

Reviewing the Top Health Systems in Comparison with the Iraqi Health System

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Abstract:

Background: The assessments of performance in any health system is challenging goal. The objective of current article was to review the top healthcare systems then compare them with Iraqi health system.

Methods: The top 12 commercial Health Systems in 2020 ranked by a survey of more than 20,000 international citizens from 73 countries on 65 diverse metrics. These metrics vary from simple to critical health system performance criteria.

Results: Up to January 2020, the review showed that Canada has the top Health System. Most other top countries were Europeans. There were some strong and weak points in each health system. Iraqi health system struggles with several obstacles that need rehabilitation.

Conclusion: Iraqi health system needs some improvements. The Netherlands Health system model improves the Iraqi health system.

Keywords: Review, Commercial, Health Systems, comparison, Iraqi health system.

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Introduction:

The components of all health systems are public health requirements and primary healthcare. All health systems differ in these components considerations. Ranking health systems is vital for reporting weak points (1). A health-relevant measure is an example of these indicators; it depends on surveys and statistical methods assigned to each indicator (2). The funding health systems are fundamental to check the system. There are various types of funding health systems (3).

Table 1: Models of health systems

	Universal		Non-Universal	
	Single Financier	Multi-Financier	Multi-Financier	No Insurance
Multiple Providers	National Health Insurance	Bismarck Model	Private Health Insurance	Out-of-pocket
Single Provider	Beveridge Model			

Health insurance is a vital parameter that increases the rank of the health system. Health insurance system assures national people against health care costs. It can be driven by a private sector, a public sector, or a mixture of both. In many health systems, general taxation supplies the payments (4).

The World Bank organizes countries' economies into four income sets; high, upper-middle, lower-middle and Low. This classification is renewed each year in July. Iraq had been classified within the upper-middle countries by economy. New multidisciplinary research, called Health Policy and System Research (HPSR), detects health research and focuses on middle and low-income countries (such as Iraq) (5). The Iraqi citizens' healthcare is the responsibility of Iraqi Ministry of Health (MOH). The latter controls the private and Red Crescent services. It offers good health service for patient management and to prevent diseases in Iraq. In the last twenty years, Iraq suffered from USA war, sanctions and ISIS conflict. So, there was a deficiency in health care, health management and public health. This instability made Iraq lose efforts to rebuild its health system. The lack of healthcare services in 2015/2016 led to weal healthcare quality. Inaccessible data and weak security affected the quality of Iraqi healthcare services. This article reviews the top healthcare systems and compares the Iraqi health system with them as well as to decide the most suitable system for improving the Iraqi health system.

Materials and Methods:

The top 12 commercial Health Systems in 2020 ranked by a survey of more than 20,000 international citizens from 73 countries on 65 diverse metrics. These metrics vary from simple to critical health system performance criteria.

Results

Up to January 2020, the review showed that Canada has the top Health System. Most other top countries were Europeans. There are some strong and weak

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points in each health system. Iraqi health system struggles with several obstacles that need rehabilitation.

Table 2: Comparisons between health systems in some specific details (6)

	103 th	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th
	Iraq	Canada	Denmark	Sweden	Norway	Germany	UK	Japan	Australia	Dutch	Swiss	USA	Russia
Patient Paid services	free	30 %	vary	vary	vary	vary	vary	70-100 %	67-100 %	vary	vary	vary	free
multi-payers	#	present	present	present	present	#	present	present	#	present	#	#	present
Drug	free	30 %	vary	vary	vary	vary	free	vary	vary	vary	vary	vary	free
eHealth	Starting	present	chief	present	present	present	present	present	present	#	present	present	starting
private health care	extensive	Dental optometry	vary	rare	Lowest in the world	vary	vary	vary	vary	vary	vary	vary	vary
Elderly	free	vary	vary	vary	vary	vary	free	vary	vary	#	vary	vary	vary
health insurance	none	present	present	present	present	#	present	obligate	present	present	present	present	present
private health care insurance	none	present	present	present	present	#	present	present	present	present	obligate	present	present
Health economics	mixed	mixed	mixed	mixed	mixed	union pattern	mixed	mixed	mixed	mixed	mixed	mixed	mixed
pharmaceutical industry	few	present	present	present	present	extensive	present	present	present	present	present	present	present
Screening	none	present	present	present	present	present	present	chief	present	breast	present	present	present
Health care distribution	vary	vary	vary	vary	vary	vary	vary	Equal	vary	vary	vary	vary	vary

#: denotes this metric is prominent in this system.

