilities, mainly PHC centers, usually receives training that focused specifically on health problems of women and girls. Girls usually marry at the age

of 20 and above. Women can inherit property and hold title of land. The proportion of women in labor force is about 10%.

4.1.7 Employment

Males and females often have one job to earn money/make a living. The employment rate for women is 30% and 70% for men. There are many government NGO vocational centers for young people to learn skills or find work locally.

4.1.8 Social Cohesion and Civil Society Activities

Madaba District, like other districts in Jordan, has some people in the community who are disadvantaged (very poor, people in certain occupations, physically or mentally disabled etc.). There are specific programs directed to disadvantaged groups like "Sakan Karim for Aish Karim" which means: a decent housing for decent living and National Assistance Fund.

4.1.9 Other Important Socio-Cultural Indicators

The most prevailing family structure in Jordan and MG is the nuclear family (father, mother and children). Children are generally breast- fed to age 6 to 9 months. Traditional practitioners are not widely available.

4.2 Disease Priorities and Service Provision

The five most important disease problems in this district are: diabetic, cardiovascular diseases, cancer, osteoporosis and seasonal diseases (respiratory infections). The main health problems in the district that can be related to the social and environmental conditions in the community and the household are obesity, diabetic and malnutrition.

The existing health facilities are inadequate to look after the above health problems because of the following constraints:

1. Shortage of trained health staff as medical consultants and well trained nurses.
2. Shortage of continuous training programs.

3. Lack of health awareness and healthy life style among the population.

About 65% of Madaba District population relies mainly on the formal health care delivery system for their perceived needs. The proportion of babies delivered by trained health personnel (government or private) is 99%.

There is active community involvement with health, population welfare and other activities (such as community based health care and community run education) in the district.

4.3 Intersectoral Action for Health (ISA)

There is an Intersectoral Action on Health Committee ISA at district level. The members of this committee represent many sectors as health, education, agriculture, civil defense, municipality, private sector, NGOs and local community. The ISA has clear Terms of reference and has an operational plan. There is a communication strategy with the public on ISA, but the joint programs and the roles of community structures are not clearly defined. Also, there is lack of formal training and orientation programs for ISA on Health members. Other governance mechanisms as information system on multi-sectoral collaboration, operational research activities, relevant monitoring indicators and periodic progress review are almost nonexistent.

5. District Management and Support Systems

INTRODUCTION

District health management occupies the central point in a health system and embodies the component tiers that are responsible to plan, organize and administer efficient and effective health care to society. It mediates between the communities and providers, as well as facilitates the latter in the delivery of health services that are responsive to the needs of the former. The major functions performed at this level are: financing, regulation, and the control, administration, monitoring and supervision of health services. The main purpose

of this module is to assess what resources are available for the implementation of health services in the district and how these resources are managed [1].

The importance of strengthening district health management in order to implement the principles of primary health care in developing countries has been recognized for some time [16]. WHO states that an essential part of that strengthening process is the provision of appropriate management training and support for management development. However, governments in developing countries have rarely had sufficient funds or the skilled trainers necessary to tackle basic management development and training [17].

This Module is organized into nine sections. The first five deals with priority health problems, infrastructure and resources, manpower and training, support systems, and organization and management. The next three sections (6-8) assess the financing, functionality of information system and functioning of different services and programs. The last section explores constraints and opportunities.

FINDINGS AND DISCUSSION:

5.1 Priority Health Problems

The Top 10 health problems in Madaba District in order of priority:

1. Arterial sclerosis
2. Prevalence of diabetes
3. Anemia in children
4. High cholesterol
5. Iodine deficiency
6. Deficiency of vitamin (B12)
7. Iron deficiency
8. Osteoporosis in women
9. Bronchial asthma
10. Breast cancer in women

National and district morbidity data is not well documented in Jordan since most MOH hospitals and healthcare centers and clinics do not perform any type of coding or classification of diseases except for Al-Bashir hospital, where ICD 10 is applied and reports are generated regularly. However, the above list of Madaba District health problems matches with the general picture of morbidity in Jordan which is characterized by an increase of non-communicable diseases, particularly cardiovascular diseases, cancer, diabetes and chronic respiratory conditions. The major cardiovascular diseases are hypertension, coronary heart disease and stroke. These health problems are now becoming the leading causes of mortality in Jordan with cardiovascular diseases and cancer alone responsible for more than half of all deaths. Among the factors contributing to a high prevalence of non-communicable diseases are the increasing elderly in the population as well as the lifestyle changes including unhealthy food consumption pattern, smoking and residential life lacking manual work and physical exercise [7].

In addition to non-communicable diseases; it is important to emphasize that Madaba Health Authorities should pay special attention to specific health problems related to anemia and deficiency in Iodine, Iron and vitamin (B12) as indicated in the 10 top health problems mentioned above.

5.2 Physical/ Institutional Infrastructure and Resources

5.2.1 Health Facilities in the District

As shown in table 15, the MoH is the main provider of health services in Madaba District. It runs two general district hospitals in Madaba and Deiban cities and 31 health centers. The private sector runs one hospital, 37 private clinics and 38 pharmacies.

Table 15: Health Facilities in the District

Type of facility	No	Type of facility	No
District Hospitals	2	Private clinics	NA
Comprehensive PHC center	3	Private group practice(complex)	4
Primary PHC center	11	Private pharmacies	NA

Village PHC center	17	Health facilities run by NGOs/charities	3
Private hospitals	1	Traditional healers	0

NA: Data not available

5.2.2 District Health Office Building & Related Facilities

The District health office occupies a 500 m² government's facility. There is shortage of space and the building needs renovation.

5.2.3 Transport

Most core members of the District Health Management Team (DHMT) have access to a vehicle for their supervisory and monitoring duties.

Key issues and constraints related to transport in the District are:

1. Shortage of vehicles for Environment Health and School Health staff.
2. No vehicles available for District staff assigned for remote areas.
3. Lack of vehicle maintenance shop.
4. Some vehicles have large capacity motors and are not cost effective.

5.3 Human Resources and Training

5.3.1 Staff

The key to effective and efficient delivery of health care is to ensure sufficient numbers of highly motivated and well-trained health professionals serve in the system.

Ministry of health is in charge of staff postings, while their transfer is District Health Authority responsibility. Table 16 presents functioning jobs at Madaba District Health Authority.

Table 15: District Health Sanctioned Human Resource Positions

Post	Sanctioned ¹	Filled ²
Managerial/Program heads staff		
▪ District Health Manager	1	1
▪ Assistants for District Health Manager	3	3
▪ Hospital director	2	2
▪ Assistant hospital director /Administration	2	2
▪ Assistant hospital director /Technical	2	2
▪ Assistant hospital director /Supply	2	1
▪ Supply and purchasing department head(DH)	1	1
▪ Buildings and maintenance DH	1	1
▪ Human resources DH	1	1
▪ Hotel services DH	1	1
▪ Finance DH	1	1
▪ Transportation DH	1	1
▪ IT DH	1	1
▪ Chest diseases and TB Program coordinator	1	1
▪ Environment and food control DH	1	1
▪ School health Program DH	1	1

¹ "Sanctioned" means number of specific staff members that are the stated standard for this type of facility and allocated by Ministry of health.

² "Filled" means out of the sanctioned at how many positions staff is posted.

Post	Sanctioned¹	Filled²
▪ MCH Program DH	1	1
▪ Disease control DH	1	1
▪ Health Insurance DH	1	1
▪ Dentistry services DH	1	1
▪ Control and monitoring DH	1	1
▪ Nursing DH	1	1
▪ Midwifery supervisor	1	1
▪ PHC supervisor	1	1
▪ Health promotion supervisor	1	1
▪ Thalassemia coordinator	1	1
▪ HIV/AIDS coordinator	1	1
▪ Malaria coordinator	1	1
▪ Healthy villages coordinator	1	1
▪ Parental education coordinator	1	1
▪ Reproductive health coordinator	1	1
▪ Breast cancer coordinator	1	1
▪ Child health coordinator	1	1
▪ Newborn surveillance coordinator	1	1
▪ Knowledge management coordinator	1	1
▪ Quality assurance coordinator	1	1
Technical staff		
▪ Specialists		37
▪ Residents		40

Post	Sanctioned¹	Filled²
▪ Medical officers (GPs)		64
▪ Dentists		25
▪ Registered nurses		129
▪ Associate nurses(communitu college)		89
▪ Assistant nurses		140
▪ Nursing orderlies(Not qualified)		41
▪ Midwives		68
▪ Lab technicians/assistants		62
▪ Radiographers/X-ray technicians		25
▪ Pharmacists		14
▪ Assistant pharmacists		69
▪ Dentistry technicians		22
▪ Anesthesia technicians		22
▪ Physiotherapists/ assistants		9
▪ Community health workers/health inspectors		19
Admin/finance staff		
▪ Admin officers		20
▪ Finance officer		
▪ Accountants		65
▪ Medical records technicians		37
▪ Clerks/Transcriptionists		115
Support staff		

Post	Sanctioned ¹	Filled ²
▪ Engineers		8
▪ Storekeepers/ Sweepers/gardeners/ guards		31
▪ Operators		72
▪ Drivers		48
▪ Maintenance technicians		8
▪ IT staff		5

As shown in the table above, only managerial/program heads have standard staffing pattern (sanctioned positions). Therefore, it is highly recommended that MOH develop staff norms for different types of health facilities covering all staff categories to ensure that sufficient numbers of staff are acquired.

5.3.2 Training and Continuing Education:

- Director of Madaba District Health Authority attended recently four days training on management, planning and supervision. He needs more training in advanced management.
- Many trainings/refresher courses were conducted for the health managers and health workers within the last 12 months. The training included staff at health facilities (technical and administrative staff). The training was performed according to the training plan at MOH and the District Health Authority.
- All training programs are related to the job needs (planning, administration, management, monitoring and supervision etc).
- The training programs (and their contents) are decided by the District Health Authority or MOH or donors.
- There are no health training centers at Madaba District.

Training of district health staff should be carefully planned and designed to respond to:

- The need for more appropriately trained staff to support community-based health care.
- The need for improved quality, safety, efficiency and management in district practice to optimize the use of health resources.
- The need for relevant, better planned, indigenous training programmes with educational objectives that define clearly what trainees need to learn to become competent district health officers.
- The need for continuing on and off-site training and education to retain competency and motivation.

