



## **The Hashemite Kingdom of Jordan**

# **National Human Resources for Health Observatory Annual Human Resources for Health Report 2016**

**Prepared by:  
Dr. Raghad Hadidi**

**Reviwed by:  
Dr. Mohammad Tarawneh**

**May, 2017**





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**“ We have invested profoundly in developing our greatest national fortune- our people. In this world of knowledge economy, human resources are the real asset for a sustainable economy, and according to our judgment these capacities constitute the capital of Jordan’s future.”**

**Quotes by His Majesty King**

**Abdullah II Ibn Al-Hussein**

## Foreword

Human Resources for Health (HRH) constitute valuable capital and are a key factor in the progress and improvement of the health status of any nation. Investing in HRH is a strategic necessity in Jordan to achieve the Sustainable Developmental Goals (SDGs) and the Universal Health Coverage (UHC). Political commitments at the highest levels were made clear to support related HRH activities and interventions.

Although HRH has been improving at a quick pace in terms of production and education, there are still challenges that hamper further development. To tackle these challenges on a sound basis, we need abundant data, information, and evidence to analyze and respond to HRH gaps in Jordan.

The High Health Council (HHC) has placed HRH as a priority concern, thus the HHC general secretariat has been honored to host Jordan's National HRH Observatory (NHRHO). This observatory acts as a cooperative initiative between MOH, HHC, WHO & HRH 2030 /USAID funded project, in addition to all health workforce stakeholders to provide reliable and instant data and indicators necessary to develop informed policies and evidence-based decisions.

The HHC developed the National Health Strategy for the years (2016-2020), the Strategy is consistent with the goals of the "National Agenda", "We are all Jordan" and "Jordan Vision 2025" documents. Within the Strategy, the health sector in Jordan was analyzed and the priorities were set after reviewing all documents, studies, and reports related to health in Jordan. Human workforce constitutes a main theme in this strategy and its Executive Developmental Plan 2016-2019 (EDP); a strategic HRH objectives & monitoring outcome indicators with contributions of all concerned sectors were developed within the strategy and its EDP after the situation was analyzed and priorities were identified.

This annual technical HRH report tried to analyze the distribution patterns of the health workforce among health sectors in Jordan and between different governorates for the year 2016. All stakeholders were greatly involved in the production of this technical report, moreover they are encouraged to take advantage and benefit from its potential.

Finally I would like to express my gratitude to all members of the National Coordinating Policy Forum, as well as to the focal points all over Jordan's governorates for their heavy efforts in the process of field data collection, also I would like to thank the NHRHO focal point and the technical team at the HHC for development of this report that I hope it will benefit all concerned parties and policy makers in filling the gaps that were identified in the field of HRH data in Jordan.

**Chair of the HHC/Minister of Health**  
**Prof. Dr. Mahmoud Al-Sheyab**



## Acronyms

TFR	Total Fertility Rate
NHA	National Health Account
HHC	High Health Council
NSHS	National Strategy for Health Sector
MOH	Ministry of Health
RMS	Royal Medical Services
UHs	University Hospitals
JUH	Jordan University Hospital
KAH	King Abdullah Hospital
CHIP	Civil Health Insurance Program
PCs	Private Clinics
PHs	Private Hospitals
UNRWA	United Nation Relief and Works Agency
WHO	World Health Organization
KHCC	King Hussein Cancer Center
KHCF	King Hussein Cancer Foundation
NCDEG	National Center for Diabetes, Endocrinology, and Genetics
HRH	Human Resources for Health
NHRHO	National Human Resources for Health Observatory
HRMS	Human Resources Management System
JD	Jordanian Dinar
JFDA	Jordan Food and Drug Administration
JPD	Joint Procurement Department
JAFPP	Jordanian Association for Family Planning & Protection
M&E	Monitoring and Evaluation
J.U	Jordan University
J.U.S.T	Jordan University of Science and Technology

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## 1. Introduction

Jordan is a small middle-income country with limited natural resources. Its surface area is about 89,300 square kilometers, of which only 7.8% is arable land. Its population is about 9.798 million of whom 82.6 % live in urban areas. Population and housing census for the year 2015 showed that 30% of the population are non-Jordanians, almost half of them are Syrians (1.3 million). The population is distributed among 12 governorates over three regions (North, Middle, and South). The majority of the population lived in Amman Governorate (42%), followed by Irbid governorates (18.58) and then Zarqa governorate (14%). The Census indicated that the Kingdom's population doubled more than ten times within 55 years, with an average annual population growth rate of 5.3 for the year 2015.

Jordan has approached development from a holistic perspective, realizing that poverty, illiteracy, and health, form a triangle which must be addressed together. Advances in the struggle against poverty and illiteracy, in addition to the spread of sanitation, clean water, adequate nutrition, and housing have been combined to work for future Jordanian citizens.

Health status in Jordan is among the best in the Middle East; this is due primarily to the Kingdom's stability and to a range of effective development plans and projects which have included health as a major component. This is reflected in the kingdom's core health indicators which are considered to be good and are improving steadily. The overall average life expectancy reached 73.2 years, (72.5 for males and 74.0 for females), the infant mortality rate declined from 23 in 2009 to 17 in 2016. Also, the probability of mothers dying because of pregnancy and delivery declined from 800 per 100,000 deliveries in 1969 to 19.1 in 2008. The crude birth rate and the crude death rate per 1000 population were 28.1 and 7.0 respectively in 2013. Varieties of national health programs have dramatically cut the risk of infectious disease in recent years, and there have been no recorded cases of either polio or croup since 1995.

The total fertility rate (TFR) is relatively high in Jordan, although it has declined steadily in recent years to reach 3.5 in 2014. The declining mortality rate and the high total fertility rate have contributed to overall population growth. From the other side, Jordan found itself in a position to host millions of refugees in successive waves; the last was from Syria, this caused high rates of population growth and urban expansion. All of this imposed significant stress on Jordanian society, infrastructure, and limited natural resources, with a negative impact on the socio-economic development and health of the country.

The economic situation in Jordan has faced several crises, many of which are beyond its will and ability to cope. The high population growth rate, the epidemiologic transition, the rising cost of health care, and the growing expectations of people pose challenges to the health care system in the country. Given the economic situation, sustaining this level of spending, let alone increasing it, constitutes a huge burden and may deprive other sectors of funds needed for a balanced social and economic development.

According to the National Health Account (NHA) 2015, Jordan spent approximately JD 2.2 billion on health or JD 236 per capita. This total health expenditure represented 8.44% of Jordan's GDP. The public sector is the largest source of health funding (60.7%), followed by the private sector (34.5%) and the donors (4.8%). While providing basic health care services throughout the kingdom continues to be a major concern for the government especially with the huge influx of Syrian refugees, treating non-communicable illnesses, which are often the result of rapidly changing lifestyles, has presented a new challenge facing health expenditure in recent years.

## 2. Health Policy in Jordan

The general health policy in Jordan is being formulated by the High Health Council (HHC) according to its law number 9 for the year 1999, The HHC is headed by the Minister of Health, it includes in its membership the Minister of Finance, Minister of planning and international cooperation, Minister of Social Development, Minister of labour, the director of Royal Medical Services, the president of Jordan Medical Association, Dean of one of the medical faculties replaced every two years, the president of other health-related Association appointed by the president, the president of the Private Hospitals Association and two experts from the health sector appointed by the president every two years. According to its Law, the objective of the HHC is to draw the general policy of the health sector and to put forward the strategy to achieve it and to organize and develop the health sector as a whole so as to extend health services to all citizens according to the most advanced methods and scientific technology.

To achieve these objectives, the HHC set the **National Strategy for Health Sector** in Jordan (NSHS) for the years 2016-2020 with four main strategic objectives that constitute the outcomes of the health system, and comprehensively reflect the performance of the health sector; this strategy analyzed the human resources as one of the main six building blocks of the health system, and thus identified the challenges and proposed certain interventions and policy directions to overcome these challenges.

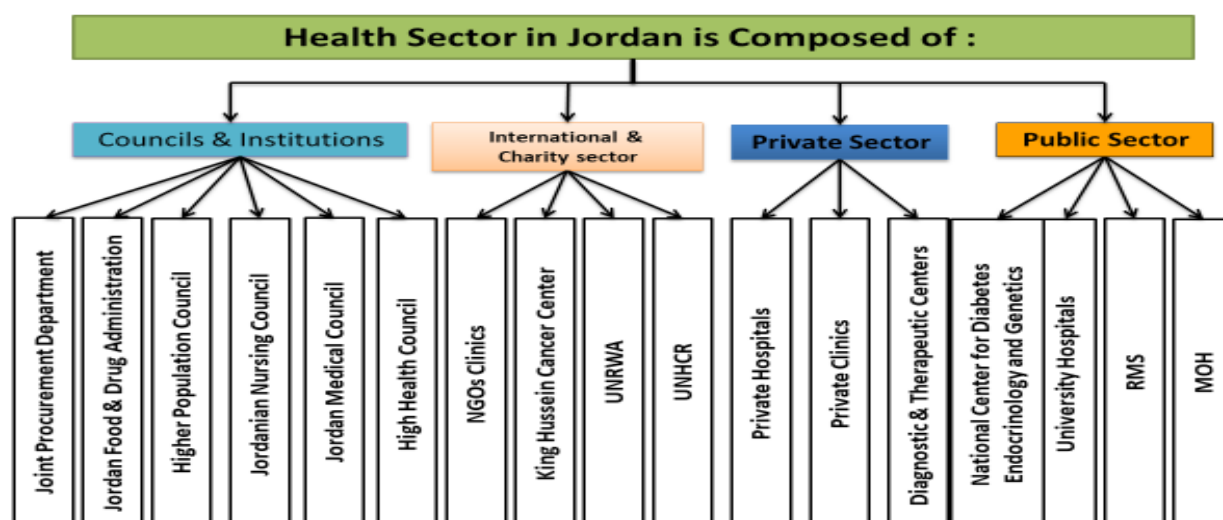
The new NSHS strategy is consistent with the goals of the “National Agenda,” “We are all Jordan,” Jordan Vision 2025 and its Executive Developmental Program 2016-2019 as well as other health and health-related sub-sector strategies and plans.

Jordan Vision 2025 was developed in 2015 to determine the kingdom’s political and socio-economic reform policies and programs over the next ten years. It emphasized the need for structural reforms to promote private investment and employment generation, along with an emphasis on education, health development, and poverty alleviation.

## 3. Health sector in Jordan

Jordan’s health care system has improved dramatically over the last two decades and is ranked as one of the best systems in the Middle East. It is a complex amalgam of different policy formulating bodies (councils and institutions), and three major service provision sectors: public, private, and non-for-profit organizations. **Graph (1)**

**Graph (1): Components of health sector in Jordan**



### 3.1 Public Sector

The public sector consists of the Ministry of Health (MOH), Royal Medical Services (RMS) in addition to two University-Based Hospitals which are Jordan University Hospital (JUH) and King Abdullah Hospital (KAH) as well as the National Center for Diabetes, Endocrinology, and Genetics.

#### 3.1.1 Ministry of Health

The **MOH** is the largest sub-sector in terms of size, operation, and utilization as compared to other sub-sectors. It undertakes all health affairs in the Kingdom with the following tasks and duties:

- A.** Maintaining public health by offering preventive, curative and health control services.
- B.** Organizing and supervising health services provided by the public and private sectors.
- C.** Providing health insurance for the public within available resources.
- D.** Establishing and controlling the management of health educational and training institutes and centers according to relevant provisions of the legislations enacted.

The MOH provides primary, secondary, and tertiary services. Primary health care services are mainly delivered through a network of health centers (102 comprehensive centers, 380 primary centers, 194 Village Clinics, 464 Maternal and Child Health Centers and 405 oral health clinics). Secondary and tertiary health care services are provided through 31 MOH hospitals distributed over the 12 governorates of Jordan with 5177 beds representing over one-third of hospital beds in the country (37.7%).

The MOH is responsible for managing the Civil Health Insurance Program (CHIP) which covers civil servants and their dependents. Individuals certified as poor, disabled, children below the age of six years, and blood donors are also formally covered under the CHIP. Recently the MOH opened its services for the entire population, part of which the refugees, so that any individual can receive any available health service from any MOH facility with highly governmental subsidized charges.

#### 3.1.2 Royal Medical Services

The **RMS** mainly provides secondary and tertiary care services. It has 15 hospitals (ten general and five specialists), the total number of hospital beds in RMS is 2917 (21.2%) of hospitals beds in Jordan for the year 2016. RMS is responsible for providing health services and a comprehensive medical insurance to military and security personnel. Beneficiaries of RMS constitute around 38% of the insured Jordanian population; they include active and retired staff and their dependents, staff of the Royal Court, Royal Jordanian Airlines, Mu'ta University and others.

RMS also acts as a referral center through providing high-quality care, including some advanced procedures and specialty treatment to Jordanians and non-Jordanian patients. It plays a major role politically through contributing in providing health services in disasters and conflict areas through medical teams and field hospitals. There are also nine military health centers and clinics distributed all over the country in addition to air medical evacuation services.

#### 3.1.3 University Hospitals

The two university hospitals (**UHs**) are the Jordan University Hospital (**JUH**) and King Abdullah Hospital (**KAH**), they provide health insurance and services for university employees and their dependents, as well as serving as referral centers for other health sectors and as teaching centers for medical students.

JUH is one of the most specialized and high-tech medical centers in the public sector; it has 599 beds (4.4% of the total beds) for the year 2016.

KAH was established in 2002 by Jordan University of Science and Technology (JUST). It has 542 beds (3.9% of the total number of hospital beds in Jordan) for the year 2015. The hospital serves as a teaching hospital to the Faculty of Medicine at JUST and as a referral hospital for all public sectors in the Northern Region. (3)

### 3.1.4 The National Center for Diabetes, Endocrinology, and Genetics

The National Center for Diabetes, Endocrinology, and Genetics (NCDEG) is an independent, not-for-profit Organization that was established in 1996 as one of the centers affiliated with the Higher Council for Science and Technology. The main goal of NCDEG is to provide high-quality care, education, and training in the fields of diabetes, endocrinology, and genetics.

