

New Strategic Initiatives – A Case Study of the Saudi Health Ministry

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Abstract

The Saudi health care system, is currently being transformed from a publicly financed and managed welfare system to that of a market-oriented, employment-based, insurance-driven system. This article studies the current health strategies, as well as challenges and future prospects of the Saudi Ministry of Health. It has been observed that there is inadequate coordination between some health industry sectors. There is need for a more extensive and rational health center network with improved information systems and data collection. There appears to be scope for a greater role for the private health sector and increased cooperation between it and the public sector to improve health service delivery. This is necessary if it is to achieve the ambitious goals set by the most recent (Ninth) health development plan.

In the light of the above observations, it is proposed to prescribe appropriate recommendations to policy makers through an integrated new six dimensional model approach. The six dimensions are 'Holistic Healing', 'Education', 'Access', 'Leadership', 'Technology', and 'Human Resource', - the 'HEALTH' approach.

Keywords: Saudi Ministry of Health, Health care system

Introduction

Health care services in Saudi Arabia have been given a high priority by the government. During the past few decades, health and health services have improved greatly in terms of quantity and quality, as evidenced by the availability of health facilities throughout the Kingdom. The Saudi healthcare sector is structured to provide a basic platform of healthcare services to all, and is primarily managed by the Government through the Ministry of Health (MoH) and a number of semi-government organizations who specifically operate hospitals and medical services for their employees. In addition the, private sector operators are also playing a key role in providing quality healthcare services in the Kingdom. The Saudi Ministry of Health (MoH) provides over 60% of these services while the other government agencies provide 20% and the private sector the remaining 20%. According to the Saudi Arabian General Investment Authority (SAGIA), in 2005 KSA spent US\$ 13 Billion on health care, 25 percent of which was supplied by the private sector. Public healthcare spending saw a compound annual growth rate of 7.2 percent between 1999 and 2005. It is expected to reach US\$20 Billion by 2016.

According to the World Health Report (2000) of the World Health Organization (WHO), the Saudi health care system is ranked 26th among 190 countries in terms of the overall health system performance, and is well ahead of many advanced countries. The sound economic policies and well-established industrial infrastructural base has also helped in raising the Saudi per capita income.

Historical Background

The creation of the Kingdom's healthcare system coincided with King Abdul Aziz's takeover of Al Hijaz and his designation of Mecca as the first Saudi capital. In 1343H corresponding to the year 1925, King Abdul Aziz established the Public Health Department (PHD) in Makkah. This department was responsible for sponsoring and monitoring free health care for the population and pilgrims through establishing a number of hospitals and dispensaries. While it was an important first step in providing curative health services, the national income was not sufficient to achieve major advances in health care, and the incidence of epidemic diseases remained high among the population and pilgrims. In 1344H\1925, the Public Health and Ambulance (PHA) was established to meet the needs of the Kingdom's health and environmental sectors. The PHA built hospitals and health centers across the Kingdom and issued and enforced regulations to guarantee adequate standards for the practicing of medicine and pharmacology. The increasing scope of healthcare services needed in the Kingdom during that period, including care for Hajj and Umrah performers, created the need for the formation of a Public Health Council. This council was the highest-level supervisory board in the Kingdom, and oversaw all aspects of healthcare, including all hospitals and healthcare centers nationwide. The council's main goals included the development of a skilled healthcare workforce, as well as the control of diseases and epidemics which were prevalent during that time. Eventually, it was necessary to create a large-scaled, specialized organization to carry out the Kingdom's health affairs. Royal decree Num. 8697\11\5 was issued on 26-8-1370H \ 1950 to establish the Ministry of Health (MoH). With the establishment of the Ministry, King Abdul Aziz's early vision of modern national healthcare services was well on its way towards becoming a reality. Twenty years later, in 1970, the 5-year development plans were introduced by the government to improve all sectors of the nation, including the Saudi health care system. Since then, the Kingdom has made huge advances in the organization of its health care system. This huge interest in developing healthcare is embodied and manifested in Article 31 of The Basic Law of Saudi Arabia, which states "the State shall protect public health and provide healthcare to every citizen".