5.4 Support Systems

5.4.1 Supervision

- 122 supervisory visits have been made by the district health management team to the health facilities during the last three months. All these visits are registered.
- There is a schedule/tour program of supervisory visits.
- There is a supervisory checklist that can be used during supervision.
- methods used during supervisory visits usually include:
 1. Observe delivery of different services.
 2. Interview with health care provider about service delivery issues.
 3. Check the records.
 4. Make suggestions for improvement.
 5. Explain policies and procedures.
- Usually actions taken to fill the identified gaps as a result of supervisory visits.

Ongoing supervision is an important, often overlooked, step to ensuring quality health services. In addition to assessing performance, supervisors are also

expected to monitor services, evaluate management, and ensure that the health facility supply chains are working properly [18].

To make supervision a very participatory process, supervisors should not focus on inspection and fault finding rather than on problem solving to improve performance. Also special training programs should be designed to provide District supervisors with technical, managerial, and supervisory skills needed to effectively evaluate health facilities across the many areas for which they are responsible.

5.4.2 Medicines, Equipment & Supplies

- There is a standard list of medicines for PHC facilities and the list was available for the surveyor.
- Supply of medicines and supplies come from MOH drug store and local purchase.
- Consignment of medicines received within the last six months presents more than half of the quantity requested.
- There is no medical equipment list for different levels of health facilities.
- There is a management system for the medical equipment which specifically looks into:
 1. Needs assessment
 2. Specifications and procurement
 3. Inventory system
 4. Training in use of equipment
 5. Waste disposal

- The following table presents the condition of the District stores:

Variable	Yes / No	Remarks
Space adequate	Yes	
Storage conditions proper	No	Needs maintenance and proper storage equipment.
Stock register / Issue-receipt vouchers / Bin card maintained	Yes	
Demand & Distribution system adapted	Yes	

5.4.3 Maintenance and Repair System

- Maintenance of buildings is performed by the maintenance team at the District Health Authority for the buildings at the District Health Directorate and health centers. Maintenance of buildings at Nadim hospital and Princess Salma hospital is contracted out. A private maintenance company does the maintenance services for each hospital.
- There is a team for routine and simple repairs of medical and non-medical equipment at the district level. Major equipment is either maintained by MOH staff or contracted out.
- There is a medical equipment workshop at Nadim hospital. However, this workshop is not functioning properly because of shortage of qualified biomedical engineers, technicians and maintenance tools.
- There is no facility or workshop for repair and maintenance of vehicles at the Health District level.

5.4.4 Referral System

Referral of patients between levels of care should be an integral part of a well-functioning health system. Primary health care activities should be supported by successive levels of referral activities (and well-functioning referral systems) linked by an adequate communication infrastructure and properly organized emergency transportation of patients to and from referral services. Proper referral systems, therefore, form an important link in the primary health care chain.

The table below presents mechanisms in use to facilitate referral of patients between health facilities in the district:

Referral Mechanism	Yes	No
1. Referral notes (from lower to higher level)	√	
2. Referral feedback reports (back to lower level)		√
3. Ambulance systems		√
4. Communications systems (e.g. radio, telephone, etc.)		√
5. Exemption from payment on showing referral note		√

The district is in the process of developing and implementing a comprehensive system for referral with feedback mechanism in collaboration with Health System Strengthening (HSS2) program.

5.5 Organization and Management

Proper District management involves the development and implementation of community oriented health policies and realistic plans with continuous monitoring within the context of national socio - economic development, and the improvement of health services performance in terms of quality, effectiveness, efficiency, coverage and equitable accessibility.

5.5.1 Organogram of District Health Office

- The District health office has an organogram that shows the organizational structure and the relationships and relative ranks of its parts and positions/jobs.
- The functions of each technical units/ programmes in the District Health Office are not clearly defined.
- There is no job description manual for the District.

5.5.2 Planning and Monitoring Systems

- The district has its own health plan which is formed according to the MOH health strategy.
- The plan is prepared by the different departments of the District through the Quality Assurance Unit and indorsed by the District Director and the District Quality Council.
- Other sectors, local community and NGOs do not usually participate in preparing the District plan. HSS2 program, which is sponsored by USAID, frequently provides technical support and participates in developing the plan.
- The plan is based on integrated family practice approach that includes several indicators pertaining to health of the family as: early detection of breast cancer, family planning, childhood anemia, medical surveillance for newborns, etc.
- The family register/filing system is not implemented.
- There are regular meeting held to monitor plan-implementation and to discuss issues with agenda and written minutes. The last meeting was held at the end of 2011.
- There are mechanisms/programs for quality assurance of health services as:
 1. The district has a Quality Assurance Unit that reports directly to the District director.
 2. Adopting the National Jordanian Accreditation Standards (NJAS) for hospitals and primary healthcare.

3. One health center was fully accredited, 14 health centers were awarded the Jordanian Quality Shield and 5 health centers obtained the First Star of the NJAS.

5.5.3 Management/Treatment Protocols

The following management/ treatment protocols were reported as available at the district level:

Protocols available at the district level
Management guidelines/manuals
1. District planning guideline
2. Supervisory and monitoring plan/checklist
3. Essential package of health services
4. Essential drugs list
5. Standard Treatment guidelines
6. Human resource development plan
7. HMIS guidelines and instruments
8. Acts and rules relevant to the Health Dept.
Clinical guidelines/manuals
1. Diarrheal Diseases
2. Expanded Programme on Immunisation
3. Acute Respiratory infections
4. NCDs (Hypertension, CVD, Mental health)
5. First aid at emergencies
6. Global programmes like IMCI, TB DOTS, Malaria elimination and control, HIV preventions and management, Making Pregnancy Safer , Safe Delivery, MNCH, etc.

5.5.4 Coordination

- The District Health Authority (Health Management Team) (DHMT) has a monthly meeting. The minutes of the meetings are usually kept. The District Health director is the leader of the DHMT.
- The following programs are currently operating in the district:

<i>Programs Currently Operating in the District</i>
1. EPI
2. HIV/AIDS
3. Malaria control
4. TB/DOTS
5. MCH/Family Planning
6. Non Communicable Diseases (Hypertension, Breast Cancer, Thyroid Gland Disorders)
7. ARI/ CDD
8. Nutrition and Food Safety
9. Community Based Initiatives (CBI)
10. Health Education
11. Environmental Health And Sanitation
12. School Health
13. Accreditation Program

- Directors of the two district hospitals are members of the District Health Management Team (DHMT).
- The director of the Health District is involved in collaborating with the private health sector and NGOs working on health issues in the District.

This is performed through regular meetings, workshops and training seminars.

- Intersectoral coordination is not institutionalized or done on regular basis.

5.5.5 Financing

For the last twenty years governments in practically developing countries have been facing increasing difficulties in providing sufficient resources for their health obligations. Shortages resulted in inadequate supplies of drugs, medical equipment and other essential consumables. Staff payments declined continuously and important investments in the rehabilitation of health facilities dropped nearly to zero [19].

Madaba District has a preset annual health budget .The budget for 2011 was JD 12,569,126.Table 16 shows the recurrent budget for 2011.The data for the corresponding development budget was not provided.

Table 16: District Development and Recurrent Budget, 2011

Budget	Amount
Development cost	Not Available(NA)
Furniture and fixtures	NA
Equipment and machinery	NA
Other development cost	NA
Total development cost	NA
Recurrent cost	NA
Salaries	4,986,172
Drugs and supplies	1,900,000
Transport	NA
Travel allowances	NA
Maintenance	400,000
Total recurrent cost	7,286,172

- The District budget is prepared by MOH and the director of the Health District is not involved in developing this budget.
- The District does not have flexibility for re-allocation of funds between line items.
- The annual approved budget is about half of what the District usually asks for.
- The District has current / recent records on actual expenditure. However, there are no records that show the percentage of health expenditures that goes to hospitals and health centers.
- There are no data about the budget allocations for specific vertical programs as EPI, TB control program, Reproductive health/MCH program, Nutrition program, etc.
- Uninsured patients are routinely charged for health services according to a fee schedule set by MOH.
- The total amount of income generated from user charges and fee for other services during the last one year was JD 501,222. This amount is usually deposited in the main account of MOH.
- Some services are provided free to all patients as: immunization, MCH, treatment of infectious diseases as TB, Malaria, AIDS, hemodialysis, FP, pre marriage screening, and cancer treatment.

To improve finance allocation and achieve proper utilization of available resources at district level, the following interventions are suggested:

- Training personnel and computerizing the financial system at district level. This will make all figures on budget and expenditure available to planners and monitoring authorities.
- Health District director should be involved in developing the district budget.
- The District should have flexibility for re-allocation of funds between line items.

- A cost accounting system should be developed to provide data on health expenditures by health facility, service, program and department.

5.5.6 Health Management Information System

Information is the basic tool of management and a key input for progress of any health system. A well designed information system is almost a necessity and priority for planning and management of health services. Public health informatics is 'the application of information science and technology to public health practice and research.' The assessment of health information system is essentially a measurement of the performance of selected components or subsystems of given health care system [20]. Health information systems in most countries are inadequate in providing the needed management support. Most health systems in developing countries equate information systems with filling endless registers and sending out reports without receiving any feedback. A great majority of clinical facilities either do not submit any health report or no standardized format exists. This in turn creates problems for data compilation and analysis, resulting in issues of drawing inference for managerial decision making. Furthermore, data received from many health facilities are incomplete, inaccurate and unrelated to priority tasks and function of local health personnel. It is important to keep in mind that primary function of a health information system is to provide data that enhance decision making in provision of health services [21].

Table 17 presents the health management information system status in the district.

Table 17: Health management information system statuses	Yes	No
1. Is there an HMIS unit in the District Health Office?	√	

2. Is it adequately equipped to compile and analyze the information and generate reports?		√
3. Is the unit adequately staffed?		√
4. Does the DHMT have a district health map?	√	
If yes, does it contain up-to-date information on the following?		
a. Location of public health facilities?	√	
b. Location of private health facilities?	√	
c. Catchment area population of health facilities?	√	
5. Are health information system data received from the health facilities being analyzed by the district health management team?	√	
6. Does the district level provide feedback to the health facilities in response to reports and forms submitted by them?		√
7. Are health activity monitoring mechanisms such as charts or diagrams showing recent health achievements in the district being made?		√
8. Has health systems research, household surveys or other operational studies been carried out in the district?	√	
1. If yes, please give examples of studies carried out recently	Field survey with WHO	
9. Is there any office for births and deaths registration (civil registration) in the district?	√	
If yes, answer the followings:		

2. Which government ministry/entity is responsible for CR office?	Interior Ministry	
3. What percentage (%) of all births is registered? (approximately)	100%	
4. What percentage (%) of all deaths is registered? (approximately)	100%	
5. Who certify causes of death?	Doctor	
6. Do you get regular updates from the CR Office?		√

5.5.7 Health Services/Programs

5.5.7.1 Health Services

- Table 18 below indicates the public health interventions/activities that are being provided by the various levels of health facilities in the district.