## 3.2 Private sector

The private sector provides primary, secondary, and tertiary services through a network of private clinics (PCs), private centers (PCs) and private hospitals (PHs). The private sector has 59 hospitals with nearly one-third of the hospital beds in the country (4350 beds represents about 33.2% of the total beds). The majority of the hospitals, as well as private clinics, are in the capital of Jordan. The private sector contains much of the country's high-tech diagnostic capacity, and it continues to attract significant numbers of foreign patients from nearby Arab nations.

## 3.3 Non-for-profit organizations

### 3.3.1 United Nation Relief and Works Agency

The United Nation Relief and Works Agency (UNRWA) is responsible for providing a healthy living environment for 2.29 million Palestine refugees, guided by the Sustainable Development Goals on health and by the standards of the World Health Organization (WHO). The mandate of UNRWA on health is to protect and promote the health status of Palestine refugees living in Jordan to achieve the highest attainable level of health as indicated in the first Human Development Goal, "Refugees' health is protected, and the disease burden is reduced," of the UNRWA Medium Term Strategy 2016-2021. It delivers primary health care services through 25 primary health care facilities which deal with over 2.0 million visits each year. These services are provided through family health team approach and include medical care, dental care, physiotherapy, pre-conception, ante-natal, post-natal care, and family planning, disease prevention and control, health protection and promotion, environmental health, and partial reimbursement for hospitalization services at government hospitals with a sealing of JD 150 for refugees under safety network and woman with high-risk pregnancy, while it is up to JD 100 for the ordinary refugee and the remaining part of the bill is settled by the beneficiary. UNRWA Health Program focuses mainly on primary health care services, complemented by partial reimbursement for secondary and tertiary care services to help refugees' access these services as a provider and financer of health care but not as an insurer."

### 3.3.2 King Hussein Cancer Center

The King Hussein Cancer Center (KHCC) is a specialized center for cancer care in Jordan, and the region with 167 beds represents about 1% of the total beds. KHCC became the first center outside the United States to have Disease Specific Accreditation. It also works to improve access to education, training, public awareness and research to decrease mortality and alleviate suffering from cancer in accordance with the highest standards and quality of care. The KHCC has established programs that focus on all stages of comprehensive cancer care: from prevention and early detection, through diagnosis and treatment, to palliative care.

The King Hussein Cancer Foundation (**KHCF**), was established in 1997, undertakes various fundraising activities to support and maintain the mission of KHCC as a comprehensive cancer center of excellence. KHCF is a free-standing, independent, non-governmental organization, established by a Royal Decree to combat cancer not only in Jordan but also in the Middle East region.

### **3.3.4 Other charitable clinics**

The non-for-profit organizations also include about 44 charitable clinics distributed all over the country.

Jordan had performed better than most countries in the region in terms of accessibility of services and outcomes but also concluded that the system was costly, inefficient, and suffering from geographic maldistribution of human resources.

## **4. HRH Stakeholders in Jordan**

HRH governance functions in Jordan are performed by multiple public, semi-public, private and nongovernmental organizations. The governance functions of other organizations and authorities are of prime importance for the assessment of HRH governance. Some Ministries and organizations from outside of the health sector have a direct impact on the performance of the HRH in Jordan. Below are the main health stakeholders and the main governance functions for each:

### **1. The Parliament**

- a) HRH Legislation.
- b) Monitoring health policy implementation.

### **2. The Cabinet (Council of Ministers)**

- a) Proposing and initiating HRH laws and by-laws (through Legislative Bureau.)
- b) Enforcing regulations and monitoring performance of the health sector.
- c) Providing broad policy and strategic directions.
- d) Approval of senior position assignments in the MOH (i.e. undersecretary).
- e) Defining the terms and conditions of public sector employment and the relationship between central and local governments and providers of health services.

### **3. Ministry of Health**

- a) Developing HRH policies and strategies with the cooperation of the HHC.
- b) Regulating and monitoring health services provided by public sectors and private sectors.
- c) Direct management of human resources employed by the MOH (about 30% of HRH in Jordan)
- d) Licensing, monitoring and regulating all health professions and institutions.
- e) Participating in the provision of pre –service and continuing education for HRH.
- f) Setting and controlling health professionals' fees in coordination with other stakeholders.
- g) Setting standards of care and investigating malpractice cases.
- h) Collecting and disseminating HRH statistics.

### **4. High Education Council**

- a) Formulating the general policy of High Education including HRH.
- b) Endorsing the establishment of new education institutions.

- c) Monitoring the quality of HRH education.
- d) Determining the basic admission requirements at HRH education institutions.

## **5. Ministry of High Education and Scientific Research**

- a) Implementing the general policy of high education.
- b) Coordinating between high education institutions and public and private centers for consultations and research.
- c) Recognizing foreign institutions of HRH education and equating certificates issued by them.

## **6. High Education Accreditation Commission**

- a) Setting accreditation standards of high education institutions including HRH, amending and developing them in light of the general policy of High Education.
- b) Monitoring the performance of high education institutions and their commitment to accreditation standards.

## **7. High Health Council**

- a) Proposing and initiating national HRH policy and strategic plans.
- b) Coordinating the major issues related to HRH within health subsectors (MOH, RMS, university hospitals, private health sector, etc....).
- c) Proposing reforms and proposals to strengthen HRH.
- d) Encouraging health system research agenda and facilitating the implementation of this agenda including HRH research.

## **8. Health Professionals Associations (Jordan Medical Association, Jordan Registered nurses & Midwifery Association, Jordan Dentists Association, Jordan Pharmacists Association)**

- a) Registration of health professions (with MOH).
- b) Monitoring practice and professional conduct.
- c) Setting practice standards.
- d) Conducting continuing education programs for health professionals.
- e) Setting professional fees (with MOH).
- f) Investigating malpractice cases and professional misconduct and imposing professional penalties.
- g) Maintaining database for health professionals.

## **9. Civil Service Bureau**

Setting regulations for hiring, compensating, promoting, retirement and monitoring performance of all civil servants including HRH working in MOH.

## **10. Jordan Medical Council**

- a) Setting standards and conditions for teaching hospitals.
- b) Certifying facilities as teaching hospitals.
- c) Regulating and monitoring residency programs in teaching hospitals.
- d) Certifying physicians as general practitioners and specialists.



**11. Jordanian Nursing Council**

- a) Setting and promoting nursing care standards.
- b) Developing and disseminating criteria for nursing professional classification (professional ladder).
- c) Certifying registered nurses as general practitioners, specialists or consultants.

**12. RMS, University Hospitals, Private Hospitals, UNRWA, Philanthropy Health Sector**

- a) Direct management of HRH employed by each sector.
- b) Providing continuing medical education.
- c) Provides information about HRH.
- d) Participating in national HRH policy formation and planning through their representatives in the National HRH Policy Forum at the HHC.

**13. Consumer Protection Society**

- a) Defending and promoting patients' rights and interests.
- b) Monitoring adherence of health professionals to formal fees schedules.

**14. International Health Organizations and Donors**

- a) Providing technical support to HRH projects, programs, and interventions in collaboration with national stakeholders.
- b) Financing, organizing, implementing and monitoring HRH training projects and studies sponsored by international agencies with the partnership of local organizations.

**5. Situation of Health Workforce in Jordan**

Jordan is a country with limited natural resources. Thus human resources development has been made as one of the most valuable assets and strategic pillars for the efficient function of the country's health system. The Jordanian government has stated on many occasions the importance of the Human Resources for Health as a key element in the provision of equitable, high-quality healthcare services. This is manifested clearly in the speech of his Majesty King Abdullah II Ibn Al-Hussein in many occasions.

According to the World Health Report 2006, Jordan was not classified to be from the eight HRH crisis countries. Compared to other countries in the Arab region, the density of healthcare providers (doctors, registered nurses, and midwives) at the national level in Jordan is considered to be in a good position although it has been declined in the last two years as the population in Jordan increased rapidly, table (1). At the sub-national level, HRH Reports showed significant disparities in health workforce distribution between different governorates.

Table (1): Trend of Human Resource Ratio Development (2010-2016)

Year Profession/10000	2010	2011	2012	2013	2014	2015	2016
Physicians	26.5	25.5	27.1	28.6	29.4	22.2	14.1
Dentists	9.3	9.8	10.0	10.4	10.3	7.1	7.1
Pharmacists	15.0	12.6	16.3	17.8	18.3	12.7	15.5
Nurses	44	43.7	46.6	44.8	45.3	24.8	26.4

Source: Annual Statistical book, MOH, 2016

Over the past few decades, the regional political instability resulted in substantial harm to the national economy including the over utilization of the public health sector in Jordan. Given the fact that the population of the country is expected to double within the next 15 years, chronic health conditions are increasing, and the population is aging, in addition to the problem of HRH brain drain and migration, these factors will add burden to health workforce in Jordan.

Jordan, as many other countries, is faced with an acute shortage in certain health workforce categories such as some medical specialties and female nursing workforce. As a response to this challenge, the government established some new nursing colleges and encouraged students to specialize in this field by offering incentives for nurses and giving priority in employment for the Jordanian nurses. In 2009, some nursing policies were adopted such as the increase in the educational grants for the female students, offered from students support funds of the ministry of higher education and scientific research for nursing in Jordanian universities, and adapting a policy of increase the proportion of acceptance females in the nursing programs.

The HHC analyzed the health sector in Jordan based on the WHO framework (the six building blocks of the health system), and thus developing the National Strategy for the Health Sector in Jordan 2016-2020, According to this strategy, set HRH priorities after reviewing all documents, studies, and reports related to health in Jordan. The following are the **main HRH challenges** due to:

- The absence of a National HRH Strategy.
- Deficient endorsed national job descriptions.
- Poor investment in human resources development.
- Difficulty in attracting and retaining qualified health personnel.
- Lack of a clear career path for most of the healthcare professions.
- Skill mix, gender and facility mal-distribution of human resources across the country.
- Weak effective HRH information system especially that of the private sector.
- Inadequate generation of evidence-based HRH decisions.

Because the document of **Jordan 2025** is considered to be the most advanced and updated referral document that maps the road ahead for modern Jordan for all sectors including the health sector, The HHC endorsed different HRH initiatives within this document which was translated into an **Executive Developmental Plan 2016-2019**. This plan included sectoral and sub-sectoral initiatives which were translated into allocative programs, projects and activity plans. The Human Resource policies are part of the general health policy. Thus, the linkage between overall health and HRH policies is ensured, HRH policy & plan is recognized as being crucial and central to health system development.



## 6. National HRH Observatory in Jordan

In order to respond to HRH challenges, the policymakers made paramount efforts to address challenges concerning human resource for health through establishing a **National HRH Observatory (NHRHO)** in July 2009 to identify HRH gaps and developing effective plans to solve pressing HRH problems.

### 6.1 Definition of NHRHO

NHRHO is a cooperative initiative among relevant stakeholders to monitor the patterns of the health workforce distribution over the country. It provides reliable and instant data and information needed for evidence-based decision-making and policy development.

### 6.2 Objectives of NHRHO

1. Establishing a national resource with reliable and up-to-date information pertaining to major dynamics of the health workforce in Jordan
2. Establishing a national platform for effective and coherent coordination among stakeholders for policy dialogue aimed at addressing and collectively solving HRH challenges.
3. Promoting and using evidence-based planning and decision-making processes regarding HRH issues.
4. Installing monitoring and evaluation system to track progress over time based on HRH-related baseline and benchmark indicators.
5. Sharing best lessons and experiences with regional and global HRH observatories.
6. Strengthening the national capacities to produce well qualified and skilled health workforce cadres.

## 7. Annual HRH Report

### 7.1 Aim of the report

This is the seventh annual report for the National HRH Observatory. It was prepared by the HRH observatory team to serve as a tool for providing a comprehensive picture of the health workforce situation in Jordan at both the national and sub-national levels in a comparable way to help monitoring HRH stock and trends, and so identify in-equitable geographical distribution of the health workforce in Jordan if any.

### 7.2 Design of the study

A cross-sectional point prevalence type of data collection method was adopted. Descriptive and analytical methodologies based mainly on the collected HRH data for the year 2016 were used.

### 7.3 Data Collection Methods

Jordan-specific data collection tools were designed in both Arabic and English languages by the Jordan Observatory team at the HHC. The tools included two main forms; one for collecting data from the public sector (**Annex 1**) and the other for collecting data from the private sector (**Annex 2**), other customized tools for collecting data from certain institutions were also designed. These tools were reviewed and discussed with the NHRHO Policy forum and focal points. Modification took place according to their feedback. The tools provided information about number and distribution of the main HRH national categories (doctors, dentists, pharmacists, registered nurses, and midwives) by governorate, categories, specialties, qualifications, sex, nationality and place of work.

According to the availability of data from their sources, HRH information was collected at two levels:

- a. **The central level:** the information was collected from the MOH central directorates, RMS, the

two university hospitals (UHs), NCDEG, KHCC, JAFPP, JNC, JMC, JPD and UNRWA workforce reports.

- b. The peripheral level:** the information from both public and private sectors were collected directly from the field in the twelve governorates of Jordan (14 directorates) through appointed two focal points from each governorate.

Thirty-seven focal points for data collection were appointed from different governorates and institutions as follows:

- Two focal points from each of the 14 directorates in Jordan (one is responsible for collecting data from the public sector and the other from the private sector), except for Amman Governorate where one focal point was appointed to gather data from the public sector only. The private sector data for Amman Governorate was obtained from Jordan Professional Associations.
- One focal point from each of the independent institutions as MOH central directorate, JUH, KAUH, JFDA, NCDEG, KHCC, JAFPP, JPD, UNRWA, Jordanian Nursing Council, Jordan Medical Association, Jordanian Dental Association, Jordan Pharmacy Association and Jordan Nurses & Midwives Association.

Information was also collected from the Ministry of Higher Education and Scientific Research on number and distribution of enrollees and graduated students from different health faculties in both public and private universities of Jordan.

Training of the focal points on the data collection tools and methodology took place through a national workshop which was held ten days before starting the process of data collection.