Discussion:

Canada health system is in a dynamic process, with reforms changed in the last forty years. It continues to change throughout Canadian society, yet, the same basics; universal cover of health care services. Also, until January 2020, Canadian Health System was on top healthcare systems in the world (6). The Health System in Canada practised the province with local systems called Medicare. It has been established in 1984 by the provisions of the Canada Health Act and it has become universal. Canadian Medicare offers 70 % of Canadians healthcare needs and 30% of Canadians paid. This 30% relates to health services which are not provided or offered by Medicare. These services include drug prescription, optometry and dentistry (7). Canadians have the highest rate of adult obesity, diabetes Mellitus, cancer, respiratory diseases. Also, cardiovascular diseases form 65% of deaths in Canada. The limitations of Canada's health system were: long waiting times, lack of drugs prescription, higher infant mortality rate, poor

accessibility of after-hours care, the prevalence of chronic diseases and lack of dental coverage (8). On the other hand, Denmark healthcare system depends on tax-funded run. There is a free option private health sector. The patients pay for fertility procedures, cosmetic surgery and prescription medication. Denmark health system is inexpensive compared to the U.S. system. Moreover, up to date, Health System rank of Denmark is the second in the world (6). The five regions are under the regulation of the central Denmark government, however, home care, nursing homes, school health services are the tasks of the cities' councils. Central Danish government healthcare is 84% funded from regional public taxation. The essential healthcare is sponsored by the taxpayer. The other least individual costs correlated to co-payments from private health insurance (9). Denmark Healthcare costs paid by two main ways: Public healthcare and Private healthcare. Public healthcare funding, which is about 84% of healthcare costs, is from governments. The healthcare

national tax is fixed at 8% of the total taxable salaries. The fees are spent in the five governments by the central government (10). Performance of Danish healthcare is evaluated via three parameters. These are: Denmark is the world's chief in the use of electronic technology in health care. All primary care physicians use electronic medical reports in clinical functions. Also, Denmark has established its health system for psychiatric diseases and the suicide ratio dropped down by 13% in 2015 in Denmark. Moreover, Denmark has The National Childhood Vaccination Program to vaccinate children against many diseases. The influenza vaccine for those aged 65+. The vaccination fees are provided by the regions, except vaccination of vacation travel. On the other hand, Sweden health system is universal to all Sweden people although it is expensive. Health facilities like cancer screen and immunization are free without co-payments. Healthcare services are non-paid for all citizens below 18 years. Also, Sweden has obtained the third rank for the Health System in the world (6). It is sponsored by the government for all citizens. The Swedish health system is funded by the taxes from 21 councils and municipalities. However, private health care is rare in Sweden. The private institutions are controlled by city councils. The 21 city councils set the rules and established private practices, especially in elderly healthcare. There are limitations in the Swedish health system due to the high access to primary health care. Most Swedish citizens use routine check-ups in the hospital; yet, the Swedish emergency units are small in size (11). Norwegian citizens pay for healthcare services, and the drugs are not free. The health policy is central, yet the health care is decentralised. Healthcare facilities had been set on local demand. There is Regional Health Authorities (RHA) with few private hospitals. Up to date, Norway has obtained the fourth rank of Health System in the world (6). In the Norwegian Health system, all hospitals are funded by the public. The medical treatment is free of costs for adolescents younger than the age of 16 years. Also, Norwegian adults should pay fees each year until they are qualified for an exemption card, which enables free healthcare for the rest of the year. All public hospitals are controlled by the four Regional Health Authorities through the Norwegian Ministry of Health. However, there are few private health clinics still functioning (12). Furthermore, all municipal fees of the Norwegian health system are totally paid for patients. In 2017, Norway has obtained the lowest private healthcare expenditure rates in the world. It includes all expenditures within the health sector of Norway (13). Germany has obtained the fifth Health System in the world up to 2020 (6). The German health system is self-funded by many payers. It is divided into three subdivisions: rehabilitation services, the hospital sector and outpatient care. The Germany health system consists of four values: Funding by insurance premiums, self-governance, Compulsory insurance and solidarity. It involves a general multi-payers health system. It had been sponsored by government health insurance and private health care