Table 18: Public Health Interventions/Activities that are being provided by Health Facilities in the District

Preventive / Promotive/Treatment Services	Hospital	PHC center
1. Antenatal Care	Yes	Yes
2. Postnatal Care	Yes	Yes
3. Growth Monitoring	No	Yes
4. Expanded Program of Immunization (EPI)	No	Yes
5. Family Planning Services	No	Yes
6. Integrated Management of Childhood Illness (IMCI)	No	Yes
7. Nutrition Program	No	Yes
8. Epidemics Surveillance	yes	yes

9. Breast Cancer	Yes	yes
10. Eye Health	yes	yes
11. Pre- marital Screening	No	yes
12. TB Treatment	yes	yes
13. Delivery Services	Yes	No
14. Emergency Services	Yes	Yes
15. Family planning	No	Yes
16. HIV/AIDS	No	Yes
17. Nutrition	No	Yes
18. Breastfeeding / weaning promotion	No	Yes
19. Malaria prevention (screening)	No	Yes
20. Chronic diseases	No	Yes
21. Water and sanitation	No	Yes
22. Nods including Mental health and substance abuse	Yes	Yes
23. Anti-tobacco activities	Yes	Yes
24. Community Health Education	Yes	Yes
25. School Health	No	Yes
26. Family Planning	Yes	Yes
27. Ante-natal and postnatal care	No	No
28. Growth monitoring and nutrition surveillance	No	Yes
29. High blood pressure and diabetic surveillance	No	Yes
30. Expanded Program of Immunization	No	Yes

(EPI)		
31. Blood group	Yes	Yes
32. Hemoglobin	Yes	Yes
33. Pregnancy test	Yes	Yes
34. Urine RE	Yes	Yes
35. Stool for ova and cysts	Yes	Yes
36. Blood Sugar	Yes	Yes
37. Sputum for AFB	Yes	Yes
38. Malarial Parasite	Yes	Yes
39. ECG	Yes	Yes
40. Ultrasound	Yes	Yes
41. X-ray	Yes	Yes
42. I/V antibiotics	Yes	Yes
43. I/V sedative	Yes	Yes
44. I/V Oxytocic	Yes	Yes
45. IV fluids	Yes	Yes
46. Manual removal of placenta	Yes	No
47. Assisted Vaginal Delivery	Yes	No
48. C- Section	Yes	No
49. Blood Bank	Yes	No

Table 19 indicates the health strategies being implemented by the various levels of health facilities in the district.

Strategy	Hospital	PHC center
a. Making pregnancy safer	Yes	Yes
b. Integrated Management of Childhood Illness (IMCI)	No	Yes
c. Directly Observed Treatment Short course (TB DOTS)	No	Yes
d. Malaria Control and elimination	No	Yes
e. HIV/AIDS Prevention and management	No	Yes

5.5.7.2 Health Programs

A. Expanded Program of Immunization (EPI)

The following table presents availability of equipment, supplies and vaccines for the expanded program of immunization:

Equipment	Available	Functioning
Vaccination kit bags	Yes	Yes
Thermometers	Yes	Yes
Vaccine Carriers	Yes	Yes
Ice-Packs	Yes	Yes
Disposable and supplies	Available	Not Available
Stationary (Vaccination cards and register)	Yes	
Syringes	Yes	
Needles	Yes	

Vaccines	Available	Adequate for 3 months	No of days out of stock for last 3 months	Properly stored
TT	Yes	Yes	0	Yes
Polio	Yes	Yes	0	Yes
BCG	Yes	Yes	0	Yes
DPT	Yes	Yes	0	Yes
Measles	Yes	Yes	0	Yes

B. Malaria Control (including laboratory)

The following table presents equipment and supplies available for Malaria Control program:

Item	Available	Item	Available
Bicycles	No	Haversacks (kit bag) with shoulder strap	Yes
Glass Slides	Yes	Chloroquine Tab.	Yes
Pickers	Yes	Evaluation M-2 Forms & Register	Yes
Alcohol & Cotton	Yes	Insecticides	Yes

C. MCH Program

Table 20: Total Number of Patient's who Visited for MCH Services in the District During 2011

Type of Patients/ Services	Number /Percentage
Pre-natal	40176
Deliveries*	-
Family Planning Clients	570
Immunization Coverage	98%
Growth Monitoring cases	NA**
Post-natal	NA

* Service available in hospitals only

** Data not available

D. TB Control Program

The following table presents equipment and supplies available for TB Control program:

Item	Available	Functional
Microscopes	Yes	Yes
Accessories for microscopes	Yes	Yes
Computers for data processing	No	-
Reagents (Buffer stock)	Yes	Yes
Recording and reporting tools	Yes	Yes

5.5.8 Main Constraints

The assessment results of management and support systems indicated that Madaba Health District faces many constraints as:

- Limited budget and lack of authority for re-allocation of funds between line items.
- Inappropriate maintenance systems and shortage qualified maintenance staff especially biomedical engineers and technicians.
- Lack of computerized health information system.
- Shortage of vehicles.
- The need for land acquisition for the purposes of building new health centers and expanding existing facilities.
- The referral system is not effective.

5.5.9 Opportunities

There are many opportunities for improving work and its results, which do not necessarily require any substantial new or additional resources:

1. Utilizing donated money from the Royal Court and International donors for expanding Al-Nadim hospital.
2. Acquisition of public land for building new comprehensive health centers especially in Faisaliah area.
3. Providing the District director enough authority for re-allocation of funds between line items.
4. Updating and using the available job descriptions.
5. Give more support and dedication for the new referral system.
6. Confine expansion of facilities and health services to real needs and priorities of the population and not according to social and political pressures.

6. Primary Health Care Facilities

INTRODUCTION

The Primary health facility occupies a key role in the District health system. It is both the most peripheral unit of the formal health system and it serves as first point of reference for the community to obtain health care. The status of health of a given community is more influenced by the effectiveness of this level of the health services than by the number of medical specialists, or the quality of hospitals in a given region. [1]

Depending on the availability of trained staff and national budget, a primary health facility may consist of a simple dispensary run by a medical auxiliary, or of a well- equipped facility providing in patient care, run by a physician together with paramedical staff. Its services may consist uniquely of seeing patients on demand, or a wide range of services. The effectiveness of a given facility in dealing with the health needs of the community depends mostly on the orientation of services to needs and on their quality and quantity. Quality and quantity of services, in turn, are largely determined by knowledge and skill of the staff, their motivation and, above all, by the organization and leadership capabilities of the person in charge, and by the management systems and procedures in place. [1]

The adoption of the concept and principles of primary health care started in Jordan shortly after the international conference on PHC held in Alma-Ata 1978. Since that time great achievements have been made in various fields and indicators of health have improved considerably. Coverage of primary health care services has improved. The MOH is the major provider of health services in the field of primary health care, with small contributions from other health providers. MOH operates an extensive primary health care network with about 2.3 centers per 10,000 populations, and with an average patient travel time to the nearest center of 30 minutes, this represents a high density system by international standards [7].

This Module is designed to assess the availability and accessibility of health services; defined population and geographical catchment areas for each health facility; assessment of various inputs including Essential package of health

services, staff, finances, medicines and equipment, infrastructure; and management and support systems like in-service training and supervision, information system, medicines supply system, and referral system. It also helps to assess outputs and health outcomes in terms of utilization and coverage of essential health services.

Twenty one primary health care facilities were surveyed in Madaba district, 18 are owned by MOH and 3 are owned and run by NGOs. See Table 22 for list of facilities.

FINDINGS AND DISCUSSION

6.1 Availability and Accessibility of Services

Access to health care can be described along four dimensions: geographic accessibility, availability, financial accessibility or affordability and acceptability. Geographic accessibility measures how physically accessible resources are for the population, while availability reflects what resources are available and in what amount. Knowing catchment area and population is extremely important for calculating target groups for different services, motoring service provision, and for estimating different needs (e.g. drugs, supplies etc.)[\[22\]](#).

6.1.1 Catchment Area & Population

Health facilities should be located as close to where people work and live as possible. Establishment of an accessible PHC network is one of the most important measures governments have to undertake to achieve universal coverage.

Table 21 shows facilities by catchment area and population. Catchment population per PHC facilities varies significantly between 1400 to 157000 with an average of 9000. The number of villages that are served by each facility varies between 1 to 10 villages with a mean of 3. The total area covered by facility also varies from 1 to 375 square kilo meters with an average of 20 km².

Table 21: Distribution of Primary Health Care Facilities at Madaba District According to Catchment Area & Population Served.

Name of health centre	No. of villages served	Population	Total area covered by facility (km2)
1.Jordan Family Planning Association	1	50000	NA
2. Red Crescent Society Clinic	NA	157000	NA
3.Bin Awf Voluntary clinic	1	80000	NA
4.Alazaideh HC 1	1	20000	4
5. Alazaideh HC 2	3	12300	12
6. Alalia village HC	3	5000	4
7. Alarish village HC	3	3000	4
8. Alareid HC	10	4770	60
9. Al-Fiha village HC	1	1400	12
10.Camp Primary HC	NA	9000	4
11.Alhelaliah HC	2	5000	9
12.JraineH Primary HC	7	8500	20
13.Theiban Comprehensive HC	5	14510	375
14.North Madaba Comprehensive HC	8	16888	24
15.Lib Comprehensive HC	8	7000	20

Table 21(cont.): Distribution of Primary Health Care Facilities at Madaba District According to Catchment Area & Population Served

Name of health center	No. of villages served	Population	Total area covered by facility (km2)
16.South Madaba HC	2	6000	1
17.West Madaba HC	NA	15000	6
18.East Madaba	NA	26000	33
19.Alfisalieh/Madaba HC	4	7085	23
20.Maain Primary HC	3	9000	130
21.Mlaih Primary HC	2	7000	60

6.1.2 Physical accessibility:

About 50 Percent of Madaba population lives within 5 km of health facility (or 30 minutes' walk). 57% of the terrain is flat and 24% is mountainous.72% of Madaba health facilities has signboard displayed. Road to all health centers is asphalt road with easy transport that is available on daily bases. There are no serious geographical barriers to accessibility since most of served population has either their own transportation or has an access to public transportation.