The process of data collection started in the 14 directorates at the same time through these well-trained focal points using the following methods:

1. Available HRH reports and records
2. Phone calls.
3. Fields visits

#### **7.4 Data management and statistical analysis**

Data entry and verification started immediately after data collection. Data entry, cleaning, and statistical analysis were performed by the Jordan Observatory focal point. Initially, the data were checked for data entry errors. Detected errors were corrected. Descriptive statistics were obtained through excel program and results were presented in tables and graphs.

#### **7.5 Duration of data collection**

Fieldwork for data collection took around 12 weeks, and the process of data reviewing and tabulation took another four weeks.

#### **7.6 Operational definitions**

For the purpose of this report, the following definitions were used:

**Public Sector** is the sector that involves MOH, RMS, the two university hospitals (JUH and KAH), JFDA, HHC, JNC, JMC, NCDEG, and JPD.

**Private sector** is the sector that involves all institutions that are not included in the public health sector such as private hospitals, clinics, twenty-four hours working centers, pharmacies, private universities, colleges, schools, in addition to the Non-for-profit organizations as KHCC, JAFPP and UNRWA.

**The physician** is a medical doctor who is practicing medicine in Jordan during the period of data collection (whether being a general practitioner, resident or a specialist in any medical field) despite his/her nationality, working place or working field (technical or administrative). In this report, the internship physicians are not included.

**The dentist** is a dentist who provides services (practicing) in Jordan during the period of data collection (whether being a general dentist, resident or a specialist in any field of dentistry) despite his/her nationality, working place or working field (technical or administrative). In this report, the internship dentists are not included.

**Pharmacist:** is a pharmacist with a Bachelor, Masters or Doctorates degree of pharmacy who was working in any health sector inside Jordan during the period of data collection despite his/her nationality, working place or working field (technical or administrative). In this report, the pharmacists' assistants are not included.

**Registered Nurse** is a health care professional who was certified from any accredited nursing university college (holding either Bachelor, Masters or Doctorates degree of the nursery) and was working in any health sector inside Jordan during the period of data collection despite his/her nationality, working place or working field (technical or administrative). In this report, the associated, assistant or auxiliary nurses are not included.

**A midwife** is a health care professional who was certified from any accredited midwifery college (study for 2 years after secondary school) and was working in any health sector inside Jordan during the period of data collection despite her nationality, working place or working field (technical or administrative).

## 7.7 Strategies for quality assurance

To ensure high-quality data, the following strategies were insured:

- 1- The designed tools for data collection were reviewed and discussed with the NHRHO Policy forum and focal points and were modified accordingly.
- 2- The methodology of data collection was discussed with all HRH stakeholders through a national workshop. Suggested modifications in the methodology were performed accordingly.
- 3- Operational definition for each health sector and health workforce category was identified and assured.
- 4- Training of the focal points on the data collection tools and techniques was conducted to ensure standardized methodology and good quality of data.
- 5- Each completed form was reviewed by the NHRH focal point at the HHC to ensure completeness and consistency of data before starting the analysis phase.
- 6- Double and even triple check of data was performed by obtaining and comparing the same data from different sources.
- 7- Data entry, cleaning, and analysis were conducted by NHRH focal point.

## 7.8 Limitations of the study:

1. Disparity of HRH information between different sources and even from the same source.
2. Lack of accurate and updated information about active health workforce in the private sector.

## 8. Results

### 8.1 Health workforce in the public sector:

Public Sector in this report is the sector that provides public services; it involves MOH, Prince Hamzah Hospital, RMS, the two university hospitals (JUH and KAH), JFDA, NCDE, JPD, JMC, JNC and the HHC.

As shown in the table below, most the health workforce are from the MOH as it is the main provider sector for health services in Jordan.

**Table (2): Distribution of health workforce in the public sector by category, 2016**

Cadre	MOH	Prince Hamzeh	RMS	JUH	KAUH	FDA	JPD	NCDE	JNC	JMC	HHC	Total
Physicians	4697	339	1822	785	544	5	0	37	0	1	3	8233
Dentists	799	6	460	41	22	0	0	0	0	0	1	1329
Pharmacists	708	40	280	29	38	96	15	16	0	0	0	1222
Registered nurses	5053	348	3810	488	764	4	1	24	4	0	0	10496
Midwives	1469	0	304	8	16	0	0	0	0	0	0	1797

#### 8.1.1 Health workforce at MOH

**Table (3)** shows that physicians working at the MOH for the year 2016 are mainly males (83%). The table also reveals that more than half of the dentists at MOH are males, while around three-quarters of the pharmacists and nearly two-thirds of the registered nurses are females (75%, 64% respectively).

**Table (3): Health workforce at MOH by category and gender, 2016**

Cadre	Gender				Total
	Male	%	Female	%	
Physicians	3902	<b>83.1%</b>	795	<b>16.9%</b>	4697
Dentists	417	<b>52.2%</b>	382	<b>47.8%</b>	799
Pharmacists	175	<b>24.7%</b>	533	<b>75.3%</b>	708
Registered nurses	1830	<b>36.2%</b>	3223	<b>63.8%</b>	5053
Midwives	0	<b>% 0</b>	1469	<b>100%</b>	1469

**Table (4)** shows the distribution of different health workforce categories at both the central level (MOH main directorates) and the peripheral level (Governorates) for the year 2016. Less than 3% in all categories work at the central level except for Pharmacists (13%).

**Table (4): Health workforce at MOH by category and workplace, 2016**

Cadre	Central Directorates		Governorates		Total
	No.	%	No.	%	
Physicians	145	3%	4552	97%	4697
Dentists	20	2.5%	779	97.5%	799
Pharmacists	93	13%	615	87%	708
Registered nurses	71	1.4%	4982	98.8%	5053
Midwives	10	0.7%	1459	99.3%	1469

### 8.1.2 Health workforce at Royal Medical Services (RMS)

**Table (5)** shows that 83% of physicians and 64% of dentists at the RMS are males, while about 71% of pharmacists and 77% of registered nurses are females.

**Table (5): Health workforce at RMS by category and gender, 2016**

Cadre	Gender				Total
	Male	%	Female	%	
Physicians	1520	83%	302	17%	1822
Dentists	296	64%	164	36%	460
Pharmacists	81	29%	199	71%	280
Registered nurses	1239	33%	2571	77%	3810
Midwives	0	0%	304	100%	304

**Table (6)** shows that RMS services are distributed over ten governorates. The high percent of health workforce from different categories present in Amman governorate, followed by Irbid and then Zarqa governorates. The least are present in Madaba Governorate.

**Table (6): Health workforce at RMS by category and governorate, 2016**

governorate	Physicians		Dentists		Pharmacists		Registered nurses		Midwives	
	No.	%	No.	%	No.	%	No.	%	No.	%
Amman	1112	61%	234	50.9%	169	70%	1978	52%	100	32.9%
Irbid	157	8.6%	43	9.4%	17	6%	500	13.1%	58	19%
Zarqa	141	7.7%	47	10.2%	17	6%	341	9%	28	9.2%
Mafrq	84	4.6%	25	5.4%	8	2.9%	168	4.4%	26	8.6%
Karak	92	5.1%	40	8.7%	14	5%	286	7.5%	17	5.6%
Aqaba	92	5.1%	27	5.9%	12	4.3%	203	5.3%	30	9.9%
Ma'an	17	1%	7	1.5%	2	0.7%	19	0.5%	0	0%
Tafila	62	3.4%	14	3%	5	1.8%	131	3.4%	19	6.3%
Ajloun	59	3.2%	20	4.3%	8	2.9%	177	4.7%	25	8.2%
Madaba	6	0.3%	3	0.7%	1	0.4%	7	0.2%	1	0.3%
Total	1783	100%	306	100%	285	100%	3423	100%	237	100%

### 8.1.3 Health workforce at Jordan University Hospital

**Table (7)** shows that more than one-half of physicians at the JUH (56%) are males. 69% of the registered nurses and 76% of the pharmacists are females. The number of midwives working at JUH is only 8.

**Table (7): Health workforce at JUH by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	439	56%	346	44%	785
Dentists	7	17%	34	83%	41
Pharmacists	7	24%	22	76%	29
Registered nurses	153	31%	335	69%	488
Midwives	0	0%	8	100%	8

### 8.1. 4 Health workforce at KAUH

**Table (8)** shows that 71% of physicians and 73 % of the dentists at the KAUH are males, while 87% of the pharmacists and two-thirds of the registered nurses are females (66%).

**Table (8): Health workforce at KAUH by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	386	71%	158	29%	544
Dentists	16	73%	6	27%	22
Pharmacists	5	13%	33	87%	38
Registered nurses	259	34%	505	66%	764
Midwives	0	0%	16	100%	16

### 8.1.5 Health workforce at JFDA

**Table (9)** indicates that the health workforce working at the JFDA are mostly pharmacists, more than three-quarters of these pharmacists are females (77%). Only five physicians are working at the JFDA with no dentists, nurses or midwives.

**Table (9): Health workforce at the JFDA by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	4	80%	1	20%	5
Pharmacists	22	23%	74	77%	96
Total	26	26%	75	75%	101

**8.1.6 Health workforce at Joint Procurement Department (JPD)**

**Table (10)** indicates that the health workforce working at the **JPD** are mainly pharmacists and they are primarily females (80%). They have only one registered nurse.

**Table (10): Health workforce at the JPD by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Pharmacists	3	20%	12	80%	15
Registered nurses	1	100%	0	0%	1
Total	1	11%	8	89%	16

**8.1.7 Health workforce at the National Center for Diabetes, Endocrinology, and Genetics (NCDEG)**

**Table (11)** shows that 41% of the physicians, 75% of the registered nurses and all the pharmacists working at the NCDEG are females. No dentists or midwives are working at the NCDEG as this is a specialized Center for Diabetes, Endocrine and Genetic diseases only.

**Table (11): Health workforce at NCDEG by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	22	59%	15	41%	37
Pharmacists	0	0%	16	100%	16
Registered nurses	6	25%	18	75%	24

**8.1.8 Health workforce at the High Health Council (HHC)**

**Table (12)** indicates that there are just four health workforces working at the **HHC** (three physicians & one dentist).

**Table (12): Health workforce at HHC by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	2	66%	1	34%	3
Dentists	0	0%	1	100%	1

## 8.2 Health workforce in the private sector

According to this report, the private sector means the non-state sector which involves all institutions that are not included in the public health sector (private hospitals & clinics, UNRWA, King Hussein Foundation JAFPP, KHCC.). A high percentage of medical consultants, qualified nurses, and technicians who are working in the private sector were previously employed by the public sector mainly RMS. Therefore, the public health sector in Jordan is considered the main supplier of highly trained and well-experienced health professionals for the private sector.

**Table (13)** shows the distribution of physicians, dentists, pharmacists, registered nurses and midwives working in the private sector according to the place of work. The table shows that the majority are working at private hospitals and clinics.

**Table (13): Health workforce in the Private Sector, 2016**

Cadre	Private hospital & clinics	UNRWA	King Hussein Foundation	JAFPP	KHCC	Total
Physicians	5336	103	11	26	364	5840
Dentists	5435	30	0	0	5	5470
Pharmacists	13917	2	0	0	60	13979
Registered nurses	5045	46	12	24	564	5691
Midwives	315	34	2	0	0	351

### 8.2.1 Health workforce at UNRWA

**Table (14)** shows that physicians, dentists, and pharmacists working at UNRWA are mainly males, while registered nurses are almost females (93%).

**Table (14): Health workforce at UNRWA by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	86	83%	17	17%	103
Dentists	21	70%	9	30%	30
Pharmacists	2	100%	0	0%	2
Registered nurses	3	7%	43	93%	46
Midwives	0	0%	34	100%	34



### 8.2.2 Health workforce at the Jordanian Association for Family Planning & Protection (JAFPP)

**Table (15)** shows that all the working workforce at the JAFPP (Physicians and registered nurses) are females; this is due to the nature of services that are delivered by JAFPP which are mainly family planning services.

**Table (15): Health workforce at JAFPP by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	0	0%	26	100%	26
Registered nurses	0	0%	24	100%	24

**Table (16)** shows that JAFPP services are distributed over nine governorates (only Ma'an, BAAlqa & AL-Tafeilah governorates don't have **JAFPP** clinics). The same table shows that more than half of these health workforces are found in Amman Governorate (54%).

**Table (16): Health workforce at JAFPP by category and governorate, 2016**

Governorate	Physicians		Registered nurses	
	No.	%	No.	%
Amman	15	56%	12	44%
Zarqa	3	50%	3	50%
Madaba	1	50%	1	50%
Irbid	2	50%	2	50%
Mafrq	1	50%	1	50%
Jarash	1	50%	1	50%
Ajloun	1	50%	1	50%
Karak	1	33%	2	66%
Aqaba	1	50%	1	50%
Total	26	52%	24	48%

### 8.2.3 Health workforce at KHCC

**Table (17)** shows that (74%) of the physicians and 50% of the registered nurses working at KHCC are males while 92% of the pharmacists and all the dentists are females. It also shows that no midwives are working at KHCC.