Current Scenario

Saudi Arabia is the Middle East's largest market of healthcare consumers. As Saudi Arabia's population continues to expand rapidly and urbanization continues, millions of new healthcare consumers will be added to KSA's existing cities as well as the new Economic Cities. Aided by large budget surpluses, the public sector is set to make unprecedented investments to support healthcare provision and complementary sectors such as scientific research. Such investments will require strong private sector partnerships as well, to sustain and capitalize on expected demand. The Saudi Cabinet approved the 9th Development Plan for the Period 2010-2014 with an overall budget amounting to SR 1.4 Trillion. The government is playing an increasingly active role in the provision of healthcare in Saudi Arabia, thus positioning it as a vital factor in terms of the sectors' outlook. Healthcare expenditure by the government has grown at a CAGR of 18.0 percent between 2005 and 2012. The total Saudi budget came in at

SR690 billion in 2012, versus SR580 billion in 2011, a YoY increase of 19 percent. However, total spending on the healthcare sector increased 26 percent YoY, from SR68.7 billion in 2011 to SR86.5 billion in 2012. This represented 12.5 percent of the total budget in 2012 compared to 11.8 percent in 2011. Based on various data points from the ninth development of the Saudi government (covering the period 2010-2014), social and healthcare investments account for 19 percent of the total budgeted expenditure, equivalent to approximately SR274 billion. In the ninth development plan, the government aims to achieve a hospital beds-to-population ratio of 3.50 beds per 1000 population by 2014. In order to achieve this target, 41,603 beds must be added between the public and private sectors to reach a total of 97,535 beds from the current level of 55,932 beds. The Ministry of Health (MoH) is the major government agency entrusted with the management, planning, financing and regulation of the health care sector, and for provision of preventive, curative and rehabilitative health care for the Kingdom's population. The significant development in the health care system has been accompanied by an improvement in the quality of health services, especially in curative medicine. The Ministry provides primary health care (PHC) services through a network of health care centers throughout the Kingdom. It also adopts the referral system which provides curative care for all members of society from the level of general practitioners at health centers to specialist curative services through a broad base of general and specialist hospitals. The MoH also undertakes the overall supervision and follow-up of health care related activities carried out by the private sector. Therefore, the MoH can be viewed as a national health service (NHS) for the entire population.

Overall Strategy of the Ministry of Health

Saudi Arabia is the region's largest healthcare provider. While the Saudi Ministry of Health (MoH) continues to be the main financier for this sector, it is clearly realized that public funds alone will be insufficient to meet the increasing health care needs of the Kingdom's rising population. The Ministry of Health has developed its strategy, taking into consideration all the factors that would help achieve its national health goals. This includes its responsibility of oversight and supervision of private sector facilities, as well as the development of legislation, rules and regulations for the provision of healthcare services to the citizens and residents of the Kingdom of Saudi Arabia. This strategy comes in response to a series of major challenges facing the healthcare sector in Saudi Arabia. There is a huge new level of awareness among service recipients due to their health education, and consequently a high level of expectation of better health services that can be accessed easily in accordance with high quality standards. Through the current strategic plan, the Ministry of Health has implemented modern methodologies in providing a patient-centered health care system aiming to meet patients' health needs in the right place at the right time. This covers everything starting from primary health care to specialized therapeutic services in a professional manner, preserving all patients' rights, such as the right to know about their condition etc.

