Iraq health care system: An overview

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Abstract

Iraq is emerging from several decades of wars followed by long periods of violence and insecurity. Many avoidable shortcomings in the health sector that result in poor quality health services are due to inaccessible data, information, and knowledge. Lost and unreliable data, poor documentation, lack of access to available knowledge all impede the delivery of high quality health care services. The aim of this paper is to describe the health care system in Iraq. The Iraq health system will be described according to one of the description methodology proposed by the WHO.A general background including the basic information of the country will be first presented followed by a description of the Iraq health system including a short account on the evolution of the Iraqi Ministry of Health (MOH) and the organizational structure of the health care system. A description of the National health policies will be provided in addition to an overview of the mission, vision and policies of the MOH and the outline of the MOH strategic plans. An account of the current health situation in term of morbidity, mortality and chronic disorders will also be provided.

Keywords: Iraq, Health care system.

Introduction

Iraq is emerging from several decades of wars followed by long periods of violence and insecurity. In spite of extreme difficulties, the Iraqi national health system represented to a large extent by the Iraqi ministry of health (MOH) is functional and achieved a good progress in term of service provision. The MOH made a great effort in the provision of heath service including the effort made to treat patient whom couldn't be treated in Iraq out side Iraq.

Improving health requires strengthening four major domains of the health care system; personal health management, health care delivery, public health, and health related research. Many avoidable shortcomings in the health sector that result in poor quality are due to inaccessible data, information, and knowledge. Lost and unreliable data, poor documentation, lack of access to available knowledge all impede the delivery of high quality health care services. [1, 2].The aim of this paper is to describe the health care system in Iraq to provide a basic documentation of the Iraqi health system.

General background: Certain basic information of a country is necessary for the understanding of the national health system.

Iraq lies between Turkey on the north, Iran on the east, Kuwait on the south, and Saudi Arabia, Jordan, and Syria on the west. Iraq occupies 435052 Km^2 .Iraq is divided into eighteen governorates (or provinces) .The total population of Iraq was estimated to be 28,506,000 in 2006 indicating that the population of Iraq has more than doubled during the last 25 years. In 2007, 67% of the population was living in urban regions [3]. Figure-1 shows the percentage of various age groups of Iraq population.85% of the population were

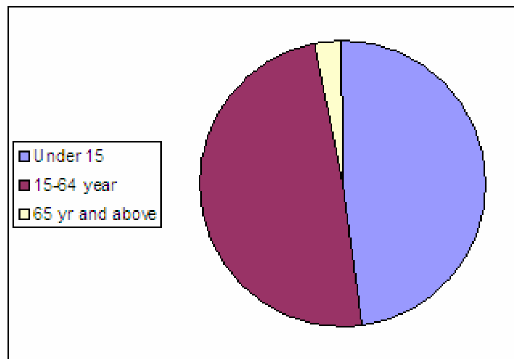

Figure (1): The percentage of various age groups.

considered dependent. The total fertility rate per woman was 65 in 2007.

The life expectancy at birth was estimated at 48 years for males and 67years for females. Healthy life expectancy at birth (Estimated in 2003) was 49 years for males 51 years for females. The probability of dying under five (per 1 000 live births) was 47. The probability of dying between 15 and 60 years m/f (per 1 000 population) was 607 for males and 187 for females.

In 2007 the crude birth rate per 1000 population was estimated at 37 and the crude death rate per 1000 population was 8 and the population growth rate was estimated at 3%.

In 2006 the adult literacy rate was estimated at 65%

The total expenditure on health per capita (Intl $, 2006): 124. The total expenditure on health as % of GDP (2006): 3.8 [4].

Health care system in Iraq

Organizational structure of the Iraq health system

The Iraqi Ministry of health (MOH) is the backbone of the health system in Iraq and the main health care provider. Private medical sector also exist and other agencies such as the Red Crescent also contribute to the health services. Therefore, the major components of health system infrastructure of Iraq are directed by the MOH.Figure-2 shows

The Iraqi MOH was established after the establishment of the modern Iraqi government during the year 1921.The MOH persisted for few months before it was converted into Health General Administration affiliated to the ministry of Labour and Social affairs. That Health General Administration concentrated mainly on curative services and to some extent preventive services. The Iraqi Health General Administration activities expanded after the establishment of the WHO in 1947as that period witnesses advances in curative and preventive medicine. In November 23, 1952 the Iraqi MOH was re- establishment again as independent ministry. During that time the MOH consisted of 2 main directorates; the directorate of preventive medicine and the directorate of general medical services.