**Table (17): Health workforce at KHCC by category and gender, 2016**

Cadre	Gender				Total
	M	%	F	%	
Physicians	270	74%	94	26%	364
Dentists	0	0%	5	100%	5
Pharmacists	5	8%	55	92%	60
Registered nurses	284	50%	280	50%	564
Midwives	0	0%	0	0%	0

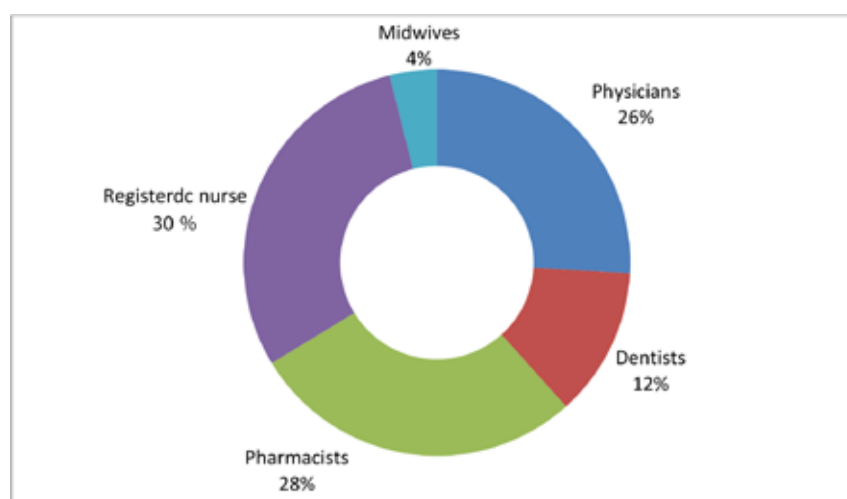
### 8.3 Distribution of Health Workforce at the National Level

**Table (18)** shows the density of health workforce categories at the national level; It was noticed that the highest ratios per 10.000 pop. was found among the registered nurses (16.5) followed by the pharmacists (15.5), then physicians (14.4), dentists (6.9) and the least was found to be among the midwives (2.2).

**Table (18): Ratio of Health workforce/10.000 pop. at the national level by sector, 2016**

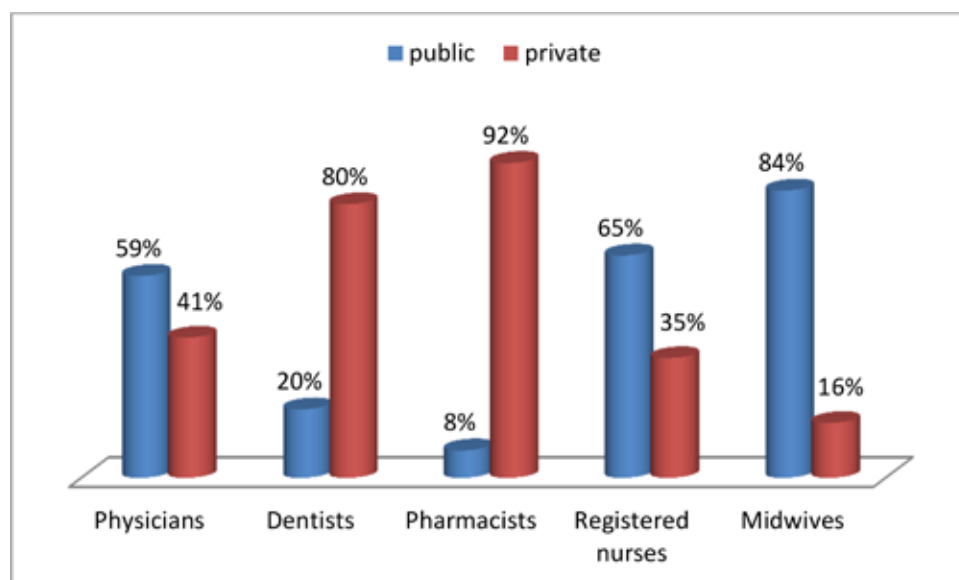
Cadre	Public	Private	Total	Ratio/10.000 .pop
Physicians	8233	5840	14073	14.4
Dentists	1329	5470	6799	6.9
Pharmacists	1222	13979	15201	15.5
Registered nurses	10496	5691	16187	16.5
Midwives	1797	351	2148	2.2

Graph (2) illustrates that most of the health professionals working in Jordan are registered nurses (30%) followed by pharmacists (28%) and then physicians (26%), dentists (12%) while the least are midwives (4%).

**Graph (2): Distribution of National Health Workforce by category in Jordan, 2016**

**Graph (3)** shows that the vast majority of dentists and pharmacists are working in the private sector (80% and 92% respectively), while 59% of physicians, 65% of the registered nurses and 84% of the midwives are working in the public sector.

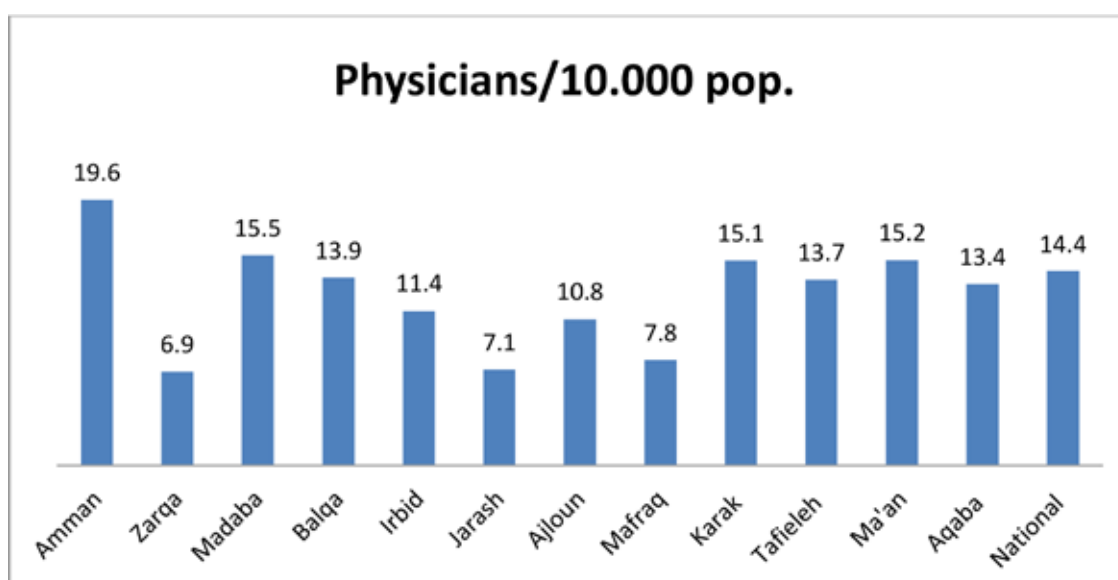
**Graph (3): Distribution of National Health workforce by Sector, 2016**



#### 8.4 Health workforce indicators at the sub-national level:

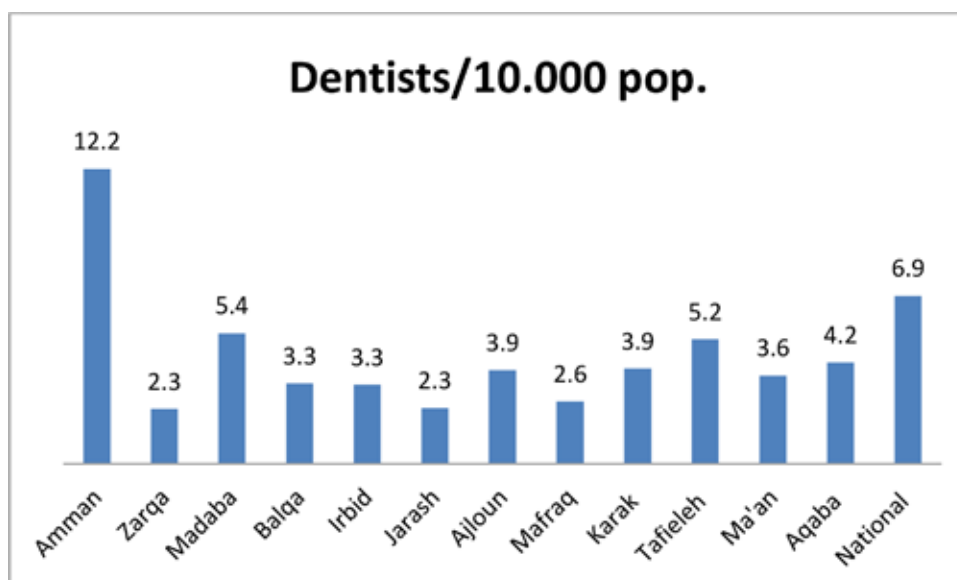
**Graph (4)** shows that the highest ratio of physicians per 10000 population is found in Amman reaching nearly 20, while the second highest was recorded at 15.5 in Madaba, 15.2 in Ma'an & 15.1 in Karak. Meanwhile, the lowest ratio has been registered in Zarqa at 6.9 per 10000 population comparing to the national ratio which was 14.4.

**Graph (4): Ratio of physicians per 10000 population by governorate, 2016**



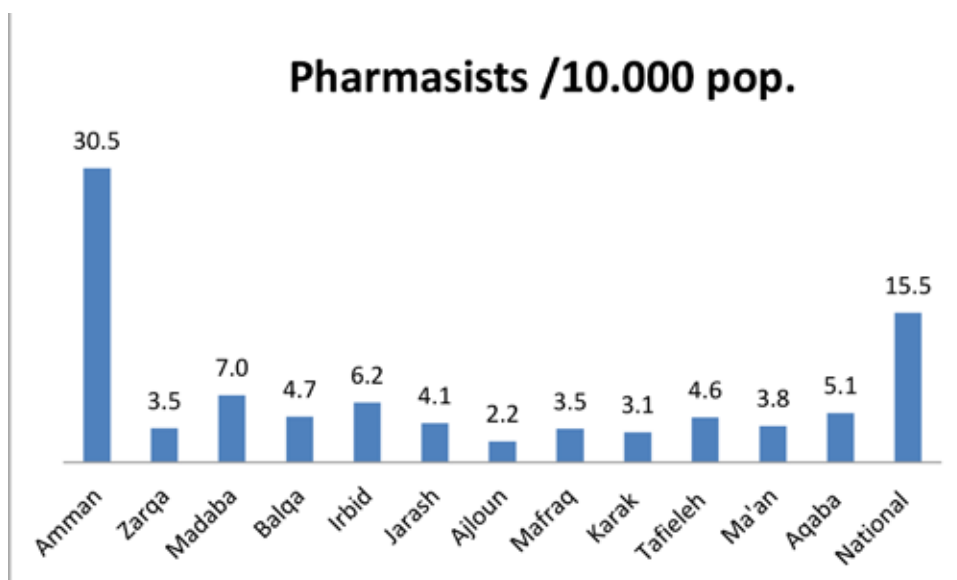
**Graph (5)** shows that the highest ratio of dentists per 10000 population was recorded in Amman reaching nearly 12.2, while the lowest ratio of about 2.3 was recorded in Zarqa and Jarash comparing to the national ratio which reaches 6.9

**Graph (5): Ratio of dentists per 10000 population by governorate, 2016**

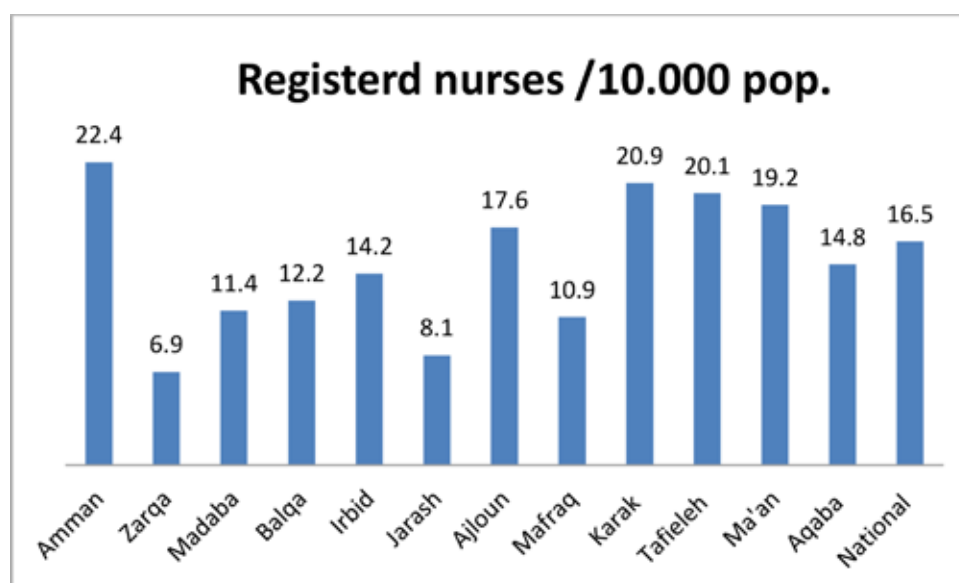


**Graph (6)** shows that the highest ratio of pharmacists per 10000 population was recorded in Amman (30.5) while the lowest ratio was found in Ajloun (2.2) followed by Karak (3.1) comparing to the national ratio which reaches 15.5

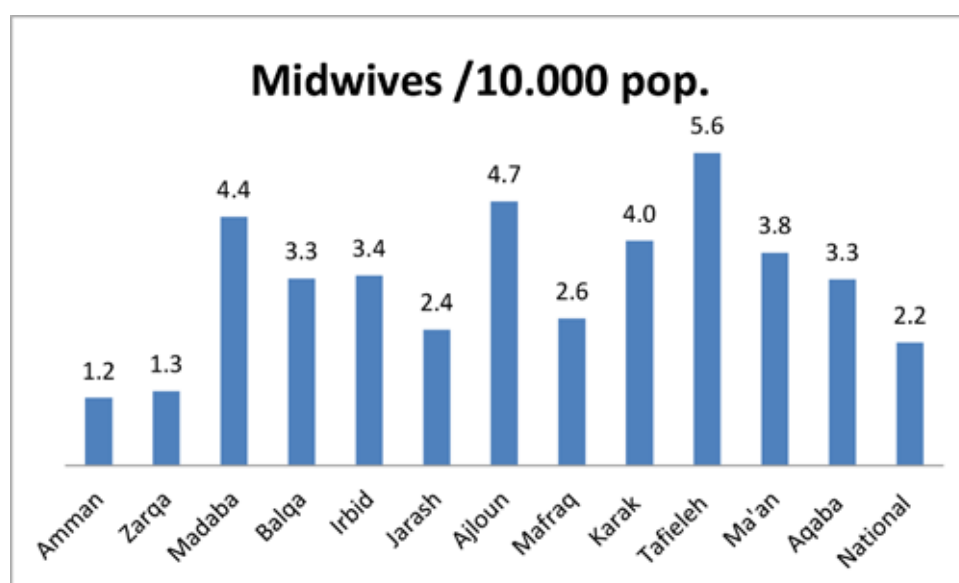
**Graph (6): Ratio of Pharmacists per 10000 population by governorate, 2016**