6.1.3 Social accessibility:

Social accessibility is an important determinant in the accessibility and delivery of quality health services domain [23]. Although most facilities have separate examination room for women, 40% of facilities have no special waiting area for women or female public health workers. Due to cultural norms, this could be a potential barrier that negatively affects females' utilization of services.

6.1.4 Financial accessibility:

All facilities have a fees-for-services scheme where it collects fees for services as well as for drugs. Insured patients do not pay fees at point of consumption, while uninsured patients pay nominal fees (about 20% of the actual costs).

Some services are provided free in MOH facilities to all patients as: immunization, MCH, treatment of infectious diseases as TB, Malaria, AIDS, FP, pre-marital screening, and cancer treatment.

Jordan Health Expenditure and Utilization Study for 2002 indicated that the average cost per visit was JD 4.5. Cost per visit to the general practitioner was JD 3.1. Prenatal /post natal visits cost JD 14.7. The cost increases when client volume goes down with a range between JD 3.3 for a visit in the high volume centers to more than JD 20 in the low volume centers. Primary care centers appear to have the lowest cost per visit (JD 4.0) compared to comprehensive health centers (JD 5.7) and village health centers (JD 6.3) [24].

6.1.5 Availability of services

The comprehensive health centers open 24 hours a day, while other centers open 8 hours daily from 8 am-4 pm Saturday through Thursday.

6.2 Input Assessment

6.2.1 Availability of Essential Health Service Package

A wide range of primary health care services are provided in the PHC centers. The services include general medical care, child care, family planning, obstetric care, peri-natal care, first aid, dispensing of pharmaceutical prescriptions and dental care.

In addition to the full range of personal primary patient care, the PHC centers are also responsible for public health activities not directly related to patient care and for health data collection / information systems at the local level. Public health activities (immunization, screening, health education, water safety, sanitation, food quality control, pest control etc.) are usually performed by paramedical staff at the PHC level, under the supervision of the doctor in charge.

The following is a brief description of the PHC centers respective roles and package of services provided [25]:

Primary health centre:

Headed by a GP and provides both curative and preventive health services, including dental services and school health. They do food inspections and perform simple epidemiological investigations.

Comprehensive Health Centre:

In addition to the services provided by the primary health centers, the comprehensive health center also provides specialty care in the areas of pediatrics, gynecology, internal medicine, orthopedics, ENT, ophthalmology, dermatology and dentistry and has 24 emergency services.

Village Health Centre:

Village health centers provide health promotion in villages and maintain simple information about births, deaths, etc. Their actual functions are presently not in line with the original intention. GPs will visit to attend to patients.

As shown in table 22, most essential preventive and curative health services are provided by health centers. Minor surgery is provided by 8 health centers, while perinatal care and TB/DOTS services are provided by 3 centers only.

Table 22: Provision of essential health services package in District health centers (N=21)

Service	No. of Centers Providing Service
Curative and preventive services	20
Antenatal care	17
Perinatal care	3
Postnatal care	16
Growth monitoring	15
Immunization	17
Family Planning	17
Non-communicable diseases e. g. hypertension, diabetes	19
Minor surgery	8
TB/DOTS	3

Health Education	18
Child care	20
Malnutrition Surveillance	14

Table 23 shows the level of provision of specific preventive essential health services package and specific organization and management support performed by surveyed health centers. Most centers provide health education, breastfeeding/weaning promotion, environmental sanitation and nutrition education, while HIV/AIDS education and drug addiction prevention are provided by 12 and 11 centers respectively.

Table 23: The level of provision of specific preventive essential health services package (N=21)

Specific Health Preventive/Promotive Services	No. of Centers
Health education	20
Breastfeeding / weaning promotion	20
Environmental sanitation	19
Nutrition education	19
HIV/AIDS education	12
Drug addiction prevention	11

6.2.2 Human Resources

Human resources are at the core of a health system, there is ample evidence that worker numbers and quality are positively associated with the level of health system performance. An efficient workforce is one that works in ways that achieve the best health outcomes possible, given available resources and circumstances. Human resources for health consume about half of the entire health budget in a country. Inefficiencies can occur from ineffective planning, inappropriate compensation, inadequate supervision and excessive migration or attrition. The failure to generate and maintain a suitably qualified and motivated

workforce inevitably leads to reduced productivity or performance at the system level, which will in turn impact on overall health system goals including the provision of responsive services and the attainment of health improvements in the population [26],[27].

Table 24 shows average no. of sanctioned and available human resources for a health center. The average number of available staff for all categories is less than the sanctioned number needed to perform the standard functions and services of a health center. The total average of the available staff is less than 50% of the corresponding sanctioned figure (24.65 and 52 respectively). No single health facility knows the standard staffing pattern for its facility's type.

Human resources and costs of primary care services were evaluated in a study conducted by the Primary Health care Initiatives (PHCI) in 2004. The study, which involved 97 primary health centers, concluded that the majority of patients received treatment between 9.00 am and 11.30 am, and the patient contact time with the provider was too short[28].

The failure to generate and maintain a suitably qualified and motivated workforce inevitably leads to reduced performance at PHC level, which will in turn impact on overall health system goals including the provision of responsive services and the attainment of health improvements in the population. Therefore; an action plan is highly needed to:

- Develop national standard staff pattern for each type of primary health care facility.
- Fulfill the shortage in human resources according to the developed staff pattern.
- Give incentives to health professionals serving in remote and hardship areas.
- Solve the gender imbalances among physicians at primary health level and some remote areas.
- Improve working conditions and work environment to attract health staff for PHC level.

Table 24: Average No. of sanctioned and available human resources for a health center

Type of Staff	Average No. sanctioned	Average No. available
A. Technical		
▪ Male Medical Officers	2	1.67
▪ Women Medical Officers	1	0.52
▪ Specialized physicians	2	0.90
▪ Dental Surgeons	2	1.24
▪ Nursing assistants	4	2.9
▪ Female nursing aides	1	1.67
▪ Midwife	2	1.19
▪ Dispensers(pharmacy assistants)	1	0.65
▪ Lab. technicians	1.5	0.71
▪ Female registered nurses	1	0.29
▪ Male registered nurses	1	0.10
▪ Dental technicians	2	0.33
▪ Radiographers	2	0.24
▪ Vaccinators	2.5	0.34
▪ CHWs	2	0.81
B. Support		
▪ Accountants	3	1.67
▪ Clerks	8	2.14
▪ Medical records technicians	3	2.14
▪ Messengers	3.5	0.52
▪ Sanitary workers	4	2.19
▪ Guards	2.5	2.14

▪ Gardeners	0	0.10
▪ Drivers	1	0.19
Total	52	24.65

6.2.3 Finance

Only one health center (Bin Awf Voluntary clinic) has its own budget and knows the total budget disbursed in the year 2010. Most health centers know the revenue generated from fees-for service during last quarter. East Madaba health center had the highest revenue (JD 10697), while Bin Awf Voluntary clinic had the lowest revenue (JD 425). No single MOH facility is keeping the revenue inside the facility and instead all send it to MOH.

It is highly recommended that this revenue or at least part of it is kept at the health center to be used as incentives for staff and meeting the facility necessities.

6.2.4 Drugs and Supplies (based on essential list)

Proper drug management together with rational drug use are necessary to improve the quality of health care through cost-effective use of medicines and ensuring availability of good quality drugs and medical consumables at the right time and as per the required quantity to patients in all facilities within the funds available for this purpose.

Jordan has established a comprehensive Rational Drug List (RDL). The RDL was revised by several technical committees that represent all medical specialties from all health sectors during 2005. The RDL was endorsed by the Minister of Health in 2006[29].

All MOH facilities are getting their drugs from the regional pharmaceuticals store, had the last request one month prior to the survey, and all have received most of the drug supply.

Table 25 shows variations in the availability of many medical supplies. Some medical supplies and essential drugs as adhesive tape, bandages, cotton, gauze,

disinfectant, ophthalmic ointment, iron tablets, multivitamin tablets and water injection are available in more than 85% of the health centers; while others as benzyl benzoate anti-malarial drug, gentian violet, crystalline or procaine penicillin (inj.), adrenaline injection and ergometrine injection either totally missing or in severe shortages in some facilities.

The availability of drugs and medical supplies, according to the essential drug list for the primary health care facility should be a top priority for MOH to sustain high quality of services. Maintaining the availability of the contents of the list is crucial for primary health facilities.

Table 25: Availability of the essential drugs and medical supplies in the surveyed health centers (N= 21)

Drugs and Supplies	Present	%
Adhesive tape	18	86
Bandages	19	90
Cotton	20	95
Gauze	20	95
Disinfectant	20	95
Aspirin	14	67
Ophthalmic ointment	19	90
Benzyl benzoate	2	10
Contraceptives	15	71
Oral rehydration salts	9	43
Anti-malarial tablets	0	0
Anti-malarial injections	0	0
Iron tablets (with or without folic acid)	18	86
Gentian violet	2	10
Multivitamin tablets	19	90

Drugs and Supplies	Present	%
Crystalline or procaine penicillin (Inj.)	4	19
Co-trimoxazole syrup	12	57
Tetanus toxoid	15	71
Adrenaline injection	7	33
Ergometrine injection	0	0
Water injection	18	86

6.2.5 Equipment and Instruments

Table 26 shows the availability of equipment and instruments in outpatient clinics, laboratory, radiology, emergency room and minor operation theatre at the surveyed health centers. Most of outpatient equipment and instruments are available and functional. There are shortage in laboratory, radiology, emergency room and minor surgery equipment and instruments that need to be addressed by MOH and other concerned parties.

It is also recommended that the Ministry of Health has to develop national equipment and furniture standards for each type of primary health care facility.