In addition to providing medical services free of charge to all Saudi nationals, the Ministry of Health offers free health services to almost 10 million pilgrims and visitors during Haj and other seasons via a network of specialized hospitals and health centers. The Ministry of Health strategy has adopted the integrated and comprehensive health care approach as a method of providing services, and implemented it through the MoH's Integrated and Comprehensive National Healthcare Project. The MoH strategy includes other important aspects, such as health insurance. It also includes the need to conduct studies on MoH hospitals in the future in terms of privatization, and adoption of the best management and operation practices. The

advancement in health services, combined with other factors such as improved and more accessible public education, increased health awareness among the community and better life conditions, have contributed to the significant improvements in health indicators mentioned earlier. The Integrated and Comprehensive Health Care Plan considers the provision of medical services to all regions equally, based on recognized international standards. The strategy includes the establishment of hospitals, primary health care centers and specialty centers to achieve the MoH's objective, including advanced surgery procedures. This will improve accessibility of health care services as most can be provided close to the patient's home except in complex and rare cases (e.g., organ transplantation heart surgeries and cancer) which will be provided by one of the five major medical cities, currently under development. Primary health care remains the foundation of the Saudi health care system, enabling the Ministry to deliver health care services including vaccinations, common procedures, and mother-and-child services to citizens anywhere in the Kingdom. Besides clearly identifying the services to be provided, the strategy defines standardized criteria for recruitment and retention of the health workforce (i.e., doctors, pharmacists, nurses, technicians and administrative staff). The Ministry has set a clear strategy for establishing new hospitals and increasing the capacity of each medical specialty to meet the growing needs of the population. In order to take appropriate action, the Ministry has put into place the basic foundations of institutional work by forming Executive Boards and other organizational criteria for better decision making, to ensure that high-quality medical services are provided. A series of development plans in Saudi Arabia have established the infra-structure for the expansion of curative services all over the country.

Review of Specific Strategic Initiatives taken by the Saudi Ministry of Health

The following are some of the recent strategic initiatives taken by the MoH.

Administrative Improvement Projects

Completion of Ten-Year Development Strategy of the Ministry for the years (2010 – 2020), development of the Integrated and Comprehensive Health Care Plan, reconstruction of financial and administrative procedures in the MoH and its directorates, introducing institutional work to the MoH and establishing an Executive Board with five committees, establishment of the Board of Medical Cities, development of Leadership Training Programs, development of the Medical Referral Program, preparation of a Medication Guide to be the standard guide for all doctors in writing prescriptions, establishment of Emergency Call Center at the MoH, establishment of a committee to review physicians' certifications, electronic program to detect serious medical errors in hospitals, clinical review program to monitor causes of death resulting from surgeries and other activities inside hospitals, doctors' performance and productivity programs, bed management program to monitor the turnover of a bed in MoH hospitals in order to increase bed-use efficiency. The turnover of beds in the Ministry has increased in the last four years by 20%, thereby serving a larger number of patients per facility overall.

Medical Improvement Projects

'One-Day' Surgery Program. which has improved the percentage of one-day surgeries from 2% (2010) to 46% (2013) in most of the Ministry's hospitals thus leading to optimization of the waiting times for patients to receive needed surgeries, medical risks program wherein one specialized doctor in each hospital is trained to examine study and learn from any

potential medical risk to patients, medication safety program wherein one specialized pharmacist in each hospital is trained to follow-up on the application of the Medication Safety Guide and to educate doctors and nurses about the optimal methods for prescribing medicines, introduction of the Australian Medical Coding System (ICD10) to the medical records of MoH to facilitate registration and codification of diseases, improving Medical Files Program in preparation for their automation, productivity improvement program in hospital operating rooms, medical performance improvement program in the newborn ICU departments, performance improvement in Children's ICU Program, performance improvement program in the emergency rooms, patient relations program including measurement of patient's satisfaction concerning the services provided to them, completion of Medical Staff By-Law, and the Policies and Procedures Guide training program for emergency attendants (paramedics), to raise their clinical capabilities. domestic medicine program where all requirements for serving patients' needs in their homes are provided, purchasing Services Program wherein any patient who is unable to be allocated a bed at a MoH hospital will be referred to a private sector hospital, Hospital Accreditation Program wherein 90 hospitals were subjected to the national accreditation process by the Central Board for Accreditation of Health Care Institutions (CBAHI), International Accreditation Program wherein 15 hospitals succeeded in obtaining the accreditation of the American Hospital Authority, Health Care Centers Accreditation Program wherein 100 Health Care Centers throughout the Kingdom are currently under accreditation assessment by the CBAHI, Regional Laboratories Accreditation Program wherein 7 Regional Laboratories are under accreditation assessment by the CBAHI, Establishment of Skills Training Centers for all health care employees in the MoH to advance their practical and scientific abilities.