insurance. The Germany health system is the healthiest health systems in the world (14). Health economics in Germany are very well designed. A simple health care plan had followed to offer an onion pattern health system economics. Germany Healthcare has an extensive supplier sector with the best pharmaceutical industry. Also, it has a medical technology, comprehensive medical trade, and health tourism (15). The United Kingdom health system is established in 1948. It is the tax-funded system by national insurance. The United Kingdom Health policy had run by the central government. The United Kingdom has obtained the sixth rank of Health System in the world (7). There are four healthcare systems in the United Kingdom; England, Wales, Scotland, and Northern Ireland. Each of these regions is a tax-funded service. It had the same universal coverage, the same values, the same operation principles and offer inclusive benefits. In Wales and Scotland, the division of sale from delivering health care stopped in 2004 and 2009 (16). The competition between donors discouraged while a free prescription of drugs offered. Also, the sale of funded NHS care by private clinics and hospitals discouraged. Yet, there is a free individual social care for those above 65 years in Scotland. Patient safety is well controlled in UK healthcare (17). The Japan healthcare system has high standards with the lengthiest expected life worldwide. Non-Japanese visitors who need health care are encouraged for an interpreter and insurance card when visiting a doctor or clinic. The health staff suffer language barrier with English speakers. Japan gained the seventh rank of Health System in the world in 2020 (6). It offers health care facilities involving prenatal care, screening and infection control. The patient dependability is 30% of the total cost, while the Japan government provides the residual 70%. All Japan citizens are obligated by the Japanese law to take health insurance coverage. Japan employers who have no health insurance can enjoy the Japanese national health insurance plan. Furthermore, hospitals are non-profit (18). Health costs are organized by the Japanese government to keep fees reasonable. Japanese patients pay about 10- 30% of health fees while the government pays the residual fees. Yet, these rules based on the age of the insured and the family's income. In Japan, there is a threshold that adjusted for each household every month. If the health cost exceeds the threshold, it is reimbursed or waived by the Japanese government alternating per patient age or income. The citizens have to pay 100% of their health costs. The health costs can waive for low salary households having governmental aid (19).

There are three main factors that Japan's Health System can be different from European countries which are:

- Quality: In the last five years, Japan exceeded survival rates in lung and pancreatic cancers. The American and Japanese associations of oncology using an effective screening program. Studies have shown that surgical results for recording cancers are better in Japan (20).

- Access: The health system in Japan is number one of admission time to the medical healthcare centre. In Japan, the health costs are less compared to that in European countries. Japan permits three times admissions to the hospitals compared to the United States. Japan's hospital costs are cheaper for Japanese patients than in low-cost hotels. The deficiency in specialist doctors affects the Japanese health system (21).
- Insurance: Health insurance in Japan is mandatory for Japanese except 10% of citizens who refuse it. Thus, it seems optional insurance in practice. There are eight healthcare insurance systems in Japan for 3,500 health insurers. There is an isolated system of health insurance (Kaigo Hoken) for long term healthcare. The main problem for healthcare in Japan is the increase in health fees payments. Japan has rehabilitated its healthcare system by ordering industrial competitiveness enhancement action plan. The aim of which was to prevent existing diseases (22). The Australian state had run the fund and the management of the healthcare system. The government had run the policies and regulation. Australia has recently gained the eighth rank of the Health System in the world (6). Australia has an advanced healthcare system. Healthcare services are unequally distributed. Australia healthcare is organized by government and private companies under the control of Medicare. Australian health system is funded by the government besides private health insurance. The fees of health care are taken by not-for-profit companies. The costs are taken from patients or the family. Remote health and mental health services are based on volunteers (23). The Australian government offered 67% of expenditure through Medicare. The remaining 33% are paid by the individuals. Medicare-funded by a Medicare tax is a 2% levy on occupant taxable source. Higher-income payees introduce an extra tax named a Medicare Levy Surcharge. The 40% of health expenditure goes to the hospitals and 34% goes to primary health care (24). The Dutch health system had two reforms in 2000 to citizens' self-reliance. The performance for standard healthcare facilities is simple and decreases the waiting time. Simple health insurance and lower-income shield citizens from expensive spending. The Netherlands has obtained the ninth rank of Health System in the world in 2020 (6). The Netherlands healthcare system is subdivided into three different echelons. There were somatic or mental health departments. Healthcare can be either short term or long term. Netherlands home doctors form the principal part of the first echelon (25). The Dutch health system is effective compared to western countries. The institutionalized psychiatric care, overuse of inpatient care, and the elderly care are the characteristics of The Dutch health system. The Netherlands healthcare system is characterised by the following features: (26).
- Electronic health records: The General Practitioners and pharmacies use electronic health records. In Dutch hospitals, medical imaging systems and computerized order management are

standard. Electronic Data Interchange for Administration and the Transport (EDIFACT) are the common ways to exchange electronic patient information (27).