Table 26: Percentage of availability of equipment and instruments in the surveyed health centers

A. Outpatient Department (N= 21)	% Present/ Functional	% Present/ Not functional	% Absent	% Total
EPI refrigerator	95.2	4.8	0	100
Vaccine Carrier	100	0	0	100
Health education material	95.2	4.8	0	100

Wheel chair	95.2	4.8	0	100
Infant weighing scale	85.7	9.5	4.8	100
Adult weighing scale	90.5	9.5	0	100
Examination table / couch	100	0	0	100
Stethoscope	100	0	0	100
Fetoscope	85.7	0	14.3	100
Blood pressure apparatus	100	0	0	100
Otoscope	71.4	28.6	0	100
Thermometer	95.2	4.8	0	100
Torch	85.7	4.8	9.5	100
Tongue depressor(s)	100	0	0	100
Tape measure	85.7	9.5	4.8	100
Rubber sheeting / mackintosh	42.9	9.5	47.6	100
Sterilizer	95.2	4.8	0	100
Instrument tray	95.2	4.8	0	100
Forceps	52.4	14.3	33.3	100
Needle holder	66.7	9.5	23.8	100

B. Laboratory equipment (N= 13)	% Present/ Functional	% Present/ Not functional	% Absent	% Total
Functional microscope	84.6	0	15.4	100
Centrifuge	84.6	0	15.4	100
Centrifuge tubes	84.6	0	15.4	100
Urine glasses	84.6	0	15.4	100
Glass slides	78.6	0	21.4	100
Cover slips	53.3	0	46.7	100

B. Laboratory equipment (N=13)	% Present/ Functional	% Present/ Not functional	% Absent	% Total
Immersion oil	20	6.7	73.3	100
Giemsa stain	21.4	7.1	71.4	100
Ziehl-Nielsen stain	15.4	7.7	76.9	100
Iodine stain	30.8	0	69.2	100
Tray	30.8	0	69.2	100
Hemoglobinometer	50	0	50	100

C. Radiology equipment (N=14)	% Present/ Functional	% Present/ Not functional	% Absent	% Total
X-ray machine	38.5	0	61.5	100
X-ray table	33.3	0	66.7	100
X-ray Films	33.3	0	66.7	100
Chemicals	33.3	0	66.7	100

D. Emergency Department (N=21)	% Present/ Functional	% Present/ Not functional	% Absent	% Total
Stethoscope	100	0	0	100
Blood pressure cuff	95.2	4.8	0	100
Thermometer	100	0	0	100
Oxygen	90.5	4.8	4.8	100
Equipment for general anesthesia	14.3	0	85.7	100
Sterilizer	95.2	4.8	0	100

Instrument tray	95.2	4.8	0	100
Lotion bowls	71.4	0	28.6	100
Dressing forceps	47.6	0	52.4	100
Needle holder	90.5	0	9.5	100
Suture materials	81	0	19	100
Syringes	95.2	0	4.8	100
Scissors	100	0	0	100
Scalpel	95.2	0	4.8	100
Forceps	100	0	0	100

D. Minor Operation theater (N=21)	% Present/ Functional	% Present/ Not functional	% Absent	% Total
Generator	47.6	0	52.4	100
Operating table	47.6	0	52.4	100
Operating light	47.6	0	52.4	100
Oxygen	47.6	0	52.4	100
Ambu bag	52.4	0	47.6	100
Equipment for general anesthesia	42.9	0	57.1	100
Sterilizer	57.1	0	42.9	100
Instrument trays	57.1	0	42.9	100
Rubber sheeting / mackintosh	52.4	0	47.6	100
Suture material	52.4	0	47.6	100
Needle holder	52.4	0	47.6	100
Scissors	52.4	0	47.6	100
Dissecting forceps	52.4	0	47.6	100
Forceps	52.4	0	47.6	100
Retractors	52.4	0	47.6	100
Scalpel	57.1	0	42.9	100

D. Minor Operation theater (N=21)	% Present/ Functional	% Present/ Not functional	% Absent	% Total
Stethoscope	47.6	0	52.4	100
Fetoscope	47.6	0	52.4	100
Blood pressure apparatus	52.4	0	47.6	100
Surgical gloves	57.1	0	42.9	100

6.2.6 Building and infrastructure

Table 27 shows that around one quarter of health facilities' buildings are not in a good condition and 38% of facilities need major renovation, rehabilitation and maintenance. Patients' toilets –even when available- are not always clean, and the surroundings in about 19% of facilities are full of dirt and garbage. Proper disposal of medical waste is not happening in almost all facilities. There is no staff accommodation in 19 facilities (90.5%). 11 centres do not have reliable source of fuel / power to enable all the essential equipment of the facility to function properly. Such poor infrastructures limit any facility's capability to provide quality services and therefore need to be tackled appropriately. Such poor infrastructures limit the facility's capability to provide quality services and therefore need to be tackled appropriately.

MOH with technical support from HSS/ USAID has recently developed national PHC accreditation standards [30]. Since these standards do not have a cluster on infrastructure standards, it is highly recommended that MOH develop these standards and add them to the existing PHC accreditation standards as soon as possible.

Table 27: buildings infrastructure in the surveyed health centers (N=21)

Main Building	Yes	%
Is the main building generally in good repair	16	76.2
In the main building(s) are any of the walls, floor(s), roof(s) in need of maintenance and repair	13	61.9
Are all the rooms clean	18	85.7
Can all of the doors and windows be securely locked	14	66.7
Is there a latrine for patients use	15	71.4
Is it clean and usable	14	66.7
Is there a reliable source of fuel / power to enable all the essential equipment of the facility to function / be used	10	47.6
If a refrigerator is available, has it been working uninterruptedly over the past 04 weeks	19	90.5
Has there been a constant supply of potable water in, or convenient to the facility over the last 3 months	15	71.4
Is there a refuse pit slash incinerator on the grounds for disposal of solid wastes / rubbish	1	4.8
Are the grounds around the main building free from rubbish, waste, puddles, feces	17	81
Is staff housing available for all posted staff	2	9.5
Is electricity available in the facility	20	95.2

6.3 Management and Support Systems

6.3.1 Facility Planning and management:

- 81% of the health centers have job descriptions for technical staff.
- 66.7% of the health centers hold meetings to discuss schedules and programs.
- 61.9% of the health centers develop schedules of planned activities.
- Most of the centers do not have formal means by which the community can influence facility policy and practice.

6.3.2 In-service Training and Supervision:

- Most of the health centers (90.5%) have staff who attended training courses during the past year.
- Most of the health centers (95.2%) have health manuals/books and health education materials at facility.
- 76.2% of the health centers have been visited regularly by supervisors from the District Health Directorate during the last three months.

6.3.3 Information on Record

- Most of the health centers (more than 71%) keep records on the following:
 - No. of out-patient visits
 - Whether first or follow-up visit
 - No. of pre-school (under 5s) child visit
 - Child immunizations by number and type
 - Perinatal / postnatal activities
 - Family planning services
 - Utilization of medicine stock
 - Out-reach activities (i.e. home visiting, etc.)

- Only half or less of the health centers (48%-33%) keep records on: referral of patients, out-patient diagnoses and out-reach activities (i.e. home visiting, etc.).
- About 50% of the surveyed centers register the families in the catchment area and maintain family folders in the facility.

The Family Folder is a tool for watching over the patient's case with no need to repeat on him the same questions on every visit health facility. It also gives physician the chance to get acquainted with all the procedures been carried out for each and every patient during his previous visits, as well as to watch over his illness and follow up the treatment been prescribed to him. In addition, it is a means of communication between members of the whole medical staff. Therefore; all health centers should maintain family folders in the facility to their patients.

- Most centers (81%) have follow up mechanisms for the patients who need continuous care.
- Only 8 centers (38.1%) have surveillance or outbreak investigation activities.
- 13 centers (62%) have staff that had been trained in HMIS reporting.
- 16 centers (76%) Have submitted all health HMIS reports in the past 12 months, only 5 centers received feedback on HMIS reports submitted.
- 3 centers (14%) only had analyzed the health statistics by the staff of the facility (e.g. comparing the figures over time).
- 8 centers (38%) reported that health statistics were used by the staff of the facility.
- 13 centers (62%) reported that supervisor visited their facilities and inspected the monthly/yearly HMIS report.

6.3.4 Drug Management

Proper drug management together with rational drug use are necessary to improve the quality of health care through cost-effective use of medicines and

ensuring availability of good quality drugs and medical consumables at the right time and as per the required quantity to patients in all facilities within the funds available for this purpose.

All MOH facilities are getting their drugs from the regional pharmaceuticals store, had the last request one month prior to the survey, and all have received the drug supply.

6.3.5 Referral System

The average number of patients referred monthly from the health center to the hospital is 70; less than half of the health centers keep records on referral of patients.

6.3.6 Availability of Clinical Guidelines

Clinical guidelines are systematically developed statements designed to help practitioners make decisions about appropriate health care for specific circumstances. Primary health care facilities staff need simple, patient specific, user friendly guidelines [31]. The assessment findings regarding the availability of clinical guidelines showed that:

- Most of the health centers (more than 71%) have clinical guidelines for diarrheal disease, acute respiratory tract infections, immunization, diabetes mellitus and hypertension.
- Clinical guidelines for antenatal care are available in 67% of health centers.
- About half of the health centers have clinical guidelines for childhood malnutrition and cardiovascular diseases.
- Almost none of the health centers have clinical guidelines for malaria, tuberculosis and mental health.

6.4 Output / Outcome Assessment

6.4.1 Out-patient care

The average number of monthly visits for the health center is 1440 visits. The approximate number of visits per person per year is 1.4 visits, while the corresponding rate for pre-school children is 2.75.

6.4.2 Reproductive Health Activities

Reproductive health is a key component of the Jordanian National Population Strategy (NPS) which aims to achieve a balance between population growth and natural and economic resources; this balance would support sustainable development and improvement in the standards of living for individuals, families and citizens in general. In 2008, the Higher Population Council (HPC) launched Phase II of the 2008-2012 National Reproductive Health/Family Planning Action Plan. This plan focuses on reproductive health and family planning aiming to reduce the fertility rate and population growth, improve maternal and child health, as well as supporting women empowerment. The Government of Jordan adopted in 2009 a policy document prepared by the Higher Population Council on "The Demographic Opportunity in Jordan" that views reproductive health and family planning as key entry points and foundations for policy implementation [32].