Preventive Care and Health Promotion

A "Public Health Agency" has been established. It is entrusted with health maintenance responsibilities through multiple programs which are as follows:

Establishment of Disease Control Center, Preparation of National Health Survey, Supporting Preventive Health Care, Anti-Smoking, Food and Chemical Safety, Healthy Cities, Radiation Protection, Medical Waste, Occupational Health, Environmental Health, Healthy Marriage, Diabetes Prevention, Prevention of Heart and Blood Vessels' Diseases, Prevention of Accidents and Injuries, Controlling Hepatitis, Controlling Meningitis, Controlling AIDS and Sexually Transmitted Diseases, Controlling Diseases Common between Humans and Animals, TB Controlling, Polio Eradication, Malaria Eradication, Expanded Immunization, Immunization Coverage, Measles Elimination, Neonatal Tetanus Elimination, Monitoring Risk Factors Program of Non-Communicable Diseases, Epidemiological Surveillance of Vaccine-targeted Diseases, Epidemiological Surveillance for Borders of the Kingdom, Migrant Workers, Development of Early Detection of Diseases, Early Screening for Newborns, Controlling Cancer, Early Detection of Breast Cancer

Information and Communications Technology Projects

Health Information System (HIS) for hospitals: Creating electronic files for patients, providing all MoH hospitals with electronic health systems, connecting all hospital systems, using technologies of cloud computing, improvement of the Kingdom's capabilities in conducting vital semi-direct surveillance, analysis of the necessary information for management of infectious diseases, statistics monitoring and data representation through early diagnosis, monitoring the arrival of pilgrims and vaccines given to each pilgrim in their country and

required medication, using the electronic fingerprints to document information, implementation of a “statistical system” program to examine the workflow in the hospitals of Holy Sites eg. entering data of reviewers, patients admitted to hospitals and health centers in the regions of Makkah and Al Madinah during Hajj season and Umrah, executing the program of statistical systems during Hajj season, processing, analyzing and presenting data to be used in planning and decision-making.

Unified Portal for Health Services: The Unified Portal for Health Services was launched to include all the programs and e-services adopted by MOH hospitals, health centers, as well as other sectors and facilities.

Electronic Referral Program: Implementation of a KSA-wide system to allow patient referrals from one health care provider/facility to another, including the ability to electronically transfer patient-specific data (in either a structured or non-structured fashion) or pointers to e-Health accessible data, including patient diagnosis and treatment, referral notes, medication list, laboratory test results, radiology reports, digital images, audio and video files. This solution will have the ability to integrate with facility/bed/provider specialty availability information, to enable optimal searching of best-fit resource utilization.

Newborn Registration Project: The project aims to link 250 hospitals to record and exchange infant data with the National Information Center (NIC).

Bed Management System: Project to support Kingdom-wide hospital bed management program, including automated interfaces with HIS systems, and centralized query capabilities for HQ and Regional administrators, as well as operational support to hospital and PHC practitioners providing patient support and referrals. This project will help to: - Support full inpatient bed management cycle - Interface with multiple systems, including registries, HIS and communication systems - Generate messages to hospital housekeeping and other hospital departments to inform of status - full reporting and analytical capability.

e-Readiness Assessment Project: ICT-MoH is executing a number of projects as a part of the e-health program that will be implemented throughout the Kingdom. The MoH e-Readiness Assessment project is considered a major milestone in this program of which it aims at providing comprehensive data gathering regarding the IT infrastructure in hospitals, warehouses, and directorates. The data resulting from this project will be used by ICT-MoH to assess the readiness of MoH facilities for the e-health program through comparisons between actual status and MoH strategy.