The preventive directorate included 11 institutes (Nutrition institute, Tuberculosis institute, Bejel institute for

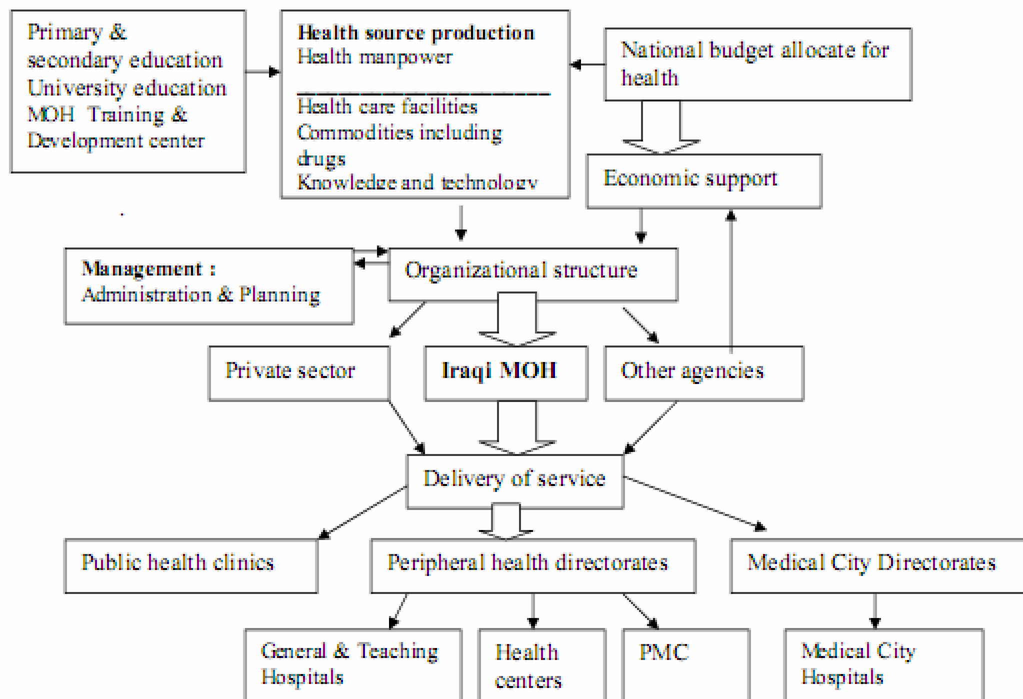

Figure (2): A simplification of the National Iraqi Health systems

the treatment of venereal disorders, Vaccine & Sera institute, Endemic diseases institute ,Maternal and Child health institute, Health engineering institute, School services institute, Capital and city health institute, Epidemics, and world health institutes. The directorate of general medical services included hospitals, central medical clinics, dispensaries, and institutes for investigations (X-ray, bacteriology and pathology institute).A higher council of health was formed to plan the curricula of health administration (the curative and preventive services).

Several administrative offices (directorates) were established in the governorates and were called "Liwa". In each Liwa, a preventive and health directorates were established.

Until 2003, the military health services provided healthcare to military personnel and their families. The military medical facilities have now been transferred to the MOH and most of military health professionals have transferred to the MOH institutions.

All governmental general, teaching hospitals, and primary care health centers are affiliated with Iraqi Ministry of Health (MOH)

Currently, there are three deputies of health in the ministry in addition to the minister; deputy of technical affairs, deputy of administrative affairs and deputy of building and construction affairs. The are also the Inspector general of the MOH. There are several central directorates in the headquarter in addition to the two health directorates in Baghdad and the health directorates in each province of Iraq.Table-1 shows the current structure of MOH. The administrative structure of the peripheral

directorates is similar to the structure of the MOH. Hospitals (General and teaching), primary health care clinics and health centers are affiliated with peripheral health directorates. The health directorates of 3 northern provinces (Sulaimanyia, Erbil, and Dohouk) affiliated with Ministry of Health the Kurdistan.

National health policies: The current constitution and health care

Article 30 of the current Iraq constitution stated that "The state guarantee to the individual and the family - especially children and women -social and health security and the basic requirements for leading a free and dignified life. The state also ensures the above a suitable income and appropriate housing".