**Graph (7)** shows that the highest ratio of registered nurses per 10000 population was found in Amman reaching 22.4. The lowest was found in Zarqa (6.9) while the national ratio reaches 16.5

**Graph (7): Ratio of Registered Nurses per 10000 population by governorate, 2016**

**Graph (8)** shows that the highest ratio of midwives per 10000 population was recorded in Tafieleh at 5.6 and then Ajloun at 4.7. The lowest was recorded in Amman (1.2) and then Zarqa (1.3). The national ratio reaches 2.2

**Graph (8): Ratio of Midwives per 10000 population by governorate, 2016**

## 8.5 HRH Production

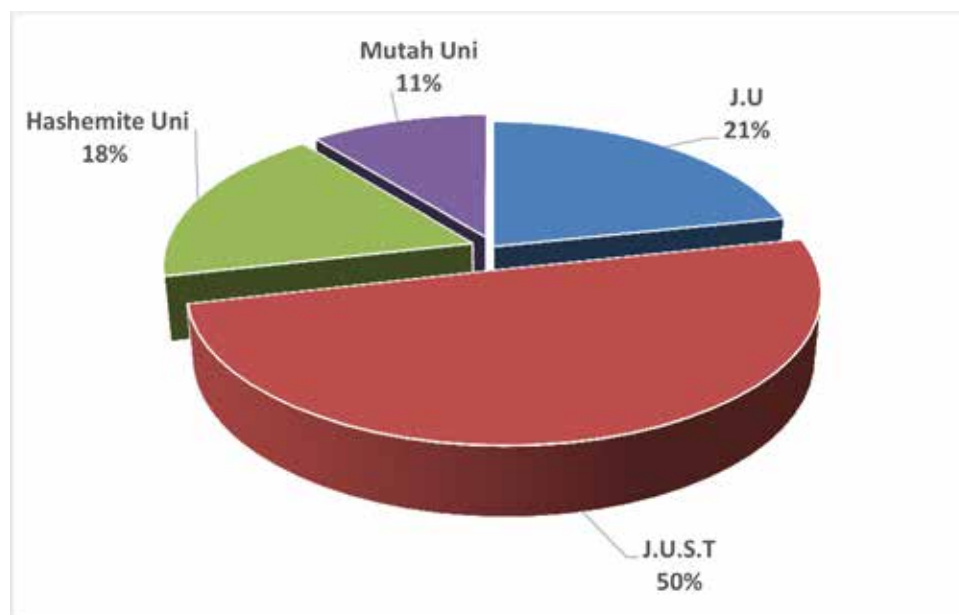
Medical Universities in Jordan conduct Undergraduate programs of 4-6 academic years leading to a Bachelor's degree for physicians, dentists, pharmacists, and registered nurses, in addition to post-graduate programs. There are seven main public universities that enroll the majority of health educated professionals in Jordan; these are the University of Jordan (J.U), the Jordan University of Science and Technology (J.U.S.T), the Hashemite University, Mutah University, Yarmouk University, Al-Hussein Bin Talal University and AL-Balqa Applied University, in addition to the presence of a good number of private universities as Philadelphia University, Middle East University, Al-Isra University, Applied Science University, University of Petra, Al al-Bayt University, Al-Zaytoonah University, Zarqa University, Jerash University, Irbid Uni, Al-Ahliyya Amman University and the American University of Madaba.

## 8.6 Enrollees and graduates from Medicine Faculties for the year 2015/2016

Jordan currently has six Medical Faculties (the University of Jordan, the Jordan University of Science and Technology, the Hashemite University, Mut'ah University, in addition to Al- Yarmouk University and AL-Balqa Applied University which are newly opened and thus have no graduates.

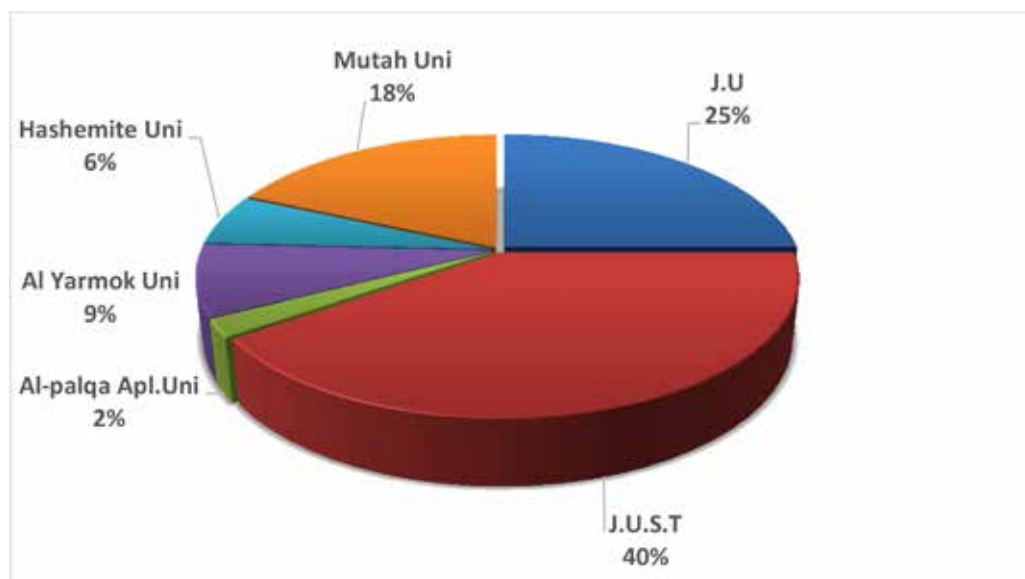
**Graph (9)** showed that 853 medical students were graduated from the four medical faculties. Half of them (424) were graduated from J.U.S.T. About one-fifth of medical students (185) were graduated from the University of Jordan (21%), the rest were graduated from both Hashemite University (152) and Mutah University (92) (18% & 11% respectively). **Annex (1)**

**Graph (9): Graduates from Medical Faculties in Jordan Universities, 2016**



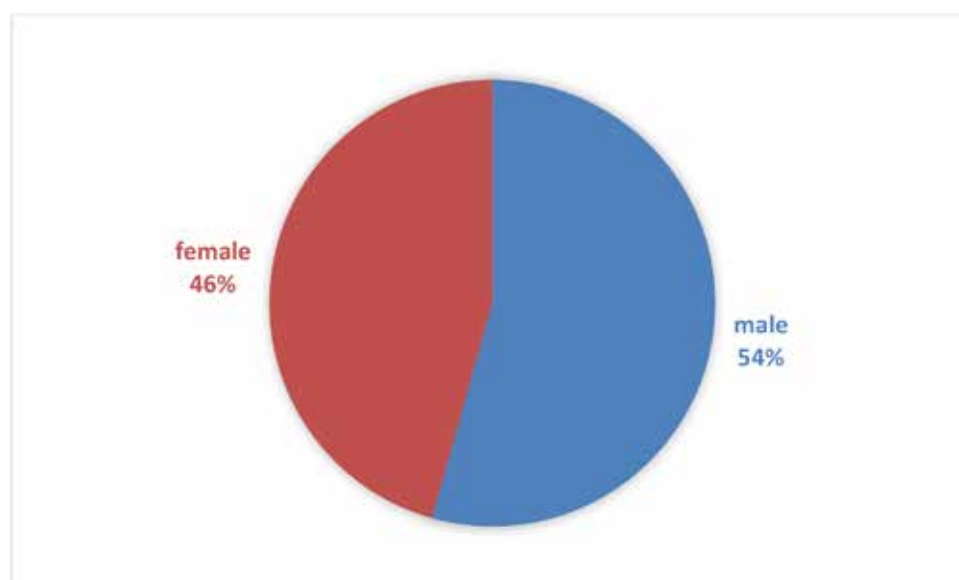
**Graph (10)** showed that about 7690 students enrolled in Medical Faculty, most of them (3462) were enrolled in J.U.S.T. (40%). One-quarter of them (2147) were enrolled in the J.U, 1571 student to Mutah University(18%). (510) in Hashemite University(6%), (719) in Yarmouk University (9%) and the rest 180 (2%) were enrolled in Al-Balqa Applied University. **Annex (1)**

**Graph (10): Enrollees at Medical Faculties in Jordan Universities, 2015/2016**



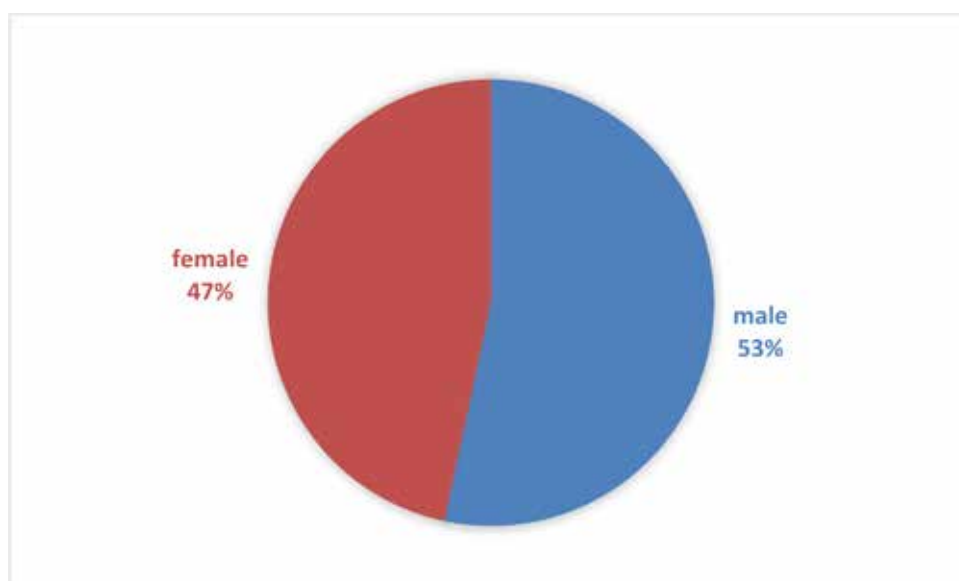
**Graph (11)** showed that about 54% of graduates from Medical Faculties were males 469 compared to 46% females (394). **Annex (1)**

**Graph (11): Graduates from Medical Faculties by gender, 2016**



**Graph (12)** showed that 47% of the enrollees in the Medical faculties were females (3588) compared to 53% males (4102). **Annex (1)**

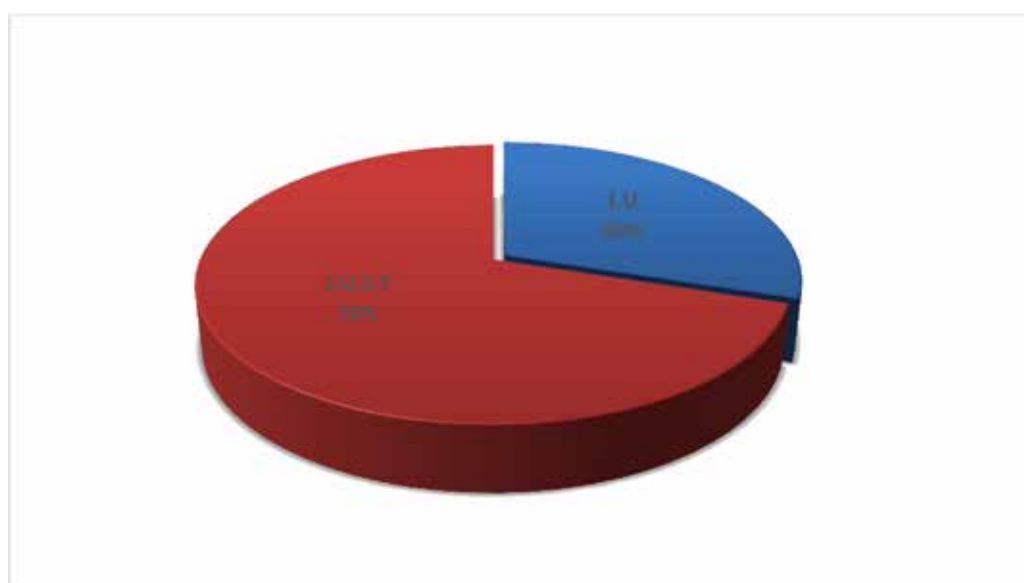
**Graph (12): Enrollees at Medical Faculties by gender, 2015/2016**



### 8.7 Enrolled and graduated students from Dentistry Faculties for the year 2015/2016:

Jordan has only two Dental Faculties in two public universities (J.U and J.U.S.T). They graduated 450 students in the year 2015/2016. It is noticed from the graph below (13) that most of the dentists 315 (70%) were graduated from J.U.S.T while the remaining 135 (30%) were graduated from J.U.