Performance Management System: Implement a Ministry-wide Key Performance Indicator (KPI) database, which captures financial performance data. Design a Business Intelligence (BI) system that helps MoH in taking the right decisions.

Citizens’ Voice: Citizens’ Voice System aims to connect the feedback of citizens and residents directly to the Ministry of Health through MOH portal.

KSA e-Health Standards: Establishing and setting-up e-Health Interoperability Standards Roadmap and supporting Policies which will ensure the continuous alignment, communication, maintenance of current and evolving portfolio of e-Health strategy initiatives. Setting-up e-Health Interoperability Standards includes establishing the functional capability for MoH to maintain and develop them in addition to certifying approved systems through testing laboratories prepared specially for that purpose.

'HEALTH' Approach Model

After considering the above described health scenario in KSA, it is proposed to recommend a new 'HEALTH' Approach Model. This model has six dimensions namely, 'Holistic Healing', 'Education,' 'Access', 'Leadership', 'Technology', and 'Human Resources'.

Holistic Healing

Holistic healing means taking a holistic approach when seeking treatment for imbalances and choosing to live a more balanced lifestyle. The holistic approach goes far beyond the Mind-Body connection of finding and maintaining wellness. All parts of a person's life (physical healing, mental health and wellness, emotional well-being, and spiritual beliefs and values) are considered. The World Health Organization (WHO) defines holistic health as: viewing man in his totality within a wide ecological spectrum, and emphasizing the view that ill health or disease is brought about by an imbalance, or disequilibrium, of man in his total ecological system and not only by the causative agent and pathogenic evolution. The National Center for Complementary and Alternative Medicine was established by the Saudi Ministry of Health as a national reference for complementary and alternative medicine under Saudi Council of Ministers resolution 236. Complementary and Alternative Medicine practices should be given more encouragement by the government. Alternative medicine commonly includes naturopathy, chiropractic, herbalism, traditional Chinese medicine, Ayurveda, meditation, yoga, hypnosis, homeopathy etc.

Education

Schools can have an important role in promoting healthy practices among children. Apart from physical health, it is also important in providing an environment through education, to improve psychological, mental and emotional health. Childhood obesity is the result of a long lasting imbalance between energy intake and energy expenditure. A major contributing factor is physical inactivity which is closely linked to bone health, cardiovascular disease risk, fitness and psychological factors. The school seems to provide an excellent setting to enhance levels of physical activity. The school is an ideal setting in which environmental changes to increase physical activity and decrease sedentary behavior in children can be implemented. Therefore this should be an important element of the 'HEALTH' Strategy.

Access

Providing good access to healthcare, particularly primary health care is one of the pillars of a sound and equitable health system. Access to improved sanitation and good hygiene behaviors would yield benefits to health, poverty reduction, well-being and economic development. Similarly, access to health information is also important. In the Alma Ata declaration, the World Health Organization defined primary health care as "essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally available to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination." (WHO, 1978).

Leadership

There is a leadership gap within health care institutions that spans jurisdictions and affects both institutional performance and individual careers. Research on leadership in the health care and business literature to date has been primarily descriptive. Although work in the social

sciences indicates that leadership styles can have a major influence on performance and outcomes, minimal transfer of this work to the health care system is evident. Limited research on leadership and health care outcomes exists, such as changes in patient care or improvements in organizational outputs. In this era of evidence-based practice, such research, although difficult to conduct, is urgently needed.

Technology

The proliferation of information technology (IT) in supporting highly specialized tasks and services has made it increasingly important to understand the factors essential to technology acceptance by individuals. In a typical professional setting, the essential characteristics of user, technology, and context may differ considerably from those in ordinary business settings. E-health is generally a matter of transferring, exchanging and managing data between public health institutions and citizens by using IT solutions. The main target of bringing IT solutions in healthcare is to seamlessly connect all stakeholders such as hospitals, insurance companies, general practitioners (GPs), the pharmaceutical industry, and regional public health agencies with patients at the core. For patient care, these advanced technologies enable remote patient monitoring, better transporting information to patients and improving access to health advice, and quicker access to emergency services. For healthcare practitioners, the technologies also help to deliver better training and improve disease surveillance, data collection, and management of patient records, thus enhancing service transparency and accountability.