Table (1):The structure of the Iraqi MOH

Headquarter

1-Higher Offices of the minister, 3 deputies, General inspector.
2-Directorate of planning and human resources development:
  Department of Health policies and strategic planning
  Department of Health information technologies
  Department of Manpower and higher education
  Nursing affairs
  Department of Health economic and financial planning
3-Directorate of administration, legal and financial affairs.
4-Directorates of projects and engineering services
5-Directorate of Technical affairs
6-Directorate of Medical operations and special services
7-Directorate of public health and primary health care
8-Kimadia the state company for drug marketing
9-Directorate of Medical City
10-Training and development center

Public health clinics

Peripheral health directorate

Article 31 of the current Iraq constitution stated that "Every citizen has the right to health care. The state takes care of public health and provides the means of prevention and treatment by building different types of hospitals and medical institutions". Article 31 of the constitution also stated that "Individuals and institutions may build hospitals or clinics or places for treatment with the supervision of the state and this shall be regulated by law".

The constitution also stated in the same article that "the State guarantees the social and health security to Iraqis in cases of old age, sickness, employment disability, homelessness, orphanage or unemployment, and shall work to protect them from ignorance, fear and poverty. The State shall provide them housing and special programs of care and rehabilitation. This will be organized by law".

Article 32 of the constitution stated that "The State cares for the handicapped and those with special needs and ensure their rehabilitation in order to reintegrate them into society. This shall be regulated by law".

Article 33 stated that "Every individual has the right to live in a safe environment" and "The State undertakes the protection and preservation of the environment and biological diversity".

During several decades prior to the year 2003 the Iraqi heath care system was too centralized. Currently, the Iraqi is mostly centralized in policy making; financing while is decentralized to large extent in term of service provision. The emerging Iraqi constitution will gradually give more opportunities to the health

Health	Assistant	Nurses	Pharmacists	Dentists	GP	Year
	2,831	10,741	893	1653		1993
	2.531	10.880	2034			1999
23,061	2,161	11,566	1956	2.233	7,412	2000
24,487	2.396	12.280	1765	2.283	7.863	2001
	2.623	15.183	1702			2002
	2.849	31.263	2455			2003
36,305	2,971	30,736	1955	3,668	11,742	2004
33.385	2,684	35,713	3023	3,496	11.870	2005
35863	2,581	31782	3357	3515	11,012	**2007**

Table (2): Health workers 1993-2007

to contribute to the central policy making.

Mission, vision and policies

The mission of the Iraqi MOH is the provision of the health and medical services including curative and preventive services in all times and the management of health professions human resources [5].

1-Improving primary, secondary and tertiary health services with a target aim being 5% reduction in the morbidity and mortality of children under 5 years of age and achieving a 3% reduction in maternal mortality.
2-Controling communicable diseases in particular hepatitis and neonatal tetanus.
3-Reducing the prevalence of malnutrition.
4-Expansion of the physical and mental rehabilitation programs for handicapped.
5-Improving the emergency medical and blood transfusion services and establishment of disasters teams.
5-Improving the availability of medicines and medical equipment.
6-Building and rehabilitating the infrastructure of health institutions.

Health financing

Iraqi MOH is largely centrally funded by the government. During the period from 192 to 1883 the services provided by the MOH was totally free. In 1983 the Nursing House Hospital [Affiliated to Baghdad Medical city] which is the first hospital charging low fees were established. In 1984 a low fee began to

be charged from patients attending public health clinics. During the same year a fee in USD has began to be charged from foreign visitors. In 1997, seven hospitals in Baghdad began to charge higher fee and adopting a self financing policy [Law 127] .In 1999 all the governmental hospitals and health centers adopted the self financing policy [Law 132].In 2003 theses self financing laws were abandoned and the MOH returned to providing the service for free. Patients visiting outpatients, consultation clinics, and public clinics are paying very low fee and receiving the available medications for free.

The Health workforce in Iraq

In 2007 there were 15994 doctor in Iraq including 4982 specialist doctor and 11012 practitioners (Non specialists).Table-1 shows the number of various health workers during several years.Figure-3 shows the distribution of specialist physicians to the major medical specialties.

Health service delivery

The health services are delivered through hospitals, primary health centers and public health clinics as shown in Figure-2. In 2007 there were 232 hospitals [Hospitals of the 3 northern provinces of Kurdistan couldn't be included]; 156 governmental with 32641 beds and a bed occupancy rate of 57.1. Figure -4 shows the distribution of beds in governmental hospitals to the major medical specialties. There were 7 pediatric hospitals, 14 obstetric and pediatric hospitals and 4 gynecology and obstetric hospitals.