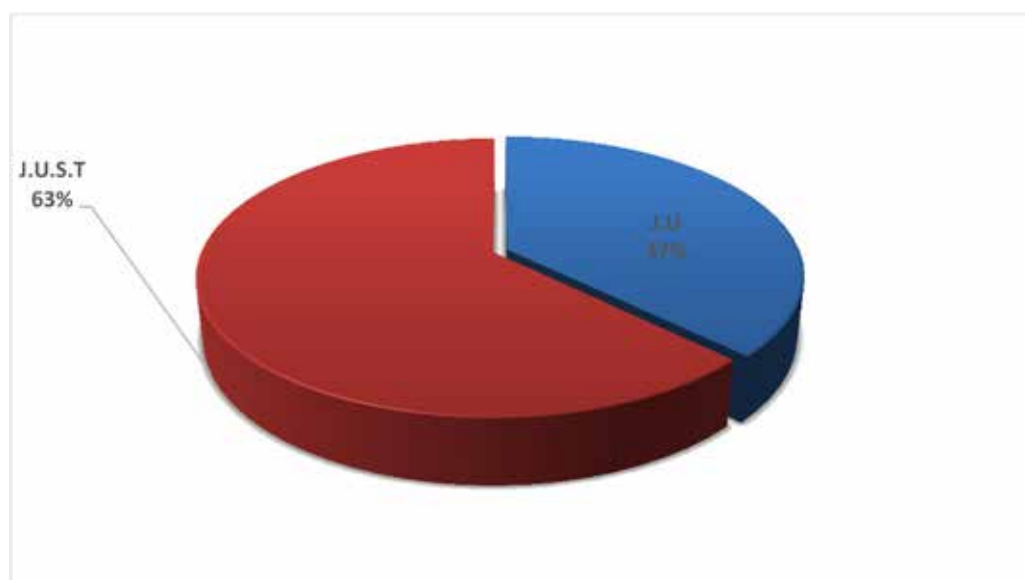
**Graph (13): Graduates from Dentistry Faculties in Jordanian Universities, 2016**





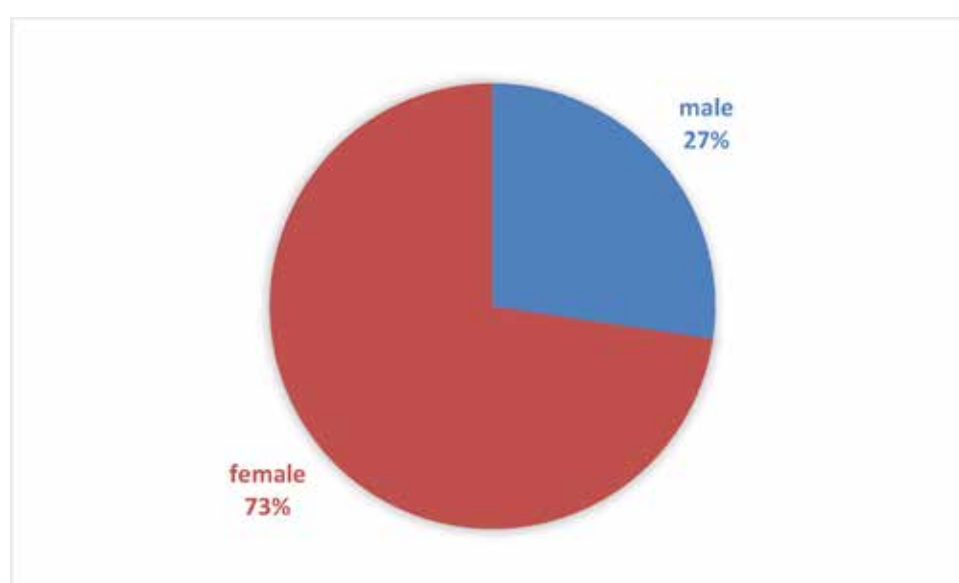
**Graph (14)** showed that the enrolled students in Faculties of Dentistry, the total number for enrolled students were 2802. 1758 of them (63%) were enrolled in J.U.S.T while the remaining 1044 (37%) were enrolled in the J.U. **Annex (1)**

**Graph (14): Enrollees at Dentistry Faculties in Jordanian Universities, 2015/2016**



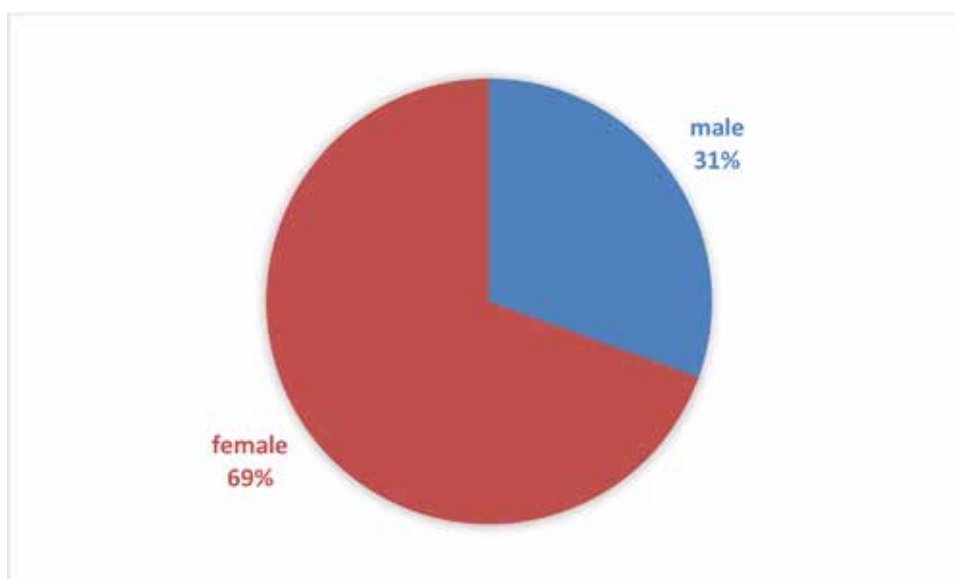
**Graph (15)** showed that nearly three quarters 327 (73%) of graduates from the two Faculties of Dentistry in Jordan were females compared to 123 (27%) males. **Annex (1)**

**Graph (15): Graduates from Dentistry Faculties by gender, 2016**



**Graph (16)** illustrated that more than two-thirds of the enrollees in the Faculties of Dentistry for the year 2015/2016 were females 1947 (69%). **Annex (1)**

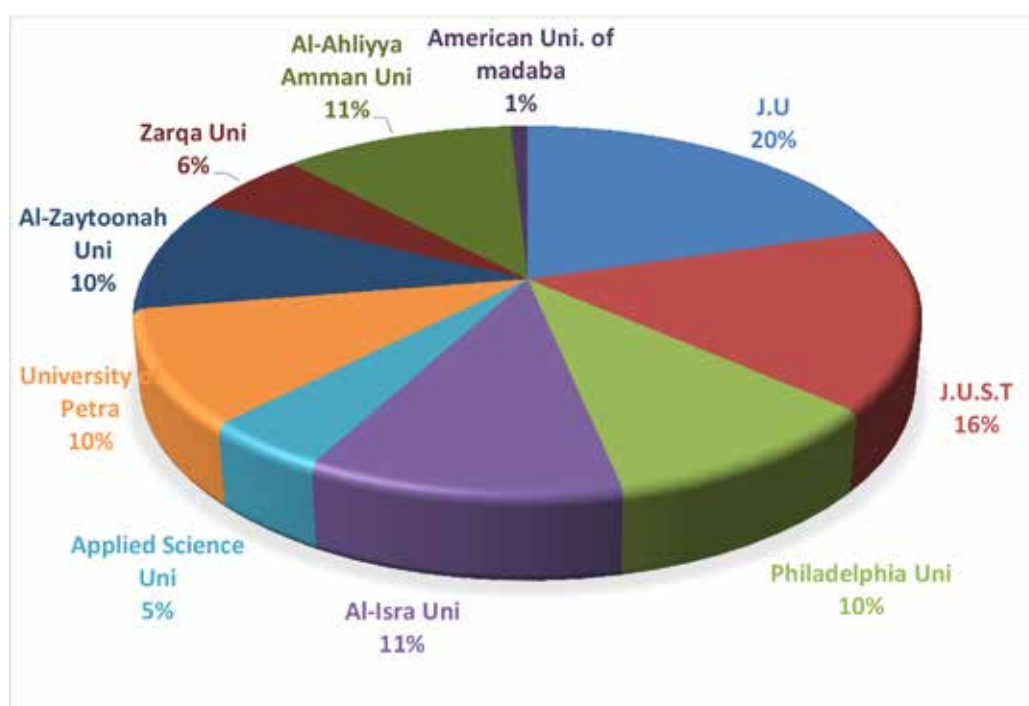
**Graph (16): Enrollees in Dentistry Faculties by gender, 2015/2016**



#### 8.9 Enrolled and graduated students from Pharmacy Faculties for the year 2015/2016

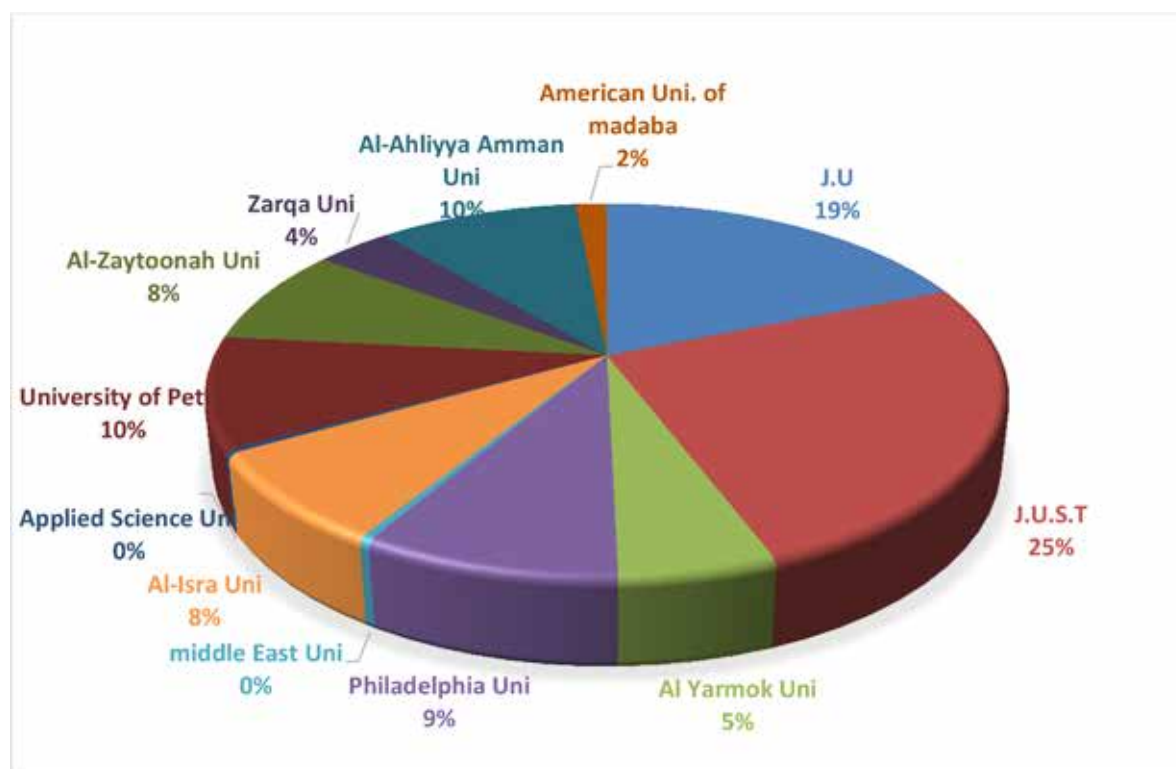
There are ten pharmacy Faculties in Jordan (two in the public universities and eight in the private universities) that graduated pharmacists which were about 1921 students. It is noticed from the graph below (**graph 17**) that (36%) of the pharmacy students were graduated from the two public universities (J.U and J.U.S.T). **Annex (1)**

**Graph (17): Graduates from Pharmacy Faculties in Jordanian Universities, 2016**



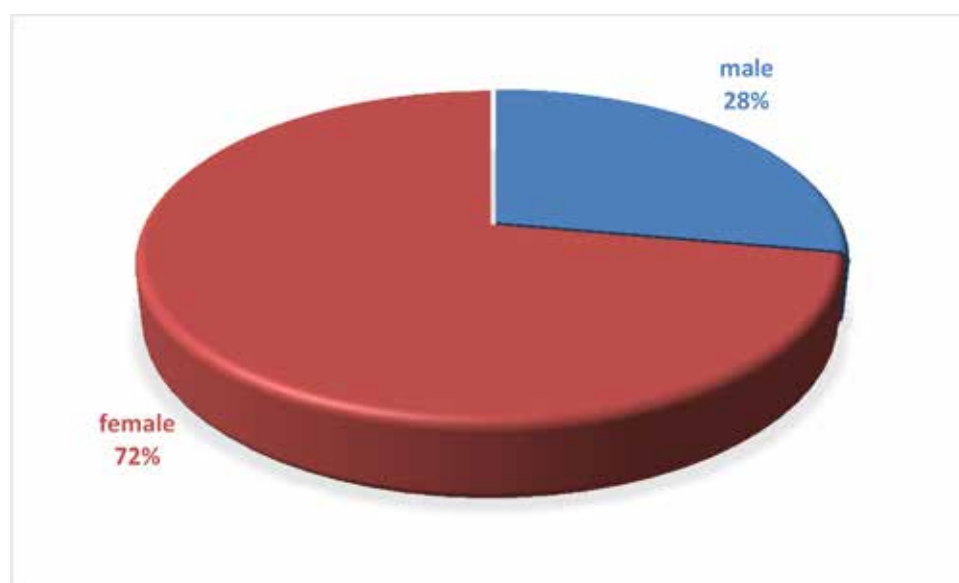
**Graph (18)** showed that the enrolled students to Pharmacy Faculties, there are 12 pharmacy Faculties in Jordan (three in the public universities and nine in the private universities) enrolled about 11403 students. About half (49%) of this number were enrolled in the three public universities (J.U(2145), J.U.S.T (2897), & Al-Yarmouk Uni (617). **Annex (1)**

**Graph (18): Enrollees at Pharmacy Faculties in Jordanian Universities, 2015/2016**



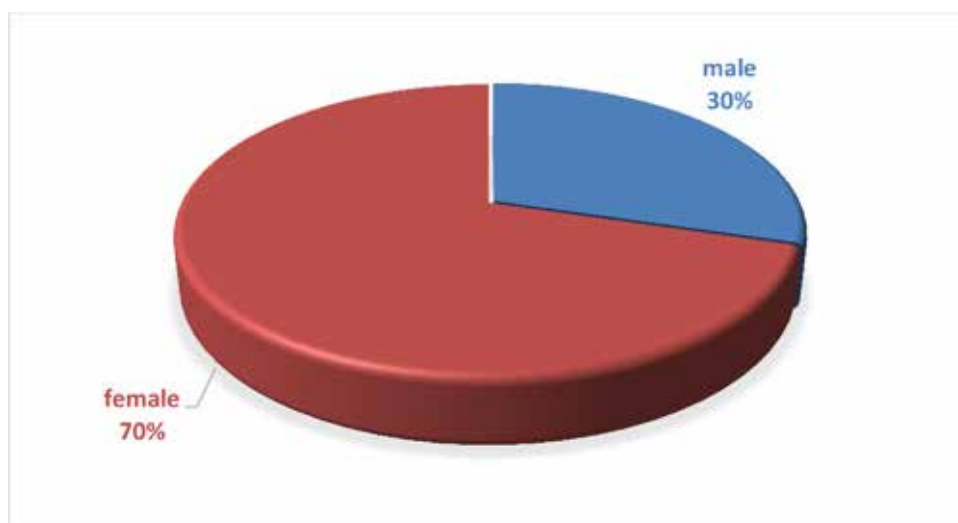
As shown in **Graph (19)** about 72% of graduates from the pharmacy faculties in Jordan are females (1386) compared to 28 % males (535). **Annex (1)**