The assessment of reproductive health activities provided by the surveyed health centers indicated that:

- Average of expected pregnancies in the facility catchment area per year are 455.
- Average of expected antenatal visits are 1365.
- Average of antenatal visits by mothers to health facility in one year are 640.
- Percentage of antenatal visits coverage is 49%.

- Average number of family planning clients provided services by health facility over the last 4 months: 266.68.

It is evident that the percentage of antenatal visits coverage (49%) and family planning services are considered very low and may have negative effects on the health of the mother and her baby. To bridge this gap, it is recommended that MOH should:

- Develop home-based care programmes or mobile clinics in collaboration with the private and NGO sectors to provide pre- and postnatal care.
- Provide sufficient numbers of female reproductive health care providers to minimize social barriers.
- Expand the information system connecting health care centers to obstetric clinics and wards at referral hospitals.
- Improve the quality of health services, particularly at the woman and child health centers and primary health care centers.
- Develop national programmes in collaboration with the international partners to target the least-privileged segments and geographical areas that suffer from evident poor achievement of reproductive health and family planning.
- Effectively involve the private sector in providing reproductive health and family planning counseling and services.

6.4.3 Immunization coverage

The compulsory National Immunization Programme for prevention of tuberculosis, diphtheria, pertussis (whooping cough), tetanus, polio, measles, hepatitis B and haemophilus influenza, has become a key element in Jordan's national strategy to reduce infant mortality rate(IMR) and under five mortality

rate(U5MR) and has made great achievements nationwide. Since 1980, the Ministry of Health issues immunization cards upon the child’s first vaccination and requires immunization cards to enroll children in schools. Jordan was declared polio free since 1992 and diphtheria free since 1995, sporadic cases of pertussis and neonatal tetanus have been documented.

In 2010, the proportion of children immunized against measles was 103%, and 110% of the 12-23 month-olds also received their MMR vaccines. Similarly, immunization coverage of polio and TB reached 103% and 109% respectively. The more than 100% percent coverage is due to inclusion of non-Jordanian children currently living in Jordan, particularly Iraqi children, in the national immunization programme[32].

Immunization services are provided by most health centers (17 centers).Table 28 shows the percentage of immunization coverage in all centers that provide this service.

Table 28: percentage of immunization coverage in the surveyed health centers (N=17)

Service	% Coverage
1. Tetanus Toxoid	77.87
2. BCG	84.54
3. DPT 1	88.47
4. DPT 3	88.47
5. Polio	83.20
6. Measles	82.40

As seen in table 28 above the percentages of immunization coverage in Madaba district are less than the national figures. Therefore, further investigation to reach the causes behind such lower coverage with vaccines is highly needed.

6.4.4 Outreach services

“Outreach services” is used to describe any type of health service that mobilizes health workers to provide services to the population, away from the location where they usually work and live. Outreach services can be organized on a permanent basis with health workers hired to serve communities according to a set schedule [33].

Providing access to a basic health services to populations with no or limited access to health services, using mobile outreach health services found to be successful in many developing countries. Outreaches will complement service delivery in fixed facilities and could also increase the demand on the delivery of services through fixed facilities and strengthen referral of cases to these facilities [34].

Table 29 shows that not all facilities are providing outreach services. School health services are provided by 81% of the health centers. Outreach services related to immunization, promoting community participation and early detection of Non-communicable diseases are provided by 66.7% of health facilities, while family planning is provided by 57.1% facilities. Outreach services related to non-communicable diseases and health control are provided by 9 facilities (42.9%) only.

Therefore, ensuring provision of standard comprehensive package of outreach services is highly recommended.

Table 29: Outreach services provided by the surveyed health centers (N=21)

Outreach services	Yes	%
Immunization	14	66.7
Non-communicable diseases control	9	42.9
Promoting community participation	14	66.7
Early detection of Non-communicable diseases	14	66.7
School health	17	81
Health control	9	42.9
Family planning	12	57.1

6.4.5 Health Facility Morbidity Statistics

6.4.5.1 Pre-school children

As indicated in table 30, acute respiratory infection (ARI) is the leading diagnosis for children U5 followed by eye diseases and GIT infections. Neurological diseases and malnutrition are least frequent diagnosis for this age group.

Table 30: The first ten commonest morbidity diagnoses for children under 5 during 4 months

Diagnosis	Mean
1. ARI	1029.06
2. GIT diseases	180.33
3. Eye diseases	150.12
4. Uro-Genital diseases	102.11
5. Skin diseases	93.06
6. Bone softness	35.94
7. Accidents/fractures	29.06
8. Anemia	12.72
9. Malnutrition	8.94
10. Neurological diseases	7.44

6.4.5.2 School age children

Table 31 shows that acute respiratory infection is the leading diagnosis for school age children (5-15 years) as the case of U5 children. The second health problem was related to dentistry and oral diseases. Psychiatry diseases are least frequent diagnosis for this age group.

Table 31: The first ten commonest morbidity diagnoses for school age children (5-15 years) during 4 months

Diagnosis	Mean
1. ARI	613.33
2. Dentistry	598.89
3 GIT diseases	175.39
4. Eye diseases	121.67
5. Skin diseases	86.22
6. Uro-Genital diseases	73.22
7. Neurological diseases	16.22
8. Accidents/fractures	15.83
9. Rickets	13.28
10. Psychiatry diseases	1.81

6.4.5.3 Women

As the case of children U5 and school age children, acute respiratory infections are on the top of the list of the common morbidities among women in reproductive age followed by oral and dentistry diseases. Chronic non-communicable diseases e.g. hypertension and diabetes is a problem (number 3 and 5 in order respectively).

Table 32: The first ten commonest morbidity diagnoses for Women in reproductive age (15-49) during 4 months

Diagnosis	Mean
1. ARI	562.06
2. Dentistry	309.22
3. Hypertension	181.22
4. Uro-Genital diseases	128.33

5. Diabetes mellitus	115.33
6. Orthopedic and rheumatology	92.17
7. Skin diseases	89.39
8. Infertility problems	82.00
9. Infectious diseases	14.17
10. Neurological diseases	13.18

6.4.5.4 Men

As in women, ARI, dentistry and hypertension are the on the top of the list of the common morbidities among men. As women also chronic non-communicable diseases e.g. hypertension and diabetes is a problem (number 3 and 6 in order respectively).

Table 33: The first ten commonest morbidity diagnoses for Men during 4 months

Diagnosis	Mean
1. ARI	726.72
2. Dentistry	260.06
3. Hypertension	201.28
4. GIT diseases	177.56
5. Uro-Genital diseases	177.56
6. Diabetes mellitus	176.56
7. Orthopedic and rheumatology	136.83
8. Eye diseases	124.78
9. E.N.T. diseases	62.50
10. Neurological diseases	14.72

7. District Hospitals

INTRODUCTION

In developing countries, a well-functioning district health system includes community health centers offering primary care services and outreach, and district hospitals that receive referrals from health centers. This organizational structure is fundamental to effective health care, and failure to recognize the interrelationship between local- and district-level facilities has resulted in high health costs and inefficiency [35].

District hospitals play a critical role in providing individuals and families with timely medical care, including surgery for the conditions that typically account for a large share of a population's disease burden. They serve also as coordinating centers for local health information and planning, play a direct role in training health care workers, and provide necessary data to national health planners. Contrary to the conventional argument that hospitals consume too large a share of health budgets, district hospitals that implement these functions properly can increase the overall cost-effectiveness of health care. Yet these hospitals have typically been under-funded and have suffered deficiencies in quality, to which governments should give urgent attention [36].

District hospitals usually provide 24-hour care and are integrated into the district health system to provide and support a range of services. The World Health Organization recommends that services include curative and chronic care for patients referred from the health centers, laboratory services, counseling, and rehabilitation. The services should be provided by practitioners spanning the following disciplines: Family medicine and primary health care; Internal medicine; Obstetrics; Mental health; Eye care; Surgery (including trauma and orthopedics); Rehabilitation; Pediatrics; and Geriatrics[37].

This Module is substantially the same as the one for Primary Health Care Facilities, other than that it includes services, equipment, supplies and the staff usually available at secondary care hospitals. It provides a guide for assessing the district hospitals with regard to its involvement in primary health care, both as primary health care facility in their own right, and as referral facilities for other primary health care units and programs in their catchment area. In connection

with the former it is important to recall that in many places hospitals remain the first point of contact between the community and the formal health services delivery system, either because there are no other primary care facilities or because the hospital is the nearest facility for a particular community. As for the hospital being a referral facility for other primary health care units, important services are those for child care, maternal care and emergency surgery. However, an assessment of these services will provide an indication of the adequacy of the hospital in providing referral services from its catchment area.

Madaba district has three hospitals, two are owned by MOH (Princess Salma Hospital in Theiban and Alnadeem Hospital in Madaba city) and one is owned and run by private sector (Almahaba Hospital in Madaba city). See table 34 for list of facilities, catchment area and hospital staff.

FINDINGS AND DISCUSSION

7.1 Catchment Population and Availability of Services

7.1.1 Catchment Area & Population

Alnadeem hospital and Almahaba hospital serve the whole area of Madaba district (940 km²) and the whole population living in the District (157000); while Princess Salma Hospital serves the population of Deiban County with area of 360 km² and 50000 people.

7.1.2 Availability of Services:

Besides inpatient services, the three hospitals have emergency services available 24 hours all days around the year and ambulatory services available from 8 am to 4 pm Saturday through Thursday. Hospitals' signboards and departments' boards are displayed for the three hospitals.

Table 34: Distribution of Madaba District Hospitals According to Type of Hospital, Bed Capacity, Catchment Area and no. of Staff

Name of hospital	Type of hospital	Beds	Population served	Total area covered (km2)	Total staff	Doctors	Nurses	Technicians	Admin. & other staff
Princess Salma Hospital/Theiban	Public	38	50000	360	200	31	84	36	49
Almahaba Hospital	Private	30	157000	940	70	8	27	26	9
Alnadeem Hospital	Public	120	157000	940	480	66	195	89	130
Total		188	349000	2240	750	105	306	151	188

7.2 Input Assessment

7.2.1 Available Inpatient Services:

The three hospitals have inpatient services for general medical care, surgical care, obstetric/gynecologic care, pediatric care, ENT, ophthalmology, orthopedics and dentistry.