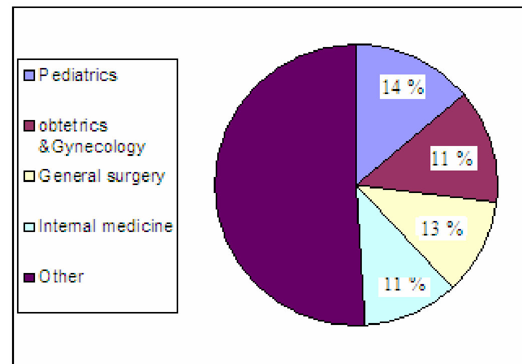

Figure (3): The distribution of specialist physicians to the major medical specialties.

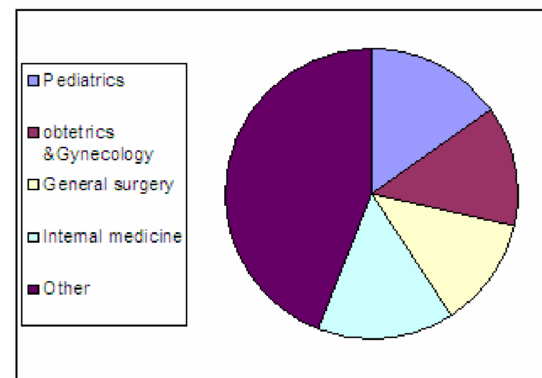

Figure (4): shows the distribution of beds in governmental hospitals to the major medical specialties.

There are 60 private hospitals with 1749 beds. In 2007 a total of 2093648 patients were hospitalized in both governmental and private hospitals. 1660114 patients were admitted to governmental hospitals (521054 males and 1139060 females) with a fatality rate of 2.2%. 558637 surgical operations were performed [Surgical operation in Kurdistan region cannot be counted] including 213185 major operations.

A total of 869967 new live births were recorded (476700 in governmental hospitals, 68337 in private hospitals and outside hospitals).

In 2003 there were 1717 primary health care center (PHC) in Iraq. About half are staffed by doctors, the rest by nurses and

medical assistants. In 2005 the number of PHC increased to 1854.

Morbidity, mortality and chronic disorders

During the years 2004 and 2005 the most common cause of hospitalization for patients over 5 years of age was accidents. A total of 282770 accidents were registered from all Iraqi Provinces during the year 2005.There were only 111 cases of sexual assaults. Figure -5 shows the percentages of various types of accidents registered during the year 2005. Road traffic accidents was the single most common type of accidents accounting for 25.75% of all registered cases of accidents.

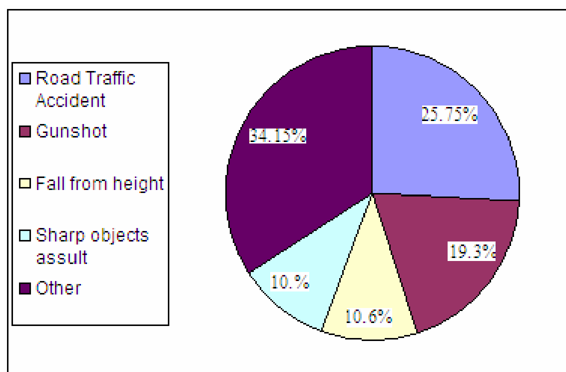

Figure (5): The percentages of various types of accidents during the year 2005.

During these two years the second most common cause of hospitalization was cardiac and cardiovascular disorders. Abortion was the third most common hospitalization and gastrointestinal infections was the 4th most common cause of hospitalization in 2004. Gastrointestinal intestinal infections was the third most common hospitalization and Abortion was the 4th most common cause of hospitalization in 2005. Table-3 shows the top leading causes of morbidity in 2007.

Disorder	Percentage
1-Gastroenteritis	9.3%
2-Accidents	5.5%
3-Bronchitis	3%
4-Abortion	2.9%
5-Respiratory infections and pneumonia	2.8%
6-Cardiovascular diseases	2.4%
7-Malignancy	1.8%
8-Inguinal hernia	1.3%
9-Urinary tract infections	1.1%
10-Diabetes	1.1%

Table (3): The top leading causes of morbidity in 2007.

During the years 2004 and 2005 the most common cause of hospitalization for patients under 5 years of age was gastroenteritis. A total of 897441 cases of diarrheal illnesses were registered from all Iraqi provinces during the year 2004 and a total of 935919 cases of diarrheal illnesses were registered from all Iraqi provinces during the year 2005. During these two years the second most common cause of hospitalization was lower respiratory tract infections and disorders associated with bronchospasm including bronchial asthma.