- Screening: The Netherlands' healthcare system uses a mammographic screen plan for breast cancer. It is established in 1989 till the present time with some over-diagnosis (28).
- The Swiss health system has universal insurance. It permits a broad range of medical facilities for patient satisfaction. Swiss healthcare expenditures are high. Switzerland prevents disease by targeting people at high risk. In addition, Switzerland acquired the tenth rank of the Health System in the world in 2020 (6).
- Health system in Switzerland is controlled through the Swiss Federal Law for Health Insurance. It is not free as private health insurance is obligatory for all Swizz citizens. Health insurance enfoldes the fees of health services of the insured. The insured citizen pays some of the health fees through annual deductible costs named the franchise 10% of the health costs (29).

Swiss health system is covered by two main sources:

- Swiss Health System Compulsory coverage: Swiss citizens have basic health insurance in the Swiss Federal Law. Health Insurance is applied to Switzerland despite age or medical history. The insured Swiss individual pays for the principal plan up to 8% of the individual income. The Swiss government offers to the insured person a cash aid to wage for any extra fees. In pregnancy, there are no costs (30).
- Private coverage: The compulsory health insurance offers private insurance rules to cover some treatment types. It is not covered by basic health insurance. Yet, the insurance companies cannot add more cover to sex, age, or state of health (31).

Furthermore, the United States health system is not uniform, with no universal care coverage. It is a hybrid healthcare system. It has well-trained health staff. There are high-quality specialists with the best secondary institution. This system suffers from the incomplete cover of US peoples. The United States have no universal health agenda. It is owned and maintained by the private division business. The community hospitals are 58% non-profit, 21% are government-funded, and 21% are for-profit. Healthcare is offered by the public health coverage and by the private health insurance. Health insurance for populace workers had given by the US government in its job as employers (32).

In 2010, new laws ruled for the patient Protection and Affordable Care Act. A survey made in 2017 showed that the US health system is the most expensive and the worst healthcare system. The high cost of the US healthcare system is due to the difficult to reach health care (33).

As it is afforded by the government and the Russian Ministry of Health, the Russian Federation has delivered free healthcare to all Russian citizens since 1996. Spending on healthcare system was 6.5% of the Gross Domestic Product. Also, 5% of the people, in big cities, have volunteer health insurance (34).

The Russian healthcare system is similar to other European systems. There are limitations in the Russian system such as the poor organizational construction, a deficiency in the government funds, invalid medical equipments and the inadequate payment. Every Russian citizen receives free public healthcare via Obligatory Medical Insurance (OMI). OMI rules involve foreign residents and for both permanent and temporary. Many residents are included by the voluntary healthcare insurance (VHI) (35). Russian healthcare had significant growth in 2006 that exceeded previous years. In 2008, the life expectancy raised and the infant mortality decreased. Since 2008, there was an excellent fund to the Russian health sector. The obligatory health insurance funded by the companies for mandatory health insurance had increased.

Health system in Iraq

The Iraqi health system improvement and healthcare facilities achieved top levels in 1979. In the last four decades, healthcare lost priority. Iraqi healthcare system deteriorated gradually. This decline increased by military adventures, wars and economic sanctions. Iraq has offered a central, universal, and free healthcare system since the 1970s. It is offered by the hospital-based, a capital-concentrated pattern of medical care. Iraq relies on a large-scale income of drugs, medical tools, anaesthetists, and nurses (36). In addition, the income returns from oil export fees are monitored by the World Health Organization and the United Nations Children Fund in July 2003. Iraq established a West-like health system for high-level hospitals. The health practices are offered by specialist physicians. Iraqi health system focuses on mass healthcare operated by primary care practitioners. The Iraqi health system has been suffering from two main critical issues since the 1990s (37). These are:

- **Funding:** In 1980, Iraqi health system facilities were the best in the Middle East. The system was affected in 1992 as 90% of the health money support was cut out due to the economic blockade and resulted in a significant health care deterioration. Maternal mortality has increased to three folds. There was a remarkable decrease in the medical requirements fees of Iraqi personnel. The Iraqi economics issues had affected other living causes which affected the health conditions and funds. Iraqi health conditions have fallen in more miserable situations in southern Iraq as in water-borne diseases and malnutrition (38). In 2004, new developments initiated using international funds. There were 1,200 primary health centres and 240 qualified hospitals. Healthcare conditions re-fell down from 2005 to 2007

due to internal violent wars. Some Iraqi hospitals are not working well due to the migration of trained professionals. Iraqi citizens suffered from mental health diseases, like anxiety and bipolar disorder. These mental health diseases are the influences of the 2003 war. In February 2016, the Iraq Ministry of Health charged patients for health services. The healthcare financial plan for 2016 declined to 25% (39).

- **Staffing:** Two thousands or more of Iraqi doctors were killed from 2003 to 2014. Many surgeons, anaesthetists and female nurses were threatened by patients' relatives. Most of these relatives belong to local militia or are thugs. Instead, few qualified people get healthcare jobs. Iraq contracted many government commissions for foreign medical staff such as Indian health staff. Iraqi doctors reported harm and compensation if patient's relatives disappointed to efforts. New Iraqi rules established in 2010 for anyone harms, attacks or threats doctors (40).

Comparison between Iraqi Health System and Top Health Systems

1. The Danish healthcare system relies on private healthcare insurance. So, it is not offered by public healthcare funds. This makes Danish health system inapplicable in Iraq.
2. Canada obtained the first healthcare system, but there are limitations in this system like the long waiting times, lack of drugs prescription, the higher infant mortality rate, the poor accessibility of after-hours care, and lack of dental coverage. This makes it inapplicable in Iraq.
3. The healthcare systems like German, Norwegian or Sweden need high extra payments. They need highly educated people which make these systems also applicable in Iraq.
4. The Japanese healthcare system has superior technology and higher payments than European systems. Therefore, Japanese healthcare system is not suitable to Iraq.
5. The Russian healthcare system is unsuitable for Iraq due to the low funds, invalid medical equipment and inadequate payment.

Conclusion:

Iraqi health system needs some improvements and the Netherlands Health system model improves the Iraqi health system.

Authors' Contributions:

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مراجعة للأنظمة الصحية الأولى عالمياً ومقابلتها بالعراق لتطوير نظامه الصحي

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الخلاصة:

خلفية البحث: تسعى الدول على اختلاف أنظمتها الصحية لأفضل الخدمات الصحية لمواطنيها للحصول على خدمات صحية ممتازة ومتساوية بحيث تستجيب للكوارث أو الأوبئة مع تقليل الأخطاء.

الاهداف: تزوم الدراسة لمعاينة أفضل الأنظمة العالمية في خدمات الصحة ومقابلتها بالعراق لتطوير نظامه الصحي. المرضي وطرق العمل: اشتملت الدراسة مراجعة مركزة لأفضل أنظمة الصحة العالمية. ارتكزت الدراسة على تصنيف لأنظمة الصحة العالمية في سنة 2020. اخذت الدراسة اعتبار الدراسات السابقة للمنظمات المختصة بالصحة والتي اشتملت على اجابة أكثر من 100.000 مواطن في دول مختلفة وبوتيرة عشوائية عن اكثر الأنظمة العالمية تميزاً وفق 70 عنصر. احتوت هذه الدراسة حالة نظام الصحة العراقي في اخر خمس عقود الى الان.

النتائج: كل الأنظمة العالمية للصحة فيها جوانب ضعف وجوانب قوة. اظهرت الدراسة كون نظام كندا الصحي هو افضل نظام صحة عالمي، يحذوه نظام الصحة الدنماركي، فالنظام الصحي السويدي. يعاني النظام الصحي العراقي من بعض العوائق التي يمكن اصلاحها.

الاستنتاجات: جوانب الضعف في نظام الصحة العراقي يمكن تطويرها بإدخال بعض التطويرات عليه. ومن الممكن الاقتداء بالأنظمة الأفضل صحياً بحيث تأخذ طبيعة مجتمعنا العراقي بالاعتبار.

مفتاح الكلمات: مراجعة، مقارنة، اقتراحات، تطوير، النظام الصحي العراقي.