**Graph (19): Graduates from Pharmacy Faculties by gender, 2016**



**Graph (20)** showed that (70%) of the enrolled students to the pharmacy faculties in Jordan were females (8025) compared to (30%) males (3378). **Annex (1)**

**Graph (20): Enrollees in Pharmacy Faculties by gender, 2015/2016**

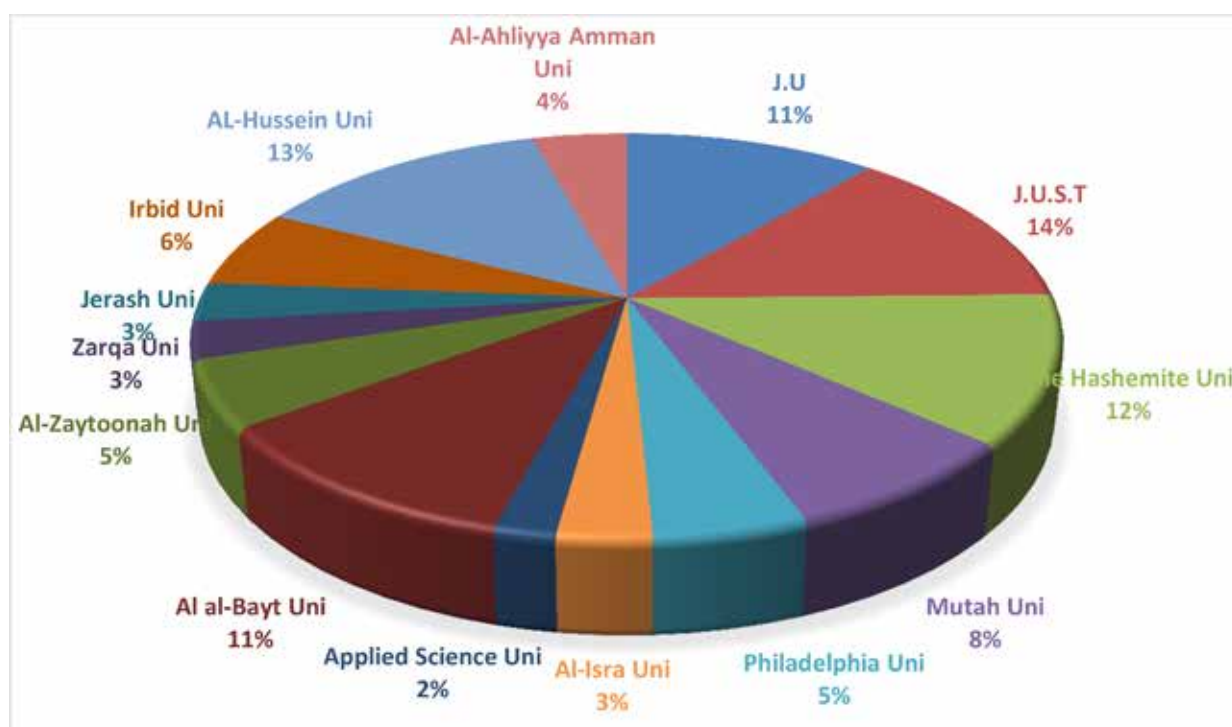


#### 9.4 Enrolled and graduated students from Nursing Faculties for the year 2015/2016:

Six public universities and nine private universities are now graduating BSc in nursing.

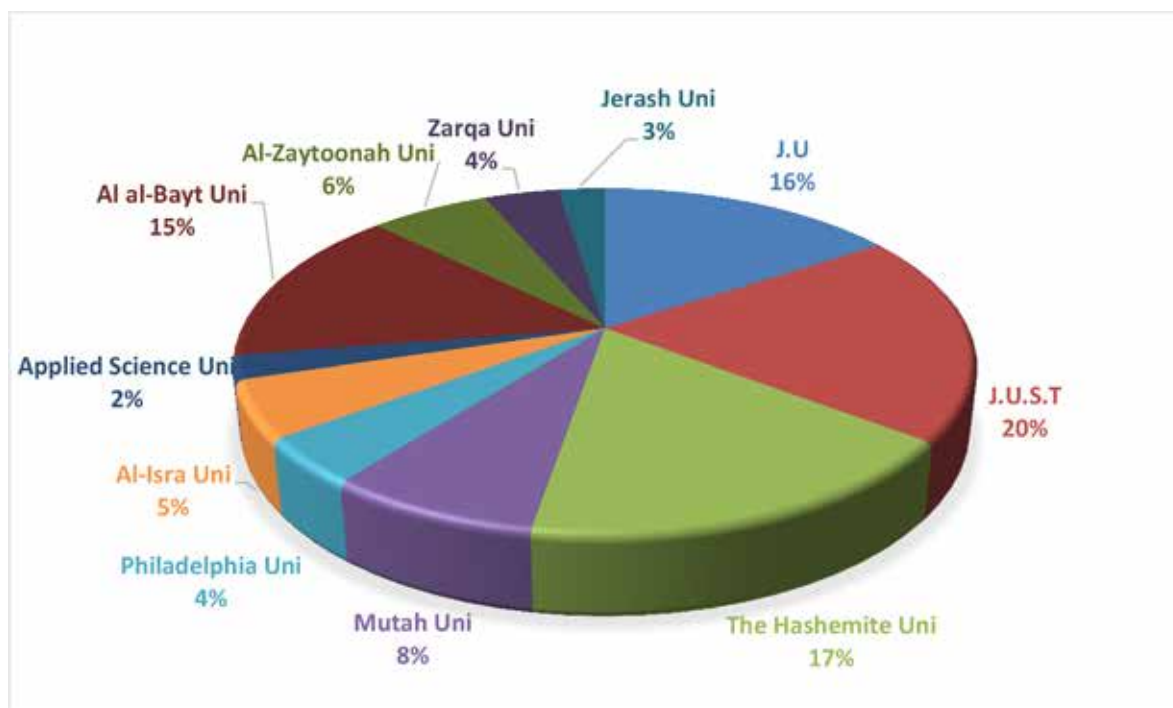
**Graph (21)** showed the distribution of graduates (1587 nursing student) from these nursing faculties; About 69% of the nursing students were graduated from the six public universities (J.U (179), J.U.S.T (213), Hashemite University (187), Mut'ah University (125), Al al-Bayt University (171) and Al-Hussein University (211) **Annex (1)**

**Graph (21): Graduates from Nursing Faculties in Jordanian Universities, 2016**



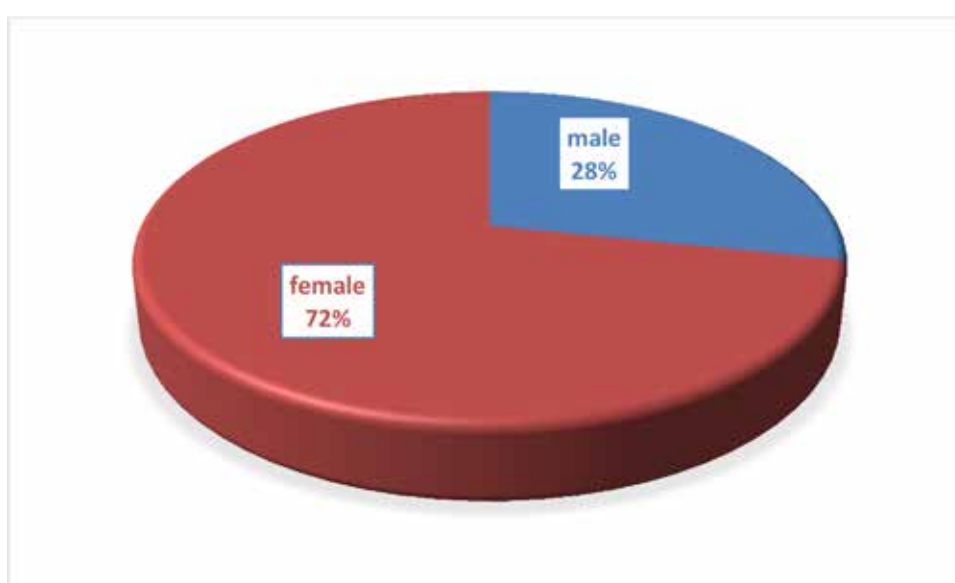
**Graph (22)** showed the enrolled students to nursing faculties which are around 5236, about 76% were enrolled in the five public universities (J.U(743), J.U.S.T (931), Hashemite University (817), Mut'ah University (376) and Al- Bayt University (701). **Annex (1)**

**Graph (22): Enrollees at Nursing Faculties in Jordanian Universities, 2015/2016**



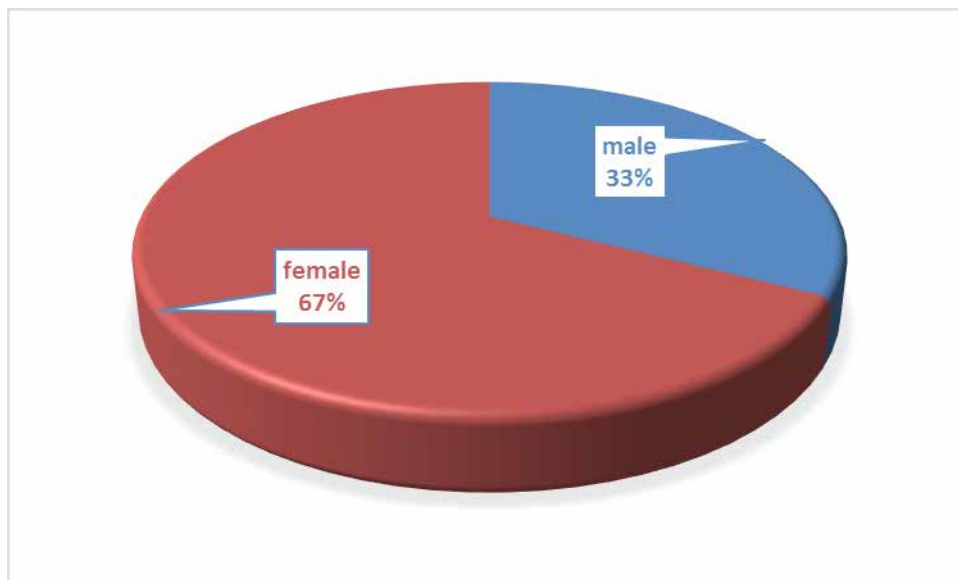
**Graph (23)** shows that 1138 (72%) of graduates from the nursing faculties in Jordan are females compared to 449(28%) males. **Annex (1)**

**Graph (23): Graduates from Nursing Faculties by Gender, 2016**



**Graph (24)** showed that 3530 (67%) of enrollees in the nursing faculties in Jordan are females compared to 1706 (33%) males. **Annex (1)**

**Graph (24): Enrollees in Nursing Faculties by gender, 2015/2016**



## 9. Recommendations

### 1. Improve the quality of HRH data and its utilization for decision making:

- Improve quality of data especially that of the private sector
- Develop a dynamic HRH automated centralized reporting system to monitor intra and inter-sectoral health workforce movement.
- Train National HRH Observatory staff and data collection focal points on the new system for e-data collection and reporting.
- Advocate for the National HRH Observatory as a national resource for HRH informed decisions

### 2. Improve health workforce distribution all over the kingdom:

- Develop appropriate strategies to ensure equitable workforce distribution among different governorates in the country as geographical disparities in the distribution of health workforce was obviously noticed.
- Implement appropriate policies to attract and retain health workers in the public sector in general and remote areas in specific.

### 3. Ensure adequate health workforce production to respond to growing population needs:

- Review acceptance regulation in the universities regarding enrollees in different health colleges to bridge the gap between health professionals' supplies and actual market needs.
- Reconsider the gender issue in the universities' acceptance regulations in all public and private health colleges based on labor market analysis.
- Develop appropriate strategies to motivate enrollment of females in nursing faculties to meet their shortage in the health market.