Human Resources

Adequate human resources for health (HRH) are a key requirement for reaching health goals. Quality data and accurate projection of future HRH requirements are needed to inform the health policy planning process. According to the WHO Report, 2006, there are at least 57 countries in the world with a critical shortage of healthcare workers. Ministry of Health statistics reveal that the percentage of Saudization is very low, especially among doctors and nursing staff. The proportion of Saudis in the total health manpower has been a source of worry for quite some time now. Saudization has been identified in all successive five-year plans as a high priority area. One on the one hand there is a huge increase in health infrastructure, but at the same time there is a severe shortage of qualified and experienced Saudi health personnel particularly doctors and nurses. Hence there is heavy dependence on expatriate health manpower, who have different cultural values. Given the emphasis on primary healthcare, and the importance of community participation, understanding the local language, customs and practices is very essential. Non-Saudi health personnel will have too many problems in dealing with these issues. However the number of Saudi health personnel at the primary healthcare center level is far too low. Moreover since expatriates staff stay for a very short period, continuity is a serious problem, their average tenure being 2.3 years, according to a study by the King Faisal Specialist Hospital & Research Center (KFSHRC).

Conclusion

Population growth is the main driver of health care demand in the Kingdom. The Kingdom will continue to witness a high rate of population growth across all age groups, due in part to those entering marriageable age (20-29 years). In addition, the number of Saudis past retirement age (60+ years) will also grow, as Saudis live longer lives. This will lead to an increase in demand for high-cost medical care necessary to treat more serious diseases,

typically faced by older patients. Non-communicable diseases (NCDs) -- known as lifestyle diseases -- are increasing at an alarming rate in Saudi Arabia as a result of increasing prosperity and the socio-economic transformation. The epidemiological profile of the Kingdom includes high incidences of obesity, hypertension and diabetes mellitus, particularly Type-2. The latter has been the leading cause of cardiovascular disease, kidney failures and amputations. The complications caused by these diseases will increase long-term costs, further burdening an already over-stretched health care system. According to WHO studies, by 2015, the Kingdom's population will reach an estimated 31.69 million. The growth rate for Saudi nationals will continue to rise, while the proportion of expatriates will increase at a decelerating rate, thereby slightly decreasing relative to previous influxes spurred by economic booms. The 9th Development Plan (2010-2014) as set forth by the Ministry of Planning (MoP) targets a hospital beds-to-population ratio of 3.50 beds per 1000 population by 2014. To achieve this ratio by 2014, it will require the health care industry to add 41,603 beds between the public and private sectors, to reach a total of 97,535 beds, from the current level of 55,932 beds. Among the challenges facing the sector include the highly capital-intensive nature of the industry acting as a barrier to entry, the lack of sufficient domestic talent, large reliance on foreign labor, and the rising cost of medical care. It is hoped that the Saudi Ministry of Health will be able to overcome all these challenges with pragmatic and prudent strategic initiatives.

The earlier proposed 'HEALTH' Approach model could be considered for adoption, after necessary discussion and deliberations by the concerned authorities.