7.2.2 Available Outreach Activities:

Almost all hospitals do not have outreach activities. Providing access to a basic health services to populations with no or limited access to health services, using mobile outreach health services found to be successful in many developing countries. Outreaches will complement service delivery in fixed facilities and could increase the demand on the delivery of services through fixed facilities and strengthen referral of cases to these facilities. Therefore, MOH should design and promote household outreach visits by skilled staff at district hospital to care for not only women in pregnancy, birth and the postnatal period but also to follow up certain high risk patients with chronic diseases as diabetic and hypertension and to safely transfer them, when necessary to the appropriate health facility.

7.2.3 Availability of Staff

Key issues that affect district hospitals are the quantity and quality of personnel and their range of skills. Staff members should be appropriate to the tasks they are asked to perform. This approach may mean continuing to use nursing or auxiliary staff members with more limited training in district hospitals because they may be more cost-effective, running against the tide of rising academic requirements often demanded by professional associations [38].

A problem often faced by district hospitals is an absence of high-quality senior staff members. Traditionally, running a district hospital has commanded less respect and remuneration than work at a secondary or tertiary facility and has been regarded as a stage to be moved through as rapidly as possible. Arguably, the challenges to a district hospital professional are at least as great as those of a tertiary consultant specialist, and the development of appropriate skills-training

programs, and matching of qualifications and pay, might help foster the development of a professional group that improves performance minimize turnover rates[35].

Review of human resources structure at the three hospitals shows(Table 34) that Princess Salma Hospital/Theiban has the highest staff to bed ratio (5.3) followed by Alnadeem Hospital (4.0), while Almahaba Hospital has the lowest ratio (2.3).The differences between MOH hospitals(Princess Salma Hospital and Alnadeem Hospital) and Almahaba private hospital are justified as most of the medical doctors at private hospitals in Jordan are not employed by the hospital, they work at their own private clinics and have admission privileges in hospitals. The staff to bed ratio at Alnadeem Hospital is more than the average ratio at MOH hospitals which was 3.2 in 2010[39]. Though, the ratio at Princess Salma Hospital is about two times the MOH average ratio, but it is comparable with other MOH hospitals with similar bed capacity.

The nurse to bed ratio is very low (less than one) at Almahaba private hospital, while it is 2.2 and 1.6 at Princess Salma Hospital and Alnadeem Hospital respectively.

The MOH needs to develop staff norms according to number of beds and average occupancy and to ensure that sufficient numbers of staff are acquired.

7.2.4 Finance

The assessment findings do not provide any data on the total budget or financial inputs available for each hospital.

Except for Hamza hospital, MOH in Jordan does not provide independent budgets for hospitals. MOH hospitals are financed through line-item budgets directly from the ministry of health .Such mechanisms allow central bureaucracies to exert the maximum level of control over peripheral spending with little or no capacity at peripheral levels for flexible use of funds in response to local needs. Thus, centralized budget systems can contribute to technical inefficiency by preventing district managers from optimizing the deployment of inputs [35].Therefore, it is recommended that MOH assign fixed budget for each hospital to be more

sensitive to local needs, permit increased independence for district managers and contribute toward equity objectives.

The three hospitals charge uninsured patients for services and drugs provided. The three hospitals know the revenue generated from fees-for service during last quarter. Revenue data from only Alnadeem hospital was reported. MOH hospitals do not keep the revenue inside the facility and instead all send it to MOH.

It is highly recommended that this revenue or at least part of it is kept at the hospital to be used as incentives for staff and meeting the facility necessities.

7.2.5 Drugs and supplies

Proper drug management together with rational drug use are necessary to improve the quality of health care through cost-effective use of medicines and ensuring availability of good quality drugs and medical supplies at the right time and as per the required quantity to patients in all facilities within available resources.

Both MOH hospitals are receiving their drugs from MOH Central Medical Stores at Amman. The last request was one month before the survey. All hospitals mentioned that there is no delay in receiving drugs after sending the request. The three hospitals stated that essential drugs and life-saving drugs are available and no shortage occurred during the last month. At all hospitals incoming and outgoing registers are available as well as the dispensing orders.

It is recommended that MOH establish District drug and supply store to cut the cost of transportation and to be more accessible and cost effective. Also it is necessary to introduce electronic inventory system for drugs and supplies on central MOH and district level.

7.2.6 Equipment and Instruments

According to Donabedian, structural preconditions are equally important for quality of care, as the way a health care facility is set up and run shapes behavior in the facility [40]. Proper infrastructure, equipment and instruments enhance any facility's capability to provide quality services and therefore need to be tackled appropriately. Health staff needs adequate equipment and instruments for their work and presence and use of equipment, correlated significantly with the medical performance [41].

The three surveyed hospitals reported the presence and functionality of essential equipment and instruments in various departments including operation theatre, laboratory and radiology. As no more details or criteria for such judgment were given, this conclusion could be considered subjective.

However, it was reported in section 5.5 "District Management and Support Systems" that the medical equipment workshop at Alnadeem hospital is not functioning properly because of shortage of qualified engineers, technicians and maintenance tools.

Therefore it's highly recommended that MOH develop an effective maintenance system to provide reliable and continuing technical support for hospital equipment including the availability of spare parts. High priority also should be given to the standardization of equipment at district hospitals to improve safety and facilitate servicing and support.

7.2.7 Hospital building

Buildings of Alnadeem hospital need maintenance and rehabilitation, while buildings at Princess Salma hospital and Almahaba hospital are in good conditions and had been maintained recently. Staff housing is available at Princess Salma hospital only. Electricity and water supply are good in the three hospitals. The three hospitals lack proper system and facilities for disposal of medical waste.

7.3 Hospital Management and Support Systems

7.3.1 Hospital Planning and Management

The three hospitals have job descriptions for technical staff and the areas of responsibility are clearly defined within the health team. A formal link exists between the hospital management and the District health management team. However, not all hospitals have a formal means by which the community can influence hospital policy and practice. Therefore, there is a need for strengthening the community participation through development of management committees.

7.3.2 In-service Training and Supervision

The surveyed hospitals have in-service training programs for hospital staff. Supervisors from Ministry of Health and the health District usually support and supervise hospitals. The supervisors do not use standardized supervisory checklist during their supervisory visits. The supervisors usually observe delivery of different services, inquire about service delivery problems and make suggestions for improvement.

7.3.3 Information on Records and HMIS

Many national health information systems rely on district hospitals to coordinate data collection in the district. The district hospital is a core data source supposedly providing burden-of disease data at greater resolution than is commonly available and at a meaningful administrative level if action is required. However, in many developing countries health information systems are inadequate and inaccurate; staff members are not equipped with the skills necessary to interpret data and are often unaware of their local value, thus depriving the local staff of essential planning and monitoring tools. Introducing an information culture and the necessary skills and infrastructure to support such a transition, although of potentially enormous value, presents significant challenges even for middle-income countries like Jordan [36].

The hospital reporting system is an integral part of the district health information system. Indicators, records and forms have to fit into the national health information system. It is important to emphasize that the quality of an

information system depends first and foremost on the care with which the raw data are gathered and documented. The validity of data depends to a large extent on the knowledge and skills of the health service staff in charge of collecting the data [42].

The three hospitals keep records on the following:

- No. of out-patient visits / new and follow up visits
- OPD diagnoses
- Number of admissions (inpatients)
- Operations by number and type
- Laboratory investigation
- X-rays
- Emergency visits
- Drug prescriptions
- Perinatal / postnatal activities
- Utilization of medicine stock

Most of registrations for outpatients, inpatients services, Laboratory, x-ray, and emergency are available. Registrations of preventive services (e.g. immunization, family planning, and outreach) are not available at the three hospitals.

All district hospitals have disease surveillance activities which include treatment, reporting and filling special forms for any outbreaks in addition to taking laboratory samples for confirmation.

Staff members from the three hospitals (statisticians, medical records technicians, clerks and physicians) have been trained on HIS.

The three hospitals sent all reports during last 12 months and did not face difficulties and keep a copy of those reports. However, no data analysis (e.g. producing frequency tables) has been done by any hospital. Hospitals did not receive any feedback during the whole last year. Nevertheless, all hospitals

mentioned that their staff are using such statistics in their work (e.g. for reporting or research purposes).

It is recommended that MOH establish a feedback mechanism on the hospital periodical reports. Also, high priority should be given to the development and implementation of automated information system in all district hospitals.

7.3.4 Patient referral

An important strategy to make a better use of the scarce resources available to the health sector in developing countries should focus on strengthening the referral system. Overcrowded Hospitals with patients who could be more cheaply treated in smaller facilities is a common feature of poorly functioning referral systems [43].

The three hospitals keep records on referrals to a higher level hospital; while records on referrals from primary health care centers to hospitals are kept in Princess Salma hospital and Almahaba hospital. 1878 persons were referred to Princess Salma hospital within the last one month; while only 3 patients were referred to Almahaba hospital because it is a private hospital .The referral registers do not contain information on the reasons for referrals. Persons referred to a higher level hospital within last one month were 10, 3 and 83 from Princess Salma hospital, Almahaba hospital and Alnadeem hospital respectively. No feedback was received out of the total referred cases during the last 3 months.

It is recommended that MOH should develop an effective and integrated referral system between PHC centers and district hospitals. This system should be linked by an adequate communication infrastructure and properly organized emergency transportation of patients to and from referral services. This will result in the continuous improvement of the comprehensive health care for all; by considering priorities to those who need it.

7.3.5 Availability of Treatment Protocols (management schedules)

A standard treatment guideline or protocol is designed to be used as a guide to treatment choices and as a reference book to help in the overall management of patients. Standard treatment guidelines allow health care providers to offer appropriate diagnostic treatment and care services to patients. They promote the quality of patient care and the rational use of drugs [44, 45]. Furthermore, such protocols provide a locally agreed standard to which clinicians and the organization can work and against which they can be audited.

Table 35 indicates that the three hospitals have treatment protocols for diarrheal disease, acute respiratory tract infections, antenatal care, delivery care, emergency obstetric care and management of RTIs/STDs. The three hospitals do not have treatment protocols for malaria, TB/DOTS and IMCI.

It is recommended that all hospitals develop training programs for staff on how to use treatment protocols. Also, Madaba Health Authority has to develop a mechanism to ensure the use and compliance to guidelines treatment protocols in both hospitals.