## 10. References

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6. High Health Council, **High Health Council Law** Number 4, 1999.
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9. The government of Jordan. **Public Health Law** No.47 for 2008.
10. Musa Ajlouni, Health Systems Profile, a country study submitted to WHO/EMRO, 2013
11. UNDP: <http://hdrstats.undp.org/en/countries/profiles/JOR.html>
12. Musa Ajlouni, Human Resources for Health Country Profile, a country study submitted to WHO/EMRO, 2013
13. [www.jnc.gov.jo/](http://www.jnc.gov.jo/) ( Jordanian Nursing Council website)
14. Ministry of Planning and International Development, the **Executive Developmental Plan** 2016-2019



## 11. Annexes

**Annex (1):** Enrollees & Graduates from Health Faculties at Jordanian Universities by Genders & Specialty 2015/2016

**Annex (2):** Distribution of public health sector professionals Form in Jordan,2016

**Annex (3):** Distribution of private health sector professionals Form in Jordan, 2016

## Annex (1): Enrollees & Graduates from Health Faculties at Jordanian Universities by Genders & Specialty 2015/2016

+

Specialization	Medicine										Dentistry									
University	Enrolled					Graduate					Enrolled					Graduated				
	M	%	F	%	T	M	%	F	%	T	M	%	F	%	T	M	%	F	%	T
The University of Jordan	1033	48%	1114	52%	2147	103	55.7%	82	44.3%	185	267	25.6%	777	261.6%	1044	22	16.3%	113	83.7%	135
J.U.S.T	1921	55%	1541	45%	3462	237	55.9%	187	44.1%	424	588	33.4%	1170	66.6%	1758	101	32.1%	214	67.9%	315
alpalqa apl.un	78	43%	102	57%	180															
Al Yarmok UN	329	46%	390	54%	719															
The Hashemite Uni	293	57%	217	43%	510	90	59.2%	72	47.4%	152	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0
Mutah Uni	855	54%	716	46%	1571	39	42.4%	53	57.6%	92	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0
Total	4102	53%	3588	47%	7690	469	54%	394	46%	853	855		1947		2802	123		327		450

Specialization	Pharmacy										Nursing									
University	Enrolled					Graduated					Enrolled					Graduated				
	M	%	F	%	T	M	%	F	%	T	M	%	F	%	T	M	%	F	%	T
The University of Jordan	320	14.9%	1825	85.1%	2145	55	14.0%	337	86.0%	392	147	19.8%	596	80.2%	743	25	14.0%	154	86.0%	179
J.U.S.T	537	18.5%	2360	81.5%	2897	55	17.9%	252	82.1%	307	334	35.9%	597	64.1%	931	64	30.0%	149	70.0%	213
The Hashemite Uni	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0	222	27.2%	595	72.8%	817	48	25.7%	139	74.3%	187
Al Yarmok UN	81	13.0%	536	87.0%	617															
Mutah Uni	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0	100	26.6%	276	73.4%	376	33	26.4%	92	73.6%	125
Philadelphia Uni	439	43.5%	570	56.5%	1009	62	31.3%	136	68.7%	198	130	63.4%	75	36.6%	205	46	59.7%	31	40.3%	77
middle East Uni	15	36.0%	27	64.0%	42															
Al-Isra Uni	549	60.7%	356	39.3%	905	114	53.0%	101	47.0%	215	159	63.1%	93	36.9%	252	24	51.1%	23	48.9%	47
Applied Science Uni	13	34.2%	25	65.8%	38	21	24.4%	65	75.6%	86	31	29.2%	75	70.8%	106	9	29.0%	22	71.0%	31
University Of Petra	384	35.4%	702	64.6%	1086	67	34.7%	126	65.3%	193	0	0%0	0	0.0%	0	0	0%0	0	0.0%	0
Al al-Bayt Uni	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0	204	29.1%	497	70.9%	701	47	27.5%	124	72.5%	171
Al-Zaytoonah Uni	317	33.0%	644	67.0%	961	48	25.3%	142	74.7%	190	87	29.2%	211	70.8%	298	23	27.4%	61	72.6%	84
Zarqa Uni	143	34.0%	278	66.0%	421	22	20.6%	85	79.4%	107	71	38.6%	113	61.4%	184	11	23.4%	36	76.6%	47
Jerash Uni	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0	38	32.5%	79	67.5%	117	21	42.9%	28	57.1%	49
Irbid Uni	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0	53	34.9%	99	65.1%	152	38	38.4%	61	61.6%	99
AL-Hussein Uni	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0	0	0.0%	143	100.0%	143	21	10.0%	190	90.0%	211
Al-Ahliyya Amman Uni	531	47.9%	578	52.1%	1109	87	40.1%	130	59.9%	217	130	61.6%	81	38.4%	211	39	58.2%	28	41.8%	67
American uni. Of madaba	49	28.3%	124	71.7%	173	4	0.0%	12	0.0%	16	0	0.0%	0	0.0%	0	0	0.0%	0	0.0%	0
Total	3378	30%	8025	80%	11403	535	28%	1386	72%	1921	1706	33%	3530	67%	5236	449	28%	1138	72%	1587

High Health Council / General Secretariat  
National HRH Observatory In Jordan  
Annex (2): Distribution of Public Health Sector Professionals Form in Jordan, 2016

Cadre	Cadre in Arabic	m	%	f	%	J	%	N.J	%	H	%	C	%	D	%	Total
G.P.s & Internship Physicians	الأطباء العامون وأطباء الامتياز															
Internship Physician	طبيب علم امتياز															
General Physician	طبيب عام															
Total																
Medical specialties	أطباء الاختصاص															
Radiology	أخصائي أشعة															
Obstetric	أخصائي نسائية وتوليد															
Forensic Medicine	إحصائي طب شرعي															
Internal Medicine	أخصائي باطني															
Dermatology	أخصائي جلدية															
Otolaryngology	أخصائي أنف وأذن وحنجرة															
Neurology	أخصائي أعصاب															
Orthopedics	أخصائي عظام															
Nephrology	أخصائي كلي باطني															
Physical Therapy & Rehabilitation	أخصائي علاج طبيعي وتأهيل															
Ophthalmology	أخصائي عيون															
Anesthesiology	أخصائي تخدير															
General Surgery	أخصائي جراحة عامه															
Family Medicine	أخصائي طب اسره															
Pediatrics	أخصائي أطفال															
Medical lab	مختبرات طبية															
Cardiac Surgery	أخصائي جراحة قلب															
Cardiology	أخصائي باطني قلب															
Plastic Surgery	أخصائي جراحة تجميل															
Psychiatry	أخصائي نفسيه															
Pulmonology	أخصائي صدرية															
Gastroenterology	أخصائي جهاز هضمي															
Urology	أخصائي جراحة كلي ومسالك بولية															
Emergency doctors	أخصائي طوارئ															
Public Health/Community Medicine	طبيب أخصائي طب مجتمع / صحة عامه															
Total																

Cadre	Cadre in Arabic	Gender (الجنس)		Nationality (الجنسية)		Work Place (مكان العمل)				Total						
		m	%	f	%	J	%	N.J	%	H	%	C	%	D	%	
Residency	الإقامات															
Radiology	طبيب مقیم أشعة															
Obstetric	طبيب مقیم نسائیه و توليد															
Forensic Medicine	طبيب مقیم طب شرعي															
Internal Medicine	طبيب مقیم باطني															
Dermatology	طبيب مقیم جادیه															
Otolaryngology	طبيب مقیم انف واذن و حجرة															
Neurology	طبيب مقیم اعصاب															
Orthopedics	طبيب مقیم عظام															
Nephrology	طبيب مقیم کلی															
Physical Therapy & Rehabilitation	طبيب مقیم علاج طبيعى وتأهيل															
Ophthalmology	طبيب مقیم عیون															
Anesthesiology	طبيب مقیم تخدير															
General Surgery	طبيب مقیم جراحه عامه															
Family Medicine	طبيب مقیم طب أسرة															
Pediatrics	طبيب مقیم أطفال															
Medical lab	طبيب مقیم مختبرات طبية															
Cardiac Surgery	طبيب مقیم جراحه قلب															
Cardiology	طبيب مقیم باطني قلب															
Plastic Surgery	طبيب مقیم جراحه تجميل															
Psychiatry	طبيب مقیم نفسيه															
Pulmonology	طبيب مقیم صدریه															
Gastroenterology	طبيب مقیم جهاز هضمي															
Urology	طبيب مقیم کلی ومسالک بولیه															
Emergency doctors	طبيب مقیم طوارئ															
Public Health/Community Medicine	طبيب مقیم طب مجتمع / صحة عامه															
Total																
Community Medicine Diploma	دبلوم طب مجتمع															
Public Health Masters	ماجستير صحة عامة															
Hospital Administration Masters	ماجستير إدارة مستشفيات															
Health Service Management Masters	ماجستير إدارة خدمات صحية															
Public Health/Community Medicine	طبيب مقیم طب مجتمع / صحة عامه															
Total																

Cadre	Cadre in Arabic	Gender (الجنس)			Nationality (الجنسية)			Work Place (مكان العمل)					Total			
		m	%	f	%	J	%	N.J	%	H	%	C	%	D	%	
Dentists	أطباء الأسنان															
Internship Dentist	طبيب أسنان امتياز															
(Dentist (General Practitioner	طبيب أسنان عام															
Total																
Dental Specialties	طبيب أسنان اختصاص															
Prosthodontics	أخصائي تركيب أسنان															
Orthodontics	أخصائي تقويم أسنان															
Maxillo-Oral Surgery	أخصائي جراحة فم وفكين															
Pediatric dentistry	أخصائي أسنان أطفال															
Endodontics	أخصائي معالجه لبنيه															
Conservative treatment	أخصائي معالجه تحفظيه															
Periodontics	أخصائي لثة															
Total																
Pharmacists	الصيدلنة															
Pharmacist	صيدلاني															
Pharm D	دكتور صيدلي															
Pharmacy Master	ماجستير صيدلة															
Pharmacy Doctorate	دكتوراه صيدلة															
Assistant Pharmacist	مساعد صيدلي															
Total																
REGISTERED NURSES	التمريض															
Staff Nurse	تمريض قانوني															
Patient care Nurse	رعاية منزليه															
Associated Nurse	تمريض مشارك															
Practical Nurse	تمريض مساعد															
Nurse Aid	عامل تمريض															
Midwives	قابله قانونية															
Total																

## High Health Council / General Secretariat

Annex (3): Distribution of private health sector professionals Form in Jordan, 2016

Cadre	cadre in Arabic	m	%	f	%	J	%	N.J	%	التراء
G.Ps & Internship Physicians	الأطباء العامون وأطباء الامتياز									
Internship Physician	طبيب عام امتياز									
General Physician	طبيب عام									
Total										
Medical specialties	اطباء الاختصاص									
Radiology	أخصائي أشعة									
Obstetric	أخصائي نسائية وتوليد									
Forensic Medicine	أخصائي طب شرعي									
Internal Medicine	أخصائي باطني									
Dermatology	أخصائي جلدية									
Otolaryngology	أخصائي انف واذن وحجرة									
Neurology	أخصائي أعصاب									
Orthopedics	أخصائي عظام									
Nephrology	أخصائي كلي باطني									
Physical Therapy & Rehabilitation	أخصائي علاج طبيعي وتأهيل									
Ophthalmology	أخصائي عيون									
Anesthesiology	أخصائي تخدير									
General Surgery	أخصائي جراحة عامه									
Family Medicine	أخصائي طب أسرة									
Pediatrics	أخصائي أطفال									
Medical lab	مختبرات طبية									
Cardiac Surgery	أخصائي جراحة قلب									
Cardiology	أخصائي باطني قلب									
Plastic Surgery	أخصائي جراحة تجميل									
Psychiatry	أخصائي نفسيه									
Pulmonology	أخصائي صدرية									
Gastroenterology	أخصائي جهاز هضمي									
Urology	أخصائي جراحة كلي ومسالك بولية									
Emergency doctors	أخصائي طوارئ									
Public Health/Community Medicine	طبيب أخصائي طب مجتمع / صحة عامه									
Total										

Cadre	cadre in Arabic	m	%	f	%	J	%	N.J	%	التواء
Residency	الإقامة									
Radiology	طبيب مقیم أشعة									
Obstetric	طبيب مقیم نسائي و توليد									
Forensic Medicine	طبيب مقیم طب شرعي									
Internal Medicine	طبيب مقیم باطني									
Dermatology	طبيب مقیم جلدیه									
Otolaryngology	طبيب مقیم انف وأذن وحجرة									
Neurology	طبيب مقیم أعصاب									
Orthopedics	طبيب مقیم عظام									
Nephrology	طبيب مقیم کلی									
Physical Therapy & Rehabilitation	طبيب مقیم علاج طبيعى وتأهيل									
Ophthalmology	طبيب مقیم عيون									
Anesthesiology	طبيب مقیم تخدير									
General Surgery	طبيب مقیم جراحه عامه									
Family Medicine	طبيب مقیم طب أسرة									
Pediatrics	طبيب مقیم أطفال									
Medical lab	طبيب مقیم مختبرات طبية									
Cardiac Surgery	طبيب مقیم جراحة قلب									
Cardiology	طبيب مقیم باطني قلب									
Plastic Surgery	طبيب مقیم جراحة تجميل									
Psychiatry	طبيب مقیم نفسيه									
Pulmonology	طبيب مقیم صدریه									
Gastroenterology	طبيب مقیم جهاز هضمي									
Urology	طبيب مقیم کلی ومسالك تولىه									
Emergency doctors	طبيب مقیم طوارئ									
Public Health/Community Medicine	طبيب مقیم طب مجتمیع / صحة عامه									
Total										
Community Medicine Diploma	دبلوم طب مجتمیع									
Public Health Masters	ماجستير صحة عامه									
Hospital Administration Masters	ماجستير إدارة مستشفيات									
Health Service Management Masters	ماجستير إدارة خدمات صحية									
Public Health/Community Medicine	طب مجتمیع / صحة عامه									
Total										
Internship Dentist	طبيب أسنان امتياز									
Dentist (General Practitioner)	طبيب أسنان عام									
Total										

Cadre	cadre in Arabic	m	%	f	%	J	%	N.J	%	اللاء
Dental Specialties	طبيب أسنان اختصاص									
Prosthodontics	أخصائي تركيب أسنان									
Orthodontics	أخصائي تقويم أسنان									
Maxillo-Oral Surgery	أخصائي جراحة فم وفكين									
Pediatric dentistry	أخصائي أسنان أطفال									
Endodontics	أخصائي معالجة لبية									
Conservative treatment	أخصائي معالجة تحفظيه									
Periodontics	أخصائي لثة									
Total										
Pharmacists	الصيدالة									
Pharmacist	صيدلاني									
Pharm D	دكتور صيدلي									
Pharmacy Master	ماجستير صيدلة									
Pharmacy Doctorate	دكتوراه صيدلة									
Assistant Pharmacist	مساعد صيدلي									
Total										
REGISTERED NURSES	التمريض									
Staff Nurse	تمريض قانوني									
Patient care Nurse	رعاية منزليه									
Associated Nurse	تمريض مشارك									
Practical Nurse	تمريض مساعد									
Nurse Aid	عامل تمريض									
Midwives	قابله قانونية									
Total										

M: male

F: female

J: Jordanian

N.J: non-Jordanian

H: hospital

C: center

D: directorate





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