References

- Al-Ahmadi H.(2005) Quality of primary health care in Saudi Arabia: A comprehensive review. *International Journal for Quality in Health Care*, 17:331–346.
- Almalki, M.; Fitzgerald, G.; Clark, M. (2011) 'Health care system in Saudi Arabia: an overview.' *Eastern Mediterranean Health Journal* ; Vol. 17 Issue 10, p784
- Al-Yousuf, M., Akerele, T.M. and Al-Mazrou, Y.Y. (2002), "Organization of the Saudi health system", *Eastern Mediterranean Health Journal*, Vol. 8 Nos 4/5, pp. 645-53.
- Borkowski, N., Deckard, G., Weber, M., Padron, L.A. and Luango, S. (2011), "Leadership development initiatives and system performance in a US public healthcare delivery system", *Leadership in Health Services*, Vol. 24 No. 4, pp. 268-80.
- Central Department of Statistics and Information, Saudi Arabia [online database] (<http://www.cdsi.gov.sa/english>)
- Dubios W.R., Rogers W. H ., Moxley H. J . , Draper D. and Brook H.R. (1987a) " Hospital inpatient Mortality - is it a predictor of Quality ? " *The New England Journal of Medicine*, Vol. 317(26), 1674-1680.
- Flood A. B. Shortell S., and Scott R. (1997) " Organizational Performance: Managing for Efficiency and Effectiveness" In: Shortell S. and Kaluzny A. ed. " *Essentials of Health Care Management*", Delmar Publishing, 381 -4 2 9 .
- Jannadi B et al. (2008),Current structure and future challenges for the healthcare system in Saudi Arabia. *Asia Pacific Journal of Health Management*, 3:43–50.
- Khan J. (1986) " Hospital Management in Saudi Arabia" *Hospitals and Health Services Review*, 154 — 158.
- Kumaranayake, L. (1997), "The role of regulation: influencing private sector activity within health sector reform", *Journal of International Development*, Vol. 9 No. 4, pp. 641-9.

- Ministry of Health (2006), *Health Statistical Yearbook*, Ministry of Health, Riyadh.
- Ministry of Health (2007), *Health Statistical Yearbook*, Ministry of Health, Riyadh.
- Ministry of Health (2008), *Health Statistical Yearbook*, Ministry of Health, Riyadh.
- Ministry of Health (2009), *Health Statistical Yearbook*, Ministry of Health, Riyadh.
- Ministry of Health (2010), *Health Statistical Yearbook*, Ministry of Health, Riyadh.
- Ministry of Health (2010). *The National Project for Integrated and Comprehensive Health*. Riyadh:197.
- Ministry of Health, Saudi Arabia (<http://www.moh.gov.sa/en>)
- Ministry of Economy and Planning, Saudi Arabia, (<http://www.mep.gov.sa/>)
- National Commercial Bank (NCB) Capital's estimates (2013)
- Oxford Business Group (2009), *The Report: Saudi Arabia 2009*, Oxford Business Group, London ,pp. 223-4.
- Ramady, M.A. (2010), "*Population and demographics: Saudization and the labour market*", *The Saudi Arabian Economy*, Springer Science, New York, NY, pp. 351-93.
- Sekhri, N. and Savedoff, W. (2006), "Regulating private health insurance to serve the public interest: policy issues for developing countries", *International Journal of Health Planning and Management*, Vol. 21 No. 4, pp. 357-92.
- Telmesani, A., Zaini, R.G. and Ghazi, H.O. (2011), "Medical education in Saudi Arabia: a review of recent developments and future challenges", *Eastern Mediterranean Health Journal*, Vol. 17No. 8, pp. 703-7
- Thomas J.W., Guire K. E. and Horvat G.G. (1997) " Is Patient Length of Stay Related to Quality of Care" *Hospital and Health Services Administration*, Vol. 42(4), 489 -507.
- Walston S, Al-Harbi Y, Al-Omar B.(2008) The changing face of health-care in Saudi Arabia. *Annals of Saudi Medicine*, 28:243–250.
- World Bank (1993), *Investing in Health: World Development Report*, World Bank, Washington DC.
- World Bank [online database] (<http://data.worldbank.org/country/saudi-arabia>).
- World Health Organization, (<http://www.who.int/countries/sau/en/>)
- World Health Organization (2009), *World Health Statistics*, Geneva
- World Health Organization (2010), *World health statistics*, Geneva.
- World Health Report (2000). *Health systems: improving performance*. Geneva, WHO