Table 35: Number of Madaba District Hospitals that have Available, Displayed and Used Treatment Protocols (N=3)

<i>Protocols</i>	Available	Displayed	Used
Diarrheal disease	3	1	2
Acute respiratory tract infections	3	1	2
Malaria	0	-	-
TB/DOTS	0	-	-
Antenatal care	3	2	2
Delivery care	3	2	2

Childhood malnutrition	2	1	1
IMCI	0	-	-
Emergency Obstetric Care (EmOC)	3	2	2
Management of RTIs/STDs	3	1	2
Newborn Care	2	1	1

7.4 Output / Outcome Assessment

The output / outcome assessment data were either not complete or presented in aggregate numbers, medians or means for the three hospitals; therefore, it is not meaningful or useful to present or analyze the data related to this section.

8. Community Organization, Mobilization and Action

INTRODUCTION

At the 20th anniversary meeting of the Conference in Almaty, Dr. Halfdan Mahler, Director General Emeritus of the WHO, emphasized the importance of the participation of the community:

“Health is not a commodity that is given. It must be generated from within. Health action should not be imposed from the outside, foreign to the people; it must be a response of the communities to problems they perceive, supported by an adequate infrastructure. This is the essence of the filtering inwards process of primary health care” [46].

Community mobilization can be defined as a capacity-building process through which community individuals, groups, or organizations plan, carry out and evaluate activities on a participatory and sustained basis to improve their health and other needs, either on their own initiative or stimulated by others.

Community participation is the process of involving the community by promoting dialogue with, and empowering, communities to identify their own problems and solve them. Participation of the community in improving primary health care was

evidenced in most Eastern Mediterranean countries through the formation of community health committees, village health committees and health center or area health committees and the selection of community health workers for training. Furthermore, community representatives have to be included in health centers or inter-sectoral management structures such as district health boards, district development committees and hospital management boards [1].

Community participation (or involvement) is reflected in the extent the community [1]:

- Expresses its problems and need, and contributes to the establishment of health problem priorities through Health Need Verbalization.
- Supports and contributes to, the implementation and running of services through mobilization of community resources. This process is referred to as Health Care Contribution.
- Makes use of services offered in terms of Health Services Utilization.

It has been acknowledged that health cannot be gained in isolation; it is an integral part of the development process and as such is influenced by all aspects of society. Additionally, health services are no longer considered merely a complex of exclusively medical measures but as a subsystem of the overall socioeconomic system. Therefore, the support and coordination of all stakeholders is most important for achieving the ultimate goals – human health and wellbeing [46].

Community mobilization and participation in health development is central to improving the performance of any district health system and therefore, achieving the goal of improved health status of the population. One of the main guiding principles of District health system strengthening initiative based on family practice approach is "Actualizing "community participation" and "intersectoral collaboration" at the district level.

A major challenge with community participation has been the capacity of the community representatives and relevant national structures to support it. Some countries responded by developing guidelines on what was expected of the communities and committed to train and support the communities. Nonetheless, community involvement, beyond paying for services and providing labor for work

carried out at health facilities, has been one of the most challenging and difficult aspects of PHC implementation [46].

This module assesses the level of community organization, mobilization, and participation in health and development activities and satisfaction of the community with health services available at nearest facility. The community assessment requires collecting information from the community leaders and members in order to understand how the community is organized and participate in health and development activities; community's perceptions about the performance of health services in the area; key activities performed by the community for health and development; and role of women and youth in community based organizations.

FINDINGS AND DISCUSSION

8.1 Community Organization

The focus group stated that there is no local committee or health volunteers responsible to assess the needs, prioritize and plan to cover socioeconomic gaps including health. This happens because there are no incentives to local people to participate in such activities and people lack proper education and awareness about voluntary community participation.

There are some initiatives organized by the government, donors and NGOs to involve local communities in health and local development as the Healthy Villages Program, Micro Financing project and other health education and family planning initiatives.

8.2 Community Perception about Performance of Health Facilities

The surveyors did not provide data about this section.

8.3 Community Perception about Health Volunteers

There are no health volunteers in the District.

8.4 Activities Performed by the Community through Community Based Organizations

The community is not well-organized in assigning specific committees to be responsible for assessing the needs, prioritizing or planning to cover socioeconomic gaps including health services. There are no incentives given to the community development committees or volunteers, and no activities performed through community-based organizations including health, nutrition, education, water and sanitation and income generating activities.

8.5 The Role of Women and Youth in the Community Based Organizations

Women and youth are presented in the projects and initiatives mentioned in 8.1 above.

8.6 Community perception about the advantages and disadvantages of community involvement in health and development programs

There are several advantages of community involvement in health and development programs as perceived by the participants such as:

- Community solidarity and cooperation.
- Involvement of local communities and decentralization of decisions.
- Setting priorities according to geographical distribution and real needs of the people.
- Community ownership.
- Changing misconceptions and unwanted behaviors.
- Self-reliance and self-finance.
- Encouraging positive dialogue.
- Poverty alleviation.

To build and enhance community mobilization and participation in health development of the District, the following action plan is recommended:

[1] Form community committees in each geographical area under the supervision of the existing health center, [2] Sponsor these committees to continue its role in the communities, [3] Hold meetings and campaigns to empower local citizens to participate in their healthcare, and [4] Coordinate between those committees and political leaders to send recommendations to decision-makers in the District.

RECOMMENDATIONS

1. Policy Commitment to IDHS Initiative-FPA

- More decentralization and autonomy should be given to district and local authorities. This autonomy should not only cover decisions on the range of health services rendered to the public but also on the administration of local funds, the involvement of the communities and decisions ,on the recruitment of staff .
- Give more authority and involvement to District for decisions regarding HR recruitment, placement, termination and compensation.
- The District health system based on family practice approach should be adopted and considered as priority area for the MOH. Therefore, a policy or strategy document on strengthening district health system based on family practice approach should be adopted.
- Strengthening the district health information system.
- The district referral system should be activated and properly functioning.

2. District level Indicators

- Madaba Health Authority should develop a plan to increase antenatal and postnatal care services.
- Geographical inequity with regard to distribution of human resources for health and hospital beds ratios should be addressed by MOH.

3. Social Determinants of Health and Intersectoral Action for Health

- Government of Jordan should develop strategies and plans to achieve more equitable distribution of economic and social development across governorates including Madaba District.
- The intersectoral Action Committee for Health (ISA-H) at district level should be strengthened and activated.
- Joint programs and the roles of community structures should be clearly defined.

- Formal training and orientation programs for ISAH members should be initiated.

4. District Management and Support Systems

- Madaba Health Authority should pay special attention to specific health problems related to anemia and deficiency in Iodine, Iron and (B12) vitamin.
- Provision of enough vehicles and adequate vehicle maintenance to enable District staff perform their duties.
- Staff norms or pattern for different types of health facilities covering all staff categories should be developed to ensure that sufficient numbers of staff are acquired.
- The need for more appropriately trained staff to support community-based health care.
- The need for improved quality, safety, efficiency and management in district practice to optimize the use of health resources.
- The need for a maintenance workshop for repair of medical and nonmedical equipment at the Health District level.
- Give more support and dedication for the new referral system which is now under development in collaboration with Health System Strengthening (HSS2) program
- Confine expansion of facilities and health services to real needs and priorities of the population and not according to social and political pressures.
- The following interventions are suggested to improve finance allocation and achieve proper utilization of available resources at district level:
 - Health District director should be involved in developing the district budget.
 - The District should have flexibility for re-allocation of funds between line items.

- A cost accounting system should be developed to provide data on health expenditures by health facility, service, program and department

5. Primary Health Care Facilities

- Develop national standard staff pattern for each type of primary health care facility.
- Fulfill the shortage in human resources according to the developed staff pattern.
- Give incentives to health professionals serving in remote and hardship areas.
- Solve the gender imbalances among physicians at primary health level and some remote areas.
- Improve working conditions and work environment to attract health staff for PHC level.
- It is highly recommended that part of the revenue from patients' fees is kept at the health center to be used as incentives for staff and meeting the facility necessities.
- The availability of drugs and medical supplies, according to the essential drug list for the primary health care facility should be a top priority for MOH to sustain high quality of services.
- The Ministry of Health has to develop national equipment and furniture standards for each type of primary health care facility.
- All health centers should maintain family folders in the facility to their patients.
- Broaden programs related to training family medicine physicians.
- Establish new programs for early diagnosis of diseases (e.g. cancer, diabetes, high blood pressure, cholesterol, ...etc.).

- To increase the percentage of antenatal visits coverage and family planning services, it is recommended that MOH should:
 - Develop home-based care programmes or mobile clinics in collaboration with the private and NGO sectors to provide pre- and postnatal care.
 - Provide sufficient numbers of female reproductive health care providers to minimize social barriers.
 - Expand the information system connecting health care centers to obstetric clinics and wards at referral hospitals.
 - Improve the quality of health services, particularly at the woman and child health centers and primary health care centers.
 - Develop national programmes in collaboration with the international partners to target the least-privileged segments and geographical areas that suffer from evident poor achievement of reproductive health and family planning.
 - Effectively involve the private sector in providing reproductive health and family planning counseling and services.

6. District Hospitals

- Design and promote household outreach visits by skilled staff at district hospital to care for and follow up certain high risk patients and to safely transfer them, when necessary to the appropriate health facility.
- Develop staff norms according to number of beds and average occupancy and to ensure that sufficient numbers of staff are acquired.
- Assign fixed budget for each hospital to be more sensitive to local needs, permit increased independence for district managers and contribute toward equity objectives.
- Keep part of the revenue from patients' fees at the hospital to be used as incentives for staff and meeting the facility necessities.

- Establish District drug and supply store to cut the cost of transportation and to be more accessible and cost effective. Also it is necessary to introduce electronic inventory system for drugs and supplies on central MOH and district level.
- Develop and apply proper system and facilities for disposal of hospital medical waste.
- Strengthen the community participation through development of management committees.
- High priority should be given to the development and implementation of automated information system in all district hospitals.
- Develop an effective and integrated referral system between PHC centers and district hospitals.
- Develop training programs for staff on how to use treatment protocols, and develop a mechanism for ensuring the usage of these protocols.

7. Community Organization, Mobilization and Action

To build and enhance community mobilization and participation in health development of the District, the following action plan is recommended:

[1] Form community committees in each geographical area under the supervision of the existing health center, [2] Sponsor these committees to continue its role in the communities, [3] Hold meetings and campaigns to empower local citizens to participate in their healthcare, and [4] Coordinate between those committees and political leaders to send recommendations to decision-makers in the District.

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