A total of 193716 cases of pneumonia were registered from all Iraqi provinces during the year 2004 and a total of 163396 cases of pneumonia were registered from all Iraqi provinces during the year 2005. Inguinal hernia was the third most common hospitalization in 2004. Idiopathic respiratory distress syndrome was the third most common hospitalization in 2005.

During the years 2004 and 2005 the most common cause of death in patients over 5 years of age was cardiac and cardiovascular disorders. During the year 2004 the second most common cause of death was malignancy. During the year

2005 the second most common cause of death was accidents. During the year 2004 the third most common cause of death was accidents. During the year 2005 the third most common cause of death was malignancy. During the years 2004 and 2005 the fourth most common cause of death in patients over 5 years of age was renal failure. Table (4): The top leading causes of death in 2007.

During the year 2004 the most common causes of death in patients under 5 years of age in order of frequency were idiopathic respiratory distress syndrome, septicemia, accidents, pneumonia, prematurity, congenital abnormalities, malnutrition, chronic renal failure, and diarrheal illnesses.

Disorder	Percentage
1- Cardiovascular diseases	27.8%
2- Accidents	27.1%
3- Malignancy	5.6 %
4- Senility	4.2 %
5- Septicemia	3.2%
6- Renal failure	3.1%
7-Cerebrovascular accidents	2.9%
8- Hypertension	2.8 %
9- Diabetes	2.5%
10- Asthma	2.4%

Table (4): The top leading causes of death in 2007.

During the year 2005 the most common causes of death in patients under 5 years of age in order of frequency were, septicemia, pneumonia, congenital abnormalities, diarrheal illnesses, prematurity, accidents, neonatal

hyperbilirubinemia, idiopathic respiratory distress syndrome, and meningitis.

Hypertension was the commonest chronic disorder during the year 2005 with a total of 285892 registered cases from all provinces of Iraq. Diabetes mellitus was the second most frequent chronic disorder during the year 2005 with a total of 148519 registered cases from all provinces of Iraq. Cardiovascular disorders was the third most frequent chronic disorder during the year 2005 with a total of 132933 registered cases from all provinces of Iraq. Asthma was the fourth most frequent chronic disorder during the year 2005 with a total of 83967 registered cases from all provinces of Iraq. Epilepsy was the fourth most frequent chronic disorder during the year 2005 with a total of 55158 registered cases from all provinces of Iraq.

Discussion

Advances in medical knowledge and treatment capabilities often take too many years to reach Iraqi patients; many modern therapeutic interventions are not available for Iraqi patients. Practice patterns differ across institutions and regions, resulting in varying health outcomes and costs of care.

Transfer of technology and change management

During the previous 2-3 years, the Iraqi Ministry of Health with assistance of donors such as the British government has arranged for training programs for Iraqi health professionals such as specialist physicians and nurses in the United Kingdom. Around 350 health professionals in various specializations have completed their training in the United Kingdom. Emphasis was made on training on "Change management" and learning how health systems work. The doctors who are working in various hospitals and health directorates and

have completed their training will propose a project and try to implement it with help and supervision of the Iraqi Ministry of Health. Until now about 27 change projects were successfully implemented. In addition, there are more than 100 change projects are currently under consideration by the Iraqi Ministry of Health.

The Ministry of health arranged for training programs in many other countries such as India, Turkey, Iran, Jordan, Syria, and Lebanon .In some of these programs, health professionals accompanied the patients whom required surgical operations that can't be performed in Iraq such as corneal implantation and deep brain stimulation, and knee arthroplasty.

These training programs will help the Iraqi Ministry of Health in establishing a new advanced centers such as Bone marrow and liver transplantation centers.

The health care system in Iraq is further weakened by the lack of a national health research systems (NHRS), which hinder the generation of new information and knowledge for diagnosing and providing solutions; monitoring of health system performance; development and production of new technologies and health products for tackling priority diseases and health conditions; and innovating ways of accessing and putting into effective nationwide use the existing cost effective promotive, preventive, curative, rehabilitative and care interventions.

A national health research system is a system that integrates and coordinates the vision, mission, objectives, structures, processes, cultures and outcomes of health research towards improvement in the national health system's performance of its functions of stewardship, health financing, resource creation, resource allocation and service provision and also achievement of health system goals – health, responsiveness to people's non-medical expectations and fair financial contributions [8, 9].

Evidence is critically needed to guide strengthening of national health systems to facilitate scale-up of proven interventions and health services.

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